



September 24, 2024

Christopher Yuen  
Community Development Director  
City of Essex Junction  
2 Lincoln Street  
Essex Junction, Vermont 05452

RE: Environmental Sound Monitoring – Pentatonix Concert

Dear Mr. Yuen;

Vermont Air Testing Services (VATS) was retained by the City of Essex Junction to perform perimeter environmental sound monitoring at the Champlain Valley Exposition (CVE) for selected outdoor events held at the facility throughout the 2024 summer concert and fair season. Sound monitoring was performed using two Quest Technologies Sound Pro DL Type II integrating/logging sound level meters (SLM) setup to collect broadband sound level readings. The two SLMs used for the monitoring were configured to log average sound pressure levels every 5 seconds in the broadband or A-weighted scale. Both meter's microphones were fitted with a windscreen to minimize wind disturbance. Each meter was calibrated to a 114 decibel (dB) tone prior to the monitoring event and the calibration was checked following the sound monitoring event.

Two SLMs were deployed for the Pentatonix Concert event held in the Grandstand at the CVE facility on September 1, 2024. Both the east and west fence-line boundaries were monitored for sound levels. The east boundary meter was located approximately 50 feet south of the Green Gate along the fence line, adjacent to the Midway fair rides. The second SLM, identified as the West Meter, was placed along the western property boundary on the berm along Weston Way in direct line of sight of the Grandstand sound system tower. The concert was a nearly one and half hour music event with the monitoring covering the entire timeframe. The music began at approximately 7:30 pm on the Grandstand stage and concluded at approximately 9:30 pm.

The weather for the Saturday night show was initially cloudy skies and ended in light rain with temperatures in the mid 60's and winds out of the south up to 8 mph. Sound monitoring along both the eastern and western boundaries began at approximately 7:30 pm and the sound monitoring concluded after the show at approximately 9:30 pm along both boundaries. Both meters monitored the sound levels continuously throughout the event from the beginning of the concert to its conclusion. The sound monitoring data is presented for both meters in the attached charts and a summary of the monitoring data is provided below.

The maximum allowable hourly average sound level is established at 78 dBA with the maximum 5-minute average sound level set at 83 dBA. The table below presents the SLM east property line hourly average sound data, the maximum measured sound level, and the time duration of sound levels above maximum allowable sound level in minutes.

Table 1: East Property Line Data

	Hour 1	Hour 2
Hourly Average (dBA)	69.2	71.2
Max Sound Level (dBA)	76.2	77.4
Time Above Max Level (min)	0.0	0.0

The data presented above indicates the hourly average sound limits were not exceeded at any time during the concert event. The maximum sound level was not exceeded along the east property boundary throughout the event. The maximum sound limit is defined as a sustained maximum five-minute average in the established sound criteria limits (83 dBA).

The west property line sound monitoring data is presented below in the same manner as the east property line data above.

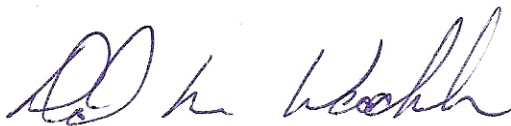
Table 2: West Property Line Data

	Hour 1	Hour 2
Hourly Average (dBA)	64.0	63.1
Max Sound Level (dBA)	79.6	76.0
Time Above Max Level (min)	0.0	0.0

The data listed above indicates the west side property line sound levels were all below the 78 dBA average limit during the concert monitoring event. The maximum sound levels were also maintained below the 83 dBA limit without exception.

The sound level data is presented in attached charts for the SLMs used during the Pentatonix Concert event held on September 1, 2024. The sound levels measured throughout the event did not exceed the established sound level criteria without exception. The established sound level criteria used for monitoring outdoor events held at the Champlain Valley Exposition are defined in the Noise Indemnification Agreement between the Champlain Valley Exposition and the City of Essex Junction.

