

PRELIMINARY ENGINEERING NOISE ANALYSIS REPORT



SR 0030 Section AIR – Coatesville- Downington Bypass Project

Chester County, Pennsylvania

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SR0030/Section AIR – Coatesville-Downingtown Bypass Project

Pennsylvania Department of Transportation

Chester County

PELIMINARY ENGINEERING NOISE ANALYSIS

September 2024

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 proposed Valley Suburban Center. 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 analysis purposes, the Airport Road project area was divided into eleven (11) Noise Study Areas (NSAs) as shown in **Figure 2.1-2.10**. 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 existing and future noise levels and the noise abatement criteria (NAC) described in Table 1, project-related noise impacts were identified in all NSAs.

Based on the evaluation of the noise levels associated with the preliminary engineering plans for the project developed to date, noise abatement features were determined to be feasible and reasonable for NSAs 1, 2, 3, 6, and 7. 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 barrier packages along the proposed project alignment:

- NSA 1 and 3 – A proposed noise barrier averaging 10 feet in height and 3,397 feet in total length, located along the westbound shoulder from Station 1116 to 1150.
- NSA 2 – A proposed noise barrier averaging 12 feet in height and with a length of 2,303 feet, located along the eastbound shoulder from Station 1112 to 1135.

- NSA 6A – A proposed noise barrier averaging 17 feet in height and 1,300 feet in total length, located along the eastbound shoulder from Station 1235 to 1248.
- NSA 7A – A proposed noise barrier averaging 14 feet in height and 2,909 feet in total length, located along the westbound shoulder from Station 1235 to 1264.
- NSA 7B – A proposed noise barrier averaging 13 feet in height and 2,000 feet in total length, located along the westbound shoulder from Station 1270 to 1288.

Both recommended and non-recommended noise barriers may change between the preliminary engineering and final design phases as a result of changes and/or refinements in the transportation improvement project design. Barrier recommendations will be reviewed during the Final Design phase of this project.

INTRODUCTION

The SR0030/Section AIR project 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 corridor is within western Chester County and runs through gently rolling terrain throughout the project limits. Several streams, including Rock Run, and wetlands are scattered throughout the corridor. Residential developments and open fields make up most of the corridor. Industrial facilities and farmland are also present along the corridor. The project will incorporate improvements to US 30 and construction of a diverging diamond intersection at the existing PA Route 82/Airport Road interchange, as presented in the preferred Alternative D. 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.

Noise abatement has been evaluated for the noise study areas 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 report focuses on the noise analysis and mitigation related to the 2050 design year Build Alternative.

PennDOT Noise Abatement Criteria (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, Federal Highway Administration (FHWA), *Procedures for Abatement of Highway Traffic Noise and Construction Noise*, and guidelines for "increase over existing" 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 (FHWA 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 impacts based upon seven activity categories as identified in **Table 1**. Individual sites located within a given activity category are designated as noise sensitive receptors.

Noise impacts were evaluated by comparing the predicted noise levels with existing noise levels. A noise impact was identified if the future (year 2050) noise level was predicted to approach (within 1 dB) or exceed 67 dB(A), or if future noise levels within the project were predicted to cause a substantial noise increase (≥ 10 dB(A)) as compared to existing noise levels (year 2019).

NOISE STUDY AREAS

The project study area begins 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) as shown in **Figures 2.1 through 2.10**:

NSA 1: Noise sensitive Activity Category B land uses are located north of US 30 between Old Mill Road and Old Wilmington Road and is comprised of eighteen (18) single-family residences and a farmhouse.

NSA 2: Noise-sensitive Activity Category B and C land uses are located south of US 30 between Old Mill Road and Old Wilmington Road and is comprised of twelve (12) single-family residences, fifty-three (53) modular homes within the Lincoln Crest Mobile Home Park, an additional forty-three (43) planned modular home sites adjacent to Lincoln Crest Mobile Home Park, and outdoor recreation facilities at Cowan Park.

NSA 3: 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.

NSA 4: Noise-sensitive Activity Category B and C land uses are located south of US 30 between Old Wilmington Road and Airport Road. This NSA consists of thirty-four (34) single-family residences, a place of worship, a community walking path, and an industrial facility.

NSA 5: Noise-sensitive Activity Category B and D land uses are located north of US 30 between Airport Road and Country Club Road. This NSA consists of a medical facility outdoor use area and a single-family residence.

NSA 6: Noise-sensitive Activity Category B land uses are located south of US 30, west and in the area of Country Club Road, extending east to Wagontown Road. This NSA

contains eighty-two (82) noise sensitive receptors, consisting of fifteen (15) multi-family residential units and thirteen (13) single-family residences.

NSA 7: Noise-sensitive Activity Category B land uses are located north of US 30 between Country Club Road and Wagontown Road. This NSA consists of eighty-four (84) single-family residences.

NSA 8: Noise-sensitive Activity Category B land uses are located south of US 30 in the area of South Mount Airy Road. This NSA consists of two (2) single-family residences.

NSA 9: Noise sensitive Activity Category B and C land uses are located north of US 30 between Wagontown Road and the area of Mt Airy Road. This NSA is comprised of nineteen (19) single-family homes and a commercial event venue.

NSA 10: Noise-sensitive Activity Category C land uses are located south of US 30 and east of Airport Road. NSA 10A is located north of Prescott Road and NSA 10B is located south of Prescott Road. These NSAs are comprised of a shared-use path, a community center pool area and tennis courts within the proposed Valley Suburban Center.

NOISE MEASUREMENTS AND MODEL VALIDATION

Ambient noise measurements were conducted throughout the project study area as shown in **Figure 2.1-2.10**. Within each of the above NSAs, short-term (20-minute duration) noise measurements were taken along with concurrent traffic counts at 78 locations using American National Standards Institute (ANSI) Type I noise meters. See **Appendix A** for field data sheets. Traffic volume figures are located in **Appendix B**. Calibration certificates related to noise meters and calibrators are in **Appendix C**.

Short-term measurements were taken at various times of the day between April 25 and April 27, and additionally on May 10 and May 11 of 2022 and do not necessarily represent the noisiest condition at any measurement site. Long-term noise measurements were taken at L1-24H, L2-24H, and L3-24H to observe typical loudest-hour conditions. Measurement sites were positioned to enable validation of the noise prediction model and to assist in defining existing noise levels for second-row residences and for receptors located up to approximately 500 feet from the proposed edge of pavement. Therefore, in certain locations noise measurement sites do not exactly coincide with noise analysis sites. Measurements were used primarily for purposes of noise model validation, with year 2019 peak hour traffic volumes assumed in the prediction of worst-case existing noise levels. Measured existing L_{eq} noise levels at short-term measurement sites (receptors) ranged from 53.5 dB(A) to 72.7 dB(A).

Using the traffic volume data obtained concurrently with the short-term noise measurements, noise levels were modeled and compared to measured noise levels using FHWA's TNM, Version 2.5 to predict worst case existing and future noise levels and to evaluate noise abatement options. 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 A**. Validation results are shown in **Table 3**, with FHWA TNM validation data files included with this report. Measured versus modeled noise levels were modeled within the acceptable 3 dB(A) range for all sites. Validation site M7.11 validated conservatively at the 3 dB(A) threshold due in part to the complex shielding present at the measurement site such as vinyl privacy fencing and storage sheds. The results of this validation process were used to “build” the FHWA TNM used for purposes of modeling existing and future year noise levels, determining future year impacts, and evaluating potential noise abatement options.

NOISE MODELING

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 for prediction of existing (year 2019) and future (year 2050) noise levels for both no-barrier and barrier conditions is contained in **Appendix C**. The percentages of automobiles, medium trucks, and heavy trucks used in the FHWA TNM modeling process were obtained from the Pennsylvania Department of Transportation. The loudest hour traffic condition (4:00 PM) was used throughout the project.

In addition, a noise contour analysis was conducted at three locations along the project. A noise contour analysis is used for planning purposes to predict the approximate distance from the project edge-of-pavement where Activity Category B/C and Activity Category E noise impacts could be expected under future build conditions (year 2050). Discussion and results from the noise contour analysis can be found in *Evaluation of Noise Impacts* p.12, and **Figures 2.11 and 2.12**.

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 Noise Abatement Criteria (NAC) (approach is defined as 1 dB(A) below the NAC) or create a substantial noise “increase over existing” (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) increase over existing-year noise levels (IOE) are considered noise-impacted. These comparisons are contained in the noise summary tables for each NSA, with the noise measurement sites and analysis sites (receptors) indicated within each NSA. Noise impacts were identified in all NSAs based on predicted exterior noise levels exceeding the 66 dB(A) approach criteria level for Activity Category land uses B and C. “Increase over existing” (IOE) noise levels are primarily the result of predicted traffic growth within the proposed project. No substantial noise level increases were identified and all IOE levels are predicted to be 0-6 dB(A).

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. In addition, the topography and development in the area does not lend itself to the use of noise berms as an effective noise abatement technique. Therefore, noise abatement evaluations focused on the design of noise barrier walls.

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 for at least 50% of impacted receptors, while posing no safety, engineering, maintenance, constructability, drainage, or 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 2000), and the desires of the affected property owners and residents must be considered. Receptors are considered to be benefited if they receive 5 dB(A) or more noise reduction (insertion loss) from a barrier. To meet PennDOT's reasonableness criteria, a barrier must also achieve at least a 7 dB(A) noise reduction at one receptor.

A summary of abatement considerations within each NSA follows. See referenced tables for more details related to all barrier options considered.

^[1] *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 analyses of NSA 1 and NSA 3 are combined.*

NSA 1 (See Figure 2.1-2.2 and Table 4): Eight of the nineteen receptors evaluated within this NSA were predicted to have noise levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was warranted. Receptor site R1.01 is reported to be a potential property acquisition for the build alternative and therefore not considered in the reasonableness or feasibility evaluation ^[1].

NSA 3 (See Figure 2.2-2.3 and Table 4): Nine of the seventeen receptors evaluated within this NSA were predicted to have noise levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was warranted ^[1].

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

- Case 1 consisted of a 6 feet high wall, 4,498 feet in length and was determined to be not feasible (≥ 5 dB(A) insertion loss not provided for $\geq 50\%$ of impacted receptors).
- Case 2 consisted of an 8 feet high wall, 4,498 feet in length and was determined to be feasible (≥ 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 2,399 > 2,000, which exceeds PennDOT requirements).

- Case 3 consisted of a 10 feet high wall, 4,498 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 1,874 < 2,000, which meets PennDOT requirements).
- Case 4 consisted of an optimized wall (Barrier 1-3) ranging between 8 and 12 feet in height, totaling 3,397 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 1,590 < 2,000, which meets PennDOT requirements). Segments of Barrier 1-3 are located on bridge structure and therefore limited to a maximum height of 10 feet from the top of traffic barrier where noise wall panels are structure mounted.

^[2] Due to the proximity of impacts within the western boundary of NSA 4 to the NSA 2 abatement options, it was determined that impacted receptor sites R4.01 and R4.14 be included in the NSA 2 analysis.

NSA 2 (See Figure 2.1-2.2 and Table 5): Twenty two of the one hundred eleven receptors evaluated within this NSA were predicted to have noise levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was warranted ^[2].

The following three abatement options were analyzed for NSA 2:

- Case 1 consisted of a 6 feet high wall, 2,303 feet in length and was determined to be not feasible (≥ 5 dB(A) insertion loss not provided for $\geq 50\%$ of impacted receptors).
- Case 2 consisted of an 8 feet high wall, 2,303 feet in length and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 95% 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 292 < 2,000, which meets PennDOT requirements).
- Case 3 consisted of an optimized wall (Barrier 2) ranging between 10 to 12 feet in height and 2,303 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). Segments of Barrier 2 are located on bridge structure and therefore limited to a maximum height of 10 feet from the top of traffic barrier where noise wall panels are structure mounted. Receptors R2.04, R2.14, R2.15, R2.16, and R2.17 have the lowest elevations in NSA 2 relative to US 30 and are therefore not impacted like adjacent receptors.

NSA 4A (See Figure 2.3 and Table 6): Two of the fifteen receptors evaluated within this NSA were predicted to have noise levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was warranted ^[2].

The following four abatement options were analyzed for NSA 4:

- Case 1 consisted of a 10 feet high wall, 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 feet high wall, 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 feet high wall, 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 feet high wall, 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).

NSA 4B (See Figure 2.4 and Table 7): Two of the twenty-two receptors evaluated within this NSA were predicted to have noise levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was warranted ^[2].

The following six abatement options were analyzed for NSA 4:

- Case 1 consisted of a 10 feet high wall, 1,495 feet in length and was determined to be not feasible (≥ 5 dB(A) insertion loss not provided for $\geq 50\%$ of impacted receptors).
- Case 2 consisted of a 12 feet high wall, 1,495 feet in length and was determined to be not feasible (≥ 5 dB(A) insertion loss not provided for $\geq 50\%$ of impacted receptors).
- Case 3 consisted of a 14 feet high wall, 1,495 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 not

achieved).

- Case 4 consisted of a 16 feet high wall, 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 3,987 > 2,000, which exceeds PennDOT requirements).
- Case 5 consisted of an 18 feet high wall, 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 5 consisted of a 20 feet high wall, 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 4,271 > 2,000, which exceeds PennDOT requirements).

NSA 5 (See Figure 2.5 and Table 8): one of the two receptors evaluated within this NSA were predicted to have levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was warranted.

The following four abatement options were considered for NSA 5:

- Case 1 consisted of a 14 feet high wall, 810 feet long and was determined to be not feasible (≥ 5 dB(A) insertion loss not provided for $\geq 50\%$ of impacted receptors).
- Case 2 consisted of a 16 feet high wall, 810 feet long 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 3 consisted of an 18 feet high wall, 810 feet long 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 4 consisted of a 20 feet high wall, 810 feet long 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).

NSA 6A (See Figure 2.7 and Table 9): five of the sixty-two receptors evaluated within

this NSA were predicted to have levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was warranted.

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

- Case 1 consisted of a 10 feet high wall, 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 feet high wall, 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 3 consisted of a 14 feet high wall, 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 feet high wall, 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 an 18 feet high wall, 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 1,013 < 2,000, which meets PennDOT requirements).
- Case 6 consisted of a 20 feet high wall, 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 1,125 < 2,000, which meets PennDOT requirements).
- Case 7 consisted of an optimized 14-18 feet high wall (Barrier 6A), 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

1,048 < 2,000, which meets PennDOT requirements). Segments of Barrier 6A are located on bridge structure and therefore limited to a maximum height of 10 feet from the top of traffic barrier where noise wall panels are structure mounted.

NSA 6B (See Figure 2.8 and Table 10): five of the twelve receptors evaluated within this NSA were predicted to have levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was warranted.

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

- Case 1 consisted of a 10 feet high wall, 1,600 feet in length and was determined to be not feasible (≥ 5 dB(A) insertion loss not provided for $\geq 50\%$ of impacted receptors).
- Case 2 consisted of a 12 feet high wall, 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 6,400 > 2,000, which exceeds PennDOT requirements).
- Case 3 consisted of a 14 feet high wall, 1,600 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 4,480 > 2,000, which exceeds PennDOT requirements).

NSA 7 (See Figure 2.7-2.8 and Table 11): thirty-five of the eighty-four receptors evaluated within this NSA were predicted to have levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was warranted.

The following six abatement options were considered for NSA 7:

- Case 1 consisted of a 10 feet high NSA 7 noise wall, 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 12 feet high NSA 7 noise wall, 5,409 feet in length and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 85% 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 1,298 < 2,000, which meets PennDOT requirements).

- Case 3 consisted of a 14 feet high wall, 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 4 consisted of a 16 feet high wall, 5,409 feet in length and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 97% 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 $1,154 < 2,000$, which meets PennDOT requirements).
- Case 5 consisted of an 18 feet high wall, 5,409 feet in length and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 97% 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 $1,264 < 2,000$, which meets PennDOT requirements).
- Case 6 consisted of a 20 feet high wall, 5,409 feet in length and was determined to be feasible (≥ 5 dB(A) insertion loss provided for 97% 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 $1,369 < 2,000$, which meets PennDOT requirements).

^[3] Due to the outcome of barrier optimization, the NSA 7 barrier was divided into two separate barriers (Barrier 7A and 7B) which are evaluated independently as the optimized Case 7 barrier configuration.

NSA 7A (See Figure 2.8 and Table 12): thirty-six of the sixty-two receptors evaluated within NSA 7A were predicted to have levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was warranted.^[3]

- Case 7A consisted of an optimized wall (Barrier 7A) totaling 2,909 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 $1,247 < 2,000$, which meets PennDOT requirements). Segments of Barrier 7A are located on bridge structure and therefore limited to a maximum height of 10 feet from the top of traffic barrier where noise wall panels are structure mounted.

NSA 7B (See Figure 2.8 and Table 12): twelve of the twenty-two receptors evaluated within NSA 7B were predicted to have levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was warranted.

- Case 7B consisted of an optimized noise wall (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).

NSA 8 (See Figure 2.9 and Table 13): one of the two receptors evaluated within this NSA were predicted to have levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was warranted.

The following four abatement options were considered for NSA 8:

- Case 1 consisted of a 10 feet high wall, 917 feet long 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 feet high wall, 917 feet long 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 11,040 > 2,000, which exceeds PennDOT requirements).
- Case 3 consisted of a 14 feet high wall, 917 feet long 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 feet high wall, 917 feet long 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).

NSA 9 (See Figure 3.2 and Table 11): six of the twenty-one receptors evaluated within this NSA were predicted to have levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was warranted.

The following seven abatement options were considered for NSA 9:

- Case 1 consisted of a 10 feet high wall, 1,393 feet long and was determined to be not feasible (≥ 5 dB(A) insertion loss not provided for $\geq 50\%$ of impacted receptors).
- Case 2 consisted of a 12 feet high wall, 1,393 feet long 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 5,572 > 2,000, which exceeds PennDOT requirements).

- Case 3 consisted of a 14 feet high wall, 1,393 feet long 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 6,501 > 2,000, which exceeds PennDOT requirements).
- Case 4 consisted of a 16 feet high wall, 1,393 feet long 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 7,429 > 2,000, which exceeds PennDOT requirements).
- Case 5 consisted of an 18 feet high wall, 1,393 feet long 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 6,269 > 2,000, which exceeds PennDOT requirements).
- Case 6 consisted of a 20 feet high wall, 1,393 feet long 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 5,572 > 2,000, which exceeds PennDOT requirements).
- Case 7 consisted of a shortened 20 feet high wall, 893 feet long and was determined to be not feasible (≥ 5 dB(A) insertion loss not provided for $\geq 50\%$ of impacted receptors).

NSA 10A (See Figure 2.12 and Table 12): nine of the twelve receptors evaluated within this NSA were predicted to have levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was warranted. Receptors in this NSA were placed to represent the proposed and permitted features of Valley Suburban Center which include a shared-use path, a community center pool and tennis courts. At the time of this report, the multi-family dwellings within Valley Suburban Center are planned but not permitted and therefore were not included in the noise analysis. Equivalent Receptor Units (ERU) were used within this NSA and the ERU calculations can be found in **Table 13** and **Table 14**. Additionally, a contour analysis was performed within this NSA and the details of this analysis can be found on page 15.

The following two abatement options were considered for NSA 10A:

- Case 1 consisted of an 8 feet high wall, 1,198 feet long 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 36,862 > 2,000, which exceeds PennDOT requirements).
- Case 2 consisted of a 10 feet high wall, 1,198 feet long 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 46,077 > 2,000, which exceeds PennDOT requirements).

NSA 10B (See Figure 2.12 and Table 12): three of the four receptors placed to evaluate a walking path within this NSA were predicted to have levels at or above 66 dB(A) with the Build Alternative. As such, consideration of noise abatement within this NSA was warranted, however noise barriers were determined to be not feasible due to limited right-of-way along Airport Road.

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 Sta. 1105+00. The eastern contour analysis was performed within NSA 5, north of US 30 Sta. 1125+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 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.

ABSORPTIVE NOISE BARRIER ANALYSIS

Consideration for the use of absorptive noise barrier surfaces is recommended where proposed noise barriers are arranged in a such 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. 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					
Site ID:	No-Barrier Level:	Build Barrier Level:	Barrier Insertion Loss:	No Absorptive Treatment			With Absorptive Treatment		
				Barrier Degradation:	Build Barrier Level:	Barrier Insertion Loss:	Barrier Degradation:	Build Barrier Level:	Barrier Insertion Loss:
NSA 1 - 3 (Sta. 1116 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. 1234 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)								

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. If required during the final design noise analysis, a more detailed consideration of construction noise and associated abatement/mitigation will be undertaken, consistent with the availability and detail of

anticipated construction scheduling and operations. 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.

CONCLUSION

Based on the analysis of noise reported herein, noise impacts exist within all NSAs. Based on the evaluation of the noise levels associated with the engineering plans developed to date, feasible and reasonable noise barriers were determined to benefit noise sensitive receptors in NSA 1, 2, 3, 4, 6, and 7. Additionally, results from the parallel barrier analysis on page 16 suggest that the use of absorptive barrier treatments is warranted and recommended where parallel barriers are configured between NSA 1 and 2, and NSA 6 and 7.

During the final design phase, a detailed optimization of barrier length, height, cost, location, and surface treatments will be coordinated with the final design engineering process to ensure compatibility and the most cost-effective and efficient barrier design. This process may result in barrier height, length, location, and surface condition changing from those discussed in this document.

Pennsylvania Department of Transportation is committed to construction of the warranted, feasible and reasonable noise abatement measures discussed above contingent upon the following conditions:

- Detailed noise analyses during the final design process;
- Analysis and determination of the feasibility and reasonableness of noise abatement measures, methodology, and criteria;
- 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 (following FHWA approval of the Draft Final Design Noise Report);
- 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 owner.

It is likely that the noise abatement measures for the identified noise impacted areas will be constructed if found to be feasible and reasonable based on the contingencies listed above.

TABLES

<p>Table 1</p> <p>Hourly Weighted Sound Levels dB(A) For Various Land Use Activity Categories*</p>		
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-Downington Bypass - Section AIR
Coatesville, PA

Site ID Number	Address of Measurement Site	Date	Time Period	Roadway	Hourly Traffic Based on Concurrent Traffic Counts					TNM Model Validation Noise Levels in dB(A)
					Autos	Medium Trucks	Heavy Trucks	Buses	Motor-cycles	Measured Leq
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	
M2.07	400 Lauren Ln Parkeburg, PA 19365	4/25/2022	17:15:00 - 17:35:00	30 EB	630	12	33	6	0	56.2
				30 WB	921	63	33	0	6	
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		10:34:00 - 10:54:00	30 EB	546	18	81	3	0	58.8
				30 WB	444	30	72	0	3	
M2.04	5XX Lissie Ln Parkeburg, PA 19365	4/25/2022	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		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	57.8
				30 EB	579	21	24	0	3	
M3.04	211 Valley Green Dr Coatesville, PA 19320		15:18:00 - 15:38:00	30 WB	891	51	69	0	0	64.1
				S Bosall (both)	36	3	0	3	0	
M3.05	411 S. Bonsall Rd Coatesville, PA 19320			30 EB	516	21	36	0	3	55.3
				30 WB	852	30	69	0	0	
M3.06	205 Valley Green Dr Coatesville, PA 19320			S Bosall (both)	36	3	0	3	0	
				30 EB	510	21	36	6	0	63.8
M3.07	405 S. Bonsall Rd Coatesville, PA 19320	4/25/2022	14:41:00 - 15:01:00	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-Downington Bypass - Section AIR
Coatesville, PA

Site ID Number	Address of Measurement Site	Date	Time Period	Hourly Traffic Based on Concurrent Traffic Counts						TNM Model Validation Noise Levels in dB(A)
				Roadway	Autos	Medium Trucks	Heavy Trucks	Buses	Motor-cycles	Measured Leq
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	4/26/2022	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		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	5/11/2022	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		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	4/26/2022	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			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	5/10/2022	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		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	4/27/2022	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		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-Downington Bypass - Section AIR
Coatesville, PA

Site ID Number	Address of Measurement Site	Date	Time Period		Hourly Traffic Based on Concurrent Traffic Counts					TNM Model Validation Noise Levels in dB(A)
				Roadway	Autos	Medium Trucks	Heavy Trucks	Buses	Motor-cycles	Measured Leq
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
M7.06	11 Donna Dr Coatesville, PA 19320			30 WB	1338	57	78	3	0	
M7.07	41 Kimbelry Cir Coatesville, PA 19320		12:07:00 - 12:27:00	30 EB	954	60	45	12	0	56.3
				30 WB	1338	57	78	3	0	
				30 EB	633	51	51	3	0	
M7.08	21 Donna Dr Coatesville, PA 19320		30 WB	738	36	75	9	0		
			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			
30 EB	1011			84	84	9	0	57.0		
M7.10	48 Kimberly Cir Coatesville, PA 19320		30 WB	978	36	78	12		3	
			30 EB	900	99	69	3		0	66.6
M7.11	54 Lambert Ln Coatesville, PA 19320		08:08:00 - 08:28:00	30 WB	774	57	75	15	0	
				30 EB	900	99	69	3	0	
M7.12	55 Lambert Ln Coatesville, PA 19320			30 WB	774	57	75	15	0	
			30 EB	705	57	84	0	0	65.2	
M7.13	120 Mineral Spring Rd Coatesville, PA 19320		11:26:00 - 11:46:00	30 WB	879	48	117	3		3
				30 EB	558	45	81	0		0
M7.14	128 Mineral Spring Rd Coatesville, PA 19320			10:48:00 - 11:08:00	30 WB	696	42	87	3	0
			30 EB		558	45	81	0	0	63.4
M7.15	131 Mineral Spring Rd Coatesville, PA 19320		10:12:00 - 12:32:00		30 WB	696	42	87	3	
				30 EB	696	69	87	3	0	
M7.16	136 Mineral Spring Rd Coatesville, PA 19320	30 WB		687	42	123	9	0		
		30 EB	696	69	87	3	0	64.9		
M7.17	143 Mineral Spring Rd Coatesville, PA 19320	30 WB	687	42	123	9	0			
		30 EB	1524	60	78	3	6		66.3	
M8.01	210 Mount Airy Rd Coatesville, PA 19320	5/11/2022	30 WB	666	48	57	12	3		
			30 EB	792	84	105	3	0		72.4
M9.02	525 Enfield Dr Coatesville, PA 19320	4/27/2022	30 WB	693	51	96	3	0		
			30 EB	1161	21	33	6	6	66.7	
M9.03	516 Enfield Dr Coatesville, PA 19320	5/10/2022	30 WB	1578	75	60	3	3		
			30 EB	1161	21	33	6	6		54.5
M9.05	253 Coleridge Ln Coatesville, PA 19320		16:55:00 - 17:15:00	30 WB	1578	75	60	3	3	
				30 EB	870	81	93	3	0	
M9.06	141 Mount Airy Rd Coatesville, PA 19320	4/27/2022	30 WB	717	66	87	21	0		
			30 EB	870	81	93	3	0	56.2	
M9.07	140 Mount Airy Rd Coatesville, PA 19320		30 WB	717	66	87	21	0		

Table 3: Validation Table
Coatesville-Downington 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
M2.07	400 Lauren Ln Parkeburg, PA 19365	4/25/2022	17:15:00 - 17:35:00	58.4	56.2	2.2
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-Downington 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-Downington 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		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-Downington 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-Downington Bypass - Section AIR
Summary of Noise Barrier Analysis

NSA	Receptor ID	No. of Equivalent Receptor 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 Barrier 1-3	
					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) Potential Acquisition	1	66	67	68	2	68	0	68	0	68	0	68	0
	R1.02 (M1.02)	1	59	60	61	2	61	0	61	0	61	0	61	0
	R1.03 (M1.03)	1	59	60	61	2	61	0	61	0	61	0	61	0
	R1.04 (M1.04)	1	60	61	62	2	59	3	59	3	58	4	60	1
	R1.05 (M1.05)	1	67	68	69	2	65	4	64	5	62	7	63	5
	R1.07 (M1.07)	1	61	62	63	2	59	4	59	4	58	5	58	5
	R1.08 (M1.08)	1	63	64	65	2	61	3	60	4	59	6	59	5
	R1.09 (M1.09)	1	69	70	70	2	65	5	63	8	61	9	61	9
	R1.10 (M1.10)	1	60	61	62	2	59	3	59	4	58	5	58	5
	R1.11	1	58	59	60	2	58	3	57	3	56	4	58	2
	R1.12	1	66	67	68	2	64	4	63	5	60	8	61	7
	R1.13 (M1.06)	1	66	67	67	2	63	4	61	6	60	8	60	7
	R1.14	1	65	66	67	2	64	3	62	5	59	8	60	8
	R1.15	1	64	65	66	2	64	3	62	4	59	7	60	7
	R1.16	1	60	61	62	2	63	0	62	0	61	1	61	1
	R1.17	1	62	63	64	2	58	6	57	7	57	7	58	6
	R1.18	1	61	62	62	2	59	4	58	4	58	5	59	4
	R1.19	1	67	68	68	2	58	11	57	11	56	12	57	12
	R3.01 (M3.01)	1	64	65	66	2	61	5	60	6	57	9	57	9
	R3.02 (M3.02)	1	61	62	63	2	60	3	59	4	57	6	57	6
	R3.03 (M3.03)	1	68	69	69	1	64	5	63	6	61	9	61	8
	R3.04 (M3.04)	1	59	59	60	2	57	3	57	3	56	4	56	4
	R3.05 (M3.05)	1	68	69	70	2	67	4	66	5	65	6	63	7
	R3.06 (M3.06)	1	59	59	61	1	58	3	57	3	57	4	57	3
	R3.07 (M3.07)	1	64	64	65	1	62	3	61	4	60	5	63	2
	R3.08 (M3.08)	1	61	61	62	1	59	3	59	3	58	4	61	1
	R3.09	1	58	59	60	2	57	3	56	3	55	5	55	5
	R3.10	1	66	67	68	2	63	4	62	6	60	8	60	8
	R3.11	1	72	72	73	2	66	7	65	9	62	11	62	11
	R3.12	1	70	71	72	2	65	7	64	8	63	9	63	9
	R3.13	1	70	71	72	2	66	6	65	7	63	9	63	9
	R3.14	1	68	69	70	2	66	4	65	5	64	6	63	7
	R3.15	1	59	59	60	2	57	3	57	3	56	4	56	4
R3.16	1	59	59	60	1	57	3	57	3	56	4	56	4	
R3.17	1	69	69	70	2	67	3	66	4	65	5	63	7	
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		6	
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)									15		24		22	
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)									6		14		15	
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?									Yes		Yes		Yes	
Barrier Height (feet) [average]									8		10		[10]	
Barrier Length (feet)									4498		4498		3397	
Barrier square footage (SQft)									35984		44980		34971	
Barrier square footage per benefited receptor (SF/BR)									2399		1874		1590	
Is SF/BR ≤ 2,000?; If yes, barrier is reasonable							No		Yes		Yes		Yes	
Average I.L. per Benefited Receptor (dB)											7.2		7.3	

