DRAFT FINAL DESIGN NOISE ANALYSIS REPORT

COATESVILLE-DOWNINGTOWN BYPASS
US 30 – SECTION AIR
SADSBURY, VALLEY, AND WEST CALN TOWNSHIPS, CHESTER COUNTY
August 2026



Prepared for:
Pennsylvania Department of Transportation

GFT

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ACRONYMS

AADT....Annual Average Daily Traffic
ANSI....American National Standards Institute
dB(A)....A-weighted decibels
DVRPC....Delaware Valley Regional Planning Comission
ERU....Equivalent Residential Unit
FDNA....Final Design Noise Analysis
FHWA....Federal Highway Administration
GPS....Global Positioning System
IL....Insertion Loss
IOE....Increase Over Existing
L_{eq}....Equivalent Continuous Sound Level
NAC....Noise Abatement Criteria
NSA....Noise Study Area
PennDOT....Pennsylvania Department of Transportation
PENA....Preliminary Environmental Noise Analysis
SLM....Sound Level Meter Continuous Sound Level
SF/BR....Square Foot per Benefited Receptor
TIRe....Traffic Information Repository
TNM....Traffic Noise Model (FHWA)

AIRPORT ROAD PROJECT (US 30, SECTION AIR – COATESVILLE-DOWNINGTOWN BYPASS) FINAL DESIGN NOISE ANALYSIS REPORT

Pennsylvania Department of Transportation
Sadsbury, Valley, and Caln Townships, Chester County
June 2026

EXECUTIVE SUMMARY

The SR0030/Section AIR segment of the Coatesville-Downingtown Bypass project consists of a 3.9-mile corridor of US 30 in Sadsbury, Valley, and West Caln Townships, extending from approximately 1,000 feet east of the Old Mill Road overpass to approximately 950 feet east of the Wagontown Road overpass. The project will incorporate improvements to US 30 and construction of a diverging diamond interchange at the existing Airport Road interchange as presented in Alternative D. Improvements to Airport Road that are proposed between US 30/Section and Business US 30 consist of merge lanes to blend the proposed interchange to existing Airport Road in addition to widening and the addition of turning lanes for improved access to the Airport Village shopping center and Valley Square Towns residential community. The purpose of improvements is to reduce future congestion, accommodate planned growth, improve facility deficiencies, and improve system connectivity. This noise analysis report will be limited to the Section AIR corridor only.

For the noise analysis, the Airport Road project area was divided into fourteen (14) Noise Study Areas (NSAs) as shown in **Figure 2.1-2.10**. Based on the evaluation of existing and future noise levels and the noise abatement criteria (NAC) described in **Table 1**, project-related noise impacts were identified in all NSAs. Noise measurements and concurrent traffic counts were conducted in all NSAs, as located in **Figure 2.1-2.10**. and reported in **Table 2**.

Based on the evaluation of the noise levels associated with the final design engineering plans for the project developed to date, noise abatement features were determined to be feasible and reasonable for NSAs 1, 2, 3, 6A, 7A and 7B. Various noise barrier options were considered and evaluated in terms of abatement feature lengths, heights, and costs. This process resulted in the development of the following feasible and reasonable noise barriers along the proposed project alignment:

- Barrier 1, beginning at Station 1114+00 of the US 30 westbound shoulder, extending east across the Old Wilmington Road overpass and ending at the shoulder of Station 1150+00. Barrier 1 is 10 to 12 feet in height and 3,600 feet in length.

- Barrier 2, beginning at Station 1112+00 of the US 30 eastbound shoulder, extending east across the Old Wilmington Road overpass and ending at the shoulder of Station 1135+00. Barrier 2 is 10 to 12 feet in height and 2,300 feet in length.

- Barrier 6A, beginning at Station 1235+00 of the US 30 eastbound shoulder, extending east across the Country Club Road overpass and ending at the shoulder of Station 1248+00. Barrier 6A is 14 to 18 feet in height and 1,300 feet in length.

- Barrier 7A, beginning at Station 1235+00 of the US 30 westbound shoulder, extending east across the Country Club Road overpass and traversing the westbound cut-slope between Station 1246+50 and 1261+00 before ending at the shoulder of Station 1264+00. Barrier 7A is 10 to 18 feet in height and 2,908 feet in length.

- Barrier 7B, beginning at Station 1268+00 of the US 30 westbound shoulder, extending east and ending at

the shoulder of Station 1288+00. Barrier 7B is 10 to 16 feet in height and 2,000 feet in length.

1.0 INTRODUCTION

The SR0030/Section AIR segment of the Coatesville-Downingtown Bypass project consists of a 3.9-mile corridor of US 30 in Sadsbury, Valley, and West Caln Townships in Chester County, extending from approximately 1,000 feet east of the Old Mill Road overpass (western extent) to approximately 950 feet east of the Wagontown Road overpass (eastern extent). The project incorporates improvements to US 30 and the construction of a diverging diamond interchange at the existing Airport Road interchange. Proposed Improvements to Airport Road between US 30/Section AIR and Business US 30 consist of merge lanes to blend the proposed interchange to existing Airport Road in addition to widening and the addition of turning lanes for access to the Airport Village shopping center and Valley Square Towns residential community. The purpose of the improvements is to reduce future congestion, accommodate planned growth, improve facility deficiencies, and improve system connectivity. This noise analysis report will be limited to the Section AIR corridor only.

A Preliminary Engineering Noise Analysis (PENA) for the Section AIR phase of the Coatesville-Downingtown Bypass project was approved by FHWA in November of 2024 and evaluated noise levels at all noise-sensitive locations within the corridor based on the preliminary engineering designs developed to date. The Final Design Noise Analysis (FDNA) discussed in this report evaluated noise levels at the same noise-sensitive locations based on the final design engineering plans developed to date, which included minor revisions limited to the roadway elevations of US 30 beneath the proposed Airport Road improvements.

2.0 METHODOLOGY

2.1 Noise Policy

Noise abatement has been evaluated for the NSAs which meet the Pennsylvania Department of Transportation (PennDOT) and Federal Highway Administration (FHWA) criteria for a Type I project. Methodology employed for this traffic noise analysis will be conducted in accordance with the guidelines contained within PennDOT's *Publication 24: Project Level Highway Traffic Noise Handbook, May 2019*. This FDNA focuses on the noise analysis and mitigation related to the 2050 design year Build Alternative.

PennDOT NAC, described in **Table 1** for specific land use activities, were used in the evaluation of traffic noise impacts. These criteria are based on criteria established in Title 23 Code of Federal Regulations, Part 772, U.S. Department of Transportation, FHWA, *Procedures for Abatement of Highway Traffic Noise and Construction Noise*, and guidelines for "increase over existing" (IOE) noise levels as set forth in PennDOT Publication *Project Level Highway Traffic Noise Handbook Publication No.24*, dated May 2019. Predicted noise levels were determined using Version 2.5 of the FHWA Traffic Noise Model (TNM).

The noise level descriptor used for this project was the hourly equivalent noise level ($L_{eq}(h)$). $L_{eq}(h)$ is the steady state, A-weighted sound level, which contains the same amount of acoustic energy as the actual time-varying A-weighted noise level over a one-hour period. The FHWA and PennDOT define noise impact based upon seven activity categories, as identified in **Table 1**. Individual sites located within a given activity category are designated as noise sensitive receptors.

For this report, the term "receptor" is used to represent an individual dwelling unit or non-residential land use. The term "receiver" is used to describe a particular analysis point in the FHWA TNM. Most receptors analyzed in this study are single-family residences, which are by default represented by a single receiver holding a value of one. However, cases for all Activity Categories exist where a single receiver may need to represent multiple receptors. PennDOT's methodology is to represent such uses with one receptor point holding an Equivalent Residential Unit (ERU) value which represents the degree of usage occurring at a site, based upon a function of "person-hours per

year" of use by an average single-family dwelling in Pennsylvania. While the ERU value for a single-family residence is always one, ERU values for other sites will vary based on a variety of factors. **Appendix A** contains assumptions and calculations for the determination of ERU values for all applicable Activity Categories in this project.

Noise impacts were also evaluated by comparing the predicted noise levels with existing noise levels. A noise impact was identified if the future (year 2050) noise level is predicted to equal or exceed 66 A-weighted decibels (dB(A)) for NAC B and NAC C, or if future noise levels within the project were predicted to cause a substantial noise increase ($\geq$10 dB(A)) as compared to existing noise levels (year 2019).

2.2 Monitoring and Model Validation Methodology

Measurement sites were positioned to enable validation of the noise prediction model and to assist in defining existing noise levels for receptors located up to approximately 500 feet from the proposed edge of pavement. Receptor site locations are always selected to represent exterior areas of frequent human use, such as a porch, balcony, or deck for Activity Category B land uses. Therefore, in certain locations noise measurement sites may not be colocated with receptor sites. Field measurements were used primarily for the purpose of noise model validation. Traffic volume tables are in **Appendix B**. Calibration certificates related to noise meters and calibrators are in **Appendix C**.

Traffic volume data obtained concurrently with the short-term noise measurements were used to validate traffic noise models, and the resulting noise levels were compared to measured noise levels. Existing short-term measured noise levels and hourly traffic data based on concurrent traffic counts are summarized in **Table 2**, with field measurement data sheets contained in **Appendix D**. Validation results are also shown in **Table 3**, with FHWA TNM validation data files included with this report. The attributes derived from this validation process, such as roadway geometry and local shielding, were used to "build" the FHWA TNM noise models for the purpose of determining existing and future year noise levels, future year impacts, and evaluating potential noise abatement options.

2.3 Noise Modeling

The model used to predict the worst-case existing and future noise levels and to evaluate noise abatement options was FHWA's TNM, Version 2.5. The FHWA TNM predicts noise levels at selected locations based on traffic data, roadway design, topographic features, and the relationship of the analysis site (receptor) to nearby roadways. Traffic data used in the traffic noise model for prediction of existing (year 2019) and future (year 2050) noise levels for the build barrier condition is in **Appendix B**. The volumes and percentages of automobiles and trucks used in the FHWA TNM model were obtained from the PennDOT Traffic Information Repository (TIRe), with growth rates based upon projections provided by the Delaware Valley Regional Planning Commission (DVRPC). The PM peak hour (4:00 PM) volumes were used for this noise study as they represented the worst-case scenario.

2.4 Evaluation of Noise Impacts

In Pennsylvania, consideration of noise abatement is required if a noise impact is located; where future-build noise levels approach or exceed the NAC found in **Table 1** (Approach is defined as 1 dB(A) below the NAC) or creates a substantial noise IOE of 10 dB(A). To establish noise impacts, the future-build noise levels were compared to the NAC "approach level" of 66 dB(A) for Noise Activity Categories B and C. Future-build noise levels that meet or exceed the approach level or cause a 10 dB(A) IOE are considered noise-impacted. These comparisons are contained in the Summary of Noise Barrier Analysis tables (**Tables 4-15**) for each NSA, with the noise measurement sites and analysis sites (receptors) indicated within each NSA. Noise impacts were identified in all fourteen NSAs based on predicted noise levels exceeding the approach criteria level for their respective activity categories. IOE levels are primarily the result of predicted traffic growth within the proposed project.

In addition to their use in evaluating noise impacts, noise analysis sites were used in the consideration of noise

abatement for noise sensitive receptors within each NSA. Abatement measures such as traffic management devices and roadway realignment were determined not to be feasible. Additionally, the right-of-way limitations along the project area do not facilitate the use of noise berms as a feasible noise abatement technique. Therefore, noise abatement evaluations focused on the design of noise barrier walls exclusively.

Consideration of noise abatement was required in all NSAs due to noise levels approaching or exceeding the NAC. Under PennDOT noise criteria, feasible noise barriers are those that provide at least 5 dB(A) of noise reduction (benefit) for at least 50% of impacted receptors, while posing no safety, engineering, maintenance, constructability, drainage, utility impacts, or access restrictions. If determined to be feasible, a barrier was then evaluated for reasonableness. For a barrier to be reasonable based on PennDOT noise criteria, it must be cost-effective (square footage per benefited residential receptor (SF/BR) must be less than or equal to 2,000), provide a 7 dB(A) reduction for at least one benefited receptor, and the desires of the affected property owners and residents must be considered. Receptors are considered as benefited if they receive 5 dB(A) or more noise reduction (insertion loss) from a barrier.

3.0 EXISTING HIGHWAY TRAFFIC NOISE ENVIRONMENT

Within each NSA described in this section, short-term (20-minute duration) ambient noise measurements were conducted along with concurrent traffic counts at seventy-five (75) locations using American National Standards Institute (ANSI) Type I noise meters, at various times of the day between April 25th and April 27th, and additionally on May 10th and May 11th of 2022, as shown in **Figures 2.1-2.10** and **Table 2**. Although ambient noise measurements do not necessarily represent worst-case conditions at each site, they are adequate for validating the traffic noise model as intended. Long-term noise measurements were taken at L1-24H, L2-24H, and L3-24H to observe typical loudest-hour conditions.

All noise meters and field calibrators maintained certification for calibration for the noise measurements conducted for the purpose of this study, as demonstrated by the calibration certificates in **Appendix C**. Noise meters were also field calibrated each day prior to and following noise measurement sessions as noted on the field data sheets in **Appendix D**. Measured versus modeled (validation) noise level results, hourly traffic data based on concurrent traffic counts, observed roadway speeds, and vehicle composition data can be found in **Table 2 and Table 3**. Measured versus modeled noise levels were validated within the acceptable 3 dB(A) range for all measurement sites. Traffic volume figures are in **Appendix B**.

Measured existing L_{eq} noise levels at short-term measurement sites ranged from 54 dB(A) to 73 dB(A). Predicted existing noise levels at modeled receptor sites ranged from 47 to 73 dB(A). Of the seventy-five (75) modeled receptor sites, sixty-five (65) sites are already impacted by existing noise levels.

3.1 Noise Study Areas

The project study area begins 1000 feet east of the Old Mill Road overpass to approximately 950 feet east of the Wagontown Road overpass. The project study area was divided into the following noise study areas (NSAs) described in this section and as shown in **Figures 2.1 through 2.10**.

3.1.1 NSA 1 (See Figures 2.1-2.2 and Table 4)

Noise-sensitive Activity Category B land uses are located north of US 30 between Old Mill Road and Old Wilmington Road and are comprised of eighteen (18) single-family residences, including a farmhouse. The worst-case existing noise levels for receivers in NSA 1 were predicted to range from 58 to 69 dB(A).

3.1.2 NSA 2 (See Figures 2.1-2.2 and Table 5)

Noise-sensitive Activity Category B and C land uses are located south of US 30 between Old Mill Road and Old Wilmington Road and are comprised of twelve (12) single-family residences, fifty-three (53) existing mobile homes and forty-three (43) mobile home sites recently developed in the Lincoln Crest Mobile Home Park, and outdoor recreation facilities including a disc golf course at Cowan Park. The worst-case existing noise level for receivers in NSA 2 were predicted to range from 55 to 69 dB(A).

3.1.3 NSA 3 (See Figures 2.2-2.3 and Table 4)

Noise sensitive Activity Category B land uses are located north of US 30, between Old Wilmington Road and South Bonsall Road as it runs parallel to the project mainline. This NSA is comprised of seventeen (17) single-family homes. The worst-case existing noise levels for receivers in NSA 3 were predicted to range from 58 to 72 dB(A).

3.1.4 NSA 4

For analysis purposes, NSA 4 was divided into two NSAs (NSA 4A and NSA 4B) in the vicinity of the non-noise sensitive (Activity Category F) industrial park on Independence Way.

3.1.4.1 NSA 4A (See Figures 2.3 and Table 6)

Noise sensitive Activity Category B and C land uses are located south of US 30, east of Old Wilmington Road, extending east to the area of Morris Road. NSA 4A is comprised of sixteen (16) single-family homes and a place of worship (NAC C, Kings Way Independent Church). The worst-case existing noise levels for receivers in NSA 4A were predicted to range from 59 to 72 dB(A).

3.1.4.2 NSA 4B (See Figures 2.4 and Table 7)

Noise sensitive Activity Category B and C land uses are located south of US 30, west of the Independence Way industrial park and east of Airport Road. NSA 4B is comprised of nineteen (19) single-family homes, a walking path and playground (NAC C, Round Hill Playground) near the northern property line of the Round Hill townhouse community. The worst-case existing noise levels for receivers in NSA 4B were predicted to range from 55 to 65 dB(A).

3.1.5 NSA 5 (See Figures 2.5-2.6 and Table 8)

Noise sensitive Activity Category B and C land uses are located north of US 30 between Airport Road and Country Club Road. This NSA consists of a medical facility with an outdoor use area and a single-family residence on Country Club Road. The worst-case existing noise levels for receivers in NSA 5 were predicted to range from 64 to 69 dB(A).

3.1.6 NSA 6

NSA 6 was divided into two NSAs (NSA 6A and NSA 6B) in the vicinity of the undeveloped lands located south of US 30 between Station 1255+00 and 1282+00 to facilitate independent noise barrier studies for each unique noise environment.

3.1.6.1 NSA 6A (See Figure 2.7 and Table 9)

Noise sensitive Activity Category B land uses are located south of US 30, west and in the area of Country Club Road and extending east to the end of Innisbrook Lane. NSA 6A is comprised of one (1) single family home west of Country Club Road and sixty-one (61) townhomes within the Country Club Valley neighborhood. The worst-case existing noise levels for receivers in NSA 6A were predicted to range from 47 to 66 dB(A).

3.1.6.2 NSA 6B (See Figure 2.8 and Table 10)

Noise sensitive Activity Category B land uses are located south of US 30 on Augusta Drive, Burgundy Lane, and Charlotte Lane, and Wagontown Road. NSA 6B is comprised of twelve (12) single-family homes. The worst-case existing noise levels for receivers in NSA 6B were predicted to range from 60 to 71 dB(A), with homes on Charlotte Lane and Wagontown Road indicating the higher existing noise levels due to their proximity and exposure to US 30.

3.1.7 NSA 7

NSA 7 was divided into two NSAs (NSA 7A and NSA 7B) to facilitate independent noise barrier studies for each due to their distinguishing topography; with most of NSA 7A located above the US 30 cut-slope, whereas most of NSA 7B is directly exposed to US 30 located on fill slope.

3.1.7.1 NSA 7A (See Figure 2.7, Table 11 and 12)

Noise sensitive Activity Category B land uses are located north of US 30, east of Country Club Road, extending east to the end of Landis Lane. NSA 7A is comprised of sixty-four (64) single-family homes. The worst-case existing noise levels for receivers in NSA 7A were predicted to range from 50 to 73 dB(A).

3.1.7.2 NSA 7B (See Figure 2.8, Table 11 and 13)

Noise sensitive Activity Category B land uses are located immediately north of US 30 along Mineral Springs Road, west of Wagontown Road. NSA 7B is comprised of twenty (20) single-family homes. The worst-case existing noise levels for receivers in NSA 7B were predicted to range from 59 to 73 dB(A).

3.1.8 NSA 8 (See Figure 2.9 and Table 14)

Noise-sensitive Activity Category B land uses are located south of US 30 in the area of South Mount Airy Road. NSA 8 consists of two (2) single-family residences. The worst-case existing noise levels for receivers in NSA 8 were predicted to range from 63 to 64 dB(A).

3.1.9 NSA 9 (See Figure 2.9 and Table 15)

Noise sensitive Activity Category B and E land uses are located north of US 30 between Wagontown Road and the area of Mt Airy Road. This NSA is comprised of twenty (20) single-family homes including one farmhouse (R9.01) and a farm store (R9.20 - Mt. Airy Lavender, NAC E). The worst-case existing noise levels for receivers in NSA 9 were predicted to range from 52 to 71 dB(A).

3.1.10 NSA 10

NSA 10 was divided into two NSAs (NSA 10A and NSA 10B) since receptors located north of Prescott Road would potentially require a separate abatement solution than the receptors located south of Prescott Road. NSA 10A and 10B are both related to amenities of the planned, permitted, and partially constructed Valley Square Towns residential community.

3.1.10.1 NSA 10A (See Figure 2.10 and Table 16)

Noise sensitive Activity Category C land uses are located south of US 30, east of Airport Road, and north of Prescott Road. NSA 10A is comprised of twelve (12) receptors, ten (10) of which represent a community shared use path and two (2) represent amenities at the Valley Square community center. The Valley Suburban Center multi-family home complex was not permitted prior to the project's date of public knowledge and are not included in the noise analysis. The worst-case existing noise levels for receivers in NSA 10A were predicted to range from 55 to 68 dB(A).

3.1.10.2 NSA 10B (See Figure 2.10 and Table 16)

Noise sensitive Activity Category C land uses are located south of US 30, east of Airport Road, and south of Prescott Road. NSA 10B is comprised of four (4) receptors, all of which represent the southern portion of a shared use path at the Valley Suburban Center. The Valley Suburban Center commercial land uses were not permitted prior to the project's date of public knowledge and are not included in the noise analysis. The worst-case existing noise levels for receivers in NSA 10B were predicted to range from 56 to 68 dB(A).

4.0 FUTURE HIGHWAY TRAFFIC NOISE ENVIRONMENT

Predicted design year (2050) Build noise levels for receivers in the project study area ranged from 49 to 75 dB(A). The average increase in noise levels between the existing (2019) and design year (2050) Build conditions were predicted to range from 0 to 6 dB(A), with an average increase of 3 dB(A).

Increases in noise levels with the Future No-Build and Build IOE typically result from the growth of traffic predicted between existing and design years. However, project improvements can influence increases or decreases in IOE levels depending on geometric changes in roadway elevation, location, alignment of travel lanes, and shielding. For the Section AIR project, the predominant cause of increased noise levels is projected traffic growth, since the proposed changes in roadway geometry, terrain and shielding are limited in area and scale.

5.0 EVALUATION RESULTS AND ABATEMENT ALTERNATIVES

The comparison of existing and Future Build noise levels, determination of noise impacts, and abatement options are discussed below. See referenced tables for more details related to all noise abatement options considered.

5.1 NSA 1 and NSA 3 (See Figures 2.1-2.3 and Table 4)

Due to the proximity of impacts between NSA 1 and NSA 3, it was determined that a common barrier system would be necessary to provide benefit to impacts in both NSAs. Therefore, the barrier analyses of NSA 1 and NSA 3 are combined. Site R1.01 is a project acquisition and noise abatement is not considered for this location.

The IOE noise levels for receptors in NSA 1 and NSA 3 range from 1 to 2 dB(A). Seven (7) of the seventeen (17) receptors within NSA 1 are predicted to have noise levels at or above 66 dB(A) with the Build Alternative. Nine (9) of the seventeen (17) receptors within NSA 3 are predicted to have noise levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement for these NSAs is warranted.

The following four abatement options were analyzed for NSA 1 and NSA 3:

- Case 1 consisted of a 6-foot high Barrier 1, totaling 4,500 feet in length and was determined to be not feasible ($\geq$5 dB(A) insertion loss not provided for ≥50% of impacted).

- Case 2 consisted of an 8-foot high Barrier 1, totaling 4,500 feet in length and was determined to be feasible ($\geq$5 dB(A) insertion loss provided for 88% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 2,400 > 2,000, which exceeds PennDOT requirements).

- Case 3 consisted of a 10-foot high Barrier 1, totaling 4,500 feet in length and was determined to be feasible ($\geq$5 dB(A) insertion loss provided for 100% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 1,875 < 2,000, which meets PennDOT requirements).

- Case 4 consisted an optimized 10 to 12 foot-high Barrier 1, totaling 3,600 feet in length and was determined

to be feasible (≥5 dB(A) insertion loss provided for 100% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 1,540 < 2,000, which meets PennDOT requirements). The optimized Case 4 barrier design is recommended for construction in NSA 1 and NSA 3 as configured below, and benefits sixteen (16) impacted receptors and eight (8) non-impacted receptors. The average insertion loss for benefited receptors in this NSA is 7.2 dB(A).

Barrier 1 begins at Station 1114+00 of the US 30 westbound shoulder, extends east across the Old Wilmington Road overpass and ending at the shoulder of Station 1150+00. Barrier 1 is designed at the maximum possible height between Stations 1130+00 and 1131+00 due to limitations established by *PennDOT Design Manual, Part 4, Structures December 2019 Edition* (PennDOT DM-4) for structure-mounted noise barriers.

5.2 NSA 2 (See Figures 2.1-2.3 and Table 5)

Due to the proximity of impacts within the western boundary of NSA 4 to the NSA 2 abatement options, and their shared noise environment about the Old Wilmington Road overpass, it was determined that impacted receptor sites R4.01 and R4.14 be included in the NSA 2 analysis.

The IOE noise levels for receptors in NSA 2 range from 1 to 2 dB(A). Twenty-two (22) of the one-hundred nine (109) receptors within NSA 2 are predicted to have noise levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement for this NSA is warranted.

The following three abatement options were analyzed for NSA 2:

- Case 1 consisted of a 6-foot high Barrier 2, totaling 2,300 feet in length and was determined to be feasible (≥5 dB(A) insertion provided for 50% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was not achieved).

- Case 2 consisted of an 8-foot high Barrier 2, totaling 2,300 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 100% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 288 < 2,000, which meets PennDOT requirements).

- Case 3 consisted of an optimized 10 to 12-foot high Barrier 2, totaling 2,300 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 100% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 282 < 2,000, which meets PennDOT requirements). The optimized Case 3 barrier design is recommended for construction in NSA 2 as configured below, and benefits twenty (20) impacted receptors and seventy-four (74) non-impacted receptors in NSA 2 and benefits two (2) impacted receptors at the western boundary of NSA 4. The average insertion loss for benefited receptors in this NSA is 7.5 dB(A).

  Barrier 2 begins at Station 1112+00 of the US 30 eastbound shoulder, extending east across the Old Wilmington Road overpass and ending at the shoulder of Station 1135+00. The height of Barrier 2 meets the limits established by *PennDOT Design Manual, Part 4, Structures December 2019 Edition* (PennDOT DM-4) for structure-mounted noise barriers at the Old Wilmington Road overpass, located between Stations 1130+00 and 1131+00.

5.3 NSA 4A (See Figure 2.3 and Table 6)

The IOE noise levels for receptors in NSA 4A range from 0 to 2 dB(A). Four (4) of the seventeen (17) receptors within

NSA 4A are predicted to have noise levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement for this NSA is warranted. Impacted NSA 4A Receptors 4.01 and 4.14 benefit from the NSA 2 recommended noise barrier and are not considered in the NSA 4A noise abatement feasibility and reasonableness calculations.

The following four abatement options were considered for NSA 4A:

- Case 1 consisted of a 10-foot high Barrier 4A, totaling 1,200 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 100% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was not achieved).

- Case 2 consisted of a 12-foot high Barrier 4A, totaling 1,200 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 100% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 7,200 > 2,000, which exceeds PennDOT requirements).

- Case 3 consisted of a 14-foot high Barrier 4A, totaling 1,200 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 100% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 2,800 > 2,000, which exceeds PennDOT requirements).

- Case 4 consisted of a 16-foot high Barrier 4A, totaling 1,200 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 100% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 3,200 > 2,000, which exceeds PennDOT requirements).

  Barrier 4A is not recommended for construction in NSA 4A.

5.4 NSA 4B (See Figure 2.4 and Table 7)

The IOE noise levels for receptors in NSA 4B range from 1 to 5 dB(A). Two (2) of the twenty-two (22) receptors within NSA 4B are predicted to have noise levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement for this NSA is warranted.

The following six abatement options were considered for NSA 4B:

- Case 1 consisted of a 10-foot high Barrier 4B, totaling 1,495 feet in length and was determined to be not feasible (≥5 dB(A) insertion loss not provided for ≥50% of impacted receptors).

- Case 2 consisted of a 12-foot high Barrier 4B, totaling 1,495 feet in length and was determined to be not feasible (≥5 dB(A) insertion loss not provided for ≥50% of impacted receptors).

- Case 3 consisted of a 14-foot high Barrier 4B, totaling 1,495 feet in length and was determined to be not feasible (≥5 dB(A) insertion loss not provided for ≥50% of impacted receptors).

- Case 4 consisted of a 16-foot high Barrier 4B, totaling 1,495 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 100% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was not achieved).

- Case 5 consisted of an 18-foot high Barrier 4B, totaling 1,495 feet in length and was determined to be

feasible (≥5 dB(A) insertion loss provided for 100% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 3,844 > 2,000, which exceeds PennDOT requirements).

- Case 6 consisted of a 20-foot high Barrier 4B, totaling 1,495 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 100% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 3,738 > 2,000, which exceeds PennDOT requirements).

  Barrier 4B is not recommended for construction in NSA 4B.

5.5 NSA 5 (See Figure 2.5-2.6 and Table 8)

The IOE noise levels for receptors in NSA 5 range from 2 to 3 dB(A). Two (2) of the two (2) receptors within NSA 5 are predicted to have noise levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement for this NSA is warranted.

The following two abatement options were considered for NSA 5:

- Case 1 consisted of a 14-foot high Barrier 5, totaling 810 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 50% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 11,340 > 2,000, which exceeds PennDOT requirements).

- Case 2 consisted of a 16-foot high Barrier 5, totaling 810 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 50% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 12,960 > 2,000, which exceeds PennDOT requirements).

  Barrier 5 is not recommended for construction in NSA 5.

5.6 NSA 6A (See Figure 2.7 and Table 9)

The IOE noise level for all receptors in NSA 6A is 2 dB(A). Five (5) of the sixty-two (62) receptors within NSA 6A are predicted to have noise levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement for these NSAs is warranted.

The following seven abatement options were analyzed for NSA 6A:

- Case 1 consisted of a 10-foot high Barrier 6A, totaling 1,800 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 80% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 1,125 < 2,000, which meets PennDOT requirements).

- Case 2 consisted of a 12-foot high Barrier 6A, totaling 1,800 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 80% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 1,350 < 2,000, which meets PennDOT requirements).

- Case 3 consisted of a 14-foot high Barrier 6A, totaling 1,800 feet in length and was determined to be feasible

(≥5 dB(A) insertion loss provided for 80% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 1,200 < 2,000, which meets PennDOT requirements).

- Case 4 consisted of a 16-foot high Barrier 6A, totaling 1,800 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 80% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 960 < 2,000, which meets PennDOT requirements).

- Case 5 consisted of a 18-foot high Barrier 6A, totaling 1,800 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 100% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 982 < 2,000, which meets PennDOT requirements).

- Case 6 consisted of a 20-foot high Barrier 6A, totaling 1,800 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 100% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 1,091 < 2,000, which meets PennDOT requirements).

- Case 7 consisted of an optimized 14 to 18-foot high Barrier 6A, totaling 1,300 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 100% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 1000 < 2,000, which meets PennDOT requirements). The optimized Case 7 barrier design is recommended for construction in NSA 6A as configured below and benefits all five (5) impacted receptors and seventeen (17) non-impacted receptors in NSA 6A. The average insertion loss for benefited receptors in this NSA is 8.2 dB(A).

  Barrier 6A begins at Station 1235+00 of the US 30 eastbound shoulder, extending east across the Country Club Road overpass and ending at the shoulder of Station 1248+00. The height of Barrier 6A meets the limits established by *PennDOT Design Manual, Part 4, Structures December 2019 Edition* (PennDOT DM-4) for structure-mounted noise barriers at the Country Club Road overpass, located between Stations 1237+00 and 1238+00.

5.7 NSA 6B (See Figure 2.8 and Table 10)

The IOE noise level for all receptors in NSA 6B is 2 dB(A). Five (5) of the twelve (12) receptors within NSA 6B are predicted to have noise levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement for this NSA is warranted.

The following two abatement options were considered for NSA 6B:

- Case 1 consisted of a 10-foot high Barrier 6B, totaling 1,600 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 60% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 5,333 > 2,000, which exceeds PennDOT requirements).

- Case 2 consisted of a 12-foot high Barrier 6B, totaling 1,600 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 80% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 4,800 > 2,000, which exceeds PennDOT requirements).

Barrier 6B is not recommended for construction in NSA 6B.

5.8 NSA 7 (See Figure 2.7-2.8 and Table 11)

This section discusses the investigative barrier cases for NSA 7A and 7B, which were analyzed as a single NSA 7 barrier, however the outcome of barrier optimization resulted in two independent barriers which are discussed in the following two sections.

The IOE noise level for all receptors in NSA 7 is 2 dB(A). Thirty-five (35) of the eighty-four (84) receptors within NSA 7 are predicted to have noise levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement for this NSA is warranted.

The following three abatement options were analyzed for NSA 7:

- Case 1 consisted of a 10-foot high Barrier 7, totaling 5,409 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 74% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 1,545 < 2,000, which meets PennDOT requirements).

- Case 2 consisted of a 14-foot high Barrier 7, totaling 5,409 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 91% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 1,067 < 2,000, which meets PennDOT requirements).

- Case 3 consisted of a 18-foot high Barrier 7, totaling 5,409 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 91% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 1,248 < 2,000, which meets PennDOT requirements).

5.9 NSA 7A (See Figure 2.7 and Table 12)

The IOE noise level for all receptors in NSA 7A is 2 dB(A). Twenty-two (22) of the sixty-four (64) receptors within NSA 7A are predicted to have noise levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement for this NSA is warranted.

The following abatement option was analyzed for NSA 7A, following the three NSA 7 investigative cases:

- Case 4 consisted of an optimized 10 to 18-foot high Barrier 7A, totaling 2,908 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 100% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 1,376 < 2,000, which meets PennDOT requirements). The optimized Case 4 barrier design is recommended for construction in NSA 7A as configured below and benefits all twenty-two (22) impacted receptors and seven (7) non-impacted receptors in NSA 7A. The average insertion loss for benefited receptors in this NSA is 8.4 dB(A).

  Barrier 7A begins at Station 1235+00 of the US 30 westbound shoulder, extending east across the Country Club Road overpass and traversing the westbound cut-slope between Station 1246+50 and 1261+00 before ending at the shoulder of Station 1264+00. The height of Barrier 7A meets the limits established by *PennDOT Design Manual, Part 4, Structures December 2019 Edition* (PennDOT DM-4) for structure-mounted

noise barriers at the Country Club Road overpass, located between Stations 1237+00 and 1238+00.

5.10 NSA 7B (See Figure 2.8 and Table 13)

The IOE noise level for all receptors in NSA 7B is 2 dB(A). Thirteen (13) of the twenty (20) receptors within NSA 7B are predicted to have noise levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement for this NSA is warranted.

The following abatement option was analyzed for NSA 7B, following the three NSA 7 investigative cases:

- Case 4 consisted of an optimized 10 to 16-foot high Barrier 7B, totaling 2,000 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 92% of impacted receptors) and reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved and square footage per benefited receptor SF/BR 1,986 < 2,000, which meets PennDOT requirements). The optimized Case 4 barrier design is recommended for construction in NSA 7B as configured below and benefits twelve (12) impacted receptors and one (1) non-impacted receptor in NSA 7B. The average insertion loss for benefited receptors in this NSA is 7.6 dB(A).

  Barrier 7B, begins at Station 1268+00 of the US 30 westbound shoulder, extending east and ending at the shoulder of Station 1288+00.

5.11 NSA 8 (See Figure 2.9 and Table 14)

The IOE noise level for all receptors in NSA 8 is 2 dB(A). One (2) of the two (2) receptors within NSA 8 are predicted to have noise levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement for this NSA is warranted.

The following four abatement options were considered for NSA 8:

- Case 1 consisted of a 10-foot high Barrier 8, totaling 917 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 100% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was not achieved).

- Case 2 consisted of a 12-foot high Barrier 8, totaling 917 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 100% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 11,004 > 2,000, which exceeds PennDOT requirements).

- Case 3 consisted of a 14-foot high Barrier 8, totaling 917 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 100% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 12,838 > 2,000, which exceeds PennDOT requirements).

- Case 4 consisted of a 16-foot high Barrier 8, totaling 917 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 100% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 7,336 > 2,000, which exceeds PennDOT requirements).

  Barrier 8 is not recommended for construction in NSA 8.

5.12 NSA 9 (See Figure 2.9 and Table 15)

The IOE noise levels for receptors in NSA 9 range from 0 to 2 dB(A). Six (6) of the twenty-one (21) receptors within NSA 9 are predicted to have noise levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement for this NSA is warranted.

The following seven abatement options were considered for NSA 9:

- Case 1 consisted of a 10-foot high Barrier 9, totaling 1,393 feet in length and was determined to be not feasible (≥5 dB(A) insertion loss not provided for ≥50% of impacted receptors).

- Case 2 consisted of a 12-foot high Barrier 9, totaling 1,393 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 50% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 5,572 > 2,000, which exceeds PennDOT requirements).

- Case 3 consisted of a 14-foot high Barrier 9, totaling 1,393 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 67% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 4,876 > 2,000, which exceeds PennDOT requirements).

- Case 4 consisted of a 16-foot high Barrier 9, totaling 1,393 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 67% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 5,572 > 2,000, which exceeds PennDOT requirements).

- Case 5 consisted of a 18-foot high Barrier 9, totaling 1,393 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 67% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 5,015 > 2,000, which exceeds PennDOT requirements).

- Case 6 consisted of a 20-foot high Barrier 9, totaling 1,393 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 67% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 4,643 > 2,000, which exceeds PennDOT requirements).

- Case 7 consisted of a shortened 20-foot high Barrier 9, totaling 893 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 50% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 5,953 > 2,000, which exceeds PennDOT requirements).

  Barrier 9 is not recommended for construction in NSA 9.

5.13 NSA 10A (See Figure 2.10 and Table 15)

The IOE noise levels for receptors in NSA 10A range from 3 to 6 dB(A). Ten (10) of the twelve (12) receptors within NSA 10A are predicted to have noise levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement for this NSA is warranted. Receptors in this NSA were placed to represent the proposed and permitted features of Valley Suburban Center which include the northern portion of a shared-use path, a community center pool and tennis courts. The Valley Suburban Center multi-family home complex was not permitted prior to

the project's date of public knowledge and are not included in the noise analysis. ERUs were used within this NSA and the ERU calculations can be found in **Appendix A**. Additionally, a contour analysis was performed within this NSA, and the details of this analysis can be found in the following section and **Figures 2.11 and 2.12**.
The following two abatement options were considered for NSA 10A:

- Case 1 consisted of an 8-foot high Barrier 10A, totaling 1,198 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 90% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 9,584 > 2,000, which exceeds PennDOT requirements).

- Case 2 consisted of an 10-foot high Barrier 10A, totaling 1,198 feet in length and was determined to be feasible (≥5 dB(A) insertion loss provided for 90% of impacted receptors) but not reasonable (goal of 7 dB(A) insertion loss for at least one receptor was achieved but square footage per benefited receptor SF/BR 11,980 > 2,000, which exceeds PennDOT requirements).

  Barrier 10A is not recommended for construction in NSA 10A.

5.14 NSA 10B (See Figure 2.10 and Table 15)

The IOE noise levels for receptors in NSA 10B range from 3 to 5 dB(A). Three (3) of the four (4) receptors within NSA 10B are predicted to have noise levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement for this NSA is warranted. However, noise barriers were determined to be not feasible due to limited right-of-way along Airport Road. Receptors in this NSA were placed to represent the proposed and permitted features of Valley Suburban Center which include the southern section of a shared-use path. The commercial land uses at the Valley Suburban Center were not permitted prior to the project's date of public knowledge and are not included in the noise analysis. ERUs were used within this NSA and the ERU calculations can be found in **Table 16** and **Table 17**.

6.0 UNDEVELOPED LAND NOISE CONTOUR ANALYSIS

Three analyses were conducted within undeveloped lands along the Section AIR project for the determination of noise level contours for use by planning officials. The western contour analysis was performed between NSA 1 and 3, north of US 30 Station 1105+00. The eastern contour analysis was performed within NSA 5, north of US 30 Station 1225+00. The AIR contour analysis was performed east of Airport Road in the area of the proposed Valley Suburban Center. Receptors were placed at setbacks of 50' increments and the results were used to determine an approximate distance from edge-of-pavement where impacts could be expected for Activity Category B/C (66 dB) and Activity Category E (72 dB) land uses. The noise contour matrices can be seen on **Figure 2.11** and **Figure 2.12**.

- The western contour analysis indicates that Activity Category E land uses will be impacted within approximately 60 feet from edge of pavement, and Activity Category B/C land uses will be impacted within approximately 110 feet from edge of pavement

- The eastern contour analysis indicates that Activity Category E land uses will be impacted within approximately 65 feet from the edge of pavement, and Activity Category B/C land uses will be impacted within approximately 160 feet from edge of pavement.

- The AIR contour analysis indicates that Activity Category E land uses will be impacted within approximately 25 feet from the edge of pavement, and Activity Category B/C land uses will be impacted within approximately 80 feet from edge of pavement.

7.0 CONSTRUCTION NOISE CONSIDERATIONS

It is recognized that construction, while temporary in nature, will result in increased noise levels during certain periods and at certain locations. Construction of temporary noise barriers and the early construction of permanent noise barriers will be considered as will the possibility of developing construction noise specifications and/or special provisions related to construction time periods, duration of construction activities, types of construction equipment, and/or equipment noise levels.

8.0 ABSORPTIVE NOISE BARRIER ANALYSIS

Consideration for the use of absorptive noise barrier surfaces is recommended where proposed noise barriers are arranged in a way that has potential to cause barrier performance degradation. A parallel barrier configuration, when a roadway is flanked on both sides by noise barriers and where the ratio of distance between the barriers to barrier height is less than 10:1, has the potential to degrade barrier performance. Due to the barrier configurations located between NSA 1 and 2, and between NSA 6 and 7, consideration for the use of absorptive treatments is warranted between Stations 1114 and 1135 for NSA 1 and 3, and between Station 1235 and 1428 for NSA 6 and 7. To determine barrier performance degradation, the Parallel Barrier Analysis Module contained within TNM 2.5 was used. The results found in the following table indicate that in areas where parallel barriers exist, performance degradation is predicted to reduce barrier effectiveness, however the application of an absorptive treatment is predicted to reduce barrier degradation. It is recommended that absorptive barrier treatments be considered as a component of the noise abatement measures outlined in this report.

Build Results				Parallel Barrier Analysis					
				No Absorptive Treatment			With Absorptive Treatment		
Site ID:	No-Barrier Level:	Build Barrier Level:	Barrier Insertion Loss:	Barrier Degradation:	Build Barrier Level:	Barrier Insertion Loss:	Barrier Degradation:	Build Barrier Level:	Barrier Insertion Loss:
NSA 1 - 3 (Sta. 1114 to Sta. 1135)									
R1.15	66.3	61.4	5	1.6	63	3	0.0	61	5
R1.09	70.4	62.4	8	1.6	64	6	0.0	62	8
R2.19	65.7	60.5	5	1.6	62	4	0.0	61	5
R2.64	70.3	62.2	8	2.2	64	6	0.0	62	8
R3.10	67.6	60.4	7	2.8	63	4	0.0	60	7
R4.01	70.4	62.8	8	2.9	66	5	0.2	63	7
NSA 6 - 7 (Sta. 1235 to Sta. 1428)									
R6.11	71.6	64.0	8	5.8	70	2	2.8	67	5
R6.13	66.1	56.1	10	0.0	56	10	0.0	56	10
R6.16	67.7	57.2	11	0.0	57	11	0.0	57	11
R6.28	65.1	57.9	7	2.5	60	5	0.0	58	7
R6.82	70.5	65.5	5	5.8	71	-1	1.7	67	3
R7.01	72.8	65.6	7	5.0	71	2	0.8	66	6
R7.05	73.0	66.4	7	3.6	70	3	0.9	67	6
R7.16	75.0	64.1	11	5.4	70	6	1.0	65	10
R7.19	69.1	63.8	5	3.9	68	1	0.9	65	4
R7.20	73.0	65.3	8	5.3	71	2	0.7	66	7
R7.21	74.1	65.3	9	3.2	69	6	0.2	66	9
R7.23	73.4	66.1	7	3.8	70	4	0.5	67	7
R7.27	70.9	62.8	8	5.0	68	3	1.4	64	7

= impacted (≥65.5 dB)
= benefited (≥5 dB insertion loss)

9.0 CONCLUSION AND DISCUSSION OF RESULTS

Based on the analysis of noise reported herein, noise impacts exist within all NSAs. Of the three hundred and eighty-three (383) receptors within the Section AIR project study area, one hundred ten (110) receptors are predicted to be noise impacted with the Build Alternative. The predicted average worst case or peak-hour traffic noise level for impacted receptors with the Future Build No-Barrier condition is 63 dB(A), which is an average IOE of 3 dB(A).

Based on the evaluation of the noise levels associated with the final design engineering plans developed to date, five (5) noise barriers were found to be feasible and reasonable for the Section AIR project and are recommended for construction: Barrier 1, Barrier 2, Barrier 6A, Barrier 7A, and Barrier 7B. Recommended noise barriers total 12,108 feet in length and 151,735 square feet in area. The recommended noise barriers benefit seventy-seven (77) of the one hundred ten (110) impacted receptors and an additional 107 non-impacted receptors. Predicted average worst case noise levels at impacted-benefited receptors with the Build condition and including recommended noise barriers, range from 55 to 65 dB(A), with an average 60 dB(A). A Summary of Recommended Noise Barriers table can be found below.

The Pennsylvania Department of Transportation is committed to construction of the warranted, feasible and reasonable noise abatement measures, including the use of absorptive barrier treatments, contingent upon the following conditions:

- Community input regarding whether they want a noise barrier, types, height, and location, as well as aesthetic considerations on the community side of the noise barrier;
- Preferences regarding compatibility with adjacent land uses, particularly as addressed by officials having jurisdiction over such land uses;
- Safety, utilities, drainage, and engineering aspects as related to the roadway user and the adjacent property owners.

Summary of Recommended Noise Barriers

Noise Sensitive Area Name/ Number	Noise Barrier	Height (feet)	Length (feet)	Barrier Square Footage	Begin Station Number	End Station Number	Number of Impacted Receptors	Number of Impacted/ Benefited Receptors	Feasibility (≥ 50% of Impacts)	Number of Benefited Receptors/ Not Impacted	Total Number of Benefited Receptors	Reasonableness (SF/BR)	Does Barrier Design Meet PennDOT's Feasible and Reasonable Criteria, and is recommended for construction?	Comments
NSA 1-3	Barrier 1	10 – 12	3,600	36,970	1114+00	1150+00	16	16	100%	8	24	1,499	Yes	---
NSA 2	Barrier 2	10 - 12	2,300	27,036	1112+00	1135+00	22	22	100%	74	96	282	Yes	---
NSA 6A	Barrier 6A	14 - 18	1,300	22,000	1235+00	1248+00	5	5	100%	17	22	1,000	Yes	---
NSA 7A	Barrier 7A	10 - 18	2,908	39,912	1235+00	1264+00	22	22	100%	7	29	1,376	Yes	---
NSA 7B	Barrier 7B	10 - 16	2,000	25,817	1268+00	1288+00	13	12	92%	1	13	1,986	Yes	---

Tables

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Table 1 Hourly Weighted Sound Levels dB(A) For Various Land Use Activity Categories*		
Land Use Activity Category	Leq(h)	Description of Land Use Activity Category
A	57 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	Residential
C	67 (exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A – D or F.
F	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	--	Undeveloped lands that are not permitted.

* PennDOT has chosen to use Leq(h) [not L10(h)] on all of its transportation improvement projects.

