



Prince William County Noise Ordinance Update

June 26, 2024

PRESENTED TO: Prince William County/Data
Center Advisory Group



Photos borrowed from: <https://historicprincewilliam.org/county-history/aerial-photo-survey/>

Prince William County

Noise Ordinance Update

YOUR **JMT** Team

AGENDA

Timeline

Best Practices Updates

Recommended Updates

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Project Manager

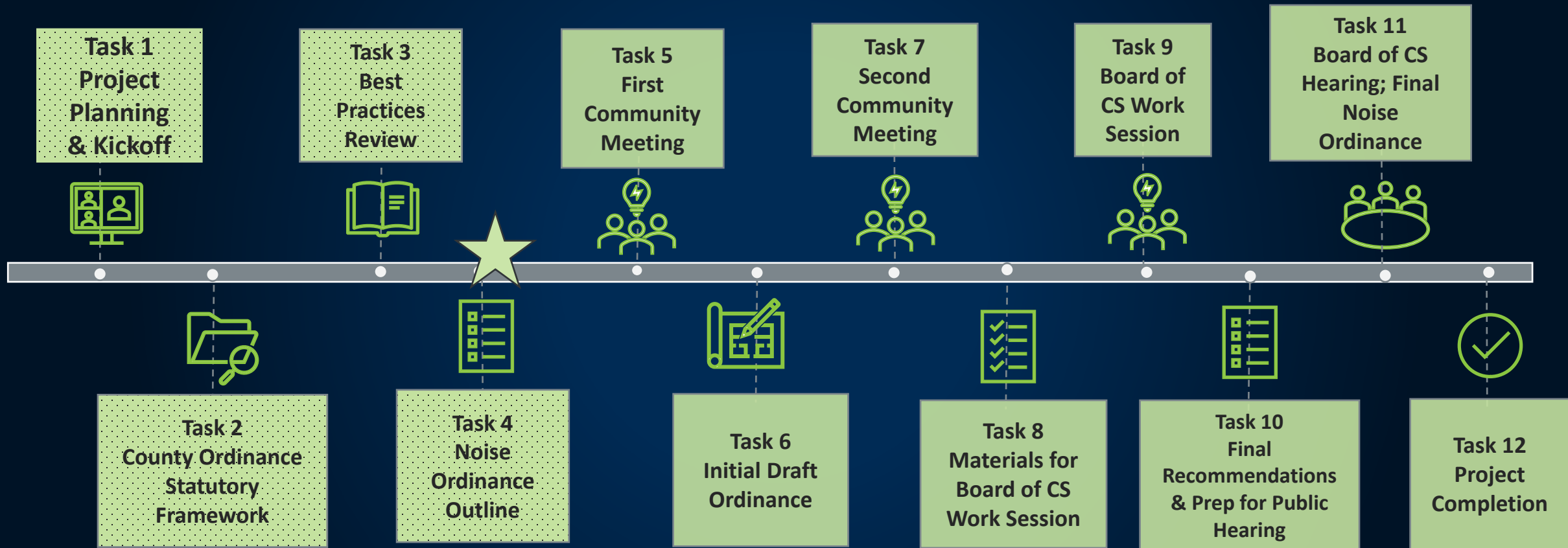
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PROJECT PROCESS | TIMELINE