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

NSA	Receptor ID	No. of Equivalent Receptor 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	R2.01 (M2.01)	1	61	62	63	2	63	0	63	0	63	0
	R2.02 (M2.02)	1	62	63	64	2	64	0	64	0	64	0
	R2.03 (M2.03)	1	57	58	59	2	58	1	58	1	58	1
	R2.04 (M2.04)	1	63	64	64	2	61	3	59	6	57	7
	R2.05 (M2.05)	1	64	65	66	2	62	5	61	6	58	8
	R2.07 (M2.07)	1	60	61	62	2	59	3	57	5	55	8
	R2.08 (M2.08)	1	58	59	60	2	57	3	57	3	54	6
	R2.09	1	63	64	65	2	64	1	64	1	64	1
	R2.10	1	55	56	57	2	56	1	56	1	56	2
	R2.11	1	57	58	60	2	58	2	58	2	57	3
	R2.12	1	55	56	57	2	55	2	55	2	55	3
	R2.13	1	60	61	63	3	60	3	60	3	59	4
	R2.14	1	63	64	65	2	61	3	59	6	57	7
	R2.15	1	63	64	65	2	61	3	59	6	57	7
	R2.16	1	63	64	65	2	61	4	59	6	57	7
	R2.17	1	63	64	65	2	61	4	59	6	58	8
	R2.18	1	63	64	66	2	61	4	60	6	58	8
	R2.19	1	64	65	66	2	62	4	60	6	58	8
	R2.20	1	64	65	66	2	62	5	60	6	58	8
	R2.21	1	65	66	67	2	62	4	61	6	58	8
	R2.22	1	65	66	67	2	62	4	61	6	58	9
	R2.23	1	65	66	67	2	63	4	61	6	58	9
	R2.24	1	65	66	67	2	63	4	61	6	59	9
	R2.25	1	62	63	64	2	60	4	59	6	56	8
	R2.26	1	62	63	64	2	60	4	59	6	56	8
	R2.27	1	62	63	64	2	60	4	59	6	56	8
	R2.28	1	63	64	64	2	60	4	59	5	56	8
	R2.29	1	62	63	64	2	60	4	59	5	56	8
	R2.30	1	62	63	64	2	60	4	59	5	56	8
	R2.31	1	63	64	65	2	60	4	59	5	56	8
	R2.32	1	62	63	64	2	60	4	59	5	56	8
	R2.33	1	63	64	65	2	60	4	59	5	56	8
	R2.34	1	63	64	65	2	60	4	59	5	56	8
	R2.35	1	63	64	65	2	61	4	59	5	56	8
	R2.36	1	63	64	65	2	61	4	59	5	56	8
	R2.37	1	62	63	64	2	61	3	59	5	56	8
	R2.38	1	60	61	62	2	59	4	58	5	55	8
	R2.39	1	60	61	62	2	59	3	58	5	55	8
	R2.40	1	60	61	62	2	59	3	58	5	55	8
	R2.41	1	61	62	62	2	59	3	58	5	55	8
	R2.42	1	61	62	62	2	59	3	58	5	55	8
	R2.43	1	61	61	62	2	59	3	58	5	55	8

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

NSA	Receptor ID	No. of Equivalent Receptor 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	1	60	61	62	2	59	3	58	5	55	8
	R2.45	1	60	61	62	2	59	3	58	5	55	8
	R2.46	1	60	61	62	2	59	3	58	5	55	8
	R2.47	1	60	61	62	2	59	3	58	5	55	8
	R2.48	1	60	61	62	2	59	3	57	5	55	8
	R2.49	1	60	61	62	2	59	3	58	4	55	7
	R2.50	1	60	61	62	2	59	3	58	4	54	7
	R2.51	1	58	59	60	2	58	3	56	4	53	7
	R2.52	1	58	59	60	2	58	3	56	4	53	7
	R2.53	1	58	59	60	2	58	3	56	4	53	7
	R2.54	1	58	59	60	2	58	3	56	4	53	7
	R2.55	1	58	59	60	2	58	3	56	4	53	7
	R2.56	1	58	59	60	2	57	2	56	4	53	7
	R2.57	1	58	59	60	2	57	3	56	4	53	7
	R2.58	1	58	59	60	2	57	2	56	4	53	7
	R2.59	1	58	59	60	2	57	2	56	4	54	6
	R2.60	1	58	59	60	2	57	2	56	4	53	7
	R2.61	1	58	59	59	2	57	2	56	4	53	7
	R2.62	1	57	58	59	2	57	2	56	3	53	7
	R2.63	1	57	58	59	2	57	2	56	3	53	7
	R2.64 (M2.06)	1	69	70	70	2	65	6	63	7	60	10
	R2.65	1	63	64	65	2	61	4	60	5	56	9
	R2.66	1	61	62	63	2	59	4	58	4	55	8
	R2.68	1	66	67	68	2	64	5	63	6	61	8
	R2.69	1	66	67	68	2	64	4	62	6	60	8
	R2.70	1	66	67	68	2	63	5	62	5	59	8
	R2.71	1	66	67	68	2	63	5	61	6	59	8
	R2.72	1	66	67	68	2	63	5	61	6	59	8
	R2.73	1	65	66	67	2	63	5	61	7	59	9
	R2.74	1	65	66	67	2	63	4	61	6	59	8
	R2.75	1	64	65	67	2	63	4	60	6	59	8
	R2.76	1	64	65	66	2	62	4	60	6	58	8
	R2.77	1	63	64	66	2	62	4	60	6	58	8
	R2.78	1	63	64	66	2	60	5	59	7	58	8
	R2.79	1	62	63	64	2	61	3	60	4	58	6
	R2.80	1	62	63	64	2	61	3	60	4	57	6
	R2.81	1	62	63	64	2	61	3	60	4	57	7
	R2.82	1	63	64	64	2	61	3	60	5	57	7
	R2.83	1	63	64	65	2	61	4	60	5	57	7
	R2.84	1	63	64	65	2	61	4	60	5	57	8
	R2.85	1	63	64	65	2	61	4	60	5	57	8

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

NSA	Receptor ID	No. of Equivalent Receptor 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	1	63	64	65	2	60	4	60	5	57	8
	R2.87	1	62	63	64	2	60	4	59	5	56	8
	R2.88	1	62	63	64	2	60	4	59	5	56	8
	R2.89	1	56	57	57	2	56	1	56	1	54	3
	R2.90	1	56	57	58	2	57	1	57	2	55	3
	R2.91	1	57	58	59	2	58	1	57	2	56	4
	R2.92	1	59	60	60	2	59	1	59	2	57	4
	R2.93	1	59	60	61	2	60	2	59	3	57	4
	R2.94	1	60	61	61	2	60	2	58	3	56	5
	R2.95	1	60	61	62	2	60	2	58	4	56	6
	R2.96	1	60	61	62	2	59	3	58	4	56	6
	R2.97	1	60	61	62	2	60	3	58	4	56	7
	R2.98	1	61	62	63	2	60	3	59	4	56	7
	R2.99	1	61	62	63	2	60	3	59	4	56	7
	R2.100	1	61	62	63	2	60	3	58	5	56	7
	R2.101	1	61	62	63	2	60	4	58	5	56	8
	R2.102	1	61	62	63	2	59	4	58	5	55	8
	R2.103	1	61	62	63	2	59	4	58	5	55	8
	R2.104	1	57	58	59	2	58	2	56	3	54	5
	R2.105	1	57	58	59	2	58	2	56	3	54	6
	R2.106	1	58	59	60	2	58	2	56	3	54	6
R2.107	1	58	59	60	2	58	2	56	4	54	6	
R2.108	1	59	60	60	2	58	2	56	4	54	6	
R2.109	1	58	59	60	2	57	3	56	4	53	7	
R2.110	1	58	59	60	2	57	2	56	4	53	7	
NSA 4	R4.01 (M4.01)	1	71	72	70	-1	66	5	65	6	62	9
	R4.14	1	65	66	66	1	63	3	62	4	60	6
Number of Impacted Receptors					22		22		22		22	
Feasibility Evaluation							10 45% No		21 95% Yes		22 100% Yes	
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)												
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.												
Is this percentage ≥ 50%?; If yes, barrier is feasible.												
Reasonableness Evaluation												
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)									42		74	
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)									63		96	
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)									3		2	
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?									Yes		Yes	
Barrier Height (feet) [average]									8		[12]	
Barrier Length (feet)									2303		2303	
Barrier square footage (SQft)									18424		27036	
Barrier square footage per benefited receptor (SF/BR)									292		282	
Is SF/BR ≤ 2,000?; If yes, barrier is reasonable									Yes		Yes	
Average I.L. per Benefited Receptor (dB)									5.4		7.4	

Impacted (66 dB(A) or 10 dB increase over existing)
 Impacted Receivers receiving ≥ 5 dB(A)
 Non-Impacted Receivers receiving ≥ 5 dB(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-Downington Bypass - Section AIR
Summary of Barrier Noise Analysis

NSA	Receptor ID	No. of Equivalent Receptor 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)*	1	72	72	72	0	72	0	72	0	72	0	72	0
	R4.02 (M4.02)	1	60	60	61	1	61	0	61	0	61	0	61	0
	R4.03 (M4.03)	1	59	59	60	1	59	1	59	1	59	1	59	1
	R4.04 (M4.04)	1	60	60	61	1	58	3	57	4	57	4	57	4
	R4.05 (M4.05)	1	64	64	66	2	61	5	59	7	59	8	58	8
	R4.06 (M4.06)	1	60	60	61	1	58	4	57	4	56	5	55	6
	R4.07 (M4.07)	1	65	65	67	2	62	5	60	7	59	8	58	9
	R4.14*	1	66	66	68	2	67	0	67	0	67	0	67	0
	R4.15	1	62	62	63	1	63	0	63	0	63	0	63	0
	R4.16	1	60	60	61	1	60	1	60	1	60	1	60	1
	R4.17	1	61	61	62	1	61	1	61	1	61	1	61	1
	R4.18	1	60	60	61	1	61	1	61	1	61	1	61	1
	R4.19	1	59	59	60	1	59	1	59	1	59	1	59	1
	R4.20	1	59	59	60	1	59	2	58	2	58	2	58	2
	R4.21	1	60	60	61	1	57	3	57	4	56	5	55	5
	R4.22	1	59	59	60	1	57	3	57	4	55	5	55	5
R4.26	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							2 100% Yes		2 100% Yes		2 100% Yes		2 100% Yes	
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)														
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.														
Is this percentage ≥ 50%?; If yes, barrier is feasible.														
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)														
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)														
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?														
Barrier Height (feet)														
Barrier Length (feet)														
Barrier square footage (SQft)														
Barrier square footage per benefited receptor (SF/BR)														
Is SF/BR ≤ 2,000?; If yes, barrier is reasonable														
Average I.L. per Benefited Receptor (dB)														

- Impacted (66 dB(A) or 10 dB increase over existing)
- Impacted Receivers receiving ≥ 5 dB(A)
- Non-Impacted Receivers receiving ≥ 5 dB(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-Downington Bypass - Section AIR
Summary of Barrier Noise Analysis

NSA	Receptor ID	No. of Equivalent Receptor 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)	1	60	60	62	3	61	2	61	2	60	2	60	2	60	2	60	2
	R4.08B	1	60	60	62	3	61	2	60	2	60	2	60	3	60	3	60	3
	R4.08C	1	60	60	63	3	60	3	60	3	59	4	59	4	59	4	59	4
	R4.09 (M4.09)	1	64	64	68	4	65	3	64	4	63	5	61	7	61	8	60	8
	R4.10 (M4.10)	1	59	58	62	3	59	3	59	3	58	4	58	4	57	4	57	4
	R4.11 (M4.11)	1	58	57	61	3	58	3	58	3	57	4	56	5	56	5	55	6
	R4.12 (M4.12)	1	63	61	65	2	61	4	60	5	59	6	58	7	58	7	57	8
	R4.23	1	58	58	61	3	59	3	58	3	58	4	57	4	57	5	57	5
	R4.24	1	58	58	61	3	59	3	58	3	58	4	57	5	56	5	56	5
	R4.25	1	62	62	67	5	65	2	64	3	63	4	61	6	60	7	59	8
	R4.27	1	58	57	60	2	57	3	57	3	56	4	56	5	55	5	55	5
	R4.28	1	58	56	60	2	57	3	57	3	56	3	56	4	55	4	55	4
	R4.29	1	59	56	59	1	57	2	57	3	57	3	56	3	56	3	56	3
	R4.30	1	60	57	61	0	59	2	59	2	59	2	59	2	59	2	59	2
	R4.31	1	65	57	64	0	63	1	63	1	63	1	63	1	63	1	63	1
	R4.32	1	56	55	58	2	56	3	55	3	55	3	54	4	54	4	54	4
	R4.33	1	56	54	58	1	56	2	55	2	55	3	55	3	54	3	54	3
	R4.34	1	58	54	59	1	58	1	58	1	57	1	57	2	57	2	57	2
	R4.35	1	62	53	64	1	63	1	63	1	63	1	63	1	63	1	63	1
	R4.36	1	55	52	56	1	55	1	54	2	54	2	54	2	54	2	54	2
	R4.37	1	56	53	57	1	56	1	56	1	56	1	56	1	56	1	56	1
	R4.38	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		1		2		2		2	
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.							0%		0%		50%		100%		100%		100%	
Is this percentage ≥ 50%?; If yes, barrier is feasible.							No		Yes		Yes		Yes		Yes		Yes	
Reasonableness Evaluation																		
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)											1		4		5		5	
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)											2		6		7		7	
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)											0		2		3		3	
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?											No		Yes		Yes		Yes	
Barrier Height (feet)													16		18		20	
Barrier Length (feet)													1495		1495		1495	
Barrier square footage (SQft)													23920		26910		29900	
Barrier square footage per benefited receptor (SF/BR)													3987		3844		4271	
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 8: NSA 5
Coatesville-Downington Bypass - Section AIR
Summary of Barrier Noise Analysis

NSA	Receptor ID	No. of Equivalent Receptor 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		Case 3: 18' Barrier		Case 4: 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
NSA 5	R5.01 (M5.01)	1	69	70	69	0	64	4	64	5	64	5	63	5
	R5.02 (M5.02)	1	64	65	64	0	64	0	64	0	64	0	64	0
Number of Impacted Receptors					1		1		1		1		1	
Feasibility Evaluation														
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)														
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.														
Is this percentage ≥ 50%; If yes, barrier is feasible.														
Reasonableness Evaluation														
Number of Non-impacted receptors receiving≥ 5 dB I.L. (Benefited Receptors)														
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)														
Number of receptors receiving≥ 7 dB I.L. (Meeting NRDG)														
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?														
Barrier Height (feet)														
Barrier Length (feet)														
Barrier square footage (Sqft)														
Barrier square footage per benefited receptor (SF/BR)														
Is SF/BR ≤ 2,000?; If yes, barrier is reasonable														
Average I.L. per Benefited Receptor (dB)														

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

Impacted Receivers receiving ≥ 5 dB(A)

Non-Impacted Receivers receiving ≥ 5 dB(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-Downington Bypass - Section AIR
Summary of Barrier Noise Analysis

NSA	Receptor ID	No. of Equivalent Receptor 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)	1	65	66	67	2	65	3	64	4	63	4	63	4	63	5	62	5	63	5
	R6.03 (M6.03)	1	53	54	55	2	51	4	49	6	49	7	48	7	48	7	48	8	48	7
	R6.13 (M6.02)	1	64	65	66	2	58	8	58	9	57	9	56	10	55	11	55	11	56	11
	R6.14	1	63	64	64	2	57	8	56	8	55	9	54	10	54	11	53	11	54	11
	R6.15	1	61	62	63	2	56	7	55	8	54	9	53	10	53	10	52	11	53	10
	R6.16	1	66	67	68	2	59	9	58	10	57	10	57	11	56	12	55	12	57	11
	R6.17	1	65	66	67	2	58	8	57	9	56	10	55	11	55	12	54	13	56	11
	R6.18	1	64	65	66	2	58	8	57	9	56	10	55	11	54	12	53	13	55	11
	R6.19	1	56	57	58	2	54	4	53	4	53	5	53	5	52	5	52	5	53	5
	R6.20	1	53	54	55	2	52	3	51	4	51	4	51	5	50	5	50	5	50	5
	R6.21	1	53	54	55	2	53	3	52	3	52	4	52	4	51	4	51	4	51	4
	R6.22	1	54	55	56	2	53	3	52	4	52	4	52	4	52	4	52	4	52	4
	R6.23	1	53	54	55	2	51	5	49	6	49	7	48	7	48	8	47	8	48	7
	R6.24	1	53	54	56	2	51	5	50	6	49	7	48	7	48	8	48	8	48	7
	R6.25	1	54	55	56	2	51	5	50	6	49	7	48	7	48	8	48	8	49	7
	R6.26	1	63	64	65	2	58	7	57	8	56	8	55	9	55	10	54	11	56	9
	R6.27	1	63	64	65	2	59	6	58	7	57	8	56	9	56	9	55	10	57	8
	R6.28	1	64	64	65	2	59	6	58	7	58	8	57	8	56	9	56	9	57	8
	R6.29	1	62	63	63	2	59	4	58	5	58	6	57	6	56	7	56	7	57	6
	R6.30	1	59	60	61	2	54	7	52	8	52	9	51	10	50	11	50	11	50	10
	R6.31	1	57	58	59	2	53	6	51	7	51	8	50	9	50	9	49	9	50	9
	R6.32	1	56	57	58	2	52	5	51	7	50	7	50	8	49	8	49	9	49	8
	R6.33	1	55	56	57	2	52	5	51	6	50	7	50	7	49	8	49	8	49	8
	R6.34 (M6.04)	1	57	58	59	2	56	3	56	3	57	3	56	3	56	3	56	3	57	2
	R6.35	1	57	58	59	2	57	3	56	3	57	3	57	3	56	3	56	3	57	3
	R6.36	1	57	58	58	2	56	2	56	3	57	2	56	2	56	3	55	3	57	1
	R6.37	1	56	57	58	2	56	2	55	3	56	2	56	2	55	3	55	3	57	1
	R6.38	1	53	54	55	2	53	2	53	2	54	1	53	2	53	3	52	3	55	0
	R6.39	1	54	55	56	2	54	2	53	3	55	1	54	2	54	3	53	3	56	1
	R6.40	1	55	56	57	2	55	3	54	4	56	2	55	2	55	3	54	3	57	1
	R6.41	1	58	59	59	2	57	3	56	3	57	2	57	2	57	3	56	3	59	1
	R6.42	1	53	54	55	2	52	3	51	4	50	4	50	5	50	5	49	5	51	3
	R6.43	1	53	54	55	2	52	3	51	4	51	4	50	5	50	5	50	5	52	3
	R6.44	1	54	54	55	2	52	3	52	4	51	4	51	5	50	5	50	5	52	3
	R6.45 (M6.05)	1	54	55	56	2	53	3	52	4	51	5	51	5	50	5	50	5	52	3
	R6.46	1	52	53	54	2	51	3	50	4	50	4	50	5	49	5	50	5	51	3
	R6.47	1	52	53	54	2	51	3	50	4	50	4	49	5	49	5	49	5	51	3
	R6.48	1	51	52	53	2	50	3	49	4	48	4	48	5	48	5	48	5	50	3
	R6.49	1	50	51	52	2	49	3	49	4	48	4	48	5	48	5	47	5	49	3
	R6.50 (M6.06)	1	61	62	63	2	60	3	59	4	59	4	59	4	58	5	58	5	63	0
	R6.51	1	60	61	62	2	60	2	59	3	59	3	59	3	58	3	58	4	62	0
	R6.52	1	58	59	61	2	57	3	56	4	56	5	56	5	55	6	55	6	60	0
	R6.53	1	57	58	59	3	56	3	55	4	55	4	55	5	54	5	54	5	59	0
	R6.54	1	55	56	57	2	54	2	54	2	54	3	54	3	54	3	53	3	56	1
	R6.55	1	53	54	55	2	54	1	54	1	54	1	54	1	54	1	54	1	54	1
	R6.56	1	51	52	53	2	51	2	51	2	51	2	51	2	51	2	51	2	51	2
	R6.57	1	49	50	51	2	49	2	49	2	49	2	49	2	49	2	49	2	49	2
	R6.58	1	48	49	50	2	48	2	47	3	47	3	47	3	46	4	46	4	47	3
	R6.59	1	48	49	50	2	48	3	47	3	47	4	47	4	47	4	46	4	48	3
	R6.60	1	49	50	50	2	48	3	47	3	47	3	47	4	47	4	47	4	49	1
	R6.61	1	48	49	50	2	48	3	47	3	47	3	47	3	47	4	47	4	49	1
	R6.62	1	48	49	50	2	48	3	47	3	47	3	47	3	47	3	47	4	49	1
	R6.63	1	48	49	50	2	48	3	47	3	47	3	47	3	47	3	47	4	49	1
	R6.64	1	47	48	49	2	47	2	46	3	46	3	46	3	46	3	45	4	48	0
	R6.65	1	48	49	49	2	47	2	46	3	46	3	47	3	46	3	46	3	49	0
	R6.66	1	48	49	50	2	48	2	47	3	47	3	47	3	47	3	46	4	50	0
	R6.67	1	49	50	51	2	48	2	48	3	48	3	48	3	48	3	47	3	50	0
	R6.68 (M6.08)	1	53	54	55	2	54	1	53	1	53	1	53	1	53	1	53	1	54	0
	R6.69	1	52	52	54	2	53	1	53	1	53	1	53	1	53	1	53	1	53	1
	R6.70	1	52	53	54	2	53	1	53	1	53	1	53	1	53	1	53	1	53	1
	R6.71	1	53	54	55	2	54	1	54	1	54	1	54	1	54	1	54	1	54	1
	R6.72	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		4		5		5		5
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.						80%		80%		80%		80%		80%		100%		100%		100%
Is this percentage ≥ 50%? If yes, barrier is feasible.						Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes
Reasonableness Evaluation																				
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)						12		14		17		26		27		27		27		16
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)						16		18		21		30		32		32		32		21
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)						8		12		17		17		18		18		18		17
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?						Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes
Barrier Height (feet) [average]						10		12		14		16		18		20		20		[17]
Barrier Length (feet)						1800		1800		1800		1800		1800		1800		1800		1300
Barrier square footage (SQft)						18000		21600		25200		28800		32400		36000		36000		22000
Barrier square footage per benefited receptor (SF/BR)						1125		1200		1200		960		1013		1125		1125		1048
Is SF/BR ≤ 2,000? If yes, barrier is reasonable						Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes
Average I.L. per Benefited Receptor (dB)						6.4		7.3		7.6		7.2		7.4		7.8		7.8		8.2

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

NSA	Receptor ID	No. of Equivalent Receptor 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	
					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 6B	R6.11	1	70	71	72	2	69	3	68	4	66	6
	R6.12 (M6.12)	1	71	72	73	2	66	7	66	7	65	7
	R6.73	1	60	61	63	2	63	0	63	0	63	0
	R6.74	1	62	63	64	2	64	0	64	0	64	0
	R6.75 (M6.09)	1	63	64	65	2	65	0	65	0	65	0
	R6.76	1	61	62	64	2	64	0	64	0	64	0
	R6.77 (M6.10)	1	62	62	64	2	64	0	64	0	64	0
	R6.78	1	62	63	64	2	64	0	64	0	64	0
	R6.79	1	66	67	68	2	64	4	63	5	63	5
	R6.80	1	64	65	66	2	63	4	62	4	62	5
	R6.81	1	60	61	62	2	60	3	59	3	59	3
	R6.82 (M6.11)	1	69	70	71	2	67	4	65	5	64	6
Number of Impacted Receptors					5		5		5		5	
Feasibility Evaluation												
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)							1		3		5	
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.							20%		60%		100%	
Is this percentage $\geq 50\%$? If yes, barrier is feasible.							No		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		5	
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)									12		14	
Barrier Length (feet)									1600		1600	
Barrier square footage (SQft)									19200		22400	
Barrier square footage per benefited receptor (SF/BR)									6400		4480	
Is SF/BR $\leq 2,000$? If yes, barrier is reasonable									No		No	
Average I.L. per Benefited Receptor (dB)									5.7		5.8	

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

Impacted Receivers receiving ≥ 5 dB(A)

Non-Impacted Receivers receiving ≥ 5 dB(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
Coatesville-Downington Bypass - Section AIR
Summary of Barrier Noise Analysis

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

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

NSA	Receptor ID	No. of Equivalent Receptor Units (ERU)	Existing Noise Level (2019)	Future No-Build (2050)	Future Build (2050)													
					Future Build No-Barrier		Case 1: 10' Unbroken NSA Barrier		Case 2: 12' Unbroken NSA Barrier		Case 3: 14' Unbroken NSA Barrier		Case 4: 16' Unbroken NSA Barrier		Case 5: 18' Unbroken NSA Barrier		Case 6: 20' 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	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB
	R7.56	1	57	58	59	2	56	3	55	4	55	5	53	6	53	6	52	7
	R7.57	1	63	64	65	2	59	6	57	8	57	8	56	9	55	10	55	10
	R7.58	1	66	67	67	2	59	9	57	10	56	11	56	12	55	12	54	13
	R7.59	1	52	53	54	2	51	3	50	4	49	5	48	6	48	6	47	6
	R7.60	1	52	53	54	2	52	3	51	3	50	5	49	5	49	6	48	6
	R7.61	1	54	55	56	2	53	3	52	4	51	5	50	6	50	6	49	7
	R7.62	1	55	56	57	2	54	4	52	5	52	6	51	6	51	7	50	7
	R7.63	1	57	58	59	2	55	4	53	6	52	7	52	7	51	8	51	8
	R7.64	1	58	59	60	2	55	5	53	7	53	7	52	8	51	9	51	9
	R7.65	1	55	56	57	2	53	3	51	5	51	6	50	7	49	7	49	8
	R7.66	1	56	57	58	2	54	4	52	6	51	7	51	8	50	8	50	9
	R7.67	1	62	62	63	2	57	7	54	9	53	10	53	11	52	11	52	12
	R7.68	1	59	60	60	2	56	5	53	7	52	9	51	9	51	10	50	10
	R7.69	1	59	60	61	2	57	5	54	8	52	9	52	10	51	10	51	11
	R7.70	1	60	61	62	2	57	6	54	8	53	9	52	10	52	11	51	11
	R7.71	1	61	62	63	2	58	5	55	8	54	9	53	10	52	10	52	11
	R7.72	1	62	63	63	2	59	5	56	8	54	9	54	10	53	11	52	11
	R7.73	1	60	61	63	2	58	4	56	7	54	9	53	9	53	10	52	11
	R7.74	1	60	61	62	2	59	3	59	4	57	5	56	7	54	8	54	9
	R7.75	1	64	65	66	2	61	5	58	8	57	9	56	10	55	11	55	11
	R7.76	1	65	66	67	2	62	5	59	8	58	9	57	10	56	11	56	11
	R7.77	1	68	69	70	2	64	6	62	9	60	10	59	11	58	12	58	12
	R7.78	1	70	71	72	2	65	7	65	7	62	10	61	12	60	12	59	13
	R7.79	1	72	73	74	2	67	7	66	8	63	12	62	13	61	14	60	14
	R7.80	1	65	66	67	2	63	4	62	5	61	6	59	8	58	9	57	10
	R7.81	1	64	65	66	2	63	3	62	4	61	5	59	7	59	8	58	9
	R7.82	1	68	69	70	2	66	4	65	5	64	6	62	8	61	9	60	9
	R7.83	1	67	68	69	2	64	4	64	5	62	7	61	8	61	8	60	9
	R7.84	1	64	65	66	2	65	1	65	1	64	1	64	2	64	2	64	2
Number of Impacted Receptors					35		35		35		35		35		34		34	
Feasibility Evaluation																		
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)							26		30		32		34		34		34	
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.							74%		86%		91%		97%		100%		100%	
Is this percentage ≥ 50%; If yes, barrier is feasible.							Yes		Yes		Yes		Yes		Yes		Yes	
Reasonableness Evaluation																		
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)							9		20		39		41		43		45	
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)							35		50		71		75		77		79	
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)							21		35		45		56		65		70	
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?							Yes		Yes		Yes		Yes		Yes		Yes	
Barrier Height (feet) [average]							10		12		14		16		18		20	
Barrier Length (feet)							5409		5409		5409		5409		5409		5409	
Barrier square footage (SQft)							54090		64908		75726		86544		97362		108180	
Barrier square footage per benefited receptor (SF/BR)							1545		1298		1067		1154		1264		1369	
Is SF/BR ≤ 2,000?; If yes, barrier is reasonable							Yes		Yes		Yes		Yes		Yes		Yes	
Average I.L. per Benefited Receptor (dB)							7.0		8.0		8.1		8.8		9.3		9.7	

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/7B Optimized
Coatesville-Downington Bypass - Section AIR
Summary of Barrier Noise Analysis**

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

**Table 12: NSA 7A/7B Optimized
Coatesville-Downington Bypass - Section AIR
Summary of Barrier Noise Analysis**

NSA	Receptor ID	No. of Equivalent Receptor Units (ERU)	Existing Noise Level (2019)	Future No-Build (2050)	Future Build (2050)								
					Future Build No-Barrier		Case 7: Optimized Barrier 7A		Case 7: Optimized Barrier 7B				
					Noise Level dB(A)	I.O.E dB	Noise Level dB(A)	Insertion Loss dB	Noise Level dB(A)	Insertion Loss dB			
NSA 7A	R7.54	1	56	57	58	2	56	2					
	R7.55	1	55	56	57	2	55	2					
	R7.56	1	57	58	59	2	57	2					
	R7.57	1	63	64	65	2	57	8					
	R7.58	1	66	67	67	2	61	6					
	R7.59	1	52	53	54	2	52	2					
	R7.60	1	52	53	54	2	52	2					
	R7.61	1	54	55	56	2	54	2					
	R7.62	1	55	56	57	2	55	3					
	R7.63	1	57	58	59	2	56	3					
	R7.64	1	58	59	60	2	58	2					
	R7.65	1	55	56	57	2	55	2					
R7.66	1	56	57	58	2	56	2						
NSA 7B	R7.67	1	62	62	63	2			59	4			
	R7.13 (M7.13)	1	64	64	66	2			60	6			
	R7.14 (M7.14)	1	68	69	70	2			60	9			
	R7.15 (M7.15)	1	63	64	65	2			60	5			
	R7.16 (M7.16)	1	73	74	75	2			62	13			
	R7.68	1	59	60	60	2			59	2			
	R7.69	1	59	60	61	2			60	2			
	R7.70	1	60	61	62	2			61	2			
	R7.71	1	61	62	63	2			61	1			
	R7.72	1	62	63	63	2			62	1			
	R7.73	1	60	61	63	2			61	2			
	R7.74	1	60	61	62	2			59	3			
	R7.75	1	64	65	66	2			61	5			
	R7.76	1	65	66	67	2			59	8			
	R7.77	1	68	69	70	2			61	9			
	R7.78	1	70	71	72	2			62	10			
	R7.79	1	72	73	74	2			63	12			
	R7.80	1	65	66	67	2			61	6			
	R7.81	1	64	65	66	2			61	5			
	R7.82	1	68	69	70	2			63	6			
	R7.83	1	67	68	69	2			63	6			
	R7.84	1	64	65	66	2			65	1			
	Number of Impacted Receptors					35			22		13		
	Feasibility Evaluation								22 100% Yes		12 92% Yes		
Impacted Receptors receiving ≥ 5 dB Insertion Loss (I.L.)													
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.													
Is this percentage > 50%?; If yes, barrier is feasible.													
Reasonableness Evaluation													
Number of Non-impacted receptors receiving ≥ 5 dB I.L. (Benefited Receptors)							7 29 18 Yes [14] 2909 39912 1376 Yes 8.4		1 13 6 Yes [13] 2000 25817 1986 Yes 7.6				
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)													
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)													
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?													
Barrier Height (feet) [average]													
Barrier Length (feet)													
Barrier square footage (SQft)													
Barrier square footage per benefited receptor (SF/BR)													
Is SF/BR ≤ 2,000?; If yes, barrier is reasonable													
Average I.L. per Benefited Receptor (dB)													

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

Impacted Receivers receiving ≥ 5 dB(A)

Non-Impacted Receivers receiving ≥ 5 dB(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 13: NSA 8
Coatesville-Downington Bypass - Section AIR
Summary of Barrier Noise Analysis

NSA	Receptor ID	No. of Equivalent Receptor 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)	1	64	65	67	2	61	6	59	8	59	8	58	9
	R8.02	1	63	64	65	2	62	3	62	3	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 ≥ 5 dB(A)

 Non-Impacted Receivers receiving ≥ 5 dB(A)

All noise levels are $L_{eq}(h)$ 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 14: NSA 9
Coatesville-Downington Bypass - Section AIR
Summary of Barrier Noise Analysis

NSA	Receptor ID	No. of Equivalent Receptor 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)	1	64	65	66	2	66	0	66	0	66	0	66	0	66	0	66	0	66	0				
	R9.02 (M9.02)	1	69	70	71	2	67	3	66	5	64	6	63	8	62	9	61	10	67	4				
	R9.03 (M9.03)	1	71	72	73	2	64	9	63	11	62	11	61	12	60	13	59	14	61	12				
	R9.04 (M9.04)	1	57	58	59	2	58	1	57	2	57	2	56	3	56	3	55	4	58	1				
	R9.05 (M9.05)	1	54	54	55	2	55	0	55	1	55	1	54	1	54	2	54	2	56	0				
	R9.06 (M9.06)	1	56	57	58	2	58	0	58	0	58	0	58	0	58	0	58	0	58	0				
	R9.07 (M9.07)	1	53	54	54	1	53	1	53	1	53	2	52	2	52	2	52	2	53	1				
	R9.08	1	67	68	69	2	63	6	62	7	61	8	60	9	59	10	59	10	60	9				
	R9.09	1	66	67	68	2	67	1	65	3	63	5	62	6	61	7	60	8	60	8				
	R9.10	1	57	58	58	2	58	1	57	1	57	2	56	2	56	2	56	2	56	2				
	R9.11	1	65	66	66	2	68	0	68	0	67	0	65	1	64	3	63	4	63	4				
	R9.12	1	61	62	63	2	60	2	60	3	59	4	58	4	58	5	57	5	62	1				
	R9.13	1	58	59	60	2	58	2	57	2	57	3	56	3	56	4	56	4	59	1				
	R9.14	1	57	58	59	2	57	2	56	2	56	2	56	3	55	3	55	4	58	1				
	R9.15	1	55	56	57	2	56	1	56	2	56	2	55	3	55	3	54	3	57	1				
	R9.16	1	55	55	57	2	56	1	55	1	55	1	55	2	54	2	54	3	56	0				
	R9.17	1	52	53	54	2	53	1	53	1	53	2	52	2	52	2	52	2	54	1				
	R9.18	1	53	54	55	2	53	1	53	1	53	2	53	2	53	2	53	2	54	1				
	R9.19	1	54	55	56	2	55	1	55	2	54	2	54	2	54	2	54	2	55	1				
	R9.20	1	61	62	61	0	62	0	62	0	62	0	62	0	62	0	62	0	62	0				
	R9.21	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					3				
Percent of Impacted Receptors Receiving ≥ 5 dB I.L.					33%					50%					50%					50%				
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)										0					1					1				
Total Number of receptors receiving ≥ 5 dB I.L. (Benefited Receptors)										3					4					4				
Number of receptors receiving ≥ 7 dB I.L. (Meeting NRDG)										2					2					3				
Does at least one Benefited Receptor Receive ≥ 7 dB I.L.?										Yes					Yes					Yes				
Barrier Height (feet)										12					14					16				
Barrier Length (feet)										1393					1393					1393				
Barrier square footage (SQft)										16716					19502					22288				
Barrier square footage per benefited receptor (SF/BR)										5572					4876					5572				
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 $\geq 5\text{dB(A)}$
Non-Impacted Receivers receiving $\geq 5\text{dB(A)}$

Table 15: NSA 10
Coatesville-Downington Bypass - Section AIR
Summary of Noise Barrier Analysis

NSA	Receptor ID	No. of Equivalent Receptor 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	0.3 (Trail)	65	68	69	4	64	5	62	7
	R10.02		67	70	71	3	62	9	60	11
	R10.03		65	68	68	4	62	7	59	10
	R10.04		65	68	68	3	61	8	58	10
	R10.05		66	69	69	3	61	8	58	11
	R10.06		67	70	70	3	62	9	59	12
	R10.07		68	70	71	3	62	9	60	12
	R10.08		66	69	69	3	62	7	59	10
	R10.09		67	70	71	4	62	9	60	11
	R10.10		67	69	71	4	70	1	70	1
	R10.15	0.17 (Court)	57	59	62	5	59	2	59	2
	R10.16	0.77 (Pool)	55	57	60	6	59	1	59	1
NSA 10B	R10.11	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		65	67	68	4				
	R10.13		62	65	66	3				
	R10.14		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 ≥ 5 dB(A)
 Non-Impacted Receivers receiving ≥ 5 dB(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.