Table 02: Measurement Table
Coatesville-Downingtown Bypass - Section AIR
Coatesville, PA

Site ID Number	Address of Measurement Site	Date	Time Period	Hourly Traffic Based on Concurrent Traffic Counts						Measured LAeq
				Roadway	Autos	Medium Trucks	Heavy Trucks	Buses	Motor-cycles	
M1.01	220 Old Mill Rd Coatesville, PA 19320	**4/25/2022**	08:15:00 - 08:35:00	30 EB	651	33	78	0	0	**68.0**
				30 WB	495	33	102	0	0	
M1.02	218 Old Mill Rd Coatesville, PA 19320		09:04:00 - 09:24:00	30 EB	414	27	75	0	0	**57.1**
				30 WB	435	51	96	3	0	
M1.03	146 Old Mill Rd Coatesville, PA 19320		09:46:00 - 10:06:00	30 EB	519	9	57	0	0	**58.1**
				30 WB	495	33	102	0	0	
M1.04	64 Fredrick Rd Coatesville, PA 19320	**4/26/2022**	17:49:00 - 18:09:00	30 EB	576	18	30	0	0	**60.9**
				30 WB	699	21	30	0	3	
M1.05	52 Fredrick Rd Coatesville, PA 19320			30 EB	576	18	30	0	0	**64.7**
				30 WB	699	21	30	0	3	
M1.06	34 Fredrick Rd Coatesville, PA 19320		07:12:00 - 07:32:00	30 EB	882	78	66	0	0	**63.7**
				30 WB	507	30	63	0	0	
M1.07	31 Fredrick Rd Coatesville, PA 19320			30 EB	882	78	66	0	0	**59.1**
				30 WB	507	30	63	0	0	
M1.08	20 Fredrick Rd Coatesville, PA 19320	**4/25/2022**	17:15:00 - 17:35:00	30 EB	630	12	33	6	0	**62.9**
				30 WB	921	63	33	0	6	
M1.09	785 Wilmington Rd Coatesville, PA 19320	**4/26/2022**	07:47:00 - 08:07:00	30 EB	672	45	81	0	0	**68.8**
				30 WB	561	51	75	3	0	
M1.10	775 Wilmington Rd Coatesville, PA 19320	**4/26/2022**	07:47:00 - 08:07:00	30 EB	672	45	81	0	0	**60.0**
				30 WB	561	51	75	3	0	
M2.01	35 S. Cowan Rd Parkeburg, PA 19365	**4/25/2022**	09:46:00 - 10:06:00	30 EB	519	9	57	0	0	**60.2**
				30 WB	495	33	102	0	0	
M2.02	51 White Tail Ln Parkeburg, PA 19365		10:34:00 - 10:54:00	30 EB	546	18	81	3	0	**62.4**
				30 WB	444	30	72	0	3	
M2.03	47 White Tail Ln Parkeburg, PA 19365			30 EB	546	18	81	3	0	**58.8**
				30 WB	444	30	72	0	3	
M2.04	5XX Lissie Ln Parkeburg, PA 19365		16:39:00 - 16:59:00	30 EB	669	12	45	3	0	**59.4**
				30 WB	1194	63	54	0	3	
M2.05	510 Lissie Ln Parkeburg, PA 19365			30 EB	669	12	45	3	0	**63.2**
				30 WB	1194	63	54	0	3	
M2.06	803 Wilmington Rd Parkeburg, PA 19365		11:41:00 - 12:01:00	30 EB	420	33	57	0	3	**67.0**
				30 WB	522	21	81	0	0	
				Old Wilmington NB	99	0	9	3	0	
				Old Wilmington SB	96	3	6	0	0	
M2.07	400 Lauren Ln Parkeburg, PA 19365		17:15:00 - 17:35:00	30 EB	630	12	33	6	0	**56.2**
				30 WB	921	63	33	0	6	
M2.08	819 Old Wilmington Rd Parkeburg, PA 19365		11:41:00 - 12:01:00	30 EB	420	33	57	0	3	**64.2**
				30 WB	522	21	81	0	0	
				Old Wilmington NB	99	0	9	3	0	
				Old Wilmington SB	96	3	6	0	0	
M3.01	790 Old Wilmington Rd Coatesville, PA 19320	**4/25/2022**	13:53:00 - 14:13:00	30 EB	513	21	69	3	0	**63.0**
				30 WB	624	36	45	0	0	
M3.02	784 Old Wilmington Rd Coatesville, PA 19320			30 EB	513	21	69	3	0	**57.3**
				30 WB	624	36	45	0	0	
M3.03	455 S. Bonsall Rd Coatesville, PA 19320		15:52:00 - 16:12:00	30 EB	579	21	24	0	3	**68.4**
				30 WB	891	51	69	0	0	
				S Bosall (both)	138	9	0	12	3	
M3.04	211 Valley Green Dr Coatesville, PA 19320			30 EB	579	21	24	0	3	**57.8**
				30 WB	891	51	69	0	0	
				S Bosall (both)	138	9	0	12	3	
M3.05	411 S. Bonsall Rd Coatesville, PA 19320		15:18:00 - 15:38:00	30 EB	516	21	36	0	3	**64.1**
				30 WB	852	30	69	0	0	
				S Bosall (both)	36	3	0	3	0	
M3.06	205 Valley Green Dr Coatesville, PA 19320			30 EB	516	21	36	0	3	**55.3**
				30 WB	852	30	69	0	0	
				S Bosall (both)	36	3	0	3	0	
M3.07	405 S. Bonsall Rd Coatesville, PA 19320	**4/25/2022**	14:41:00 - 15:01:00	30 EB	510	21	36	6	0	**63.8**
				30 WB	792	33	90	3	0	
M3.08	403 S. Bonsall Rd Coatesville, PA 19320			30 EB	510	21	36	6	0	**61.5**
				30 WB	792	33	90	3	0	

Table 02: Measurement Table
Coatesville-Downingtown Bypass - Section AIR
Coatesville, PA

Site ID Number	Address of Measurement Site	Date	Time Period	Hourly Traffic Based on Concurrent Traffic Counts						Measured LAeq
				Roadway	Autos	Medium Trucks	Heavy Trucks	Buses	Motor-cycles	
M4.01	808 Old Wilmington Rd Coatesville, PA 19320	**4/25/2022**	12:17:00 - 12:37:00	30 EB	474	21	69	0	3	**70.0**
				30 WB	552	39	138	3	0	
M4.02	5 Meetinghouse Rd Coatesville, PA 19320			30 EB	474	21	69	0	3	**58.4**
				30 WB	552	39	138	3	0	
M4.03	37 Meetinghouse Rd Coatesville, PA 19320		08:20:00 - 08:40:00	30 EB	657	45	72	0	0	**57.3**
				30 WB	459	42	87	3	0	
M4.04	61 Meetinghouse Rd Coatesville, PA 19320			30 EB	657	45	72	0	0	**56.7**
				30 WB	459	42	87	3	0	
M4.05	Kings Way Independence Church 55 Morris Ln Coatesville, PA 19320	**4/26/2022**	9:00:00 - 9:20:00	30 EB	492	51	90	0	0	**62.7**
				30 WB	462	39	93	3	0	
M4.06	50 Morris Ln Coatesville, PA 19320		09:33:00 - 09:53:00	30 EB	600	12	75	0	0	**59.4**
				30 WB	471	33	126	0	0	
M4.07	56 Morris Ln Coatesville, PA 19320		9:00:00 - 9:20:00	30 EB	492	51	90	0	0	**69.1**
				30 WB	462	39	93	3	0	
M4.08	Walking Path at Roundhill Apts, 382 Larose Dr Coatesville, PA 19320		07:51:00 - 08:11:00	30 EB	498	66	48	3	0	**57.3**
				30 WB	573	42	87	9	3	
M4.09	215 Buckthorn Dr Coatesville, PA 19320		08:23:00 - 08:43:00	30 EB	585	51	63	0	0	**63.8**
				30 WB	498	42	72	0	3	
M4.10	105 Robinson Ave Coatesville, PA 19320	**5/11/2022**	08:53:00 - 9:13:00	30 EB	627	45	102	0	0	**56.9**
				30 WB	651	33	81	3	3	
M4.11	75 Robinson Ave Coatesville, PA 19320		09:59:00 -10:19:00	30 EB	447	12	63	0	0	**56.0**
				30 WB	498	24	81	6	0	
M4.12	320 Airport Rd Coatesville, PA 19320		10:43:00 - 11:03:00	30 EB	504	21	78	0	6	**58.5**
				30 WB	561	33	102	3	0	
M4.13	317 Airport Rd Coatesville, PA 19320		10:23:00 - 10:43:00	30 EB	774	60	87	0	0	**58.2**
				30 WB	606	66	102	0	0	
				On Ramp EB	285	21	21	0	0	
				Airport (both)	471	39	39	0	0	
M5.01	CHOP Primary Care, 495 W Highlands Blvd Coatesville, PA 19320	**4/26/2022**		30 EB	774	60	87	0	0	**69.4**
				30 WB	606	66	102	0	0	
				On Ramp EB	285	21	21	0	0	
				Airport (both)	471	39	39	0	0	
M5.02	330 Country Club Rd Coatesville, PA 19320		11:11:00 - 11:31:00	30 EB	738	39	78	0	0	**58.2**
				30 WB	555	54	84	3	0	
				Country Club Rd	69	0	0	0	0	
M6.01	302/310 Country Club Rd Coatesville, PA 19320			30 EB	738	39	78	0	0	**55.3**
				30 WB	555	54	84	3	0	
				Country Club Rd	69	0	0	0	0	
M6.02	Between 1-3 & 4-6 Putter Ln Coatesville, PA 19320		13:23:00 - 13:43:00	30 EB	825	36	102	3	6	**65.3**
				30 WB	873	39	108	0	6	
M6.03	In Front of 85-86 Merion Ct Coatesville, PA 19320		13:49:00 - 14:09:00	30 EB	792	36	63	18	6	**54.2**
				30 WB	858	78	87	0	0	
M6.04	Btw. 11-14 & 15-18 Saddle Brook Ln Coatesville, PA 19320	**5/10/2022**	14:17:00 - 14:37:00	30 EB	789	57	51	3	0	**59.8**
				30 WB	1020	57	90	9	9	
M6.05	In Front of 85-86 Merion Ct Coatesville, PA 19320		14:48:00 - 15:08:00	30 EB	804	48	66	6	6	**55.7**
				30 WB	1347	96	105	6	6	
M6.06	Btw. 19-22 & 23-26 Turnberry Ct Coatesville, PA 19320		15:26:00 - 15:46:00	30 EB	1158	27	54	9	9	**62.5**
				30 WB	1704	63	66	9	18	
M6.08	End of 37-41 Innisbrook Ln Coatesville, PA 19320	**4/27/2022**	14:06:00 - 14:26:00	30 EB	864	57	75	6	0	**53.5**
				30 WB	957	66	93	3	0	
M6.09	Btw. 504&506 Augusta Dr Coatesville, PA 19320	**5/10/2022**	15:58:00 - 16:18:00	30 EB	1047	18	39	12	12	**62.3**
				30 WB	1485	90	66	6	18	
M6.10	Btw. 124&128 Burgundy Ln Coatesville, PA 19320		11:26:00 - 11:46:00	30 EB	705	57	84	0	0	**60.5**
				30 WB	879	48	117	3	3	
M6.11	136 Charlotte Ln Coatesville, PA 19320	**4/27/2022**	13:15:00 - 13:35:00	30 EB	615	63	75	9	0	**71.3**
				30 WB	822	36	132	6	0	
M6.12	700 Wagontown Rd Coatesville, PA 19320			30 EB	615	63	75	9	0	**68.6**
				30 WB	822	36	132	6	0	

Table 02: Measurement Table
Coatesville-Downingtown Bypass - Section AIR
Coatesville, PA

Site ID Number	Address of Measurement Site	Date	Time Period	Hourly Traffic Based on Concurrent Traffic Counts						Measured LAeq
				Roadway	Autos	Medium Trucks	Heavy Trucks	Buses	Motor-cycles	
M7.01	15 Kimberly Cir Coatesville, PA 19320	**4/26/2022**	13:48:00 - 14:08:00	30 EB	669	90	69	12	0	**68.0**
				30 WB	813	39	90	3	0	
				Country Club Rd	30	0	0	0	0	
M7.03	16 Kimberly Cir Coatesville, PA 19320		14:24:00 - 14:44:00	30 EB	945	51	63	3	0	**61.6**
				30 WB	1110	60	114	12	3	
M7.04	1 Donna Dr Coatesville, PA 19320			30 EB	945	51	63	3	0	**57.6**
				30 WB	1110	60	114	12	3	
M7.05	27 Kimberly Cir Coatesville, PA 19320		14:59:00 - 15:19:00	30 EB	954	60	45	12	0	**69.7**
				30 WB	1338	57	78	3	0	
M7.06	11 Donna Dr Coatesville, PA 19320			30 EB	954	60	45	12	0	**56.3**
				30 WB	1338	57	78	3	0	
M7.07	41 Kimbelry Cir Coatesville, PA 19320		12:07:00 - 12:27:00	30 EB	633	51	51	3	0	**67.8**
				30 WB	738	36	75	9	0	
M7.08	21 Donna Dr Coatesville, PA 19320			30 EB	633	51	51	3	0	**56.6**
				30 WB	738	36	75	9	0	
M7.09	49 Kimberly Cir Coatesville, PA 19320	**4/27/2022**	07:34:00 - 07:54:00	30 EB	1011	84	84	9	0	**67.4**
				30 WB	978	36	78	12	3	
M7.10	48 Kimberly Cir Coatesville, PA 19320			30 EB	1011	84	84	9	0	**57.0**
				30 WB	978	36	78	12	3	
M7.11	54 Lambert Ln Coatesville, PA 19320		08:08:00 - 08:28:00	30 EB	900	99	69	3	0	**66.6**
				30 WB	774	57	75	15	0	
M7.12	55 Lambert Ln Coatesville, PA 19320			30 EB	900	99	69	3	0	**58.2**
				30 WB	774	57	75	15	0	
M7.13	120 Mineral Spring Rd Coatesville, PA 19320		11:26:00 - 11:46:00	30 EB	705	57	84	0	0	**65.2**
				30 WB	879	48	117	3	3	
M7.14	128 Mineral Spring Rd Coatesville, PA 19320		10:48:00 - 11:08:00	30 EB	558	45	81	0	0	**67.5**
				30 WB	696	42	87	3	0	
M7.15	131 Mineral Spring Rd Coatesville, PA 19320			30 EB	558	45	81	0	0	**63.4**
				30 WB	696	42	87	3	0	
M7.16	136 Mineral Spring Rd Coatesville, PA 19320		10:12:00 - 12:32:00	30 EB	696	69	87	3	0	**72.7**
				30 WB	687	42	123	9	0	
M7.17	143 Mineral Spring Rd Coatesville, PA 19320			30 EB	696	69	87	3	0	**64.9**
				30 WB	687	42	123	9	0	
M8.01	210 Mount Airy Rd Coatesville, PA 19320	**5/11/2022**	07:12:00 - 07:32:00	30 EB	1524	60	78	3	6	**66.3**
				30 WB	666	48	57	12	3	
M9.02	525 Enfield Dr Coatesville, PA 19320	**4/27/2022**	08:50:00 - 09:10:00	30 EB	792	84	105	3	0	**72.4**
				30 WB	693	51	96	3	0	
M9.03	516 Enfield Dr Coatesville, PA 19320	**5/10/2022**	16:55:00 - 17:15:00	30 EB	1161	21	33	6	6	**66.7**
				30 WB	1578	75	60	3	3	
M9.05	253 Coleridge Ln Coatesville, PA 19320		16:55:00 - 17:15:00	30 EB	1161	21	33	6	6	**54.5**
				30 WB	1578	75	60	3	3	
M9.06	141 Mount Airy Rd Coatesville, PA 19320	**4/27/2022**	09:25:00 - 09:45:00	30 EB	870	81	93	3	0	**60.3**
				30 WB	717	66	87	21	0	
M9.07	140 Mount Airy Rd Coatesville, PA 19320			30 EB	870	81	93	3	0	**56.2**
				30 WB	717	66	87	21	0	

Table 3: Validation Table
Coatesville-Downingtown Bypass - Section AIR
Coatesville, PA

Site ID Number	Address of Measurement Site	Date	Time Period	TNM Model Validation Noise Levels in dB(A)		
				Modeled Leq(h)	Measured Leq	Difference
M1.01	220 Old Mill Rd Coatesville, PA 19320	**4/25/2022**	08:15:00 - 08:35:00	66.6	**68.0**	-1.4
M1.02	218 Old Mill Rd Coatesville, PA 19320		09:04:00 - 09:24:00	58.2	**57.1**	1.1
M1.03	146 Old Mill Rd Coatesville, PA 19320		09:46:00 - 10:06:00	58.2	**58.1**	0.1
M1.04	64 Fredrick Rd Coatesville, PA 19320	**4/26/2022**	17:49:00 - 18:09:00	58.7	**60.9**	-2.2
M1.05	52 Fredrick Rd Coatesville, PA 19320			65.1	**64.7**	0.4
M1.06	34 Fredrick Rd Coatesville, PA 19320		07:12:00 - 07:32:00	63.6	**63.7**	-0.1
M1.07	31 Fredrick Rd Coatesville, PA 19320			60.1	**59.1**	1.0
M1.08	20 Fredrick Rd Coatesville, PA 19320	**4/25/2022**	17:15:00 - 17:35:00	60.4	**62.9**	-2.5
M1.09	785 Wilmington Rd Coatesville, PA 19320	**4/26/2022**	07:47:00 - 08:07:00	68.6	**68.8**	-0.2
M1.10	775 Wilmington Rd Coatesville, PA 19320	**4/26/2022**	07:47:00 - 08:07:00	60.9	**60.0**	0.9
M2.01	35 S. Cowan Rd Parkeburg, PA 19365	**4/25/2022**	09:46:00 - 10:06:00	59.9	**60.2**	-0.3
M2.02	51 White Tail Ln Parkeburg, PA 19365		10:34:00 - 10:54:00	60.5	**62.4**	-1.9
M2.03	47 White Tail Ln Parkeburg, PA 19365			56.1	**58.8**	-2.7
M2.04	5XX Lissie Ln Parkeburg, PA 19365		16:39:00 - 16:59:00	60.9	**59.4**	1.5
M2.05	510 Lissie Ln Parkeburg, PA 19365			64.4	**63.2**	1.2
M2.06	803 Wilmington Rd Parkeburg, PA 19365		11:41:00 - 12:01:00	67.8	**67.0**	0.8
M2.07	400 Lauren Ln Parkeburg, PA 19365		17:15:00 - 17:35:00	58.4	**56.2**	2.2
M2.08	819 Old Wilmington Rd Parkeburg, PA 19365		11:41:00 - 12:01:00	63.8	**64.2**	-0.4
M3.01	790 Old Wilmington Rd Coatesville, PA 19320		13:53:00 - 14:13:00	64.7	**63.0**	1.7
M3.02	784 Old Wilmington Rd Coatesville, PA 19320			59.5	**57.3**	2.2

Table 3: Validation Table
Coatesville-Downingtown Bypass - Section AIR
Coatesville, PA

Site ID Number	Address of Measurement Site	Date	Time Period	TNM Model Validation Noise Levels in dB(A)		
				Modeled Leq(h)	Measured Leq	Difference
M3.03	455 S. Bonsall Rd Coatesville, PA 19320	**4/25/2022**	15:52:00 - 16:12:00	67.2	**68.4**	-1.2
M3.04	211 Valley Green Dr Coatesville, PA 19320			57.6	**57.8**	-0.2
M3.05	411 S. Bonsall Rd Coatesville, PA 19320		15:18:00 - 15:38:00	66.0	**64.1**	1.9
M3.06	205 Valley Green Dr Coatesville, PA 19320			57.4	**55.3**	2.1
M3.07	405 S. Bonsall Rd Coatesville, PA 19320		14:41:00 - 15:01:00	63.5	**63.8**	-0.3
M3.08	403 S. Bonsall Rd Coatesville, PA 19320			59.3	**61.5**	-2.2
M4.01	808 Old Wilmington Rd Coatesville, PA 19320		12:17:00 - 12:37:00	70.6	**70.0**	0.6
M4.02	5 Meetinghouse Rd Coatesville, PA 19320			60.4	**58.4**	2.0
M4.03	37 Meetinghouse Rd Coatesville, PA 19320	**4/26/2022**	08:20:00 - 08:40:00	58.9	**57.3**	1.6
M4.04	61 Meetinghouse Rd Coatesville, PA 19320			58.3	**56.7**	1.6
M4.05	Kings Way Independence Church 55 Morris Ln Coatesville, PA 19320		9:00:00 - 9:20:00	62.5	**62.7**	-0.2
M4.06	50 Morris Ln Coatesville, PA 19320		9:33:00 - 9:53:00	59.0	**59.4**	-0.4
M4.07	56 Morris Ln Coatesville, PA 19320		9:00:00 - 9:20:00	71.3	**69.1**	2.2
M4.08	Walking Path at Roundhill Apts, 382 Larose Dr Coatesville, PA 19320	**5/11/2022**	07:51:00 - 08:11:00	57.5	**57.3**	0.2
M4.09	215 Buckthorn Dr Coatesville, PA 19320		08:23:00 - 08:43:00	62.9	**63.8**	-0.9
M4.10	105 Robinson Ave Coatesville, PA 19320		08:53:00 - 9:13:00	57.7	**56.9**	0.8
M4.11	75 Robinson Ave Coatesville, PA 19320		09:59:00 -10:19:00	55.3	**56.0**	-0.7
M4.12	320 Airport Rd Coatesville, PA 19320		10:43:00 - 11:03:00	57.9	**58.5**	-0.6
M4.13	317 Airport Rd Coatesville, PA 19320	**4/26/2022**	10:23:00 - 10:43:00	57.4	**58.2**	-0.8
M5.01	CHOP Primary Care, 495 W Highlands Blvd Coatesville, PA 19320			68.8	**69.4**	-0.6

Table 3: Validation Table
Coatesville-Downingtown Bypass - Section AIR
Coatesville, PA

Site ID Number	Address of Measurement Site	Date	Time Period	TNM Model Calibration Noise Levels in dB(A)		
				Modeled Leq(h)	Measured Leq	Difference
M5.02	330 Country Club Rd Coatesville, PA 19320	**4/26/2022**	11:11:00 - 11:31:00	59.1	**58.2**	0.9
M6.01	302/310 Country Club Rd Coatesville, PA 19320			56.0	**55.3**	0.7
M6.02	Between 1-3 & 4-6 Putter Ln Coatesville, PA 19320	**5/10/2022**	13:23:00 - 13:43:00	66.3	**65.3**	1.0
M6.03	In Front of 85-86 Merion Ct Coatesville, PA 19320		13:49:00 - 14:09:00	53.3	**54.2**	-0.9
M6.04	Btw. 11-14 & 15-18 Saddle Brook Ln Coatesville, PA 19320		14:17:00 - 14:37:00	61.6	**59.8**	1.8
M6.05	In Front of 85-86 Merion Ct Coatesville, PA 19320		14:48:00 - 15:08:00	54.7	**55.7**	-1.0
M6.06	Btw. 19-22 & 23-26 Turnberry Ct Coatesville, PA 19320		15:26:00 - 15:46:00	62.8	**62.5**	0.3
M6.08	End of 37-41 Innisbrook Ln Coatesville, PA 19320	**4/27/2022**	14:06:00 - 14:26:00	53.9	**53.5**	0.4
M6.09	Btw. 504&506 Augusta Dr Coatesville, PA 19320	**5/10/2022**	15:58:00 - 16:18:00	64.3	**62.3**	2.0
M6.10	Btw. 124&128 Burgundy Ln Coatesville, PA 19320	**4/27/2022**	11:26:00 - 11:46:00	61.9	**60.5**	1.4
M6.11	136 Charlotte Ln Coatesville, PA 19320		13:15:00 - 13:35:00	71.0	**71.3**	-0.3
M6.12	700 Wagontown Rd Coatesville, PA 19320			70.0	**68.6**	1.4
M7.01	15 Kimberly Cir Coatesville, PA 19320	**4/26/2022**	13:48:00 - 14:08:00	69.1	**68.0**	1.1
M7.03	16 Kimberly Cir Coatesville, PA 19320		14:24:00 - 14:44:00	61.9	**61.6**	0.3
M7.04	1 Donna Dr Coatesville, PA 19320			59.6	**57.6**	2.0

Table 3: Validation Table
Coatesville-Downingtown Bypass - Section AIR
Coatesville, PA

Site ID Number	Address of Measurement Site	Date	Time Period	TNM Model Validation Noise Levels in dB(A)		
				Modeled Leq(h)	Measured Leq	Difference
M7.05	27 Kimberly Cir Coatesville, PA 19320	**4/26/2022**	14:59:00 - 15:19:00	70.1	**69.7**	0.4
M7.06	11 Donna Dr Coatesville, PA 19320			55.4	**56.3**	-0.9
M7.07	41 Kimbelry Cir Coatesville, PA 19320		12:07:00 - 12:27:00	67.2	**67.8**	-0.6
M7.08	21 Donna Dr Coatesville, PA 19320			57.3	**56.6**	0.7
M7.09	49 Kimberly Cir Coatesville, PA 19320	**4/27/2022**	07:34:00 - 07:54:00	68.1	**67.4**	0.7
M7.10	48 Kimberly Cir Coatesville, PA 19320			55.5	**57.0**	-1.5
M7.11	54 Lambert Ln Coatesville, PA 19320		08:08:00 - 08:28:00	69.6	**66.6**	3.0
M7.12	55 Lambert Ln Coatesville, PA 19320			57.2	**58.2**	-1.0
M7.13	120 Mineral Spring Rd Coatesville, PA 19320		11:26:00 - 11:46:00	62.8	**65.2**	-2.4
M7.14	128 Mineral Spring Rd Coatesville, PA 19320		10:48:00 - 11:08:00	66.1	**67.5**	-1.4
M7.15	131 Mineral Spring Rd Coatesville, PA 19320			61.2	**63.4**	-2.2
M7.16	136 Mineral Spring Rd Coatesville, PA 19320		10:12:00 - 12:32:00	72.6	**72.7**	-0.1
M7.17	143 Mineral Spring Rd Coatesville, PA 19320			65.7	**64.9**	0.8
M8.01	210 Mount Airy Rd Coatesville, PA 19320	**5/11/2022**	07:12:00 - 07:32:00	67.7	**66.3**	1.4
M9.02	525 Enfield Dr Coatesville, PA 19320	**4/27/2022**	08:50:00 - 09:10:00	71.1	**72.4**	-1.3
M9.03	516 Enfield Dr Coatesville, PA 19320	**5/10/2022**	16:55:00 - 17:15:00	68.0	**66.7**	1.3
M9.05	253 Coleridge Ln Coatesville, PA 19320		16:55:00 - 17:15:00	52.8	**54.5**	-1.7
M9.06	141 Mount Airy Rd Coatesville, PA 19320	**4/27/2022**	09:25:00 - 09:45:00	59.6	**60.3**	-0.7
M9.07	140 Mount Airy Rd Coatesville, PA 19320			53.9	**56.2**	-2.3

Table 4: NSA 1 and NSA 3
Coatesville-Downingtown Bypass - Section AIR
Summary of Noise Barrier Analysis

NSA	Receptor ID	NAC	No. of Equivalent Residential Units (ERU)	Existing Noise Level (2019)	Future No-Build (2050)	Future Build (2050)									
						Future Build No-Barrier		Case 1: 6' Barrier		Case 2: 8' Barrier		Case 3: 10' Barrier		Case 4: Optimized	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
NSA 1 / NSA 3	R1.01 (M1.01) Acquisition	B	1	66	67	68	2	68	0	68	0	68	0	68	0
	R1.02 (M1.02)	B	1	59	60	61	2	61	0	61	0	61	0	61	0
	R1.03 (M1.03)	B	1	59	60	61	2	61	0	61	0	61	0	61	0
	R1.04 (M1.04)	B	1	60	61	62	2	59	3	59	3	58	4	58	4
	R1.05 (M1.05)	B	1	66	67	67	2	65	3	64	4	62	6	62	6
	R1.07 (M1.07)	B	1	61	62	63	2	59	4	59	4	58	5	58	5
	R1.08 (M1.08)	B	1	63	64	65	2	61	3	60	4	59	6	59	5
	R1.09 (M1.09)	B	1	69	70	70	2	65	5	63	8	61	9	61	9
	R1.10 (M1.10)	B	1	60	61	62	2	59	3	59	4	58	5	58	5
	R1.11	B	1	58	59	60	2	58	3	57	3	56	4	56	4
	R1.12	B	1	66	67	68	2	64	4	63	5	60	8	60	8
	R1.13 (M1.06)	B	1	66	67	67	2	63	4	61	6	60	8	60	8
	R1.14	B	1	65	66	67	2	64	3	62	5	59	8	59	8
	R1.15	B	1	64	65	66	2	64	3	62	4	59	7	59	7
	R1.16	B	1	60	61	62	2	63	0	62	0	61	1	61	1
	R1.17	B	1	62	63	64	2	58	6	57	7	57	7	57	7
	R1.18	B	1	61	62	62	2	59	4	58	4	58	5	58	5
	R1.19	B	1	67	68	68	2	58	11	57	11	56	12	56	12
	R3.01 (M3.01)	B	1	64	65	66	2	61	5	60	6	57	9	57	9
	R3.02 (M3.02)	B	1	61	62	63	2	60	3	59	4	57	6	57	6
	R3.03 (M3.03)	B	1	68	69	69	1	64	5	63	6	61	9	61	9
	R3.04 (M3.04)	B	1	59	59	60	2	57	3	57	3	56	4	56	4
	R3.05 (M3.05)	B	1	68	69	70	2	67	4	66	5	65	6	65	6
	R3.06 (M3.06)	B	1	59	59	61	1	58	3	57	3	57	4	57	4
	R3.07 (M3.07)	B	1	64	64	65	1	62	3	61	4	60	5	60	5
	R3.08 (M3.08)	B	1	61	61	62	1	59	3	59	3	58	4	58	4
	R3.09	B	1	58	59	60	2	57	3	56	3	55	5	55	5
	R3.10	B	1	66	67	68	2	63	4	62	6	60	8	60	8
	R3.11	B	1	72	72	73	2	66	7	65	9	62	11	62	11
	R3.12	B	1	70	71	72	2	65	7	64	8	63	9	63	9
	R3.13	B	1	70	71	72	2	66	6	65	7	63	9	63	9
	R3.14	B	1	68	69	70	2	66	4	65	5	64	6	64	6
	R3.15	B	1	59	59	60	2	57	3	57	3	56	4	56	4
	R3.16	B	1	59	59	60	1	57	3	57	3	56	4	56	4
	R3.17	B	1	69	69	70	2	67	3	66	4	65	5	62	8
	Number of Impacted Receptors					16		16		16		16		16	
	Feasibility Evaluation														
	Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)							7		14		16		16	
	Percent of Impacted Receptors Receiving ≥ 5 dB I.L.							44%		88%		100%		100%	
	Is this percentage ≥ 50%?; If yes, barrier is feasible.							**No**		**Yes**		**Yes**		**Yes**	
	Reasonableness Evaluation														
	Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)									1		8		8	
	Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)									15		24		24	
	Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)									6		13		14	
	Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?									**Yes**		**Yes**		**Yes**	
	Barrier Height (feet) [average]									8		10		[10]	
	Barrier Length (feet)									4500		4500		3600	
	Barrier square footage (SQft)									36000		45000		36970	
	Barrier square footage per benefited receptor (SF/BR)									2400		1875		1540	
	Is SF/BR ≤ 2,000?; If yes, barrier is reasonable									**No**		**Yes**		**Yes**	
	Average I.L. per Benefited Receptor (dB)											7.1		7.2	

Impacted (66 dB(A) or 10 dB increase over existing)
Impacted Receivers receiving ≥ 5dB(A)
Non-Impacted Receivers receiving ≥ 5dB(A)

All noise levels are Leq(h) values and are A-weighted, expressed as dB(A)

With the exception of average insertion loss values, all noise levels were calculated to the tenth of a dB(A) and then rounded for presentation purposes.

Table 5: NSA 2
Coatesville-Downingtown Bypass - Section AIR
Summary of Noise Barrier Analysis

NSA	Receptor ID	NAC	No. of Equivalent Residential Units (ERU)	Existing Noise Level (2019)	Future No-Build (2050)	Future Build (2050)							
						Future Build No-Barrier		Case 1: 6' Barrier		Case 2: 8' Barrier		Case 3: Optimized Barrier	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
NSA 2	R2.01 (M2.01)	C	1	61	62	63	2	63	0	63	0	63	0
	R2.02 (M2.02)	B	1	62	63	64	2	64	0	64	0	64	0
	R2.03 (M2.03)	B	1	57	58	59	2	58	1	58	1	58	1
	R2.04 (M2.04)	B	1	63	64	64	2	61	3	59	6	57	7
	R2.05 (M2.05)	B	1	64	65	66	2	62	5	61	6	58	8
	R2.07 (M2.07)	B	1	60	61	62	2	59	3	57	5	55	8
	R2.08 (M2.08)	B	1	58	59	60	2	57	3	57	3	54	6
	R2.09	B	1	63	64	65	2	64	1	64	1	64	1
	R2.10	B	1	55	56	57	2	56	1	56	1	56	2
	R2.11	B	1	57	58	60	2	58	2	58	2	57	3
	R2.12	B	1	55	56	57	2	55	2	55	2	55	3
	R2.13	B	1	60	61	63	3	60	3	60	3	59	4
	R2.14	B	1	63	64	65	2	61	3	59	6	57	7
	R2.15	B	1	63	64	65	2	61	3	59	6	57	7
	R2.16	B	1	63	64	65	2	61	4	59	6	57	7
	R2.17	B	1	63	64	65	2	61	4	59	6	58	8
	R2.18	B	1	63	64	66	2	61	4	60	6	58	8
	R2.19	B	1	64	65	66	2	62	4	60	6	58	8
	R2.20	B	1	64	65	66	2	62	5	60	6	58	8
	R2.21	B	1	65	66	67	2	62	4	61	6	58	8
	R2.22	B	1	65	66	67	2	62	4	61	6	58	9
	R2.23	B	1	65	66	67	2	63	4	61	6	58	9
	R2.24	B	1	65	66	67	2	63	4	61	6	59	9
	R2.25	B	1	62	63	64	2	60	4	59	6	56	8
	R2.26	B	1	62	63	64	2	60	4	59	6	56	8
	R2.27	B	1	62	63	64	2	60	4	59	6	56	8
	R2.28	B	1	63	64	64	2	60	4	59	5	56	8
	R2.29	B	1	62	63	64	2	60	4	59	5	56	8
	R2.30	B	1	62	63	64	2	60	4	59	5	56	8
	R2.31	B	1	63	64	65	2	60	4	59	5	56	8
	R2.32	B	1	62	63	64	2	60	4	59	5	56	8
	R2.33	B	1	63	64	65	2	60	4	59	5	56	8
	R2.34	B	1	63	64	65	2	60	4	59	5	56	8
	R2.35	B	1	63	64	65	2	61	4	59	5	56	8
	R2.36	B	1	63	64	65	2	61	4	59	5	56	8
	R2.37	B	1	62	63	64	2	61	3	59	5	56	8
	R2.38	B	1	60	61	62	2	59	4	58	5	55	8
	R2.39	B	1	60	61	62	2	59	3	58	5	55	8
	R2.40	B	1	60	61	62	2	59	3	58	5	55	8
	R2.41	B	1	61	62	62	2	59	3	58	5	55	8
	R2.42	B	1	61	62	62	2	59	3	58	5	55	8
	R2.43	B	1	61	61	62	2	59	3	58	5	55	8

Table 5: NSA 2
Coatesville-Downingtown Bypass - Section AIR
Summary of Noise Barrier Analysis

NSA	Receptor ID	NAC	No. of Equivalent Residential Units (ERU)	Existing Noise Level (2019)	Future No-Build (2050)	Future Build (2050)							
						Future Build No-Barrier		Case 1: 6' Barrier		Case 2: 8' Barrier		Case 3: Optimized Barrier 2	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
NSA 2	R2.44	B	1	60	61	62	2	59	3	58	5	55	8
	R2.45	B	1	60	61	62	2	59	3	58	5	55	8
	R2.46	B	1	60	61	62	2	59	3	58	5	55	8
	R2.47	B	1	60	61	62	2	59	3	58	5	55	8
	R2.48	B	1	60	61	62	2	59	3	57	5	55	8
	R2.49	B	1	60	61	62	2	59	3	58	4	55	7
	R2.50	B	1	60	61	62	2	59	3	58	4	54	7
	R2.51	B	1	58	59	60	2	58	3	56	4	53	7
	R2.52	B	1	58	59	60	2	58	3	56	4	53	7
	R2.53	B	1	58	59	60	2	58	3	56	4	53	7
	R2.54	B	1	58	59	60	2	58	3	56	4	53	7
	R2.55	B	1	58	59	60	2	58	3	56	4	53	7
	R2.56	B	1	58	59	60	2	57	2	56	4	53	7
	R2.57	B	1	58	59	60	2	57	3	56	4	53	7
	R2.58	B	1	58	59	60	2	57	2	56	4	53	7
	R2.59	B	1	58	59	60	2	57	2	56	4	53	6
	R2.60	B	1	58	59	60	2	57	2	56	4	53	7
	R2.61	B	1	58	59	59	2	57	2	56	4	53	7
	R2.62	B	1	57	58	59	2	57	2	56	3	53	7
	R2.63	B	1	57	58	59	2	57	2	56	3	53	7
	R2.64 (M2.06)	B	1	69	70	70	2	65	6	63	7	60	10
	R2.65	B	1	63	64	65	2	61	4	60	5	56	9
	R2.66	B	1	61	62	63	2	59	4	58	4	55	8
	R2.68	B	1	66	67	68	2	64	5	63	6	61	8
	R2.67	B	1	58	59	60	2	58	2	58	2	58	2
	R2.69	B	1	66	67	68	2	64	4	62	6	60	8
	R2.70	B	1	66	67	68	2	63	5	62	5	59	8
	R2.71	B	1	66	67	68	2	63	5	61	6	59	8
	R2.72	B	1	66	67	68	2	63	5	61	6	59	8
	R2.73	B	1	65	66	67	2	63	5	61	7	59	9
	R2.74	B	1	65	66	67	2	63	4	61	6	59	8
	R2.75	B	1	64	65	67	2	63	4	60	6	59	8
	R2.76	B	1	64	65	66	2	62	4	60	6	58	8
	R2.77	B	1	63	64	66	2	62	4	60	6	58	8
	R2.78	B	1	63	64	66	2	60	5	59	7	58	8
	R2.79	B	1	62	63	64	2	61	3	60	4	58	6
	R2.80	B	1	62	63	64	2	61	3	60	4	57	6
	R2.81	B	1	62	63	64	2	61	3	60	4	57	7
	R2.82	B	1	63	64	64	2	61	3	60	5	57	7
	R2.83	B	1	63	64	65	2	61	4	60	5	57	7
	R2.84	B	1	63	64	65	2	61	4	60	5	57	8
	R2.85	B	1	63	64	65	2	61	4	60	5	57	8

Table 5: NSA 2
Coatesville-Downingtown Bypass - Section AIR
Summary of Noise Barrier Analysis

NSA	Receptor ID	NAC	No. of Equivalent Residential Units (ERU)	Existing Noise Level (2019)	Future No-Build (2050)	Future Build (2050)							
						Future Build No-Barrier		Case 1: 6' Barrier		Case 2: 8' Barrier		Case 3: Optimized Barrier 2	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
NSA 2	R2.86	B	1	63	64	65	2	60	4	60	5	57	8
	R2.87	B	1	62	63	64	2	60	4	59	5	56	8
	R2.88	B	1	62	63	64	2	60	4	59	5	56	8
	R2.89	B	1	56	57	57	2	56	1	56	1	54	3
	R2.90	B	1	56	57	58	2	57	1	57	2	55	3
	R2.91	B	1	57	58	59	2	58	1	57	2	56	4
	R2.92	B	1	59	60	60	2	59	1	59	2	57	4
	R2.93	B	1	59	60	61	2	60	2	59	3	57	4
	R2.94	B	1	60	61	61	2	60	2	58	3	56	5
	R2.95	B	1	60	61	62	2	60	2	58	4	56	6
	R2.96	B	1	60	61	62	2	59	3	58	4	56	6
	R2.97	B	1	60	61	62	2	60	3	58	4	56	7
	R2.98	B	1	61	62	63	2	60	3	59	4	56	7
	R2.99	B	1	61	62	63	2	60	3	59	4	56	7
	R2.100	B	1	61	62	63	2	60	3	58	5	56	7
	R2.101	B	1	61	62	63	2	60	4	58	5	56	8
	R2.102	B	1	61	62	63	2	59	4	58	5	55	8
	R2.103	B	1	61	62	63	2	59	4	58	5	55	8
	R2.104	B	1	57	58	59	2	58	2	56	3	54	5
	R2.105	B	1	57	58	59	2	58	2	56	3	54	6
	R2.106	B	1	58	59	60	2	58	2	56	3	54	6
	R2.107	B	1	58	59	60	2	58	2	56	4	54	6
	R2.108	B	1	59	60	60	2	58	2	56	4	54	6
	R2.109	B	1	58	59	60	2	57	3	56	4	53	7
	R2.110	B	1	58	59	60	2	57	2	56	4	53	7
NSA 4	R4.01 (M4.01)	B	1	71	72	72	1	66	6	65	8	62	11
	R4.14	B	1	65	66	68	2	63	5	62	5	60	8
Number of Impacted Receptors						22		22		22		22	
Feasibility Evaluation													
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)									11		22		22
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.									50%		100%		100%
Is this percentage ≥ 50%?; If yes, barrier is feasible.									**Yes**		**Yes**		**Yes**
Reasonableness Evaluation													
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)									0		42		74
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)									11		64		96
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)									0		4		85
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?									**No**		**Yes**		**Yes**
Barrier Height (feet) [average]											8		[12]
Barrier Length (feet)											2300		2300
Barrier square footage (SQft)											18400		27036
Barrier square footage per benefited receptor (SF/BR)											288		282
Is SF/BR ≤ 2,000?; If yes, barrier is reasonable											**Yes**		**Yes**
Average I.L. per Benefited Receptor (dB)											5.4		7.5

Impacted (66 dB(A) or 10 dB increase over existing)
Impacted Receivers receiving ≥ 5dB(A)
Non-Impacted Receivers receiving ≥ 5dB(A)

All noise levels are Leq(h) values and are A-weighted, expressed as dB(A)
With the exception of average insertion loss values, all noise levels were calculated to the tenth of a dB(A) and then rounded for presentation purposes.

Table 6: NSA 4A
Coatesville-Downingtown Bypass - Section AIR
Summary of Noise Barrier Analysis

NSA	Receptor ID	NAC	No. of Equivalent Residential Units (ERU)	Existing Noise Level (2019)	Future No-Build (2050)	Future Build (2050)									
						Future Build No-Barrier		Case 1: 10' Barrier		Case 2: 12' Barrier		Case 3: 14' Barrier		Case 4: 16' Barrier	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
NSA 4A	*R4.01 (M4.01)**	B	*1*	*72*	*72*	*72*	*0*	*72*	*0*	*72*	*0*	*72*	*0*	*72*	*0*
	R4.02 (M4.02)	**B**	1	60	60	61	1	61	0	61	0	61	0	61	0
	R4.03 (M4.03)	**B**	1	59	59	60	1	59	1	59	1	59	1	59	1
	R4.04 (M4.04)	**B**	1	60	60	61	1	58	3	57	4	57	4	57	4
	R4.05 (M4.05)	**C**	1	64	64	66	2	61	5	59	7	59	8	58	8
	R4.06 (M4.06)	**B**	1	60	60	61	1	58	4	57	4	56	5	55	6
	R4.07 (M4.07)	**B**	1	65	65	67	2	62	5	60	7	59	8	58	9
	*R4.14**	B	*1*	*66*	*66*	*68*	*1*	*67*	*0*	*67*	*0*	*67*	*0*	*67*	*0*
	R4.15	**B**	1	62	62	63	1	63	0	63	0	63	0	63	0
	R4.16	**B**	1	60	60	61	1	60	1	60	1	60	1	60	1
	R4.17	**B**	1	61	61	62	1	61	1	61	1	61	1	61	1
	R4.18	**B**	1	60	60	61	1	61	1	61	1	61	1	61	1
	R4.19	**B**	1	59	59	60	1	59	1	59	1	59	1	59	1
	R4.20	**B**	1	59	59	60	1	59	2	58	2	58	2	58	2
	R4.21	**B**	1	60	60	61	1	57	3	57	4	56	5	55	5
	R4.22	**B**	1	59	59	60	1	57	3	57	4	55	5	55	5
	R4.26	**B**	1	60	60	61	1	58	3	57	4	56	5	56	5
***R4.01 and R4.14 analysis included in Table 5: NSA 2**															
Number of Impacted Receptors						2		2		2		2		2	
Feasibility Evaluation															
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)								2		2		2		2	
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.								100%		100%		100%		100%	
Is this percentage ≥ 50%?; If yes, barrier is feasible.								**Yes**		**Yes**		**Yes**		**Yes**	
Reasonableness Evaluation															
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)								0		0		4		4	
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)								2		2		6		6	
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)								0		2		2		2	
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?								**No**		**Yes**		**Yes**		**Yes**	
Barrier Height (feet)										12		14		16	
Barrier Length (feet)										1200		1200		1200	
Barrier square footage (SQft)										14400		16800		19200	
Barrier square footage per benefited receptor (SF/BR)										7200		2800		3200	
Is SF/BR ≤ 2,000?; If yes, barrier is reasonable										**No**		**No**		**No**	
Average I.L. per Benefited Receptor (dB)															

Impacted (66 dB(A) or 10 dB increase over existing)

Impacted Receivers receiving ≥ 5dB(A)

Non-Impacted Receivers receiving ≥ 5dB(A)

All noise levels are Leq(h) values and are A-weighted, expressed as dB(A)

With the exception of average insertion loss values, all noise levels were calculated to the tenth of a dB(A) and then rounded for presentation purposes.

Table 7: NSA 4B
Coatesville-Downingtown Bypass - Section AIR
Summary of Noise Barrier Analysis

NSA	Receptor ID	NAC	No. of Equivalent Residential Units (ERU)	Existing Noise Level (2019)	Future No-Build (2050)	Future Build (2050)											
						Future Build No-Barrier		Case 1: 10' Barrier		Case 2: 12' Barrier		Case 3: 14' Barrier		Case 4: 16' Barrier		Case 5: 18' Barrier		Case 6: 20' Barrier	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
NSA 4B	R4.08A (M4.08)	C	1	60	60	62	3	61	1	61	2	60	2	60	2	60	2	60	2
	R4.08B	C	1	60	60	62	3	61	2	61	2	60	2	60	3	60	3	60	3
	R4.08C	C	1	60	60	63	3	60	2	60	3	60	3	59	4	59	4	59	4
	R4.09 (M4.09)	B	1	64	64	68	4	66	2	65	4	64	4	62	6	61	7	60	8
	R4.10 (M4.10)	B	1	59	58	62	3	59	2	59	3	58	3	58	4	57	4	57	4
	R4.11 (M4.11)	B	1	58	57	61	3	59	2	58	3	58	4	57	4	56	5	56	6
	R4.12 (M4.12)	B	1	63	61	65	2	61	4	60	5	59	6	59	6	58	7	58	8
	R4.23	B	1	58	58	61	4	59	2	59	3	58	3	58	4	57	5	57	5
	R4.24	B	1	58	58	62	4	59	3	59	3	58	4	57	4	57	5	56	5
	R4.25	B	1	62	62	67	5	65	2	64	3	63	4	62	5	60	7	59	8
	R4.27	B	1	58	57	60	3	58	3	57	3	57	4	56	4	55	5	55	5
	R4.28	B	1	58	56	60	2	57	2	57	3	57	3	56	4	56	4	55	5
	R4.29	B	1	59	56	60	1	58	2	57	2	57	3	57	3	56	3	56	3
	R4.30	B	1	60	57	61	0	59	1	59	1	59	2	59	2	59	2	59	2
	R4.31	B	1	65	57	64	0	63	1	63	1	63	1	63	1	63	1	63	1
	R4.32	B	1	56	55	58	2	56	2	56	3	55	3	55	4	54	4	54	4
	R4.33	B	1	56	54	58	1	56	2	56	2	55	3	55	3	55	3	55	3
	R4.34	B	1	58	54	59	1	58	1	58	1	58	1	57	1	57	2	57	2
	R4.35	B	1	62	53	63	1	63	0	63	0	63	0	63	0	63	0	63	0
	R4.36	B	1	55	52	56	1	55	1	55	1	54	2	54	2	54	2	54	2
	R4.37	B	1	56	53	57	1	56	1	56	1	56	1	56	1	56	1	56	1
	R4.38	B	1	58	53	59	1	58	1	58	1	58	1	58	1	58	1	58	1
	Number of Impacted Receptors					2		2		2		2		2		2		2	
	Feasibility Evaluation																		
	Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)								0		0		0		2		2		2
	Percent of Impacted Receptors Receiving ≥ 5 dB I.L.								0%		0%		0%		100%		100%		100%
	Is this percentage ≥ 50%?; If yes, barrier is feasible.								**No**		**No**		**No**		**Yes**		**Yes**		**Yes**
	Reasonableness Evaluation																		
	Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)														1		5		6
	Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)														3		7		8
	Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)														0		3		3
	Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?														**No**		**Yes**		**Yes**
	Barrier Height (feet)																18		20
	Barrier Length (feet)																1495		1495
	Barrier square footage (SQft)																26910		29900
	Barrier square footage per benefited receptor (SF/BR)																3844		3738
	Is SF/BR ≤ 2,000?; If yes, barrier is reasonable																**No**		**No**
	Average I.L. per Benefited Receptor (dB)																		

Impacted (66 dB(A) or 10 dB increase over existing)
Impacted Receivers receiving ≥ 5dB(A)
Non-Impacted Receivers receiving ≥ 5dB(A)

All noise levels are Leq(h) values and are A-weighted, expressed as dB(A)

With the exception of average insertion loss values, all noise levels were calculated to the tenth of a dB(A) and then rounded for presentation purposes.

Table 8: NSA 5
Coatesville-Downingtown Bypass - Section AIR
Summary of Noise Barrier Analysis

NSA	Receptor ID	NAC	No. of Equivalent Residential Units (ERU)	Existing Noise Level (2019)	Future No-Build (2050)	Future Build (2050)					
						Future Build No-Barrier		Case 1: 14' Barrier		Case 2: 16' Barrier	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
NSA 5	R5.01 (M5.01)	C	1	69	70	72	3	64	7	64	8
	R5.02 (M5.02)	B	1	64	65	66	2	64	2	64	2
Number of Impacted Receptors						2		2		2	
Feasibility Evaluation											
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)									1		1
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.									50%		50%
Is this percentage ≥ 50%?; If yes, barrier is feasible.									**Yes**		**Yes**
Reasonableness Evaluation											
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)									0		0
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)									1		1
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)									1		1
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?									**Yes**		**Yes**
Barrier Height (feet)									14		16
Barrier Length (feet)									810		810
Barrier square footage (SQft)									11340		12960
Barrier square footage per benefited receptor (SF/BR)									11340		12960
Is SF/BR ≤ 2,000?; If yes, barrier is reasonable									**No**		**No**
Average I.L. per Benefited Receptor (dB)											

Impacted (66 dB(A) or 10 dB increase over existing)
Impacted Receivers receiving ≥ 5dB(A)
Non-Impacted Receivers receiving ≥ 5dB(A)

All noise levels are Leq(h) values and are A-weighted, expressed as dB(A)

With the exception of average insertion loss values, all noise levels were calculated to the tenth of a dB(A) and then rounded for presentation purposes.

Table 9: NSA 6A
Coatesville-Downingtown Bypass - Section AIR
Summary of Noise Barrier Analysis

NSA	Receptor ID	NAC	No. of Equivalent Residential Units (ERU)	Existing Noise Level (2019)	Future No-Build (2050)	Future Build (2050)															
						Future Build No-Barrier		Case 1: 10' Barrier		Case 2: 12' Barrier		Case 3: 14' Barrier		Case 4: 16' Barrier		Case 5: 18' Barrier		Case 6: 20' Barrier		Case 7: Optimized Barrier 6A	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
NSA 6A	R6.01 (M6.01)	B	1	65	66	67	2	64	3	64	3	63	4	63	4	62	6	61	6	62	5
	R6.03 (M6.03)	B	1	53	54	55	2	51	4	51	4	49	6	48	7	48	7	47	8	48	7
	R6.13 (M6.02)	B	1	64	65	66	2	58	8	58	8	57	9	56	10	55	11	55	11	55	11
	R6.14	B	1	63	64	64	2	57	8	57	8	55	9	54	10	54	11	53	11	54	11
	R6.15	B	1	61	62	63	2	56	7	56	7	54	9	53	10	53	11	52	11	53	11
	R6.16	B	1	66	67	68	2	59	9	59	9	57	10	57	11	56	12	55	12	57	11
	R6.17	B	1	65	66	67	2	58	8	58	8	56	10	55	11	55	12	54	13	56	11
	R6.18	B	1	64	65	66	2	58	8	58	8	56	10	55	11	54	12	53	13	55	11
	R6.19	B	1	56	57	58	2	53	4	53	4	53	5	53	5	51	6	51	7	51	6
	R6.20	B	1	53	54	55	2	52	3	52	3	51	4	51	5	50	5	50	5	50	5
	R6.21	B	1	53	54	55	2	53	3	53	3	52	4	52	4	51	4	51	4	51	4
	R6.22	B	1	54	55	56	2	53	3	53	3	52	4	52	4	51	5	51	5	51	5
	R6.23	B	1	53	54	55	2	51	5	51	5	49	7	48	7	47	8	47	8	48	7
	R6.24	B	1	53	54	56	2	51	5	51	5	49	7	48	7	48	8	47	8	48	7
	R6.25	B	1	54	55	56	2	51	5	51	5	49	7	48	7	48	8	48	8	48	7
	R6.26	B	1	63	64	65	2	58	7	58	7	56	8	55	9	55	10	54	11	56	9
	R6.27	B	1	63	64	65	2	59	6	59	6	57	8	56	9	56	9	55	10	57	8
	R6.28	B	1	64	64	65	2	59	6	59	6	58	8	57	8	56	9	56	9	57	8
	R6.29	B	1	62	63	63	2	59	4	59	4	58	6	57	6	56	7	56	7	57	6
	R6.30	B	1	59	60	61	2	54	7	54	7	52	9	51	10	50	11	49	11	50	10
	R6.31	B	1	57	58	59	2	53	6	53	6	51	8	50	9	49	9	49	10	50	9
	R6.32	B	1	56	57	58	2	52	5	52	5	50	7	50	8	49	8	49	9	49	8
	R6.33	B	1	55	56	57	2	52	5	52	5	50	7	50	7	49	8	49	8	49	8
	R6.34 (M6.04)	B	1	57	58	59	2	56	3	56	3	57	3	56	3	56	3	56	3	57	2
	R6.35	B	1	57	58	59	2	57	3	57	3	57	3	57	3	56	3	56	3	57	3
	R6.36	B	1	57	58	58	2	56	2	56	2	57	2	56	2	56	3	55	3	57	1
	R6.37	B	1	56	57	58	2	56	2	56	2	56	2	56	2	55	3	55	3	58	0
	R6.38	B	1	53	54	55	2	53	2	53	2	54	1	53	2	53	3	52	3	55	0
	R6.39	B	1	54	55	56	2	54	2	54	2	55	1	54	2	54	3	53	3	56	1
	R6.40	B	1	55	56	57	2	55	3	55	3	56	2	55	2	55	3	54	3	57	1
	R6.41	B	1	58	59	59	2	57	3	57	3	57	2	57	2	57	3	56	3	59	1
	R6.42	B	1	53	54	55	2	52	3	52	3	50	4	50	5	50	5	49	5	51	3
	R6.43	B	1	53	54	55	2	52	3	52	3	51	4	50	5	50	5	50	5	52	3
	R6.44	B	1	54	54	55	2	52	3	52	3	51	4	51	5	50	5	50	5	52	3
	R6.45 (M6.05)	B	1	54	55	56	2	53	3	53	3	51	5	51	5	50	5	50	5	52	3
	R6.46	B	1	52	53	54	2	51	3	51	3	50	4	50	5	49	5	50	5	51	3
	R6.47	B	1	52	53	54	2	51	3	51	3	50	4	49	5	49	5	49	5	51	3
	R6.48	B	1	51	52	53	2	50	3	50	3	48	4	48	5	48	5	48	5	49	3
	R6.49	B	1	50	51	52	2	49	3	49	3	48	4	48	5	48	5	47	5	49	3
	R6.50 (M6.06)	B	1	61	62	63	2	60	3	60	3	59	4	59	4	58	5	58	5	63	0
	R6.51	B	1	60	61	62	2	60	2	60	2	59	3	59	3	58	3	58	4	62	0
	R6.52	B	1	58	59	61	2	57	3	57	3	56	5	56	5	55	6	55	6	60	0
	R6.53	B	1	57	58	59	3	56	3	56	3	55	4	55	5	54	5	54	5	59	0
	R6.54	B	1	55	56	57	2	54	2	54	2	54	3	54	3	54	3	53	3	56	1
	R6.55	B	1	53	54	55	2	54	1	54	1	54	1	54	1	54	1	54	1	54	1
	R6.56	B	1	51	52	53	2	51	2	51	2	51	2	51	2	51	2	51	2	51	2
	R6.57	B	1	49	50	51	2	49	2	49	2	49	2	49	2	49	2	49	2	49	2
	R6.58	B	1	48	49	50	2	48	2	48	2	47	3	47	3	46	4	46	4	47	3
	R6.59	B	1	48	49	50	2	48	3	48	3	47	4	47	4	46	4	46	4	48	3
	R6.60	B	1	49	50	51	2	48	3	48	3	47	4	47	4	47	4	47	4	49	1
	R6.61	B	1	48	49	50	2	48	3	48	3	47	3	47	3	47	4	47	4	49	1
	R6.62	B	1	48	49	51	2	48	3	48	3	47	3	47	3	47	3	47	4	49	1
	R6.63	B	1	48	49	50	2	48	3	48	3	47	3	47	3	47	3	47	4	49	1
	R6.64	B	1	47	48	49	2	47	2	47	2	46	3	46	3	46	3	45	4	48	1
	R6.65	B	1	48	49	50	2	47	2	47	2	46	3	47	3	46	3	46	4	49	0
	R6.66	B	1	48	49	50	2	48	2	48	2	47	3	47	3	47	3	46	4	50	0
	R6.67	B	1	49	50	51	2	48	2	48	2	48	3	48	3	48	3	47	3	50	0
	R6.68 (M6.08)	B	1	53	54	55	2	54	1	54	1	53	1	53	1	53	1	53	1	54	0
	R6.69	B	1	52	52	54	2	53	1	53	1	53	1	53	1	53	1	53	1	53	1
	R6.70	B	1	52	53	54	2	53	1	53	1	53	1	53	1	53	1	53	1	53	1
	R6.71	B	1	53	54	55	2	54	1	54	1	54	1	54	1	54	1	54	1	54	1
	R6.72	B	1	53	54	55	2	54	1	54	1	54	1	54	1	54	1	54	1	54	1
	Number of Impacted Receptors					5		5		5		5		5		5		5		5	
	Feasibility Evaluation																				
	Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)							4		4		4		4		5		5		5	
	Percent of Impacted Receptors Receiving ≥ 5 dB I.L.							80%		80%		80%		80%		100%		100%		100%	
	Is this percentage ≥ 50%?; If yes, barrier is feasible.							**Yes**		**Yes**		**Yes**		**Yes**		**Yes**		**Yes**		**Yes**	
	Reasonableness Evaluation																				
	Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)							12		12		17		26		28		28		17	
	Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)							16		16		21		30		33		33		22	
	Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)							8		8		16		17		18		19		17	
	Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?							**Yes**		**Yes**		**Yes**		**Yes**		**Yes**		**Yes**		**Yes**	
	Barrier Height (feet) [average]							10		12		14		16		18		20		[17]	
	Barrier Length (feet)							1800		1800		1800		1800		1800		1800		1300	
	Barrier square footage (SQft)							18000		21600		25200		28800		32400		36000		22000	
	Barrier square footage per benefited receptor (SF/BR)							1125		1350		1200		960		982		1091		1000	
	Is SF/BR ≤ 2,000?; If yes, barrier is reasonable							**Yes**		**Yes**		**Yes**		**Yes**		**Yes**		**Yes**		**Yes**	
	Average I.L. per Benefited Receptor (dB)							6.4		6.4		7.6		7.2		7.4		7.8		8.2	

Impacted (66 dB(A) or 10 dB increase over existing)
Impacted Receivers receiving ≥ 5dB(A)
Non-Impacted Receivers receiving ≥ 5dB(A)

All noise levels are Leq(h) values and are A-weighted, expressed as dB(A)

With the exception of average insertion loss values, all noise levels were calculated to the tenth of a dB(A) and then rounded for presentation purposes.

