

**Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet – Noise Wall**

Date _____
Project Name _____
County _____
SR, Section _____
Community Name and/or NSA # _____
Noise Wall Identification (i.e., Wall 1) _____

General

1. Type of project (new location, reconstruction, etc.): _____

2. Total number of impacted receptor units in community
Category A units impacted _____
Category B units impacted _____
Category C units impacted _____
Category D units impacted (if interior analysis required) _____
Category E units impacted _____

Warranted

1. Community Documentation
 - a. Date community was permitted (for new developments or developments planned for or under construction) _____
 - b. Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI): _____
 - c. Does the date in 1.a precede the date in 1.b? If yes, proceed to Warranted Item 2. If no, consideration of noise abatement is not warranted. Proceed to “Decision” block and answer “no” to warranted question. As the reason for this decision, state that “Community was permitted after the date of approval of *CE, ROD, or FONSI, as appropriate.*”
 Yes No

2. Criteria requiring consideration of noise abatement (note N/A if category is not impacted or present or analysis not required). A “yes” answer to any of the following three questions requires the consideration of noise abatement.
 - a. With the proposed project, are design year noise levels predicted to approach or exceed the NAC level(s) in Table 1? Yes No
 - b. With the proposed project, is there predicted to be a substantial design year noise level increase of 10 dB(A) or more at Activity Category A, B, C, D, or E receptor(s)? Yes No

c. With the proposed project, are design year noise levels predicted to be less than existing noise levels, but still approach or exceed the NAC levels in Table 1 for the relevant Activity Category?

Yes No

Feasibility – Questions 1c through 7 must all be answered “yes” for a noise barrier to be determined to be feasible.

1. Impacted receptor units

a. Total number of impacted receptor units:

b. Percentage of impacted receptor units receiving 5 dB(A) or more insertion loss:

c. Is the percentage 50 or greater?

Yes No

2. Can the noise wall be designed and physically constructed at the proposed location?

Yes No

3. Can the noise wall be constructed without causing a safety problem?

Yes No

4. Can the noise wall be constructed without restricting access to vehicular or pedestrian travel?

Yes No

5. Can the noise wall be constructed in a manner that allows for access for required maintenance and inspection operations?

Yes No

6. Can the noise wall be constructed in a manner that permits utilities to function in a normal manner?

Yes No

7. Can the noise wall be constructed in a manner that permits drainage features to function in a normal manner?

Yes No

Reasonableness

1. Community Desires Related to the Barrier

a. Do at least 50 percent of the responding benefited receptor unit owner(s) and renters desire the noise wall? If yes, continue with Reasonableness questions. If no, the noise wall can be considered not to be reasonable. Proceed to “Decision” block and answer “no” to reasonableness question. As the reason for this decision, state that “The majority of the benefited receptor unit owners do not desire the noise wall.”

Yes No

2. Square Footage Per Benefited Receptor (SF/BR) Evaluation

a. Area (SF) of the proposed noise wall

b. Number of benefited receptor units (any unit receiving 5 dB(A) or more insertion loss)

c. $SF/BR = 2a/2b$

d. Is 2c less than or equal to the MaxSF/BR value of 2000?

Yes No

3. Noise Reduction Design Goals (Activity Categories A, B, C, and E) A “yes” answer is required to Question 3a. for the noise wall to be determined to be reasonable. Questions 3b through 3e represent desirable goals that need not be met for a noise wall to be determined reasonable. However, they must be addressed and should be considered in the determination of the recommended noise wall.

a. Does the noise wall reduce design year exterior_noise levels by at least 7 dB(A) for at least one benefited receptor? Yes No

b. Does the noise wall provide an insertion loss of at least 7 dB(A) for more receptors than required under 3a.while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation? Yes No

c. Does the noise wall provide insertion losses of greater than 7 dB(A) while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation? Yes No

d. Does the noise wall reduce future exterior levels to the low-60-decibel range (60-63) for Category B and C receptors and the upper-60 dB(A) range (65-68) for Category E receptors? Yes No

e. Does the noise wall reduce design year noise levels back to existing levels? Yes No

4. Noise Reduction Design Goals (Activity Category D) A “yes” answer is required to Question 4a. for the barrier to be determined to be reasonable. Question 4b represents a desirable goal that need not be met for a noise wall to be determined reasonable. However, this goal must be addressed and should be considered in the determination of the recommended noise wall.

a. Does noise wall reduce design year interior_noise levels by at least 7 dB(A) for the facility’s analysis point? Yes No

b. While conforming to the MaxSF/BR criteria and justified by a “point of diminishing returns’ evaluation, does the noise wall provide an interior insertion loss above the 7 dB(A) minimum Yes No

Decision

Is the Noise Wall WARRANTED? Yes No

Is the Noise Wall FEASIBLE? Yes No

Is the Noise Wall REASONABLE? Yes No

Additional Reasons for Decision:

Responsible/Qualified Individuals Making the Above Decisions

_____ Date: _____
PennDOT, Engineering District Environmental Manager

_____ Date: _____
Qualified Professional Performing the Analysis
(name, title, and company name)

Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet – Noise Berm

Date _____
Project Name _____
County _____
SR, Section _____
Community Name and/or NSA # _____
Noise Wall Identification (i.e., Wall 1) _____