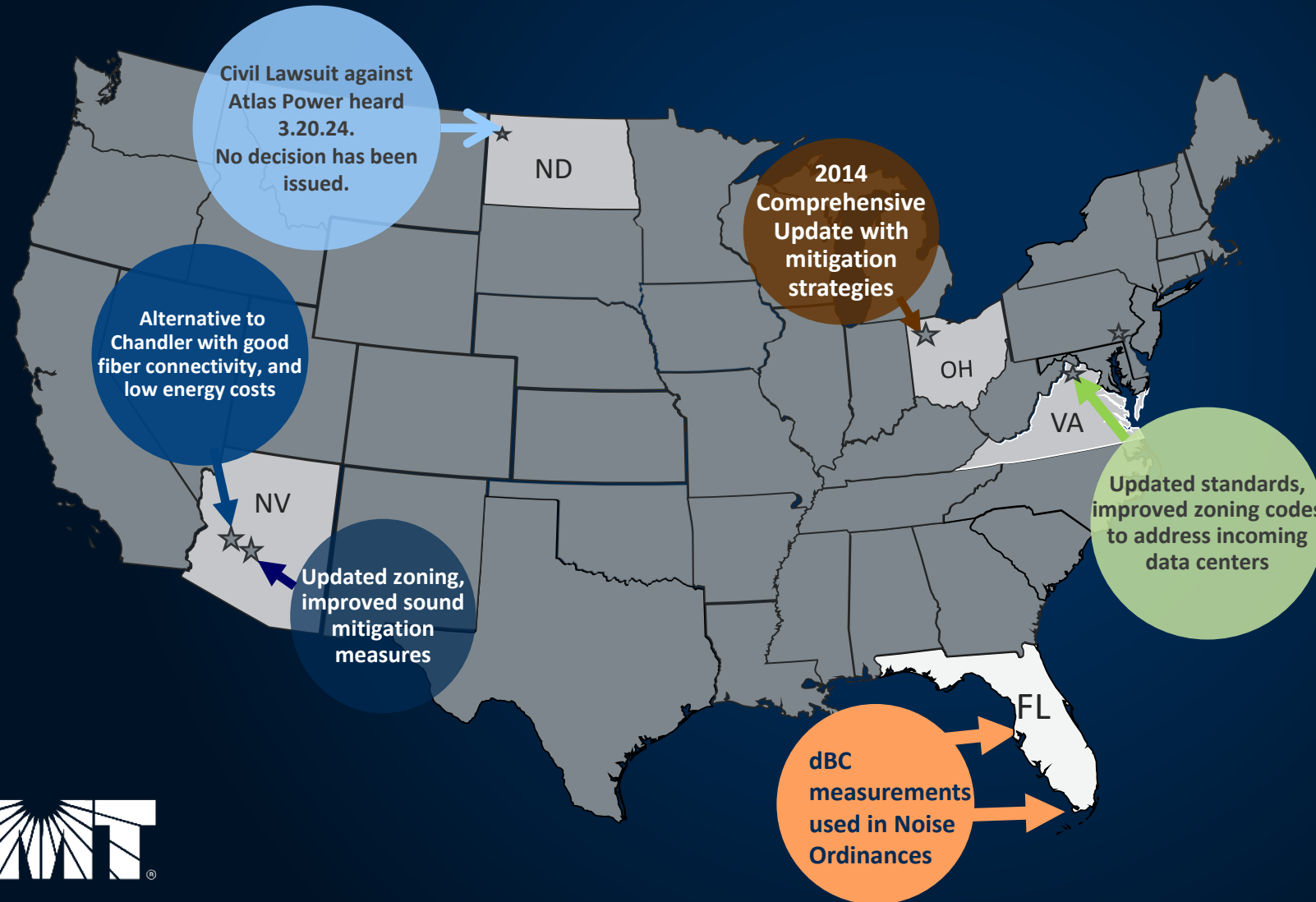


 We are Here

BEST PRACTICES, UPDATES

- Williston, ND - pending court case brought by residents against Atlas still unresolved.
- Contacted Fairfax County to confirm information, inquire about outcomes and any recent updates.
- Fairfax has divided the Noise Ordinance into two separate ordinances. The typical noise violations such as barking dogs and loud parties, go through the Code Enforcement Office. All building and industrial related noise is addressed through the Planning and Zoning office under their Zoning Ordinances.
- A voice message was left for Loudon County.
- Removed areas where data centers were still in early submission stages.

Case Study MAP US



Location

- VA** Loudon County, Fairfax County, Manassas, VA
- Chandler, AZ
- Goodyear, AZ
- Williston, ND
- New Albany, OH
- FL** Collier County, Monroe County, San Antonio, FL