Table 10: NSA 6B
Coatesville-Downingtown Bypass - Section AIR
Summary of Noise Barrier Analysis

NSA	Receptor ID	NAC	No. of Equivalent Residential Units (ERU)	Existing Noise Level (2019)	Future No-Build (2050)	Future Build (2050)					
						Future Build No-Barrier		Case 1: 10' Barrier		Case 2: 12' Barrier	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
NSA 6B	**R6.11**	**B**	1	70	71	72	2	69	3	68	4
	R6.12 (M6.12)	**B**	1	71	72	73	2	63	10	61	12
	R6.73	**B**	1	60	61	63	2	63	0	63	0
	R6.74	**B**	1	62	63	64	2	64	0	64	0
	R6.75 (M6.09)	**B**	1	63	64	65	2	65	0	65	0
	R6.76	**B**	1	61	62	64	2	64	0	64	0
	R6.77 (M6.10)	**B**	1	62	62	64	2	64	0	64	0
	R6.78	**B**	1	62	63	64	2	64	0	64	0
	R6.79	**B**	1	66	67	68	2	63	6	61	7
	R6.80	**B**	1	64	65	66	2	61	6	60	7
	R6.81	**B**	1	60	61	62	2	59	3	59	4
	R6.82 (M6.11)	**B**	1	69	70	71	2	67	4	65	5
Number of Impacted Receptors						5		5		5	
Feasibility Evaluation											
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)									3		4
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.									60%		80%
Is this percentage ≥ 50%?; If yes, barrier is feasible.									**Yes**		**Yes**
Reasonableness Evaluation											
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)									0		0
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)									3		4
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)									1		3
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?									**Yes**		**Yes**
Barrier Height (feet)									10		12
Barrier Length (feet)									1600		1600
Barrier square footage (SQft)									16000		19200
Barrier square footage per benefited receptor (SF/BR)									5333		4800
Is SF/BR ≤ 2,000?; If yes, barrier is reasonable									**No**		**No**
Average I.L. per Benefited Receptor (dB)											

Impacted (66 dB(A) or 10 dB increase over existing)

Impacted Receivers receiving ≥ 5dB(A)

Non-Impacted Receivers receiving ≥ 5dB(A)

All noise levels are Leq(h) values and are A-weighted, expressed as dB(A)

With the exception of average insertion loss values, all noise levels were calculated to the tenth of a dB(A) and then rounded for presentation purposes.

Table 11: NSA 7A/B Investigative Cases
Coatesville-Downingtown Bypass - Section AIR
Summary of Noise Barrier Analysis

NSA	Receptor ID	NAC	No. of Equivalent Residential Units (ERU)	Existing Noise Level (2019)	Future No-Build (2050)	Future Build (2050)							
						Future Build No-Barrier		Case 1: 10' Unbroken NSA Barrier		Case 3: 14' Unbroken NSA Barrier		Case 5: 18' Unbroken NSA Barrier	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
NSA 7	R7.01 (M7.01)	B	1	71	72	73	2	66	7	63	10	62	11
	R7.02 (M7.02)	B	1	59	60	61	2	59	2	58	3	58	3
	R7.03 (M7.03)	B	1	61	62	63	2	59	4	56	8	55	9
	R7.04 (M7.04)	B	1	59	60	61	2	58	3	57	4	56	5
	R7.05 (M7.05)	B	1	71	72	73	2	65	8	60	13	58	15
	R7.06 (M7.06)	B	1	55	56	57	2	54	3	52	5	50	7
	R7.07 (M7.07)	B	1	69	70	71	2	63	8	60	11	59	12
	R7.08	B	1	58	59	60	2	56	3	55	5	53	6
	R7.09 (M7.09)	B	1	65	66	66	2	64	2	62	4	60	6
	R7.10	B	1	59	60	61	2	58	4	56	5	54	7
	R7.11 (M7.11)	B	1	73	74	75	2	64	11	61	14	60	15
	R7.12 (M7.12)	B	1	59	60	61	2	56	5	53	9	51	10
	R7.13 (M7.13)	B	1	64	64	66	2	60	6	56	9	55	11
	R7.14 (M7.14)	B	1	68	69	70	2	64	6	59	10	58	12
	R7.15 (M7.15)	B	1	63	64	65	2	61	4	59	6	56	9
	R7.16 (M7.16)	B	1	73	74	75	2	67	8	63	13	61	14
	R7.17	B	1	58	59	61	2	59	2	58	2	58	3
	R7.18	B	1	62	63	64	2	61	3	60	4	59	5
	R7.19	B	1	67	68	69	2	64	5	62	7	62	7
	R7.20	B	1	71	72	73	2	65	8	60	13	59	14
	R7.21	B	1	72	73	74	2	63	11	60	14	59	16
	R7.22	B	1	70	71	71	1	62	10	60	12	58	13
	R7.23	B	1	72	73	73	2	64	10	60	14	58	15
	R7.24	B	1	71	72	73	2	65	9	60	13	58	15
	R7.25	B	1	71	72	73	2	65	8	61	12	59	14
	R7.26	B	1	70	71	72	2	64	8	60	12	58	14
	R7.27	B	1	69	70	71	2	63	8	60	11	58	13
	R7.28	B	1	68	69	70	2	63	7	60	10	58	12
	R7.29	B	1	68	69	70	2	63	7	60	9	59	11
	R7.30	B	1	67	68	69	2	62	7	60	9	59	10
	R7.31	B	1	68	69	70	2	62	8	60	10	59	11
	R7.32	B	1	65	66	67	2	65	3	62	5	60	7
	R7.33	B	1	68	69	70	2	70	0	66	4	62	8
	R7.34	B	1	65	66	67	2	63	4	61	7	59	9
	R7.35	B	1	61	62	63	2	59	4	56	8	54	9
	R7.36	B	1	61	62	63	2	59	4	56	8	55	9
	R7.37	B	1	61	62	63	2	59	4	56	8	55	9
	R7.38	B	1	60	61	62	2	59	4	56	7	54	8
	R7.39	B	1	59	60	61	2	58	3	56	6	54	7
	R7.40	B	1	58	59	61	2	58	3	55	5	53	7
	R7.41	B	1	57	58	60	2	57	3	55	5	53	7
	R7.42	B	1	58	59	60	2	57	3	55	5	53	7
	R7.43	B	1	59	60	61	2	58	4	56	5	54	7
	R7.44	B	1	58	59	60	2	57	3	56	4	54	6
	R7.45	B	1	56	57	59	2	57	2	56	3	54	4
	R7.46	B	1	53	54	55	2	54	1	53	2	52	4
	R7.47	B	1	59	60	62	2	58	3	57	5	56	6
	R7.48	B	1	59	60	61	2	57	4	56	6	55	7
	R7.49	B	1	57	58	59	2	56	4	54	6	52	7
	R7.50	B	1	50	51	52	2	51	1	49	3	48	4
	R7.51	B	1	55	56	57	2	54	3	52	5	51	6
	R7.52	B	1	55	56	57	2	54	3	52	5	51	7
	R7.53	B	1	57	58	60	2	56	4	54	6	52	7
	R7.54	B	1	56	57	58	2	56	2	54	3	53	5
	R7.55	B	1	55	56	57	2	55	2	53	4	52	5

Table 11: NSA 7A/B Investigative Cases
Coatesville-Downingtown Bypass - Section AIR
Summary of Noise Barrier Analysis

NSA	Receptor ID	NAC	No. of Equivalent Residential Units (ERU)	Existing Noise Level (2019)	Future No-Build (2050)	Future Build (2050)							
						Future Build No-Barrier		Case 1: 10' Unbroken NSA Barrier		Case 3: 14' Unbroken NSA Barrier		Case 5: 18' Unbroken NSA Barrier	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
	R7.56	**B**	1	57	58	59	2	56	3	55	5	53	6
	R7.57	**B**	1	63	64	65	2	59	6	57	8	55	10
	R7.58	**B**	1	66	67	67	2	59	9	56	11	55	12
	R7.59	**B**	1	52	53	54	2	51	3	49	5	48	6
	R7.60	**B**	1	52	53	54	2	52	3	50	5	49	6
	R7.61	**B**	1	54	55	56	2	53	3	51	5	50	6
	R7.62	**B**	1	55	56	57	2	54	4	52	6	51	7
	R7.63	**B**	1	57	58	59	2	55	4	52	7	51	8
	R7.64	**B**	1	58	59	60	2	55	5	53	7	51	9
	R7.65	**B**	1	55	56	57	2	53	3	51	6	49	7
	R7.66	**B**	1	56	57	58	2	54	4	51	7	50	8
	R7.67	**B**	1	62	62	63	2	57	7	53	10	52	11
	R7.68	**B**	1	59	60	60	2	56	5	52	9	51	10
	R7.69	**B**	1	59	60	61	2	57	5	52	9	51	10
	R7.70	**B**	1	60	61	62	2	57	6	53	9	52	11
	R7.71	**B**	1	61	62	63	2	58	5	54	9	52	10
	R7.72	**B**	1	62	63	63	2	59	5	54	9	53	11
	R7.73	**B**	1	60	61	63	2	58	4	54	9	53	10
	R7.74	**B**	1	60	61	62	2	59	3	57	5	54	8
	R7.75	**B**	1	64	65	66	2	61	5	57	9	55	11
	R7.76	**B**	1	65	66	67	2	62	5	58	9	56	11
	R7.77	**B**	1	68	69	70	2	64	6	60	10	58	12
	R7.78	**B**	1	70	71	72	2	65	7	62	10	60	12
	R7.79	**B**	1	72	73	74	2	67	7	63	12	61	14
	R7.80	**B**	1	65	66	67	2	63	4	61	6	58	9
	R7.81	**B**	1	64	65	66	2	63	3	61	5	59	8
	R7.82	**B**	1	68	69	70	2	66	4	64	6	61	9
	R7.83	**B**	1	67	68	69	2	64	4	62	7	61	8
	R7.84	**B**	1	64	65	66	2	65	1	64	1	64	2
Number of Impacted Receptors						35		35		35		35	
Feasibility Evaluation													
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)									26		32		34
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.									74%		91%		97%
Is this percentage ≥ 50%?; If yes, barrier is feasible.									**Yes**		**Yes**		**Yes**
Reasonableness Evaluation													
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)									9		39		44
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)									35		71		78
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)									21		45		65
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?									**Yes**		**Yes**		**Yes**
Barrier Height (feet) [average]									10		14		18
Barrier Length (feet)									5409		5409		5409
Barrier square footage (SQft)									54090		75726		97362
Barrier square footage per benefited receptor (SF/BR)									1545		1067		1248
Is SF/BR ≤ 2,000?; If yes, barrier is reasonable									**Yes**		**Yes**		**Yes**
Average I.L. per Benefited Receptor (dB)									7.0		8.1		9.3

Impacted (66 dB(A) or 10 dB increase over existing)
Impacted Receivers receiving ≥ 5dB(A)
Non-Impacted Receivers receiving ≥ 5dB(A)

All noise levels are Leq(h) values and are A-weighted, expressed as dB(A)

With the exception of average insertion loss values, all noise levels were calculated to the tenth of a dB(A) and then rounded for presentation purposes.

Table 12: NSA 7A Optimized
Coatesville-Downingtown Bypass - Section AIR
Summary of Noise Barrier Analysis

NSA	Receptor ID	NAC	No. of Equivalent Residential Units (ERU)	Existing Noise Level (2019)	Future No-Build (2050)	Future Build (2050)			
						Future Build No-Barrier		Case 4: Optimized Barrier 7A	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB
NSA 7A	R7.01 (M7.01)	B	1	71	72	73	2	64	9
	R7.02 (M7.02)	B	1	59	60	61	2	59	2
	R7.03 (M7.03)	B	1	61	62	63	2	59	5
	R7.04 (M7.04)	B	1	59	60	61	2	58	3
	R7.05 (M7.05)	B	1	71	72	73	2	62	12
	R7.06 (M7.06)	B	1	55	56	57	2	54	4
	R7.07 (M7.07)	B	1	69	70	71	2	60	11
	R7.08	B	1	58	59	60	2	56	4
	R7.09 (M7.09)	B	1	65	66	66	2	62	5
	R7.10	B	1	59	60	61	2	59	3
	R7.11 (M7.11)	B	1	73	74	75	2	63	12
	R7.12 (M7.12)	B	1	59	60	61	2	58	3
	R7.17	B	1	58	59	61	2	59	2
	R7.18	B	1	62	63	64	2	61	3
	R7.19	B	1	67	68	69	2	63	6
	R7.20	B	1	71	72	73	2	62	11
	R7.21	B	1	72	73	74	2	61	13
	R7.22	B	1	70	71	71	1	60	11
	R7.23	B	1	72	73	73	2	61	12
	R7.24	B	1	71	72	73	2	61	12
	R7.25	B	1	71	72	73	2	62	11
	R7.26	B	1	70	71	72	2	60	12
	R7.27	B	1	69	70	71	2	60	11
	R7.28	B	1	68	69	70	2	61	9
	R7.29	B	1	68	69	70	2	61	9
	R7.30	B	1	67	68	69	2	60	8
	R7.31	B	1	68	69	70	2	60	10
	R7.32	B	1	65	66	67	2	62	5
	R7.33	B	1	68	69	70	2	63	7
	R7.34	B	1	65	66	67	2	61	6
	R7.35	B	1	61	62	63	2	59	5
	R7.36	B	1	61	62	63	2	59	5
	R7.37	B	1	61	62	63	2	58	5
	R7.38	B	1	60	61	62	2	58	4
	R7.39	B	1	59	60	61	2	57	4
	R7.40	B	1	58	59	61	2	57	4
	R7.41	B	1	57	58	60	2	56	4
	R7.42	B	1	58	59	60	2	56	4
	R7.43	B	1	59	60	61	2	57	5
	R7.44	B	1	58	59	60	2	56	4
	R7.45	B	1	56	57	59	2	57	2
	R7.46	B	1	53	54	55	2	53	2
	R7.47	B	1	59	60	62	2	58	4
	R7.48	B	1	59	60	61	2	57	4
	R7.49	B	1	57	58	59	2	56	4
	R7.50	B	1	50	51	52	2	51	1
	R7.51	B	1	55	56	57	2	54	3
	R7.52	B	1	55	56	57	2	54	4
	R7.53	B	1	57	58	60	2	55	5

Table 12: NSA 7A Optimized
Coatesville-Downingtown Bypass - Section AIR
Summary of Noise Barrier Analysis

NSA	Receptor ID	NAC	No. of Equivalent Residential Units (ERU)	Existing Noise Level (2019)	Future No-Build (2050)	Future Build (2050)			
						Future Build No-Barrier		Case 7: Optimized Barrier 7A	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB
NSA 7A	R7.54	B	1	56	57	58	2	56	2
	R7.55	B	1	55	56	57	2	55	2
	R7.56	B	1	57	58	59	2	57	2
	R7.57	B	1	63	64	65	2	57	8
	R7.58	B	1	66	67	67	2	61	6
	R7.59	B	1	52	53	54	2	52	2
	R7.60	B	1	52	53	54	2	52	2
	R7.61	B	1	54	55	56	2	54	2
	R7.62	B	1	55	56	57	2	55	3
	R7.63	B	1	57	58	59	2	56	3
	R7.64	B	1	58	59	60	2	58	2
	R7.65	B	1	55	56	57	2	55	2
	R7.66	B	1	56	57	58	2	56	2
	R7.67	B	1	62	62	63	2	59	4
	R7.68	B	1	59	60	60	2	59	2

Number of Impacted Receptors	22	22
Feasibility Evaluation		
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)		22
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.		100%
Is this percentage ≥ 50%?; If yes, barrier is feasible.		**Yes**
Reasonableness Evaluation		
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)		7
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)		29
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)		18
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?		**Yes**
Barrier Height (feet) [average]		[14]
Barrier Length (feet)		2908
Barrier square footage (SQft)		39912
Barrier square footage per benefited receptor (SF/BR)		1376
Is SF/BR ≤ 2,000?; If yes, barrier is reasonable		**Yes**
Average I.L. per Benefited Receptor (dB)		8.4

Impacted (66 dB(A) or 10 dB increase over existing)

Impacted Receivers receiving ≥ 5dB(A)

Non-Impacted Receivers receiving ≥ 5dB(A)

All noise levels are Leq(h) values and are A-weighted, expressed as dB(A)

With the exception of average insertion loss values, all noise levels were calculated to the tenth of a dB(A) and then rounded for presentation

Table 13: NSA 7B Optimized
Coatesville-Downingtown Bypass - Section AIR
Summary of Noise Barrier Analysis

NSA	Receptor ID	NAC	No. of Equivalent Residential Units (ERU)	Existing Noise Level (2019)	Future No-Build (2050)	Future Build (2050)			
						Future Build No-Barrier		Case 4: Optimized Barrier 7B	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB
NSA 7B	R7.13 (M7.13)	B	1	64	64	66	2	60	6
	R7.14 (M7.14)	B	1	68	69	70	2	60	9
	R7.15 (M7.15)	B	1	63	64	65	2	60	5
	R7.16 (M7.16)	B	1	73	74	75	2	62	13
	R7.69	B	1	59	60	61	2	60	2
	R7.70	B	1	60	61	62	2	61	2
	R7.71	B	1	61	62	63	2	61	1
	R7.72	B	1	62	63	63	2	62	1
	R7.73	B	1	60	61	63	2	61	2
	R7.74	B	1	60	61	62	2	59	3
	R7.75	B	1	64	65	66	2	61	5
	R7.76	B	1	65	66	67	2	59	8
	R7.77	B	1	68	69	70	2	61	9
	R7.78	B	1	70	71	72	2	62	10
	R7.79	B	1	72	73	74	2	63	12
	R7.80	B	1	65	66	67	2	61	6
	R7.81	B	1	64	65	66	2	61	5
	R7.82	B	1	68	69	70	2	63	6
	R7.83	B	1	67	68	69	2	63	6
	R7.84	B	1	64	65	66	2	65	1

Number of Impacted Receptors	13	13
Feasibility Evaluation		
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)		12
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.		92%
Is this percentage ≥ 50%?; If yes, barrier is feasible.		**Yes**
Reasonableness Evaluation		
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)		1
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)		13
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)		6
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?		**Yes**
Barrier Height (feet) [average]		[13]
Barrier Length (feet)		2000
Barrier square footage (SQft)		25817
Barrier square footage per benefited receptor (SF/BR)		1986
Is SF/BR ≤ 2,000?; If yes, barrier is reasonable		**Yes**
Average I.L. per Benefited Receptor (dB)		7.6

Impacted (66 dB(A) or 10 dB increase over existing)

Impacted Receivers receiving ≥ 5dB(A)

Non-Impacted Receivers receiving ≥ 5dB(A)

All noise levels are Leq(h) values and are A-weighted, expressed as dB(A)

With the exception of average insertion loss values, all noise levels were calculated to the tenth of a dB(A) and then rounded for presentation

Table 14: NSA 8
Coatesville-Downingtown Bypass - Section AIR
Summary of Noise Barrier Analysis

NSA	Receptor ID	NAC	No. of Equivalent Residential Units (ERU)	Existing Noise Level (2019)	Future No-Build (2050)	Future Build (2050)									
						Future Build No-Barrier		Case 1: 10' Barrier		Case 2: 12' Barrier		Case 3: 14' Barrier		Case 4: 16' Barrier	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
NSA 8	**R8.01 (M8.01)**	**B**	1	64	65	67	2	61	6	59	8	59	8	58	9
	R8.02	**B**	1	63	64	65	2	62	3	62	4	61	4	60	5
Number of Impacted Receptors						1		1		1		1		1	
Feasibility Evaluation															
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)									1		1		1		1
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.									100%		100%		100%		100%
Is this percentage ≥ 50%?; If yes, barrier is feasible.									**Yes**		**Yes**		**Yes**		**Yes**
Reasonableness Evaluation															
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)									0		0		0		1
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)									1		1		1		2
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)									0		1		1		1
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?									**No**		**Yes**		**Yes**		**Yes**
Barrier Height (feet)											12		14		16
Barrier Length (feet)											917		917		917
Barrier square footage (SQft)											11004		12838		14672
Barrier square footage per benefited receptor (SF/BR)											11004		12838		7336
Is SF/BR ≤ 2,000?; If yes, barrier is reasonable											**No**		**No**		**No**
Average I.L. per Benefited Receptor (dB)															

Impacted (66 dB(A) or 10 dB increase over existing)
Impacted Receivers receiving ≥ 5dB(A)
Non-Impacted Receivers receiving ≥ 5dB(A)

All noise levels are Leq(h) values and are A-weighted, expressed as dB(A)

With the exception of average insertion loss values, all noise levels were calculated to the tenth of a dB(A) and then rounded for presentation purposes.

Table 15: NSA 9
Coatesville-Downingtown Bypass - Section AIR
Summary of Noise Barrier Analysis

NSA	Receptor ID	NAC	No. of Equivalent Residential Units (ERU)	Existing Noise Level (2019)	Future No-Build (2050)	Future Build (2050)													
						Future Build No-Barrier		Case 1: 10' Barrier		Case 2: 12' Barrier		Case 3: 14' Barrier		Case 4: 16' Barrier		Case 5: 18' Barrier		Case 6: 20' Barrier		Case 7: 20' Barrier (Shortened)	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
NSA 9	R9.01 (M9.01)	B	1	64	65	66	2	66	0	66	0	66	0	66	0	66	0	66	0	66	0
	R9.02 (M9.02)	B	1	69	70	71	2	67	3	66	5	64	6	63	8	62	9	61	10	67	4
	R9.03 (M9.03)	B	1	71	72	73	2	64	9	63	11	62	11	61	12	60	13	59	14	61	12
	R9.04 (M9.04)	B	1	57	58	59	2	58	1	57	2	57	2	56	3	56	3	55	4	58	1
	R9.05 (M9.05)	B	1	54	54	55	2	55	0	55	1	55	1	54	1	54	2	54	2	56	0
	R9.06 (M9.06)	B	1	56	57	58	2	58	0	58	0	58	0	58	0	58	0	58	0	58	0
	R9.07 (M9.07)	B	1	53	54	54	2	53	1	53	2	53	2	52	2	52	2	52	2	53	1
	R9.08	B	1	67	68	69	2	63	6	62	7	61	8	60	9	59	10	59	10	60	9
	R9.09	B	1	66	67	68	2	67	1	65	3	63	5	62	6	61	7	60	8	60	8
	R9.10	B	1	57	58	58	2	58	1	57	1	57	2	56	2	56	2	56	2	56	2
	R9.11	B	1	65	66	66	2	68	0	68	0	67	0	65	1	64	3	63	4	63	3
	R9.12	B	1	61	62	63	2	60	2	60	3	59	4	58	4	58	5	57	5	62	1
	R9.13	B	1	58	59	60	2	58	2	57	2	57	3	56	3	56	4	56	4	59	1
	R9.14	B	1	57	58	59	2	57	2	56	2	56	2	56	3	55	3	55	4	58	1
	R9.15	B	1	55	56	57	2	56	1	56	2	56	2	55	3	55	3	54	3	57	1
	R9.16	B	1	55	55	57	2	56	1	55	1	55	1	55	2	54	2	54	3	56	0
	R9.17	B	1	52	53	54	2	53	1	53	1	53	2	52	2	52	2	52	2	54	1
	R9.18	B	1	53	54	55	2	53	1	53	1	53	2	53	2	53	2	53	2	54	1
	R9.19	B	1	54	55	56	2	55	1	55	1	54	2	54	2	54	2	54	2	55	1
	R9.20	E	1	61	62	61	0	62	0	62	0	62	0	62	0	62	0	62	0	62	0
	R9.21	B	1	57	58	59	2	57	2	57	3	56	3	56	4	55	4	55	5	58	2
Number of Impacted Receptors						6		6		6		6		6		6		6		6	
Feasibility Evaluation																					
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)								2		3		4		4		4		4		3	
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.								33%		50%		67%		67%		67%		67%		50%	
Is this percentage ≥ 50%?; If yes, barrier is feasible.								**No**		**Yes**		**Yes**		**Yes**		**Yes**		**Yes**		**Yes**	
Reasonableness Evaluation																					
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)										0		0		0		1		2		0	
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)										3		4		4		5		6		3	
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)										2		2		3		4		4		3	
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?										**Yes**		**Yes**		**Yes**		**Yes**		**Yes**		**Yes**	
Barrier Height (feet)										12		14		16		18		20		20	
Barrier Length (feet)										1393		1393		1393		1393		1393		893	
Barrier square footage (SQft)										16716		19502		22288		25074		27860		17860	
Barrier square footage per benefited receptor (SF/BR)										5572		4876		5572		5015		4643		5953	
Is SF/BR ≤ 2,000?; If yes, barrier is reasonable										**No**		**No**		**No**		**No**		**No**		**No**	
Average I.L. per Benefited Receptor (dB)																					

Impacted (66 dB(A) or 10 dB increase over existing)
Impacted Receivers receiving ≥ 5dB(A)
Non-Impacted Receivers receiving ≥ 5dB(A)

All noise levels are Leq(h) values and are A-weighted, expressed as dB(A)
With the exception of average insertion loss values, all noise levels were calculated to the tenth of a dB(A) and then rounded for presentation purposes.

Table 16: NSA 10
Coatesville-Downingtown Bypass - Section AIR
Summary of Noise Barrier Analysis

NSA	Receptor ID	NAC	No. of Equivalent Residential Units (ERU)	Existing Noise Level (2019)	Future No-Build (2050)	Future Build (2050)					
						Future Build No-Barrier		Case 1: 8' Barrier		Case 2: 10' Barrier	
						Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
NSA 10A	R10.01	C	0.3 (Trail)	65	68	69	4	64	5	62	7
	R10.02	C		67	70	71	3	62	9	60	11
	R10.03	C		65	68	68	4	62	7	59	10
	R10.04	C		65	68	68	3	61	8	58	10
	R10.05	C		66	69	69	3	61	8	58	11
	R10.06	C		67	70	70	3	62	9	59	12
	R10.07	C		68	70	71	3	62	9	60	12
	R10.08	C		66	69	69	3	62	7	59	10
	R10.09	C		67	70	71	4	62	9	60	11
	R10.10	C		67	69	71	4	70	1	70	1
	R10.15	C	0.17 (Court)	57	59	62	5	59	2	59	2
	R10.16	C	0.77 (Pool)	55	57	60	6	59	1	59	1
NSA 10B	R10.11	C	0.1 (Trail)	68	71	72	4	A noise barrier in NSA 10B is not feasible due to limited right-of-way and is not included in the analysis.			
	R10.12	C		65	67	68	4				
	R10.13	C		62	65	66	3				
	R10.14	C		56	59	61	5				

Number of Impacted Receptors	0.3	0.3	0.3
Feasibility Evaluation			
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)		0.26	0.26
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.		90%	90%
Is this percentage ≥ 50%?; If yes, barrier is feasible.		**Yes**	**Yes**
Reasonableness Evaluation			
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)		0	0
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)		0.26	0.26
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)		8	9
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?		**Yes**	**Yes**
Barrier Height (feet)		8	10
Barrier Length (feet)		1198	1198
Barrier square footage (SQft)		9584	11980
Barrier square footage per benefited receptor (SF/BR)		36862	46077
Is SF/BR ≤ 2,000?; If yes, barrier is reasonable		**No**	**No**
Average I.L. per Benefited Receptor (dB)			

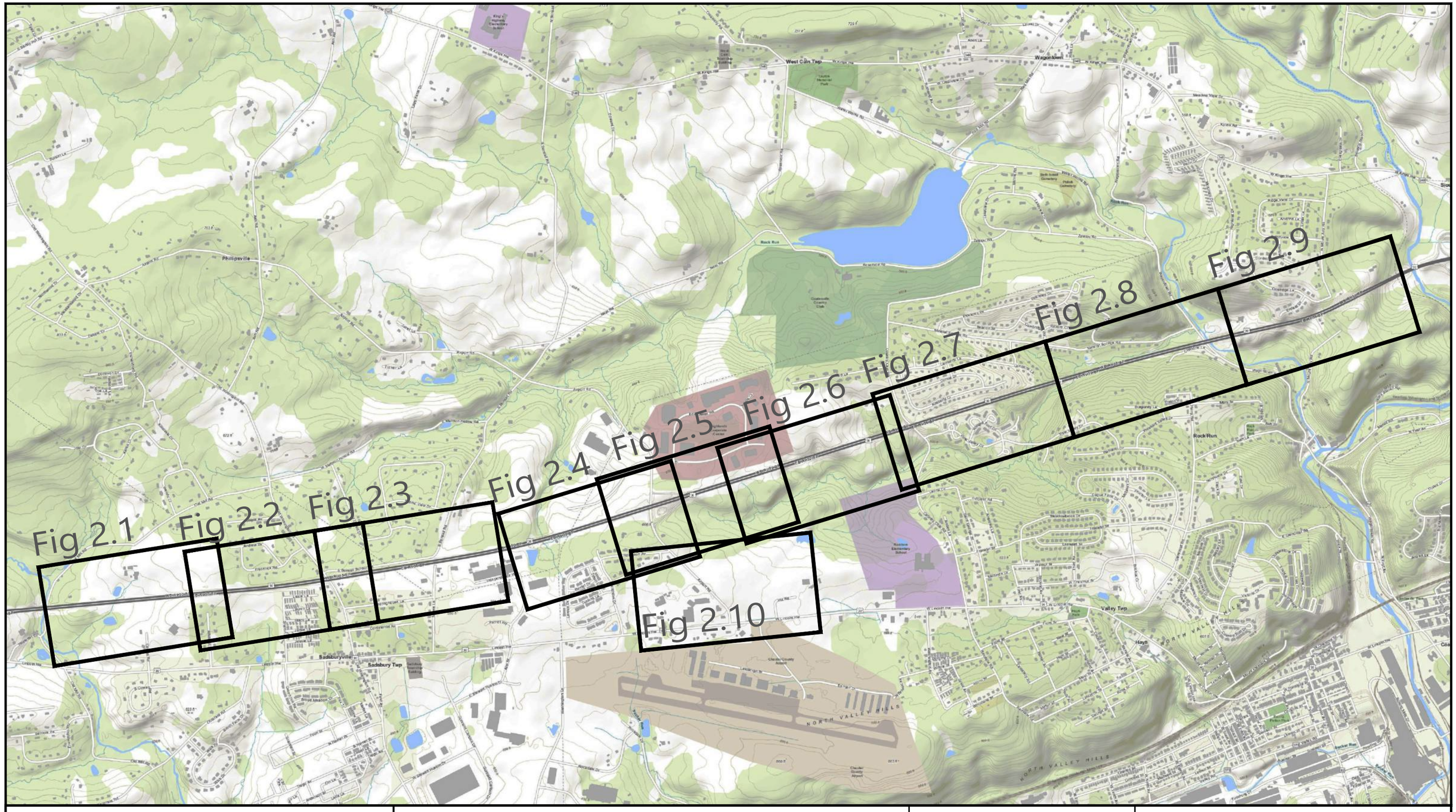
Impacted (66 dB(A) or 10 dB increase over existing)
Impacted Receivers receiving ≥ 5dB(A)
Non-Impacted Receivers receiving ≥ 5dB(A)

All noise levels are Leq(h) values and are A-weighted, expressed as dB(A)

With the exception of average insertion loss values, all noise levels were calculated to the tenth of a dB(A) and then rounded for presentation purposes.

Figures

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Project Overview Map

Coatesville-Downington Bypass - Airport Rd Interchange

S.R. 0030, Section AIR

Pennsylvania Department of Transportation

Chester County, PA

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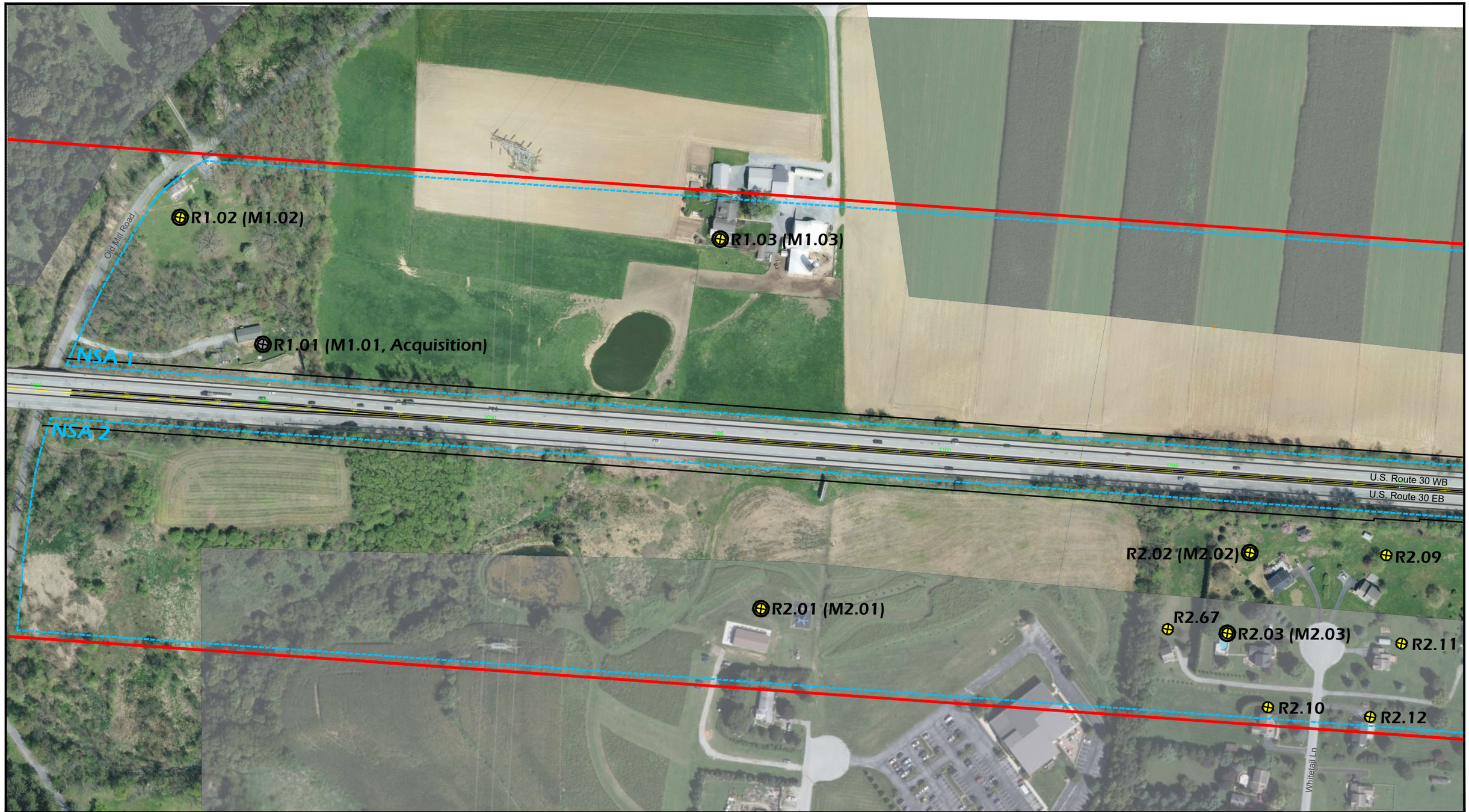
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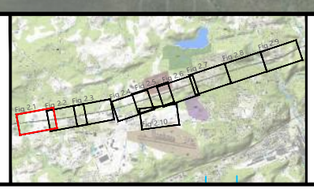
Figure 1

Modified on 03.19.2026



Noise Analysis Locations
- Impacted, Benefitted
- Impacted, Not Benefitted
- Not Impacted, Benefitted
- Not Impacted, Not Benefitted
- 24H Noise Measurement Location
- Noise Measurement Location

Barriers
- Feasible and Reasonable
- Feasible, Not Reasonable
- Not Feasible, Not Reasonable
- 500' Boundary
- NSA Boundary



Coatesville-Downington Bypass - Airport Rd Interchange
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Chester County, PA

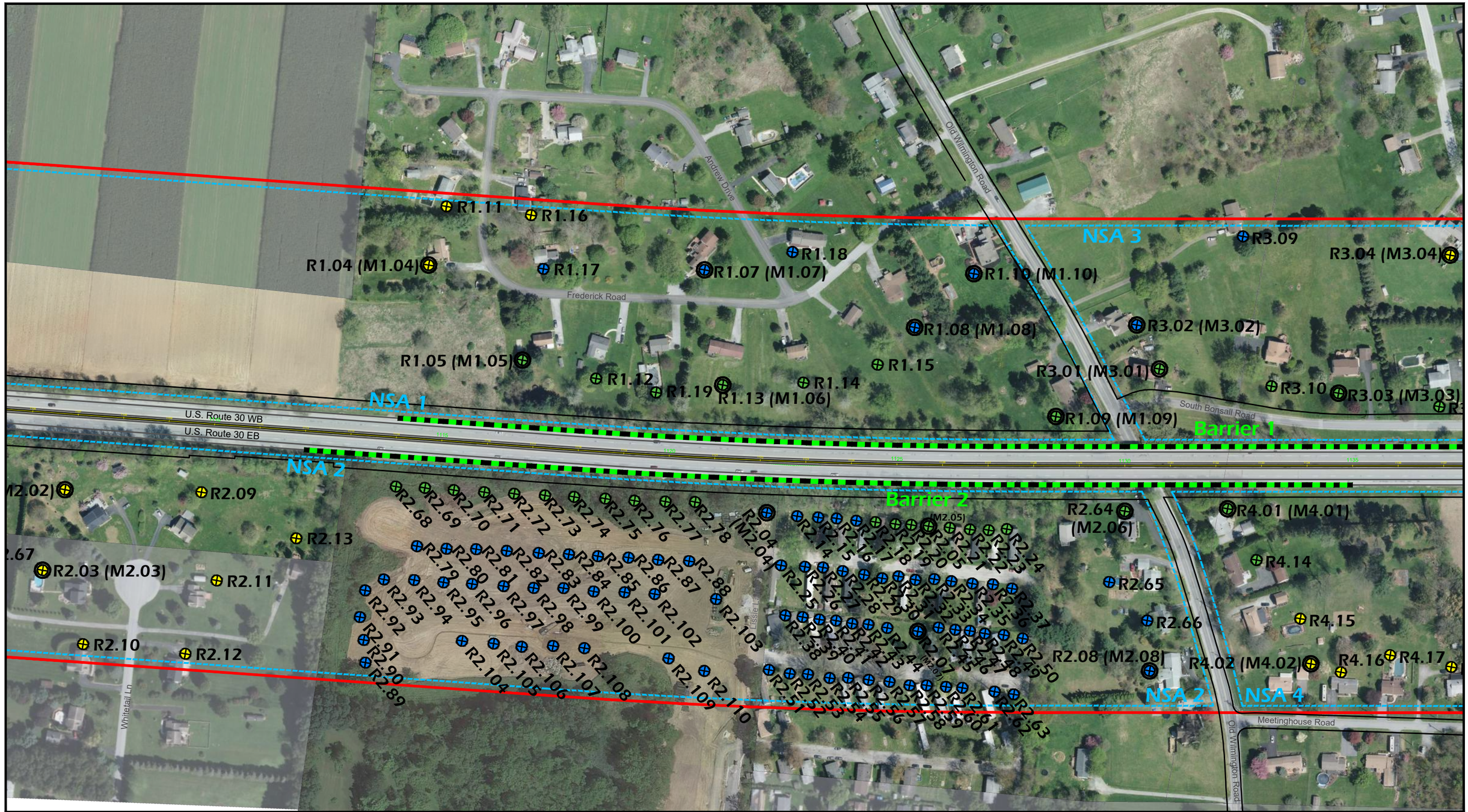
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Scale (Feet)
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GFT

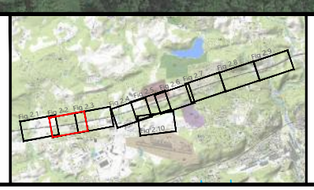
Figure 2.1

Modified on 03.19.2026



Noise Analysis Locations
- Impacted, Benefitted
- Impacted, Not Benefitted
- Not Impacted, Benefitted
- Not Impacted, Not Benefitted
- 24H Noise Measurement Location
- Noise Measurement Location

Barriers
- Feasible and Reasonable
- Feasible, Not Reasonable
- Not Feasible, Not Reasonable
- 500' Boundary
- NSA Boundary



Coatesville-Downington Bypass - Airport Rd Interchange

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N

Scale (Feet)

200 100 0 200

GFT

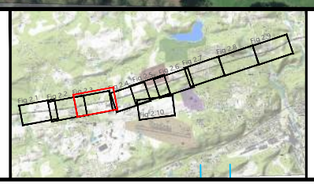
Figure 2.2

Modified on 06.19.2026



Noise Analysis Locations
- Impacted, Benefitted
- Impacted, Not Benefitted
- Not Impacted, Benefitted
- Not Impacted, Not Benefitted
- 24H Noise Measurement Location
- Noise Measurement Location

Barriers
- Feasible and Reasonable
- Feasible, Not Reasonable
- Not Feasible, Not Reasonable
- Activity Category F Land Use
- 500' Boundary
- NSA Boundary



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N

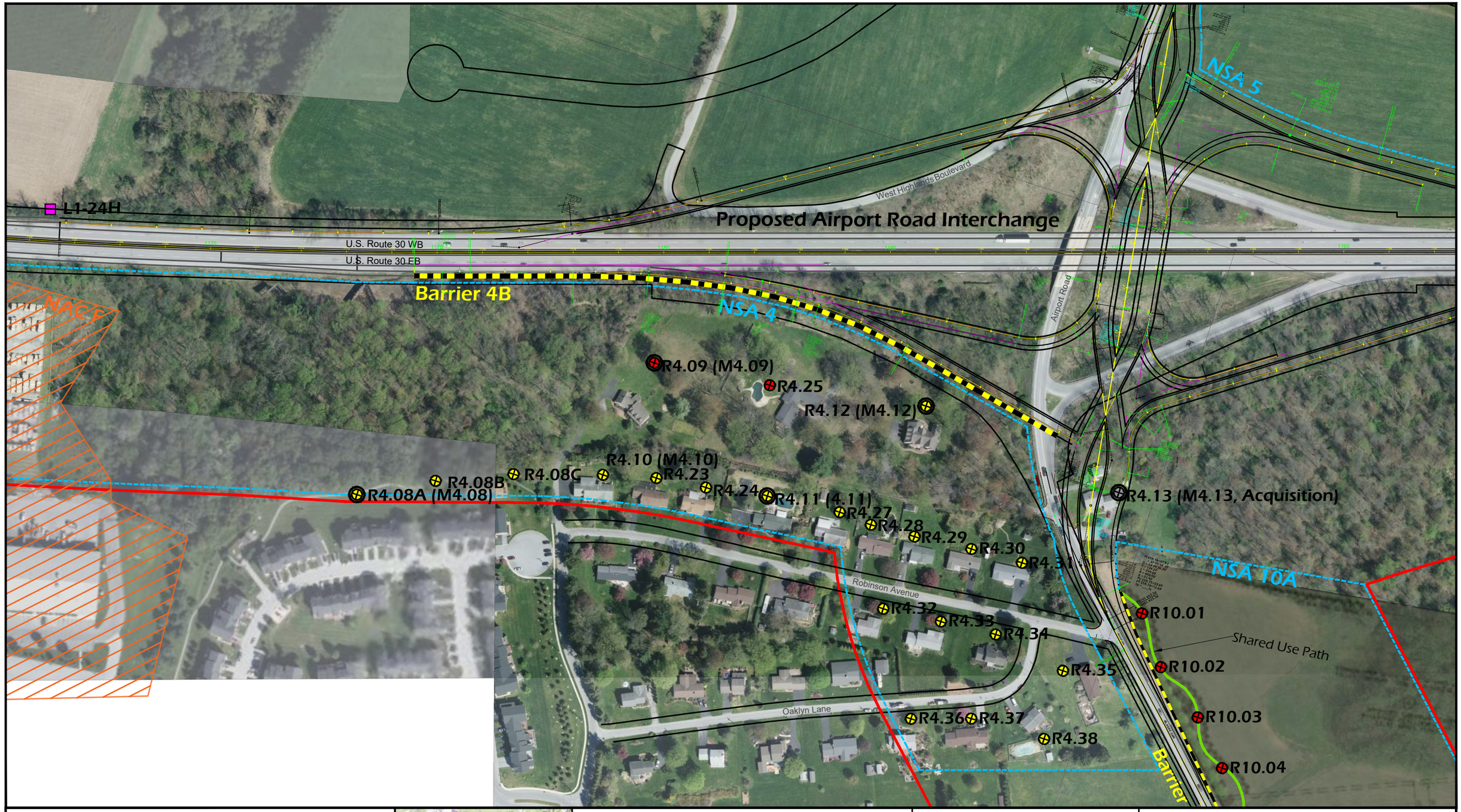
Scale (Feet)

200 100 0 200

GFT

Figure 2.3

Modified on 06.19.2026



Noise Analysis Locations
- Impacted, Benefitted
- Impacted, Not Benefitted
- Not Impacted, Benefitted
- Not Impacted, Not Benefitted
- 24H Noise Measurement Location
- Noise Measurement Location

Barriers
- Feasible and Reasonable
- Feasible, Not Reasonable
- Not Feasible, Not Reasonable
- Activity Category F Land Use
- 500' Boundary
- NSA Boundary

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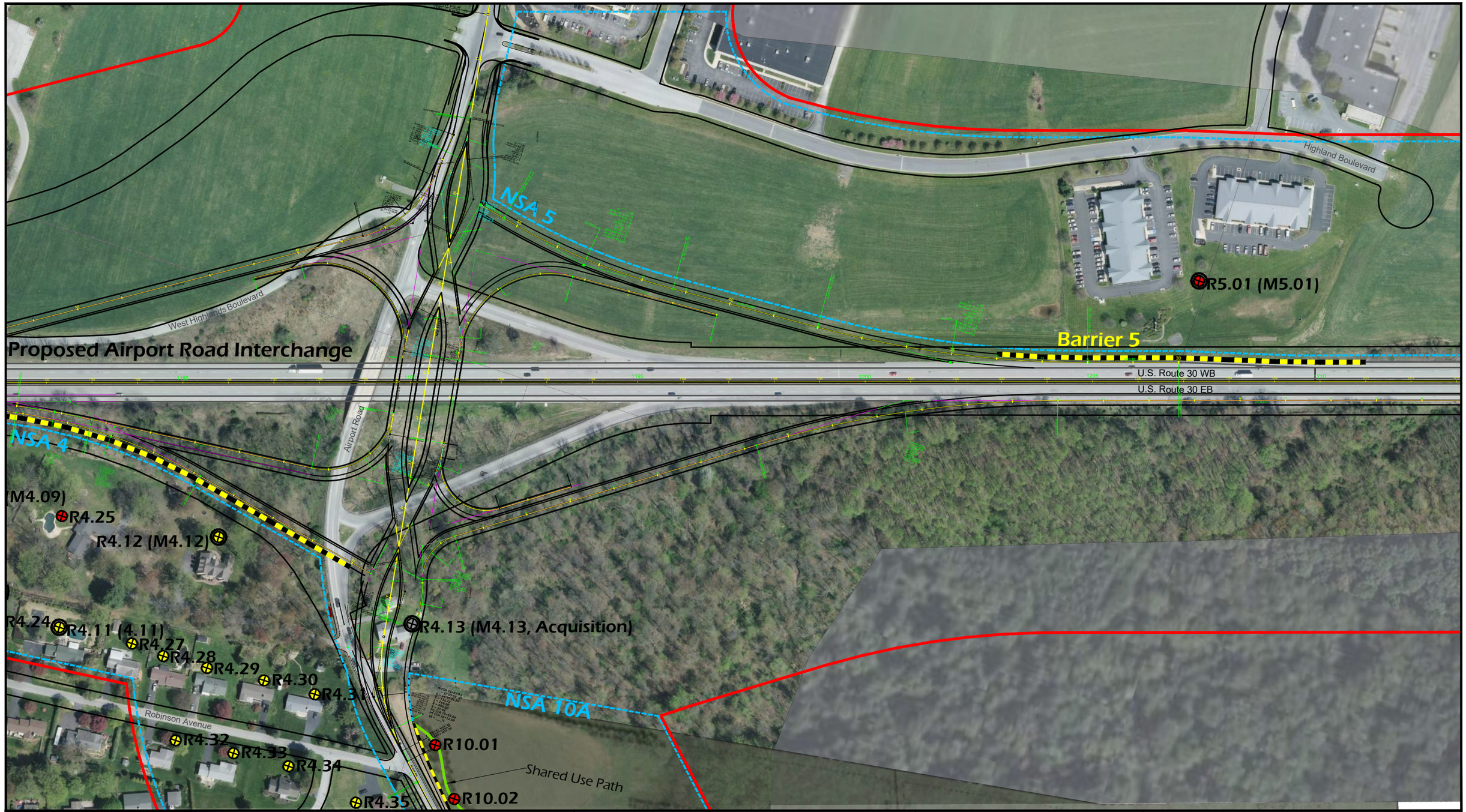
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Scale (Feet)
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GFT

Figure 2.4

Modified on 03.19.2026



Noise Analysis Locations
- Impacted, Benefitted
- Impacted, Not Benefitted
- Not Impacted, Benefitted
- Not Impacted, Not Benefitted
- 24H Noise Measurement Location
- Noise Measurement Location

Barriers
- Feasible and Reasonable
- Feasible, Not Reasonable
- Not Feasible, Not Reasonable
- 500' Boundary
- NSA Boundary

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N

Scale (Feet)
200 100 0 200

GFT

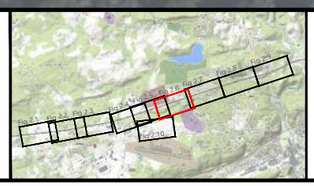
Figure 2.5

Modified on 03.19.2026



Noise Analysis Locations
- Impacted, Benefitted
- Impacted, Not Benefitted
- Not Impacted, Benefitted
- Not Impacted, Not Benefitted
- 24H Noise Measurement Location
- Noise Measurement Location

Barriers
- Feasible and Reasonable
- Feasible, Not Reasonable
- Not Feasible, Not Reasonable
- 500' Boundary
- NSA Boundary



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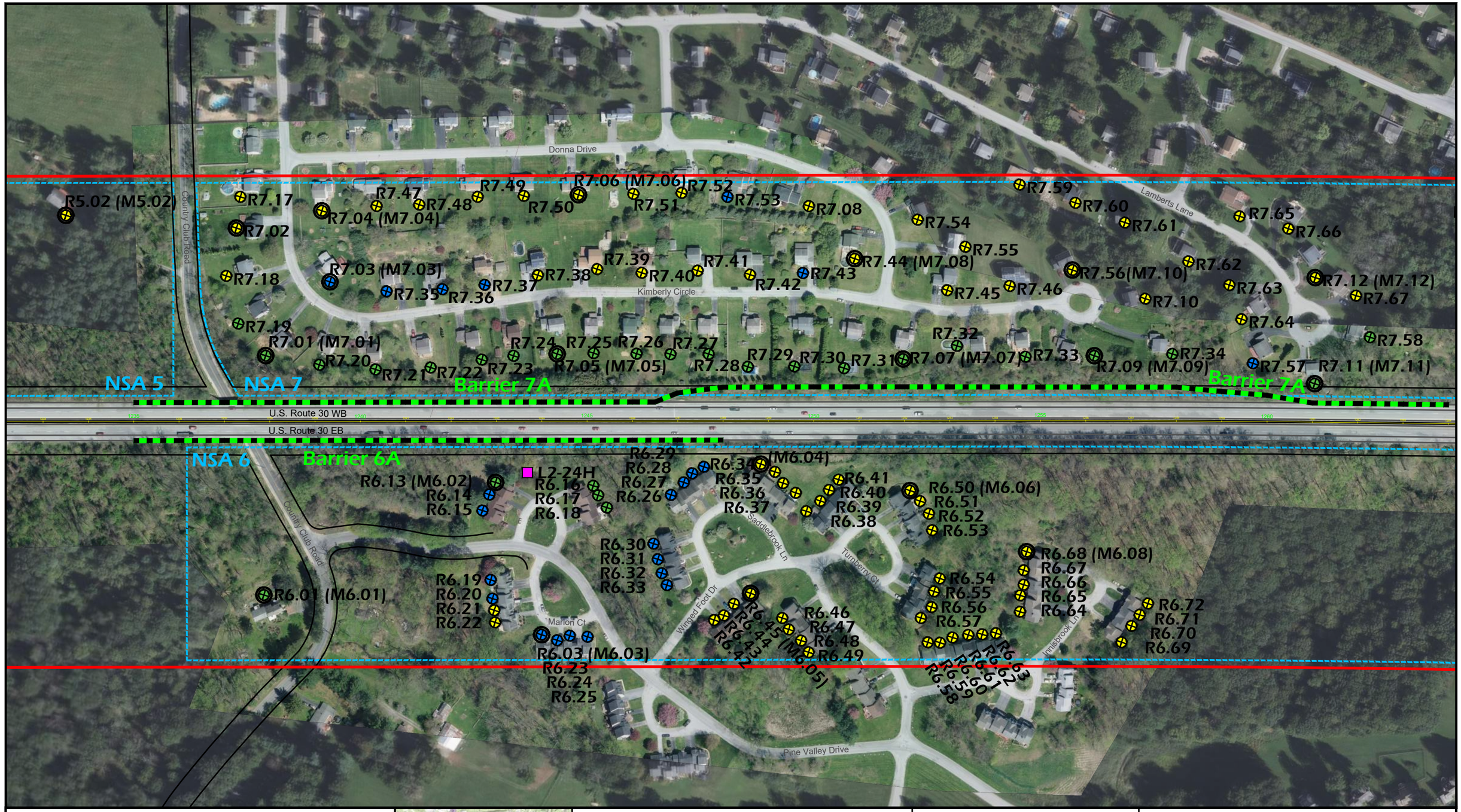
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Scale (Feet)
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GFT