General

1. Type of project (new location, reconstruction, etc.): _____
2. Total number of impacted receptor units in community/
Category A units impacted _____
Category B units impacted _____
Category C units impacted _____
Category D units impacted (if interior analysis required) _____
Category E units impacted _____

Warranted

1. Community Documentation
- a. Date community was permitted (for new developments or developments planned for or under construction) _____
- b. Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI): _____
- c. Does the date in 1.a precede the date in 1.b? If yes, proceed to Warranted Item 2. If no, consideration of noise abatement is not warranted. Proceed to "Decision" block and answer "no" to warranted question. As the reason for this decision, state that "Community was permitted after the date of approval of *CE, ROD, or FONSI, as appropriate.*" Yes No
2. Criteria requiring consideration of noise abatement (note N/A if category is not impacted or present or analysis not required). A "yes" answer to any of the following three questions requires the consideration of noise abatement.
- a. With the proposed project, are design year noise levels predicted to approach or exceed the NAC level(s) in Table 1? Yes No
- b. With the proposed project, is there predicted to be a substantial design year noise level increase of 10 dB(A) or more at Activity Category A, B, C, D, or E receptor(s)? Yes No
- c. With the proposed project, are design year noise levels predicted to be less than existing noise levels, but predicted design year noise levels still predicted to approach or exceed the NAC levels in Table 1 for the relevant Activity Category? Yes No

Feasibility – Questions 1c through 7 must all be answered “yes” for a noise berm to be determined to be feasible.

1. Impacted receptor units
 - a. Total number of impacted receptor units: _____
 - b. Percentage of impacted receptor units receiving 5 dB(A) or more insertion loss: _____
 - c. Is the percentage 50 or greater? Yes No
2. Can the noise berm be designed and physically constructed at the proposed location? Yes No
3. Can the noise berm be constructed without causing a safety problem? Yes No
4. Can the noise berm be constructed without restricting access to vehicular or pedestrian travel? Yes No
5. Can the noise berm be constructed in a manner that allows for access for required maintenance and inspection operations? Yes No
6. Can the noise berm be constructed in a manner that permits utilities to function in a normal manner? Yes No
7. Can the noise berm be constructed in a manner that permits drainage features to function in a normal manner? Yes No

Reasonableness

1. Community Desires Related to the Barrier
 - a. Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise berm? If yes, continue with Reasonableness questions. If no, the berm can be considered not to be reasonable. Proceed to “Decision” block and answer “no” to reasonableness question. As the reason for this decision, state that “The majority of the benefited receptor unit owners and renters do not desire the berm.” Yes No
2. Cubic Yards Per Benefited Receptor (CY/BR) Evaluation
 - a. Volume (CY) of the proposed noise barrier _____
 - b. Number of benefited receptor units (any unit receiving 5 dB(A) or more insertion loss) _____
 - c. $CY/BR = 2a/2b$ _____
 - d. Is 2c less than or equal to the MaxCY/BR value of 1200? Yes No
3. Noise Reduction Design Goals (Activity Categories A, B, C, and E) A “yes” answer is required to both Questions 3a. and 3b. for the barrier to be determined to be reasonable. Questions 3c. and 3d. represent desirable goals that need not be met for a noise berm to be determined reasonable. However, they must be addressed and should be considered in the determination of the recommended noise berm.
 - a. Does the berm reduce future noise levels by at least 7 dB(A) for 50% or more of the benefited receptors? Yes No
 - b. Is the estimated net cost of the noise berm less than \$50,000 per benefited receptor unit? Yes No

c. Does the berm provide insertion loss above 7 dB(A) while still conforming to the MaxCY/BR value of 1200? Yes No

d. Does the berm reduce future exterior levels to the low-60-decibel range (60-63) for Category B and C receptors and the upper-60 dB(A) range (65-68) for Category E receptors? Yes No

4. Noise Reduction Design Goals (Activity Category D) A “yes” answer is required to both Questions 4a. and 4b. for the berm to be determined to be reasonable. Question 4c represents a desirable goal that need not be met for a noise berm to be determined reasonable. However, this goal must be addressed and should be considered in the determination of the recommended noise berm.

a. Does noise berm reduce design year interior noise levels by at least 7 dB(A) for the facility’s analysis point? Yes No

b. Is the estimated net cost of the noise berm less than \$50,000 per benefited receptor unit? Yes No

c. While conforming to the MaxCY/BR criteria and justified by a “point of diminishing returns’ evaluation, does the noise berm provide an interior insertion loss above the 7 dB(A) minimum Yes No

Decision

Is the Noise Berm WARRANTED? Yes No

Is the Noise Berm FEASIBLE? Yes No

Is the Noise Berm REASONABLE? Yes No

Additional Reasons for Decision:

Responsible/Qualified Individuals Making the Above Decisions

PennDOT, Engineering District Environmental Manager

Date:_____

Qualified Professional Performing the Analysis
(name, title, and company name)

Date:_____