Best Practices, Standards

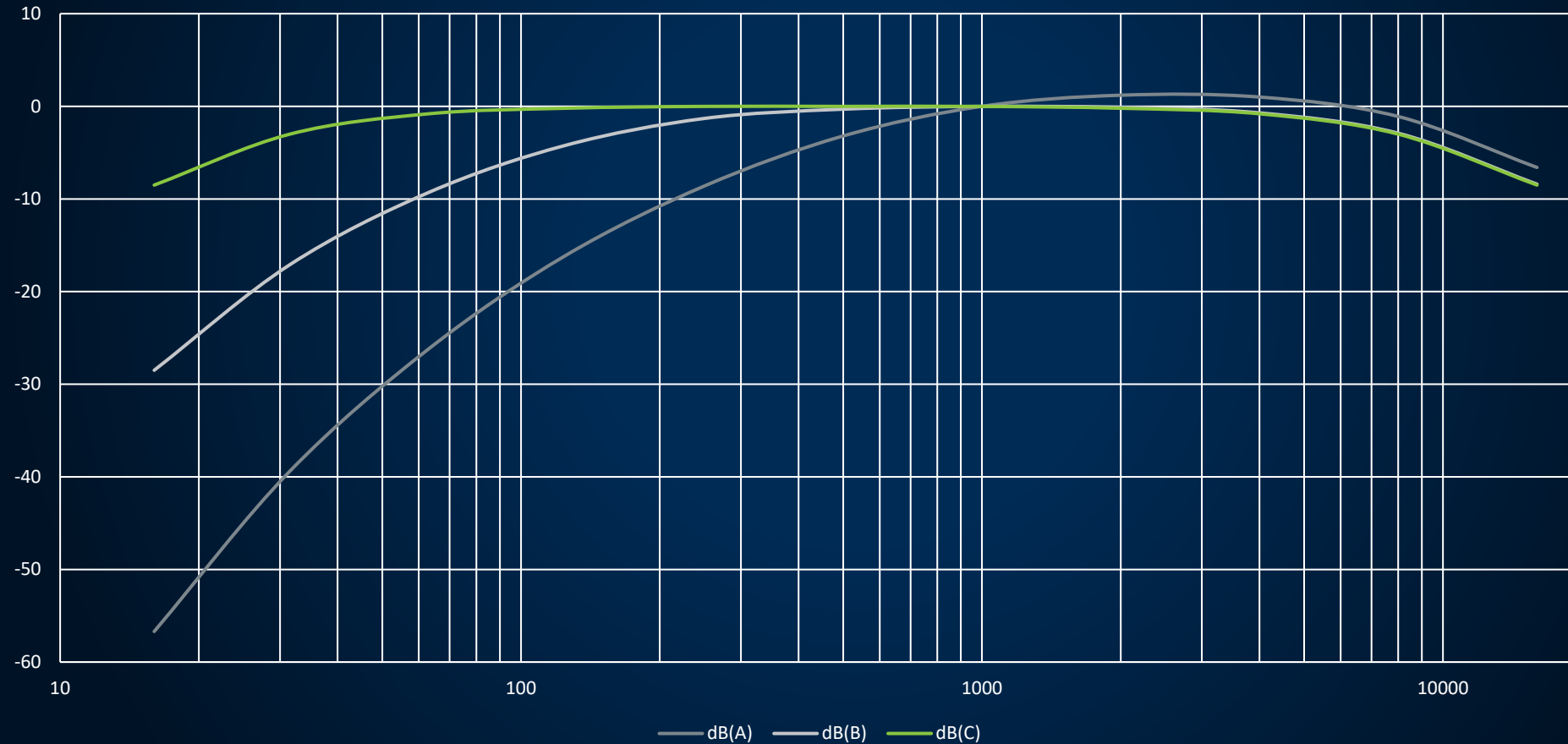
1. American National Standards Institute (ANSI) standards.
2. American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) standards. ASHRAE, founded in 1894, is a global society advancing human well-being through sustainable technology for the built environment.

[Home | ashrae.org](https://www.ashrae.org)

3. Ambient sound levels & cumulative impacts.
4. Short-duration & intermittent noise
5. C-weighted sound levels (dB(C))
 1. High intensity sounds (>100 dB)
 2. Occupational health & safety (hearing protection)
 3. Nuisance levels from industrial, transportation, music
 4. Low frequency

Best Practices, Standards, continued

Sound Level Frequency Weighting



PWC NOISE ORDINANCE



Photos borrowed from: <https://historicprincewilliam.org/county-history/aerial-photo-survey/>

RECOMMENDATIONS

14.1 Current: “It is hereby declared to be the public policy of Prince William County to protect its citizens against excessive noise which is detrimental to life, health and enjoyment of property. In order to promote the public health, safety, welfare and the peace and quiet of the inhabitants of the county, the following measurements and standards relating to noise are hereby adopted.”