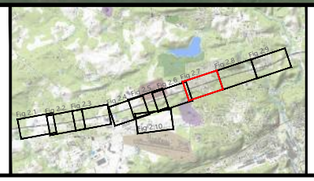
Figure 2.6

Modified on 03.19.2026



Noise Analysis Locations
- Impacted, Benefitted
- Impacted, Not Benefitted
- Not Impacted, Benefitted
- Not Impacted, Not Benefitted
- 24H Noise Measurement Location
- Noise Measurement Location

Barriers
- Feasible and Reasonable
- Feasible, Not Reasonable
- Not Feasible, Not Reasonable
- 500' Boundary
- NSA Boundary



Coatesville-Downington Bypass - Airport Rd Interchange
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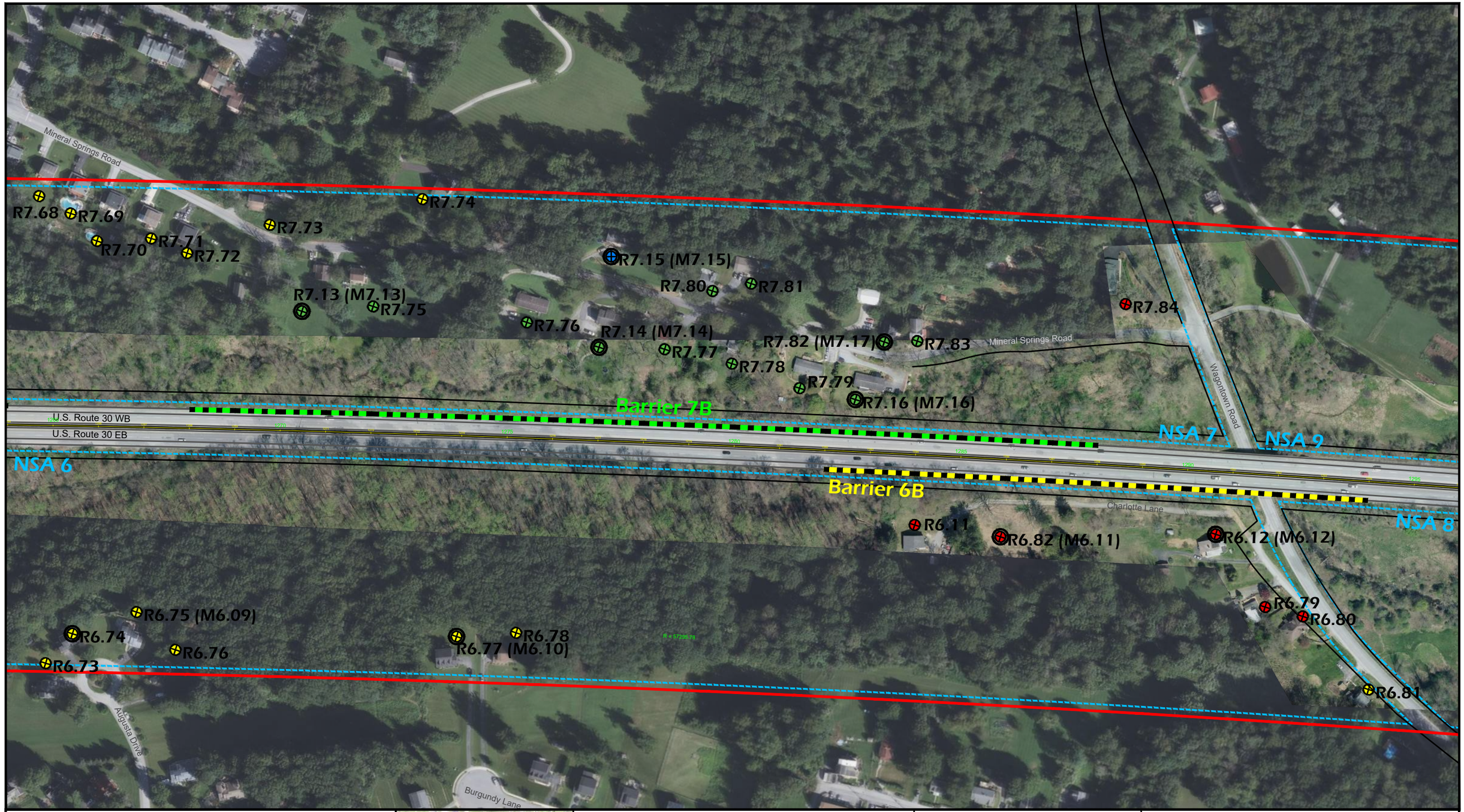
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Scale (Feet)
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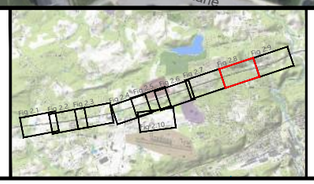
Figure 2.7

Modified on 03.19.2026



Noise Analysis Locations
- Impacted, Benefitted
- Impacted, Not Benefitted
- Not Impacted, Benefitted
- Not Impacted, Not Benefitted
- 24H Noise Measurement Location
- Noise Measurement Location

Barriers
- Feasible and Reasonable
- Feasible, Not Reasonable
- Not Feasible, Not Reasonable
- 500' Boundary
- NSA Boundary



Coatesville-Downington Bypass - Airport Rd Interchange
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N

Scale (Feet)
200 100 0 200

GFT

Figure 2.8

Modified on 03.19.2026



Noise Analysis Locations
- Impacted, Benefitted
- Impacted, Not Benefitted
- Not Impacted, Benefitted
- Not Impacted, Not Benefitted
- 24H Noise Measurement Location
- Noise Measurement Location

Barriers
- Feasible and Reasonable
- Feasible, Not Reasonable
- Not Feasible, Not Reasonable
- 500' Boundary
- NSA Boundary



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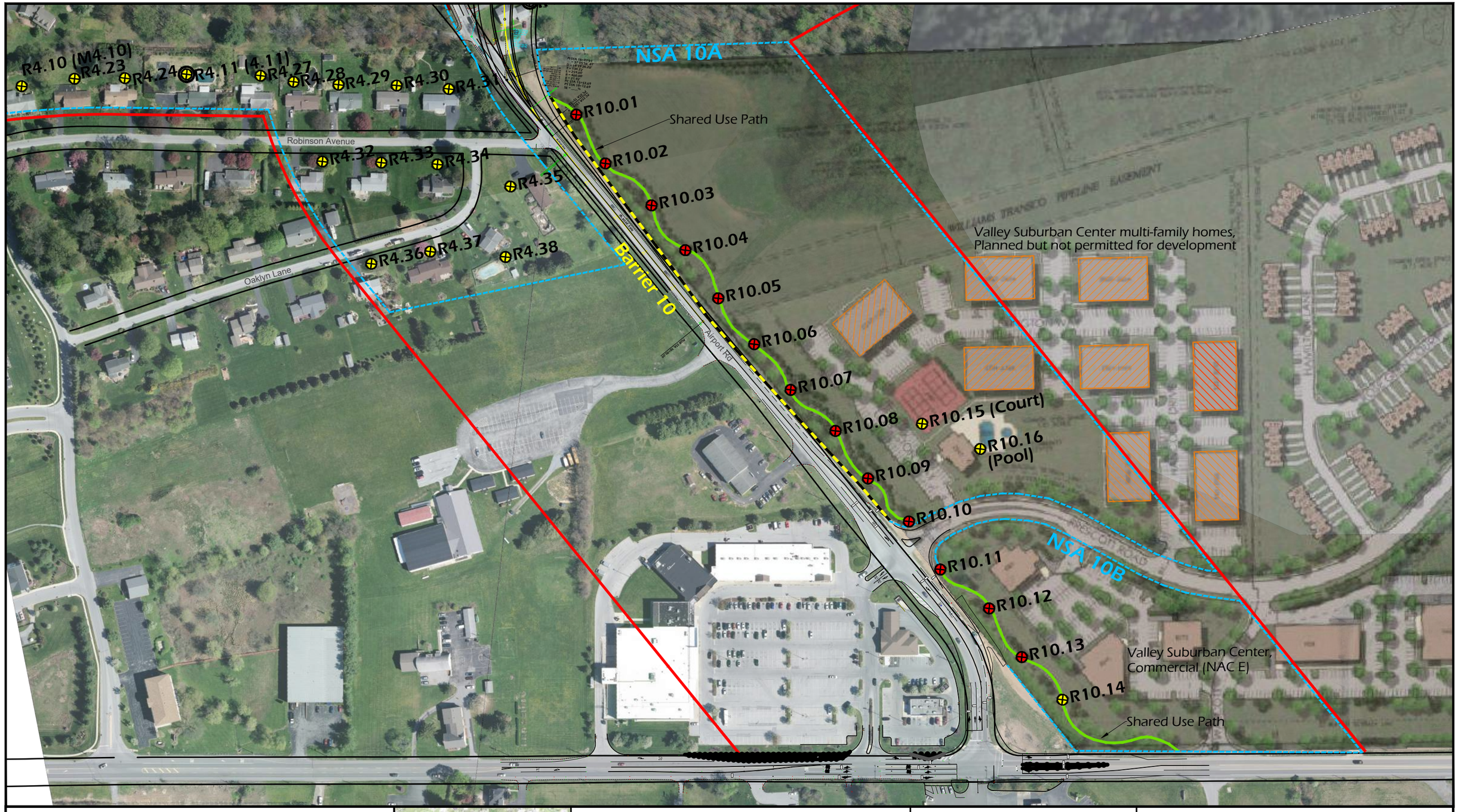
N

Scale (Feet)
200 100 0 200

GFT

Figure 2.9

Modified on 03.19.2026



Noise Analysis Locations
- Impacted, Benefitted
- Impacted, Not Benefitted
- Not Impacted, Benefitted
- Not Impacted, Not Benefitted
- 24H Noise Measurement Location
- Noise Measurement Location

Barriers
- Feasible and Reasonable
- Feasible, Not Reasonable
- Not Feasible, Not Reasonable
- 500' Boundary
- NSA Boundary



Coatesville-Downington Bypass - Airport Rd Interchange

S.R. 0030, Section AIR

Pennsylvania Department of Transportation

Chester County, PA

N

Scale (Feet)

200 100 0 200

GFT

Figure 2.10

Modified on 03.19.2026

Contour Analysis, West

280'
230'
180'
130'
66 dB(A) — 110'
80'
71 dB(A) — 60'
30'

1105

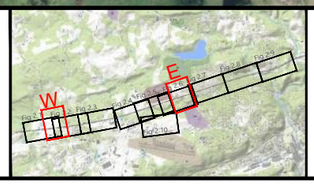
Contour Analysis, East

280'
230'
180'
66 dB(A) — 160'
130'
80'
71 dB(A) — 65'
30'

1225

Noise Analysis Locations
- Not Impacted
- Impact, Activity Category B/C
- Impact, Activity Category E

500' Boundary
NSA Boundary



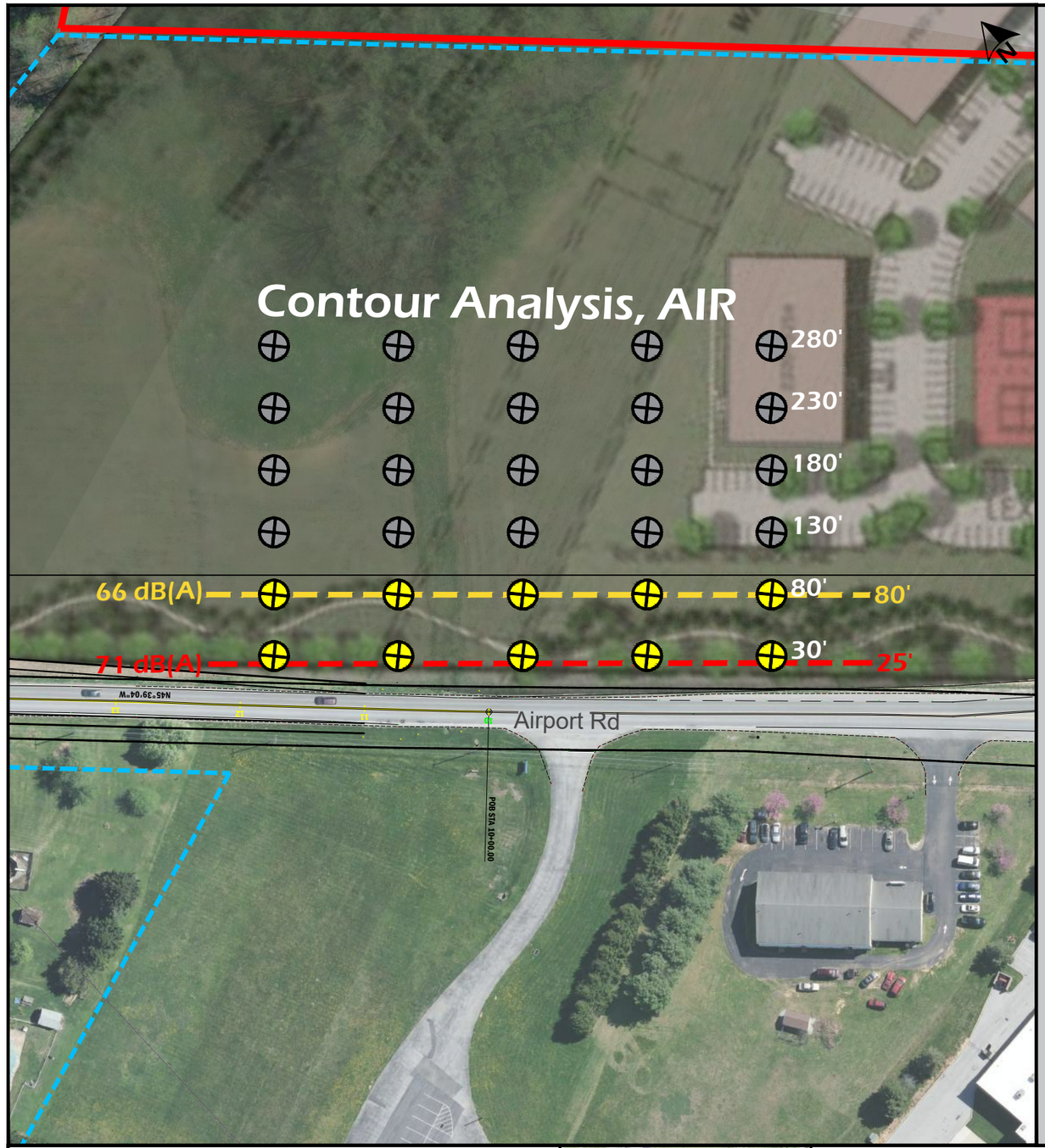
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Scale (Feet)
100 50 0 100

GFT

Figure 2.11

Modified on 03.19.2026



Noise Analysis Locations
- Not Impacted
- Impact, Activity Category B/C
- Impact, Activity Category E

500' Boundary
NSA Boundary



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Chester County, PA

Scale (Feet)
100 50 0 100

GFT

Figure 2.12

Modified on 03.19.2026

Appendix A

ERU Calculations

Appendix A: Equivalent Receptor Unit Worksheet
Coatesville-Downington Bypass - Section AIR

APPLICABLE CRITERIA ASSOCIATED WITH ACTIVITY CATEGORY B			
		R10.15 (Court)	R10.16 (Pool)
Input values are estimations based on the information available at the time of study such as community size, geographical location, and feature properties.		A community tennis court area (2 courts) within the Valley Suburban Center.	A community pool with ~1780 ft^2 of swimming area and a spa with ~290 ft^2 of swimming area within the Valley Suburban Center.
A	Number of units in a building		
B	Number of units exposed to project-related noise		
C	Capacity of Specific Use	10	175
D	Average Use Factor	0.2	0.1
E	Hours Available per Day	12	10
F	Average Time Used by Each Person		
G	Person-Hours per Day	24	105
H	Days Per Year Used	99	100
I	Person-Hours Used Per Year = G x H	2376	10500
J	Equivalent Residential Units (ERU) = Row I Value divided by 13,578	**0.17**	**0.77**

= Input Value
= Calculated Value
= Calculated ERU Value

Appendix A: Equivalent Receptor Unit Worksheet
Coatesville-Downington Bypass - Section AIR

APPLICABLE CRITERIA ASSOCIATED WITH ACTIVITY CATEGORY C		
Input values are estimations based on the information available at the time of study such as community size, geographical location, and feature properties.		**R10.01-R10.14 (Valley Suburban Center Public Shared-use Path)**
A	Average Event Attendance of Outside Use Area	
B	Average Time Used by Each person per Event (hours)	
C	Average Number of Events per Event Day	
D	Capacity of Site	
E	Average Use Factor	
F	Hours Avaliable Per Day	
G	Average Time Used by Each Person Per Day (hours)	**0.33**
H	Person Using Per day	**60**
I	Person-Hours Per Day	**19.8**
J	Days Per Year Used	**275**
K	Person-Hours Used Per Year = I x J	**5445**
L	Equivalent Residential Units (ERU) = Row K Value divided by 13578	**0.40**
Description of Example Specific Activity and Use**		**A public shared-use path sees on average sixty persons per day, taking appriximately 20 minutes to walk the length of the trail. The trail is used March through November.**

= Input Value
= Calculated Value
= Calculated ERU Value

Appendix B

Traffic Volumes and TNM Traffic Inputs

GFT

Appendix B
Traffic Volume and TNM Traffic Inputs

US 30 EB	2019 Existing Conditions					
Class	1	4	2 & 3	5	6 through 13	T
Description	Motorcycle	Bus	Auto (Passenger Car & 4 Tire Single Unit)	Medium Trucks (2-Axle 6 Tire Single Unit Truck)	Heavy Trucks (3-Axle and Greater Trucks)	Total Volume
12:00 AM	0	3	75	9	16	103
01:00 AM	0	2	40	3	12	57
02:00 AM	0	5	36	3	22	66
03:00 AM	0	4	67	6	30	107
04:00 AM	0	9	231	22	41	303
05:00 AM	1	10	736	115	62	924
06:00 AM	1	21	1370	291	82	1765
07:00 AM	2	17	1106	105	60	1290
08:00 AM	2	14	982	112	63	1173
09:00 AM	0	33	885	78	87	1083
10:00 AM	1	24	686	84	63	858
11:00 AM	0	21	643	67	85	816
12:00 PM	3	20	657	81	74	835
01:00 PM	1	30	734	88	53	906
02:00 PM	1	29	771	91	66	958
03:00 PM	1	20	953	82	34	1090
04:00 PM	**0**	**18**	**925**	**66**	**32**	**1041**
05:00 PM	1	5	1067	78	24	1175
06:00 PM	0	5	780	48	27	860
07:00 PM	0	5	491	20	31	547
08:00 PM	0	8	372	33	17	430
09:00 PM	0	2	254	15	22	293
10:00 PM	0	4	192	14	28	238
11:00 PM	1	5	101	5	27	139
TOTAL	15	314	14154	1516	1058	17057

US 30 WB	2019 Existing Conditions					
Class	1	4	2 & 3	5	6 through 13	T
Description	Motorcycle	Bus	Auto (Passenger Car & 4 Tire Single Unit)	Medium Trucks (2-Axle 6 Tire Single Unit Truck)	Heavy Trucks (3-Axle and Greater Trucks)	Total Volume
12:00 AM	0	1	98	7	17	123
01:00 AM	0	1	41	6	14	62
02:00 AM	0	0	38	1	11	50
03:00 AM	0	3	43	6	17	69
04:00 AM	1	2	125	18	47	193
05:00 AM	0	9	253	33	67	362
06:00 AM	1	17	556	62	56	692
07:00 AM	1	15	790	65	66	937
08:00 AM	0	42	744	69	54	909
09:00 AM	1	32	602	70	76	781
10:00 AM	2	32	599	66	106	805
11:00 AM	3	14	640	61	107	825
12:00 PM	1	31	644	77	98	851
01:00 PM	1	27	749	102	103	982
02:00 PM	2	30	994	98	85	1209
03:00 PM	2	22	1372	141	78	1615
04:00 PM	**0**	**23**	**1675**	**236**	**90**	**2024**
05:00 PM	3	7	1541	101	69	1721
06:00 PM	4	6	1075	59	43	1187
07:00 PM	1	4	701	59	27	792
08:00 PM	0	5	517	27	15	564
09:00 PM	0	1	445	22	24	492
10:00 PM	1	0	262	7	16	286
11:00 PM	0	3	189	10	15	217
TOTAL	24	327	14693	1403	1301	17748

Appendix B
Traffic Volume and TNM Traffic Inputs

US 30 EB	2050 No Build Conditions					
Class	1	4	2 & 3	5	6 through 13	T
Description	Motorcycle	Bus	Auto (Passenger Car & 4 Tire Single Unit)	Medium Trucks (2-Axle 6 Tire Single Unit Truck)	Heavy Trucks (3-Axle and Greater Trucks)	Total Volume
12:00 AM	0	4	94	11	20	129
01:00 AM	0	3	50	4	15	72
02:00 AM	0	6	45	4	28	83
03:00 AM	0	5	84	8	38	135
04:00 AM	0	11	289	28	51	379
05:00 AM	1	13	922	144	78	1158
06:00 AM	1	26	1717	365	103	2212
07:00 AM	3	21	1386	132	75	1617
08:00 AM	3	18	1230	140	79	1470
09:00 AM	0	41	1109	98	109	1357
10:00 AM	1	30	860	105	79	1075
11:00 AM	0	26	806	84	106	1022
12:00 PM	4	25	823	101	93	1046
01:00 PM	1	38	920	110	66	1135
02:00 PM	1	36	966	114	83	1200
03:00 PM	1	25	1194	103	43	1366
04:00 PM	**0**	**23**	**1159**	**83**	**40**	**1305**
05:00 PM	1	6	1337	98	30	1472
06:00 PM	0	6	977	60	34	1077
07:00 PM	0	6	615	25	39	685
08:00 PM	0	10	466	41	21	538
09:00 PM	0	3	318	19	28	368
10:00 PM	0	5	241	18	35	299
11:00 PM	1	6	127	6	34	174
TOTAL	18	393	17735	1901	1327	21374

US 30 WB	2050 No Build Conditions					
Class	1	4	2 & 3	5	6 through 13	T
Description	Motorcycle	Bus	Auto (Passenger Car & 4 Tire Single Unit)	Medium Trucks (2-Axle 6 Tire Single Unit Truck)	Heavy Trucks (3-Axle and Greater Trucks)	Total Volume
12:00 AM	0	1	123	9	21	154
01:00 AM	0	1	51	8	18	78
02:00 AM	0	0	48	1	14	63
03:00 AM	0	4	54	8	21	87
04:00 AM	1	3	157	23	59	243
05:00 AM	0	11	317	41	84	453
06:00 AM	1	21	697	78	70	867
07:00 AM	1	19	990	81	83	1174
08:00 AM	0	53	932	86	68	1139
09:00 AM	1	40	754	88	95	978
10:00 AM	3	40	750	83	133	1009
11:00 AM	4	18	802	76	134	1034
12:00 PM	1	39	807	96	123	1066
01:00 PM	1	34	938	128	129	1230
02:00 PM	3	38	1245	123	106	1515
03:00 PM	3	28	1719	177	98	2025
04:00 PM	**0**	**29**	**2099**	**296**	**113**	**2537**
05:00 PM	4	9	1931	127	86	2157
06:00 PM	5	8	1347	74	54	1488
07:00 PM	1	5	878	74	34	992
08:00 PM	0	6	648	34	19	707
09:00 PM	0	1	558	28	30	617
10:00 PM	1	0	328	9	20	358
11:00 PM	0	4	237	13	19	273
TOTAL	30	412	18410	1761	1631	22244

Appendix B
Traffic Volume and TNM Traffic Inputs

US 30 EB	2050 Build Conditions					
Class	1	4	2 & 3	5	6 through 13	T
Description	Motorcycle	Bus	Auto (Passenger Car & 4 Tire Single Unit)	Medium Trucks (2-Axle 6 Tire Single Unit Truck)	Heavy Trucks (3-Axle and Greater Trucks)	Total Volume
12:00 AM	0	5	115	14	25	159
01:00 AM	0	3	61	5	18	87
02:00 AM	0	8	55	5	34	102
03:00 AM	0	6	103	9	46	164
04:00 AM	0	14	354	34	63	465
05:00 AM	2	15	1129	176	95	1417
06:00 AM	2	32	2102	446	126	2708
07:00 AM	3	26	1697	161	92	1979
08:00 AM	3	21	1506	172	97	1799
09:00 AM	0	51	1358	120	133	1662
10:00 AM	2	37	1052	129	97	1317
11:00 AM	0	32	986	103	130	1251
12:00 PM	5	31	1008	124	114	1282
01:00 PM	2	46	1126	135	81	1390
02:00 PM	2	44	1183	140	101	1470
03:00 PM	2	31	1462	126	52	1673
04:00 PM	**0**	**28**	**1419**	**101**	**49**	**1597**
05:00 PM	2	8	1637	120	37	1804
06:00 PM	0	8	1197	74	41	1320
07:00 PM	0	8	753	31	48	840
08:00 PM	0	12	571	51	26	660
09:00 PM	0	3	390	23	34	450
10:00 PM	0	6	295	21	43	365
11:00 PM	2	8	155	8	41	214
TOTAL	27	483	21714	2328	1623	26175

US 30 WB	2050 Build Conditions					
Class	1	4	2 & 3	5	6 through 13	T
Description	Motorcycle	Bus	Auto (Passenger Car & 4 Tire Single Unit)	Medium Trucks (2-Axle 6 Tire Single Unit Truck)	Heavy Trucks (3-Axle and Greater Trucks)	Total Volume
12:00 AM	0	2	150	11	26	189
01:00 AM	0	2	63	9	21	95
02:00 AM	0	0	58	2	17	77
03:00 AM	0	5	66	9	26	106
04:00 AM	2	3	192	28	72	297
05:00 AM	0	14	388	51	103	556
06:00 AM	2	26	853	95	86	1062
07:00 AM	2	23	1212	100	101	1438
08:00 AM	0	64	1141	106	83	1394
09:00 AM	2	49	924	107	117	1199
10:00 AM	3	49	919	101	163	1235
11:00 AM	5	21	982	94	164	1266
12:00 PM	2	48	988	118	150	1306
01:00 PM	2	41	1149	156	158	1506
02:00 PM	3	46	1525	150	130	1854
03:00 PM	3	34	2105	216	120	2478
04:00 PM	**0**	**35**	**2570**	**362**	**138**	**3105**
05:00 PM	5	11	2364	155	106	2641
06:00 PM	6	9	1649	91	66	1821
07:00 PM	2	6	1075	91	41	1215
08:00 PM	0	8	793	41	23	865
09:00 PM	0	2	683	34	37	756
10:00 PM	2	0	402	11	25	440
11:00 PM	0	5	290	15	23	333
TOTAL	41	503	22541	2153	1996	27234

Appendix B
Traffic Volume and TNM Traffic Inputs

AIRPORT ROAD NORTHBOUND 2019 EXISTING - REQUESTED CLASSES						
Class	1	4	2 & 3	5	6 through 13	T
Description	**Motorcycle**	**Bus**	**Auto (Passenger Car & 4 Tire Single Unit)**	**Medium Trucks (2-Axle 6 Tire Single Unit Truck)**	**Heavy Trucks (3-Axle and Greater Trucks)**	**Total Volume**
12:00 AM	1	0	17	1	2	21
01:00 AM	1	0	15	2	1	19
02:00 AM	0	0	11	0	3	14
03:00 AM	1	0	15	2	2	20
04:00 AM	1	0	45	4	7	57
05:00 AM	1	0	152	14	6	173
06:00 AM	4	5	284	19	10	322
07:00 AM	5	9	306	11	21	352
08:00 AM	4	3	261	7	7	282
09:00 AM	2	1	184	13	10	210
10:00 AM	1	9	232	10	15	267
11:00 AM	3	1	249	15	17	285
12:00 PM	3	3	261	18	14	299
01:00 PM	2	8	260	12	8	290
02:00 PM	3	5	271	20	9	308
03:00 PM	2	6	356	11	8	383
04:00 PM	**4**	**0**	**338**	**16**	**13**	**371**
05:00 PM	0	1	315	17	7	340
06:00 PM	2	0	230	17	5	254
07:00 PM	1	1	135	12	2	151
08:00 PM	1	0	100	2	5	108
09:00 PM	1	0	86	6	4	97
10:00 PM	3	0	69	1	6	79
11:00 PM	1	0	29	0	1	31
TOTAL	47	52	4221	230	183	4733

AIRPORT ROAD NORTHBOUND 2050 NO BUILD - REQUESTED CLASSES						
Class	1	4	2 & 3	5	6 through 13	T
Description	**Motorcycle**	**Bus**	**Auto (Passenger Car & 4 Tire Single Unit)**	**Medium Trucks (2-Axle 6 Tire Single Unit Truck)**	**Heavy Trucks (3-Axle and Greater Trucks)**	**Total Volume**
12:00 AM	2	0	32	2	4	40
01:00 AM	2	0	28	4	2	36
02:00 AM	0	0	21	0	6	27
03:00 AM	2	0	28	4	4	38
04:00 AM	2	0	84	8	13	107
05:00 AM	2	0	285	26	11	324
06:00 AM	8	9	533	36	19	605
07:00 AM	9	17	574	21	39	660
08:00 AM	8	6	490	13	13	530
09:00 AM	4	2	345	24	19	394
10:00 AM	2	17	435	19	28	501
11:00 AM	6	2	467	28	32	535
12:00 PM	6	6	490	34	26	562
01:00 PM	4	15	488	23	15	545
02:00 PM	6	9	508	38	17	578
03:00 PM	4	11	668	21	15	719
04:00 PM	**8**	**0**	**634**	**30**	**24**	**696**
05:00 PM	0	2	591	32	13	638
06:00 PM	4	0	431	32	9	476
07:00 PM	2	2	253	23	4	284
08:00 PM	2	0	188	4	9	203
09:00 PM	2	0	161	11	8	182
10:00 PM	6	0	129	2	11	148
11:00 PM	2	0	54	0	2	58
TOTAL	93	98	7917	435	343	8886

AIRPORT ROAD NORTHBOUND 2050 BUILD - REQUESTED CLASSES						
Class	1	4	2 & 3	5	6 through 13	T
Description	**Motorcycle**	**Bus**	**Auto (Passenger Car & 4 Tire Single Unit)**	**Medium Trucks (2-Axle 6 Tire Single Unit Truck)**	**Heavy Trucks (3-Axle and Greater Trucks)**	**Total Volume**
12:00 AM	2	0	36	2	4	44
01:00 AM	2	0	32	4	2	40
02:00 AM	0	0	24	0	6	30
03:00 AM	2	0	32	4	4	42
04:00 AM	2	0	96	9	15	122
05:00 AM	2	0	325	30	13	370
06:00 AM	9	11	607	41	21	689
07:00 AM	11	19	654	24	45	753
08:00 AM	9	6	558	15	15	603
09:00 AM	4	2	393	28	21	448
10:00 AM	2	19	496	21	32	570
11:00 AM	6	2	532	32	36	608
12:00 PM	6	6	558	38	30	638
01:00 PM	4	17	556	26	17	620
02:00 PM	6	11	579	43	19	658
03:00 PM	4	13	761	24	17	819
04:00 PM	**9**	**0**	**722**	**34**	**28**	**793**
05:00 PM	0	2	673	36	15	726
06:00 PM	4	0	492	36	11	543
07:00 PM	2	2	289	26	4	323
08:00 PM	2	0	214	4	11	231
09:00 PM	2	0	184	13	9	208
10:00 PM	6	0	147	2	13	168
11:00 PM	2	0	62	0	2	66
TOTAL	98	110	9022	492	390	10112

Appendix B
Traffic Volume and TNM Traffic Inputs

AIRPORT ROAD SOUTHBOUND 2019 EXISTING - REQUESTED CLASSES						
Class	1	4	2 & 3	5	6 through 13	T
Description	**Motorcycle**	**Bus**	**Auto (Passenger Car & 4 Tire Single Unit)**	**Medium Trucks (2-Axle 6 Tire Single Unit Truck)**	**Heavy Trucks (3-Axle and Greater Trucks)**	**Total Volume**
12:00 AM	0	0	21	0	1	22
01:00 AM	0	0	15	0	0	15
02:00 AM	0	0	18	3	2	23
03:00 AM	0	0	14	0	4	18
04:00 AM	0	0	47	1	3	51
05:00 AM	0	0	87	4	4	95
06:00 AM	0	6	135	15	14	170
07:00 AM	0	4	157	11	8	180
08:00 AM	1	8	183	12	11	215
09:00 AM	2	4	195	9	10	220
10:00 AM	3	2	179	8	11	203
11:00 AM	0	0	197	13	15	225
12:00 PM	1	4	267	10	15	297
01:00 PM	2	3	248	11	11	275
02:00 PM	1	4	289	15	17	326
03:00 PM	2	8	398	19	11	438
04:00 PM	**3**	**2**	**390**	**20**	**7**	**422**
05:00 PM	1	1	374	5	12	393
06:00 PM	0	1	288	9	7	305
07:00 PM	1	0	203	7	5	216
08:00 PM	0	0	179	5	5	189
09:00 PM	0	0	140	4	2	146
10:00 PM	0	0	71	1	1	73
11:00 PM	0	0	34	0	2	36
TOTAL	17	47	4129	182	178	4553

AIRPORT ROAD SOUTHBOUND 2050 NO BUILD - REQUESTED CLASSES						
Class	1	4	2 & 3	5	6 through 13	T
Description	**Motorcycle**	**Bus**	**Auto (Passenger Car & 4 Tire Single Unit)**	**Medium Trucks (2-Axle 6 Tire Single Unit Truck)**	**Heavy Trucks (3-Axle and Greater Trucks)**	**Total Volume**
12:00 AM	0	0	40	0	2	42
01:00 AM	0	0	29	0	0	29
02:00 AM	0	0	35	6	4	45
03:00 AM	0	0	27	0	8	35
04:00 AM	0	0	91	2	6	99
05:00 AM	0	0	168	8	8	184
06:00 AM	0	12	260	29	27	328
07:00 AM	0	8	303	21	15	347
08:00 AM	2	15	353	23	21	414
09:00 AM	4	8	376	17	19	424
10:00 AM	6	4	345	15	21	391
11:00 AM	0	0	380	25	29	434
12:00 PM	2	8	515	19	29	573
01:00 PM	4	6	478	21	21	530
02:00 PM	2	8	557	29	33	629
03:00 PM	4	15	767	37	21	844
04:00 PM	**6**	**4**	**752**	**39**	**13**	**814**
05:00 PM	2	2	721	10	23	758
06:00 PM	0	2	555	17	13	587
07:00 PM	2	0	391	13	10	416
08:00 PM	0	0	345	10	10	365
09:00 PM	0	0	270	8	4	282
10:00 PM	0	0	137	2	2	141
11:00 PM	0	0	66	0	4	70
TOTAL	34	92	7961	351	343	8781

AIRPORT ROAD SOUTHBOUND 2050 BUILD - REQUESTED CLASSES						
Class	1	4	2 & 3	5	6 through 13	T
Description	**Motorcycle**	**Bus**	**Auto (Passenger Car & 4 Tire Single Unit)**	**Medium Trucks (2-Axle 6 Tire Single Unit Truck)**	**Heavy Trucks (3-Axle and Greater Trucks)**	**Total Volume**
12:00 AM	0	0	50	0	2	52
01:00 AM	0	0	36	0	0	36
02:00 AM	0	0	43	7	5	55
03:00 AM	0	0	33	0	10	43
04:00 AM	0	0	112	2	7	121
05:00 AM	0	0	207	10	10	227
06:00 AM	0	14	321	36	33	404
07:00 AM	0	10	373	26	19	428
08:00 AM	2	19	435	29	26	511
09:00 AM	5	10	463	21	24	523
10:00 AM	7	5	425	19	26	482
11:00 AM	0	0	468	31	36	535
12:00 PM	2	10	634	24	36	706
01:00 PM	5	7	589	26	26	653
02:00 PM	2	10	686	36	40	774
03:00 PM	5	19	945	45	26	1040
04:00 PM	**7**	**5**	**926**	**48**	**17**	**1003**
05:00 PM	2	2	888	12	29	933
06:00 PM	0	2	684	21	17	724
07:00 PM	2	0	482	17	12	513
08:00 PM	0	0	425	12	12	449
09:00 PM	0	0	333	10	5	348
10:00 PM	0	0	169	2	2	173
11:00 PM	0	0	81	0	5	86
TOTAL	39	113	9808	434	425	10819

Appendix B
Traffic Volume and TNM Traffic Inputs

2050 BUILD ESTIMATED HOURLY TRAFFIC

AIRPORT ROAD EB ON-RAMP TO US 30		AIRPORT ROAD WB OFF-RAMP FROM US 30		AIRPORT ROAD EB-OFF RAMP FROM US 30		AIRPORT ROAD WB ON-RAMP TO US 30	
Hour	**Volume**	**Hour**	**Volume**	**Hour**	**Volume**	**Hour**	**Volume**
12:00 AM	48	12:00 AM	49	12:00 AM	18	12:00 AM	16
01:00 AM	34	01:00 AM	38	01:00 AM	14	01:00 AM	11
02:00 AM	42	02:00 AM	29	02:00 AM	11	02:00 AM	14
03:00 AM	73	03:00 AM	53	03:00 AM	20	03:00 AM	25
04:00 AM	176	04:00 AM	124	04:00 AM	46	04:00 AM	59
05:00 AM	434	05:00 AM	162	05:00 AM	61	05:00 AM	146
06:00 AM	942	06:00 AM	330	06:00 AM	123	06:00 AM	317
07:00 AM	940	07:00 AM	506	07:00 AM	189	07:00 AM	316
08:00 AM	646	08:00 AM	551	08:00 AM	206	08:00 AM	217
09:00 AM	663	09:00 AM	414	09:00 AM	155	09:00 AM	223
10:00 AM	468	10:00 AM	407	10:00 AM	152	10:00 AM	157
11:00 AM	497	11:00 AM	381	11:00 AM	143	11:00 AM	167
12:00 PM	495	12:00 PM	445	12:00 PM	166	12:00 PM	167
01:00 PM	558	01:00 PM	533	01:00 PM	199	01:00 PM	188
02:00 PM	652	02:00 PM	590	02:00 PM	220	02:00 PM	220
03:00 PM	772	03:00 PM	986	03:00 PM	368	03:00 PM	260
04:00 PM	**843**	**04:00 PM**	**1139**	**04:00 PM**	**426**	**04:00 PM**	**284**
05:00 PM	827	05:00 PM	1066	05:00 PM	398	05:00 PM	278
06:00 PM	566	06:00 PM	617	06:00 PM	231	06:00 PM	191
07:00 PM	285	07:00 PM	489	07:00 PM	183	07:00 PM	96
08:00 PM	266	08:00 PM	438	08:00 PM	164	08:00 PM	90
09:00 PM	258	09:00 PM	281	09:00 PM	105	09:00 PM	87
10:00 PM	151	10:00 PM	146	10:00 PM	55	10:00 PM	51
11:00 PM	61	11:00 PM	124	11:00 PM	46	11:00 PM	20
2050 ADT	10700	**2050 ADT**	9900	**2050 ADT**	3700	**2050 ADT**	3600

Appendix C

Noise Meter Certificates of Calibration

Scantek, Inc.
CALIBRATION LABORATORY

ISO 17025: 2017, ANSI/NCSL Z540:1994 Part 1
ACCREDITED by NVLAP (an ILAC MRA signatory)

NVLAP®
CALIBRATION
NVLAP Lab Code: 200625-0

Calibration Certificate No.47717

Instrument: **Sound Level Meter**
Model: **831**
Manufacturer: **Larson Davis**
Serial number: **0004228**
Tested with: **Microphone 377C20 s/n 163246**
Preamplifier PRM831 s/n 046381
Type (class): **1**
Customer: **Environmental Acoustics**
Tel/Fax: **717-886-5291 / 717-763-8150**

Date Calibrated: **3/16/2022** *Cal Due:* **3/16/2023**

Status:	Received	Sent
In tolerance:	X	X
Out of tolerance:		
See comments:		

Contains non-accredited tests: __Yes X No
Calibration service: __ Basic X Standard
Address: **207 Senate Avenue, Camp Hill, PA 17011**

Tested in accordance with the following procedures and standards:
Calibration of Sound Level Meters, Scantek Inc., Rev. 6/26/2015
SLM & Dosimeters – Acoustical Tests, Scantek Inc., Rev. 7/6/2011

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. Lab / Accreditation	Cal. Due
483B-Norsonic	SME Cal Unit	31052	Nov 8, 2021	Scantek, Inc./ NVLAP	Nov 8, 2022
DS-360-SRS	Function Generator	88077	Dec 3, 2020	ACR Env./ A2LA	Dec 3, 2022
34401A-Agilent Technologies	Digital Voltmeter	MY47011118	Mar 10, 2022	ACR Env. / A2LA	Mar 10, 2023
PTU300-Vaisala	EnvironmentalMonitor	P5011262	Sept 10, 2021	ACR Env./ A2LA	Sept 10, 2022
PC Program 1019 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
1251-Norsonic	Calibrator	30878	Oct 27, 2021	Scantek, Inc./ NVLAP	Oct 27, 2022

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK).

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
21.5	100.03	35.5

Calibrated by:	Bailey Partoza	**Authorized signatory:**	William Gallagher
Signature		Signature	
Date	3/16/22	Date	3/22/2022

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory.
This Calibration Certificate or Test Reports shall not be used to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the federal government.

Scantek, Inc.
CALIBRATION LABORATORY
ISO 17025: 2017, ANSI/NCSL Z540:1994 Part 1
ACCREDITED by NVLAP (an ILAC MRA signatory)

NVLAP®
CALIBRATION
NVLAP Lab Code: 200625-0

Calibration Certificate No.46035

Instrument: **Sound Level Meter**
Model: **831**
Manufacturer: **Larson Davis**
Serial number: **0004229**
Tested with: **Microphone 377C20 s/n 319404**
Preamplifier PRM831 s/n 046380
Type (class): **1**
Customer: **Environmental Acoustics**
Tel/Fax: **717-886-5291 / 717-763-8150**

Date Calibrated: **4/16/2021** *Cal Due:* **4/16/2022**

Status:	Received	Sent
In tolerance:	X	X
Out of tolerance:		
See comments:		

Contains non-accredited tests: __Yes X No
Calibration service: __ Basic X Standard
Address: **207 Senate Avenue,**
Camp Hill, PA 17011

Tested in accordance with the following procedures and standards:
Calibration of Sound Level Meters, Scantek Inc., Rev. 6/26/2015
SLM & Dosimeters – Acoustical Tests, Scantek Inc., Rev. 7/6/2011

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. Lab / Accreditation	Cal. Due
483B-Norsonic	SME Cal Unit	31061	Jul 31, 2020	Scantek, Inc./ NVLAP	Jul 31, 2021
DS-360-SRS	Function Generator	61646	Dec 3, 2020	ACR Env./ A2LA	Dec 3, 2022
34401A-Agilent Technologies	Digital Voltmeter	MY41022043	Dec 04, 2020	ACR Env./ A2LA	Dec 04, 2021
HM30-Thommen	Meteo Station	1040170/39633	Dec 7, 2020	ACR Env./ A2LA	Dec 7, 2021
PC Program 1019 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
1251-Norsonic	Calibrator	30878	Oct 26, 2020	Scantek, Inc./ NVLAP	Oct 26, 2021

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK).

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
22.8	99.28	47.6

Calibrated by:	Ronnie Buchanan	Authorized signatory:	William P. Gallagher
Signature	Ronnie Buchanan	Signature	William P. Gallagher
Date	4/16/2021	Date	4/19/2021

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Scantek, Inc.
CALIBRATION LABORATORY

ISO 17025: 2017, ANSI/NCSL Z540:1994 Part 1
ACCREDITED by NVLAP (an ILAC MRA signatory)

NVLAP®
CALIBRATION
NVLAP Lab Code: 200625-0

Calibration Certificate No.47723

Instrument:	**Acoustical Calibrator**
Model:	**CAL200**
Manufacturer:	**Larson Davis**
Serial number:	**16398**
Class (IEC 60942):	**1**
Barometer type:	
Barometer s/n:	

Date Calibrated: **3/15/2022** *Cal Due:* **3/15/2023**

Status:	Received	Sent
In tolerance:	X	X
Out of tolerance:		
See comments:		

Contains non-accredited tests: __Yes _X_ No

Customer:	**Environmental Acoustics**
Tel/Fax:	**717-886-5291 / 717-763-8150**
Address:	**207 Senate Avenue, Camp Hill, PA 17011**

Tested in accordance with the following procedures and standards:
Calibration of Acoustical Calibrators, Scantek Inc., Rev. 10/1/2010

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. Lab / Accreditation	Cal. Due
483B-Norsonic	SME Cal Unit	31052	Nov 8, 2021	Scantek, Inc./ NVLAP	Nov 8, 2022
DS-360-SRS	Function Generator	88077	Dec 3, 2020	ACR Env./ A2LA	Dec 3, 2022
34401A-Agilent Technologies	Digital Voltmeter	MY47011118	Mar 10, 2022	ACR Env. / A2LA	Mar 10, 2023
PTU300-Vaisala	EnvironmentalMonitor	P5011262	Sept 10, 2021	ACR Env./ A2LA	Sept 10, 2022
140-Norsonic	Real Time Analyzer	1406423	Nov 8, 2021	Scantek / NVLAP	Nov 8, 2022
PC Program 1018 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
4134-Brüel&Kjær	Microphone	173368	Nov 8, 2021	Scantek, Inc. / NVLAP	Nov 8, 2022
1203-Norsonic	Preamplifier	14059	Mar 3, 2022	Scantek, Inc./ NVLAP	Mar 3, 2023

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK)

Calibrated by:	Bailey Partoza	**Authorized signatory:**	William Gallagher
Signature		Signature	
Date	3/15/22	Date	3/22/2022

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory.
This Calibration Certificate or Test Reports shall not be used to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the federal government.