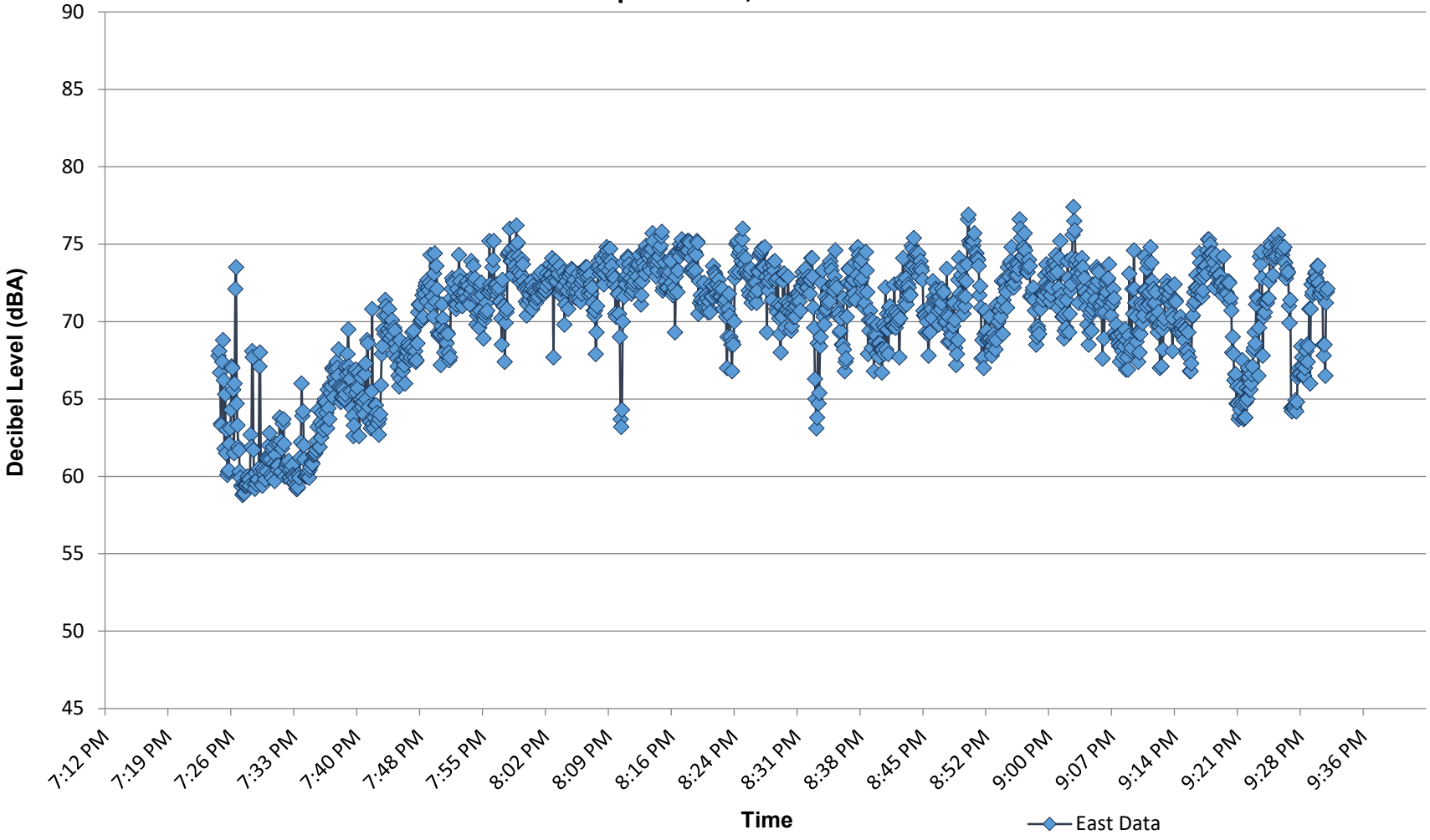
Best regards,



Principal

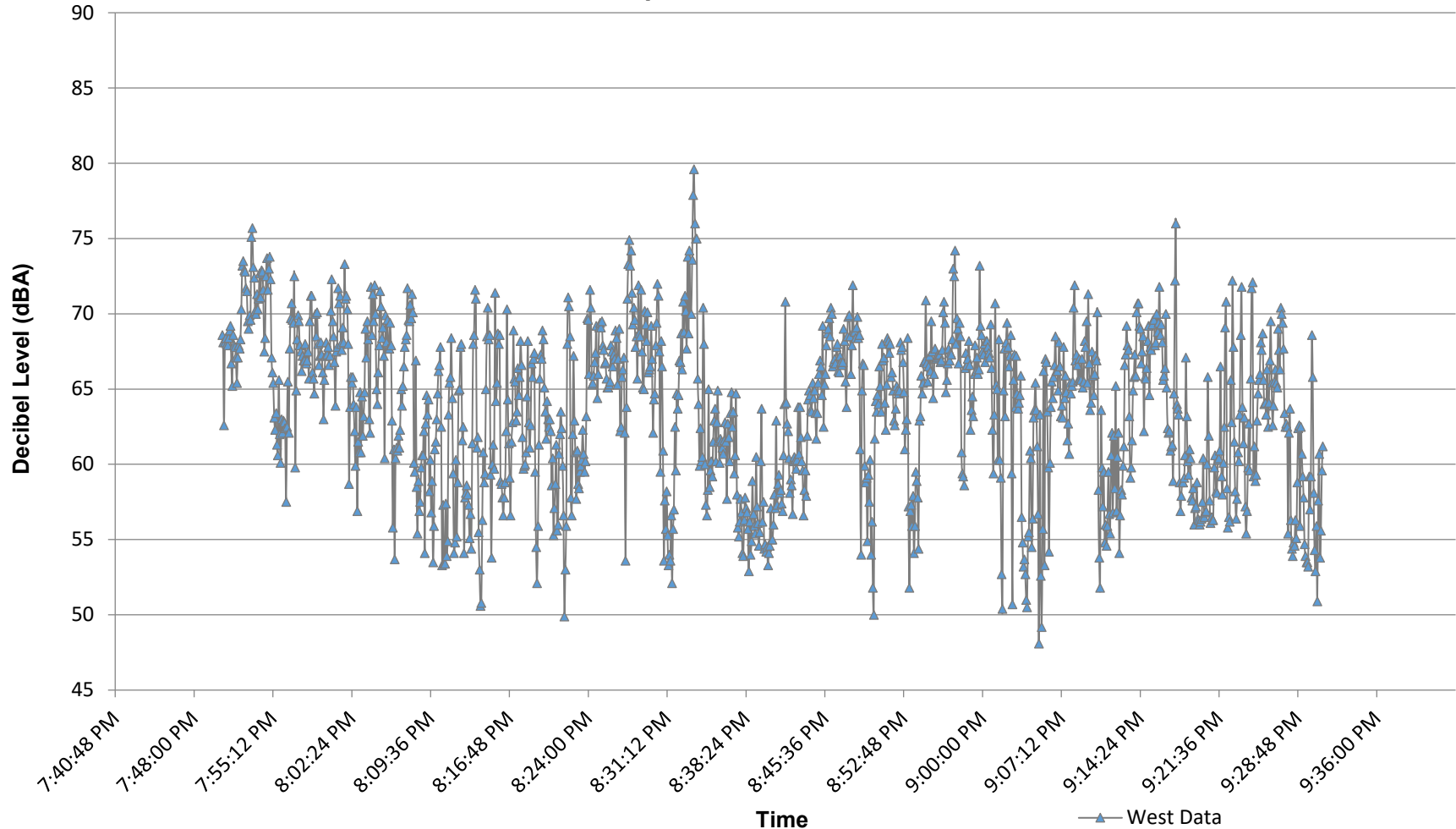
C:\Vermont Air Testing Services\Projects\Champlain Valley Exposition\2024\Pentatonix Concert 2024.docx

**Champlain Valley Exposition  
 Pentatonix Concert - East Boundary Noise Monitoring  
 September 1, 2024**



	Hour 1	Hour 2
Hourly Avg	69.2	71.2
Max Levels	76.2	77.4
Exceeding Limit (min)	0.0	0.0

**Champlain Valley Exposition  
Pentatonix Concert - West Boundary Noise Monitoring  
September 1, 2024**



	Hour 1	Hour 2
Hourly Avg	64.0	63.1
Max Levels	79.6	76.0
> 83 dBA (sustained time > 83 dB, in minutes)	0.0	0.0