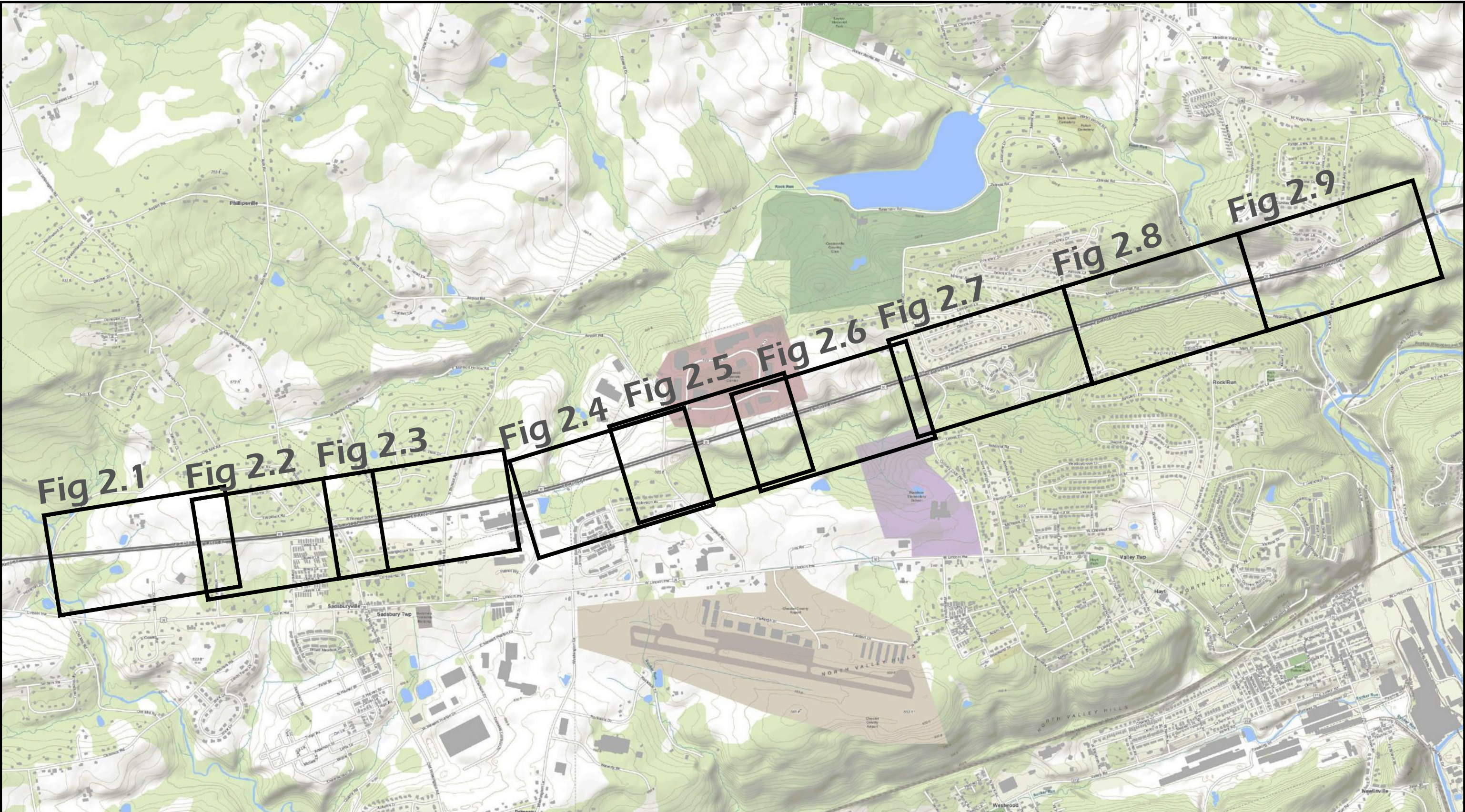
**Table 16: Equivalent Receptor Unit Worksheet
Coatesville-Downington Bypass - Section AIR
Summary of Noise Barrier Analysis**

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 Available 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 approximately 20 minutes to walk the length of the trail. The trail is used March through November.
	= Input Value	
	= Calculated Value	
	= Calculated ERU Value	

Table 17: Equivalent Receptor Unit Worksheet
Coatesville-Downington Bypass - Section AIR
Summary of Noise Barrier Analysis

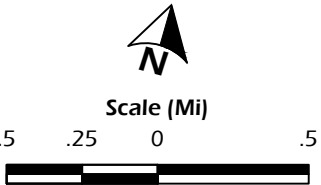
APPLICABLE CRITERIA ASSOCIATED WITH ACTIVITY CATEGORY B			
		R10.15 (Court)	R10.16 (Pool)
		A community tennis court area (2 courts) within the Valley Suburban Center.	A community pool with ~1780 ft ² of swimming area and a spa with ~290 ft ² of swimming area within the Valley Suburban Center.
Input values are estimations based on the information available at the time of study such as community size, geographical location, and feature properties.			
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		

FIGURES



Project Overview Map

Coatesville-Downington Bypass - Airport Rd Interchange
S.R. 0030, Section AIR
Pennsylvania Dept. of Transportation
Chester County, PA



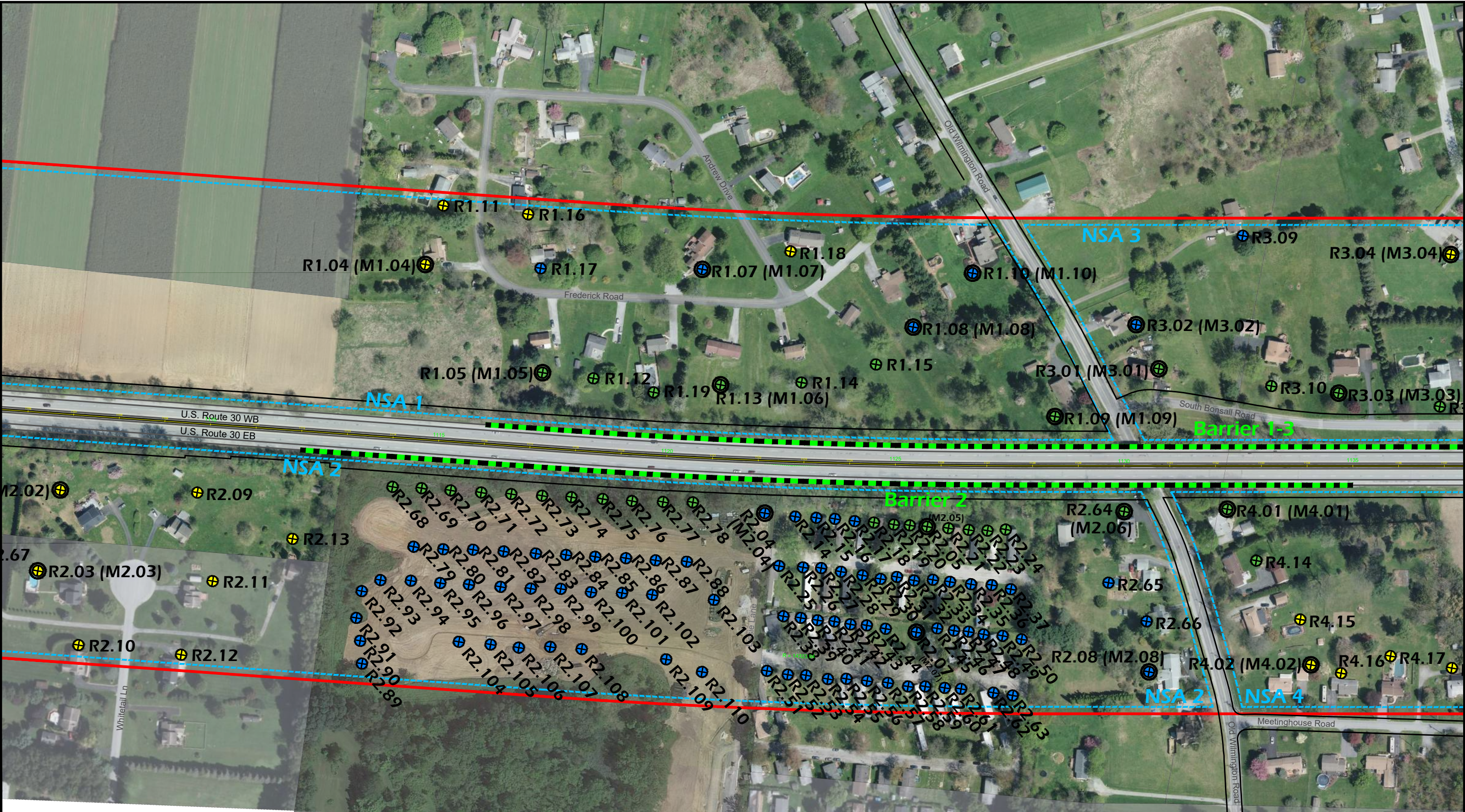
 **GANNETT FLEMING**

Figure 1

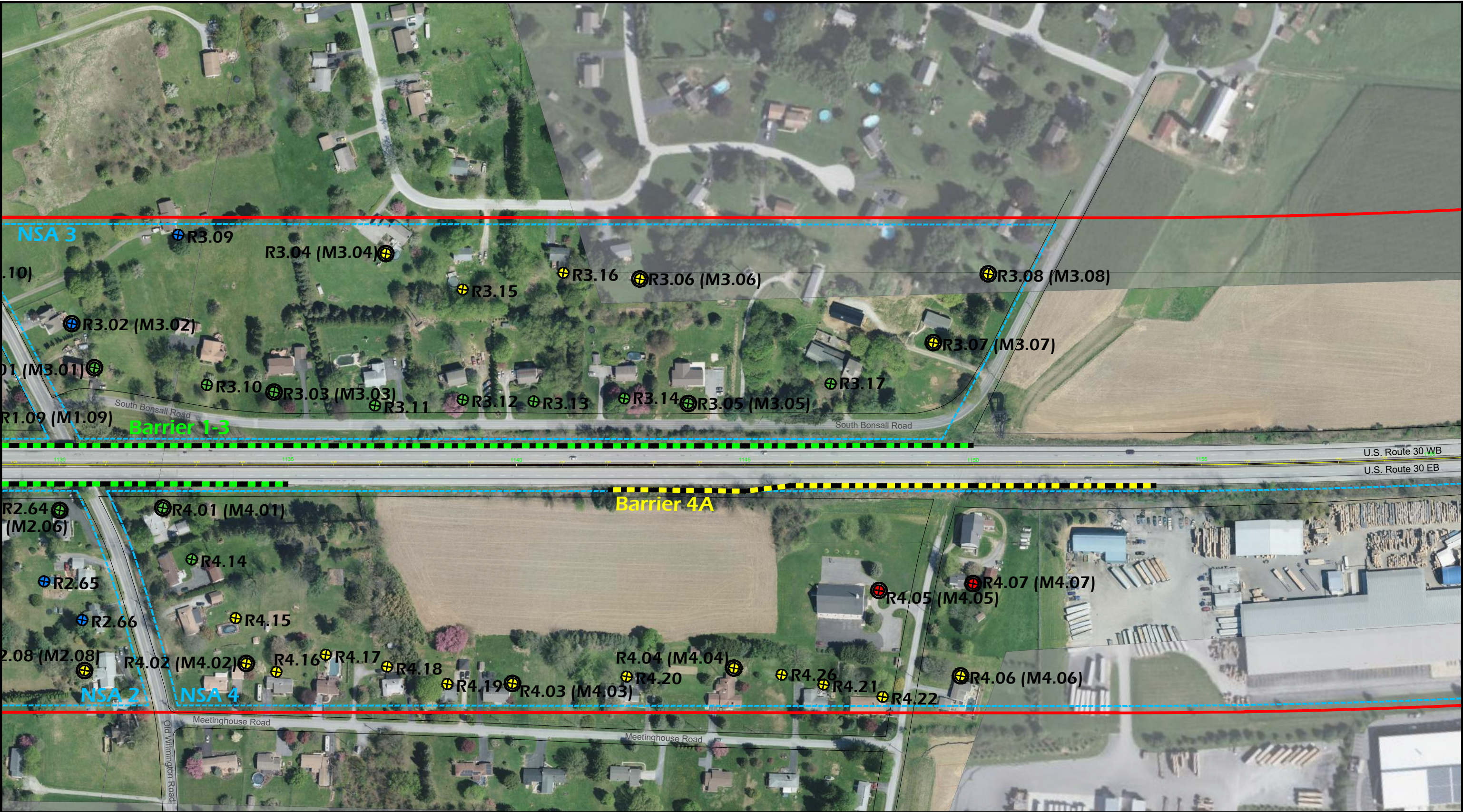
Map Created on 02.09.2023



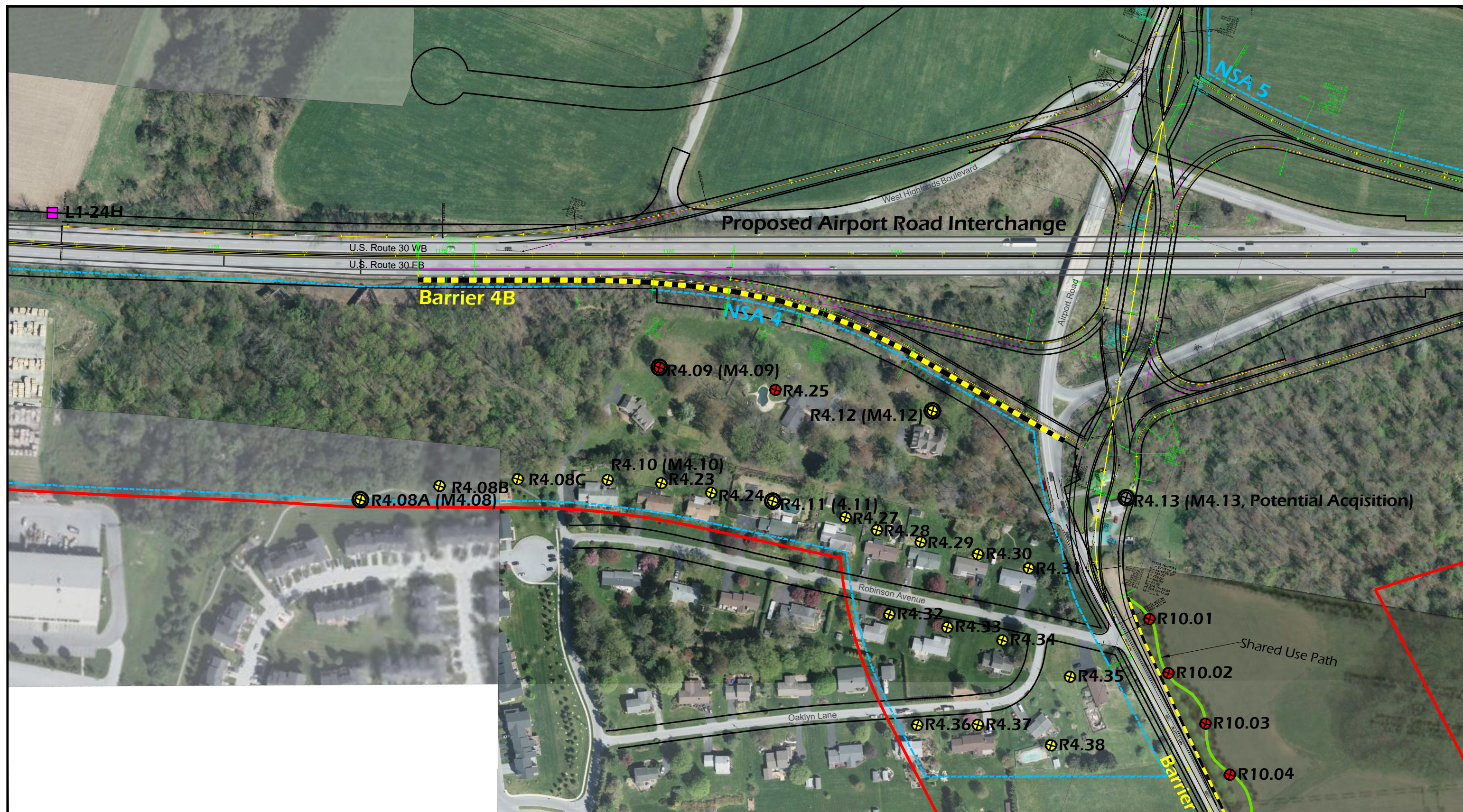
<p>Noise Analysis Locations</p> <ul style="list-style-type: none">● Impacted, Benefitted● Impacted, Not Benefitted● Not Impacted, Benefitted● Not Impacted, Not Benefitted■ 24H Noise Measurement Location● Noise Measurement Location	<p>Barriers</p> <ul style="list-style-type: none">■ Feasible and Reasonable■ Feasible, Not Reasonable■ Not Feasible, Not Reasonable <p>■ 500' Boundary</p> <p>■ NSA Boundary</p>		<p>Coatesville-Downington Bypass - Airport Rd Interchange</p> <p>S.R. 0030, Section AIR</p> <p>Pennsylvania Dept. of Transportation</p> <p>Chester County, PA</p>	<p>Scale (Feet)</p> <p>200 100 0 200</p>	<p> GANNETT FLEMING</p> <p>Figure 2.1</p> <p>Map Created on 05.24.2024</p>
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<p>Noise Analysis Locations</p> <ul style="list-style-type: none">● Impacted, Benefitted● Impacted, Not Benefitted● Not Impacted, Benefitted● Not Impacted, Not Benefitted■ 24H Noise Measurement Location● Noise Measurement Location	<p>Barriers</p> <ul style="list-style-type: none">■ Feasible and Reasonable■ Feasible, Not Reasonable■ Not Feasible, Not Reasonable <p>500' Boundary</p> <p>NSA Boundary</p>	<p>Coatesville-Downington Bypass - Airport Rd Interchange</p> <p>S.R. 0030, Section AIR</p> <p>Pennsylvania Dept. of Transportation</p> <p>Chester County, PA</p>	<p>Scale (Feet)</p> <p>200 100 0 200</p>	<p>GANNETT FLEMING</p> <p>Figure 2.2</p> <p>Map Created on 09.18.2024</p>
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<p>Noise Analysis Locations</p> <ul style="list-style-type: none">● Impacted, Benefitted● Impacted, Not Benefitted● Not Impacted, Benefitted● Not Impacted, Not Benefitted■ 24H Noise Measurement Location● Noise Measurement Location	<p>Barriers</p> <ul style="list-style-type: none">— Feasible and Reasonable— Feasible, Not Reasonable— Not Feasible, Not Reasonable— 500' Boundary— NSA Boundary		<p>Coatesville-Downington Bypass - Airport Rd Interchange</p> <p>S.R. 0030, Section AIR</p> <p>Pennsylvania Dept. of Transportation</p> <p>Chester County, PA</p>	<p>Scale (Feet)</p> <p>200 100 0 200</p>	<p> GANNETT FLEMING</p> <p>Figure 2.3</p> <p>Map Created on 08.02.2024</p>
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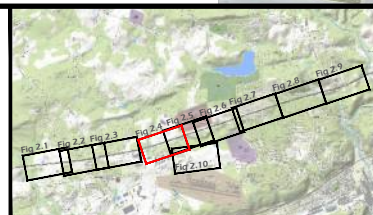


Noise Analysis Locations

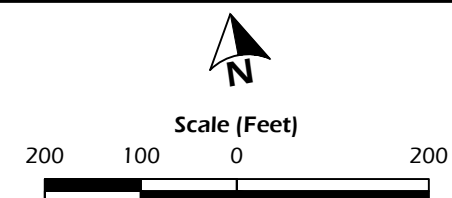
- Impacted, Benefitted
- Impacted, Not Benefitted
- Not Impacted, Benefitted
- Not Impacted, Not Benefitted
- 24H Noise Measurement Location
- Noise Measurement Location

Barriers

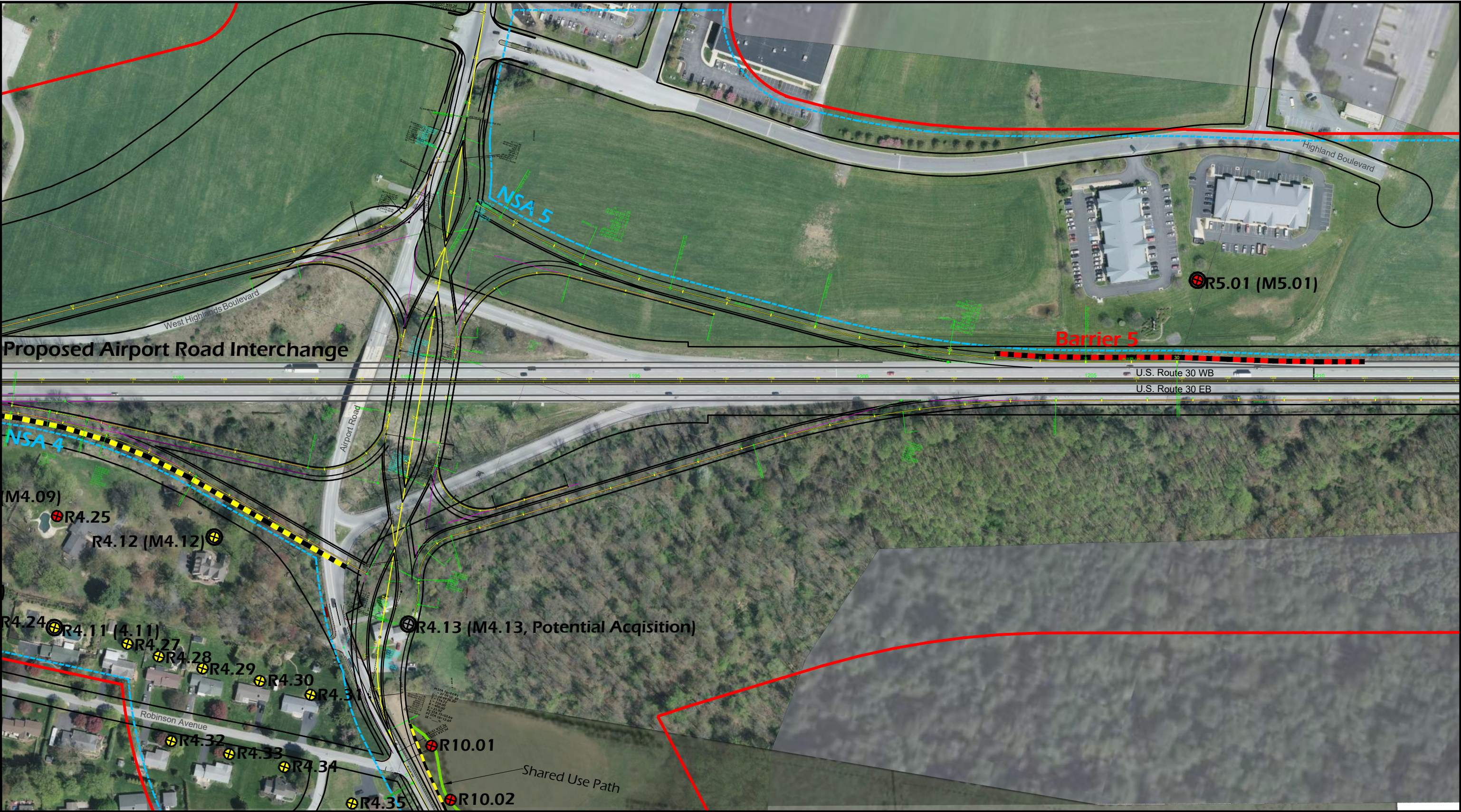
- Feasible and Reasonable
- Feasible, Not Reasonable
- Not Feasible, Not Reasonable
- 500' Boundary
- NSA Boundary



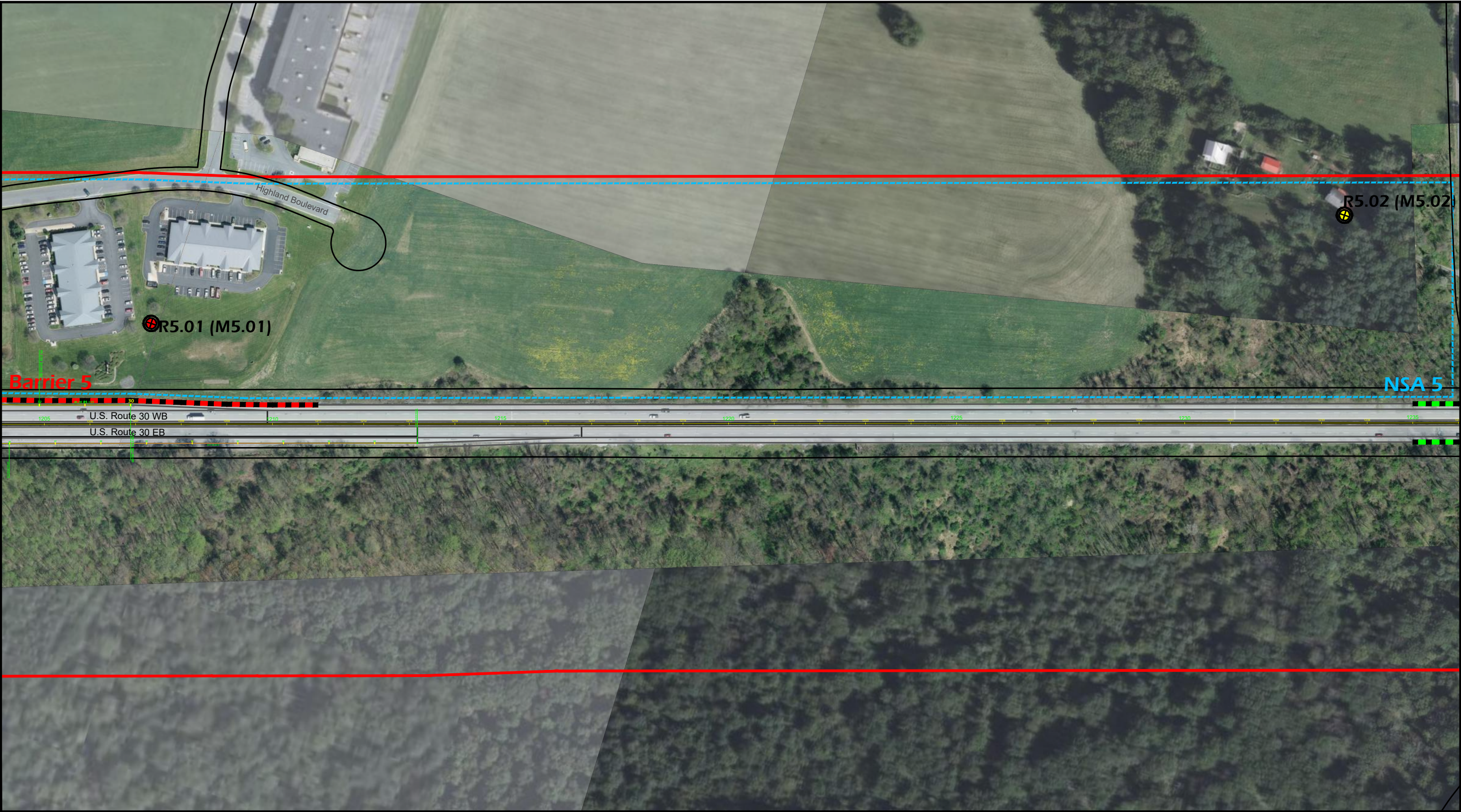
Coatesville-Downington Bypass - Airport Rd Interchange
 S.R. 0030, Section AIR
 Pennsylvania Dept. of Transportation
 Chester County, PA