Appendix D

Short-Term Measurement Field Data Sheets

Highway Noise Monitoring Sheet

Date: April 25, 2022 7:15 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 1
Site ID(s): M1.01

Temperature (F): 46
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: North

Measurement Data

ID: **M1.01** Start: 08:15 Stop: 08:35 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 **L_{eq}(dB):** 68 L_{min}(dB): 51 L_{max}(dB): 83.4

GPS (°N,°W): 39.98485205000001, -75.90910481666666

Stor #: 145 Calib(dB): 93.83 / 93.83 (Pre- / Post-) Meas. Ht(ft): 5

Location: 220 Old Mill Rd Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

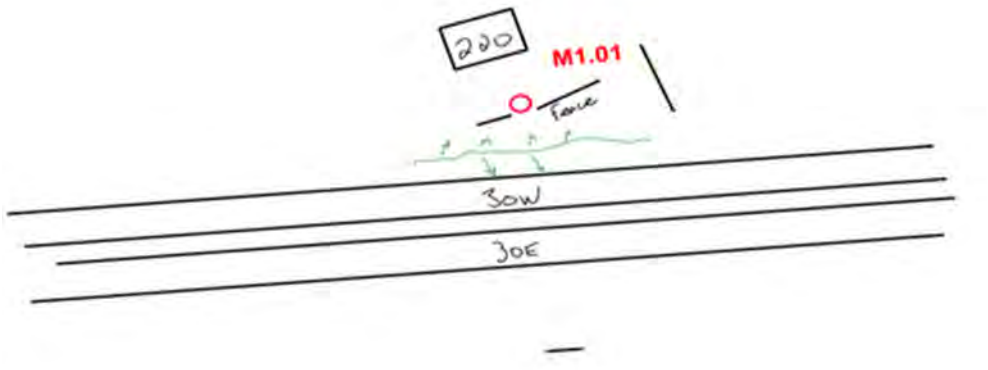
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		**Roadway #2:**		**Roadway #3:**		**Roadway #4:**	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	217	149						
Med Tk:	11	12						
Hvy Tk:	26	16						
Bus:	0	3						
MCycle:	0	0						

Notes:

Site Sketch:



Personnel:

M1.01 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 8:04 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 2
Site ID(s): M1.02

Temperature (F): 48
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: North

Measurement Data

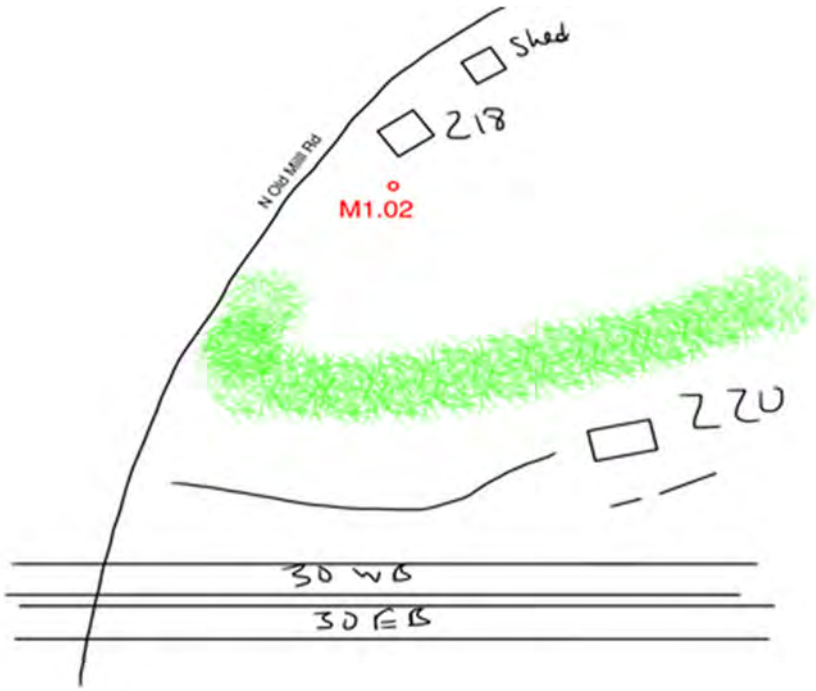
ID: **M1.02** Start: 09:04 Stop: 09:24 ☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4229 L_{eq}(dB): 57.1 L_{min}(dB): 46 L_{max}(dB): 66.4
GPS (°N,°W): 39.985238272934744, -75.90979068706659
Stor #: 161 Calib(dB): 93.86 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5
Location: 218 Old Mill Rd Coatesville, PA 19320
Relocated ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	138	145						
Med Tk:	9	17						
Hvy Tk:	25	32						
Bus:		1						
MCycle:								

Notes:

Site Sketch:



Personnel: [redacted]

M1.02 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 8:47 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 3
Site ID(s): M1.03

Gannett Fleming

Temperature (F): 48
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 4
Wind direction: Northeast

Measurement Data

ID: **M1.03** Start: 09:46 Stop: 10:06 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): 58.1 L_{min}(dB): 50 L_{max}(dB): 66

GPS (°N,°W): 39.9858897, -75.9054922

Stor #: 146 Calib(dB): 93.83 / 93.83 (Pre- / Post-) Meas. Ht(ft): 5

Location: 146 Old Mill Rd Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

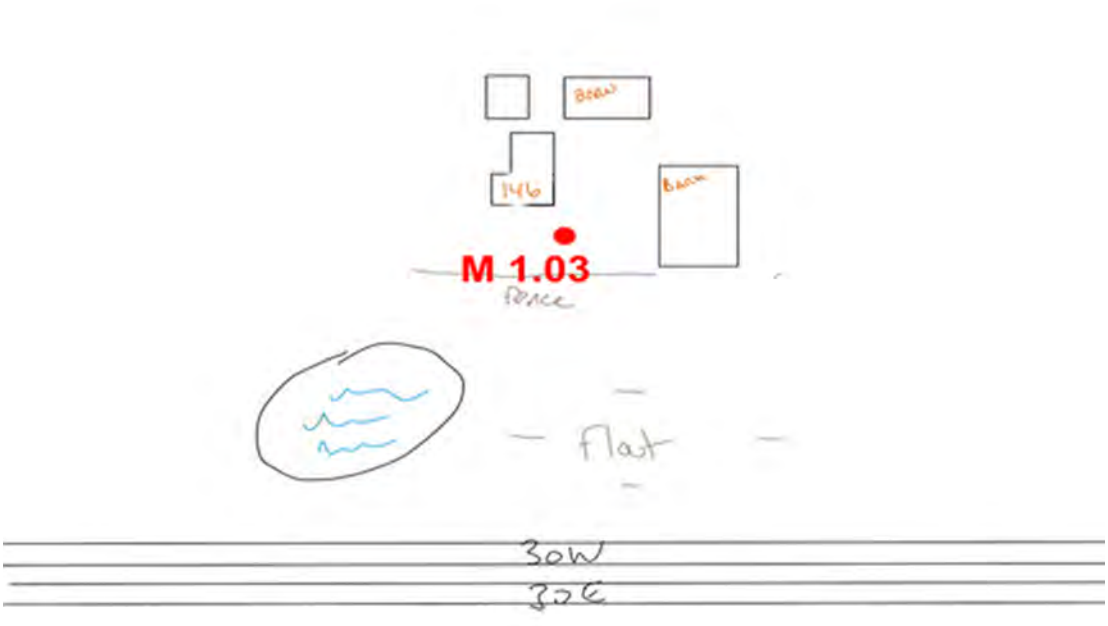
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	173	165						
Med Tk:	3	11						
Hvy Tk:	19	34						
Bus:	0	0						
MCycle:	0	0						

Notes: Some birds during measurement

Site Sketch:



Personnel:

M1.03 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 4:49 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 13
Site ID(s): M1.04

Temperature (F): 61
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: North

Measurement Data

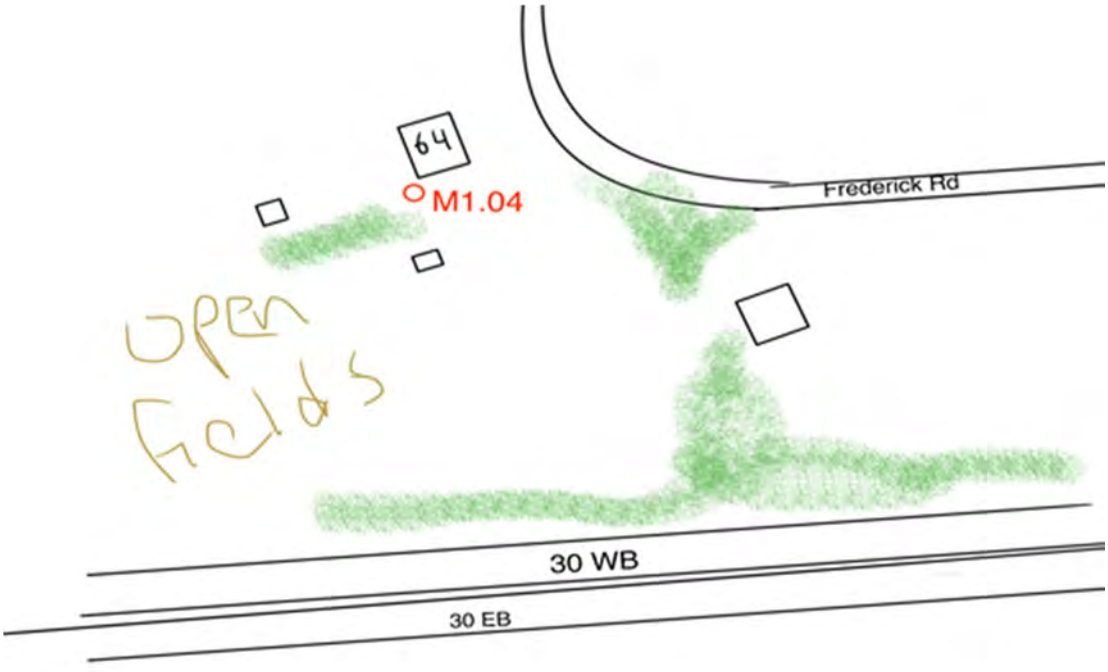
ID: **M1.04** Start: 17:49 Stop: 18:09
☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4229 L_{eq}(dB): **60.9** L_{min}(dB): 49.8 L_{max}(dB): 72.8
GPS (°N,°W): 39.98635267537323, -75.89772464039577
Stor #: 173 Calib(dB): 93.86 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5
Location: 64 Frederick Rd Coatesville, PA
Relocated: ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed: ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	192	233						
Med Tk:	6	7						
Hvy Tk:	10	10						
Bus:	0	0						
MCycle:	0	1						

Notes:

Site Sketch:



Personnel: [redacted]

M1.04 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 4:49 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 13
Site ID(s): M1.05

Gannett Fleming

Temperature (F): 59
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 5
Wind direction: Southeast

Measurement Data

ID: **M1.05** Start: 17:49 Stop: 18:09
☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4228 L_{eq}(dB): **64.7** L_{min}(dB): 51.4 L_{max}(dB): 78.6
Stor #: 156 Calib(dB): 93.83 / 93.83 (Pre- / Post-) Meas. Ht(ft): 5

GPS (°N,°W): 39.98584855, -75.89764748333334
Location: 52 Frederick Rd. Coatesville, PA 19320
Type(use, NAC): Residential (B)

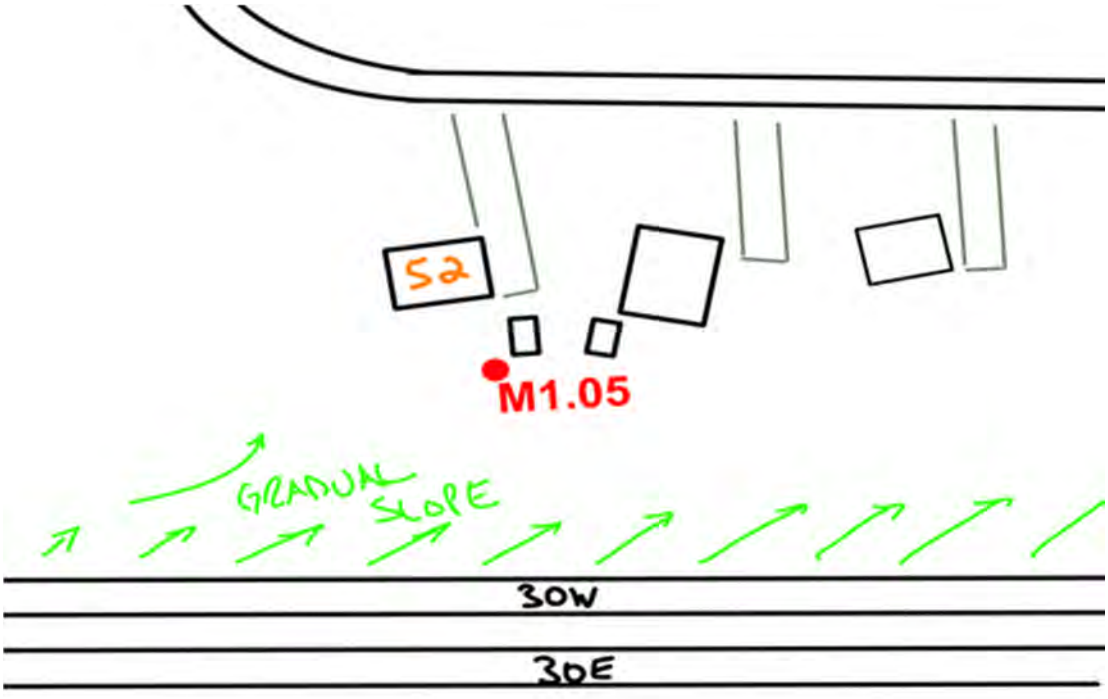
Relocated: ☐ Yes ☑ No
Site Photographed: ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

Roadway #1: 30	EB	WB	**Roadway #2:**			**Roadway #3:**			**Roadway #4:**		
Width(ft):			Width(ft):			Width(ft):			Width(ft):		
Direction:			Direction:			Direction:			Direction:		
Speed Limit:	55	55	Speed Limit:			Speed Limit:			Speed Limit:		
Observed Spd:			Observed Spd:			Observed Spd:			Observed Spd:		
Auto:	192	233	Auto:			Auto:			Auto:		
Med Tk:	6	7	Med Tk:			Med Tk:			Med Tk:		
Hvy Tk:	10	10	Hvy Tk:			Hvy Tk:			Hvy Tk:		
Bus:	0	0	Bus:			Bus:			Bus:		
MCycle:	0	1	MCycle:			MCycle:			MCycle:		

Notes:

Site Sketch:



Personnel:

M1.05 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 6:12 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 14
Site ID(s): M1.06

Temperature (F): 52
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: East

Measurement Data

ID: **M1.06** Start: 07:13 Stop: 07:33 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): 63.7 L_{min}(dB): 52.7 L_{max}(dB): 76.8

GPS (°N,°W): 39.98617781666667, -75.89643901666666

Stor #: 157 Calib(dB): 93.96 / 93.90 (Pre- / Post-) Meas. Ht(ft): 5

Location: 34 Frederick Rd. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

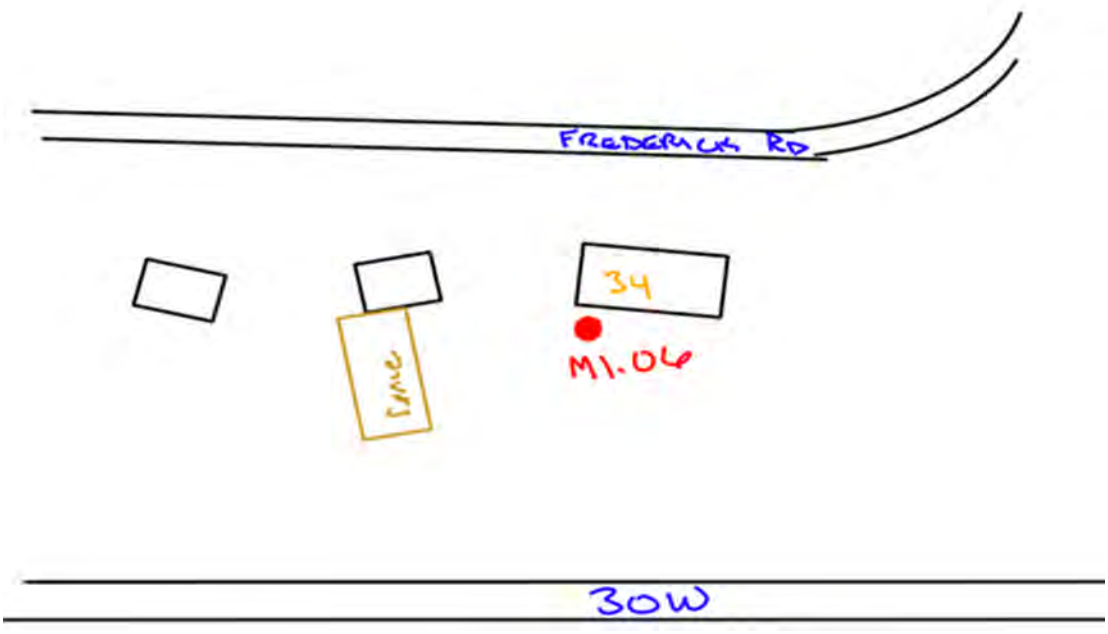
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

Roadway #1: 30	EB	WB	**Roadway #2:**			**Roadway #3:**			**Roadway #4:**		
Width(ft):			Width(ft):			Width(ft):			Width(ft):		
Direction:			Direction:			Direction:			Direction:		
Speed Limit:	55	55	Speed Limit:			Speed Limit:			Speed Limit:		
Observed Spd:			Observed Spd:			Observed Spd:			Observed Spd:		
Auto:	294	169	Auto:			Auto:			Auto:		
Med Tk:	26	10	Med Tk:			Med Tk:			Med Tk:		
Hvy Tk:	22	21	Hvy Tk:			Hvy Tk:			Hvy Tk:		
Bus:	0	0	Bus:			Bus:			Bus:		
MCycle:	0	0	MCycle:			MCycle:			MCycle:		

Notes:

Site Sketch:



Personnel:

M1.06 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 6:15 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 14
Site ID(s): M1.07

Temperature (F): 52
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: Northeast

Measurement Data

ID: **M1.07** Start: 07:12 Stop: 07:32 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): 59.1 L_{min}(dB): 50.8 L_{max}(dB): 71.1

GPS (°N,°W): 39.9864879, -75.89659409999999

Stor #: 174 Calib(dB): 93.98 / 94.03 (Pre- / Post-) Meas. Ht(ft): 5

Location: 31 Frederick Rd. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1: 30 EB		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):								
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	294	169						
Med Tk:	26	10						
Hvy Tk:	22	21						
Bus:	0	0						
MCycle:	0	0						

Notes:

Site Sketch:



Personnel: [redacted]

M1.07 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 4:14 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 12
Site ID(s): M1.08

Temperature (F): 61
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: North

Measurement Data

ID: **M1.08** Start: 17:15 Stop: 17:35 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): **62.9** L_{min}(dB): 52.1 L_{max}(dB): 70.3

GPS (°N,°W): 39.986552315116406, -75.8950636269055

Stor #: 172 Calib(dB): 93.86 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5

Location: 14 Frederick Rd. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

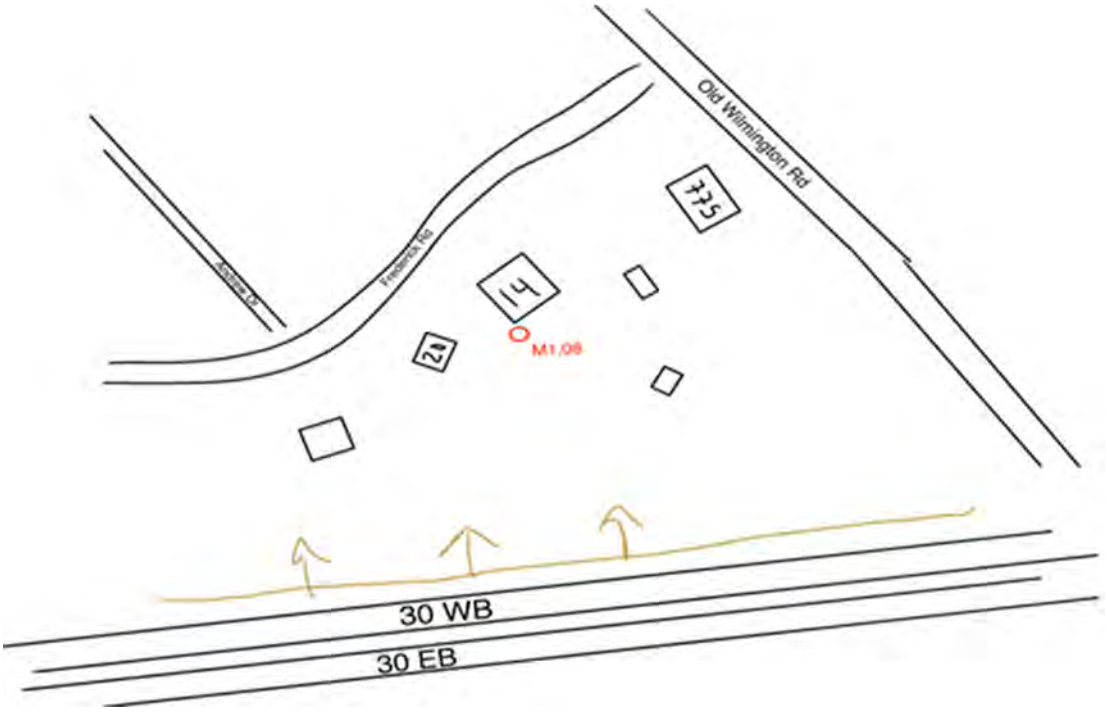
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	210	307						
Med Tk:	4	21						
Hvy Tk:	11	11						
Bus:	2	0						
MCycle:	0	2						

Notes: Side address updates from 20 to 14

Site Sketch:



Personnel: [redacted]

M1.08 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 6:48 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 15
Site ID(s): M1.09

Temperature (F): 52
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: North

Measurement Data

ID: **M1.09** Start: 07:47 Stop: 08:07

☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): **68.8** L_{min}(dB): 51.6 L_{max}(dB): 82.1

GPS (°N,°W): 39.98596333333333, -75.89359800000001

Stor #: 175 Calib(dB): 93.98 / 94.03 (Pre- / Post-) Meas. Ht(ft): 5

Location: 785 Wilmington Rd Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

Roadway #1: 30	EB	WB
Width(ft):		
Direction:	EB	WB
Speed Limit:	55	55
Observed Spd:		
Auto:	224	187
Med Tk:	15	17
Hvy Tk:	27	25
Bus:	0	1
MCycle:	0	0

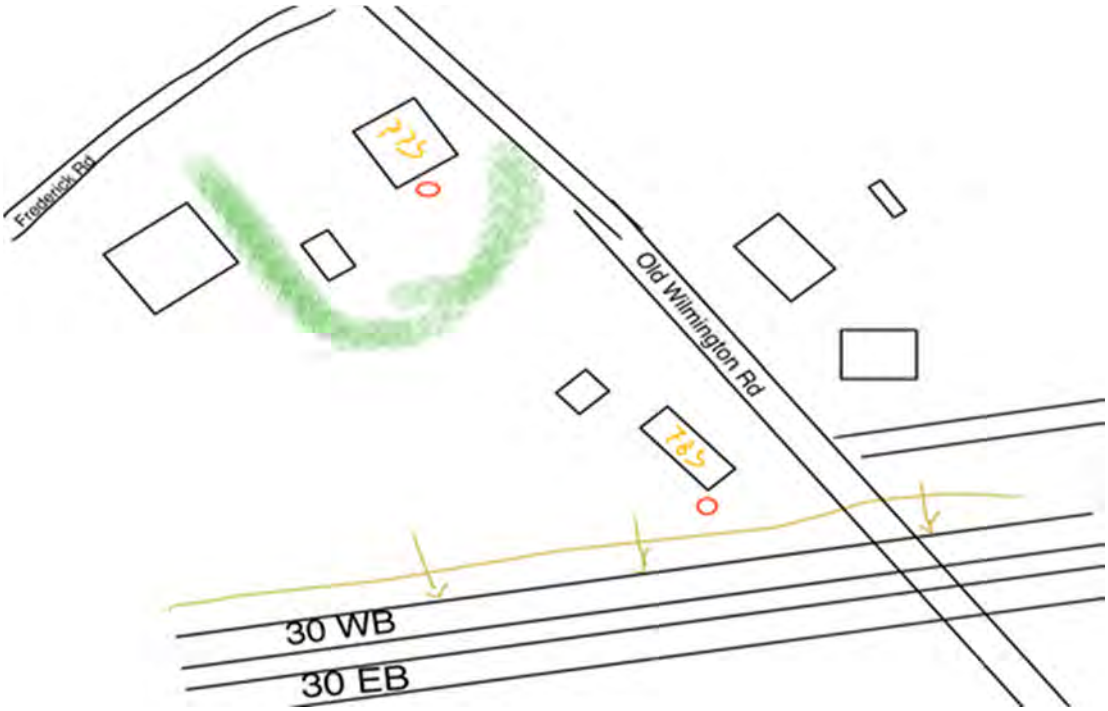
Roadway #2: Old Wilmington Rd	NB	SB
Width(ft):		
Direction:	NB	SB
Speed Limit:		
Observed Spd:		
Auto:	17	35
Med Tk:	2	1
Hvy Tk:	0	0
Bus:	0	0
MCycle:	0	0

Roadway #3:		
Width(ft):		
Direction:		
Speed Limit:		
Observed Spd:		
Auto:		
Med Tk:		
Hvy Tk:		
Bus:		
MCycle:		

Roadway #4:		
Width(ft):		
Direction:		
Speed Limit:		
Observed Spd:		
Auto:		
Med Tk:		
Hvy Tk:		
Bus:		
MCycle:		

Notes: Expansion joint banging

Site Sketch:



Personnel: [redacted]

M1.09 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 6:52 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 15
Site ID(s): M1.10

Temperature (F): 52
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: Northeast

Measurement Data

ID: **M1.10** Start: 07:47 Stop: 08:07 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 **L_{eq}(dB):** 60 L_{min}(dB): 48.4 L_{max}(dB): 70.9

GPS (°N,°W): 39.98683306666667, -75.89432148333333

Stor #: 158 Calib(dB): 93.96 / 93.90 (Pre- / Post-) Meas. Ht(ft): 5

Location: 775 Wilmington Rd Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

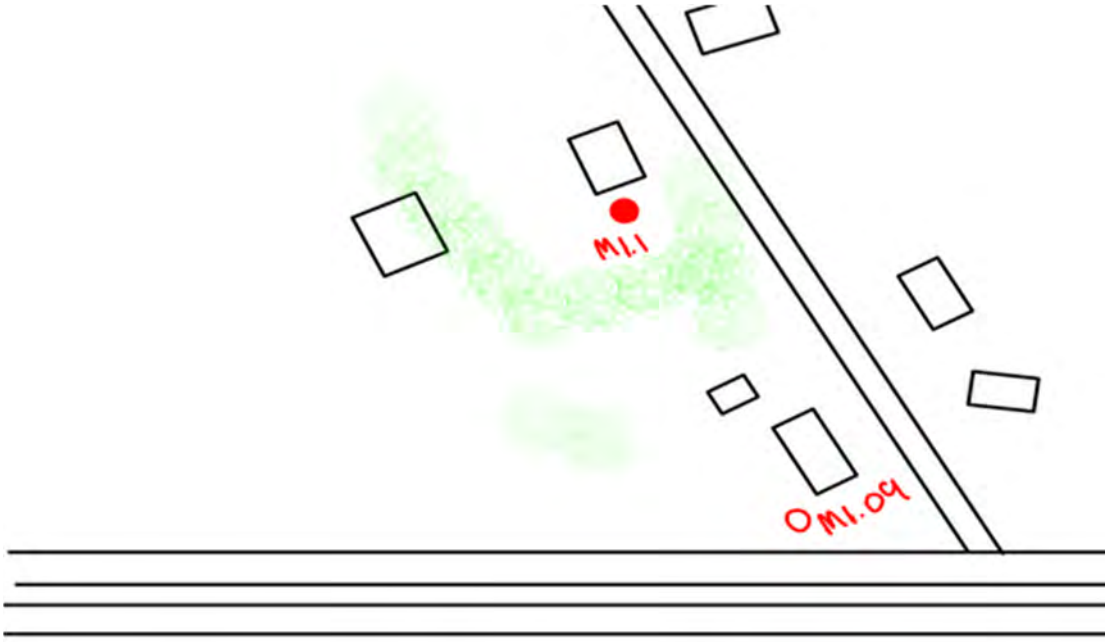
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

Roadway #1: 30			**Roadway #2:** Old Wilmington			**Roadway #3:**			**Roadway #4:**		
Width(ft):			Width(ft):			Width(ft):			Width(ft):		
Direction:	EB	WB	Direction:	NB	SB	Direction:			Direction:		
Speed Limit:	55	55	Speed Limit:	40	40	Speed Limit:			Speed Limit:		
Observed Spd:			Observed Spd:	45	45	Observed Spd:			Observed Spd:		
Auto:	224	187	Auto:	17	35	Auto:			Auto:		
Med Tk:	15	17	Med Tk:	2	0	Med Tk:			Med Tk:		
Hvy Tk:	27	25	Hvy Tk:	0	0	Hvy Tk:			Hvy Tk:		
Bus:	0	1	Bus:	0	0	Bus:			Bus:		
MCycle:	0	0	MCycle:	0	0	MCycle:			MCycle:		

Notes: Expansion joint on RT 30 bridge over Old Wilmington, occasional spikes possible.

Site Sketch:



Personnel:

M1.10 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 8:46 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 3
Site ID(s): M2.01

Gannett Fleming

Temperature (F): 48
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 3
Wind direction: North

Measurement Data

ID: **M2.01** Start: 09:46 Stop: 10:06 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): 60.2 L_{min}(dB): 49.8 L_{max}(dB): 68.5

GPS (°N,°W): 39.98382383333333, -75.90488236666667

Stor #: 162 Calib(dB): 93.86 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5

Location: 35 S. Cowan Rd Parkeburg, PA 19365

Relocated ☐ Yes ☑ No

Type(use, NAC): Park (C)

Site Photographed ☑ Yes ☐ No

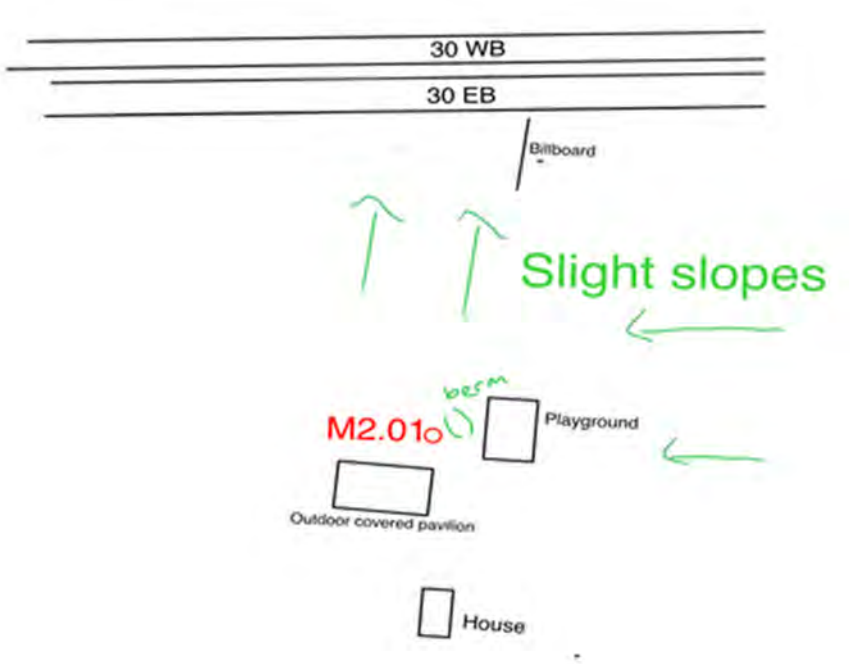
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	165	173						
Med Tk:	11	3						
Hvy Tk:	34	19						
Bus:	0	0						
MCycle:	0	0						

Notes:

Site Sketch:



Personnel: [redacted]

M2.01 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 9:34 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 4
Site ID(s): M2.02

Gannett Fleming

Temperature (F): 52
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 3
Wind direction: East

Measurement Data

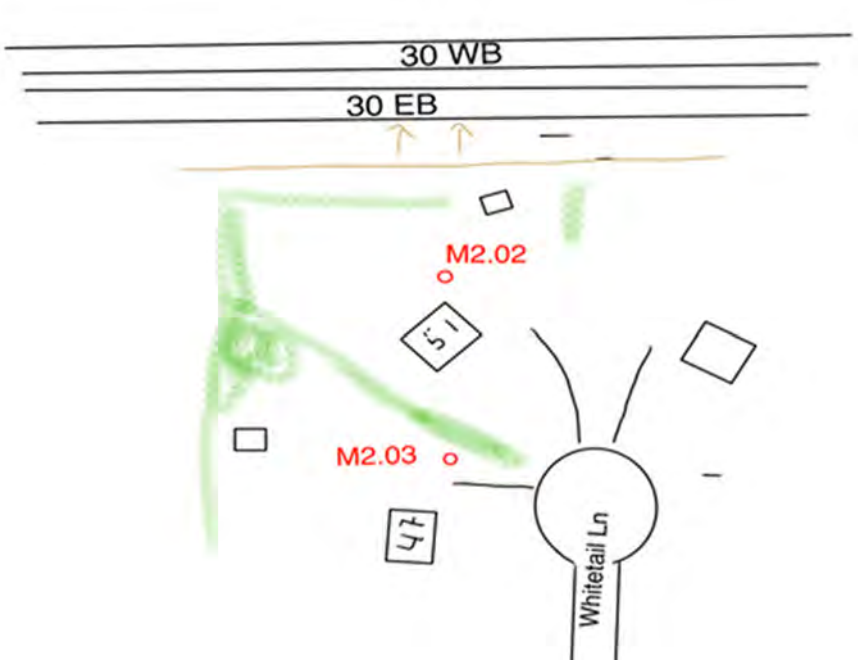
ID: **M2.02** Start: 10:34 Stop: 10:54
☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4228 **L_{eq}(dB):** 62.4 L_{min}(dB): 51.2 L_{max}(dB): 71.9
GPS (°N,°W): 39.98467518333334, -75.90103395
Stor #: 147 Calib(dB): 93.83 / 93.83 (Pre- / Post-) Meas. Ht(ft): 5
Location: 51 White Tail Ln Parkeburg, PA 19365
Relocated ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1: 30		**Roadway #2:**		**Roadway #3:**		**Roadway #4:**	
Width(ft):			Width(ft):		Width(ft):		Width(ft):	
Direction:	EB	WB	Direction:		Direction:		Direction:	
Speed Limit:	55	55	Speed Limit:		Speed Limit:		Speed Limit:	
Observed Spd:			Observed Spd:		Observed Spd:		Observed Spd:	
Auto:	182	148	Auto:		Auto:		Auto:	
Med Tk:	6	10	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	27	24	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	1	0	Bus:		Bus:		Bus:	
MCycle:	0	1	MCycle:		MCycle:		MCycle:	

Notes: Moderate bird noise. Either a lot of flanking noise coming from the east, or some industry noise near trailer park? Sounds like big blower or pump. Highway is deep in cut. No traffic line of sight even for HT's. Banging at minute 12 of measurement.

Site Sketch:



KAS

Personnel:

M2.02 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 9:32 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 4
Site ID(s): M2.03

Temperature (F): 52
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: North

Measurement Data

ID: **M2.03** Start: 10:34 Stop: 10:54 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): **58.8** L_{min}(dB): 51.2 L_{max}(dB): 67.4

GPS (°N,°W): 39.984260533333334, -75.90096353333334

Stor #: 163 Calib(dB): 93.86 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5

Location: 47 White Tail Ln Parkeburg, PA 19365

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

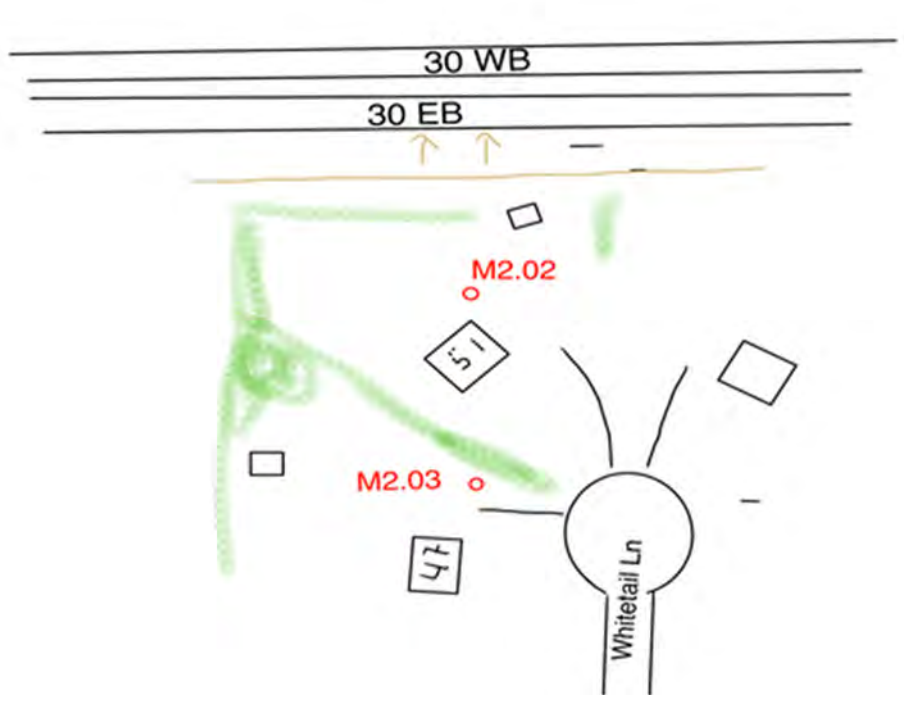
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	182	148						
Med Tk:	6	10						
Hvy Tk:	27	24						
Bus:	1	0						
MCycle:	0	1						

Notes: Background construction noise

Site Sketch:



Personnel: [redacted]

M2.03 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 3:39 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 11
Site ID(s): M2.04

Gannett Fleming

Temperature (F): 61
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 4
Wind direction: South

Measurement Data

ID: **M2.04** Start: 16:39 Stop: 16:59
☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4228 L_{eq}(dB): **59.4** L_{min}(dB): 49.7 L_{max}(dB): 74.6
GPS (°N,°W): 39.98494324999999, -75.89591245
Stor #: 154 Calib(dB): 93.83 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5
Location: 455 S. Bonsall Rd Coatesville, PA 19320
Relocated ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1: 30		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):								
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	223	398						
Med Tk:	4	21						
Hvy Tk:	15	18						
Bus:	1	0						
MCycle:	0	1						

Notes: Moved back toward Sharon Ln because of dogs in residence. Address is 526. 524 east of 526. Blank lot to east of 524. Check on land use west of Sharon, water mains getting installed for future development.

Site Sketch:



Personnel:

M2.04 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 3:36 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 11
Site ID(s): M2.05

Temperature (F): 61
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: North

Measurement Data

ID: **M2.05** Start: 16:39 Stop: 16:59
☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 **L_{eq}(dB):** 63.2 L_{min}(dB): 50.3 L_{max}(dB): 77.1

GPS (°N,°W): 39.98513195727507, -75.89467482611076

Stor #: 171 Calib(dB): 93.86 / 93.86 Meas. Ht(ft): 5
Pre- Post-

Location: 510 Lissie Ln. Parkeburg, PA 19365

Relocated
☑ Yes ☐ No

Type(use, NAC): Residential (B)

Site Photographed
☑ Yes ☐ No

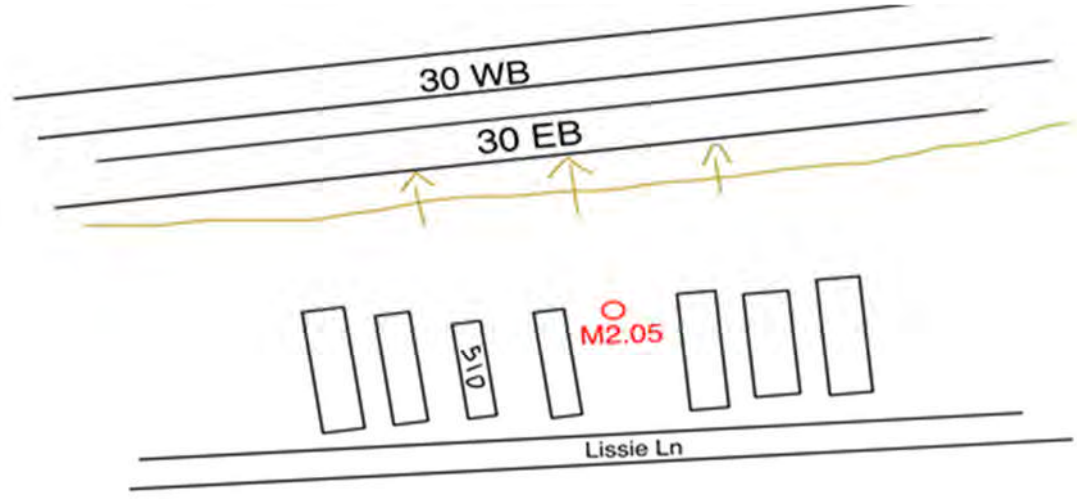
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		**Roadway #2:**		**Roadway #3:**		**Roadway #4:**	
Width(ft):	30							
Direction:	EB							
Speed Limit:	55							
Observed Spd:								
Auto:	223							
Med Tk:	4							
Hvy Tk:	15							
Bus:	1							
MCycle:	0							

Notes: Side slightly relocated

Site Sketch:



Personnel: [redacted]

M2.05 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 10:23 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 5
Site ID(s): M2.06

Gannett Fleming

Temperature (F): 54
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: North

Measurement Data

ID: **M2.06** Start: 11:41 Stop: 12:01 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): **67** L_{min}(dB): 46.1 L_{max}(dB): 81.6

GPS (°N,°W): 39.98556903333333, -75.89309098333334

Stor #: 165 Calib(dB): 93.86 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5

Location: 803 Wilmington Rd. Parkeburg, PA 19365

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1: 30		**Roadway #2:** Old Wilmington Rd		**Roadway #3:**		**Roadway #4:**	
Width(ft):			Width(ft):		Width(ft):		Width(ft):	
Direction:	EB	WB	Direction:	SB	NB	Direction:	Direction:	
Speed Limit:	55	55	Speed Limit:			Speed Limit:	Speed Limit:	
Observed Spd:			Observed Spd:			Observed Spd:	Observed Spd:	
Auto:	140	174	Auto:	32	33	Auto:	Auto:	
Med Tk:	11	7	Med Tk:	1	0	Med Tk:	Med Tk:	
Hvy Tk:	19	27	Hvy Tk:	2	3	Hvy Tk:	Hvy Tk:	
Bus:	0	0	Bus:	0	1	Bus:	Bus:	
MCycle:	1	0	MCycle:	0	0	MCycle:	MCycle:	

Notes: Planes at 11:43 and 11:44

Site Sketch:



Personnel: [redacted]

M2.06 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 4:15 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 12
Site ID(s): M2.07

Gannett Fleming

Temperature (F): 61
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 3
Wind direction: South

Measurement Data

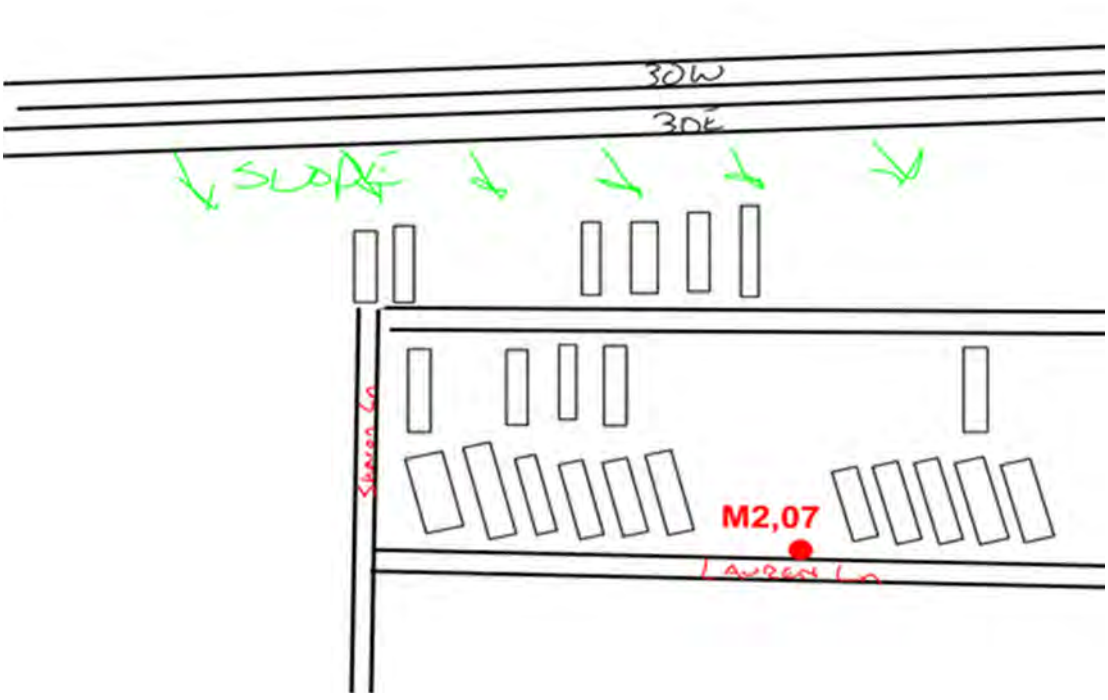
ID: **M2.07** Start: 17:15 Stop: 17:35
☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4228 L_{eq}(dB): 56.2 L_{min}(dB): 47.5 L_{max}(dB): 67.2
Stor #: 155 Calib(dB): 93.83 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5
GPS (°N,°W): 39.98439935, -75.89456928333334
Location: 400 Lauren Lane Parkeburg, PA 19365
Type(use, NAC): Residential (B)
Relocated ☐ Yes ☑ No
Site Photographed ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	210	307						
Med Tk:	4	21						
Hvy Tk:	11	11						
Bus:	2	0						
MCycle:	0	2						

Notes: Dog bark / horn at 5:19-5:20. Site moved due to aggressive signage and animals.

Site Sketch:



Personnel:

M2.07 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 10:43 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 5
Site ID(s): M2.08

Temperature (F): 55
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 3
Wind direction: South

Measurement Data

ID: **M2.08** Start: 11:41 Stop: 00:01 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): **64.2** L_{min}(dB): 46.2 L_{max}(dB): 84.5

GPS (°N,°W): 39.98462453333334, -75.89222336666667

Stor #: 148 Calib(dB): 93.83 / 93.83 (Pre- / Post-) Meas. Ht(ft): 5

Location: 835 Old Wilmington Rd Parkeburg, PA 19365

Relocated ☑ Yes ☐ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

Roadway #1:	30		**Roadway #2:**	Old Wilmington		**Roadway #3:**			**Roadway #4:**		
Width(ft):			Width(ft):			Width(ft):			Width(ft):		
Direction:	EB	WB	Direction:	SB	NB	Direction:			Direction:		
Speed Limit:	55	55	Speed Limit:			Speed Limit:			Speed Limit:		
Observed Spd:			Observed Spd:			Observed Spd:			Observed Spd:		
Auto:	140	174	Auto:	32	33	Auto:			Auto:		
Med Tk:	11	7	Med Tk:	1	0	Med Tk:			Med Tk:		
Hvy Tk:	19	27	Hvy Tk:	2	3	Hvy Tk:			Hvy Tk:		
Bus:	0	0	Bus:	0	1	Bus:			Bus:		
MCycle:	1	0	MCycle:		0	MCycle:			MCycle:		

Notes: 1143 flyover.1144 flyover. Occasional barking. Relocated to front of property due to dogs. Low flying aircrafts. Some construction noise from south. 1152 flyover. Bird noises. 1159 prop plane quiet flyover. Confirmed construction activity from southeast of site.

Site Sketch: **N/A**

Personnel: KAS

M2.08 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 12:59 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 7
Site ID(s): M3.01

Temperature (F): 57
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 3
Wind direction: South

Measurement Data

ID: **M3.01** Start: 13:53 Stop: 14:13 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 **L_{eq}(dB):** **63** L_{min}(dB): 49.8 L_{max}(dB): 72

GPS (°N,°W): 39.98628948333334, -75.89289576666667

Stor #: 150 Calib(dB): 93.83 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5

Location: 790 Old Wilmington Rd. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		**Roadway #2:**		**Roadway #3:**		**Roadway #4:**	
Width(ft):	30		Old Wilmington		S Bonsall Rd			
Direction:	EB	WB	Both		Both			
Speed Limit:	55	55			35			
Observed Spd:								
Auto:	171	208	59		25			
Med Tk:	7	12	0		1			
Hvy Tk:	23	15	0		0			
Bus:	1	0	0		0			
MCycle:	0	0	0		0			

Notes: Thick bamboo in front of residence along hwy shoulder, densest near Old Wilmington.

Site Sketch: **N/A**

Personnel:

M3.01 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 12:50 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 7
Site ID(s): M3.02

Temperature (F): 57
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: North

Measurement Data

ID: **M3.02** Start: 13:53 Stop: 14:13 ☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4229 L_{eq}(dB): 57.3 L_{min}(dB): 45.8 L_{max}(dB): 64.5
GPS (°N,°W): 39.98668276666667, -75.89320686666667
Stor #: 167 Calib(dB): 93.86 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5
Location: 784 Old Wilmington Rd.Coatesville, PA 19320
Relocated ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1: 30		Roadway #2: Old Wilmington Rd		Roadway #3: S Bonsall Rd		Roadway #4:	
Width(ft):								
Direction:	EB	WB	Both		Both			
Speed Limit:	55	55						
Observed Spd:								
Auto:	171	208	59		25			
Med Tk:	7	12	0		1			
Hvy Tk:	23	15	0		0			
Bus:	1	0	0		0			
MCycle:	0	0	0		0			

Notes:

Site Sketch:



Personnel: [redacted]

M3.02 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 3:00 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 10
Site ID(s): M3.03

Temperature (F): 63
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 3
Wind direction: Southeast

Measurement Data

ID: **M3.03** Start: 15:52 Stop: 16:12 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): **68.4** L_{min}(dB): 52.6 L_{max}(dB): 79.3

GPS (°N,°W): 39.9863967, -75.89148698333334

Stor #: 153 Calib(dB): 93.83 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5

Location: 455 S. Bonsall Rd Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		**Roadway #2:**		**Roadway #3:**		**Roadway #4:**	
Width(ft):	30		S Bonsell					
Direction:	EB	WB	Both					
Speed Limit:	55	55	40					
Observed Spd:			35					
Auto:	193	297	46					
Med Tk:	7	17	3					
Hvy Tk:	8	23	0					
Bus:	0	0	4					
MCycle:	1	0	1					

Notes: Relocated slightly farther from home due to wind chimes

Site Sketch: **N/A**

Personnel:

M3.03 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 2:51 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 10
Site ID(s): M3.04

Gannett Fleming

Temperature (F): 63
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 3
Wind direction: North

Measurement Data

ID: **M3.04** Start: 15:52 Stop: 15:12 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): **57.8** L_{min}(dB): 50.9 L_{max}(dB): 65.5

GPS (°N,°W): 39.987317983333334, -75.89076953333334

Stor #: 170 Calib(dB): 93.86 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5

Location: 211 Valley Green Dr. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

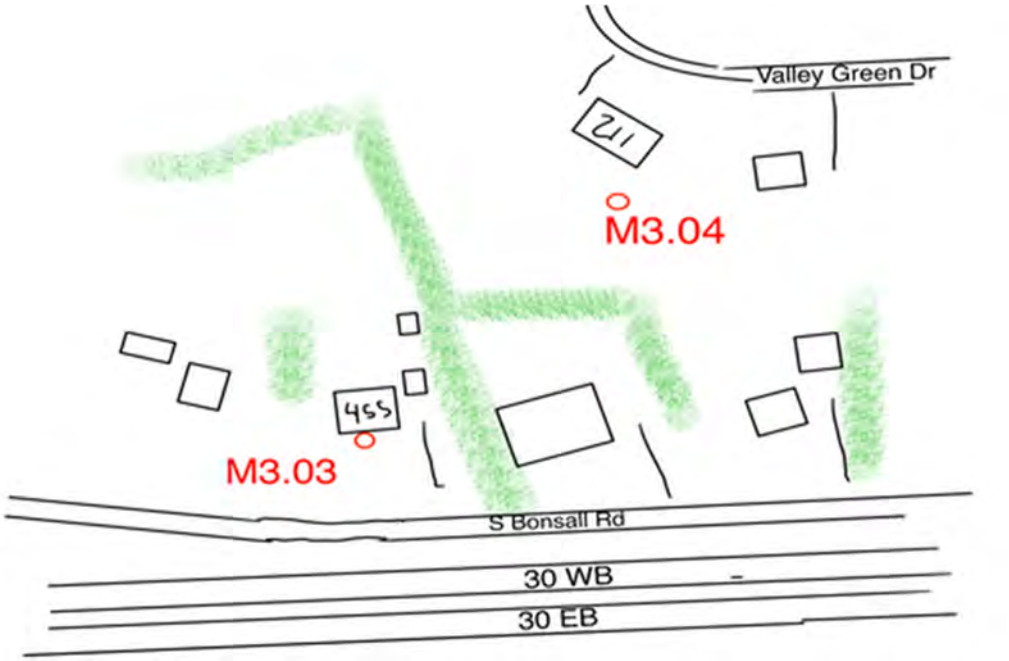
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		**Roadway #2:**		**Roadway #3:**		**Roadway #4:**	
Width(ft):	30		S Bonsall					
Direction:	EB	WB	Both					
Speed Limit:	55	55						
Observed Spd:								
Auto:	193	297	46					
Med Tk:	7	17	3					
Hvy Tk:	8	23	0					
Bus:	0	0	1					
MCycle:	1	0	1					

Notes:

Site Sketch:



Personnel: [redacted]

M3.04 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 2:23 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 9
Site ID(s): M3.05

Temperature (F): 63
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 4
Wind direction: Southeast

Measurement Data

ID: **M3.05** Start: 15:18 Stop: 15:38 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): **64.1** L_{min}(dB): 55.3 L_{max}(dB): 71.9

GPS (°N,°W): 39.98679188333333, -75.88836546666667

Stor #: 152 Calib(dB): 93.83 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5

Location: 411 S. Bonsall Rd. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		**Roadway #2:**		**Roadway #3:**		**Roadway #4:**	
Width(ft):	30		S Bonsall					
Direction:	EB	WB	Both					
Speed Limit:	55	55	40					
Observed Spd:			40					
Auto:	172	284	21					
Med Tk:	7	10	2					
Hvy Tk:	12	23	0					
Bus:	0	0	0					
MCycle:	1	0	0					

Notes:

Site Sketch: **N/A**

Personnel:

M3.05 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 2:17 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 9
Site ID(s): M3.06

Temperature (F): 63
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 3
Wind direction: Northeast

Measurement Data

ID: **M3.06** Start: 15:18 Stop: 15:38 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): 55.3 L_{min}(dB): 50.2 L_{max}(dB): 60.4

GPS (°N,°W): 39.98759356666667, -75.88889696666666

Stor #: 169 Calib(dB): 93.86 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5

Location: 205 Valley Green Dr. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

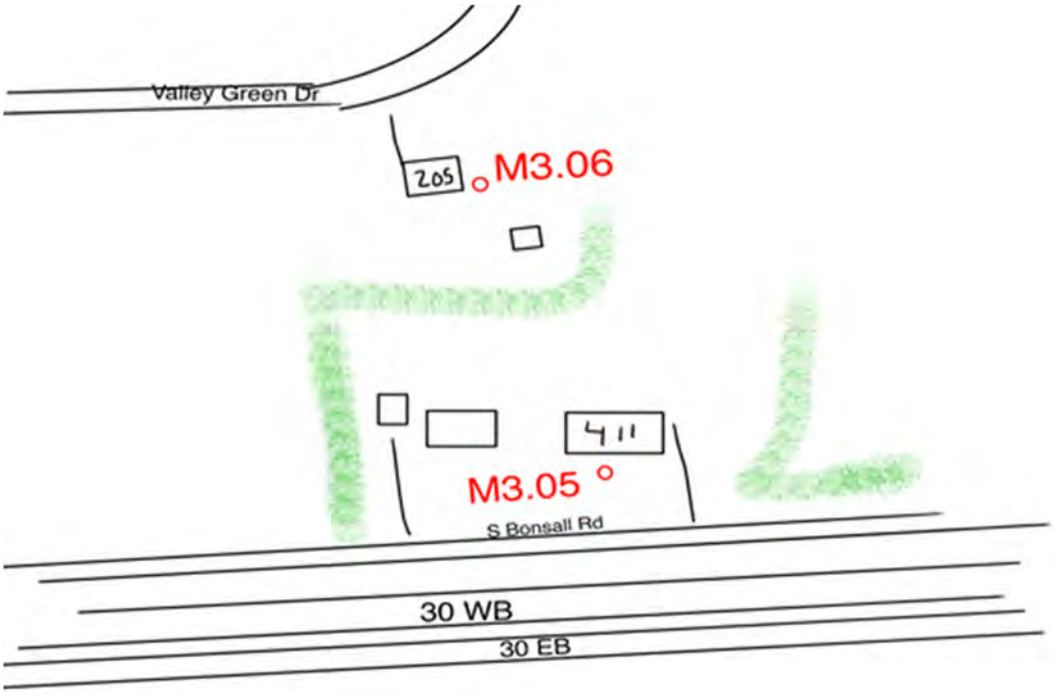
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		**Roadway #2:**		**Roadway #3:**		**Roadway #4:**	
Width(ft):	30		S Bonsall					
Direction:	EB	WB	Both					
Speed Limit:	55	55						
Observed Spd:								
Auto:	172	284	21					
Med Tk:	7	10	2					
Hvy Tk:	12	23	0					
Bus:	0	0	0					
MCycle:	1	0	0					

Notes:

Site Sketch:



Personnel: [redacted]

M3.06 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 1:40 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 8
Site ID(s): M3.07

Temperature (F): 63
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 6
Wind direction: East

Measurement Data

ID: **M3.07** Start: 14:41 Stop: 15:01 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 **L_{eq}(dB):** **63.8** L_{min}(dB): 51.5 L_{max}(dB): 73.9

GPS (°N,°W): 39.98732411666666, -75.8865155

Stor #: 151 Calib(dB): 93.83 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5

Location: 405 S. Bonsall RD. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		**Roadway #2:**		**Roadway #3:**		**Roadway #4:**	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	170	264						
Med Tk:	7	11						
Hvy Tk:	12	30						
Bus:	2	1						
MCycle:	0	0						

Notes:

Site Sketch: **N/A**

KAS

Personnel:

M3.07 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 1:39 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 8
Site ID(s): M3.08

Temperature (F): 63
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 6
Wind direction: Northeast

Measurement Data

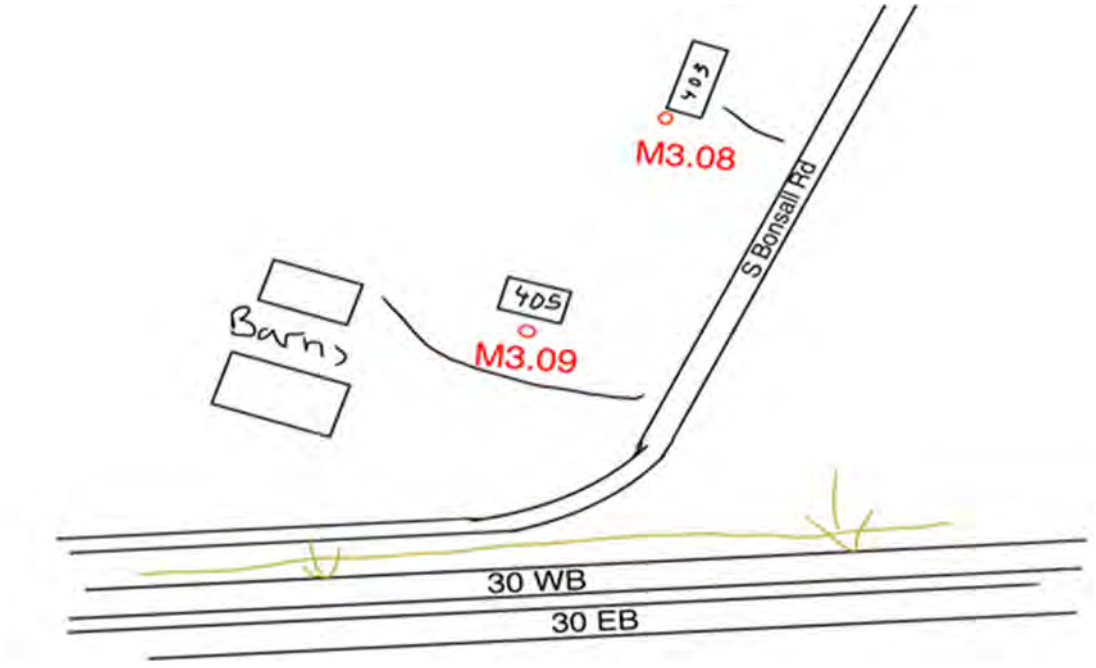
ID: **M3.08** Start: 14:41 Stop: 15:01 ☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4229 L_{eq}(dB): **61.5** L_{min}(dB): 51.9 L_{max}(dB): 69.1
GPS (°N,°W): 39.98802166666667, -75.88618141666667
Stor #: 168 Calib(dB): 93.86 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5
Location: 403 S. Bonsall Rd. Coatesville, PA 19320
Relocated: ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed: ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30		S Bonsall					
Direction:	EB	WB	Both					
Speed Limit:	55	55						
Observed Spd:								
Auto:	170	264	12					
Med Tk:	7	11	1					
Hvy Tk:	12	30	0					
Bus:	2	1	1					
MCycle:	0	0	0					

Notes:

Site Sketch:



Personnel: [redacted]

M3.08 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 11:15 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 6
Site ID(s): M4.01

Gannett Fleming

Temperature (F): 55
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: North

Measurement Data

ID: **M4.01** Start: 12:17 Stop: 12:37 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): 70 L_{min}(dB): 49.7 L_{max}(dB): 85.1

GPS (°N,°W): 39.9855972, -75.89215088333333

Stor #: 166 Calib(dB): 93.86 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5

Location: 808 Old Wilmington Rd. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	158	184						
Med Tk:	7	13						
Hvy Tk:	23	46						
Bus:	0	1						
MCycle:	1	0						

Notes:

Site Sketch:



Personnel: [redacted]

M4.01 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 25, 2022 11:17 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 6
Site ID(s): M4.02

Temperature (F): 55
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 3
Wind direction: South

Measurement Data

ID: **M4.02** Start: 12:17 Stop: 12:37 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): 58.4 L_{min}(dB): 47.5 L_{max}(dB): 72.5

GPS (°N,°W): 39.98493435, -75.89140463333332

Stor #: 149 Calib(dB): 93.83 / 93.83 (Pre- / Post-) Meas. Ht(ft): 5

Location: 5 Meetinghouse Rd. Coatesville, PA 19320

Relocated ☑ Yes ☐ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	158	184						
Med Tk:	7	13						
Hvy Tk:	23	46						
Bus:	0	1						
MCycle:	1	0						

Notes: Relocated due to wood chipper operating southwest of measurement site and fencing on original property. Placed behind shed to provide LOS shielding from chipper, hwy is predominant noise source. Shielding from Old Wilmington provided by elevated front property from roadway. Utilize setup 5 traffic if necessary, volume seems to be consistent.

