INTERPRETING CONFLICTING NOISE ORDINANCES IMPOSED UPON MERRIWEATHER POST PAVILION
SESSION 1AAA. IMPACT OF ENTERTAINMENT SOUND ON COMMUNITIES

Phoenix Noise & Vibration
5216 Chairmans Court
Suite 107
Frederick, MD 21703
www.phoenixnv.com

Josh Curley
Senior Engineer
jcurley@phoenixnv.com

Scott Harvey, PE, INCE Bd. Cert.
Chief Engineer
sharvey@phoenixnv.com
Merriweather Post Pavilion

History

• Located in Columbia, Maryland (home of Scantek!).
• Columbia was designed as a planned community by James W. Rouse. Rouse was the builder of the first enclosed shopping center (or “mall) and grandfather of actor Edward Norton. Rouse believed that private developers could plan and build an environment that nurtured the growth of people.
• Merriweather Post Pavilion opened in 1967 as an outdoor concert venue located within Symphony Woods, a 40-acre lot of preserved land.
• The amphitheater was designed by Frank Gehry and was originally intended to be a summer home for the National Symphony Orchestra.
• Within the first few years, bands including Led Zeppelin, The Who, The Doors, Jimi Hendrix performed at Merriweather, including a show in 1969 in which The Who and Led Zeppelin shared the stage for the first and only time.
Merriweather Post Pavilion
Merriweather Post Pavilion Noise Ordinance

• In 2013, Merriweather petitioned state legislation to allow the concert venue to increase its allowable noise level output. This new legislation allowed the following:

<table>
<thead>
<tr>
<th>Location</th>
<th>Noise Limit From 9:00 AM to 11:00 PM</th>
<th>Noise Limit From 11:00 PM to 11:30 PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>¼-Mile Radius From Main Stage</td>
<td>95 dBA</td>
<td>55 dBA</td>
</tr>
<tr>
<td>Any Residential Property Line</td>
<td>72.5 dBA</td>
<td>55 dBA</td>
</tr>
</tbody>
</table>

• Most concerts occur during evening/night hours and are supposed to be concluded by 11:00 PM; however Merriweather does host multiple festivals in the spring, summer, and fall that are all day and begin as early as 9:00 AM and have multiple stages.

• Other similar outdoor venues in Maryland and Virginia do not have noise ordinances specific to the venue.
Merriweather Post Pavilion Noise Ordinance

• The closest current residence is approximately 1,400 feet from the main stage, such that there is no existing conflict in the noise ordinance from a technical standpoint; however...

• Residential construction is currently planned in the next few years as close as 750 feet behind the main stage.

• Once these residential buildings are occupied, how will the noise ordinance be applied if main stage noise is greater than the 72.5 dBA allowance at residential buildings yet below the 95 dBA limit within the 1/4-mile radius (1320 feet)?

• How will the likely complaints regarding audible low frequency noise inside the residences, which are not addressed by the noise ordinance, be handled?
Closest Existing Residence (72.5 dBA Limit)

95 dBA ¾-Mile Radius From Main Stage
Which condition of the noise ordinance takes precedence here?
- 95 dBA within ¼-mile of main stage?
- 72.5 dBA at a residential property?

Approx. 750 feet
Merriweather Post Pavilion Noise Levels

• In August 2013, Phoenix Noise & Vibration measured noise levels from two concerts held at Merriweather during the evening/night:
  • Keith Urban
  • The Killers

• Noise measurements were completed as part of an analysis for a new apartment building to be constructed approximately 1,800 feet from the main stage.
Point B was 25 feet above the top floor of a 3-story parking garage.

<table>
<thead>
<tr>
<th>Concert</th>
<th>Measured Noise Level (dBA) at:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Point B</td>
</tr>
<tr>
<td>Keith Urban</td>
<td>65 to 71</td>
</tr>
<tr>
<td>The Killers</td>
<td>63 to 69</td>
</tr>
</tbody>
</table>

Note that measured noise levels did not exceed the newly enacted noise ordinance; however...
Concert Frequency Spectrums at Point B

- **The Killers (66 dBA)**
- **Keith Urban (68 dBA)**

*Graph showing frequency spectrums with measured noise levels.*

- **Insect Noise**
- **Low Frequency Noise**
Merriweather Post Pavilion Noise Levels

• In August 2013, Phoenix Noise & Vibration measured noise levels from two concerts held at Merriweather during the evening/night:
  • Keith Urban
  • The Killers

• Noise measurements were completed as part of an analysis for a new apartment building to be constructed approximately 1,800 feet from the main stage.

• To address concert noise impact upon the apartment building, 38 STC windows and doors were specified for the south and east building elevations (those facing the main stage). The design goal was to maintain an average noise level of NC-35 within apartments over the course of a concert.
Since the 2013 noise ordinance was passed, Merriweather has received numerous noise complaints due to concerts from citizen groups and homeowners from as far as five miles away.

Complaints state that the noise ordinance is being exceeded.

Local officials maintain that, according to local police and health departments, there have been no violations of the noise ordinance.

Merriweather does have three permanent noise monitoring locations that are supposedly used to check levels during events. Two are located on the Merriweather grounds, the third is approximately a ¼-mile from the main stage.
Discussion

- What will happen once the residential and hotel buildings are built behind the stage?
  - It is highly likely that noise levels will not exceed 95 dBA 750 feet behind the main stage, thereby complying with the ¼-mile provision of the ordinance.
  - It is possible that noise levels may exceed 72.5 dBA at these buildings, thereby exceeding the residential provision of the ordinance.
  - Even if concerts do not exceed 72.5 dBA at these future buildings, it is very likely that concerts will be audible within the residential and hotel buildings.

- How will Merriweather and the local municipalities respond to the conflicting noise ordinance?
  - Will tenants of the apartment buildings sign away any right to complain about concert noise when signing their lease? Will hotel occupants?
  - Will apartment tenants only add support to the existing groups complaining to put pressure on Merriweather to change the ordinance?