Recommendations:

- Add Commonwealth Code
“Authority granted by the Commonwealth of Virginia” Code of Virginia, § 15.2-1700 per Dillion Rule
- Add language
“and that it is the policy of the Board to prevent such noise to the extent such action is consistent with Federal and State laws.”



PWC NOISE ORDINANCE RECOMMENDATIONS, cont.

14.2 Definitions – Formerly 14.3

Current: For the purposes of this chapter, the following words and phrases shall have the meanings respectively ascribed to them by this section:

Add to list of Definitions with more inclusive items taken from Fairfax County:*

[Section 108.1-2-1. - Definitions](#)

*Full list provided in Draft



14.2 Definitions – Formerly 14.3

Recommended revised & additional Definitions:

- **Ambient sound** shall mean encompassing and/or background composite sound at a given place, exclusive of a single activity or source subject to this chapter
- **A-Weighted Sound Pressure Level** shall mean frequency-weighted sound levels, measured over the 'A' frequency range, specified in units of dB(A) or dBA
- **C-Weighted Sound Pressure Level** shall mean frequency-weighted sound levels, measured over the 'C' frequency range, specified in units of dB(C) or dBC
- **Equivalent Continuous Sound Level (Leq)** shall mean the sound level in decibels, having the same total sound energy as the fluctuating level measured
- **Maximum sound level (Lmax)** shall mean the maximum noise or vibration level during a measurement period or a noise event, as measured using a slow sound level response or time-constant

PWC NOISE ORDINANCE RECOMMENDATIONS, cont.

14.2 Definitions – Formerly 14.3

Recommended revised & additional Definitions:

- **Sound pressure level** shall mean a logarithmic measure of the effective pressure of a sound relative to the threshold of human hearing (20 μ PA) measured in decibels (dB).
- **Statistical Noise Level (L_n)** shall mean the percentile noise level where 'n' is between 0.01 and 99.9%, of the time, calculated by statistical analysis
- **Truck** shall mean:
 - Any vehicle other than private passenger vehicles and motorcycles
 - Any commercial vehicle
 - Any trailer



PWC NOISE ORDINANCE RECOMMENDATIONS, cont.

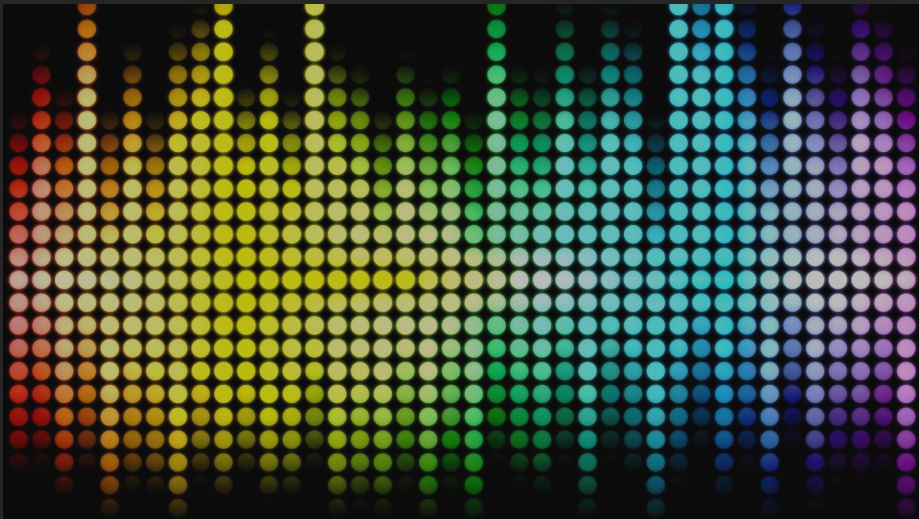
14.3 Violations of Chapter Formerly 14.2

Current: Any person violating any provision of this chapter shall be guilty of a Class 2 misdemeanor.