Site Sketch:



Personnel:

M4.02 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 7:35 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 16
Site ID(s): M4.03

Temperature (F): 53
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: Northeast

Measurement Data

ID: **M4.03** Start: 08:20 Stop: 08:40 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 **L_{eq}(dB):** 57.3 L_{min}(dB): 47.3 L_{max}(dB): 69.9

GPS (°N,°W): 39.98503931666667, -75.8892909

Stor #: 159 Calib(dB): 93.96 / 93.90 (Pre- / Post-) Meas. Ht(ft): 5

Location: 37 Meetinghouse Rd. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

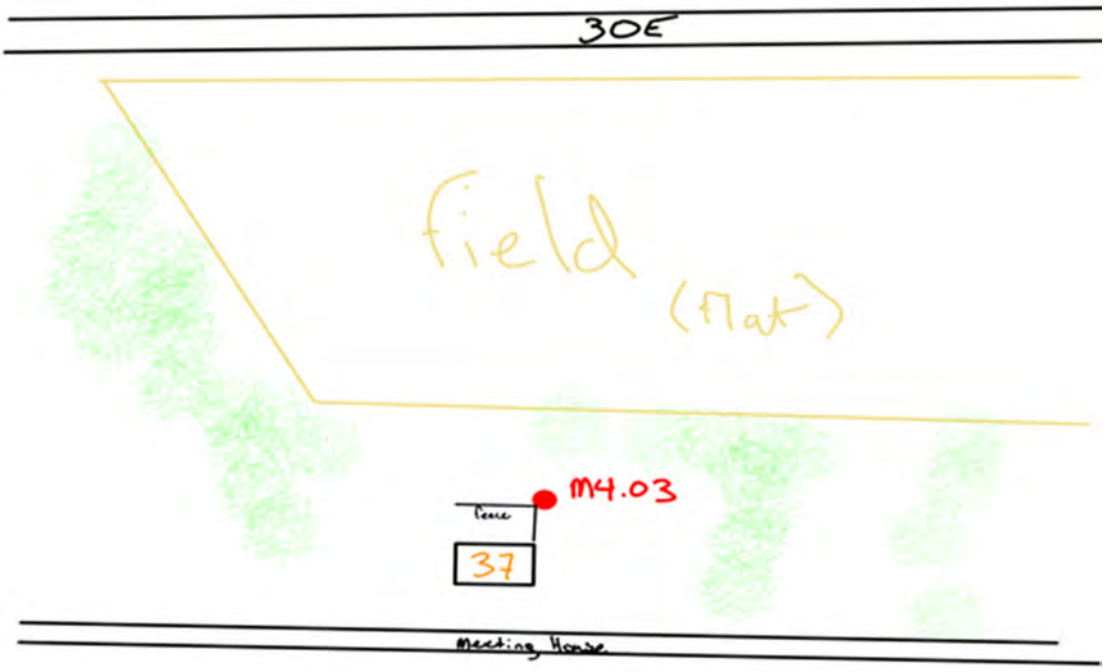
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		**Roadway #2:**		**Roadway #3:**		**Roadway #4:**	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	219	153						
Med Tk:	15	14						
Hvy Tk:	24	29						
Bus:	0	1						
MCycle:	0	0						

Notes: Some hammering during meas but Saint and observed to not cause spiking.

Site Sketch:



Personnel:

M4.03 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 7:18 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 16
Site ID(s): M4.04

Temperature (F): 52
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: Northeast

Measurement Data

ID: **M4.04** Start: 08:20 Stop: 08:40 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): **56.7** L_{min}(dB): 48.1 L_{max}(dB): 66.4

GPS (°N,°W): 39.98524435, -75.88756743333333

Stor #: 176 Calib(dB): 93.98 / 94.03 (Pre- / Post-) Meas. Ht(ft): 5

Location: 61 Meetinghouse Rd. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	219	153						
Med Tk:	15	14						
Hvy Tk:	24	29						
Bus:	0	1						
MCycle:	0	0						

Notes: Some construction hammering

Site Sketch:



Personnel: [redacted]

M4.04 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 7:58 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 17
Site ID(s): M4.05

Temperature (F): 54
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: North

Measurement Data

ID: **M4.05** Start: 09:00 Stop: 09:20 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): 62.7 L_{min}(dB): 48.9 L_{max}(dB): 72.4

GPS (°N,°W): 39.9857732, -75.88652623333334

Stor #: 177 Calib(dB): 93.98 / 94.03 (Pre- / Post-) Meas. Ht(ft): 5

Location: 55 Morris Ln Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Church D

Site Photographed ☑ Yes ☐ No

Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	164	154						
Med Tk:	17	13						
Hvy Tk:	30	31						
Bus:	0	1						
MCycle:	0	0						

Notes:

Site Sketch:



Personnel: [redacted]

M4.05 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 8:32 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 18
Site ID(s): M4.06

Gannett Fleming

Temperature (F): 54
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: Northeast

Measurement Data

ID: **M4.06** Start: 09:33 Stop: 09:53 ☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4229 L_{eq}(dB): **59.4** L_{min}(dB): 53.2 L_{max}(dB): 66.4
GPS (°N,°W): 39.98542276666667, -75.88578265
Stor #: 178 Calib(dB): 93.98 / 94.03 (Pre- / Post-) Meas. Ht(ft): 5
Location: 50 Morris Ln. Coatesville, PA 19320
Relocated: ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed: ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	200	157						
Med Tk:	4	11						
Hvy Tk:	25	42						
Bus:	0	0						
MCycle:	0	0						

Notes: Warehouse/manufacturing noise

Site Sketch:



Personnel: [redacted]

M4.06 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 8:06 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 17
Site ID(s): M4.07

Temperature (F): 54
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 1
Wind direction: Northeast

Measurement Data

ID: **M4.07** Start: 09:00 Stop: 09:20 ☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4228 L_{eq}(dB): 69.1 L_{min}(dB): 51.1 L_{max}(dB): 81.6
GPS (°N,°W): 39.9863494, -75.8860633
Stor #: 160 Calib(dB): 93.96 / 93.90 (Pre- / Post-) Meas. Ht(ft): 5
Location: 56 Morris Ln. Coatesville, PA 19320
Relocated ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

Roadway #1:	30	
Width(ft):		
Direction:	EB	WB
Speed Limit:	55	55
Observed Spd:		
Auto:	164	154
Med Tk:	17	13
Hvy Tk:	30	31
Bus:	0	1
MCycle:	0	0

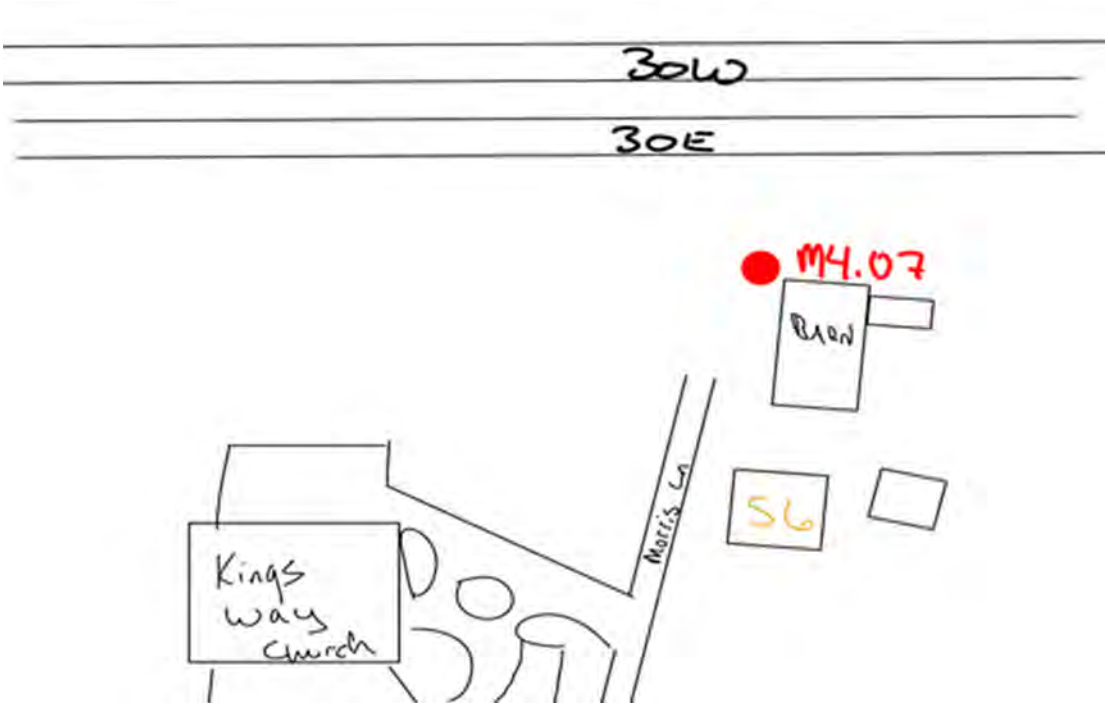
Roadway #2:		
Width(ft):		
Direction:		
Speed Limit:		
Observed Spd:		
Auto:		
Med Tk:		
Hvy Tk:		
Bus:		
MCycle:		

Roadway #3:		
Width(ft):		
Direction:		
Speed Limit:		
Observed Spd:		
Auto:		
Med Tk:		
Hvy Tk:		
Bus:		
MCycle:		

Roadway #4:		
Width(ft):		
Direction:		
Speed Limit:		
Observed Spd:		
Auto:		
Med Tk:		
Hvy Tk:		
Bus:		
MCycle:		

Notes:

Site Sketch:



Personnel:

M4.07 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: May 11, 2022 6:51 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 42
Site ID(s): M4.08

Temperature (F): 56
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 0
Wind direction:

Measurement Data

ID: **M4.08** Start: 07:51 Stop: 08:11 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 **L_{eq}(dB):** 57.3 L_{min}(dB): 46.4 L_{max}(dB): 74.7

GPS (°N,°W): 39.9865034, -75.87722070000001

Stor #: 196 Calib(dB): 93.88 / 93.94 (Pre- / Post-) Meas. Ht(ft): 5

Location: 382 Larose Dr. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

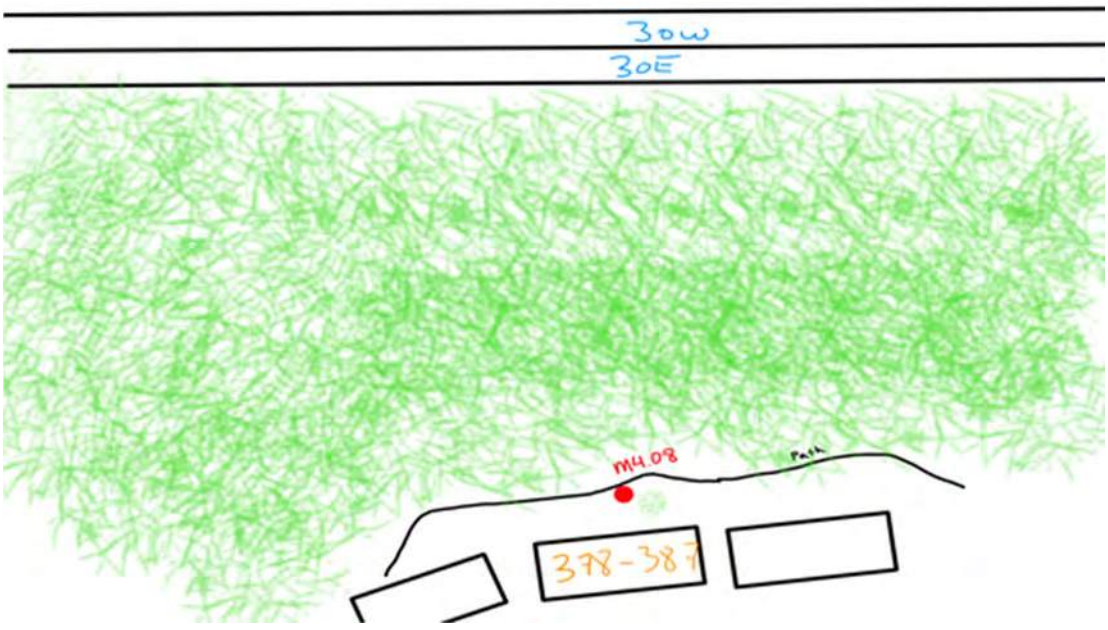
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	166	191						
Med Tk:	22	14						
Hvy Tk:	16	29						
Bus:	1	3						
MCycle:	0	1						

Notes: A lot of bird song throughout measurement. Dog bark end of min 9 to beginning of 10. Flyover 8:03.

Site Sketch:



Personnel:

M4.08 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: May 11, 2022 7:22 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 43
Site ID(s): M4.09

Temperature (F): 59
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 4
Wind direction: Northeast

Measurement Data

ID: **M4.09** Start: 08:23 Stop: 08:43 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): **63.8** L_{min}(dB): 54.2 L_{max}(dB): 75.7

GPS (°N,°W): 39.9876773, -75.87562510000001

Stor #: 197 Calib(dB): 93.88 / 93.94 (Pre- / Post-) Meas. Ht(ft): 5

Location: 215 Buckthorn Dr. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

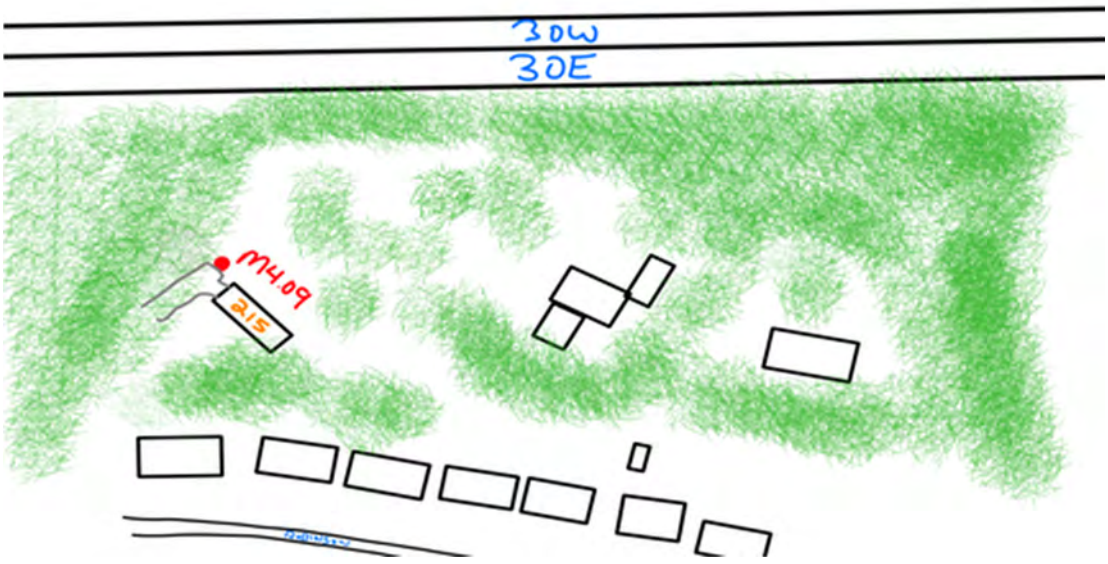
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	195	166						
Med Tk:	17	14						
Hvy Tk:	21	24						
Bus:	0	0						
MCycle:	0	1						

Notes: Some banging from Robinson Ln area home but not observing spiking on meter.

Site Sketch:



Personnel:

M4.09 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: May 11, 2022 7:53 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 44
Site ID(s): M4.10

Temperature (F): 56
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 3
Wind direction: Northeast

Measurement Data

ID: **M4.10** Start: 08:53 Stop: 09:13 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): **56.9** L_{min}(dB): 47.4 L_{max}(dB): 66.1

GPS (°N,°W): 39.98713915, -75.87562776666668

Stor #: 198 Calib(dB): 93.88 / 93.94 (Pre- / Post-) Meas. Ht(ft): 5

Location: 105 Robinson Ave. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

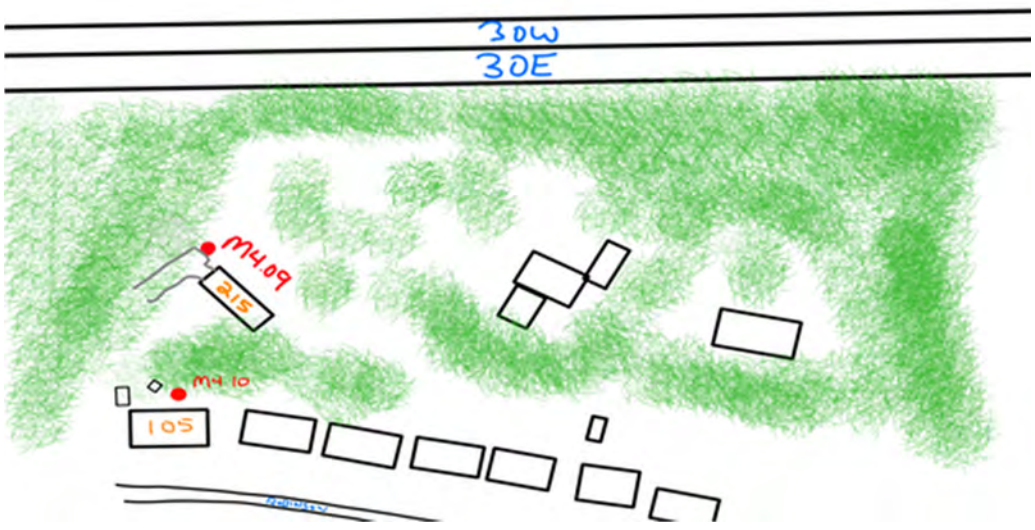
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	209	217						
Med Tk:	15	11						
Hvy Tk:	34	27						
Bus:	0	1						
MCycle:	0	1						

Notes: ATTN: traffic is for 25 mins, scale accordingly! Loud car on airport rd during min1. Min3 A/C kicked on. Bang at min10 and occasional small noises from workers on adjacent property. Bird noise throughout. Min 13 ac off. Running 5 extra mins to compensate for A/C.

Site Sketch:



KAB

Personnel:

M4.10 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: May 11, 2022 8:57 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 45
Site ID(s): M4.11

Gannett Fleming

Temperature (F): 62
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 5
Wind direction: East

Measurement Data

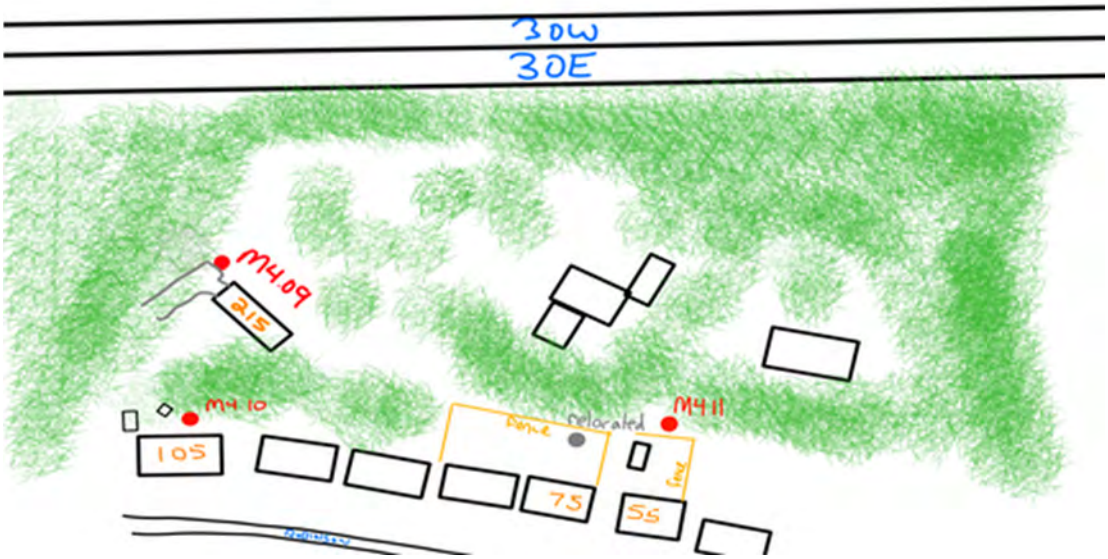
ID: **M4.11** Start: 09:59 Stop: 10:19
☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4228 L_{eq}(dB): **56** L_{min}(dB): 49 L_{max}(dB): 67.1
GPS (°N,°W): 39.98746381666667, -75.87365171666666
Stor #: 199 Calib(dB): 93.88 / 93.94 (Pre- / Post-) Meas. Ht(ft): 5
Location: 75 Robinson Ave. Coatesville, PA 19320
Relocated ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:	30		**Roadway #2:**	Airport		**Roadway #3:**			**Roadway #4:**		
	Width(ft):			Width(ft):			Width(ft):			Width(ft):		
	Direction:	EB	WB	Direction:	Both		Direction:			Direction:		
	Speed Limit:	55	55	Speed Limit:	45		Speed Limit:			Speed Limit:		
	Observed Spd:			Observed Spd:	45		Observed Spd:			Observed Spd:		
	Auto:	149	166	Auto:	78		Auto:			Auto:		
	Med Tk:	4	8	Med Tk:	3		Med Tk:			Med Tk:		
	Hvy Tk:	21	27	Hvy Tk:	2		Hvy Tk:			Hvy Tk:		
	Bus:	0	2	Bus:	2		Bus:			Bus:		
	MCycle:	0	0	MCycle:	0		MCycle:			MCycle:		

Notes: Dogs 10:08-10:13. Running meter longer for extra data. Airport count is for 10m. Weed wackier started at 10;25ish progressively louder until 10:29

Site Sketch:



Personnel:

M4.11 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: May 11, 2022 9:37 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 46
Site ID(s): M4.12

Temperature (F): 65
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 5
Wind direction: Northeast

Measurement Data

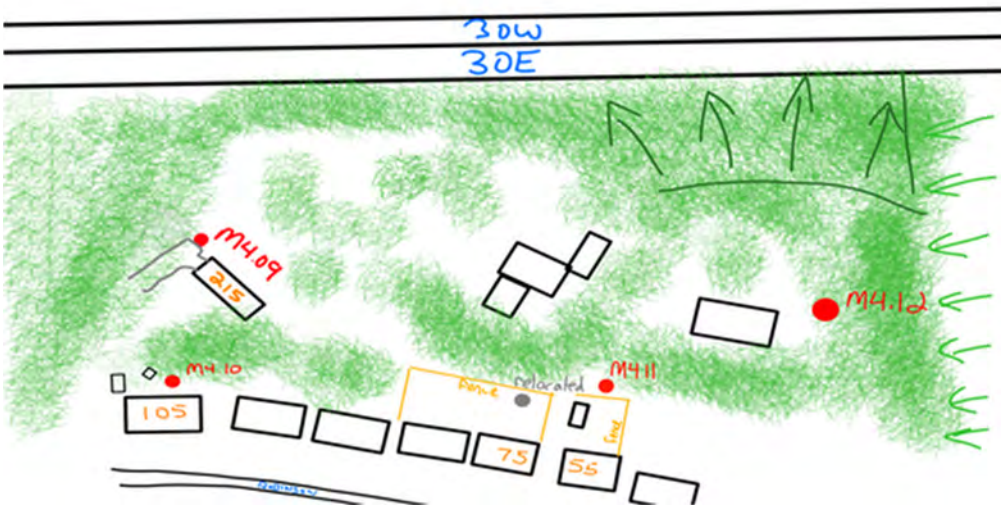
ID: **M4.12** Start: 10:43 Stop: 11:03
☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4228 L_{eq}(dB): 58.5 L_{min}(dB): 51.5 L_{max}(dB): 65.9
GPS (°N,°W): 39.987978733333335, -75.87291528333334
Stor #: 200 Calib(dB): 93.88 / 93.94 (Pre- / Post-) Meas. Ht(ft): 5
Location: 320 Airport Rd. Coatesville, PA 19320
Relocated ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:		55						
Observed Spd:								
Auto:	168	187						
Med Tk:	7	11						
Hvy Tk:	26	34						
Bus:	0	1						
MCycle:	2	0						

Notes: 10:51 flyover. Relocated due to landscaping noise and dog. Traffic on airport , cars not audible but trucks more so. Airport rd elevated and providing shielding from mainline east of meter. Nearly all truck traffic gets on EB mainline. Plenty of cars turning down ramp as well. Adjust traffic for segments to represent this activity. Occasional noise from reverse alarms on construction site down on airport rd south of site. Occasional faint tree noise from small gusts.

Site Sketch:



Personnel:

M4.12 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 9:32 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 19
Site ID(s): M4.13

Temperature (F): 55
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: South

Measurement Data

ID: **M4.13** Start: 10:23 Stop: 10:43 ☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4228 **L_{eq}(dB):** 58.2 L_{min}(dB): 46.4 L_{max}(dB): 69.9
GPS (°N,°W): 39.987862533333335, -75.87219816666668
Stor #: 161 Calib(dB): 93.96 / 93.90 (Pre- / Post-) Meas. Ht(ft): 5
Location: 317 Airport Rd. Coatesville, PA 19320
Relocated ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1: 30		**Roadway #2:** Airport		**Roadway #3:** On-ramp from Airport		**Roadway #4:**	
Width(ft):								
Direction:	EB	WB	Both		EB			
Speed Limit:	55	55	35		45			
Observed Spd:			35					
Auto:	258	202	157		95			
Med Tk:	20	22	13		7			
Hvy Tk:	29	34	13		7			
Bus:	0	0	0		0			
MCycle:	0	0	0		0			

Notes: Most traffic to on ramp is from NB airport rd vehicles. Approx 5 percent from sb airport vehicles. Collected gps location for this meas is inaccurate- see photos. Over counted airport and on ramp for about 3 mins. Airport and ramp are elevated with respects to this site. See northb

Site Sketch: **N/A**

Personnel: KAS

M4.13 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 9:18 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 19
Site ID(s): M5.01

Temperature (F): 55
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 3
Wind direction: Northeast

Measurement Data

ID: **M5.01** Start: 10:23 Stop: 10:43 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 **L_{eq}(dB):** **69.4** L_{min}(dB): 55.3 L_{max}(dB): 82.1

GPS (°N,°W): 39.9912151, -75.86670716666667

Stor #: 179 Calib(dB): 93.98 / 94.03 (Pre- / Post-) Meas. Ht(ft): 5

Location: 495 W Highlands BLvd. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Business outdoor seating

Site Photographed ☑ Yes ☐ No

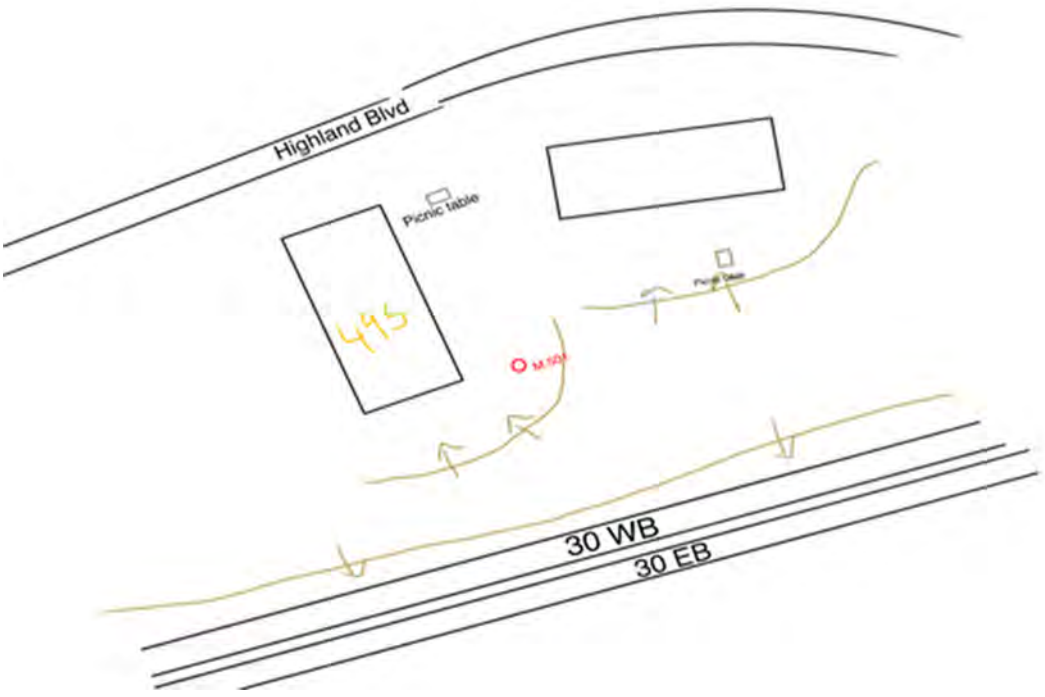
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		**Roadway #2:**		**Roadway #3:**		**Roadway #4:**	
Width(ft):	30		On Ram EB					
Direction:	EB	WB	EB					
Speed Limit:	55	55	55					
Observed Spd:								
Auto:	258	202	95					
Med Tk:	20	22	7					
Hvy Tk:	29	34	7					
Bus:	0	0	0					
MCycle:	1	0	0					

Notes:

Site Sketch:



Personnel: [redacted]

M5.01 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 10:11 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 20
Site ID(s): M5.02

Gannett Fleming

Temperature (F): 57
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: Northeast

Measurement Data

ID: **M5.02** Start: 11:11 Stop: 11:31 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): 58.2 L_{min}(dB): 44.4 L_{max}(dB): 73.3

GPS (°N,°W): 39.993901066666666, -75.85779285

Stor #: 180 Calib(dB): 93.98 / 94.03 (Pre- / Post-) Meas. Ht(ft): 5

Location: 330 Country Club Rd. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

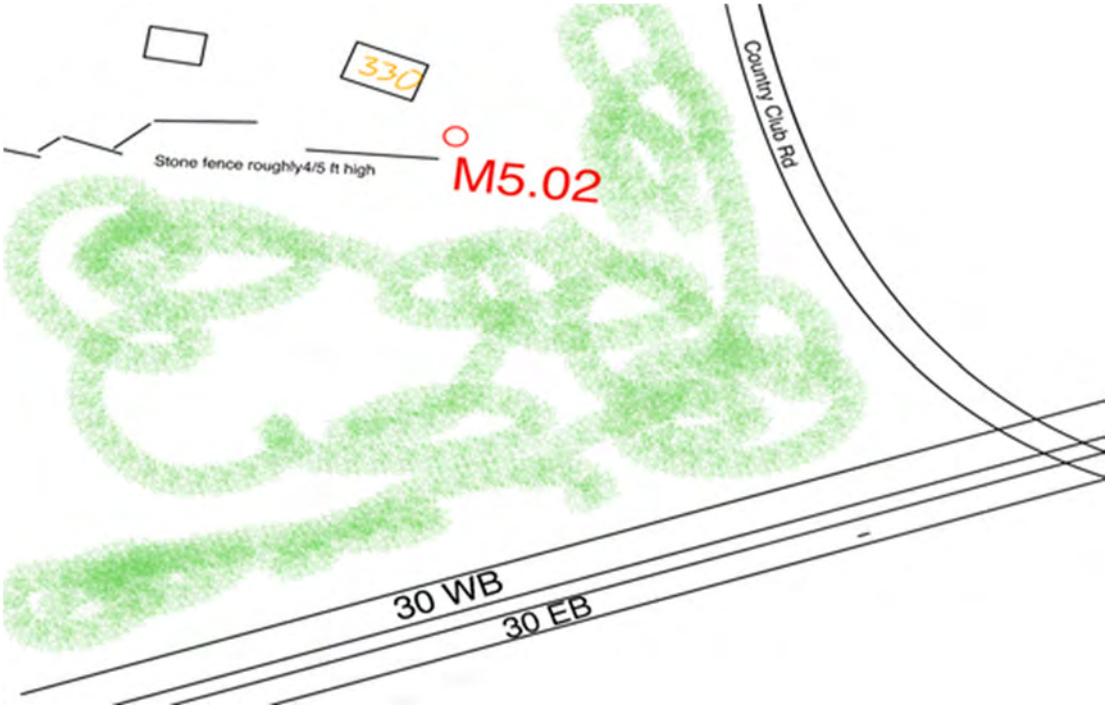
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1: 30		**Roadway #2:** Country Club Rd		**Roadway #3:**		**Roadway #4:**	
Width(ft):								
Direction:	EB	WB	Both					
Speed Limit:	55	55						
Observed Spd:								
Auto:	246	185	35					
Med Tk:	13	18	0					
Hvy Tk:	26	28	0					
Bus:	0	1	0					
MCycle:	0	0	0					

Notes: Background sheep noise

Site Sketch:



Personnel: [redacted]

M5.02 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 10:13 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 20
Site ID(s): M6.01

Gannett Fleming

Temperature (F): 61
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 0
Wind direction:

Measurement Data

ID: **M6.01** Start: 11:11 Stop: 11:31 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): 55.3 L_{min}(dB): 42 L_{max}(dB): 69

GPS (°N,°W): 39.99206791666666, -75.85519116666666

Stor #: 162 Calib(dB): 93.96 / 93.90 (Pre- / Post-) Meas. Ht(ft): 5

Location: 310 Country Club Rd. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

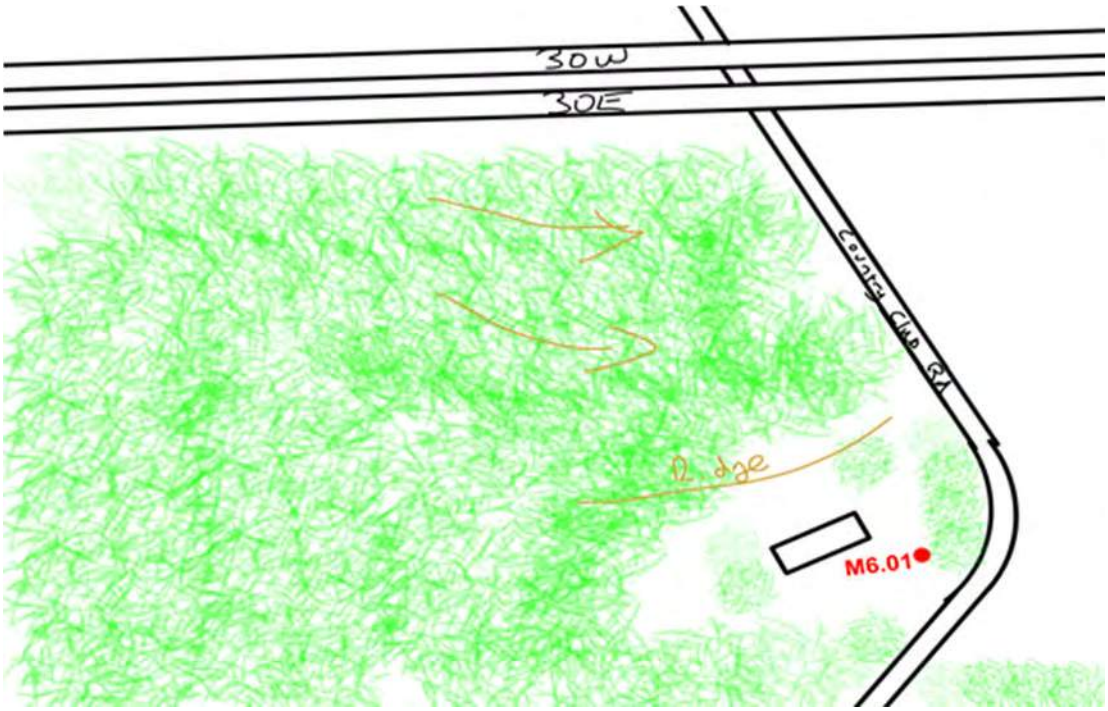
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

Roadway #1: 30			**Roadway #2:** Country Club Rd			**Roadway #3:**			**Roadway #4:**		
Width(ft):			Width(ft):			Width(ft):			Width(ft):		
Direction:	EB	WB	Direction:	Both		Direction:			Direction:		
Speed Limit:			Speed Limit:	35		Speed Limit:			Speed Limit:		
Observed Spd:	55	55	Observed Spd:	30		Observed Spd:			Observed Spd:		
Auto:	246	185	Auto:	23		Auto:			Auto:		
Med Tk:	13	18	Med Tk:			Med Tk:			Med Tk:		
Hvy Tk:	26	28	Hvy Tk:			Hvy Tk:			Hvy Tk:		
Bus:	0	0	Bus:			Bus:			Bus:		
MCycle:	0	2,323	MCycle:			MCycle:			MCycle:		

Notes: A lot of bird noise. Sneeze at minute 4.

Site Sketch:



Personnel:

M6.01 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: May 10, 2022 12:25 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 34
Site ID(s): M6.02

Temperature (F): 68
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 4
Wind direction: Northeast

Measurement Data

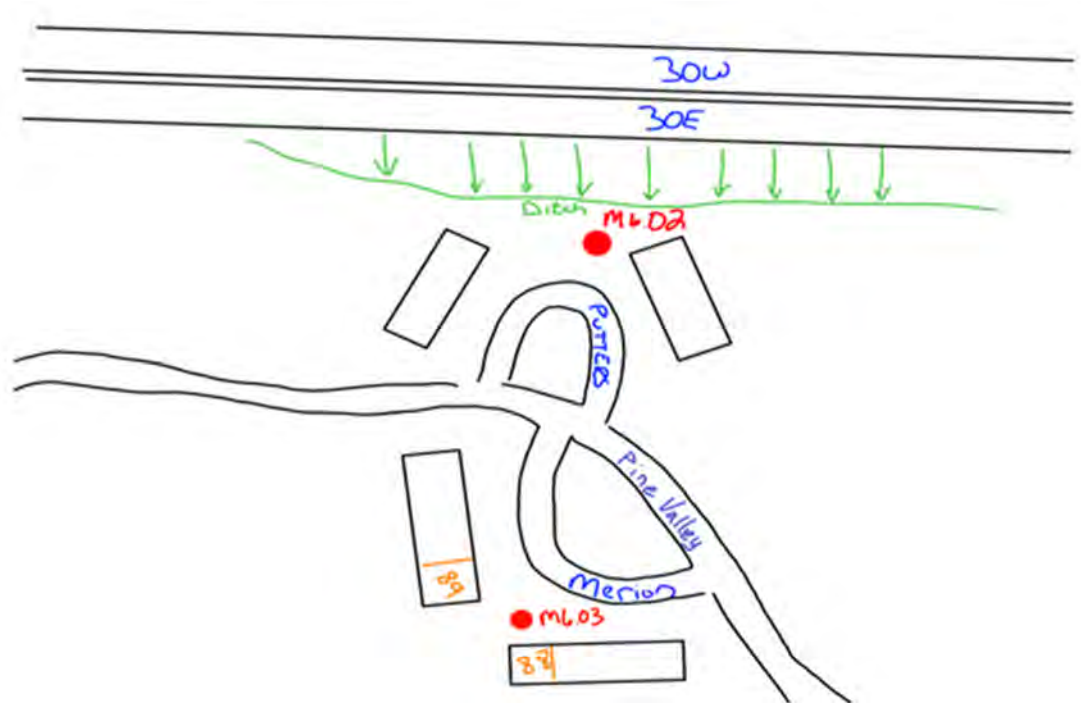
ID: **M6.02** Start: 13:23 Stop: 13:43
☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4228 L_{eq}(dB): 65.3 L_{min}(dB): 52.7 L_{max}(dB): 76.8
GPS (°N,°W): 39.99330935, -75.85345165
Stor #: 188 Calib(dB): 94.05 / 94.12 (Pre- / Post-) Meas. Ht(ft): 5
Location: 4 Putters Ln Coatesville, PA 19320
Relocated: ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed: ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
	30							
Width(ft):								
Direction:	WB	EB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	291	275						
Med Tk:	13	12						
Hvy Tk:	36	34						
Bus:	0	1						
MCycle:	2	2						

Notes:

Site Sketch:



Personnel:

M6.02 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: May 10, 2022 12:49 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 35
Site ID(s): M6.03

Gannett Fleming

Temperature (F): 68
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 5
Wind direction: Northeast

Measurement Data

ID: **M6.03** Start: 13:49 Stop: 14:09 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): **54.2** L_{min}(dB): 47.9 L_{max}(dB): 64.6

GPS (°N,°W): 39.992417450000005, -75.85339484999999

Stor #: 189 Calib(dB): 94.05 / 94.12 (Pre- / Post-) Meas. Ht(ft): 5

Location: 88 Merion Ct Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

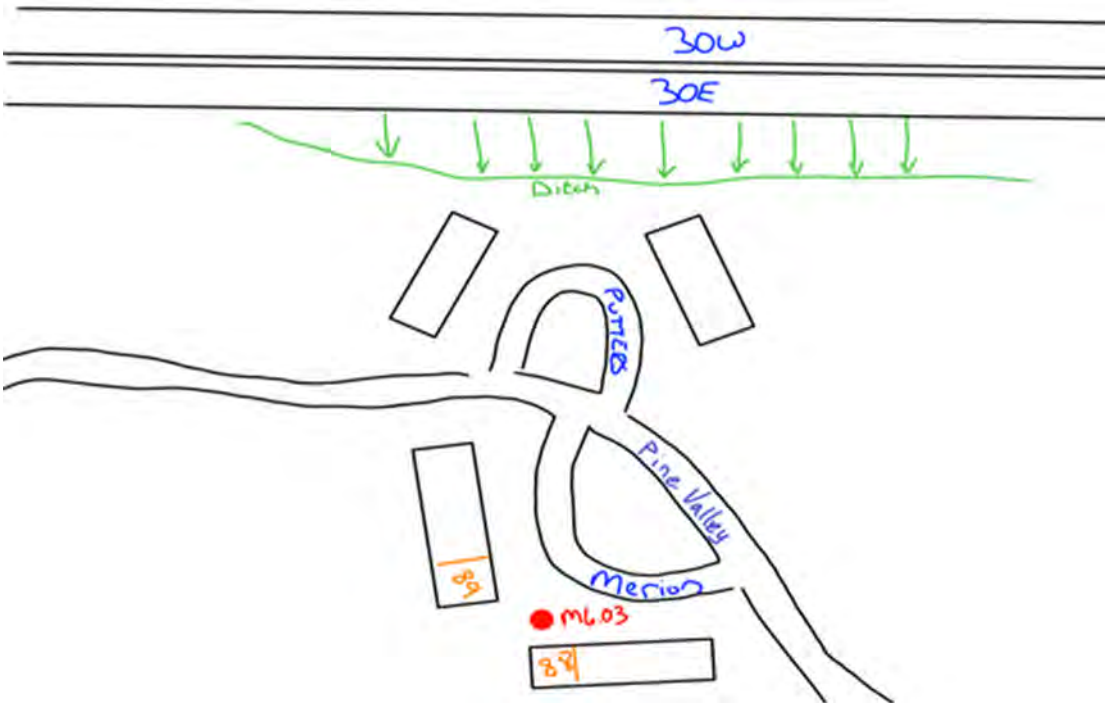
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	264	286						
Med Tk:	12	26						
Hvy Tk:	21	29						
Bus:	6	0						
MCycle:	2	0						

Notes: 1:55 bang from passing landscape trailer.

Site Sketch:



Personnel:

M6.03 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: May 10, 2022 1:17 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 36
Site ID(s): M6.04

Gannett Fleming

Temperature (F): 69
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 4
Wind direction: Southeast

Measurement Data

ID: **M6.04** Start: 14:17 Stop: 14:37 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): **59.8** L_{min}(dB): 44.7 L_{max}(dB): 71.7

GPS (°N,°W): 39.993648033333336, -75.85218611666666

Stor #: 190 Calib(dB): 94.05 / 94.12 (Pre- / Post-) Meas. Ht(ft): 5

Location: 15 Saddlebrook Ln Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:								
Observed Spd:								
Auto:	263	340						
Med Tk:	19	19						
Hvy Tk:	17	30						
Bus:	1	3						
MCycle:	0	3						

Notes: 2:27-2:28 ups truck.

Site Sketch:



Personnel:

M6.04 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: May 10, 2022 1:46 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 37
Site ID(s): M6.05

Gannett Fleming

Temperature (F): 70
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 5
Wind direction: North

Measurement Data

ID: **M6.05** Start: 14:48 Stop: 15:08 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): 55.7 L_{min}(dB): 46.7 L_{max}(dB): 68.5

GPS (°N,°W): 39.99309783333334, -75.85177279999999

Stor #: 191 Calib(dB): 94.05 / 94.12 (Pre- / Post-) Meas. Ht(ft): 5

Location: 61 Winged Foot Dr Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

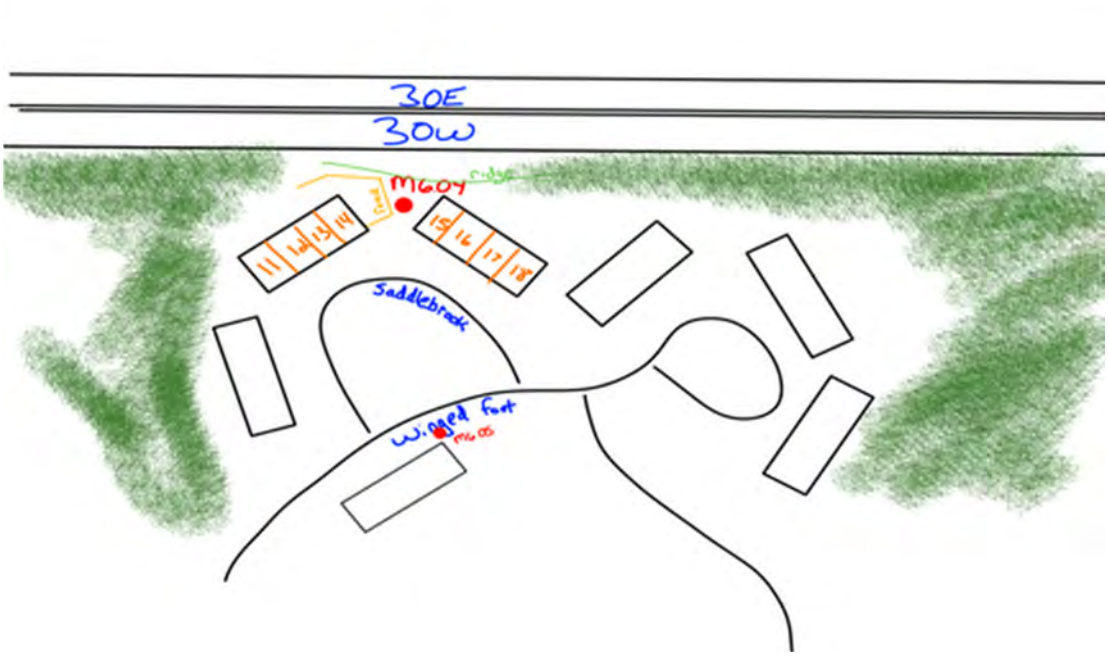
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	268	449						
Med Tk:	16	32						
Hvy Tk:	22	35						
Bus:	2	2						
MCycle:	2	2						

Notes: Mail car at 3:05-3:07 significant spiking, running two extra mins.

Site Sketch:



Personnel:

M6.05 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: May 10, 2022 2:26 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 38
Site ID(s): M6.06

Temperature (F): 70
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 4
Wind direction: North

Measurement Data

ID: **M6.06** Start: 15:26 Stop: 15:46 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): 62.5 L_{min}(dB): 51 L_{max}(dB): 77.3

GPS (°N,°W): 39.99385578333333, -75.85103605

Stor #: 192 Calib(dB): 94.05 / 94.12 (Pre- / Post-) Meas. Ht(ft): 5

Location: 23 Turnberry Ct Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	386	568						
Med Tk:	9	21						
Hvy Tk:	18	22						
Bus:	3	3						
MCycle:	3	6						

Notes: Dog barking at min3. Flyover min7. Loud bike end of min9 and 16.