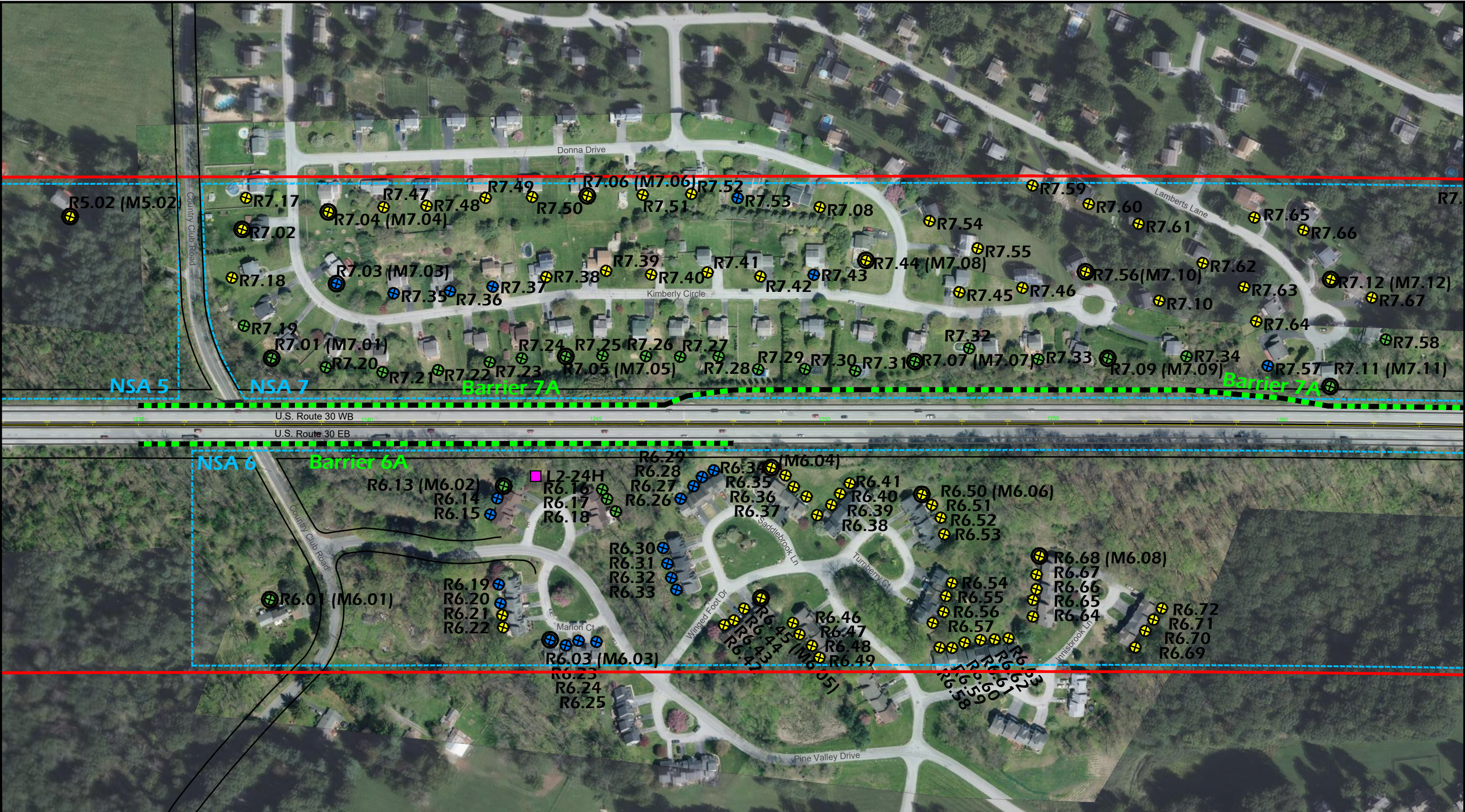
GANNETT FLEMING
Figure 2.4
 Map Created on 05.24.2024



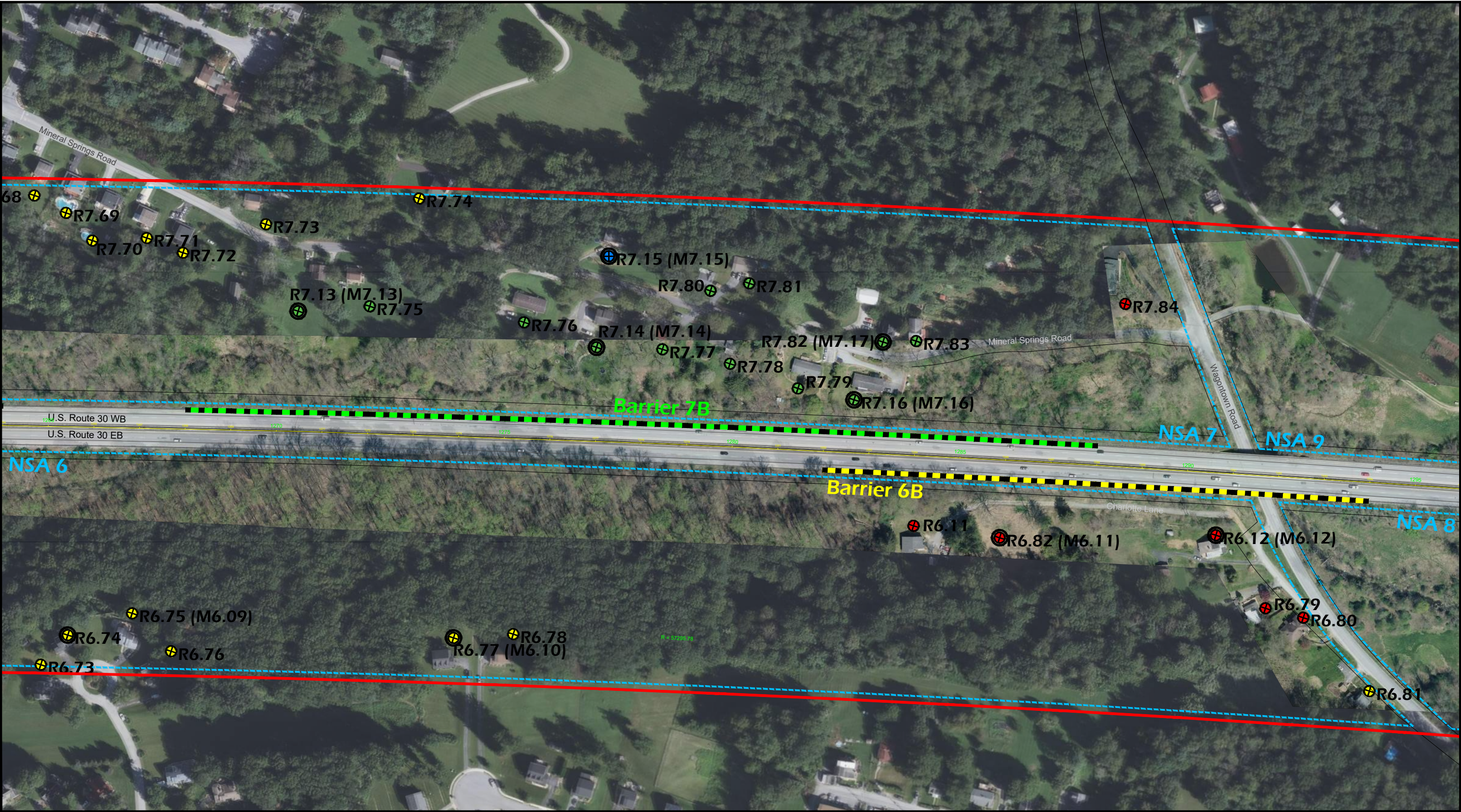
<p>Noise Analysis Locations</p> <ul style="list-style-type: none">● Impacted, Benefitted● Impacted, Not Benefitted● Not Impacted, Benefitted● Not Impacted, Not Benefitted■ 24H Noise Measurement Location● Noise Measurement Location	<p>Barriers</p> <ul style="list-style-type: none">— Feasible and Reasonable— Feasible, Not Reasonable— Not Feasible, Not Reasonable— 500' Boundary— NSA Boundary		<p>Coatesville-Downington Bypass - Airport Rd Interchange</p> <p>S.R. 0030, Section AIR</p> <p>Pennsylvania Dept. of Transportation</p> <p>Chester County, PA</p>	<p>Scale (Feet)</p> <p>200 100 0 200</p>	<p> GANNETT FLEMING</p> <p>Figure 2.5</p> <p>Map Created on 05.24.2024</p>
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<p>Noise Analysis Locations</p> <ul style="list-style-type: none">● Impacted, Benefitted● Impacted, Not Benefitted● Not Impacted, Benefitted● Not Impacted, Not Benefitted■ 24H Noise Measurement Location● Noise Measurement Location <p>Barriers</p> <ul style="list-style-type: none">— Feasible and Reasonable— Feasible, Not Reasonable— Not Feasible, Not Reasonable— 500' Boundary— NSA Boundary		<p>Coatesville-Downington Bypass - Airport Rd Interchange</p> <p>S.R. 0030, Section AIR</p> <p>Pennsylvania Dept. of Transportation</p> <p>Chester County, PA</p>	<p>Scale (Feet)</p> <p>200 100 0 200</p>	<p> GANNETT FLEMING</p> <p>Figure 2.6</p> <p>Map Created on 05.24.2024</p>
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<p>Noise Analysis Locations</p> <ul style="list-style-type: none">● Impacted, Benefitted● Impacted, Not Benefitted● Not Impacted, Benefitted● Not Impacted, Not Benefitted■ 24H Noise Measurement Location● Noise Measurement Location	<p>Barriers</p> <ul style="list-style-type: none">— Feasible and Reasonable— Feasible, Not Reasonable— Not Feasible, Not Reasonable— 500' Boundary— NSA Boundary		<p>Coatesville-Downington Bypass - Airport Rd Interchange</p> <p>S.R. 0030, Section AIR</p> <p>Pennsylvania Dept. of Transportation</p> <p>Chester County, PA</p>	<p>Scale (Feet)</p> <p>200 100 0 200</p>	<p> GANNETT FLEMING</p> <p>Figure 2.7</p> <p>Map Created on 05.24.2024</p>
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<p>Noise Analysis Locations</p> <ul style="list-style-type: none">● Impacted, Benefitted● Impacted, Not Benefitted● Not Impacted, Benefitted● Not Impacted, Not Benefitted■ 24H Noise Measurement Location● Noise Measurement Location	<p>Barriers</p> <ul style="list-style-type: none">— Feasible and Reasonable— Feasible, Not Reasonable— Not Feasible, Not Reasonable <p>500' Boundary</p> <p>NSA Boundary</p>		<p>Coatesville-Downington Bypass - Airport Rd Interchange</p> <p>S.R. 0030, Section AIR</p> <p>Pennsylvania Dept. of Transportation</p> <p>Chester County, PA</p>	<p>Scale (Feet)</p> <p>200 100 0 200</p>	<p> GANNETT FLEMING</p> <p>Figure 2.8</p> <p>Map Created on 08.02.2024</p>
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Noise Analysis Locations

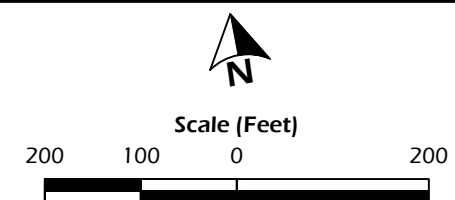
- Impacted, Benefitted
- ⊗ Impacted, Not Benefitted
- Not Impacted, Benefitted
- Not Impacted, Not Benefitted
- 24H Noise Measurement Location
- Noise Measurement Location

Barriers

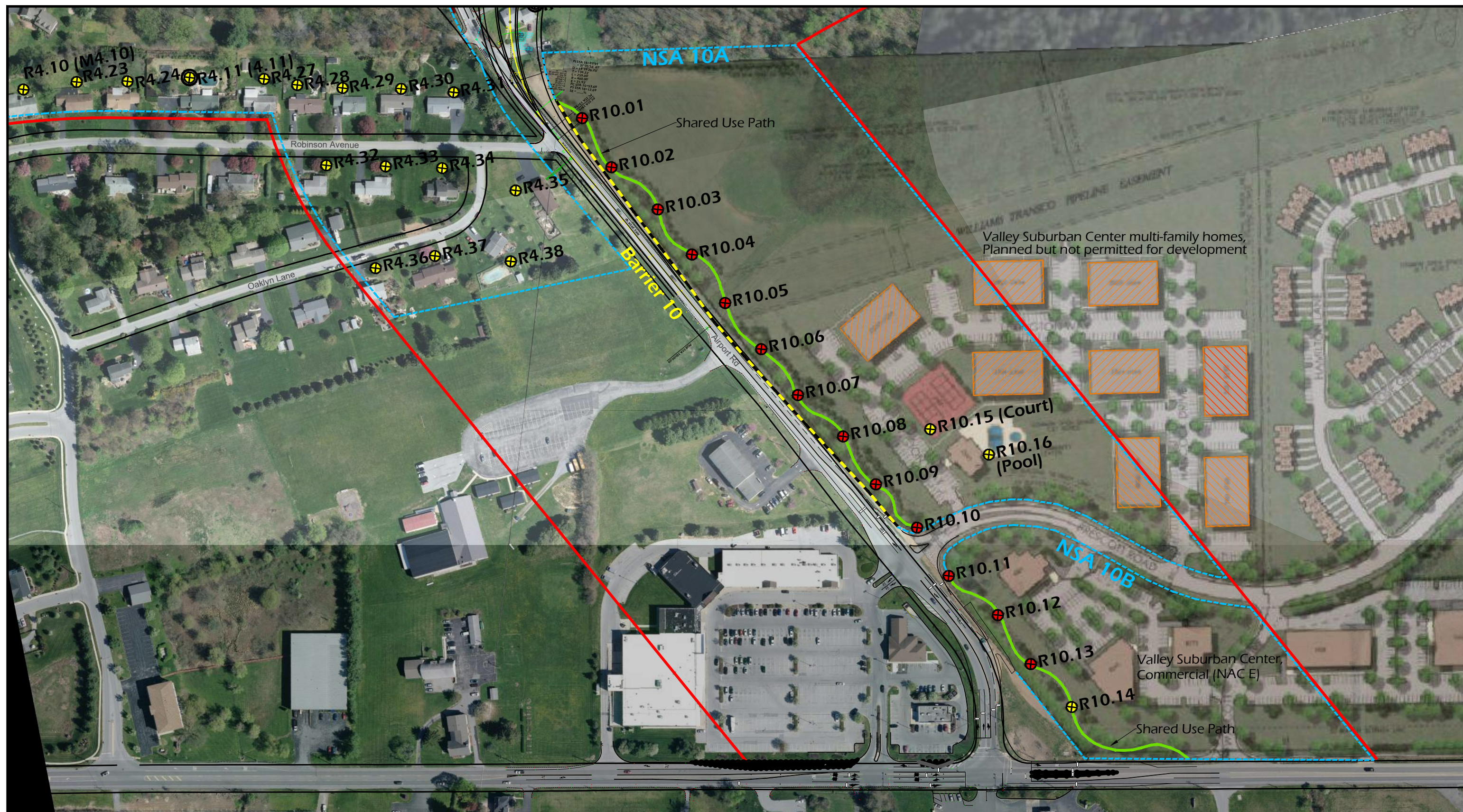
- Feasible and Reasonable
- Feasible, Not Reasonable
- Not Feasible, Not Reasonable
- 500' Boundary
- NSA Boundary



Coatesville-Downington Bypass - Airport Rd Interchange
 S.R. 0030, Section AIR
 Pennsylvania Dept. of Transportation
 Chester County, PA



GANNETT FLEMING
Figure 2.9
 Map Created on 05.24.2024



Noise Analysis Locations

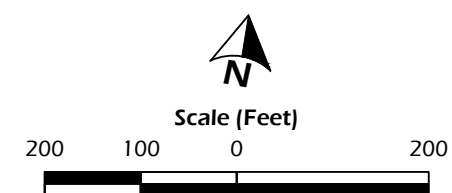
- Impacted, Benefitted
- Impacted, Not Benefitted
- Not Impacted, Benefitted
- Not Impacted, Not Benefitted
- 24H Noise Measurement Location
- Noise Measurement Location

Barriers

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



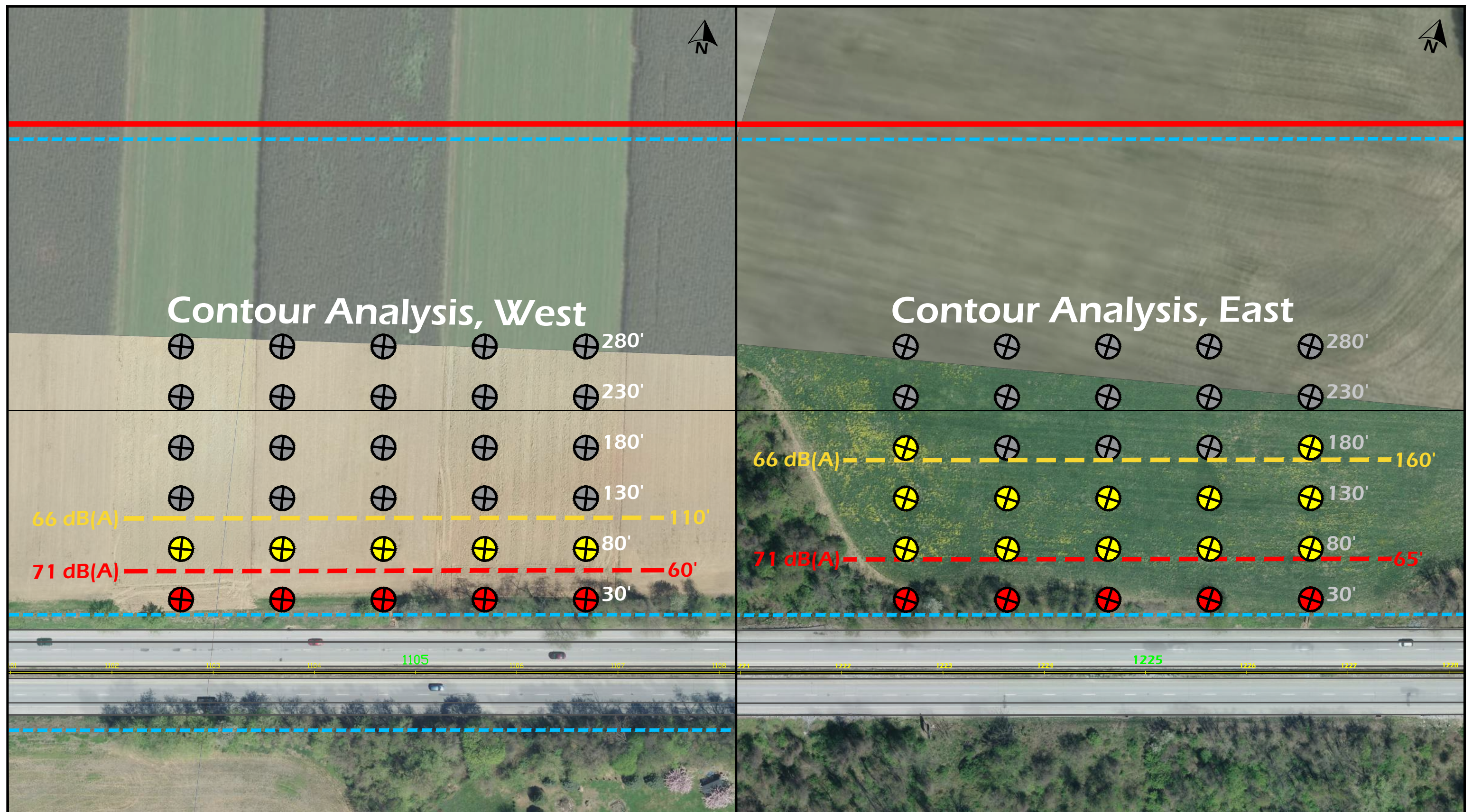
Coatesville-Downington Bypass - Airport Rd Interchange
 S.R. 0030, Section AIR
 Pennsylvania Dept. of Transportation
 Chester County, PA



GANNETT FLEMING

Figure 2.10

Map Created on 09.18.2024

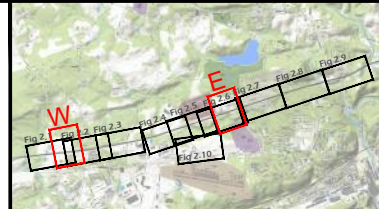


Noise Analysis Locations

- ⊕ Not Impacted
- ⊕ Impact, Activity Category B/C
- ⊕ Impact, Activity Category E

— 500' Boundary

— NSA Boundary

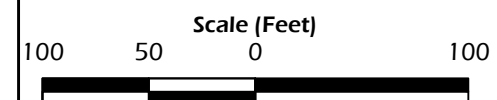


Coatesville-Downington Bypass - Airport Rd Interchange

S.R. 0030, Section AIR

Pennsylvania Dept. of Transportation

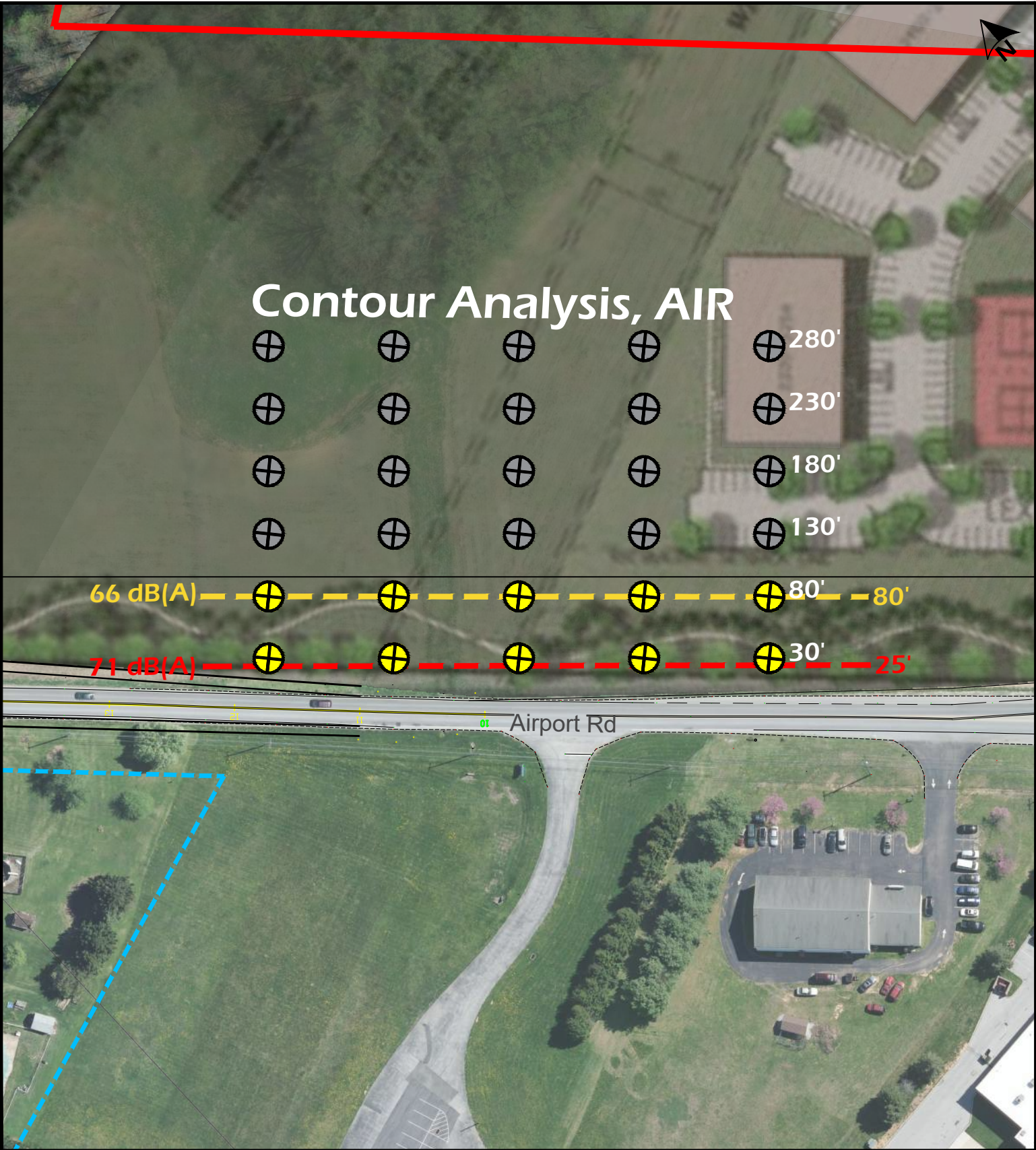
Chester County, PA



GANNETT FLEMING

Figure 2.11

Map Created on 11.16.23

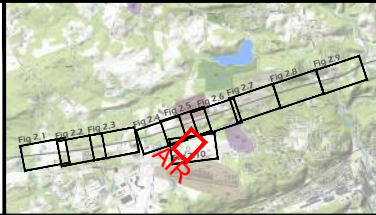


Noise Analysis Locations

- ⊕ Not Impacted
- ⊕ Impact, Activity Category B/C
- ⊕ Impact, Activity Category E

— 500' Boundary

— NSA Boundary



Coatesville-Downington Bypass - Airport Rd Interchange

S.R. 0030, Section AIR

Pennsylvania Dept. of Transportation

Chester County, PA

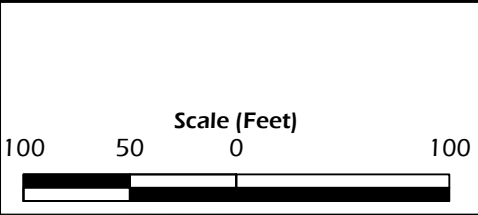


Figure 2.12

Map Created on 11.16.23



APPENDIX A

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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 2
 Wind direction: North

Measurement Data

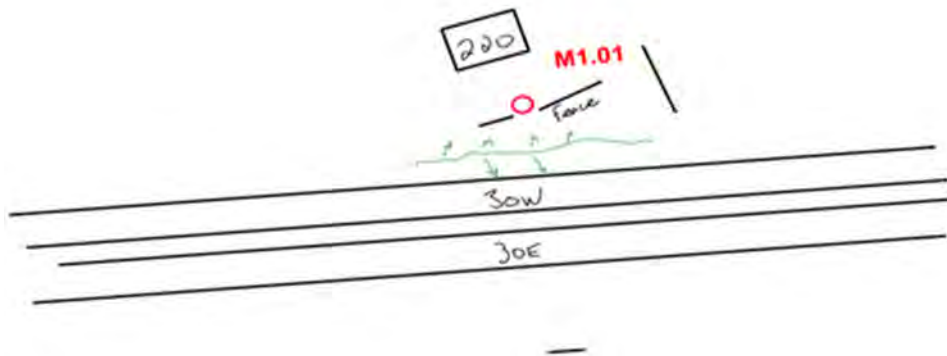
ID: M1.01 Start: 08:15 Stop: 08:35 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 68 $L_{min}(dB)$: 51 $L_{max}(dB)$: 83.4
☐ 30 min
☐ 24 hr Stor #: 145 Calib(dB): 93.83 / 93.83 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 220 Old Mill Rd Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ 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:	217 149	Auto:		Auto:		Auto:	
Med Tk:	11 12	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	26 16	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	0 3	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		MCycle:	

Notes:

Site Sketch:



KAS

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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 2
 Wind direction: North

Measurement Data

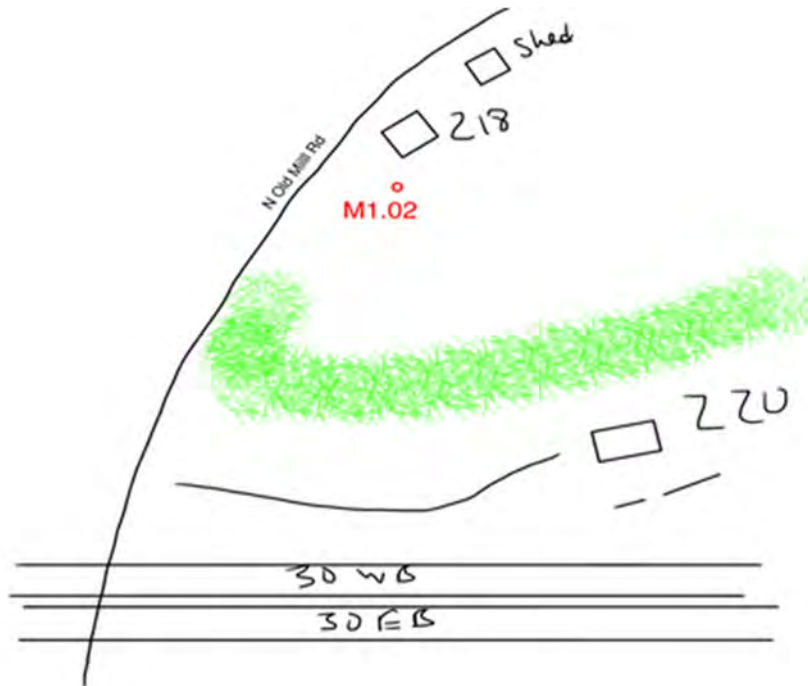
ID: M1.02 Start: 09:04 Stop: 09:24 ☒ 20 min SLM #: 4229 $L_{eq}(dB)$: 57.1 $L_{min}(dB)$: 46 $L_{max}(dB)$: 66.4
☐ 30 min
☐ 24 hr Stor #: 161 Calib(dB): 93.86 / 93.86 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Site Photographed ☒ Yes ☐ No
 GPS (°N, °W): 39.985238272934744, -75.90979068706659
 Location: 218 Old Mill Rd Coatesville, PA 19320
 Type(use, NAC): Residential (B) 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:	138 145	Auto:		Auto:		Auto:	
Med Tk:	9 17	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	25 32	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:		Bus:		Bus:		Bus:	
MCycle:		MCycle:		MCycle:		MCycle:	

Notes:

Site Sketch:



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



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

Measurement Data

ID: M1.03 Start: 09:46 Stop: 10:06 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 58.1 $L_{min}(dB)$: 50 $L_{max}(dB)$: 66
☐ 30 min
☐ 24 hr Stor #: 146 Calib(dB): 93.83 / 93.83 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:	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:	173 165	Auto:		Auto:		Auto:	
Med Tk:	3 11	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	19 34	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	0 0	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		MCycle:	

Notes: Some birds during measurement

Site Sketch:



KAB

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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 2
 Wind direction: North