Recommendations taken from City of Manassas:

1. **Add Enforcement** - County staff (Director of Public Works to assign) that are tasked with responding to complaints will be trained by a certified sound program such as Rutgers Noise Technical Assistance Center (RNTAC).
2. **Add language:** “Any person authorized to enforce this ordinance may use equipment deemed proper pursuant to Code of Virginia, § 2.2-1112(C), as amended from time-to-time, to determine the decibel level of any sound, including noise. The results of such determinations shall be accepted as prima facie evidence of the decibel level of the sound in any court or legal proceeding where the decibel level of the sound is at issue.”
3. **Add Revocation section** – The County... or designee shall have the authority to revoke, as set out in this section, any permit issued through a written revocation, which shall be effective immediately for the reasons below:
 - a. If Permit holder has misrepresented a material fact in applying for a permit;
 - b. If the permit holder is convicted twice in any calendar year of violation of this Chapter (Noise);
 - c. Upon certification and documentation by the County that the premises covered by the permit are not in compliance with applicable regulations or with the permit restrictions as approved by the County
4. **Class 3 – Class 1 Misdemeanor** with fines between \$500 and \$2,500 based on the offense, Additional \$500 for each offense every 24 hours and potential jail time.

PWC NOISE ORDINANCE RECOMMENDATIONS, cont.



14.4 Maximum Permissible Sound Levels generally

- **Current:** a. Except as otherwise provided, any noise which emanates from any operation, activity or source and which exceeds the maximum permissible sound levels established in this section below is hereby prohibited.
- Replace with Recommendation: Such levels shall be measured at the property boundary of the sound source or at any point within any other property affected by the noise. When a noise source can be identified and its noise measured in more than one zoning district classification, the limits of the most restrictive classification shall apply.

Recommended update: No person shall permit, operate, or cause any source of sound or sound generation to create a sound that is in excess of Maximum Permissible Sound Pressure Levels shown below in table 14.4, measured at the emitter's property line or at any point within any other **affected property**.

- Heating and cooling systems, including but not limited to air conditioners and heat pumps, serving a residential dwelling(s), **Add after dwelling(s):** "operating intermittently throughout the night," shall not be subject to the night levels enumerated above. This provision shall expire on February 20, 2025, at 11:59 p.m.
- Retain provision with added language.
- Items c. and d. are unchanged

PWC NOISE ORDINANCE RECOMMENDATIONS, cont.

14.4 Maximum Permissible Sound Levels generally

Recommendations:

- **Revise “maximum permissible sound level”** to “maximum permissible equivalent continuous sound level” (Leq)
- Include levels for dB(C) to account for low-frequency noise.
- **We are not recommending** changing to match Warrenton, VA numbers as they are significantly more restrictive than current PWC numbers due to their rural nature. Should the County wish to better align with municipalities with more restrictive levels, that should be a separate effort within zoning.
- **Add limits/modifiers** for impulsive and short-duration noises using Lmax and statistical noise levels (Ln)
 - L_{10} – short duration/intermittent noises may not exceed thresholds more than 10% of the time
 - L_{max} – at no time shall even short-duration events exceed thresholds by more than 10 dB
- **Add requirement** that where ambient conditions exceed prescribed levels, no activity or source shall result in an observed increase exceeding 3 dB, except that no activity or source may result in an increase of 6 dB or more above prescribed levels.

PWC NOISE ORDINANCE RECOMMENDATIONS, cont.

14.4 Maximum Permissible Sound Levels generally, continued

MAXIMUM PERMISSIBLE EQUIVALENT CONTINUOUS SOUND PRESSURE LEVELS (Leq)

Zoning District Classification	Maximum dBA Daytime	Maximum dBC Daytime	Maximum dBA Nighttime	Maximum dBC Nighttime
Residential	60	72	55	67
Mixed Use District	60	72	55	67
Commercial	65	77	60	72
Office	65	77	60	72
Industrial	79	91	72	84



PWC NOISE ORDINANCE RECOMMENDATIONS, cont.

14.5 Prohibitions Generally (Motor Vehicle Related)

Recommendations

- Revise 14.5(2) to limit to “trucks” (i.e., trucks, trailers, commercial vehicles). As it currently reads, any resident pulling into their driveway would be in violation.