Site Sketch:



Personnel:

M6.06 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 27, 2022 1:07 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 33
Site ID(s): M6.07

Temperature (F): 50
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 6
Wind direction: West

Measurement Data

ID: **M6.07** Start: 14:08 Stop: 14:28 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): **53** L_{min}(dB): 47.7 L_{max}(dB): 64.5

GPS (°N,°W): 39.99312993333333, -75.84941053333333

Stor #: 175 Calib(dB): 94.10 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5

Location: 46 Innisbrook Ln Coatesville, PA 19320

Relocated ☑ Yes ☐ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

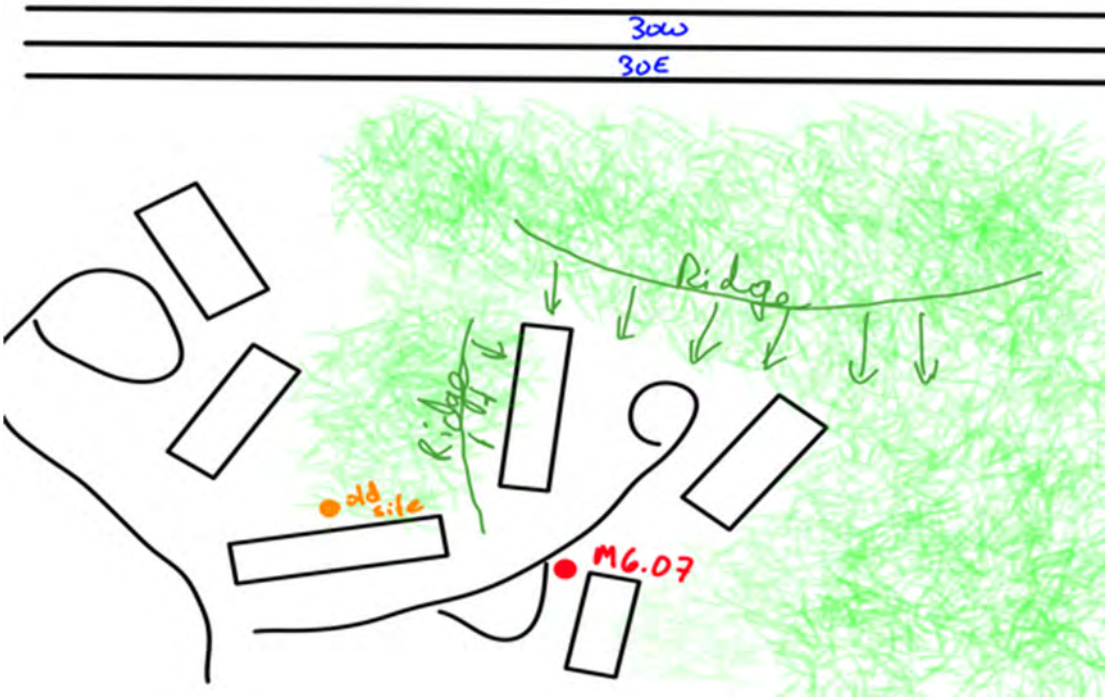
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	288	319						
Med Tk:	19	22						
Hvy Tk:	25	31						
Bus:	2	1						
MCycle:	0	0						

Notes: Relocated east due to poor location, bad shielding and reflective surfaces behind apartment unit.

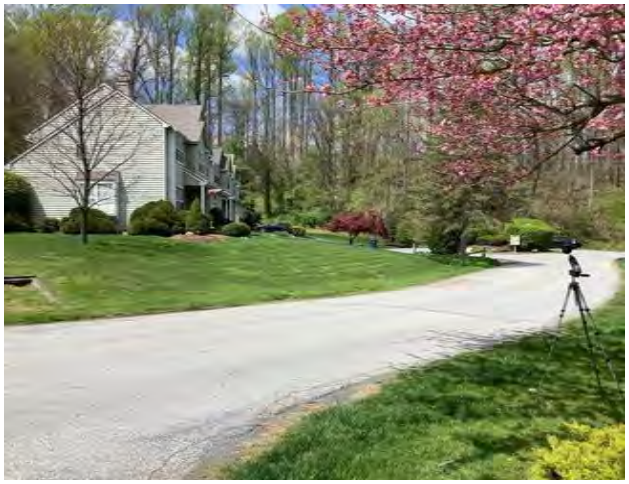
Site Sketch:



Personnel:

M6.07 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 27, 2022 1:01 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 33
Site ID(s): M6.08

Temperature (F): 50
Cloud cvr: ☐ None ☑ Partly ☐ Cloudy
Wind speed (mph): 1
Wind direction: West

Measurement Data

ID: **M6.08** Start: 14:06 Stop: 14:26 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 **L_{eq}(dB):** 53.5 L_{min}(dB): 46.3 L_{max}(dB): 60.9

GPS (°N,°W): 39.9937286, -75.84986436666667

Stor #: 194 Calib(dB): 94.08 / 93.81 (Pre- / Post-) Meas. Ht(ft): 5

Location: 41 Innisbrook Ln Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

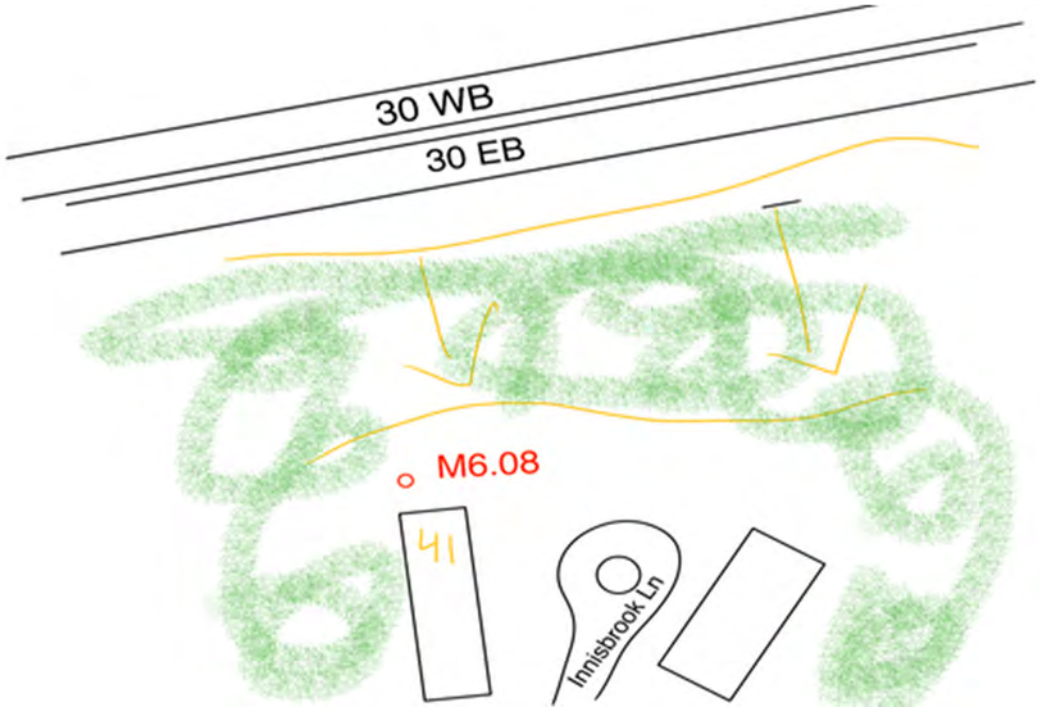
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

Roadway #1:	30		**Roadway #2:**			**Roadway #3:**			**Roadway #4:**		
Width(ft):			Width(ft):			Width(ft):			Width(ft):		
Direction:	EB	WB	Direction:			Direction:			Direction:		
Speed Limit:	55	55	Speed Limit:			Speed Limit:			Speed Limit:		
Observed Spd:			Observed Spd:			Observed Spd:			Observed Spd:		
Auto:	288	319	Auto:			Auto:			Auto:		
Med Tk:	19	22	Med Tk:			Med Tk:			Med Tk:		
Hvy Tk:	25	31	Hvy Tk:			Hvy Tk:			Hvy Tk:		
Bus:	2	1	Bus:			Bus:			Bus:		
MCycle:	0	0	MCycle:			MCycle:			MCycle:		

Notes: Wind gust at 2:16. Tree noise Plane at 2:20 Tree gust at 2:24 and 2:25

Site Sketch:



Personnel:

M6.08 Site Photos:

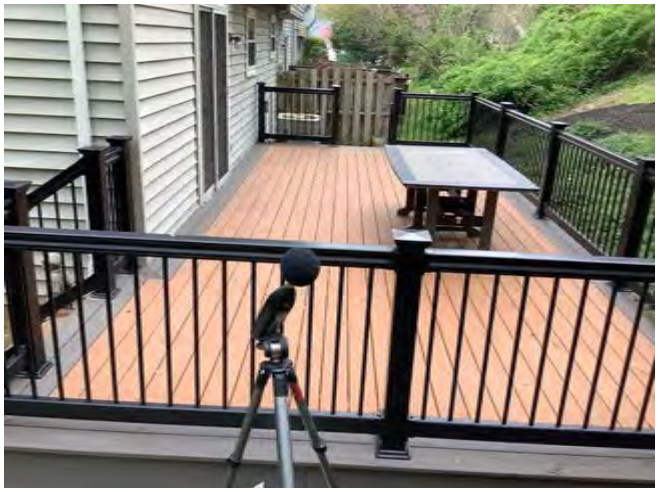
North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: May 10, 2022 2:59 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 39
Site ID(s): M6.09

Gannett Fleming

Temperature (F): 71
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 0
Wind direction:

Measurement Data

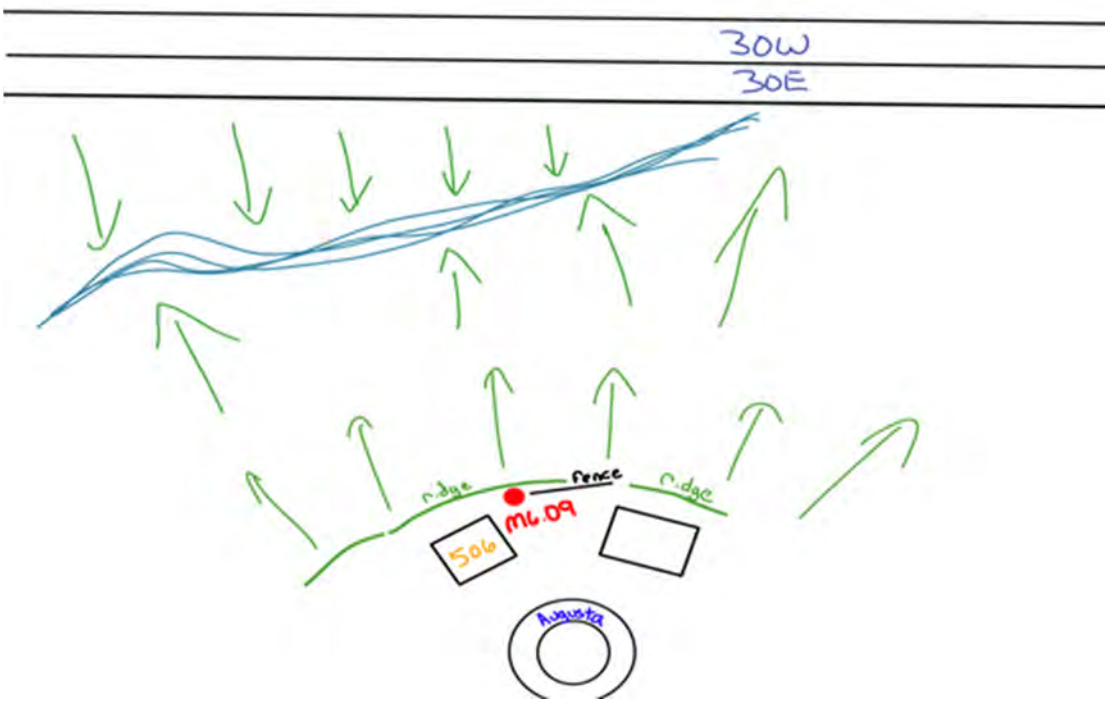
ID: **M6.09** Start: 15:58 Stop: 16:18
☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4228 L_{eq}(dB): 62.3 L_{min}(dB): 52.2 L_{max}(dB): 69.6
GPS (°N,°W): 39.99421816666666, -75.84588465
Stor #: 193 Calib(dB): 94.05 / 94.12 (Pre- / Post-) Meas. Ht(ft): 5
Location: 506 Augusta Dr Coatesville, PA 19320
Relocated ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		**Roadway #2:**		**Roadway #3:**		**Roadway #4:**	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	349	495						
Med Tk:	6	30						
Hvy Tk:	13	22						
Bus:	4	2						
MCycle:	4	6						

Notes: Dogs at minute 1. Flyover at minute 8. Dogs at min 8. Running three extra mins. Brief convo at min 21-22 with adjacent neighbor.

Site Sketch:



Personnel:

M6.09 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 27, 2022 10:31 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 31
Site ID(s): M6.10

Gannett Fleming

Temperature (F): 52
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 10
Wind direction: West

Measurement Data

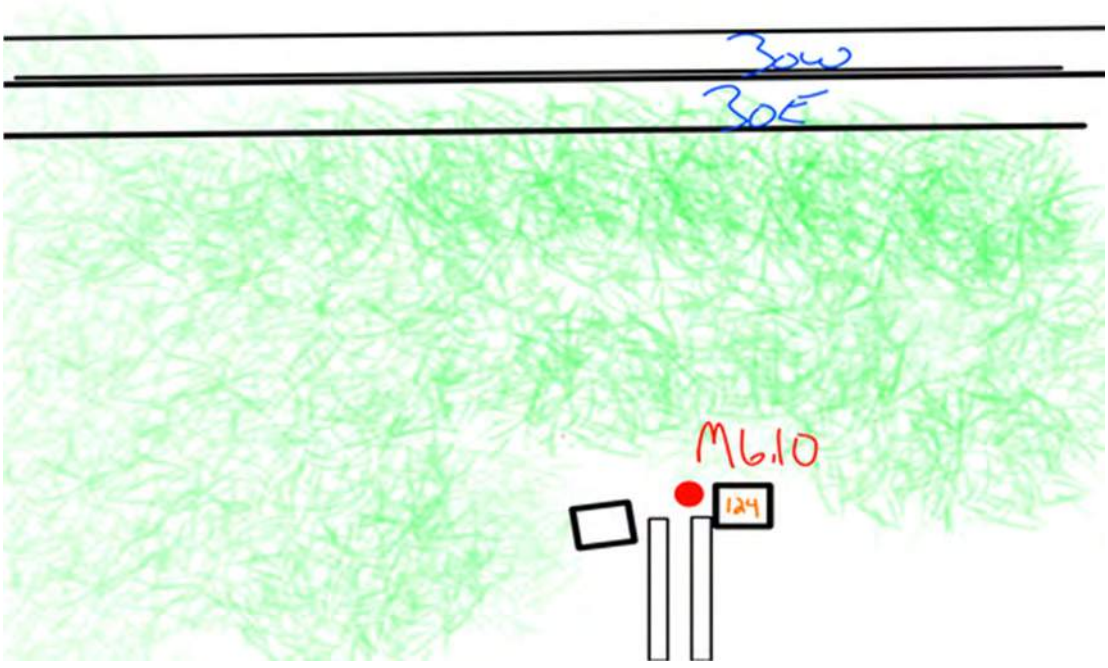
ID: **M6.10** Start: 11:26 Stop: 11:46
☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4228 L_{eq}(dB): 60.5 L_{min}(dB): 54.2 L_{max}(dB): 65.6
GPS (°N,°W): 39.99475215, -75.84293138333334
Stor #: 173 Calib(dB): 94.10 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5
Location: 124 Burgundy Ln Coatesville, PA 19320
Relocated ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:	55							
Auto:	235	293						
Med Tk:	19	16						
Hvy Tk:	28	39						
Bus:	0	1						
MCycle:	0	1						

Notes: Occasional wind gust causing tree noises. 1:34-11:35 conversation.

Site Sketch:



Personnel:

M6.10 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 27, 2022 12:20 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 32
Site ID(s): M6.11

Gannett Fleming

Temperature (F): 52
Cloud cvr: ☐ None ☑ Partly ☐ Cloudy
Wind speed (mph): 7
Wind direction: West

Measurement Data

ID: **M6.11** Start: 13:15 Stop: 13:35 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): **71.3** L_{min}(dB): 57.1 L_{max}(dB): 83.5

GPS (°N,°W): 39.99664780955352, -75.84029788261643

Stor #: 174 Calib(dB): 94.10 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5

Location: 724 Charlotte Ln. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

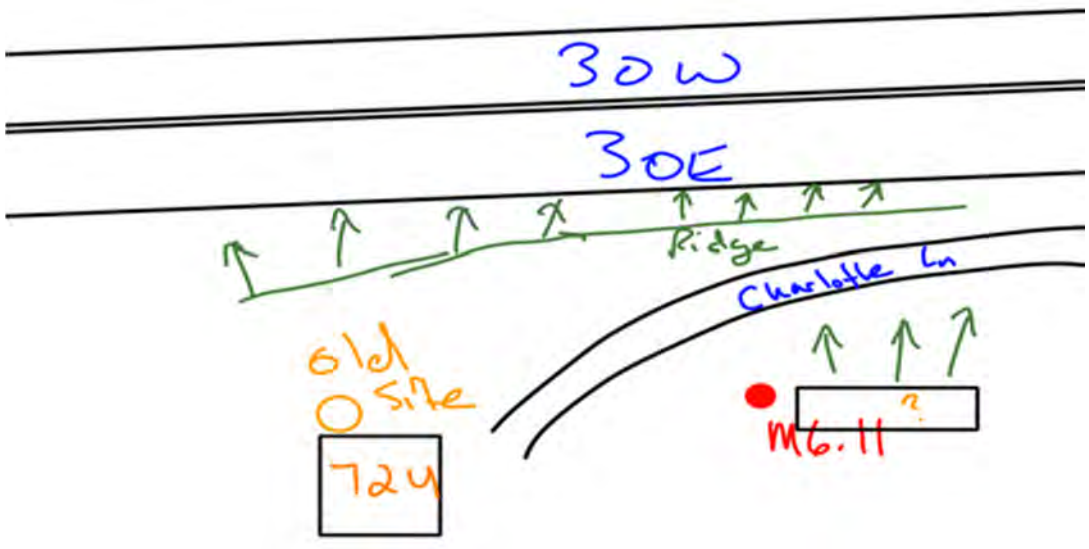
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		**Roadway #2:**		**Roadway #3:**		**Roadway #4:**	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	205	274						
Med Tk:	21	12						
Hvy Tk:	25	44						
Bus:	3	2						
MCycle:	0	0						

Notes: Car leaving 1:25-1:26. Bluster at 1:26 from south. Relocated meas east (due to agressive signage) to (once) vacant lot which now has mobile home. GPS died - incorrect coordinates. Check images. Closer to 39.996288°N 75.839254°W

Site Sketch:



Personnel:

M6.11 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 27, 2022 12:16 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 32
Site ID(s): M6.12

Temperature (F): 52
Cloud cvr: ☐ None ☑ Partly ☐ Cloudy
Wind speed (mph): 5
Wind direction: West

Measurement Data

ID: **M6.12** Start: 13:15 Stop: 13:35 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): 68.6 L_{min}(dB): 55.1 L_{max}(dB): 80.8

GPS (°N,°W): 39.99671315, -75.83753996666667

Stor #: 193 Calib(dB): 94.08 / 93.81 (Pre- / Post-) Meas. Ht(ft): 5

Location: 700 Wagontown Rd. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

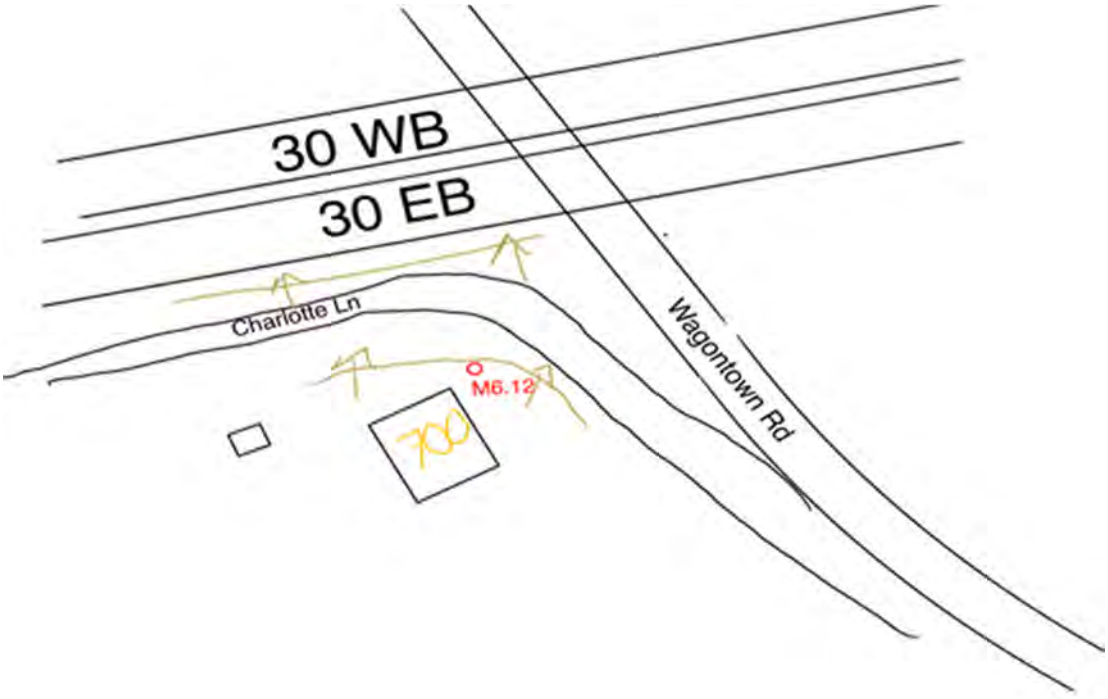
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30		Wagontown Rd					
Direction:	EB	WB	Both					
Speed Limit:	55	55	25					
Observed Spd:								
Auto:	205	274	12					
Med Tk:	21	12	0					
Hvy Tk:	25	44	0					
Bus:	3	2	0					
MCycle:	0	0	0					

Notes:

Site Sketch:



Personnel:

M6.12 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 12:46 PM
Project: vSR-0030 / Section AIR - Coatesville, PA
Setup#: 22
Site ID(s): M7.01

Gannett Fleming

Temperature (F): 63
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: Northeast

Measurement Data

ID: **M7.01** Start: 13:48 Stop: 14:08 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): **68** L_{min}(dB): 53.4 L_{max}(dB): 81

GPS (°N,°W): 39.99373090743042, -75.85566450731497

Stor #: 183 Calib(dB): 93.98 / 94.03 (Pre- / Post-) Meas. Ht(ft): 5

Location: 14 Kimberly Cir. Coatesville, PA 19320

Relocated ☑ Yes ☐ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

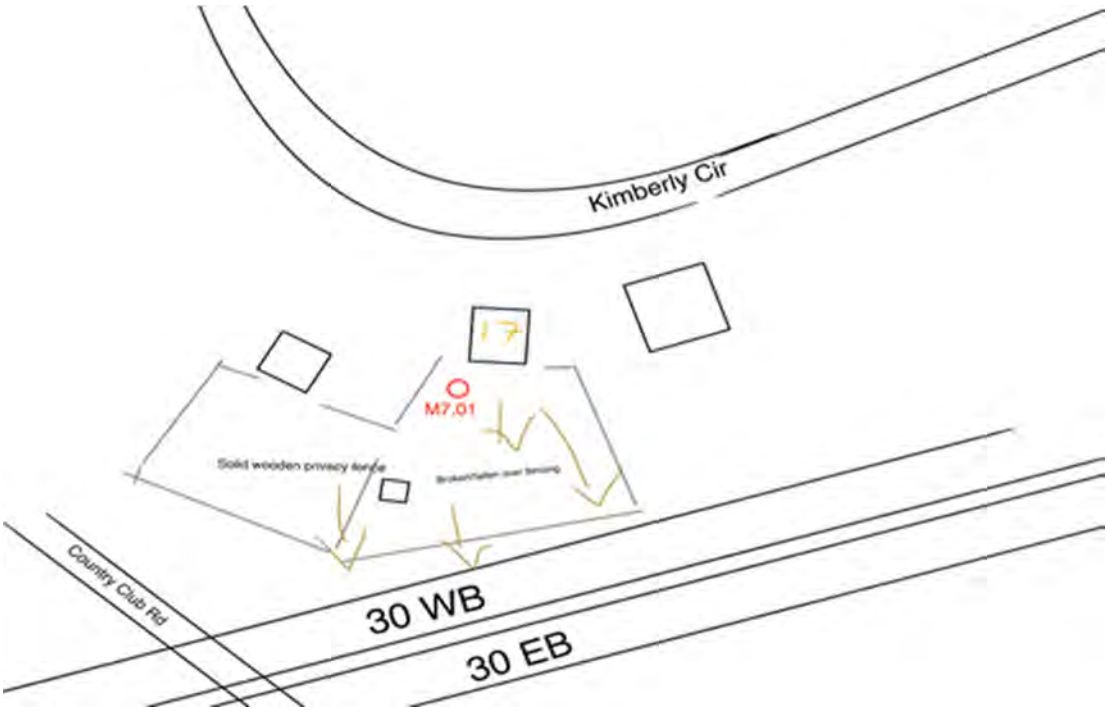
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1: 30		**Roadway #2:** Country Club Rd		**Roadway #3:**		**Roadway #4:**	
Width(ft):			Width(ft):		Width(ft):		Width(ft):	
Direction:	EB	WB	Direction:	Both	Direction:		Direction:	
Speed Limit:	55	55	Speed Limit:		Speed Limit:		Speed Limit:	
Observed Spd:			Observed Spd:		Observed Spd:		Observed Spd:	
Auto:	223	271	Auto:	10	Auto:		Auto:	
Med Tk:	30	13	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	23	30	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	4	1	Bus:		Bus:		Bus:	
MCycle:	0	0	MCycle:		MCycle:		MCycle:	

Notes:

Site Sketch:



Personnel: [redacted]

M7.01 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 12:49 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 22
Site ID(s): M7.02

Temperature (F): 63
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 0
Wind direction:

Measurement Data

ID: **M7.02** Start: 13:48 Stop: 14:08 ☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4228 L_{eq}(dB): **55.8** L_{min}(dB): 46.6 L_{max}(dB): 64.5
GPS (°N,°W): 39.994004733333334, -75.85632874999999
Stor #: 164 Calib(dB): 93.96 / 93.90 (Pre- / Post-) Meas. Ht(ft): 5
Location: 7 Kimberly Cir. Coatesville, PA 19320
Type(use, NAC): Residential (B)
Relocated ☐ Yes ☑ No
Site Photographed ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

Roadway #1:	30		**Roadway #2:**	Country Club		**Roadway #3:**			**Roadway #4:**		
Width(ft):			Width(ft):			Width(ft):			Width(ft):		
Direction:	EB	WB	Direction:	Both		Direction:			Direction:		
Speed Limit:	55	55	Speed Limit:	35		Speed Limit:			Speed Limit:		
Observed Spd:			Observed Spd:	35		Observed Spd:			Observed Spd:		
Auto:	223	271	Auto:	10		Auto:			Auto:		
Med Tk:	30	13	Med Tk:			Med Tk:			Med Tk:		
Hvy Tk:	23	30	Hvy Tk:			Hvy Tk:			Hvy Tk:		
Bus:	4	0	Bus:			Bus:			Bus:		
MCycle:	0	0	MCycle:			MCycle:			MCycle:		

Notes: Sheds and fences breaking LOS from mainline. Dense foliage and ground cover across from Country Club.

Site Sketch:



Personnel:

M7.02 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 1:43 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 23
Site ID(s): M7.03

Temperature (F): 63
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: Northeast

Measurement Data

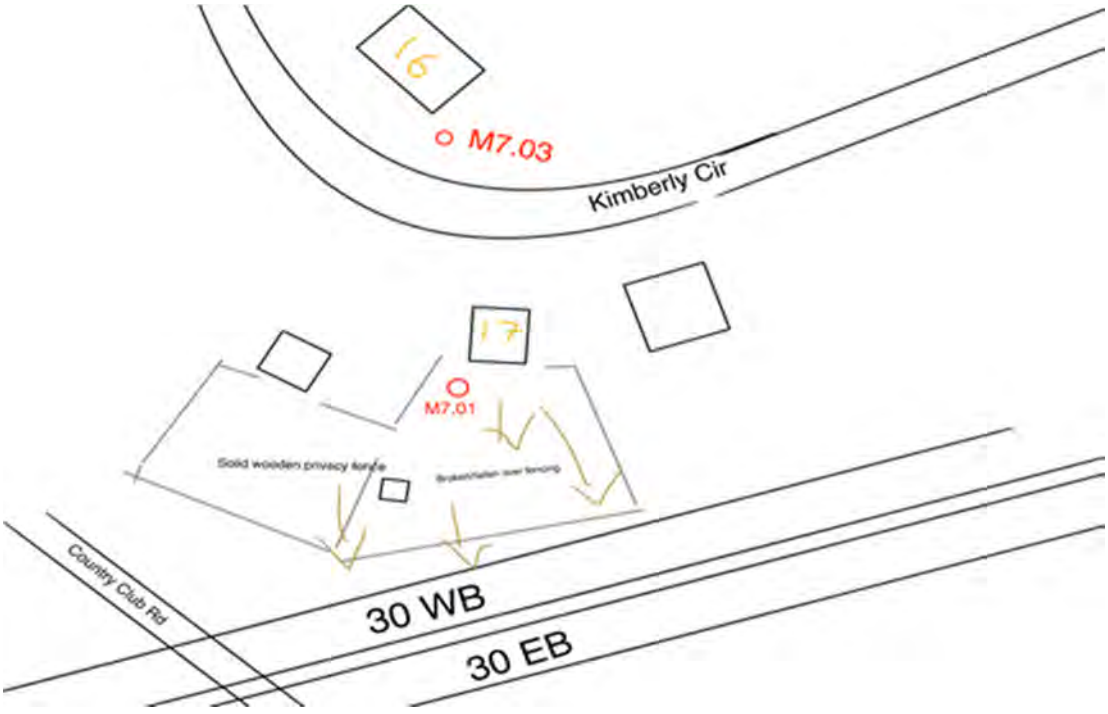
ID: **M7.03** Start: 14:24 Stop: 14:44 ☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4229 L_{eq}(dB): **61.6** L_{min}(dB): 52.1 L_{max}(dB): 72.9
GPS (°N,°W): 39.99385522154129, -75.85560694249999
Stor #: 184 Calib(dB): 93.98 / 94.03 (Pre- / Post-) Meas. Ht(ft): 5
Location: 16 Kimberly Cir. Coatesville, PA 19320
Relocated: ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed: ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	315	370						
Med Tk:	17	20						
Hvy Tk:	21	38						
Bus:	1	4						
MCycle:	0	1						

Notes:

Site Sketch:



Personnel: [redacted]

M7.03 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 1:42 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 23
Site ID(s): M7.04

Gannett Fleming

Temperature (F): 60
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 3
Wind direction: Southeast

Measurement Data

ID: **M7.04** Start: 14:24 Stop: 14:44 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): **57.6** L_{min}(dB): 50.5 L_{max}(dB): 66.1

GPS (°N,°W): 39.994523533333336, -75.85585301666666

Stor #: 165 Calib(dB): 93.96 / 93.90 (Pre- / Post-) Meas. Ht(ft): 5

Location: 1 Donna Dr. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

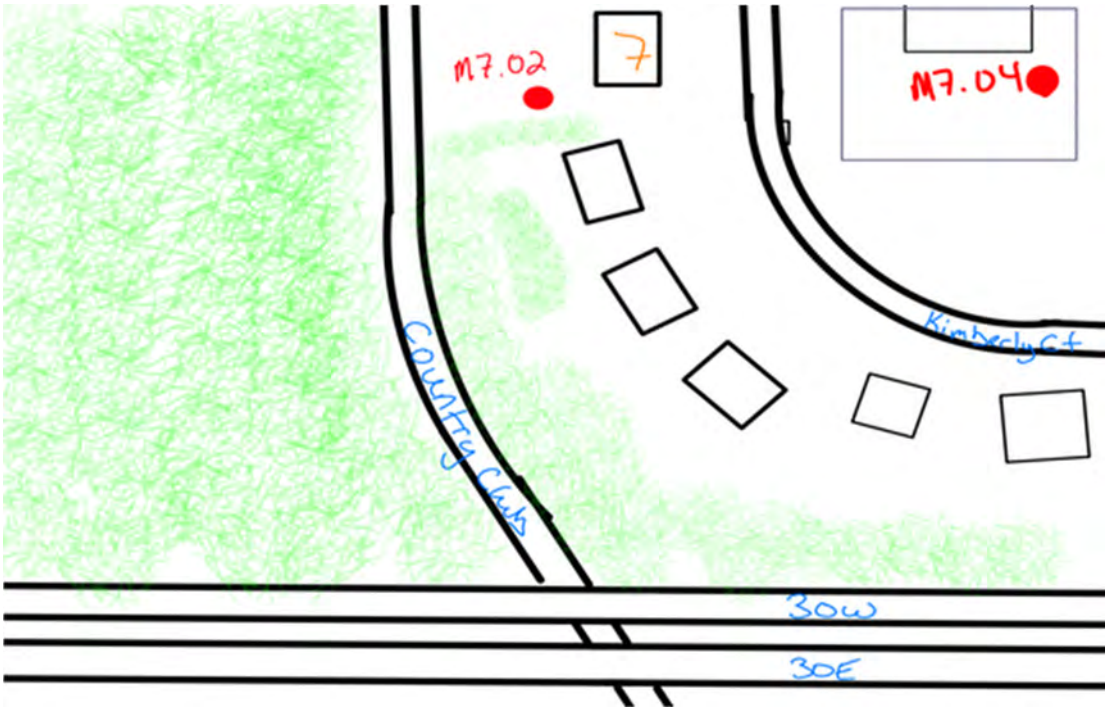
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		**Roadway #2:**		**Roadway #3:**		**Roadway #4:**	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:		55						
Observed Spd:								
Auto:	315	370						
Med Tk:	17	20						
Hvy Tk:	21	38						
Bus:	1	4						
MCycle:	0	0						

Notes:

Site Sketch:



Personnel:

M7.04 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 2:00 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 24
Site ID(s): M7.05

Temperature (F): 63
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 4
Wind direction: Northeast

Measurement Data

ID: **M7.05** Start: 14:59 Stop: 15:19 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): **69.7** L_{min}(dB): 53.9 L_{max}(dB): 79.4

GPS (°N,°W): 39.99405243333333, -75.85384813333333

Stor #: 185 Calib(dB): 93.98 / 94.03 (Pre- / Post-) Meas. Ht(ft): 5

Location: 27 Kimberly Cir. Coatesville, PA 19320

Relocated ☑ Yes ☐ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

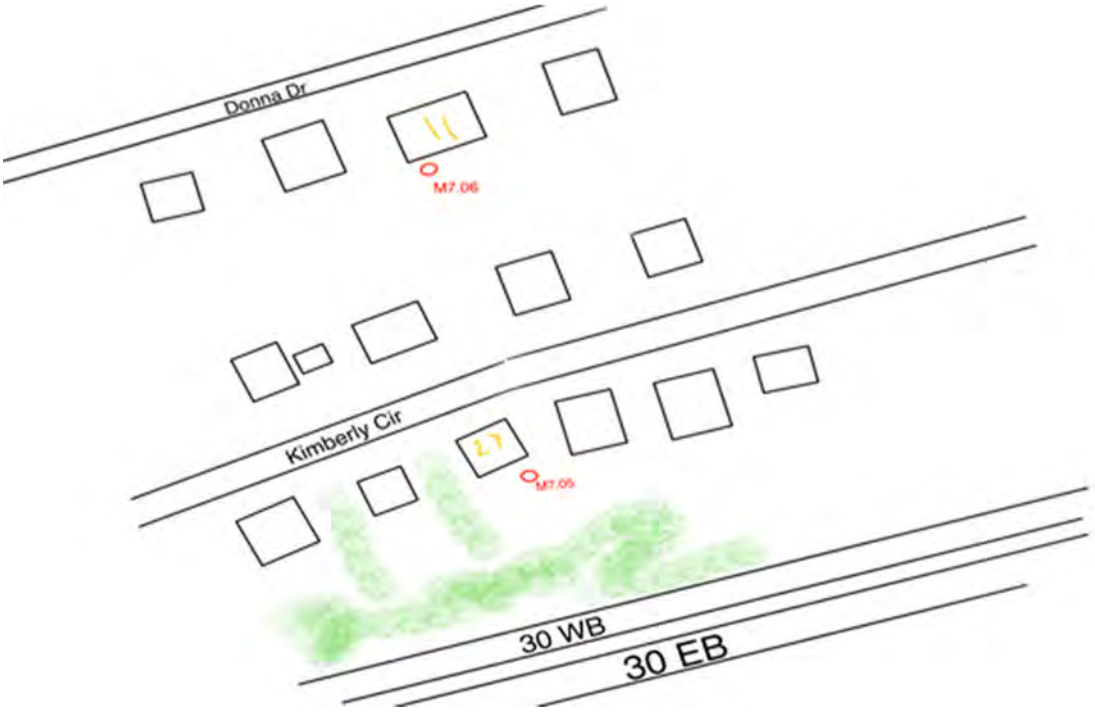
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	318	446						
Med Tk:	20	19						
Hvy Tk:	15	26						
Bus:	4	1						
MCycle:	0	0						

Notes:

Site Sketch:



Personnel: [redacted]

M7.05 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 2:16 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 24
Site ID(s): M7.06

Temperature (F): 63
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 4
Wind direction: South

Measurement Data

ID: **M7.06** Start: 15:59 Stop: 15:19 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): 56.3 L_{min}(dB): 48.7 L_{max}(dB): 66.2

GPS (°N,°W): 39.99498261666667, -75.8539868

Stor #: 166 Calib(dB): 93.96 / 93.90 (Pre- / Post-) Meas. Ht(ft): 5

Location: 11 Donna Dr. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

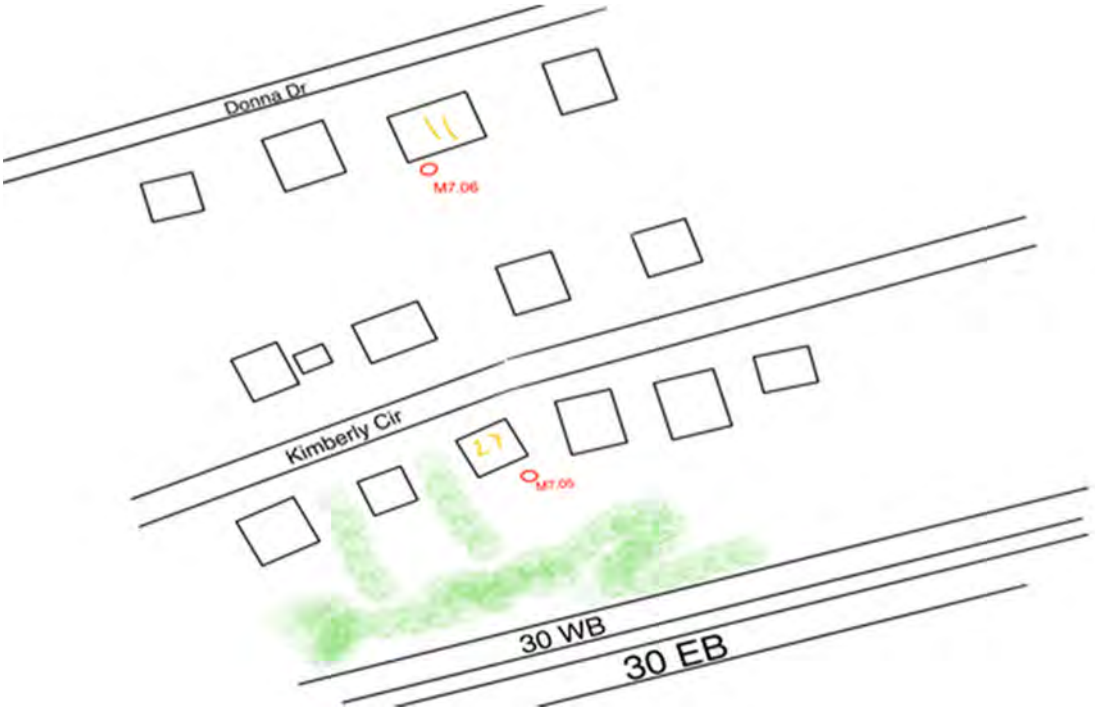
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	318	446						
Med Tk:	20	19						
Hvy Tk:	15	26						
Bus:	4	1						
MCycle:	0	0						

Notes:

Site Sketch:



Personnel:

M7.06 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 10:57 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 21
Site ID(s): M7.07

Temperature (F): 63
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: Northeast

Measurement Data

ID: **M7.07** Start: 12:07 Stop: 12:27 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): **67.8** L_{min}(dB): 51.9 L_{max}(dB): 75.7

GPS (°N,°W): 39.99467791666667, -75.85130096666667

Stor #: 182 Calib(dB): 93.98 / 94.03 (Pre- / Post-) Meas. Ht(ft): 5

Location: 41 Kimbelry Cir. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

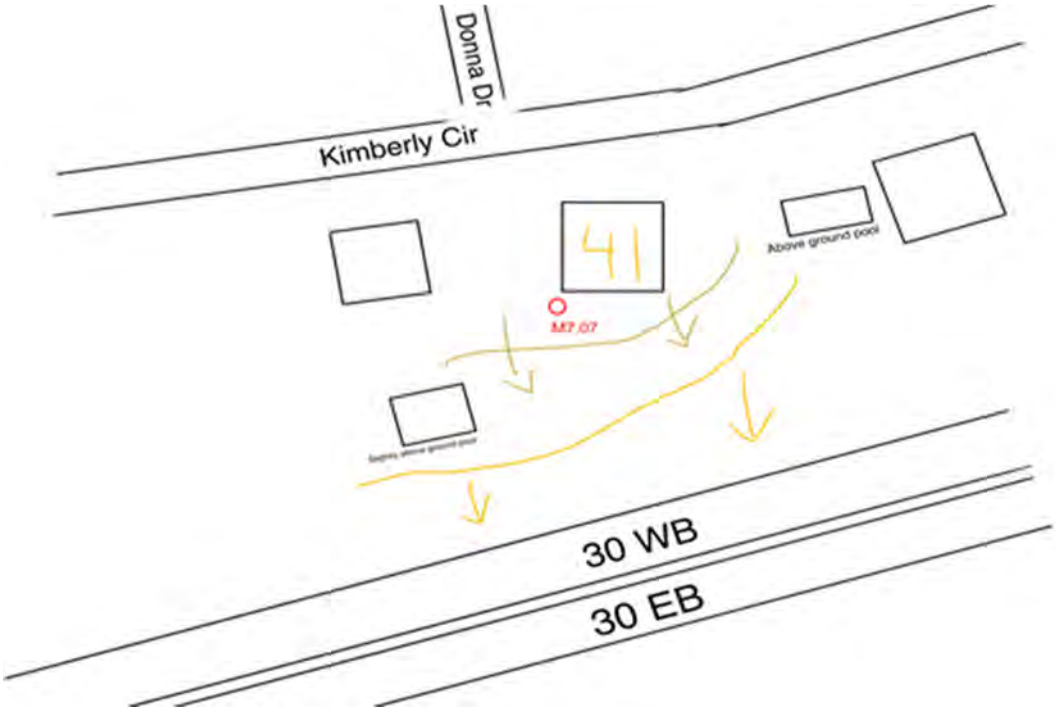
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	211	246						
Med Tk:	17	12						
Hvy Tk:	17	25						
Bus:	1	3						
MCycle:	0	0						

Notes:

Site Sketch:



Personnel: [redacted]

M7.07 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 26, 2022 11:18 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 21
Site ID(s): M7.08

Gannett Fleming

Temperature (F): 63
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 2
Wind direction: Southwest

Measurement Data

ID: **M7.08** Start: 12:07 Stop: 12:27 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): 56.6 L_{min}(dB): 45.8 L_{max}(dB): 62.3

GPS (°N,°W): 39.99512911666667, -75.85178511666666

Stor #: 163 Calib(dB): 93.98 / 93.90 (Pre- / Post-) Meas. Ht(ft): 5

Location: 21 Donna Dr. Coatesville, PA 19320

Relocated ☑ Yes ☐ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

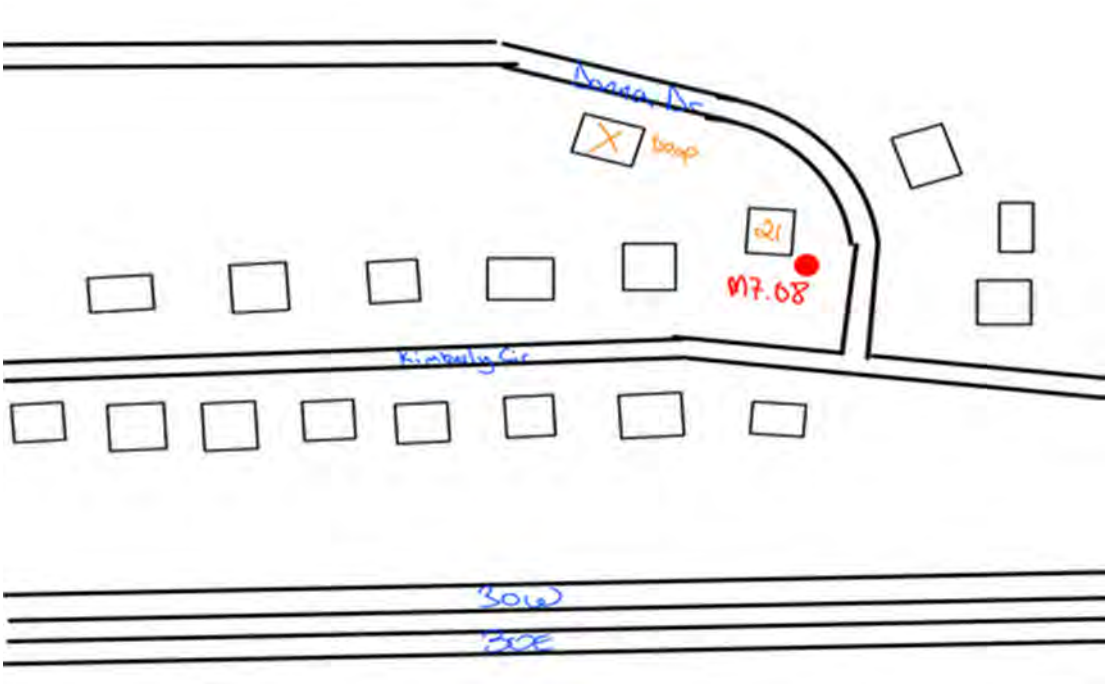
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

Roadway #1: 30	EB	WB	**Roadway #2:**			**Roadway #3:**			**Roadway #4:**		
Width(ft):			Width(ft):			Width(ft):			Width(ft):		
Direction:			Direction:			Direction:			Direction:		
Speed Limit:	55	55	Speed Limit:			Speed Limit:			Speed Limit:		
Observed Spd:			Observed Spd:			Observed Spd:			Observed Spd:		
Auto:	211	246	Auto:			Auto:			Auto:		
Med Tk:	17	12	Med Tk:			Med Tk:			Med Tk:		
Hvy Tk:	17	25	Hvy Tk:			Hvy Tk:			Hvy Tk:		
Bus:	1	3	Bus:			Bus:			Bus:		
MCycle:	0	0	MCycle:			MCycle:			MCycle:		

Notes: Site relocated due to disgruntled resident at 19 Donna.

Site Sketch:



Personnel:

M7.08 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 27, 2022 6:34 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 25
Site ID(s): M7.09

Temperature (F): 46
Cloud cvr: ☐ None ☑ Partly ☐ Cloudy
Wind speed (mph): 2
Wind direction: West

Measurement Data

ID: **M7.09** Start: 07:34 Stop: 07:54 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): 67.4 L_{min}(dB): 56.5 L_{max}(dB): 74.9

GPS (°N,°W): 39.9949143, -75.84976544999999

Stor #: 186 Calib(dB): 94.08 / 93.81 (Pre- / Post-) Meas. Ht(ft): 5

Location: 49 Kimberly Cir. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

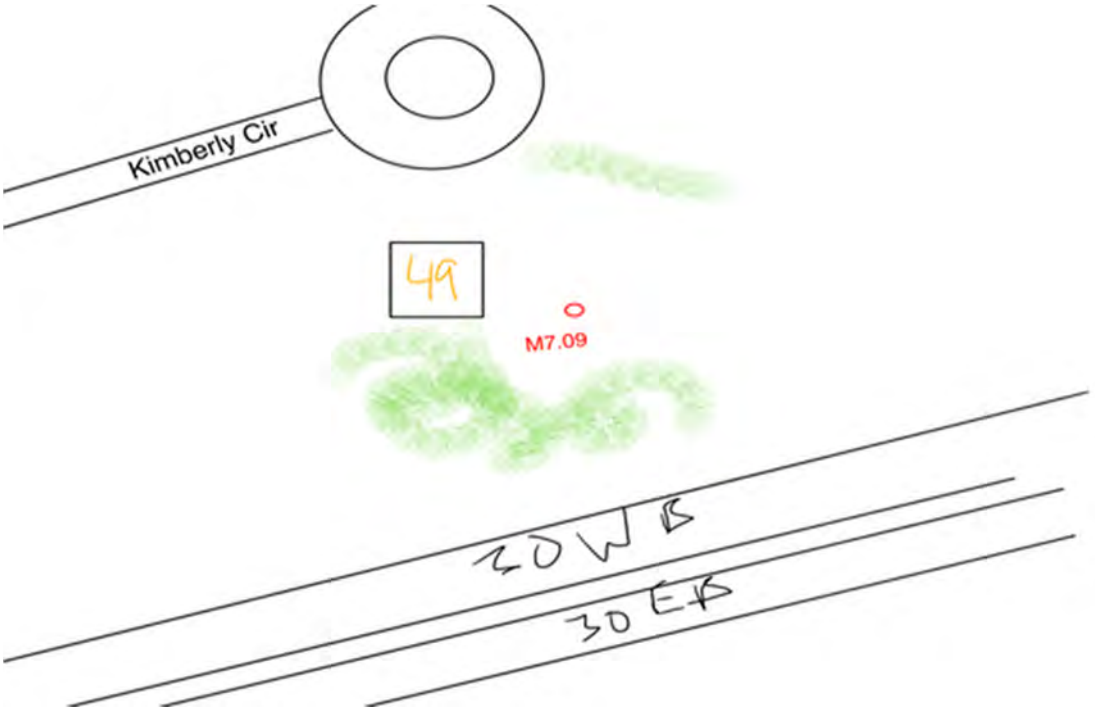
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	337	326						
Med Tk:	28	12						
Hvy Tk:	28	26						
Bus:	3	4						
MCycle:	0	1						

Notes: Plane at 7:48

Site Sketch:



Personnel: [redacted]

M7.09 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 27, 2022 6:34 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 25
Site ID(s): M7.10

Temperature (F): 46
Cloud cvr: ☐ None ☐ Partly ☑ Cloudy
Wind speed (mph): 5
Wind direction: West

Measurement Data

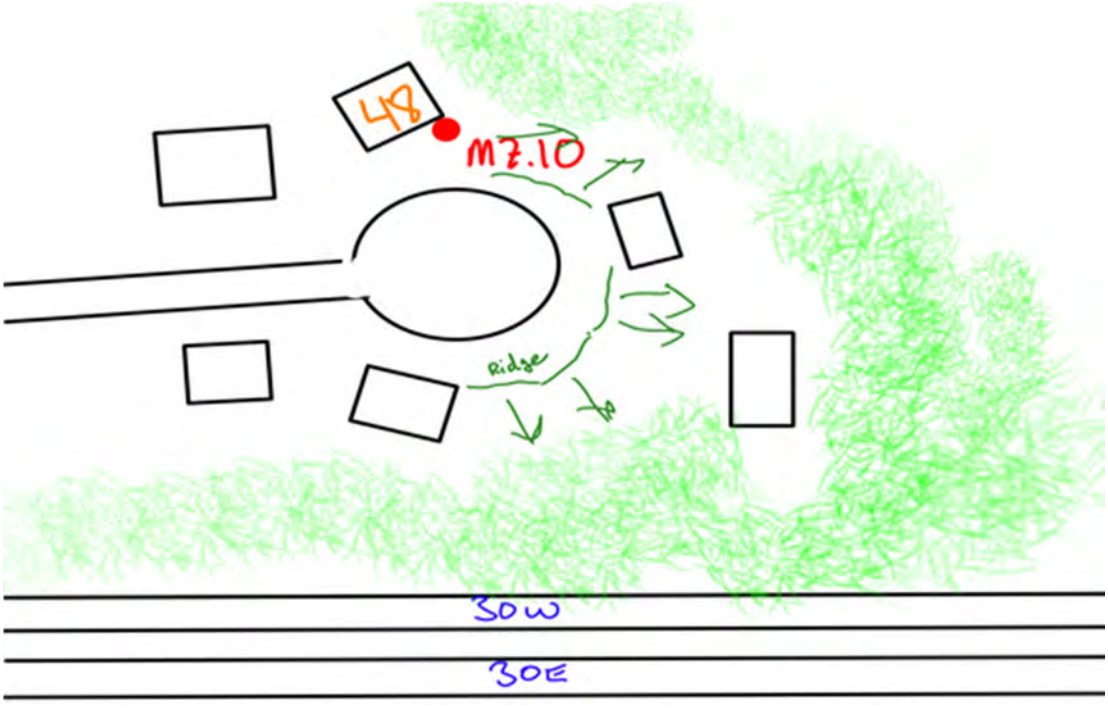
ID: **M7.10** Start: 07:34 Stop: 07:54 ☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4228 L_{eq}(dB): 57 L_{min}(dB): 49 L_{max}(dB): 69.3
GPS (°N,°W): 39.99542043333333, -75.85013953333335
Stor #: 167 Calib(dB): 94.10 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5
Location: 48 Kimberly Cir. Coatesville, PA 19320
Relocated ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	337	326						
Med Tk:	28	12						
Hvy Tk:	28	26						
Bus:	3	4						
MCycle:	0	1						

Notes:

Site Sketch:



Personnel:

M7.10 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 27, 2022 7:07 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 26
Site ID(s): M7.11

Temperature (F): 46
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 3
Wind direction: West

Measurement Data

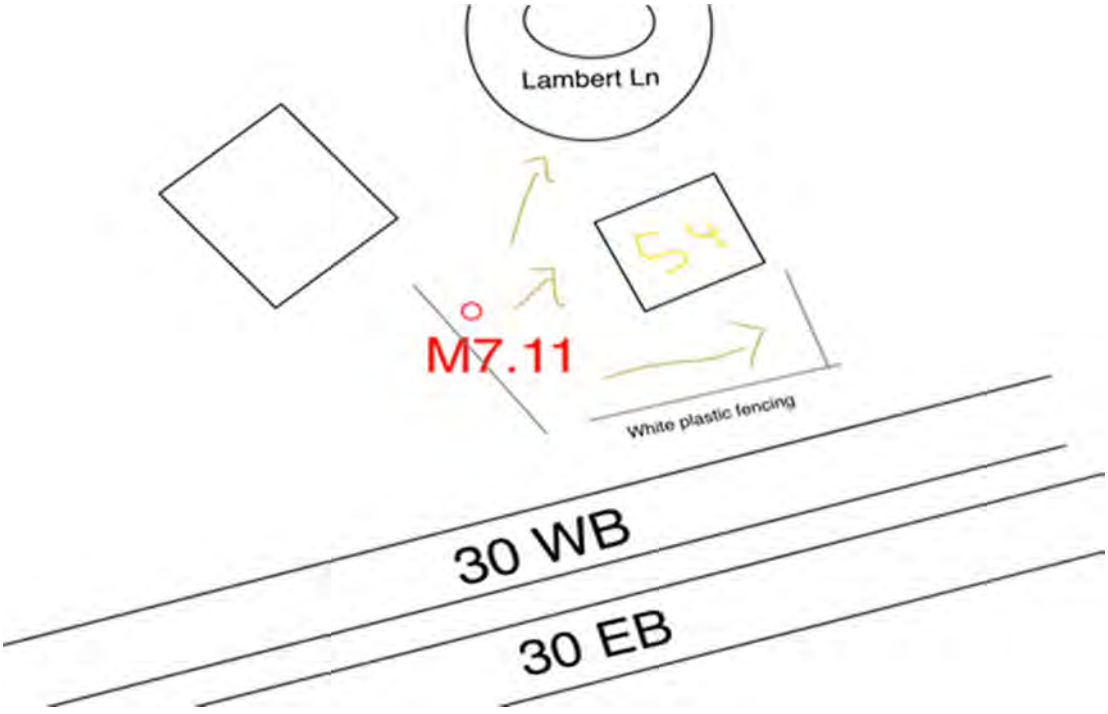
ID: **M7.11** Start: 08:08 Stop: 08:28 ☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4229 L_{eq}(dB): 66.6 L_{min}(dB): 52.3 L_{max}(dB): 81.9
GPS (°N,°W): 39.99521608333334, -75.84833335
Stor #: 187 Calib(dB): 94.08 / 93.81 (Pre- / Post-) Meas. Ht(ft): 5
Location: 54 Lambert Ln. Coatesville, PA 19320
Relocated ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	300	258						
Med Tk:	33	19						
Hvy Tk:	23	25						
Bus:	1	5						
MCycle:	0	0						

Notes:

Site Sketch:



Personnel: [redacted]

M7.11 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 27, 2022 7:09 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 26
Site ID(s): M7.12

Temperature (F): 46
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 5
Wind direction: West

Measurement Data

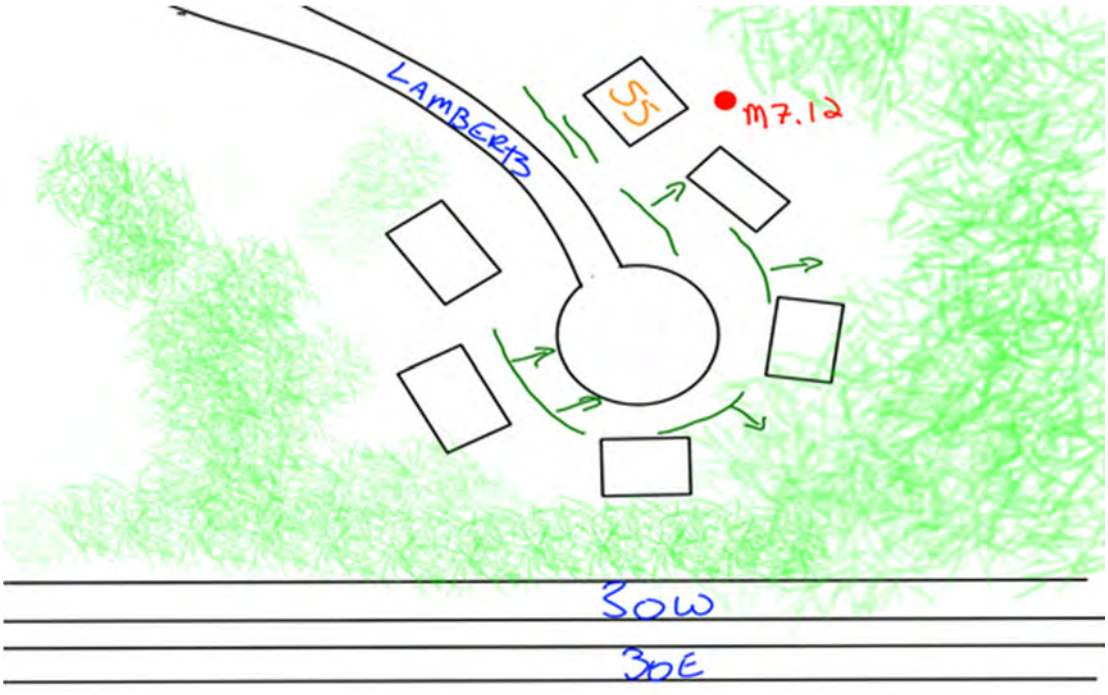
ID: **M7.12** Start: 08:08 Stop: 08:28 ☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4228 L_{eq}(dB): 58.2 L_{min}(dB): 49 L_{max}(dB): 71.4
GPS (°N,°W): 39.99603213333333, -75.84822805
Stor #: 168 Calib(dB): 94.10 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5
Location: 55 Lambert Ln. Coatesville, PA 19320
Relocated ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	300	258						
Med Tk:	33	19						
Hvy Tk:	23	25						
Bus:	1	5						
MCycle:	0	0						

Notes: Moved to back yard where outdoor use is. Odd shielding conditions due to hardscaping in front of house. Line of sight to project from rear though the valley.