Measurement Data

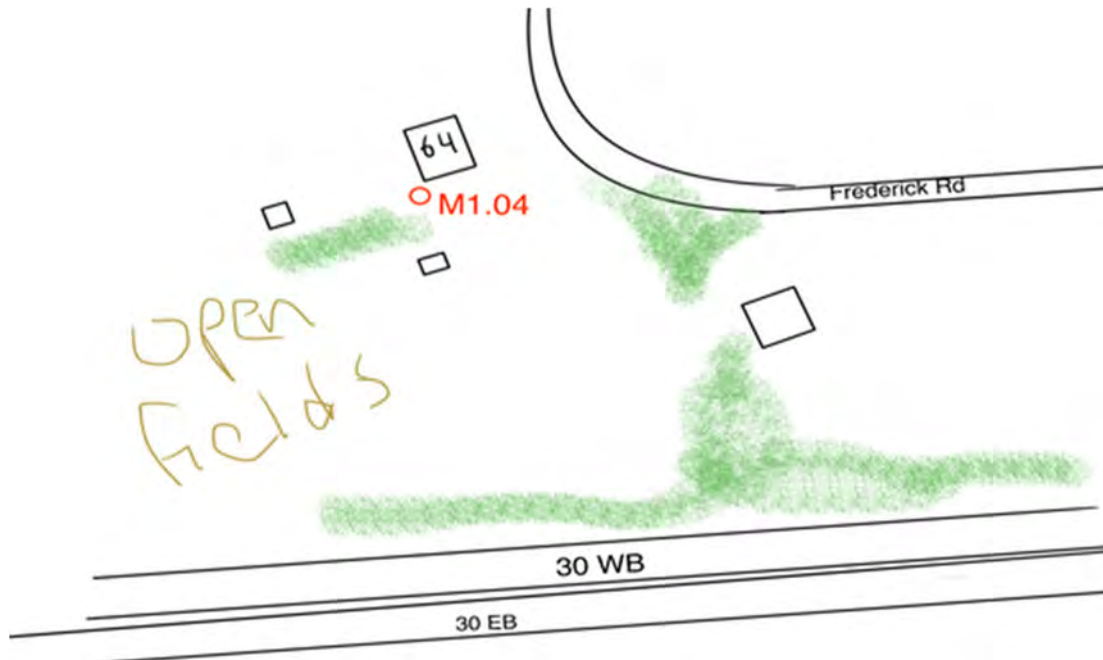
ID: M1.04 Start: 17:49 Stop: 18:09 ☒ 20 min SLM #: 4229 $L_{eq}(dB)$: 60.9 $L_{min}(dB)$: 49.8 $L_{max}(dB)$: 72.8
☐ 30 min
☐ 24 hr Stor #: 173 Calib(dB): 93.86 / 93.86 Meas. Ht(ft): 5
 Location: 64 Frederick Rd Coatesville, PA Relocated ☐ Yes ☒ No
 Type(use, NAC): Residential (B) Site Photographed ☒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

Traffic Data

Roadway #1:	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:	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:



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



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

Measurement Data

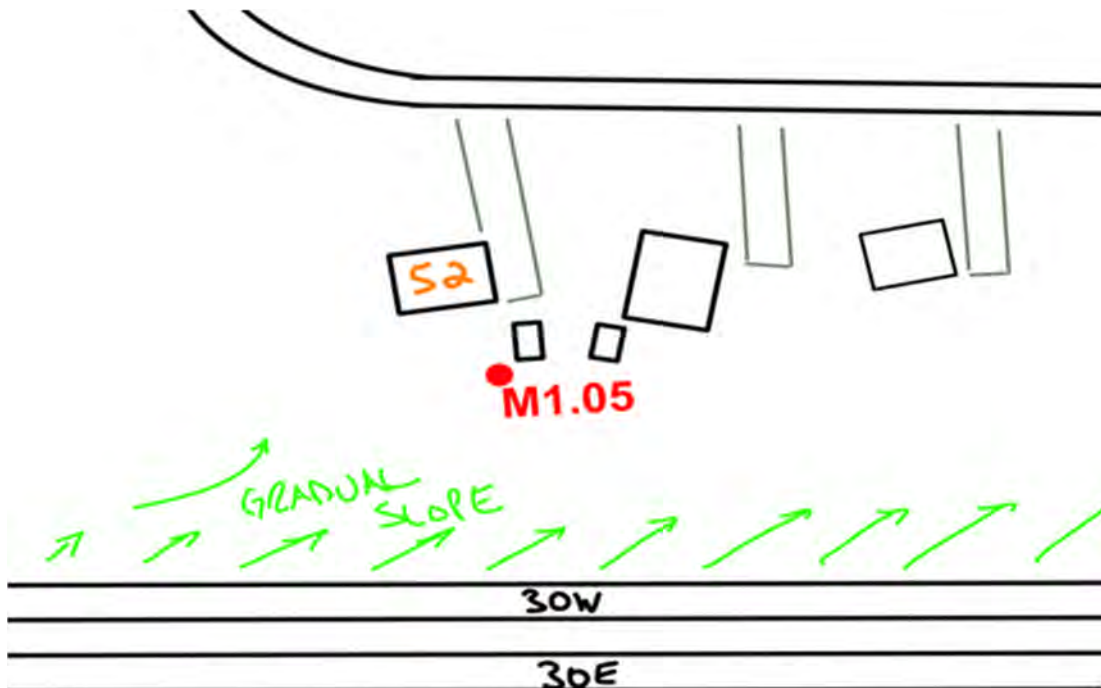
ID: M1.05 Start: 17:49 Stop: 18:09 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 64.7 $L_{min}(dB)$: 51.4 $L_{max}(dB)$: 78.6
☐ 30 min
☐ 24 hr Stor #: 156 Calib(dB): 93.83 / 93.83 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 52 Frederick Rd. Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ 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:	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:

08

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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 2
 Wind direction: East

Measurement Data

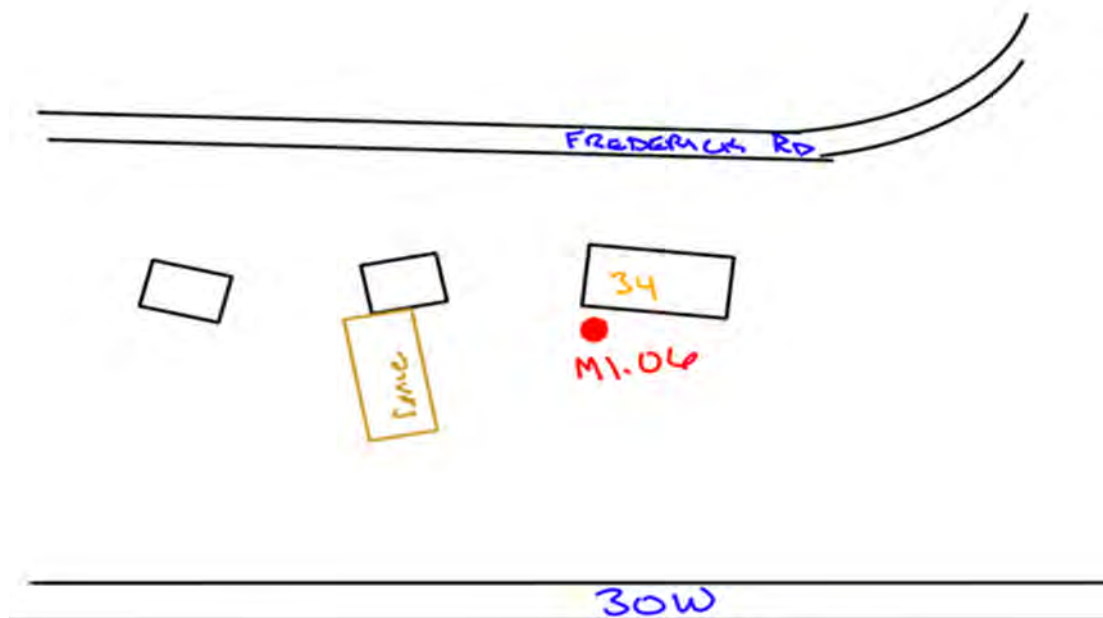
ID: M1.06 Start: 07:13 Stop: 07:33 ☒ 20 min SLM #: 4228 Leq(dB): 63.7 Lmin(dB): 52.7 Lmax(dB): 76.8
☐ 30 min
☐ 24 hr Stor #: 157 Calib(dB): 93.96 / 93.90 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 GPS (°N,°W): 39.98617781666667, -75.89643901666666
 Location: 34 Frederick Rd. Coatesville, PA 19320
 Type(use, 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:	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:



W3

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 SLM #: 4229 $L_{eq}(dB)$: 59.1 $L_{min}(dB)$: 50.8 $L_{max}(dB)$: 71.1
☐ 30 min
☐ 24 hr Stor #: 174 Calib(dB): 93.98 / 94.03 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 31 Frederick Rd. Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ Yes ☐ No
 Weighting: ☒ A ☐ B ☐ C ☐ Z
 Pre- Post-

Traffic Data

Roadway #1:	30 EB	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:	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:



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

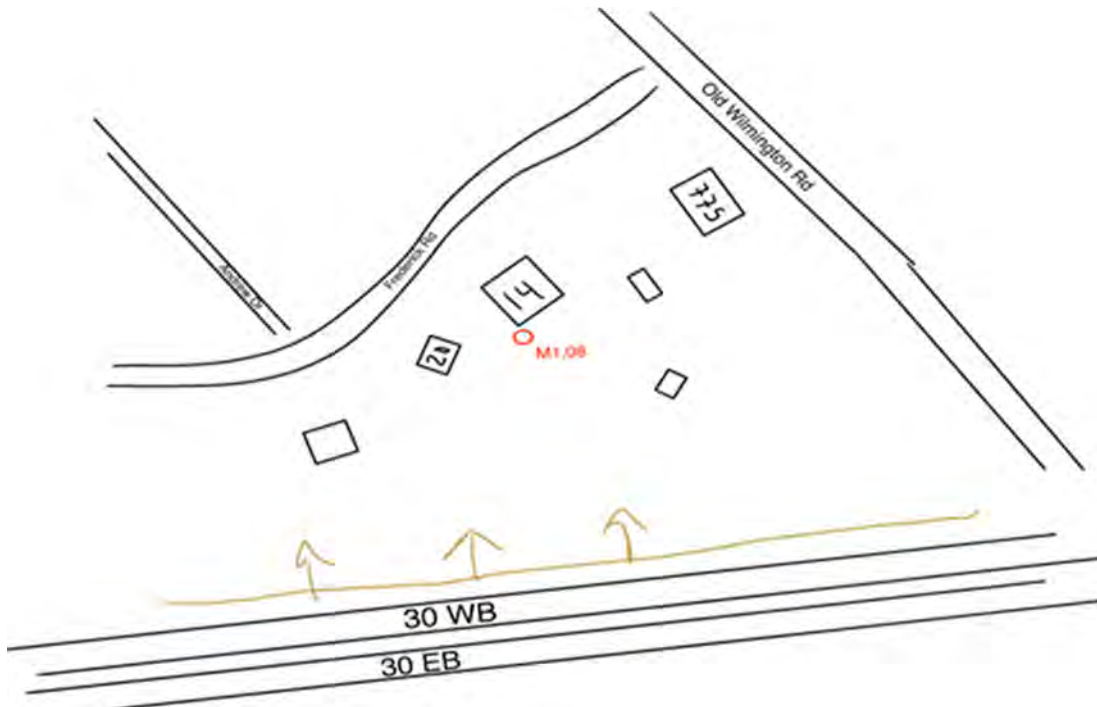
ID: M1.08 Start: 17:15 Stop: 17:35 ☒ 20 min SLM #: 4229 $L_{eq}(dB)$: 62.9 $L_{min}(dB)$: 52.1 $L_{max}(dB)$: 70.3
☐ 30 min
☐ 24 hr Stor #: 172 Calib(dB): 93.86 / 93.86 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Site Photographed ☒ Yes ☐ No
 Location: 14 Frederick Rd. Coatesville, PA 19320
 Type(use, NAC): Residential (B) 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:	210 307	Auto:		Auto:		Auto:	
Med Tk:	4 21	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	11 11	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	2 0	Bus:		Bus:		Bus:	
MCycle:	0 2	MCycle:		MCycle:		MCycle:	

Notes: Side address updates from 20 to 14

Site Sketch:



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

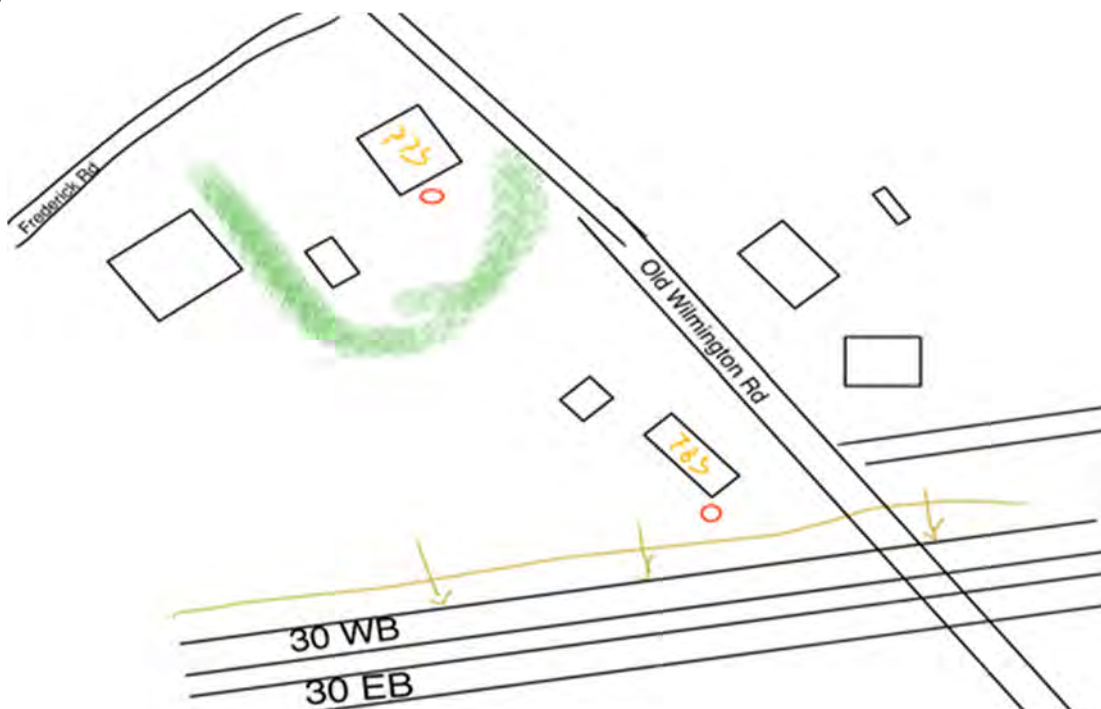
ID: M1.09 Start: 07:47 Stop: 08:07 ☒ 20 min SLM #: 4229 $L_{eq}(dB)$: 68.8 $L_{min}(dB)$: 51.6 $L_{max}(dB)$: 82.1
☐ 30 min
☐ 24 hr Stor #: 175 Calib(dB): 93.98 / 94.03 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 785 Wilmington Rd Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ 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):	
Direction:	EB WB	Direction:	NB SB	Direction:	
Speed Limit:	55 55	Speed Limit:		Speed Limit:	
Observed Spd:		Observed Spd:		Observed Spd:	
Auto:	224 187	Auto:	17 35	Auto:	
Med Tk:	15 17	Med Tk:	2 1	Med Tk:	
Hvy Tk:	27 25	Hvy Tk:	0 0	Hvy Tk:	
Bus:	0 1	Bus:	0 0	Bus:	
MCycle:	0 0	MCycle:	0 0	MCycle:	

Notes: Expansion joint banging

Site Sketch:



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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 2
 Wind direction: Northeast

Measurement Data

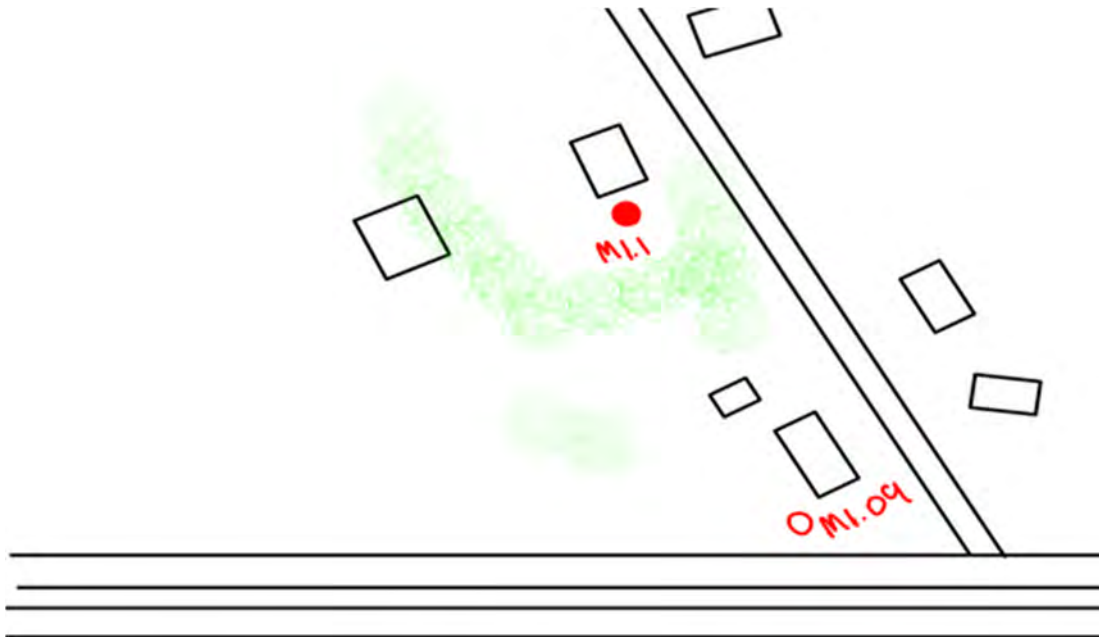
ID: M1.10 Start: 07:47 Stop: 08:07 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 60 $L_{min}(dB)$: 48.4 $L_{max}(dB)$: 70.9
☐ 30 min
☐ 24 hr Stor #: 158 Calib(dB): 93.96 / 93.90 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 775 Wilmington Rd Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ 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



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

Measurement Data

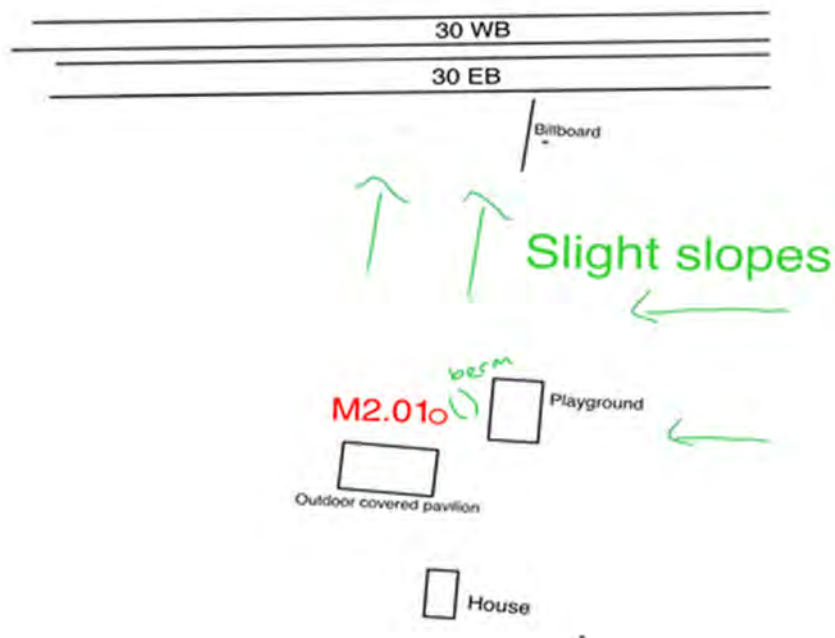
ID: M2.01 Start: 09:46 Stop: 10:06 ☒ 20 min SLM #: 4229 $L_{eq}(dB)$: 60.2 $L_{min}(dB)$: 49.8 $L_{max}(dB)$: 68.5
☐ 30 min
☐ 24 hr Stor #: 162 Calib(dB): 93.86 / 93.86 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 35 S. Cowan Rd Parkeburg, PA 19365
 Type(use, NAC): Park (C) Site Photographed ☒ Yes ☐ 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:	165 173	Auto:		Auto:		Auto:	
Med Tk:	11 3	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	34 19	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	0 0	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		MCycle:	

Notes:

Site Sketch:



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



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

Measurement Data

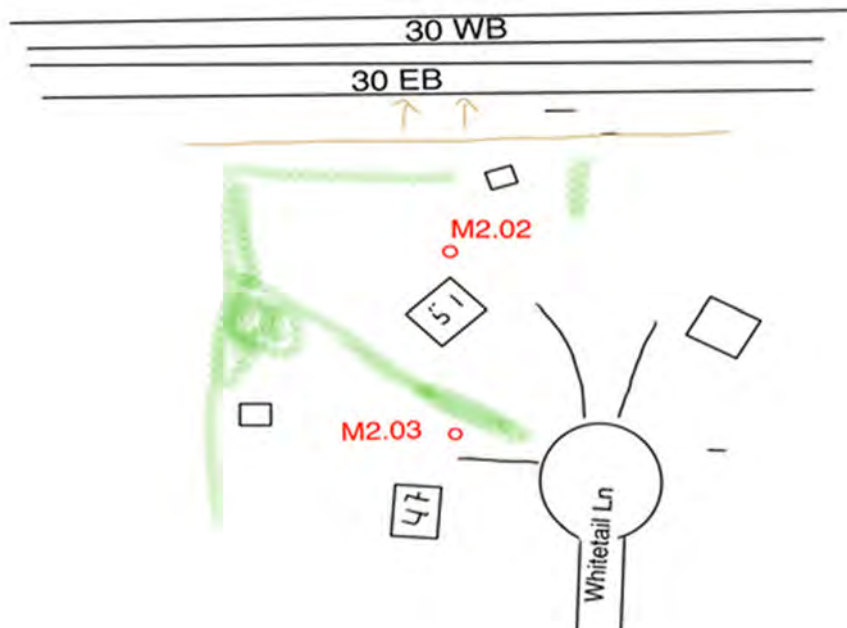
ID: **M2.02** Start: 10:34 Stop: 10:54 ☒ 20 min SLM #: 4228 **L_{eq}(dB):** 62.4 **L_{min}(dB):** 51.2 **L_{max}(dB):** 71.9
☐ 30 min
☐ 24 hr Stor #: 147 Calib(dB): 93.83 / 93.83 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 51 White Tail Ln Parkeburg, PA 19365
 Type(use, NAC): Residential (B) Site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

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:



KAB

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

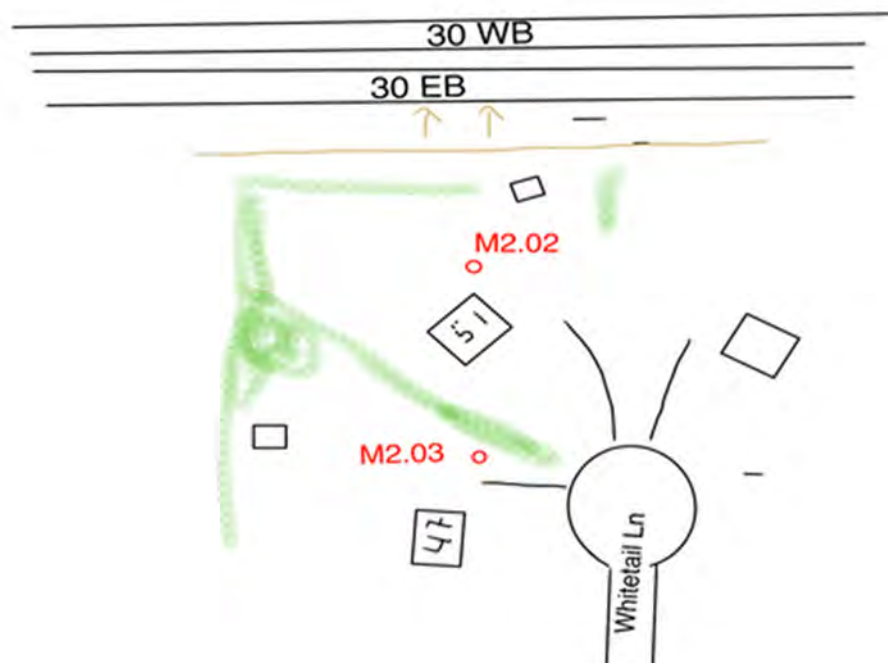
ID: M2.03 Start: 10:34 Stop: 10:54 ☒ 20 min SLM #: 4229 $L_{eq}(dB)$: 58.8 $L_{min}(dB)$: 51.2 $L_{max}(dB)$: 67.4
☐ 30 min
☐ 24 hr Stor #: 163 Calib(dB): 93.86 / 93.86 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 47 White Tail Ln Parkeburg, PA 19365
 Type(use, NAC): Residential (B) Site Photographed ☒ 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: Background construction noise

Site Sketch:



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



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

Measurement Data

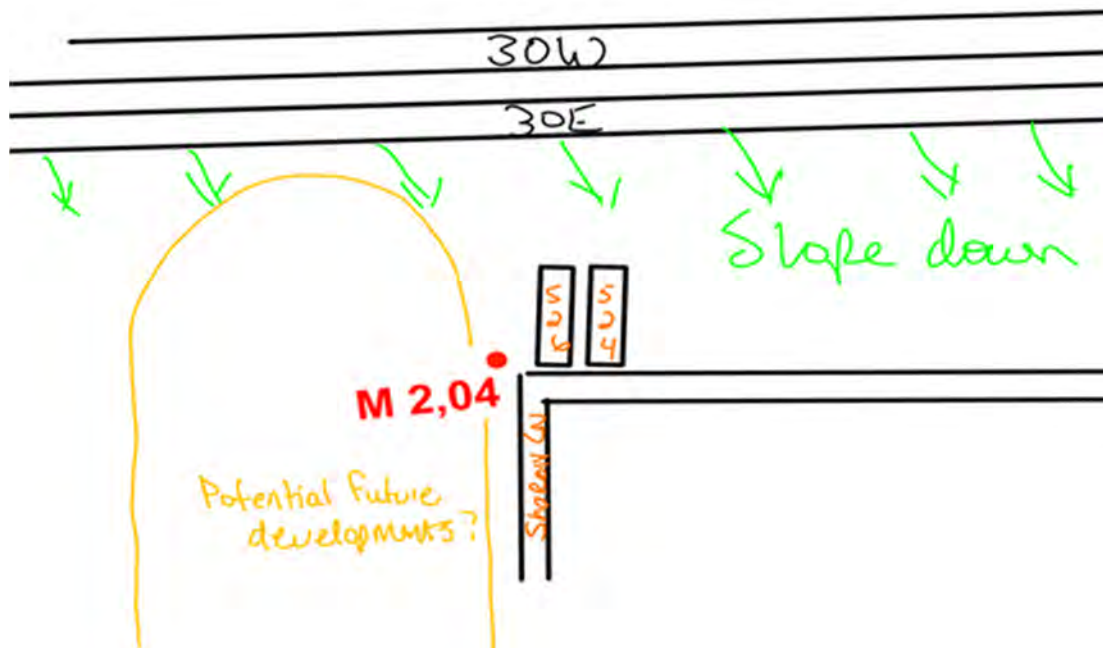
ID: M2.04 Start: 16:39 Stop: 16:59 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 59.4 $L_{min}(dB)$: 49.7 $L_{max}(dB)$: 74.6
☐ 30 min
☐ 24 hr Stor #: 154 Calib(dB): 93.83 / 93.86 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 455 S. Bonsall Rd Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ 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:	223 398	Auto:		Auto:		Auto:	
Med Tk:	4 21	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	15 18	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	1 0	Bus:		Bus:		Bus:	
MCycle:	0 1	MCycle:		MCycle:		MCycle:	

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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 2
 Wind direction: North

Measurement Data

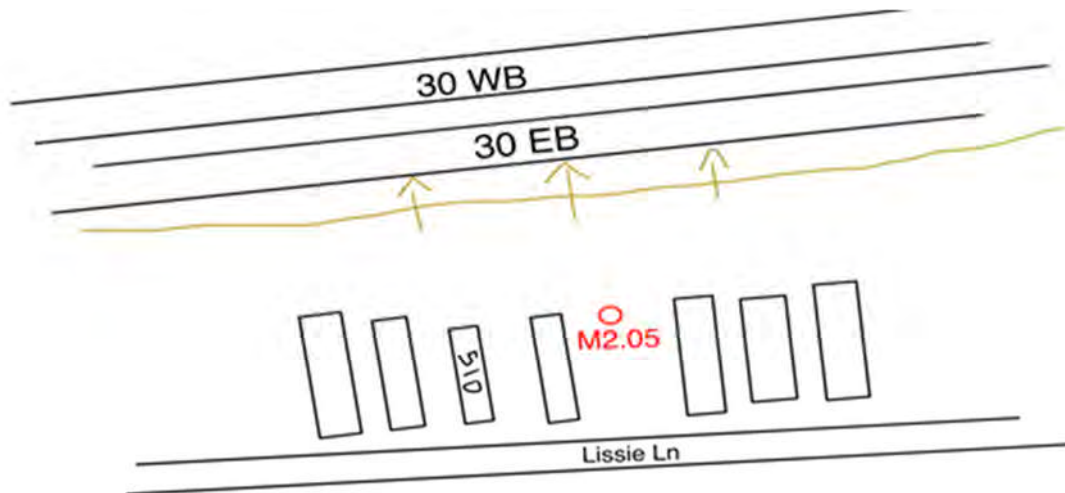
ID: M2.05 Start: 16:39 Stop: 16:59 ☒ 20 min SLM #: 4229 $L_{eq}(dB)$: 63.2 $L_{min}(dB)$: 50.3 $L_{max}(dB)$: 77.1
☐ 30 min
☐ 24 hr Stor #: 171 Calib(dB): 93.86 / 93.86 Meas. Ht(ft): 5
 Relocated ☒ Yes ☐ No
 Location: 510 Lissie Ln. Parkeburg, PA 19365
 Type(use, NAC): Residential (B) Site Photographed ☒ Yes ☐ No
 Weighting: ☒ A ☐ B ☐ C ☐ Z

Traffic Data

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

Notes: Side slightly relocated

Site Sketch:



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



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

Measurement Data

ID: M2.06 Start: 11:41 Stop: 12:01 ☒ 20 min SLM #: 4229 $L_{eq}(dB)$: 67 $L_{min}(dB)$: 46.1 $L_{max}(dB)$: 81.6
☐ 30 min
☐ 24 hr Stor #: 165 Calib(dB): 93.86 / 93.86 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 803 Wilmington Rd. Parkeburg, PA 19365
 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):	
Direction:	EB WB	Direction:	SB NB	Direction:	
Speed Limit:	55 55	Speed Limit:		Speed Limit:	
Observed Spd:		Observed Spd:		Observed Spd:	
Auto:	140 174	Auto:	32 33	Auto:	
Med Tk:	11 7	Med Tk:	1 0	Med Tk:	
Hvy Tk:	19 27	Hvy Tk:	2 3	Hvy Tk:	
Bus:	0 0	Bus:	0 1	Bus:	
MCycle:	1 0	MCycle:	0 0	MCycle:	

Notes: Planes at 11:43 and 11:44

Site Sketch:



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



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

Measurement Data

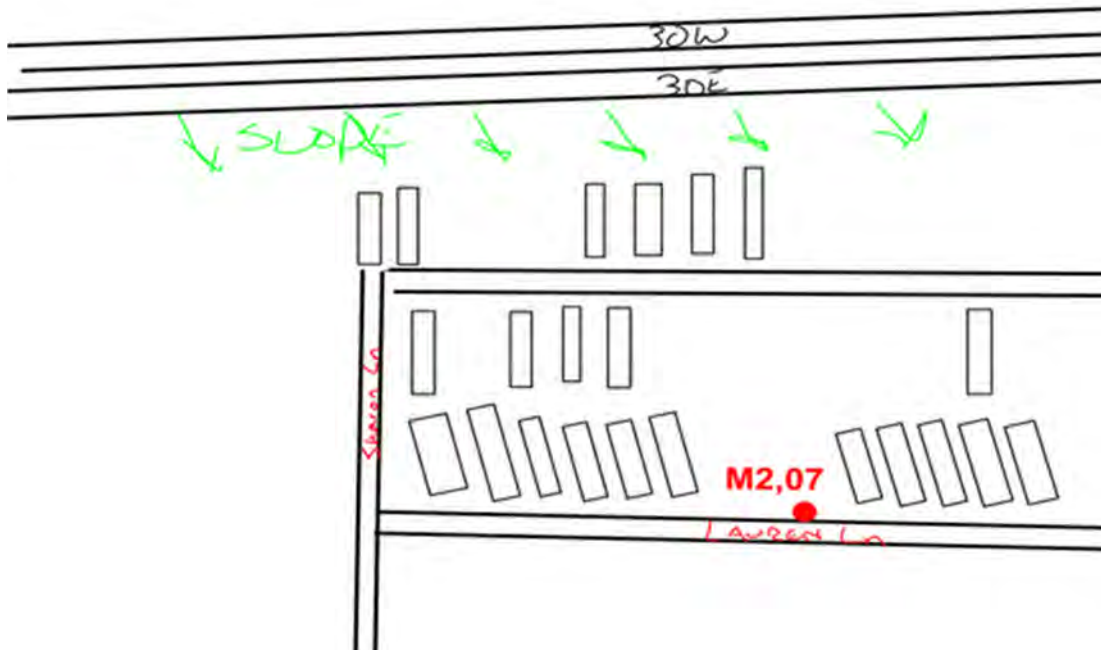
ID: M2.07 Start: 17:15 Stop: 17:35 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 56.2 $L_{min}(dB)$: 47.5 $L_{max}(dB)$: 67.2
☐ 30 min
☐ 24 hr Stor #: 155 Calib(dB): 93.83 / 93.86 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Site Photographed ☒ Yes ☐ No
 GPS (°N,°W): 39.98439935, -75.89456928333334
 Location: 400 Lauren Lane Parkeburg, PA 19365
 Type(use, NAC): Residential (B) 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:	210 307	Auto:		Auto:		Auto:	
Med Tk:	4 21	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	11 11	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	2 0	Bus:		Bus:		Bus:	
MCycle:	0 2	MCycle:		MCycle:		MCycle:	