14.5.1 Noise from Animals - N/A

14.6 Trash or Refuse – N/A under 22-42

14.7 Measurement Procedures

Current: 1. No recommendations for updates.

2. Except as otherwise provided, any noise which emanates from any operation, activity or source and which exceeds the maximum permissible sound levels established in this section below is hereby prohibited. Such levels shall be measured at the lot line of the sound source or at any point within any other property affected by the noise. When a noise source can be identified and its noise measured in more than one zoning district, the limits of the most restrictive district shall apply.

PWC NOISE ORDINANCE RECOMMENDATIONS, cont.

14.7 Measurement Procedures, continued

3. The measurement of sound or noise shall be made with sound level meters **Type 1 or Type 2** which meet the standards prescribed by the ANSI. The instruments shall be maintained in calibration and good working order. A calibration shall be made of the system at the time of any noise measurement. Measurements recorded shall be taken so as to provide a proper representation of the noise source. The microphone during measurement shall be positioned so as not to create any unnatural enhancement or diminution of the measured noise. A windscreen for the microphone shall be used when required. A minimum **of three sound level readings** will be taken. The geometric mean of these readings will be used as the average sound level. If the background noise is equal to the levels set forth in section 14-4 above, **three dB shall be subtracted** out of the average sound level.

Recommendations

- **Update** to require use of Class 1 meter.
- **Remove** requirement to average *three* readings and replace with a minimum of **two (2) non-consecutive 15-minute** observation periods for each applicable subject during any time period (daytime or nighttime)
- **Specify** collection & recording of frequency octave band levels, Leq, Lmax/Lpeak, Ln
- **Leq/Ln observations** from multiple observation periods shall be logarithmic
- **Remove** 3 dB reduction as accounted for in updated section 14.4

PWC NOISE ORDINANCE RECOMMENDATIONS, cont.

14.8 Exemptions

Current: Exemptions from the provisions of this chapter may be granted in accordance with the requirements below:

- 1) Any person responsible for any noise from the operating of any equipment used in construction, repair, alteration or demolition work on building structures, alleys or appurtenances thereto shall apply to the Director of Public Works for an exemption or partial exemption from the provisions of this chapter. All other requests for exemptions shall be directed to the Director of Public Works, who may grant such exemption or partial exemption if it is found that:
 - a. The noise does not endanger the public health, safety or welfare; or
 - b. Compliance with the provisions of this chapter from which an exemption is sought would cause a serious hardship without producing equal or greater benefit to the public.

- (2) In determining whether to grant such exemption the director or chief shall consider the following:
 - a. The time of day the noise will occur;
 - b. The duration of the noise;
 - c. The loudness of the noise in relation to the maximum permissible sound levels set forth in section 14-4 of this chapter;
 - d. Whether the noise is intermittent or continuous; and
 - e. Such other matters as are reasonably related to the impact of the noise on the health, safety and welfare of the community and the degree of hardship which may result from the enforcement of the provisions of this chapter.

PWC NOISE ORDINANCE RECOMMENDATIONS, cont.

14.8 Exemptions, continued

- (3) Exemptions or partial exemptions issued pursuant to this section shall be granted for such period as the director or chief deems reasonable. Any such exemption shall be reviewed if complaints are received by the Director and may be revoked if, when the foregoing standards are applied, circumstances no longer justify the exemption or partial exemption.
- (4) Any person aggrieved by a decision of the Director made pursuant to this section may obtain review of such decision by the county executive or his authorized agent by delivering a written statement of appeal to the office of the County Executive within ten days of the date of the decision. The county executive shall review all statements of grievances and shall, within ten days after receipt of such written statement of grievance, either affirm or set such decision aside, and make any such further determination as may be necessary to effectuate the provisions of this section. The decision of the county executive shall be final and binding.

Recommendation

- Add implementation criteria – “within 12 months of effective date, uses must be able to demonstrate compliance with the requirements of this chapter, or file for an exemption in accordance with 14-8.”

Next Steps and Questions



Next Steps:

1. Revised Outline
2. Draft Sound Model and Draft Sound Study Report Templates
3. Public Engagement Meeting planning