Site Sketch:



Personnel:

M7.12 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 27, 2022 10:20 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 31
Site ID(s): M7.13

Gannett Fleming

Temperature (F): 50
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 7
Wind direction: West

Measurement Data

ID: **M7.13** Start: 11:26 Stop: 11:46 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): 65.2 L_{min}(dB): 55.7 L_{max}(dB): 77.1

GPS (°N,°W): 39.99659173333333, -75.84492680000001

Stor #: 192 Calib(dB): 94.08 / 93.81 (Pre- / Post-) Meas. Ht(ft): 5

Location: 120 Mineral Spring Rd. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	235	293						
Med Tk:	19	16						
Hvy Tk:	28	39						
Bus:	0	1						
MCycle:	0	1						

Notes: 11:35 spike from cardboard hitting fence 11:38 spike phone dropped on metal rake

Site Sketch:





Personnel:

M7.13 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 27, 2022 9:47 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 30
Site ID(s): M7.14

Gannett Fleming

Temperature (F): 48
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 5
Wind direction: West

Measurement Data

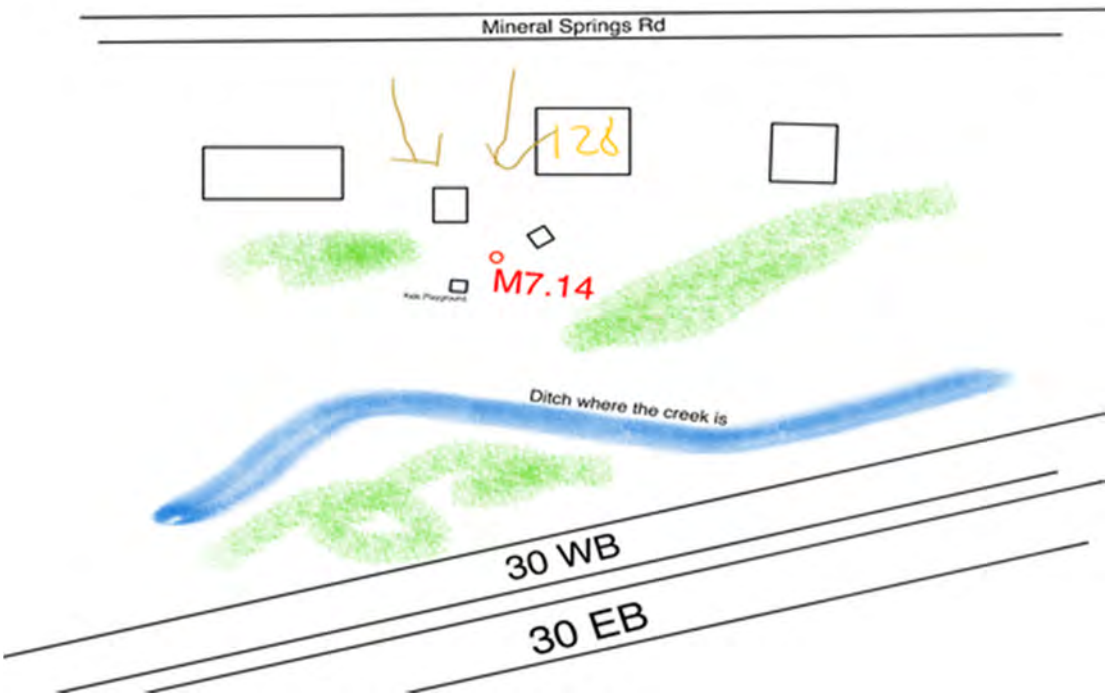
ID: **M7.14** Start: 10:48 Stop: 11:08
☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4229 L_{eq}(dB): **67.5** L_{min}(dB): 52.3 L_{max}(dB): 76.4
GPS (°N,°W): 39.9966862, -75.84285008333332
Stor #: 191 Calib(dB): 94.08 / 93.81 (Pre- / Post-) Meas. Ht(ft): 5
Location: 128 Mineral Spring Rd. Coatesville, PA 19320
Relocated ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1: 30		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):								
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	186	232						
Med Tk:	15	14						
Hvy Tk:	27	29						
Bus:	0	1						
MCycle:	0	0						

Notes:

Site Sketch:



Personnel:

M7.14 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 27, 2022 9:47 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 30
Site ID(s): M7.15

Gannett Fleming

Temperature (F): 50
Cloud cvr: ☐ None ☑ Partly ☐ Cloudy
Wind speed (mph): 4
Wind direction: West

Measurement Data

ID: **M7.15** Start: 11:48 Stop: 11:08 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): 63.4 L_{min}(dB): 52.7 L_{max}(dB): 71.1

GPS (°N,°W): 39.99686272329755, -75.84230978935824

Stor #: 172 Calib(dB): 94.10 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5

Location: 131 Mineral Spring Rd. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

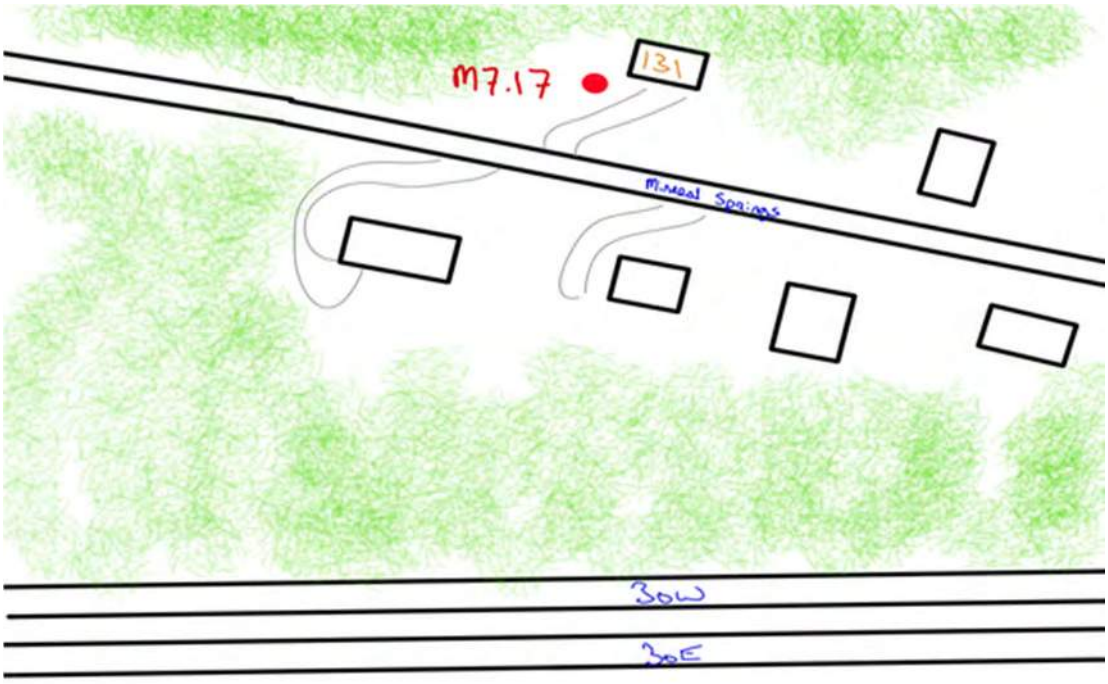
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	186	232						
Med Tk:	15	14						
Hvy Tk:	27	29						
Bus:	0	1						
MCycle:	0	0						

Notes:

Site Sketch:



Personnel:

M7.15 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 27, 2022 9:28 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 29
Site ID(s): M7.16

Temperature (F): 48
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 3
Wind direction: West

Measurement Data

ID: **M7.16** Start: 10:12 Stop: 10:32 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): 72.7 L_{min}(dB): 55.3 L_{max}(dB): 85.5

GPS (°N,°W): 39.99682436666667, -75.84074745

Stor #: 190 Calib(dB): 94.08 / 93.81 (Pre- / Post-) Meas. Ht(ft): 5

Location: 136 Mineral Spring Rd. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

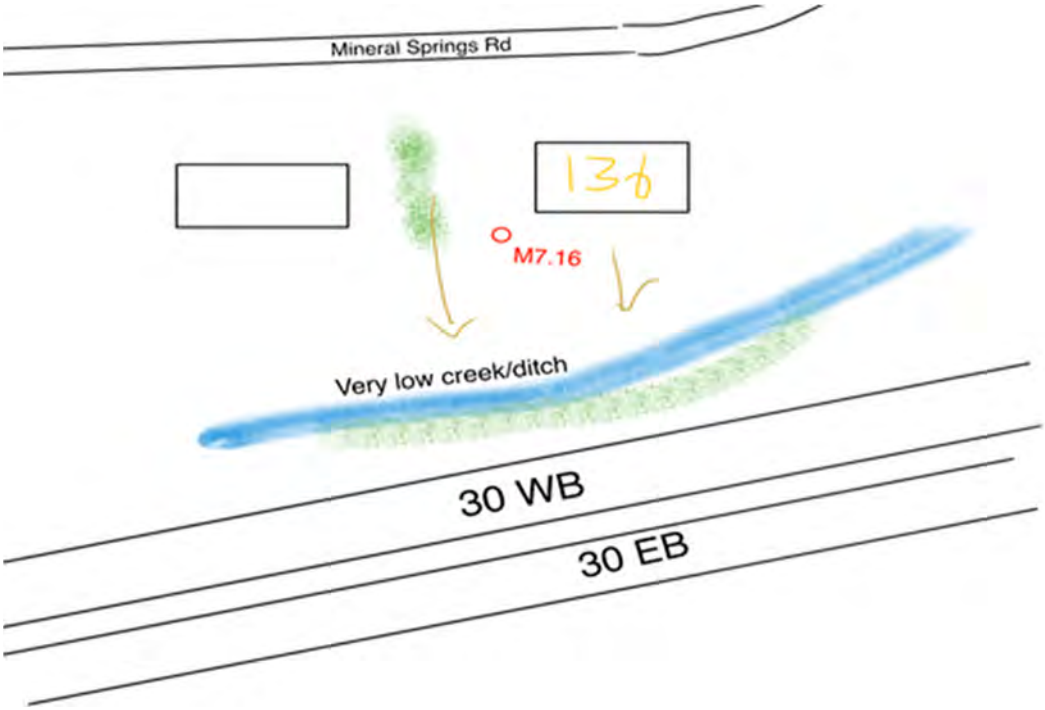
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	232	229						
Med Tk:	23	14						
Hvy Tk:	29	41						
Bus:	1	3						
MCycle:	0	0						

Notes:

Site Sketch:



Personnel:

M7.16 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 27, 2022 9:15 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 29
Site ID(s): M7.17

Temperature (F): 48
Cloud cvr: ☐ None ☑ Partly ☐ Cloudy
Wind speed (mph): 4
Wind direction: West

Measurement Data

ID: **M7.17** Start: 10:12 Stop: 10:32 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): 64.9 L_{min}(dB): 55.3 L_{max}(dB): 73.8

GPS (°N,°W): 39.997220766666665, -75.84103641666668

Stor #: 171 Calib(dB): 94.10 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5

Location: 143 Mineral Spring Rd. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☐ Yes ☑ No

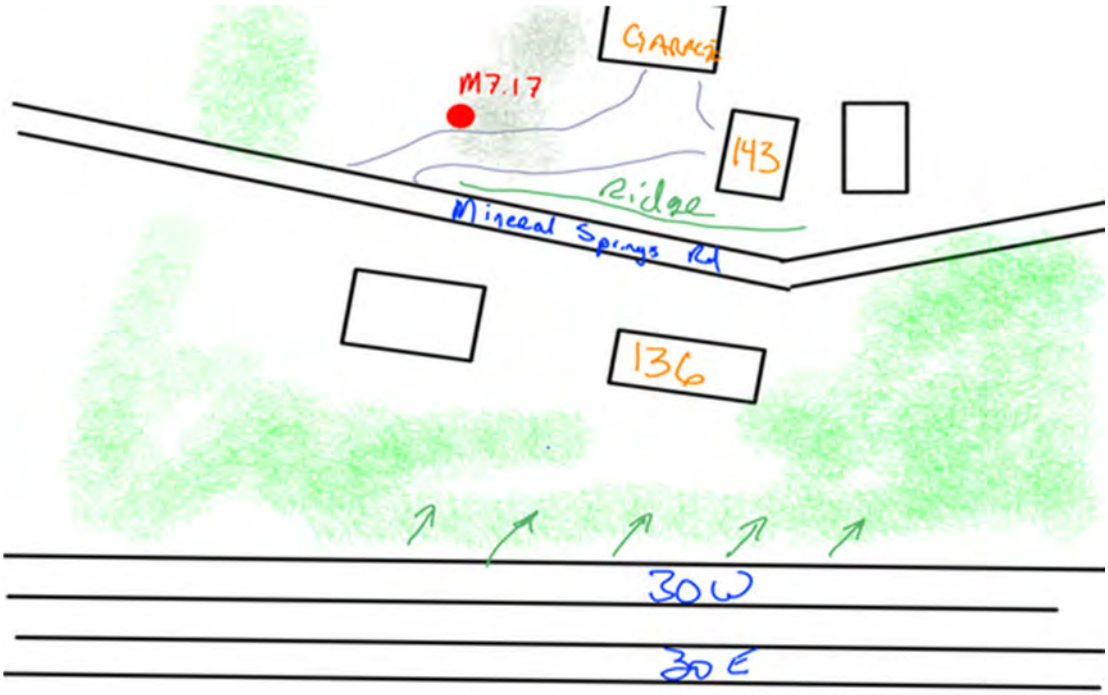
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	232	229						
Med Tk:	23	14						
Hvy Tk:	29	41						
Bus:	1	3						
MCycle:	0	0						

Notes: Meet moved slight west due to dog at residence. Some slowing due to Penndot truck rolling through project. Occasional dog barking at start of measurement but very faint.

Site Sketch:



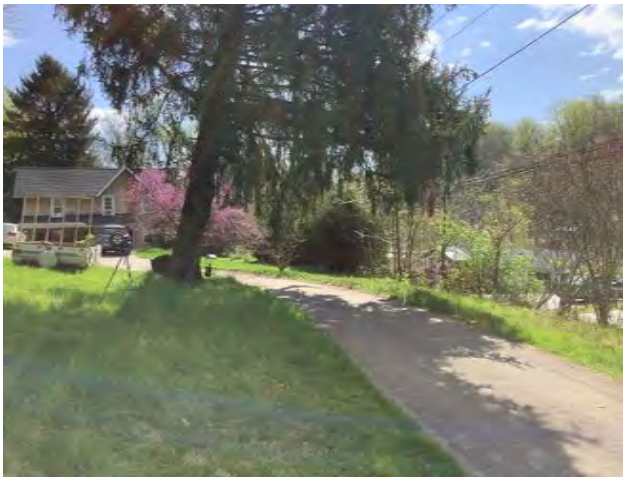
Personnel: KAB

M7.17 Site Photos:

North:



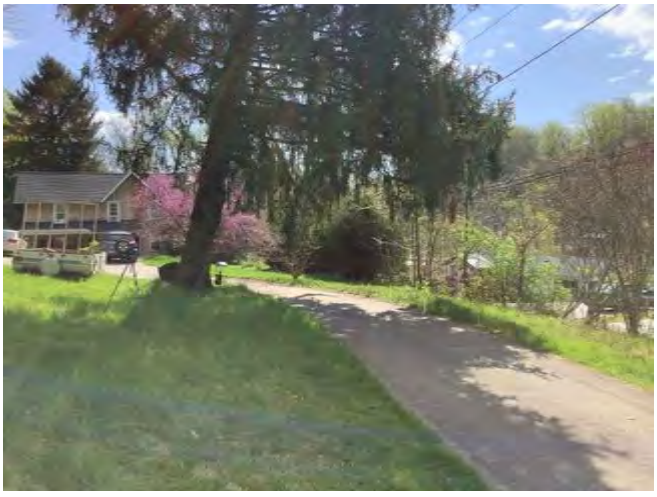
East:



South:



West:



Highway Noise Monitoring Sheet

Date: May 11, 2022 6:13 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 41
Site ID(s): M8.01

Gannett Fleming

Temperature (F): 55
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 0
Wind direction:

Measurement Data

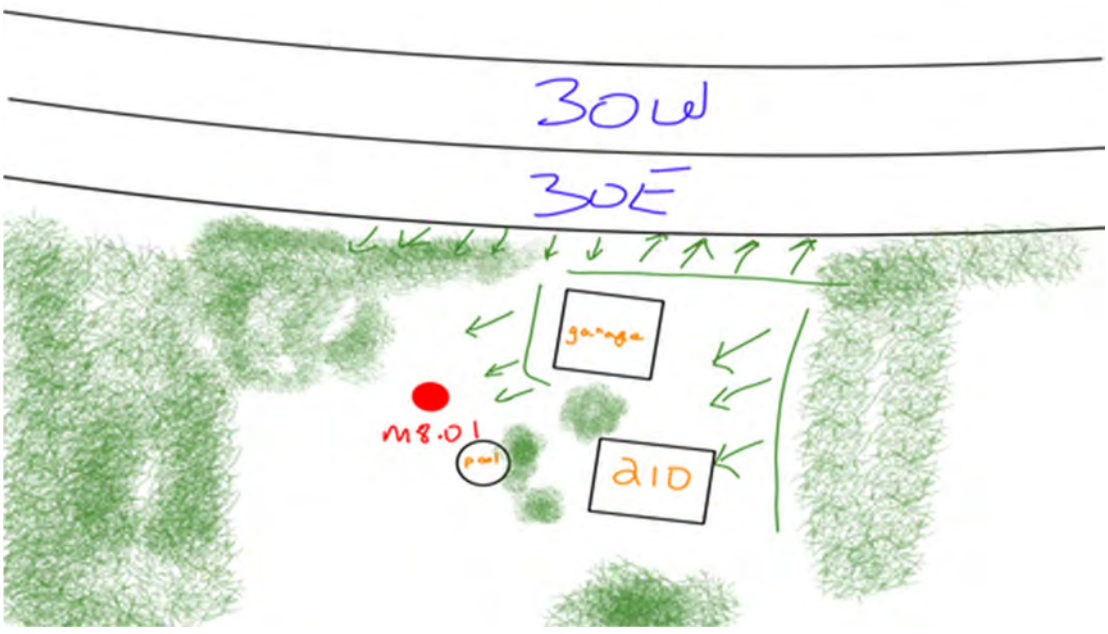
ID: **M8.01** Start: 07:12 Stop: 07:32
☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4228 L_{eq}(dB): **66.3** L_{min}(dB): 50.4 L_{max}(dB): 76.6
GPS (°N,°W): 39.99788083333333, -75.83043331666666
Stor #: 195 Calib(dB): 93.88 / 93.94 (Pre- / Post-) Meas. Ht(ft): 5
Location: 210 Mount Airy Rd. Coatesville, PA 19320
Relocated ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	508	222						
Med Tk:	20	16						
Hvy Tk:	26	19						
Bus:	1	4						
MCycle:	2	1						

Notes:

Site Sketch:



Personnel:

M8.01 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 27, 2022 7:52 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 27
Site ID(s): M9.02

Temperature (F): 46
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 6
Wind direction: West

Measurement Data

ID: **M9.02** Start: 08:50 Stop: 09:10 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 **L_{eq}(dB):** 72.4 L_{min}(dB): 59.1 L_{max}(dB): 81.4

GPS (°N,°W): 39.99828531666667, -75.83298119999999

Stor #: 188 Calib(dB): 94.08 / 93.81 (Pre- / Post-) Meas. Ht(ft): 5

Location: 525 Enfield Dr. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

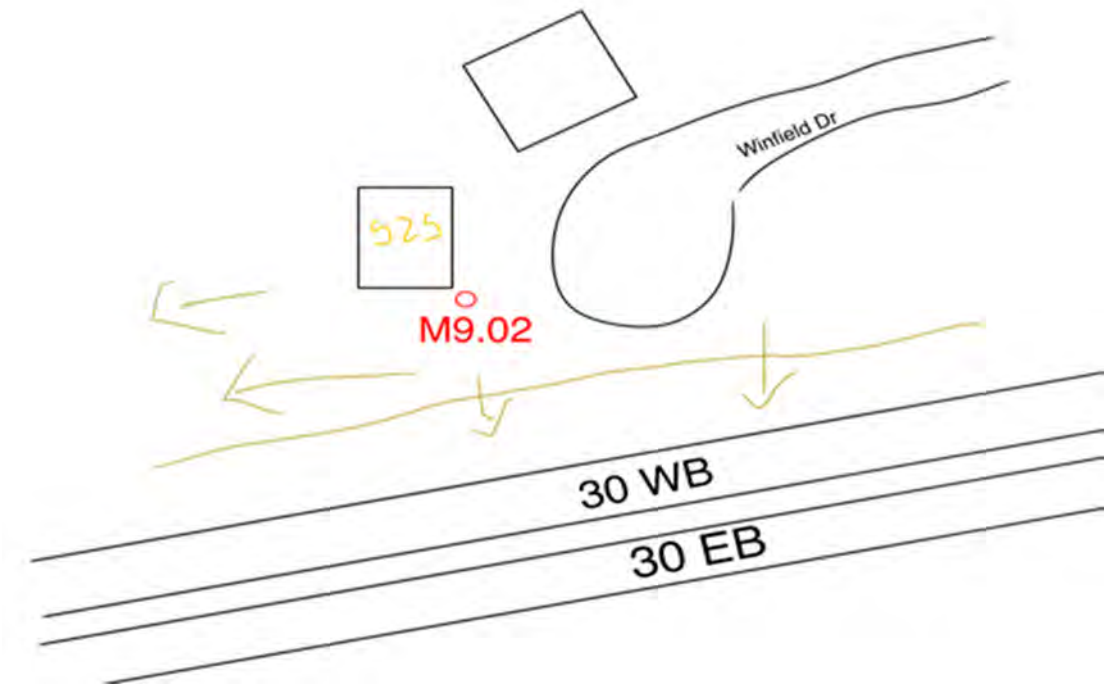
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

Roadway #1:	30		**Roadway #2:**			**Roadway #3:**			**Roadway #4:**		
Width(ft):			Width(ft):			Width(ft):			Width(ft):		
Direction:	EB	WB	Direction:			Direction:			Direction:		
Speed Limit:	55	55	Speed Limit:			Speed Limit:			Speed Limit:		
Observed Spd:			Observed Spd:			Observed Spd:			Observed Spd:		
Auto:	264	231	Auto:			Auto:			Auto:		
Med Tk:	28	17	Med Tk:			Med Tk:			Med Tk:		
Hvy Tk:	35	32	Hvy Tk:			Hvy Tk:			Hvy Tk:		
Bus:	1	1	Bus:			Bus:			Bus:		
MCycle:	0	0	MCycle:			MCycle:			MCycle:		

Notes: Wind gusts up to 12.5 but usually around 6

Site Sketch:



Personnel: [redacted]

M9.02 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: May 10, 2022 4:21 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 40
Site ID(s): M9.03

Temperature (F): 71
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 0
Wind direction:

Measurement Data

ID: **M9.03** Start: 16:55 Stop: 17:15 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): 66.7 L_{min}(dB): 51.5 L_{max}(dB): 76.6

GPS (°N,°W): 39.99839393333333, -75.83228741666666

Stor #: 194 Calib(dB): 94.05 / 94.12 (Pre- / Post-) Meas. Ht(ft): 5

Location: 512 Enfield Dr. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

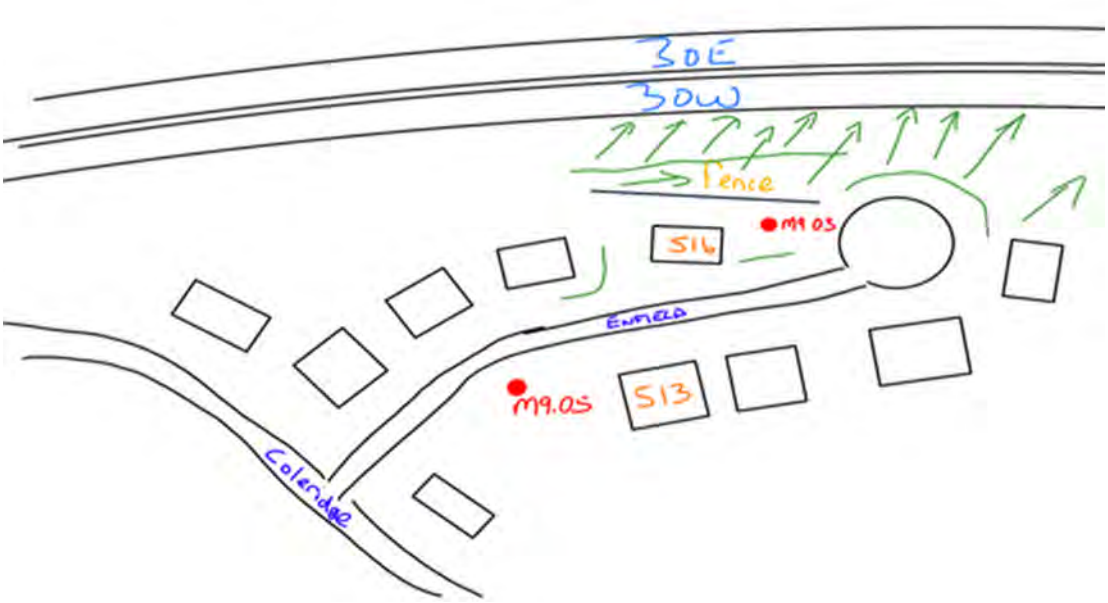
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	387	526						
Med Tk:	7	25						
Hvy Tk:	11	20						
Bus:	2	1						
MCycle:	2	1						

Notes:

Site Sketch:



Personnel: KAS

M9.03 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 27, 2022 7:51 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 27
Site ID(s): M9.04

Gannett Fleming

Temperature (F): 46
Cloud cvr: ☐ None ☑ Partly ☐ Cloudy
Wind speed (mph): 10
Wind direction: West

Measurement Data

ID: **M9.04** Start: 08:50 Stop: 09:10 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): **63.2** L_{min}(dB): 54.6 L_{max}(dB): 72.4

GPS (°N,°W): 39.99924936666666, -75.83292966666667

Stor #: 169 Calib(dB): 94.10 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5

Location: 241 Coleridge Ln. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

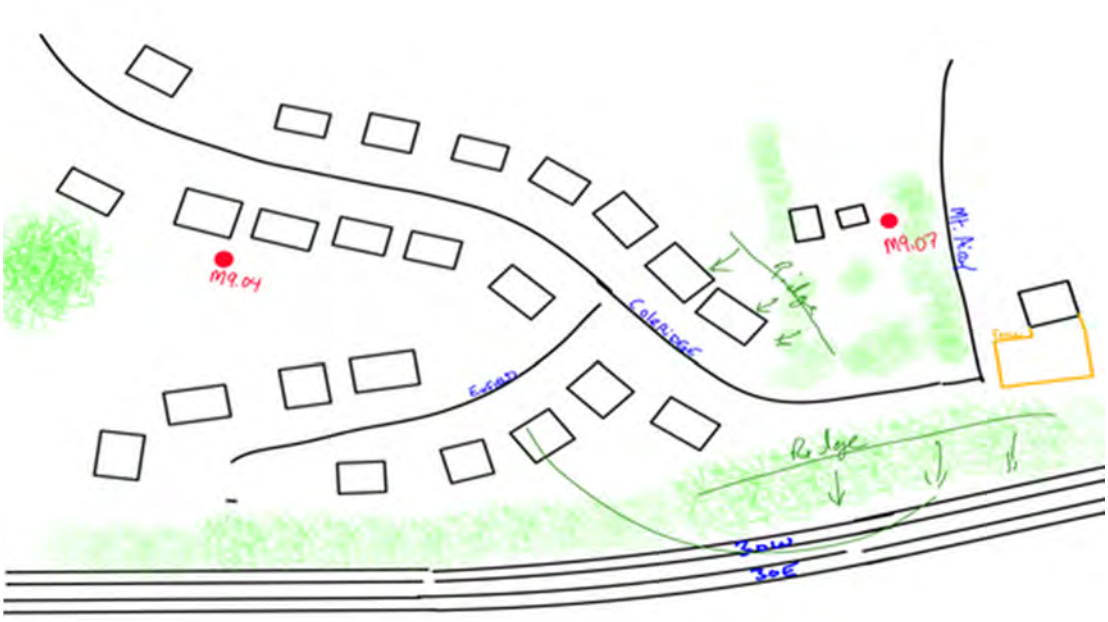
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	264	231						
Med Tk:	28	17						
Hvy Tk:	35	32						
Bus:	1	1						
MCycle:	0	0						

Notes: Some wind gust through measurement but not causing spiking or noise from vegetation. Helicopter at minute 18.

Site Sketch:



Personnel:

M9.04 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: May 10, 2022 3:57 PM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 40
Site ID(s): M9.05

Temperature (F): 71
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 5
Wind direction: North

Measurement Data

ID: **M9.05** Start: 16:55 Stop: 17:15 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4229 L_{eq}(dB): 54.4 L_{min}(dB): 46.8 L_{max}(dB): 66.2

GPS (°N,°W): 39.998894400000005, -75.83180278333333

Stor #: 195 Calib(dB): 94.14 / 93.98 (Pre- / Post-) Meas. Ht(ft): 5

Location: 253 Coleridge Ln. Coatesville, PA 19320

Relocated ☑ Yes ☐ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

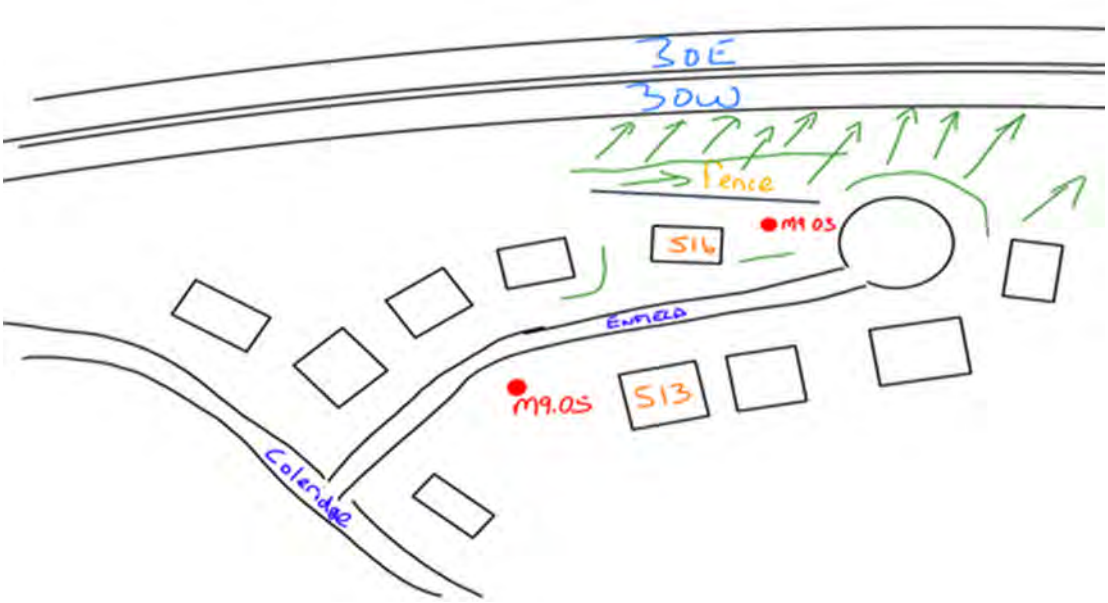
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	387	526						
Med Tk:	7	25						
Hvy Tk:	11	20						
Bus:	2	1						
MCycle:	2	1						

Notes: Relocated due to fenced in yard and no residents available. Moved to adjacent property.

Site Sketch:



Personnel:

M9.05 Site Photos:

North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 27, 2022 8:23 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 28
Site ID(s): M9.06

Gannett Fleming

Temperature (F): 48
Cloud cvr: ☑ None ☐ Partly ☐ Cloudy
Wind speed (mph): 4
Wind direction: West

Measurement Data

ID: **M9.07** Start: 09:25 Stop: 09:45 ☑ 20 min ☐ 30 min ☐ 24 hr
SLM #: 4229 L_{eq}(dB): **60.3** L_{min}(dB): 51 L_{max}(dB): 73.6
GPS (°N,°W): 39.99923006666668, -75.82925145
Stor #: 189 Calib(dB): 94.08 / 93.81 (Pre- / Post-) Meas. Ht(ft): 5
Location: 140 Mount Airy Rd. Coatesville, PA 19320
Relocated ☐ Yes ☑ No
Type(use, NAC): Residential (B)
Site Photographed ☑ Yes ☐ No
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	290	239						
Med Tk:	27	22						
Hvy Tk:	31	29						
Bus:	1	7						
MCycle:	0	0						

Notes:

Site Sketch:



Personnel: [redacted]

M9.06 Site
Photos: North:



East:



South:



West:



Highway Noise Monitoring Sheet

Date: April 27, 2022 8:43 AM
Project: SR-0030 / Section AIR - Coatesville, PA
Setup#: 28
Site ID(s): M9.07

Gannett Fleming

Temperature (F): 48
Cloud cvr: ☐ None ☑ Partly ☐ Cloudy
Wind speed (mph): 10
Wind direction: West

Measurement Data

ID: **M9.07** Start: 09:25 Stop: 09:45 ☑ 20 min ☐ 30 min ☐ 24 hr

SLM #: 4228 L_{eq}(dB): 56.2 L_{min}(dB): 49.5 L_{max}(dB): 64.8

GPS (°N,°W): 39.999720483333334, -75.83000536666667

Stor #: 170 Calib(dB): 94.10 / 93.86 (Pre- / Post-) Meas. Ht(ft): 5

Location: 140 Mount Airy Rd. Coatesville, PA 19320

Relocated ☐ Yes ☑ No

Type(use, NAC): Residential (B)

Site Photographed ☑ Yes ☐ No

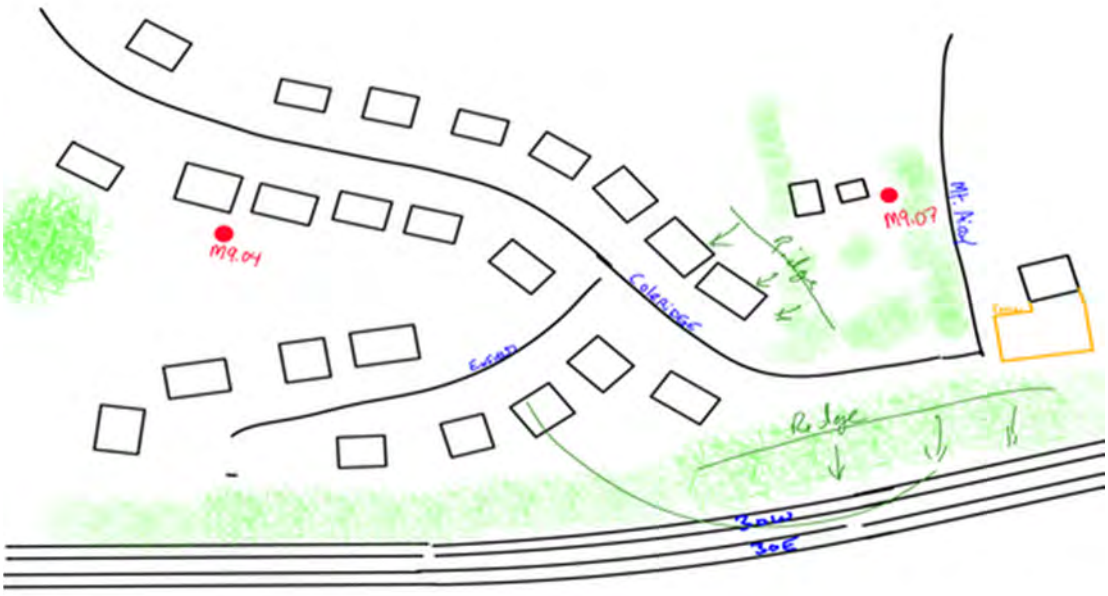
Weighting: ☑ A ☐ B ☐ C ☐ Z

Traffic Data

	Roadway #1:		Roadway #2:		Roadway #3:		Roadway #4:	
Width(ft):	30							
Direction:	EB	WB						
Speed Limit:	55	55						
Observed Spd:								
Auto:	290	239						
Med Tk:	27	22						
Hvy Tk:	31	29						
Bus:	1	7						
MCycle:	0	0						

Notes: 9:42 wind gusts.9:44 wind gust. Noise from trees.

Site Sketch:



Personnel:

M9.07 Site Photos:

North:



East:



South:



West:



Appendix E

PennDOT Warranted, Feasible, and Reasonable Worksheets

GFT

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

Date 03/16/2026
Project Name Coatesville Downingtown Bypass
County Chester County
SR, Section US 30, Section AIR
Community Name and/or NSA # NSA 1 and NSA 3
Noise Wall Identification (i.e., Wall 1) Barrier 1

General

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

2. Total number of impacted receptor units in community
   - Category A units impacted: 0
   - Category B units impacted: 16
   - Category C units impacted: 0
   - Category D units impacted (if interior analysis required): 0
   - Category E units impacted: 0

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: 16
   b. Percentage of impacted receptor units receiving 5 dB(A) or more insertion loss: 100
   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 34,971
   b. Number of benefited receptor units (any unit receiving 5 dB(A) or more insertion loss) 22
   c. SF/BR = 2a/2b 1,590
   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

Ahmed El-Aassar, Vice President, GFT Date: 03/16/2026

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

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

Date 03/16/2026
Project Name Coatesville Downingtown Bypass
County Chester County
SR, Section US 30, Section AIR
Community Name and/or NSA # NSA 2
Noise Wall Identification (i.e., Wall 1) Barrier 2

General

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

2. Total number of impacted receptor units in community
   - Category A units impacted: 0
   - Category B units impacted: 21
   - Category C units impacted: 1
   - Category D units impacted (if interior analysis required): 0
   - Category E units impacted: 0

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: 22
   b. Percentage of impacted receptor units receiving 5 dB(A) or more insertion loss: 100
   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 27,036
   b. Number of benefited receptor units (any unit receiving 5 dB(A) or more insertion loss) 96
   c. SF/BR = 2a/2b 282
   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

Ahmed El-Aassar, Vice President, GFT Date: 03/16/2026

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

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

Date 03/16/2026
Project Name Coatesville Downingtown Bypass
County Chester County
SR, Section US 30, Section AIR
Community Name and/or NSA # 4A
Noise Wall Identification (i.e., Wall 1) Barrier 4A

General

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

2. Total number of impacted receptor units in community
   - Category A units impacted: 0
   - Category B units impacted: 1
   - Category C units impacted: 1
   - Category D units impacted (if interior analysis required): 0
   - Category E units impacted: 0

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: 2
   b. Percentage of impacted receptor units receiving 5 dB(A) or more insertion loss: 100
   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 19,200
   b. Number of benefited receptor units (any unit receiving 5 dB(A) or more insertion loss) 6
   c. SF/BR = 2a/2b 3,200
   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

Ahmed El-Aassar, Vice President, GFT Date: 03/16/2026
Qualified Professional Performing the Analysis
(name, title, and company name)

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

Date 03/16/2026
Project Name Coatesville Downingtown Bypass
County Chester County
SR, Section US 30, Section AIR
Community Name and/or NSA # NSA 4B
Noise Wall Identification (i.e., Wall 1) Barrier 1

General

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

2. Total number of impacted receptor units in community
   - Category A units impacted: 0
   - Category B units impacted: 2
   - Category C units impacted: 0
   - Category D units impacted (if interior analysis required): 0
   - Category E units impacted: 0

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: 2
   b. Percentage of impacted receptor units receiving 5 dB(A) or more insertion loss: 100
   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 29,900
   b. Number of benefited receptor units (any unit receiving 5 dB(A) or more insertion loss) 8
   c. SF/BR = 2a/2b 3,738
   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

Ahmed El-Aassar, Vice President, GFT Date: 03/16/2026
Qualified Professional Performing the Analysis
(name, title, and company name)

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

Date 03/16/2026
Project Name Coatesville Downingtown Bypass
County Chester County
SR, Section US 30, Section AIR
Community Name and/or NSA # NSA 5
Noise Wall Identification (i.e., Wall 1) Barrier 5

General

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

2. Total number of impacted receptor units in community
   - Category A units impacted: 0
   - Category B units impacted: 1
   - Category C units impacted: 1
   - Category D units impacted (if interior analysis required): 0
   - Category E units impacted: 0

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: 2
   b. Percentage of impacted receptor units receiving 5 dB(A) or more insertion loss: 50
   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 12,960
   b. Number of benefited receptor units (any unit receiving 5 dB(A) or more insertion loss) 1
   c. SF/BR = 2a/2b 12,960
   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

Ahmed El-Aassar, Vice President, GFT Date: 03/16/2026
Qualified Professional Performing the Analysis
(name, title, and company name)

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

Date: 03/16/2026
Project Name: Coatesville Downingtown Bypass
County: Chester County
SR, Section: US 30, Section AIR
Community Name and/or NSA #: NSA 6A
Noise Wall Identification (i.e., Wall 1): Barrier 6A

General

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

2. Total number of impacted receptor units in community
   - Category A units impacted: 0
   - Category B units impacted: 5
   - Category C units impacted: 0
   - Category D units impacted (if interior analysis required): 0
   - Category E units impacted: 0

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: 5
   b. Percentage of impacted receptor units receiving 5 dB(A) or more insertion loss: 100
   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 22,000
   b. Number of benefited receptor units (any unit receiving 5 dB(A) or more insertion loss) 22
   c. SF/BR = 2a/2b 1,000
   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

Ahmed El-Aassar, Vice President, GFT Date: 03/16/2026

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

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

Date 03/16/2026
Project Name Coatesville Downingtown Bypass
County Chester County
SR, Section US 30, Section AIR
Community Name and/or NSA # NSA 6B
Noise Wall Identification (i.e., Wall 1) Barrier 6B

General

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

2. Total number of impacted receptor units in community
   - Category A units impacted: 0
   - Category B units impacted: 5
   - Category C units impacted: 0
   - Category D units impacted (if interior analysis required): 0
   - Category E units impacted: 0

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: 5
   b. Percentage of impacted receptor units receiving 5 dB(A) or more insertion loss: 80
   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 19,200
   b. Number of benefited receptor units (any unit receiving 5 dB(A) or more insertion loss) 4
   c. SF/BR = 2a/2b 4,800
   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

Ahmed El-Aassar, Vice President, GFT Date: 03/16/2026
Qualified Professional Performing the Analysis
(name, title, and company name)

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

Date 03/16/2026
Project Name Coatesville Downingtown Bypass
County Chester County
SR, Section US 30, Section AIR
Community Name and/or NSA # NSA 7A
Noise Wall Identification (i.e., Wall 1) Barrier 7A

General

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

2. Total number of impacted receptor units in community
   - Category A units impacted: 0
   - Category B units impacted: 22
   - Category C units impacted: 0
   - Category D units impacted (if interior analysis required): 0
   - Category E units impacted: 0

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: 22
   b. Percentage of impacted receptor units receiving 5 dB(A) or more insertion loss: 100
   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 39,912
   b. Number of benefited receptor units (any unit receiving 5 dB(A) or more insertion loss) 29
   c. SF/BR = 2a/2b 1,376
   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

Ahmed El-Aassar, Vice President, GFT Date: 03/16/2026

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

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

Date 03/16/2026
Project Name Coatesville Downingtown Bypass
County Chester County
SR, Section US 30, Section AIR
Community Name and/or NSA # NSA 7B
Noise Wall Identification (i.e., Wall 1) Barrier 7B

General

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

2. Total number of impacted receptor units in community
   - Category A units impacted: 0
   - Category B units impacted: 13
   - Category C units impacted: 0
   - Category D units impacted (if interior analysis required): 0
   - Category E units impacted: 0

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: 13
   b. Percentage of impacted receptor units receiving 5 dB(A) or more insertion loss: 92
   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 25,817
   b. Number of benefited receptor units (any unit receiving 5 dB(A) or more insertion loss) 13
   c. SF/BR = 2a/2b 1,986
   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

Ahmed El-Aassar, Vice President, GFT Date: 03/16/2026

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

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

Date: 03/16/2026
Project Name: Coatesville Downingtown Bypass
County: Chester County
SR, Section: US 30, Section AIR
Community Name and/or NSA #: NSA 8
Noise Wall Identification (i.e., Wall 1): Barrier 8

General

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

2. Total number of impacted receptor units in community
   - Category A units impacted: 0
   - Category B units impacted: 1
   - Category C units impacted: 0
   - Category D units impacted (if interior analysis required): 0
   - Category E units impacted: 0

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: 1
   b. Percentage of impacted receptor units receiving 5 dB(A) or more insertion loss: 100
   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 14,672
   b. Number of benefited receptor units (any unit receiving 5 dB(A) or more insertion loss) 2
   c. SF/BR = 2a/2b 7,336
   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

Ahmed El-Aassar, Vice President, GFT Date: 03/16/2026
Qualified Professional Performing the Analysis
(name, title, and company name)

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

Date 03/16/2026
Project Name Coatesville Downingtown Bypass
County Chester County
SR, Section US 30, Section AIR
Community Name and/or NSA # NSA 9
Noise Wall Identification (i.e., Wall 1) Barrier 9

General

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

2. Total number of impacted receptor units in community
   - Category A units impacted: 0
   - Category B units impacted: 6
   - Category C units impacted: 0
   - Category D units impacted (if interior analysis required): 0
   - Category E units impacted: 0

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: 6
   b. Percentage of impacted receptor units receiving 5 dB(A) or more insertion loss: 67
   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 27,860
   b. Number of benefited receptor units (any unit receiving 5 dB(A) or more insertion loss) 6
   c. SF/BR = 2a/2b 4,643
   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

Ahmed El-Aassar, Vice President, GFT Date: 03/16/2026
Qualified Professional Performing the Analysis
(name, title, and company name)

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

Date 03/16/2026
Project Name Coatesville Downingtown Bypass
County Chester County
SR, Section US 30, Section AIR
Community Name and/or NSA # NSA 10A
Noise Wall Identification (i.e., Wall 1) Barrier 10A

General

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

2. Total number of impacted receptor units in community
   - Category A units impacted: 0
   - Category B units impacted: 0
   - Category C units impacted: 0.26
   - Category D units impacted (if interior analysis required): 0
   - Category E units impacted: 0

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: 0.26
   b. Percentage of impacted receptor units receiving 5 dB(A) or more insertion loss: 90
   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 11,980
   b. Number of benefited receptor units (any unit receiving 5 dB(A) or more insertion loss) 0.26
   c. SF/BR = 2a/2b 46,077
   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

Ahmed El-Aassar, Vice President, GFT Date: 03/16/2026
Qualified Professional Performing the Analysis
(name, title, and company name)

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

Date 03/16/2026
Project Name Coatesville Downingtown Bypass
County Chester County
SR, Section US 30, Section AIR
Community Name and/or NSA # NSA 10B
Noise Wall Identification (i.e., Wall 1) Barrier 10B

General

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

2. Total number of impacted receptor units in community
   - Category A units impacted: 0
   - Category B units impacted: 0
   - Category C units impacted: 0.076
   - Category D units impacted (if interior analysis required): 0
   - Category E units impacted: 0

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: 0.076
   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

Ahmed El-Aassar, Vice President, GFT Date: 03/16/2026

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

Appendix F

List of Preparers and Reviewers

LIST OF PREPARERS AND REVIEWERS

Kevin Brown
Ahmed El-Aassar
Adam Alexander
Scott Duncanson