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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 3
 Wind direction: South

Measurement Data

ID: M2.08 Start: 11:41 Stop: 00:01 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 64.2 $L_{min}(dB)$: 46.2 $L_{max}(dB)$: 84.5
☐ 30 min
☐ 24 hr Stor #: 148 Calib(dB): 93.83 / 93.83 Meas. Ht(ft): 5
 Relocated ☒ Yes ☐ No
 Site Photographed ☒ Yes ☐ No
 GPS (°N,°W): 39.98462453333334, -75.89222336666667
 Location: 835 Old Wilmington Rd Parkeburg, PA 19365
 Type(use, NAC): Residential (B) 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:		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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 3
 Wind direction: South

Measurement Data

ID: **M3.01** Start: 13:53 Stop: 14:13 ☒ 20 min SLM #: 4228 **Leq (dB): 63** **Lmin (dB): 49.8** **Lmax (dB): 72**
☐ 30 min
☐ 24 hr Stor #: 150 Calib (dB): 93.83 / 93.86 Meas. Ht (ft): 5
 Relocated ☐ Yes ☒ No
 Location: 790 Old Wilmington Rd. Coatesville, PA 19320
 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:	S Bonsall Rd	Roadway #4:	
Width(ft):		Width(ft):		Width(ft):		Width(ft):	
Direction:	EB WB	Direction:	Both	Direction:	Both	Direction:	
Speed Limit:	55 55	Speed Limit:		Speed Limit:	35	Speed Limit:	
Observed Spd:		Observed Spd:		Observed Spd:		Observed Spd:	
Auto:	171 208	Auto:	59	Auto:	25	Auto:	
Med Tk:	7 12	Med Tk:	0	Med Tk:	1	Med Tk:	
Hvy Tk:	23 15	Hvy Tk:	0	Hvy Tk:	0	Hvy Tk:	
Bus:	1 0	Bus:	0	Bus:	0	Bus:	
MCycle:	0 0	MCycle:	0	MCycle:	0	MCycle:	

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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 2
 Wind direction: North

Measurement Data

ID: **M3.02** Start: 13:53 Stop: 14:13 ☒ 20 min SLM #: 4229 **Leq (dB):** 57.3 **Lmin (dB):** 45.8 **Lmax (dB):** 64.5
☐ 30 min
☐ 24 hr Stor #: 167 Calib (dB): 93.86 / 93.86 Meas. Ht (ft): 5
 Relocated ☐ Yes ☒ No
 Location: 784 Old Wilmington Rd. Coatesville, PA 19320
 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):		Width(ft):		Width(ft):		Width(ft):
Direction:	EB WB	Direction:	Both	Direction:	Both	Direction:
Speed Limit:	55 55	Speed Limit:		Speed Limit:		Speed Limit:
Observed Spd:		Observed Spd:		Observed Spd:		Observed Spd:
Auto:	171 208	Auto:	59	Auto:	25	Auto:
Med Tk:	7 12	Med Tk:	0	Med Tk:	1	Med Tk:
Hvy Tk:	23 15	Hvy Tk:	0	Hvy Tk:	0	Hvy Tk:
Bus:	1 0	Bus:	0	Bus:	0	Bus:
MCycle:	0 0	MCycle:	0	MCycle:	0	MCycle:

Notes:

Site Sketch:



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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 3
 Wind direction: Southeast

Measurement Data

ID: **M3.03** Start: 15:52 Stop: 16:12 ☒ 20 min SLM #: 4228 **Leq (dB): 68.4** **Lmin (dB): 52.6** **Lmax (dB): 79.3**
☐ 30 min
☐ 24 hr Stor #: 153 Calib (dB): 93.83 / 93.86 Meas. Ht (ft): 5
 Location: 455 S. Bonsall 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	Roadway #2:	S Bonsell	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:	40	Speed Limit:		Speed Limit:	
Observed Spd:		Observed Spd:	35	Observed Spd:		Observed Spd:	
Auto:	193 297	Auto:	46	Auto:		Auto:	
Med Tk:	7 17	Med Tk:	3	Med Tk:		Med Tk:	
Hvy Tk:	8 23	Hvy Tk:	0	Hvy Tk:		Hvy Tk:	
Bus:	0 0	Bus:	4	Bus:		Bus:	
MCycle:	1 0	MCycle:	1	MCycle:		MCycle:	

Notes: Relocated slightly farther from home due to wind chimes

Site Sketch: **N/A**

Personnel: *KAB*

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



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

Measurement Data

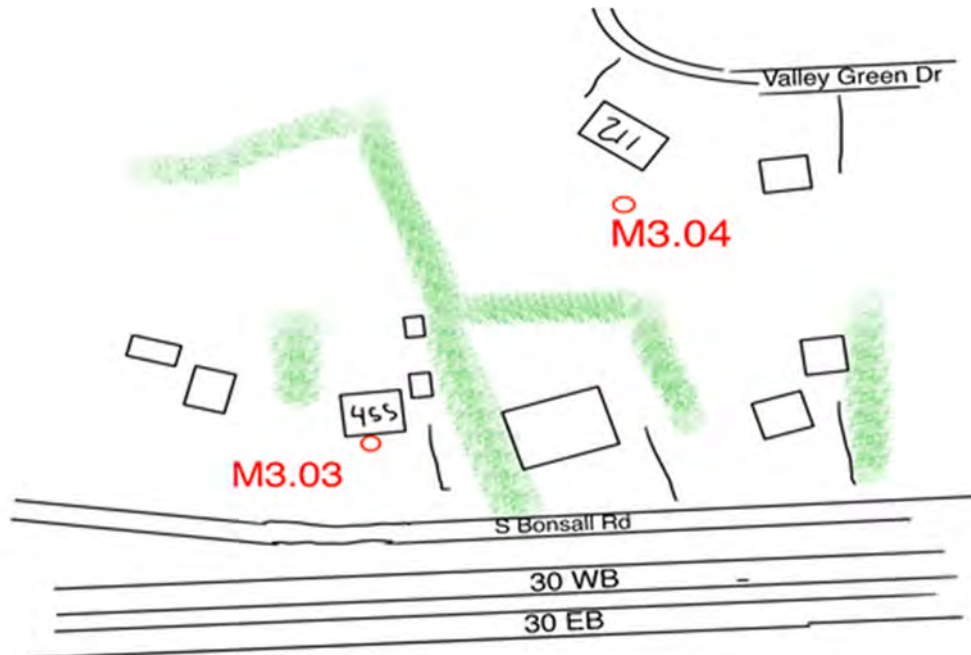
ID: **M3.04** Start: 15:52 Stop: 15:12 ☒ 20 min SLM #: 4229 **Leq (dB):** 57.8 **Lmin (dB):** 50.9 **Lmax (dB):** 65.5
☐ 30 min
☐ 24 hr Stor #: 170 Calib (dB): 93.86 / 93.86 Meas. Ht (ft): 5
 Relocated ☐ Yes ☒ No
 Location: 211 Valley Green Dr. Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ Yes ☐ No
 Weighting: ☒ A ☐ B ☐ C ☐ Z

Traffic Data

Roadway #1:	30	Roadway #2:	S Bonsall	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:	193 297	Auto:	46	Auto:		Auto:	
Med Tk:	7 17	Med Tk:	3	Med Tk:		Med Tk:	
Hvy Tk:	8 23	Hvy Tk:	0	Hvy Tk:		Hvy Tk:	
Bus:	0 0	Bus:	1	Bus:		Bus:	
MCycle:	1 0	MCycle:	1	MCycle:		MCycle:	

Notes:

Site Sketch:



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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 4
 Wind direction: Southeast

Measurement Data

ID: **M3.05** Start: 15:18 Stop: 15:38 ☒ 20 min SLM #: 4228 **Leq (dB):** 64.1 **Lmin (dB):** 55.3 **Lmax (dB):** 71.9
☐ 30 min
☐ 24 hr Stor #: 152 Calib (dB): 93.83 / 93.86 Meas. Ht (ft): 5
 GPS (°N, °W): 39.98679188333333, -75.88836546666667
 Relocated ☐ Yes ☒ No
 Location: 411 S. Bonsall Rd. Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ Yes ☐ No
 Weighting: ☒ A ☐ B ☐ C ☐ Z
 Pre- Post-

Traffic Data

Roadway #1:	30	Roadway #2:	S Bonsall	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:	40	Speed Limit:		Speed Limit:	
Observed Spd:		Observed Spd:	40	Observed Spd:		Observed Spd:	
Auto:	172 284	Auto:	21	Auto:		Auto:	
Med Tk:	7 10	Med Tk:	2	Med Tk:		Med Tk:	
Hvy Tk:	12 23	Hvy Tk:	0	Hvy Tk:		Hvy Tk:	
Bus:	0 0	Bus:	0	Bus:		Bus:	
MCycle:	1 0	MCycle:	0	MCycle:		MCycle:	

Notes:

Site Sketch: **N/A**

Personnel:

kas

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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 3
 Wind direction: Northeast

Measurement Data

ID: **M3.06** Start: 15:18 Stop: 15:38 ☒ 20 min SLM #: 4229 **Leq (dB):** 55.3 **Lmin (dB):** 50.2 **Lmax (dB):** 60.4
☐ 30 min
☐ 24 hr Stor #: 169 Calib (dB): 93.86 / 93.86 Meas. Ht (ft): 5
 Location: 205 Valley Green Dr. 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:	S Bonsall	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:	172 284	Auto:	21	Auto:		Auto:	
Med Tk:	7 10	Med Tk:	2	Med Tk:		Med Tk:	
Hvy Tk:	12 23	Hvy Tk:	0	Hvy Tk:		Hvy Tk:	
Bus:	0 0	Bus:	0	Bus:		Bus:	
MCycle:	1 0	MCycle:	0	MCycle:		MCycle:	

Notes:

Site Sketch:



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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 6
 Wind direction: East

Measurement Data

ID: **M3.07** Start: 14:41 Stop: 15:01 ☒ 20 min SLM #: 4228 **Leq (dB):** 63.8 **Lmin (dB):** 51.5 **Lmax (dB):** 73.9
☐ 30 min
☐ 24 hr Stor #: 151 Calib (dB): 93.83 / 93.86 Meas. Ht (ft): 5
 GPS (°N, °W): 39.98732411666666, -75.8865155
 Relocated ☐ Yes ☒ No
 Location: 405 S. Bonsall RD. Coatesville, PA 19320
 Site Photographed ☒ Yes ☐ No
 Type(use, NAC): Residential (B) Weighting: ☒ A ☐ B ☐ C ☐ Z
 Pre- Post-

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:	170 264	Auto:		Auto:		Auto:	
Med Tk:	7 11	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	12 30	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	2 1	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		MCycle:	

Notes:

Site Sketch: **N/A**

Personnel:

KAB

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

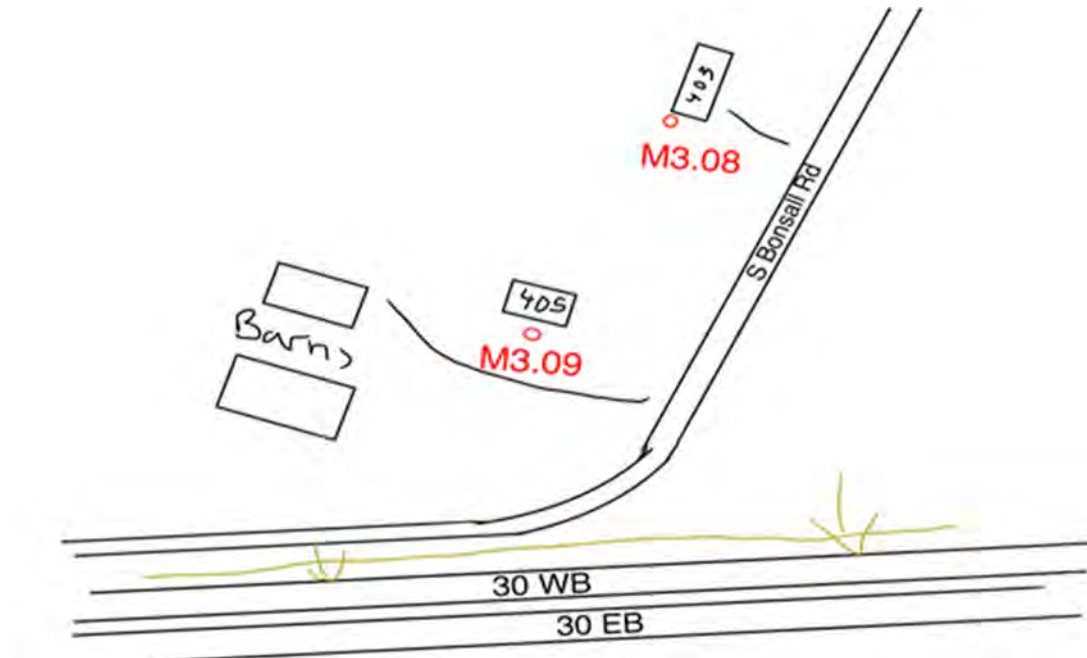
ID: **M3.08** Start: 14:41 Stop: 15:01 ☒ 20 min SLM #: 4229 **Leq (dB):** 61.5 **Lmin (dB):** 51.9 **Lmax (dB):** 69.1
☐ 30 min
☐ 24 hr Stor #: 168 **Calib (dB):** 93.86 / 93.86 Meas. Ht (ft): 5
 Relocated ☐ Yes ☒ No
 Location: 403 S. Bonsall Rd. Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ Yes ☐ No
 Weighting: ☒ A ☐ B ☐ C ☐ Z

Traffic Data

Roadway #1:	30	Roadway #2:	S Bonsall	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:	170 264	Auto:	12	Auto:		Auto:	
Med Tk:	7 11	Med Tk:	1	Med Tk:		Med Tk:	
Hvy Tk:	12 30	Hvy Tk:	0	Hvy Tk:		Hvy Tk:	
Bus:	2 1	Bus:	1	Bus:		Bus:	
MCycle:	0 0	MCycle:	0	MCycle:		MCycle:	

Notes:

Site Sketch:



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



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 SLM #: 4229 $L_{eq}(dB)$: 70 $L_{min}(dB)$: 49.7 $L_{max}(dB)$: 85.1
☐ 30 min
☐ 24 hr Stor #: 166 Calib(dB): 93.86 / 93.86 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 808 Old Wilmington Rd. Coatesville, PA 19320
 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:	158 184	Auto:		Auto:		Auto:	
Med Tk:	7 13	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	23 46	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	0 1	Bus:		Bus:		Bus:	
MCycle:	1 0	MCycle:		MCycle:		MCycle:	

Notes:

Site Sketch:



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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 3
 Wind direction: South

Measurement Data

ID: **M4.02** Start: 12:17 Stop: 12:37 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 58.4 $L_{min}(dB)$: 47.5 $L_{max}(dB)$: 72.5
☐ 30 min
☐ 24 hr Stor #: 149 Calib(dB): 93.83 / 93.83 Meas. Ht(ft): 5
 Relocated ☒ Yes ☐ No Pre- Post-
 Location: 5 Meetinghouse Rd. Coatesville, PA 19320
 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:	158 184	Auto:		Auto:		Auto:	
Med Tk:	7 13	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	23 46	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	0 1	Bus:		Bus:		Bus:	
MCycle:	1 0	MCycle:		MCycle:		MCycle:	

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: KAB

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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 2
 Wind direction: Northeast

Measurement Data

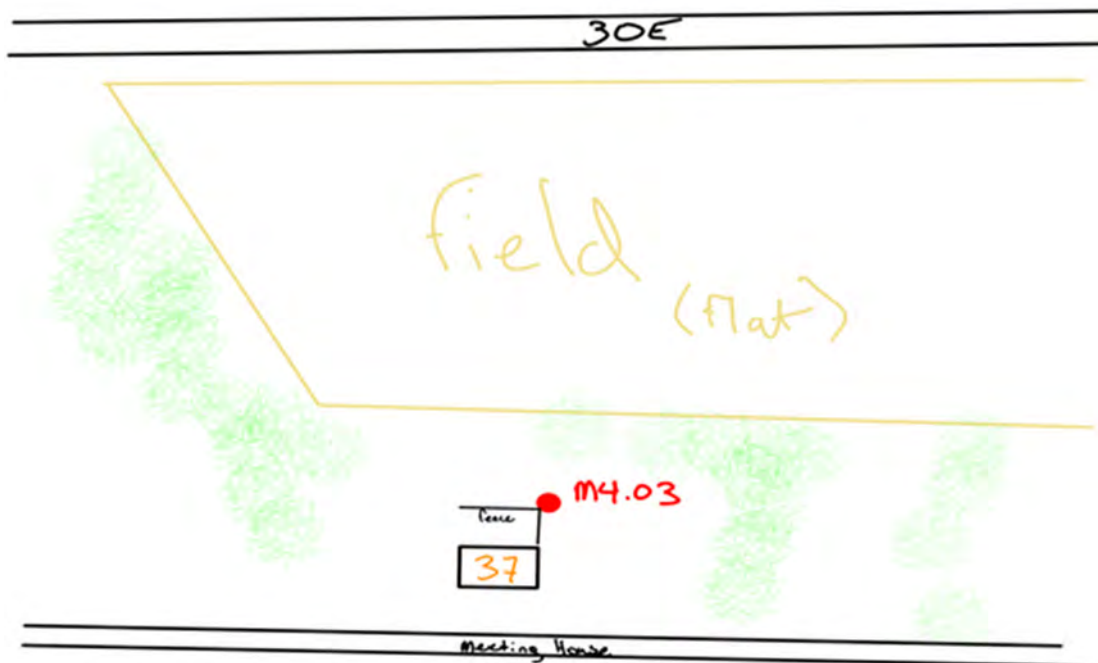
ID: M4.03 Start: 08:20 Stop: 08:40 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 57.3 $L_{min}(dB)$: 47.3 $L_{max}(dB)$: 69.9
☐ 30 min
☐ 24 hr Stor #: 159 Calib(dB): 93.96 / 93.90 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 37 Meetinghouse Rd. Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ 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:	219 153	Auto:		Auto:		Auto:	
Med Tk:	15 14	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	24 29	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	0 1	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		MCycle:	

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

Site Sketch:



Personnel:

48

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

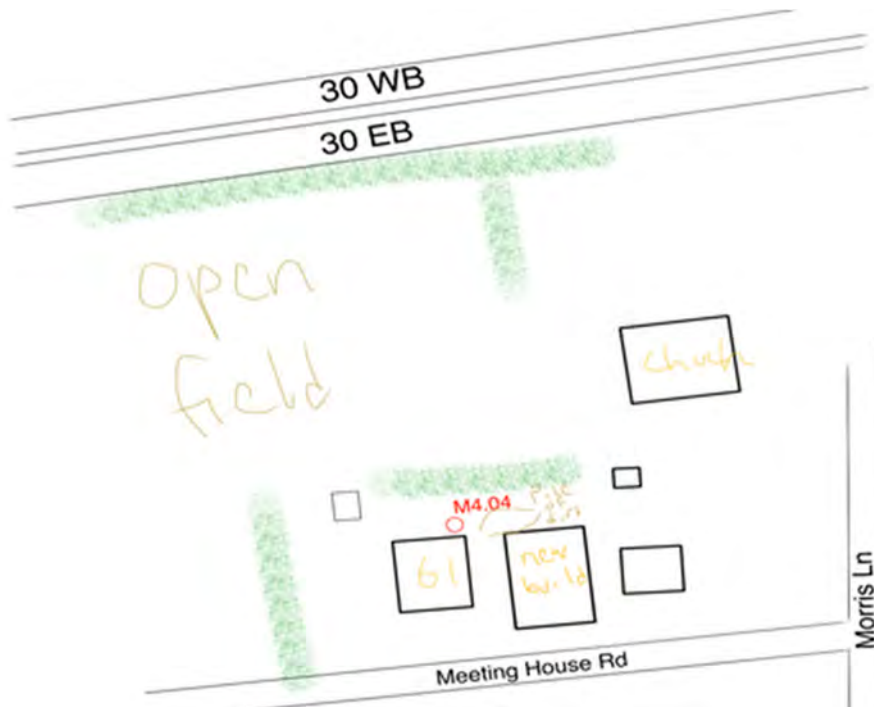
ID: M4.04 Start: 08:20 Stop: 08:40 ☒ 20 min SLM #: 4229 $L_{eq}(dB)$: 56.7 $L_{min}(dB)$: 48.1 $L_{max}(dB)$: 66.4
☐ 30 min
☐ 24 hr Stor #: 176 Calib(dB): 93.98 / 94.03 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 61 Meetinghouse Rd. Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ 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:	219 153	Auto:		Auto:		Auto:	
Med Tk:	15 14	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	24 29	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	0 1	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		MCycle:	

Notes: Some construction hammering

Site Sketch:



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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 2
 Wind direction: North

Measurement Data

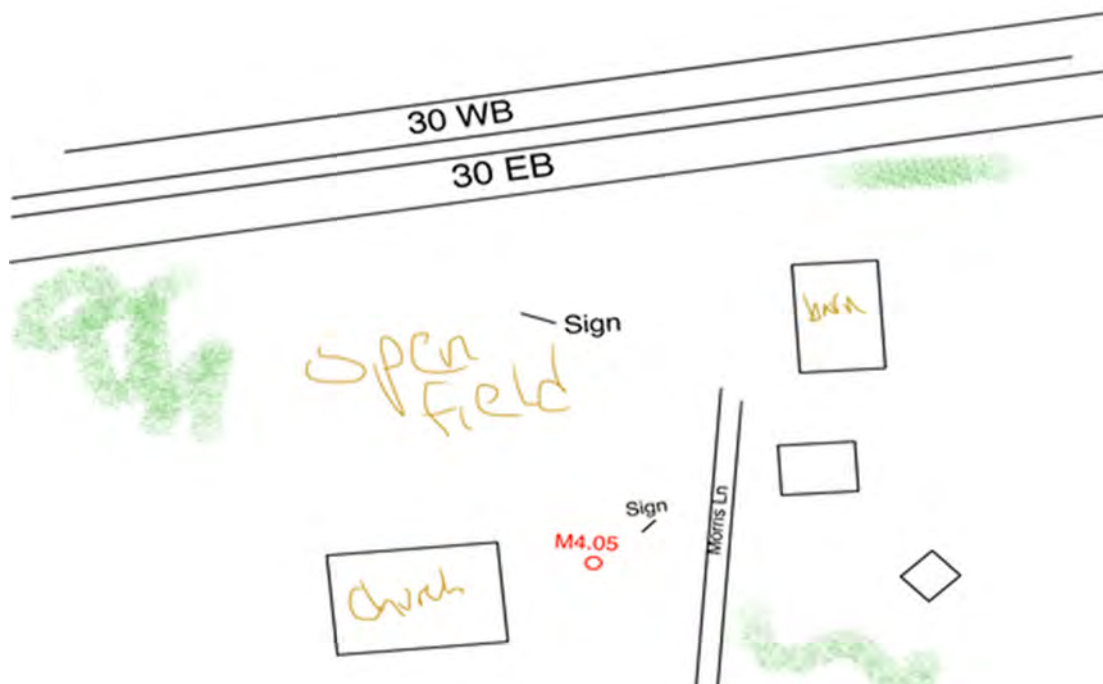
ID: M4.05 Start: 09:00 Stop: 09:20 ☒ 20 min SLM #: 4229 $L_{eq}(dB)$: 62.7 $L_{min}(dB)$: 48.9 $L_{max}(dB)$: 72.4
☐ 30 min
☐ 24 hr Stor #: 177 Calib(dB): 93.98 / 94.03 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Site Photographed ☒ Yes ☐ No
 GPS (°N, °W): 39.9857732, -75.88652623333334
 Location: 55 Morris Ln Coatesville, PA 19320
 Type(use, NAC): Church D 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:	164 154	Auto:		Auto:		Auto:	
Med Tk:	17 13	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	30 31	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	0 1	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		MCycle:	

Notes:

Site Sketch:



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



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

Measurement Data

ID: M4.06 Start: 09:33 Stop: 09:53 ☒ 20 min SLM #: 4229 $L_{eq}(dB)$: 59.4 $L_{min}(dB)$: 53.2 $L_{max}(dB)$: 66.4
☐ 30 min
☐ 24 hr Stor #: 178 Calib(dB): 93.98 / 94.03 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Site Photographed ☒ Yes ☐ No
 Location: 50 Morris Ln. Coatesville, PA 19320
 Type(use, NAC): Residential (B) 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:	200 157	Auto:		Auto:		Auto:	
Med Tk:	4 11	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	25 42	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	0 0	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		MCycle:	

Notes: Warehouse/manufacturing noise

Site Sketch:



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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 1
 Wind direction: Northeast

Measurement Data

ID: M4.07 Start: 09:00 Stop: 09:20 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 69.1 $L_{min}(dB)$: 51.1 $L_{max}(dB)$: 81.6
☐ 30 min
☐ 24 hr Stor #: 160 Calib(dB): 93.96 / 93.90 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	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:	164 154	Auto:		Auto:		Auto:	
Med Tk:	17 13	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	30 31	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	0 1	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		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 cov: ☒ None ☐ Partly ☐ Cloudy
 Wind speed (mph): 0
 Wind direction:

Measurement Data

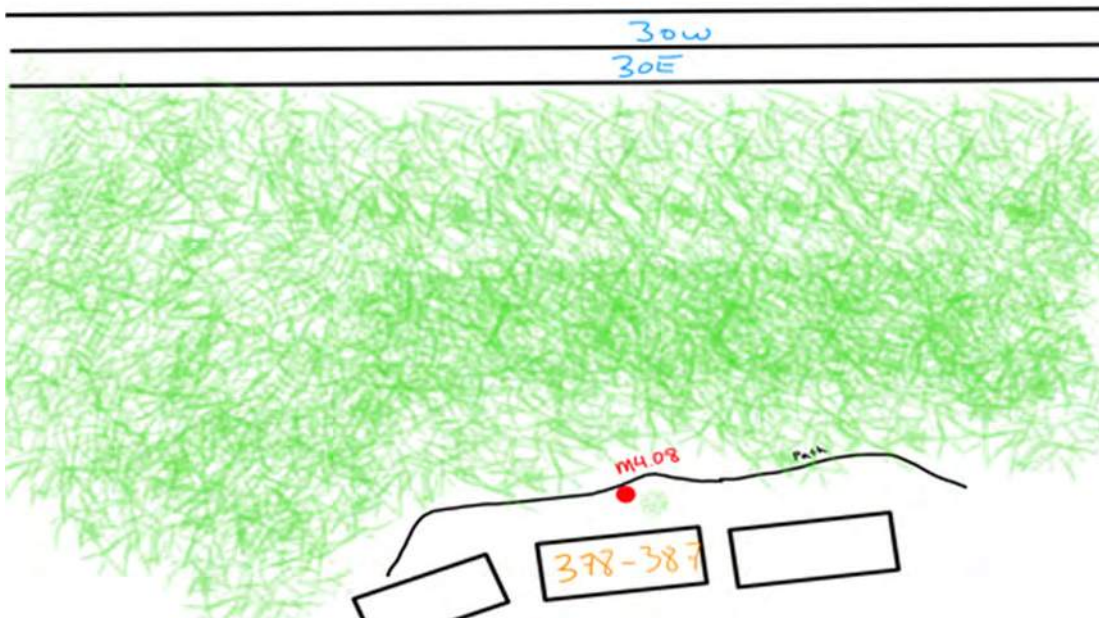
ID: M4.08 Start: 07:51 Stop: 08:11 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 57.3 $L_{min}(dB)$: 46.4 $L_{max}(dB)$: 74.7
☐ 30 min
☐ 24 hr Stor #: 196 Calib(dB): 93.88 / 93.94 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 382 Larose Dr. Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ 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:	166 191	Auto:		Auto:		Auto:	
Med Tk:	22 14	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	16 29	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	1 3	Bus:		Bus:		Bus:	
MCycle:	0 1	MCycle:		MCycle:		MCycle:	

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

Site Sketch:



KAS

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 covr: ☒ None ☐ Partly ☐ Cloudy
 Wind speed (mph): 4
 Wind direction: Northeast

Measurement Data

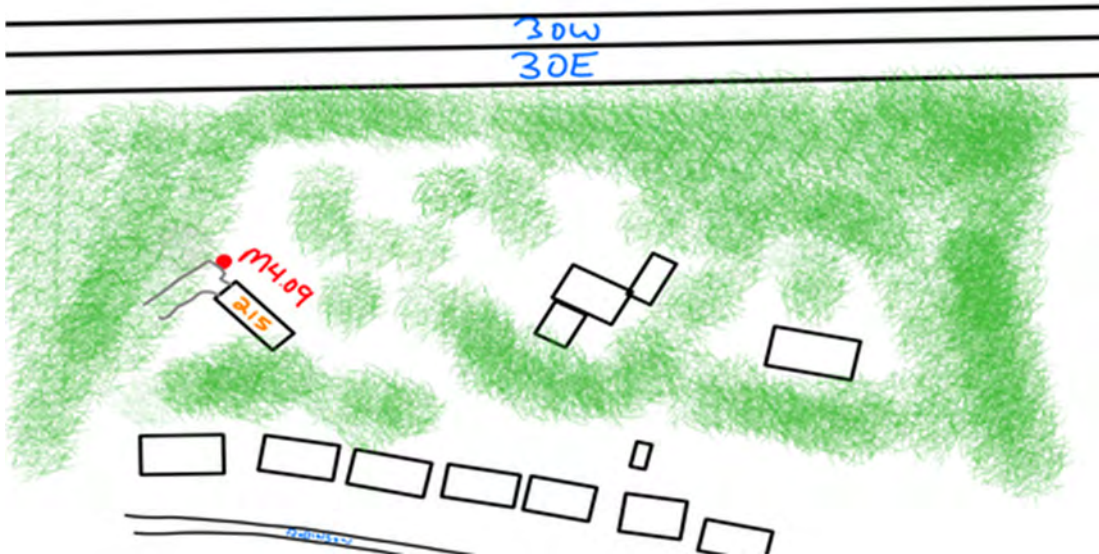
ID: M4.09 Start: 08:23 Stop: 08:43 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 63.8 $L_{min}(dB)$: 54.2 $L_{max}(dB)$: 75.7
☐ 30 min
☐ 24 hr Stor #: 197 Calib(dB): 93.88 / 93.94 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 215 Buckthorn Dr. Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ 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:	195 166	Auto:		Auto:		Auto:	
Med Tk:	17 14	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	21 24	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	0 0	Bus:		Bus:		Bus:	
MCycle:	0 1	MCycle:		MCycle:		MCycle:	

