NOISE ANALYSIS PROCESS

**Identify noise receptors**
- Identify Common Noise Environments (CNE) (typically within 500 feet of the highway)
- Identify noise sensitive receptors within each CNE (such as residences, parks and schools)

**Perform noise measurements at representative receptors along the corridor**

**Perform noise modeling**
- Develop noise models of existing and future roadway conditions using computer modeling (incorporates roadway design, traffic volumes and speed, receptors, topography, and ground type)
- Validate model with noise measurements data
- Compute existing, no-build and build design-year sound level

**Identify impacts (is noise mitigation warranted?)**
- Approach or exceed Federal Highway Administration (FHWA) noise abatement criteria (e.g., 67 dB(A) for residences, parks, or schools) or
- 10 decibel increase above existing noise levels

**Design and assess mitigation (typically noise walls)**
- **Is the wall feasible?**
  - Does it work acoustically (do 50% or more of the impacted receptors receive a 5 dB(A) or more noise reduction?)
  - Can it be constructed (e.g. are there safety, drainage, utilities, maintenance, or other issues?)

- **Is the wall reasonable?**
  - Approach or exceed Federal Highway Administration (FHWA) noise abatement criteria (e.g., 67 dB(A) for residences, parks, or schools) or
  - 10 decibel increase above existing noise

**Present noise study results and preliminary noise wall locations at public hearing(s)**

**Finalize noise barrier designs once the project has received design approval**

**Obtain VDOT Chief Engineer approval**

**Obtain FHWA concurrence**

**Solicit public input from benefited property owners and renters (voting process)**

**Incorporate approved noise wall(s) into the final road design construction plans**

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