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

Site Sketch:



KAS

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

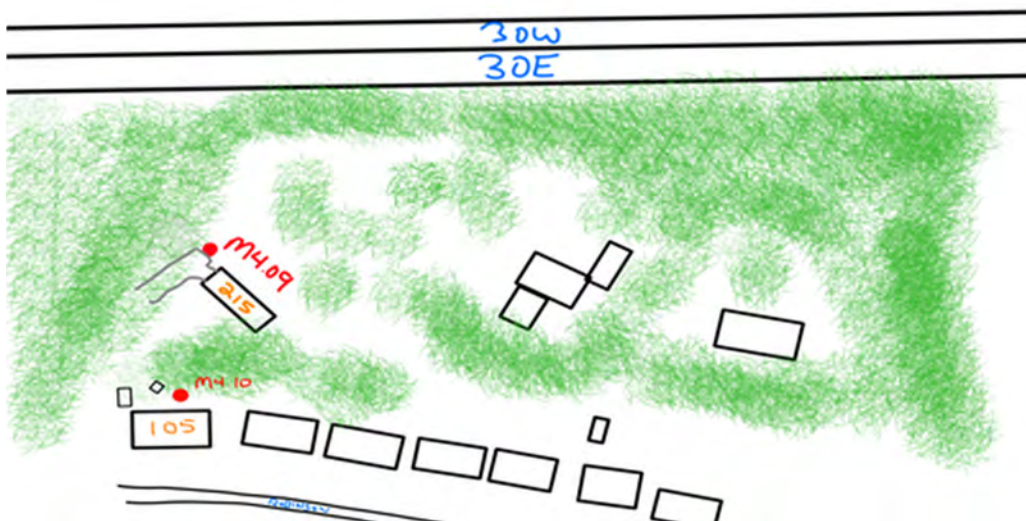
ID: M4.10 Start: 08:53 Stop: 09:13 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 56.9 $L_{min}(dB)$: 47.4 $L_{max}(dB)$: 66.1
☐ 30 min
☐ 24 hr Stor #: 198 Calib(dB): 93.88 / 93.94 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 105 Robinson Ave. Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ 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:	209 217	Auto:		Auto:		Auto:	
Med Tk:	15 11	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	34 27	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	0 1	Bus:		Bus:		Bus:	
MCycle:	0 1	MCycle:		MCycle:		MCycle:	

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



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

Measurement Data

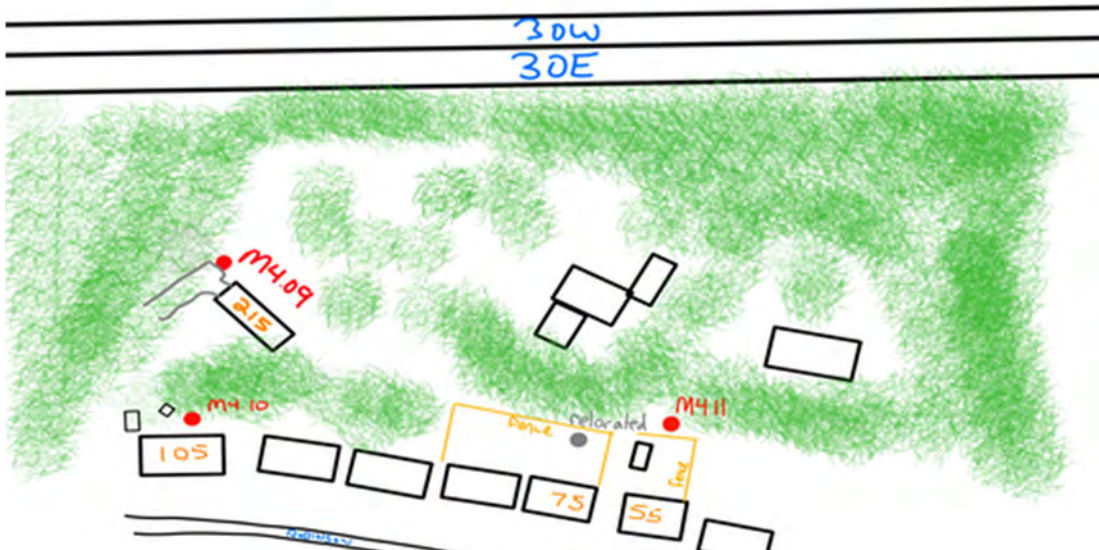
ID: M4.11 Start: 09:59 Stop: 10:19 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 56 $L_{min}(dB)$: 49 $L_{max}(dB)$: 67.1
☐ 30 min
☐ 24 hr Stor #: 199 Calib(dB): 93.88 / 93.94 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 75 Robinson Ave. Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ 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: KAS

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 cov: ☒ None ☐ Partly ☐ Cloudy
 Wind speed (mph): 5
 Wind direction: Northeast

Measurement Data

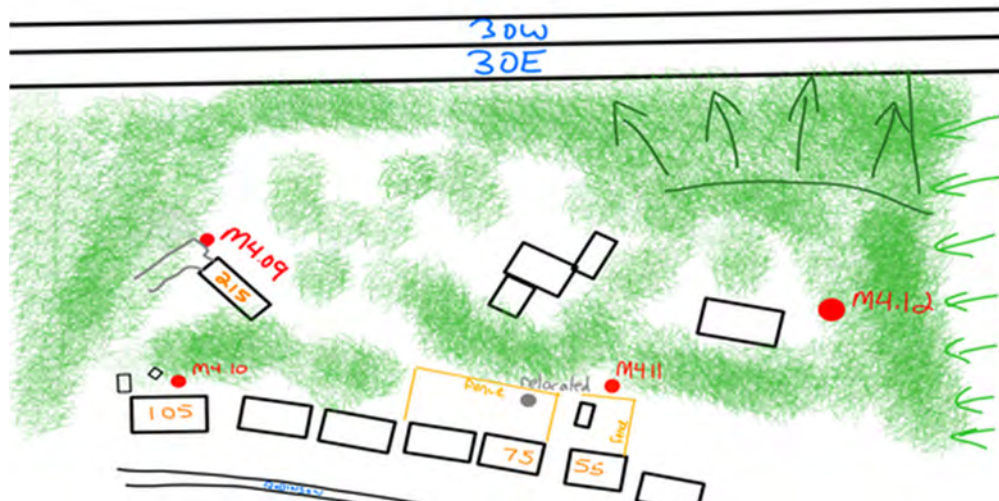
ID: **M4.12** Start: 10:43 Stop: 11:03 ☒ 20 min SLM #: 4228 **L_{eq}(dB):** **58.5** **L_{min}(dB):** 51.5 **L_{max}(dB):** 65.9
☐ 30 min
☐ 24 hr Stor #: 200 Calib(dB): 93.88 / 93.94 Meas. Ht(ft): 5
 Location: 320 Airport Rd. Coatesville, PA 19320 Relocated ☐ Yes ☒ No
 Type(use, NAC): Residential (B)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

Traffic Data

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

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:

KAS

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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 2
 Wind direction: South

Measurement Data

ID: **M4.13** Start: 10:23 Stop: 10:43 ☒ 20 min SLM #: 4228 **Leq (dB):** 58.2 **Lmin (dB):** 46.4 **Lmax (dB):** 69.9
☐ 30 min
☐ 24 hr Stor #: 161 Calib (dB): 93.96 / 93.90 Meas. Ht (ft): 5
 GPS (°N, °W): 39.98786253333335, -75.87219816666668
 Location: 317 Airport Rd. Coatesville, PA 19320
 Type(use, NAC): Residential (B)
 Relocated ☐ Yes ☒ No
 Site Photographed ☒ Yes ☐ No
 Weighting: ☒ A ☐ B ☐ C ☐ Z
 Pre- Post-

Traffic Data

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

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:

LAB

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 SLM #: 4229 $L_{eq}(dB)$: 69.4 $L_{min}(dB)$: 55.3 $L_{max}(dB)$: 82.1
☐ 30 min
☐ 24 hr Stor #: 179 Calib(dB): 93.98 / 94.03 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 495 W Highlands Blvd. Coatesville, PA 19320
 Type(use, NAC): Business outdoor seating Site Photographed ☒ Yes ☐ No
 Weighting: ☒ A ☐ B ☐ C ☐ Z

Traffic Data

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

Notes:

Site Sketch:



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



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 SLM #: 4229 $L_{eq}(dB)$: 58.2 $L_{min}(dB)$: 44.4 $L_{max}(dB)$: 73.3
☐ 30 min
☐ 24 hr Stor #: 180 Calib(dB): 93.98 / 94.03 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 330 Country Club Rd. Coatesville, PA 19320
 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):	
Direction:	EB WB	Direction:	Both	Direction:	
Speed Limit:	55 55	Speed Limit:		Speed Limit:	
Observed Spd:		Observed Spd:		Observed Spd:	
Auto:	246 185	Auto:	35	Auto:	
Med Tk:	13 18	Med Tk:	0	Med Tk:	
Hvy Tk:	26 28	Hvy Tk:	0	Hvy Tk:	
Bus:	0 1	Bus:	0	Bus:	
MCycle:	0 0	MCycle:	0	MCycle:	

Notes: Background sheep noise

Site Sketch:



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



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

Measurement Data

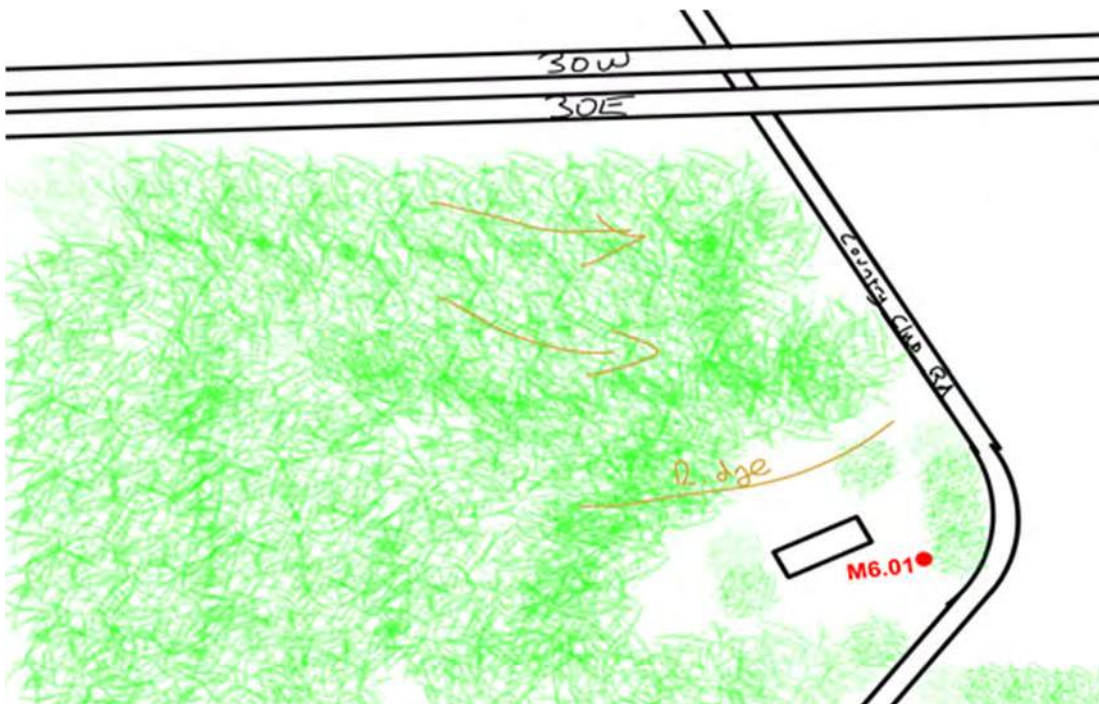
ID: M6.01 Start: 11:11 Stop: 11:31 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 55.3 $L_{min}(dB)$: 42 $L_{max}(dB)$: 69
☐ 30 min
☐ 24 hr Stor #: 162 Calib(dB): 93.96 / 93.90 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 310 Country Club Rd. Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ 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):	
Direction:	EB WB	Direction:	Both	Direction:	
Speed Limit:		Speed Limit:	35	Speed Limit:	
Observed Spd:	55 55	Observed Spd:	30	Observed Spd:	
Auto:	246 185	Auto:	23	Auto:	
Med Tk:	13 18	Med Tk:		Med Tk:	
Hvy Tk:	26 28	Hvy Tk:		Hvy Tk:	
Bus:	0 0	Bus:		Bus:	
MCycle:	0 2,323	MCycle:		MCycle:	

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

Site Sketch:



1483

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

Notes:

Site Sketch:



48

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



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

Measurement Data

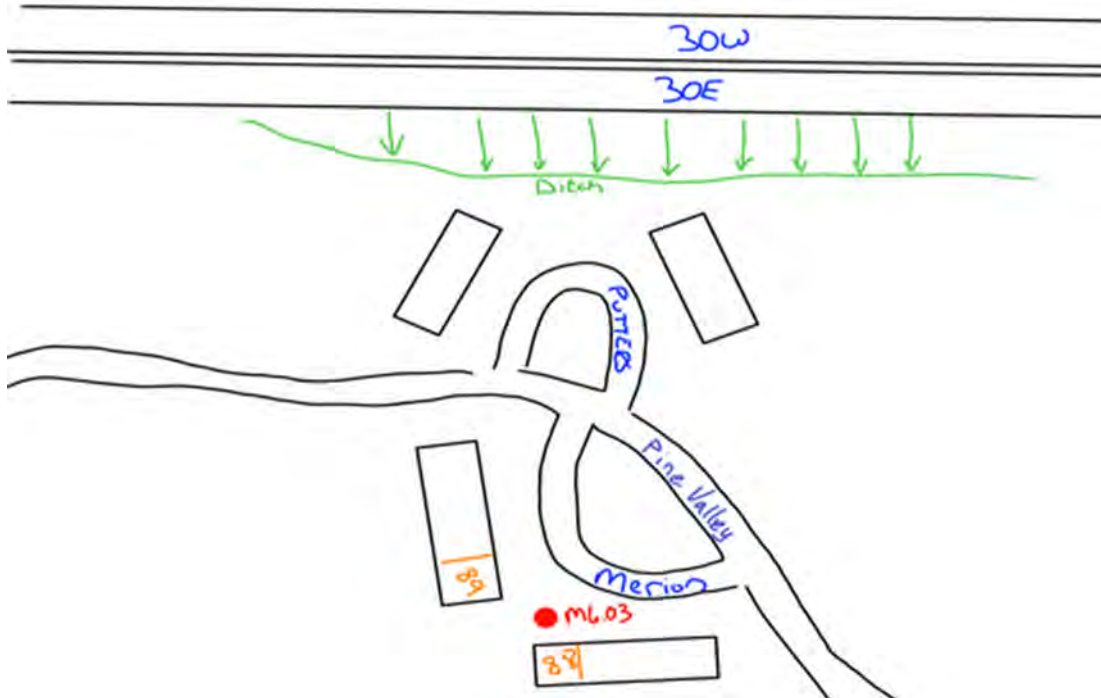
ID: M6.03 Start: 13:49 Stop: 14:09 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 54.2 $L_{min}(dB)$: 47.9 $L_{max}(dB)$: 64.6
☐ 30 min
☐ 24 hr Stor #: 189 Calib(dB): 94.05 / 94.12 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Site Photographed ☒ Yes ☐ No
 GPS (°N,°W): 39.99241745000005, -75.85339484999999
 Location: 88 Merion Ct Coatesville, PA 19320
 Type(use, NAC): Residential (B) 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:	264 286	Auto:		Auto:		Auto:	
Med Tk:	12 26	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	21 29	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	6 0	Bus:		Bus:		Bus:	
MCycle:	2 0	MCycle:		MCycle:		MCycle:	

Notes: 1:55 bang from passing landscape trailer.

Site Sketch:



Personnel: *WJ*

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



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

Measurement Data

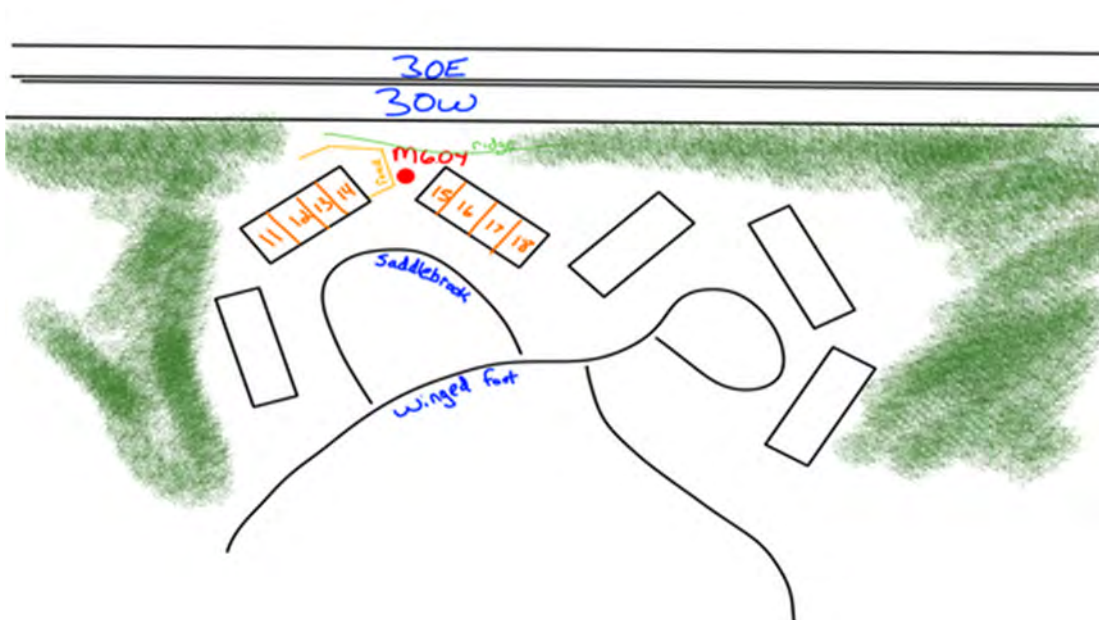
ID: M6.04 Start: 14:17 Stop: 14:37 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 59.8 $L_{min}(dB)$: 44.7 $L_{max}(dB)$: 71.7
☐ 30 min
☐ 24 hr Stor #: 190 Calib(dB): 94.05 / 94.12 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 15 Saddlebrook Ln Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ 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:		Speed Limit:		Speed Limit:		Speed Limit:	
Observed Spd:		Observed Spd:		Observed Spd:		Observed Spd:	
Auto:	263 340	Auto:		Auto:		Auto:	
Med Tk:	19 19	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	17 30	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	1 3	Bus:		Bus:		Bus:	
MCycle:	0 3	MCycle:		MCycle:		MCycle:	

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

Site Sketch:



K03

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



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

Measurement Data

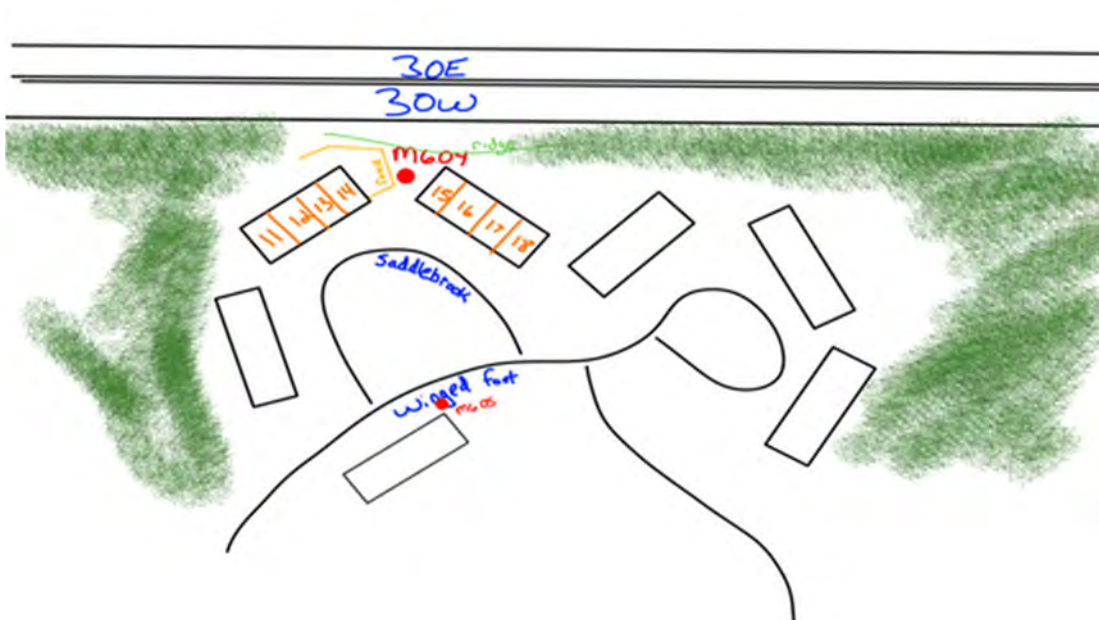
ID: M6.05 Start: 14:48 Stop: 15:08 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 55.7 $L_{min}(dB)$: 46.7 $L_{max}(dB)$: 68.5
☐ 30 min
☐ 24 hr Stor #: 191 Calib(dB): 94.05 / 94.12 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 61 Winged Foot Dr Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ 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:	268 449	Auto:		Auto:		Auto:	
Med Tk:	16 32	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	22 35	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	2 2	Bus:		Bus:		Bus:	
MCycle:	2 2	MCycle:		MCycle:		MCycle:	

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

Site Sketch:



KAS

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 covr: ☒ None ☐ Partly ☐ Cloudy
 Wind speed (mph): 4
 Wind direction: North

Measurement Data

ID: M6.06 Start: 15:26 Stop: 15:46 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 62.5 $L_{min}(dB)$: 51 $L_{max}(dB)$: 77.3
☐ 30 min
☐ 24 hr Stor #: 192 Calib(dB): 94.05 / 94.12 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 23 Turnberry Ct Coatesville, PA 19320
 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:	386 568	Auto:		Auto:		Auto:	
Med Tk:	9 21	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	18 22	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	3 3	Bus:		Bus:		Bus:	
MCycle:	3 6	MCycle:		MCycle:		MCycle:	

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

Site Sketch:



Personnel: KLS

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

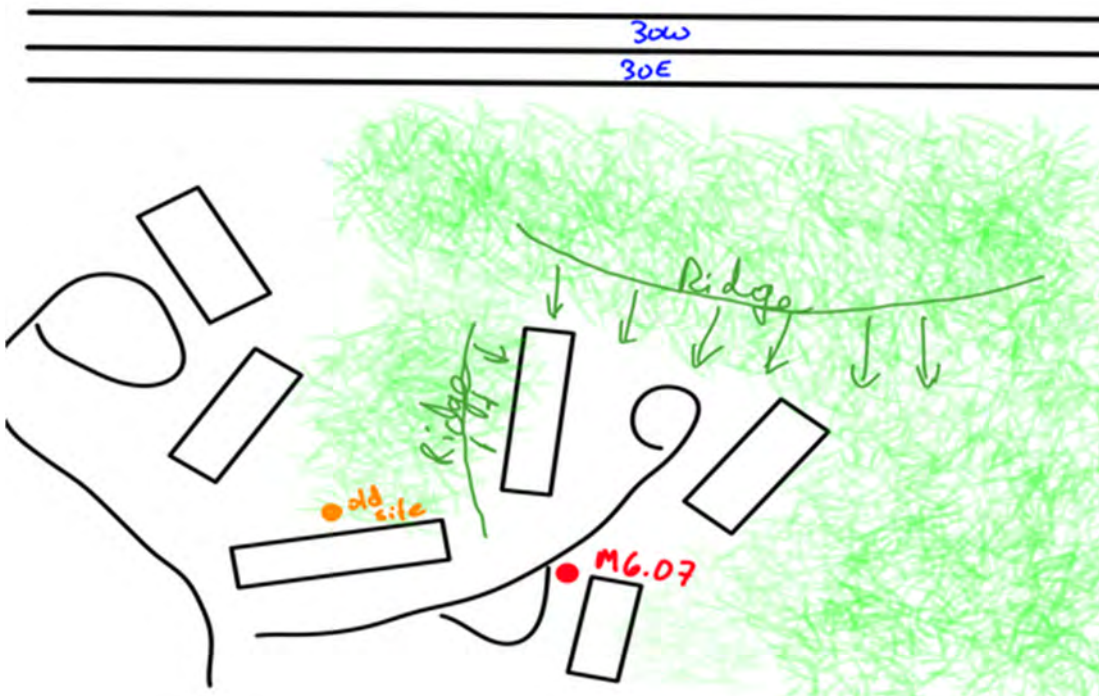
ID: M6.07 Start: 14:08 Stop: 14:28 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 53 $L_{min}(dB)$: 47.7 $L_{max}(dB)$: 64.5
☐ 30 min
☐ 24 hr Stor #: 175 Calib(dB): 94.10 / 93.86 Meas. Ht(ft): 5
 Relocated ☒ Yes ☐ No
 Site Photographed ☒ Yes ☐ No
 Location: 46 Innisbrook Ln Coatesville, PA 19320
 Type(use, NAC): Residential (B) 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: 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

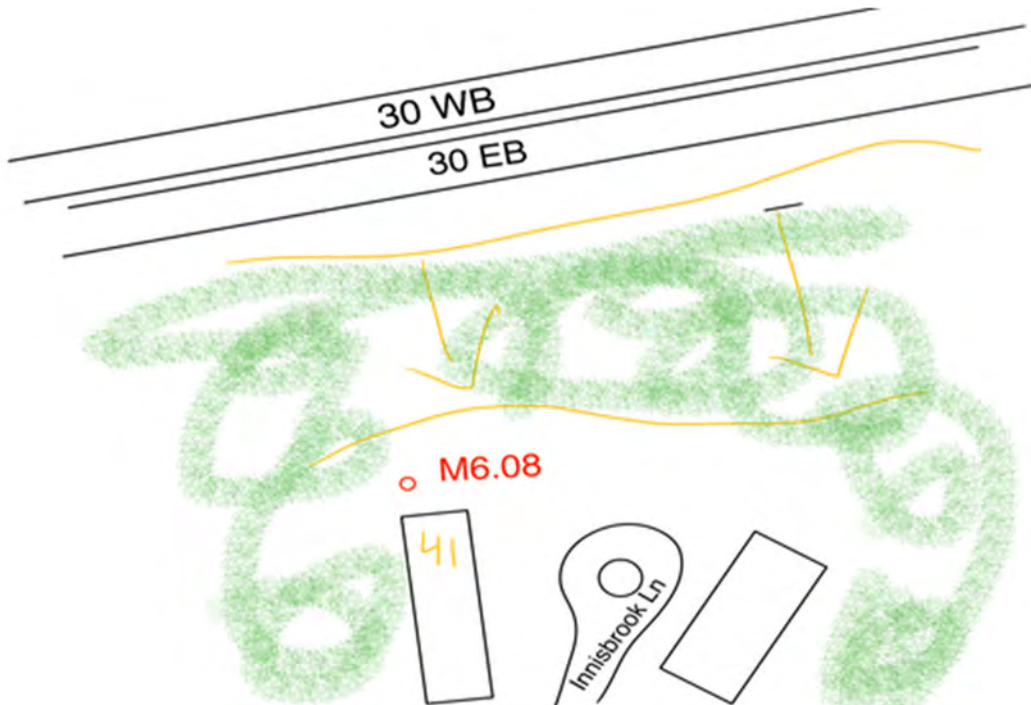
ID: M6.08 Start: 14:06 Stop: 14:26 ☒ 20 min SLM #: 4229 $L_{eq}(dB)$: 53.5 $L_{min}(dB)$: 46.3 $L_{max}(dB)$: 60.9
☐ 30 min
☐ 24 hr Stor #: 194 Calib(dB): 94.08 / 93.81 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 41 Innisbrook Ln Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ 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:



BT

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



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

Measurement Data

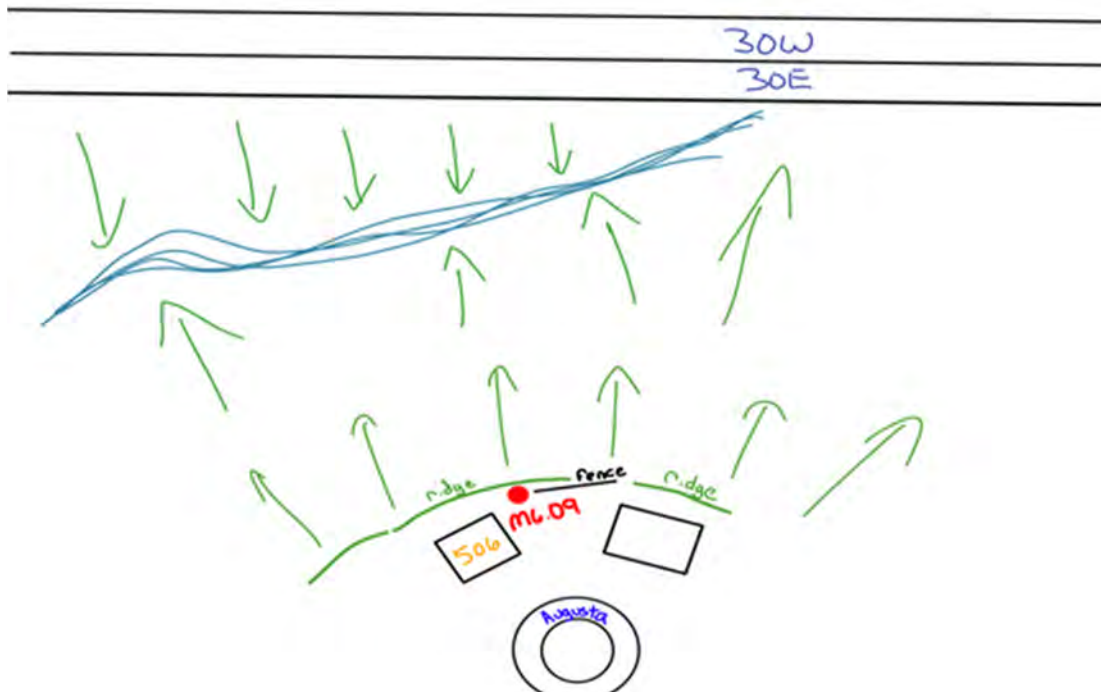
ID: M6.09 Start: 15:58 Stop: 16:18 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 62.3 $L_{min}(dB)$: 52.2 $L_{max}(dB)$: 69.6
☐ 30 min
☐ 24 hr Stor #: 193 Calib(dB): 94.05 / 94.12 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Site Photographed ☒ Yes ☐ No
 Location: 506 Augusta Dr Coatesville, PA 19320
 Type(use, NAC): Residential (B) 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:	349 495	Auto:		Auto:		Auto:	
Med Tk:	6 30	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	13 22	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	4 2	Bus:		Bus:		Bus:	
MCycle:	4 6	MCycle:		MCycle:		MCycle:	

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:



KAS

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



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

Measurement Data

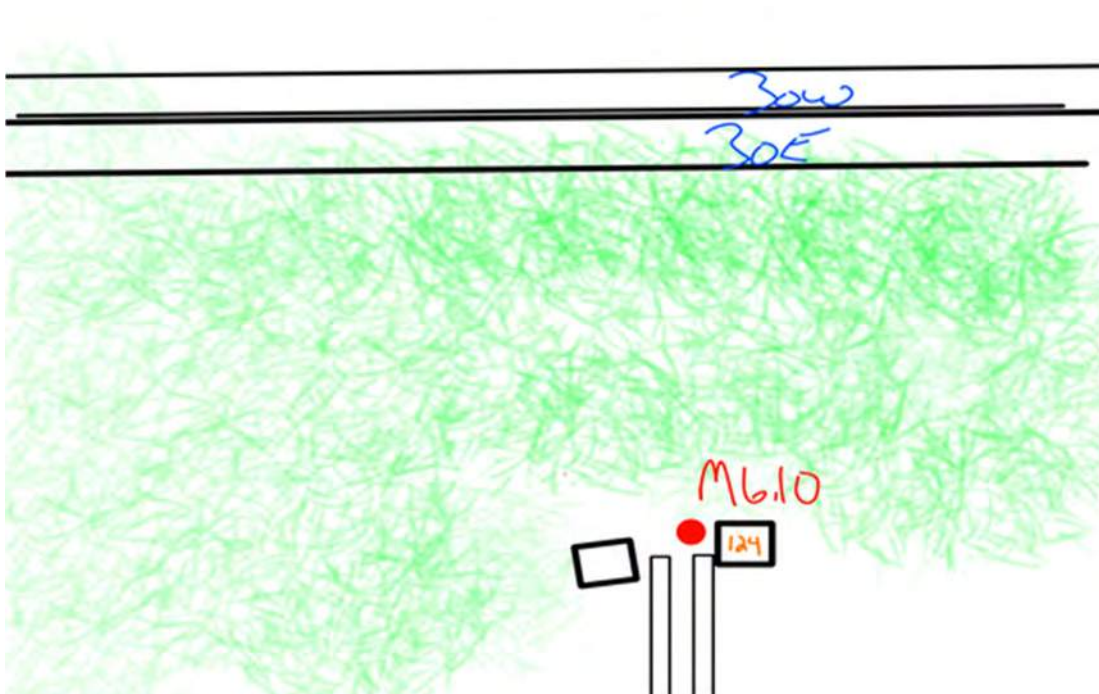
ID: M6.10 Start: 11:26 Stop: 11:46 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 60.5 $L_{min}(dB)$: 54.2 $L_{max}(dB)$: 65.6
☐ 30 min
☐ 24 hr Stor #: 173 Calib(dB): 94.10 / 93.86 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 124 Burgundy Ln Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ 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:	55	Observed Spd:		Observed Spd:		Observed Spd:	
Auto:	235 293	Auto:		Auto:		Auto:	
Med Tk:	19 16	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	28 39	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	0 1	Bus:		Bus:		Bus:	
MCycle:	0 1	MCycle:		MCycle:		MCycle:	

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



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

Measurement Data

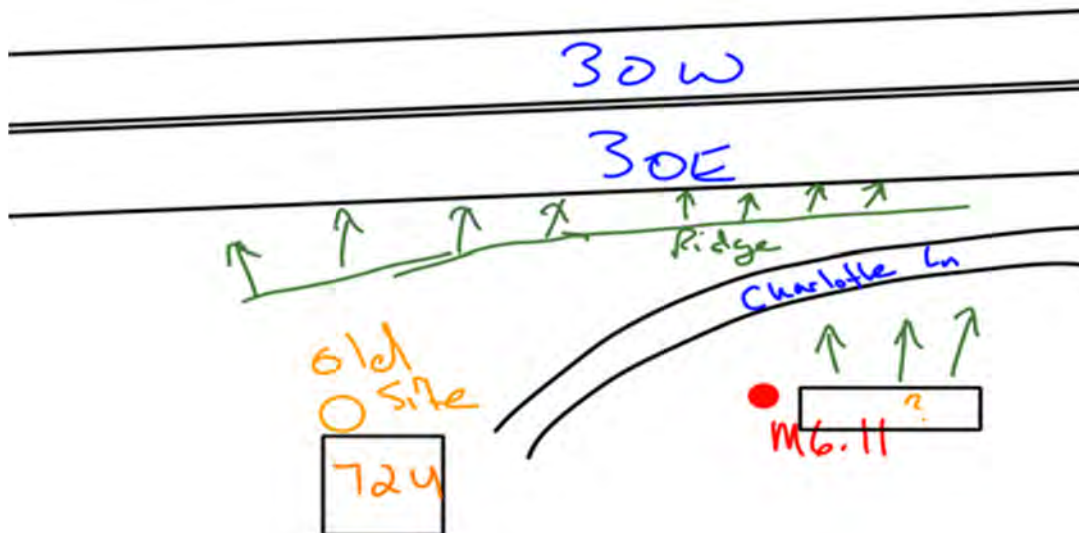
ID: M6.11 Start: 13:15 Stop: 13:35 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 71.3 $L_{min}(dB)$: 57.1 $L_{max}(dB)$: 83.5
☐ 30 min
☐ 24 hr Stor #: 174 Calib(dB): 94.10 / 93.86 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 724 Charlotte Ln. Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ 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:	205 274	Auto:		Auto:		Auto:	
Med Tk:	21 12	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	25 44	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	3 2	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		MCycle:	

Notes: Car leaving 1:25-1:26. Bluster at 1:26 from south. Relocated meas east (due to aggressive 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

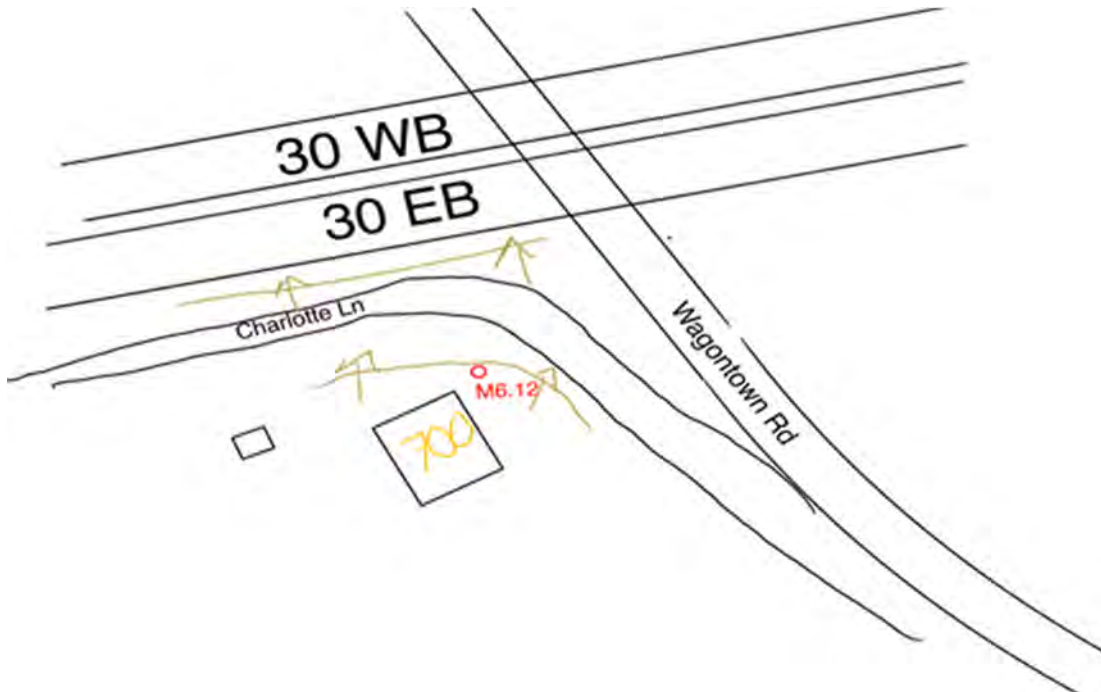
ID: **M6.12** Start: 13:15 Stop: 13:35 ☒ 20 min SLM #: 4229 **L_{eq}(dB): 68.6** **L_{min}(dB): 55.1** **L_{max}(dB): 80.8**
☐ 30 min
☐ 24 hr Stor #: 193 Calib(dB): 94.08 / 93.81 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 700 Wagontown Rd. Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ Yes ☐ No
 Weighting: ☒ A ☐ B ☐ C ☐ Z

Traffic Data

Roadway #1:	30	Roadway #2:	Wagontown 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:	25	Speed Limit:		Speed Limit:	
Observed Spd:		Observed Spd:		Observed Spd:		Observed Spd:	
Auto:	205 274	Auto:	12	Auto:		Auto:	
Med Tk:	21 12	Med Tk:	0	Med Tk:		Med Tk:	
Hvy Tk:	25 44	Hvy Tk:	0	Hvy Tk:		Hvy Tk:	
Bus:	3 2	Bus:	0	Bus:		Bus:	
MCycle:	0 0	MCycle:	0	MCycle:		MCycle:	

Notes:

Site Sketch:



Personnel: *85*

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



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

Measurement Data

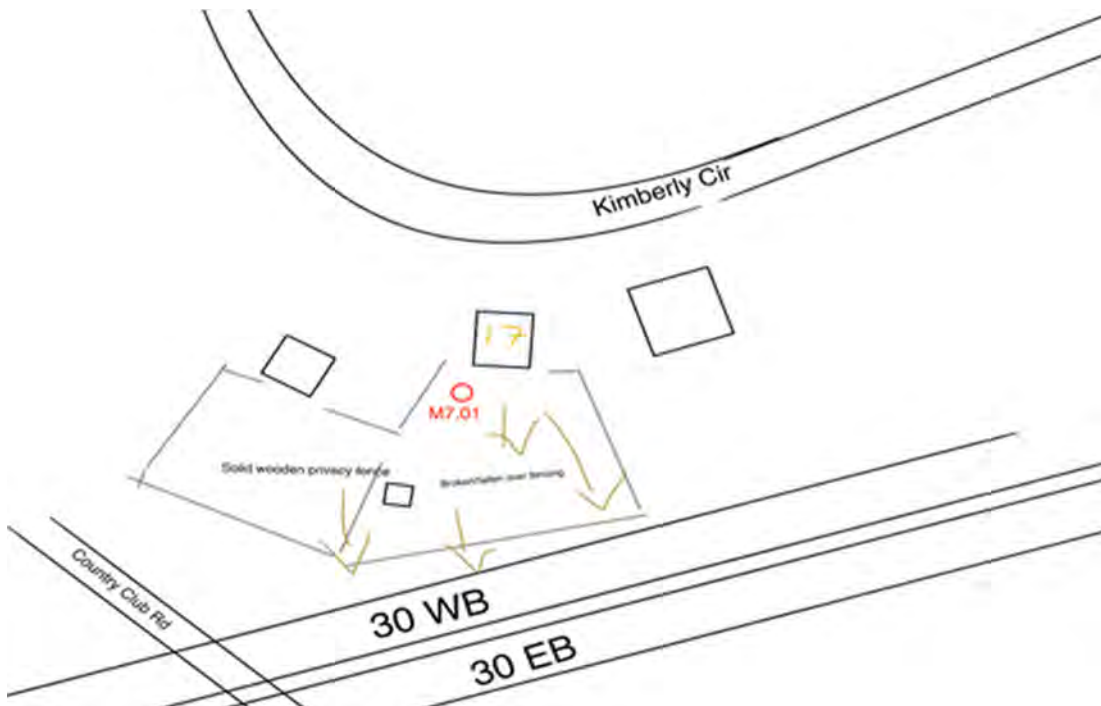
ID: **M7.01** Start: 13:48 Stop: 14:08 ☒ 20 min SLM #: 4229 **L_{eq}(dB): 68** **L_{min}(dB): 53.4** **L_{max}(dB): 81**
☐ 30 min
☐ 24 hr Stor #: 183 Calib(dB): 93.98 / 94.03 Meas. Ht(ft): 5
 Location: 14 Kimberly Cir. Coatesville, PA 19320 **Relocated** ☒ Yes ☐ No
 Type(use, NAC): Residential (B) **Site 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):	
Direction:	EB WB	Direction:	Both	Direction:	
Speed Limit:	55 55	Speed Limit:		Speed Limit:	
Observed Spd:		Observed Spd:		Observed Spd:	
Auto:	223 271	Auto:	10	Auto:	
Med Tk:	30 13	Med Tk:		Med Tk:	
Hvy Tk:	23 30	Hvy Tk:		Hvy Tk:	
Bus:	4 1	Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:	

Notes:

Site Sketch:



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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 0
 Wind direction:

Measurement Data

ID: M7.02 Start: 13:48 Stop: 14:08 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 55.8 $L_{min}(dB)$: 46.6 $L_{max}(dB)$: 64.5
☐ 30 min
☐ 24 hr Stor #: 164 Calib(dB): 93.96 / 93.90 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 7 Kimberly Cir. Coatesville, PA 19320
 Type(use, NAC): Residential (B) 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:

lis

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

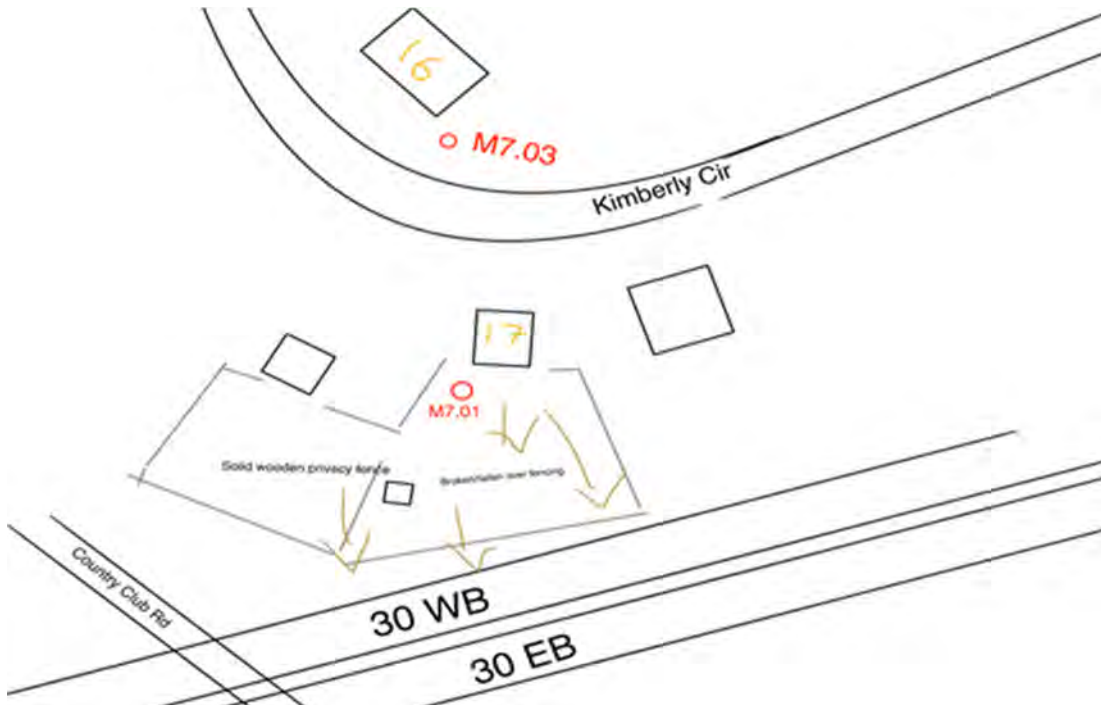
ID: **M7.03** Start: 14:24 Stop: 14:44 ☒ 20 min SLM #: 4229 $L_{eq}(dB)$: 61.6 $L_{min}(dB)$: 52.1 $L_{max}(dB)$: 72.9
☐ 30 min
☐ 24 hr Stor #: 184 Calib(dB): 93.98 / 94.03 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Site Photographed ☒ Yes ☐ No
 GPS (°N,°W): 39.99385522154129, -75.85560694249999
 Location: 16 Kimberly Cir. Coatesville, PA 19320
 Type(use, NAC): Residential (B) 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:	315 370	Auto:		Auto:		Auto:	
Med Tk:	17 20	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	21 38	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	1 4	Bus:		Bus:		Bus:	
MCycle:	0 1	MCycle:		MCycle:		MCycle:	

Notes:

Site Sketch:



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



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 SLM #: 4228 $L_{eq}(dB)$: 57.6 $L_{min}(dB)$: 50.5 $L_{max}(dB)$: 66.1
☐ 30 min
☐ 24 hr Stor #: 165 Calib(dB): 93.96 / 93.90 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 1 Donna Dr. Coatesville, PA 19320
 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	Speed Limit:		Speed Limit:		Speed Limit:	
Observed Spd:		Observed Spd:		Observed Spd:		Observed Spd:	
Auto:	315 370	Auto:		Auto:		Auto:	
Med Tk:	17 20	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	21 38	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	1 4	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		MCycle:	

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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 4
 Wind direction: Northeast

Measurement Data

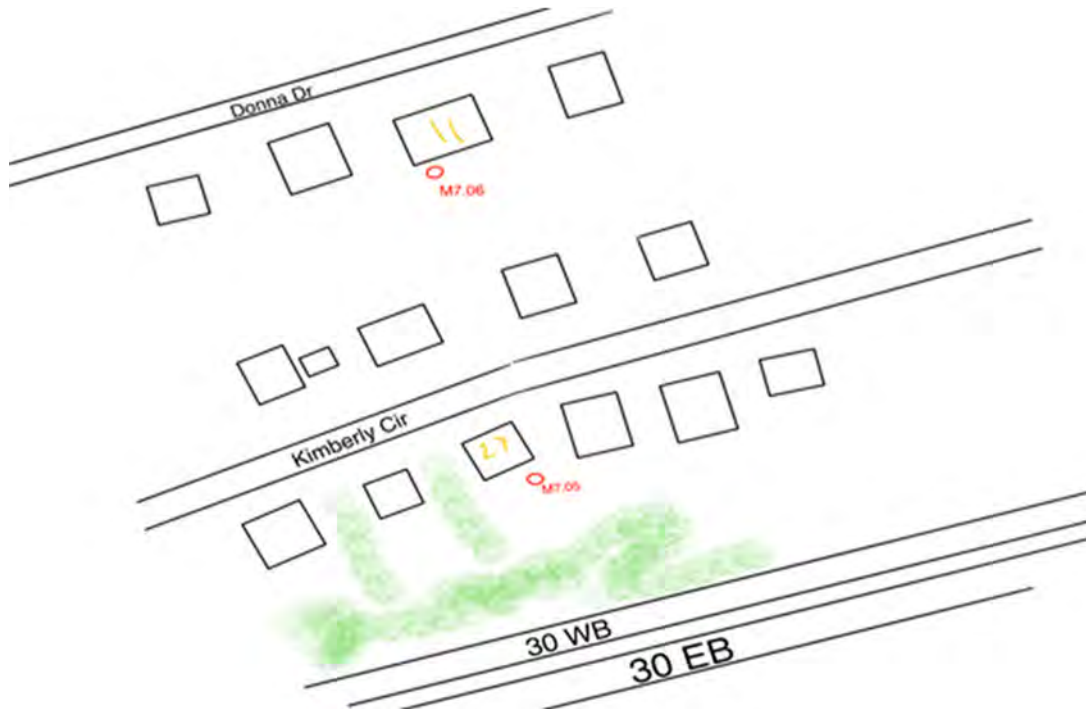
ID: M7.05 Start: 14:59 Stop: 15:19 ☒ 20 min SLM #: 4229 $L_{eq}(dB)$: 69.7 $L_{min}(dB)$: 53.9 $L_{max}(dB)$: 79.4
☐ 30 min
☐ 24 hr Stor #: 185 Calib(dB): 93.98 / 94.03 Meas. Ht(ft): 5
 Relocated ☒ Yes ☐ No
 Site Photographed ☒ Yes ☐ No
 GPS (°N,°W): 39.9940524333333, -75.8538481333333
 Location: 27 Kimberly Cir. Coatesville, PA 19320
 Type(use, NAC): Residential (B) 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:	318 446	Auto:		Auto:		Auto:	
Med Tk:	20 19	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	15 26	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	4 1	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		MCycle:	

Notes:

Site Sketch:



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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 4
 Wind direction: South

Measurement Data

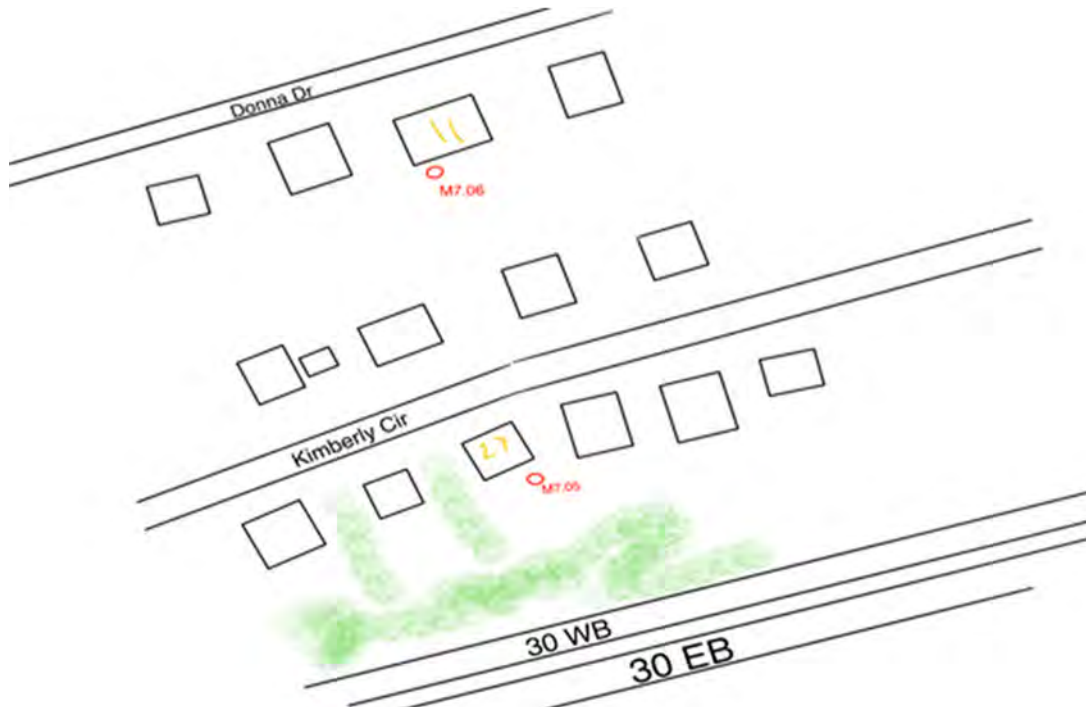
ID: M7.06 Start: 15:59 Stop: 15:19 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 56.3 $L_{min}(dB)$: 48.7 $L_{max}(dB)$: 66.2
☐ 30 min
☐ 24 hr Stor #: 166 Calib(dB): 93.96 / 93.90 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Site Photographed ☒ Yes ☐ No
 Location: 11 Donna Dr. Coatesville, PA 19320
 Type(use, NAC): Residential (B) 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:	318 446	Auto:		Auto:		Auto:	
Med Tk:	20 19	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	15 26	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	4 1	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		MCycle:	

Notes:

Site Sketch:



Personnel: *ls*

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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 2
 Wind direction: Northeast

Measurement Data

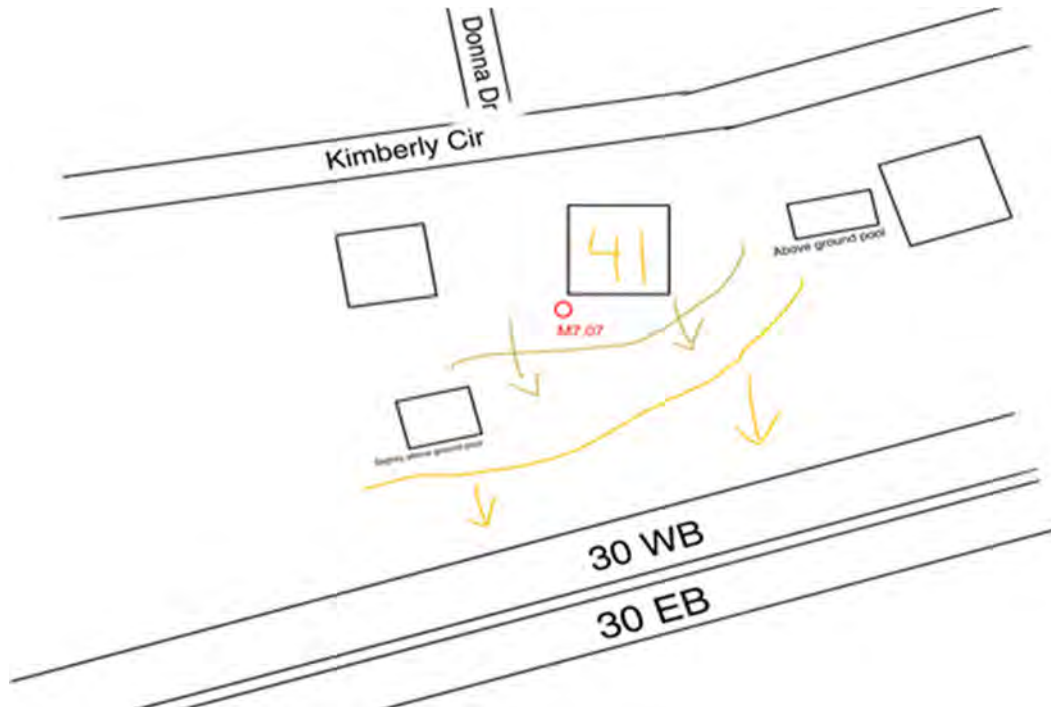
ID: M7.07 Start: 12:07 Stop: 12:27 ☒ 20 min SLM #: 4229 $L_{eq}(dB)$: 67.8 $L_{min}(dB)$: 51.9 $L_{max}(dB)$: 75.7
☐ 30 min
☐ 24 hr Stor #: 182 Calib(dB): 93.98 / 94.03 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Site Photographed ☒ Yes ☐ No
 GPS (°N,°W): 39.99467791666667, -75.85130096666667
 Location: 41 Kimbelry Cir. Coatesville, PA 19320
 Type(use, NAC): Residential (B) 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:	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 Sketch:



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



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

Measurement Data

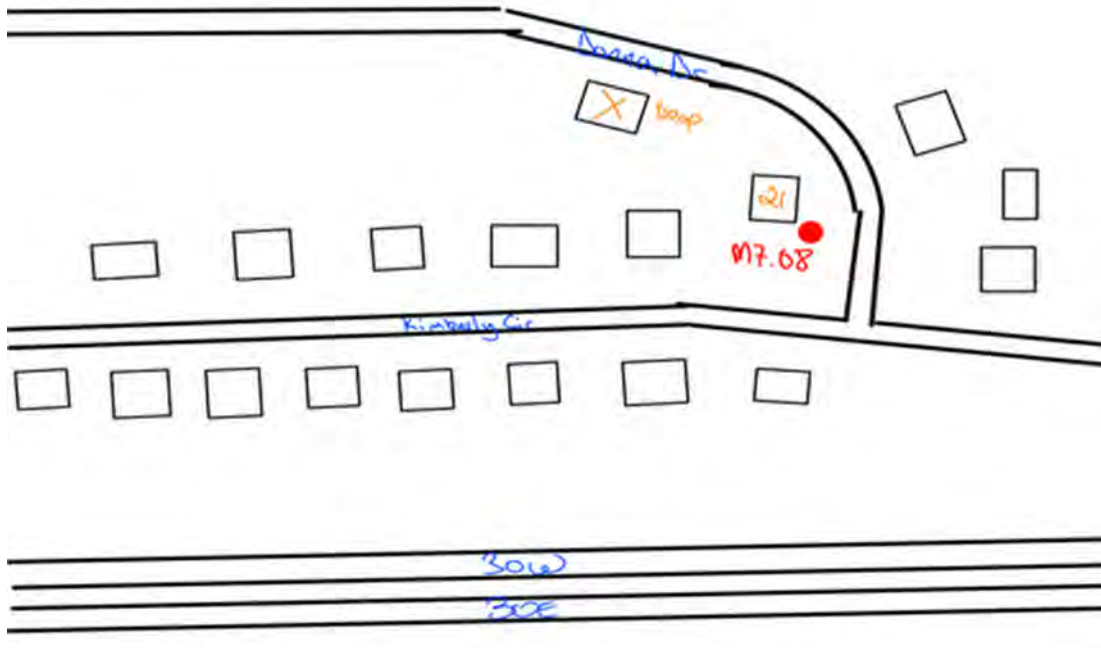
ID: M7.08 Start: 12:07 Stop: 12:27 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 56.6 $L_{min}(dB)$: 45.8 $L_{max}(dB)$: 62.3
☐ 30 min
☐ 24 hr Stor #: 163 Calib(dB): 93.98 / 93.90 Meas. Ht(ft): 5
 Relocated ☒ Yes ☐ No
 Site Photographed ☒ Yes ☐ No
 GPS (°N,°W): 39.99512911666667, -75.85178511666666
 Location: 21 Donna Dr. Coatesville, PA 19320
 Type(use, NAC): Residential (B) 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:	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: KAS

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

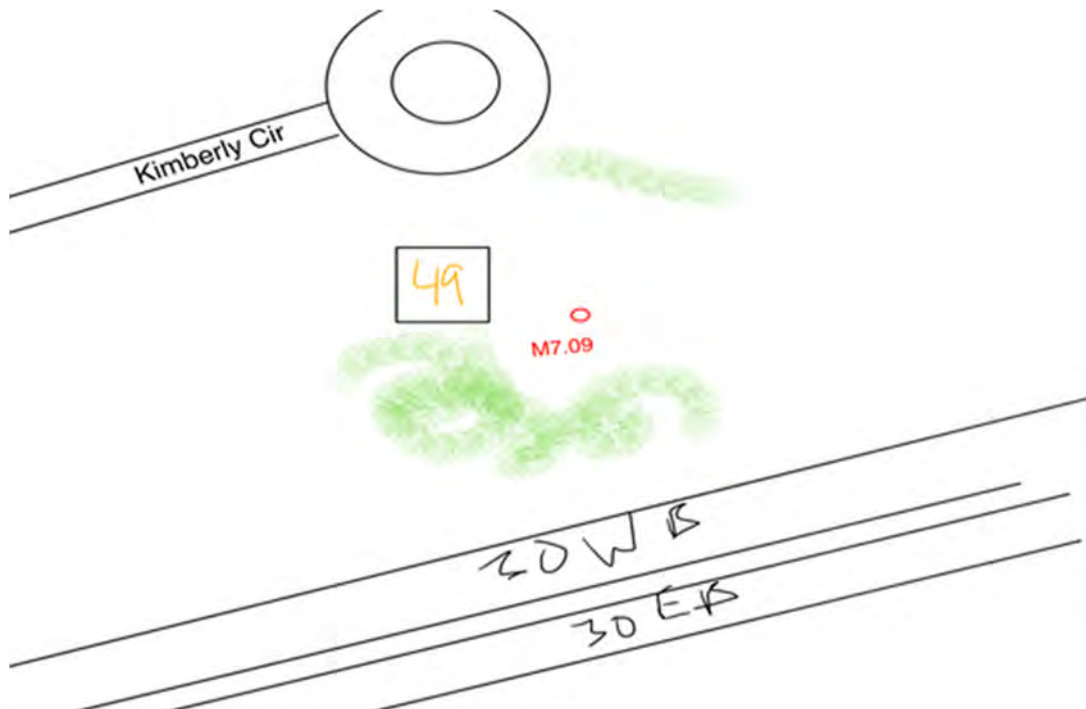
ID: M7.09 Start: 07:34 Stop: 07:54 ☒ 20 min SLM #: 4229 $L_{eq}(dB)$: 67.4 $L_{min}(dB)$: 56.5 $L_{max}(dB)$: 74.9
☐ 30 min
☐ 24 hr Stor #: 186 Calib(dB): 94.08 / 93.81 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 GPS (°N,°W): 39.9949143, -75.84976544999999
 Location: 49 Kimberly Cir. Coatesville, PA 19320
 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:	337 326	Auto:		Auto:		Auto:	
Med Tk:	28 12	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	28 26	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	3 4	Bus:		Bus:		Bus:	
MCycle:	0 1	MCycle:		MCycle:		MCycle:	

Notes: Plane at 7:48

Site Sketch:



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 covr: ☐ None ☐ Partly ☒ Cloudy
 Wind speed (mph): 5
 Wind direction: West

Measurement Data

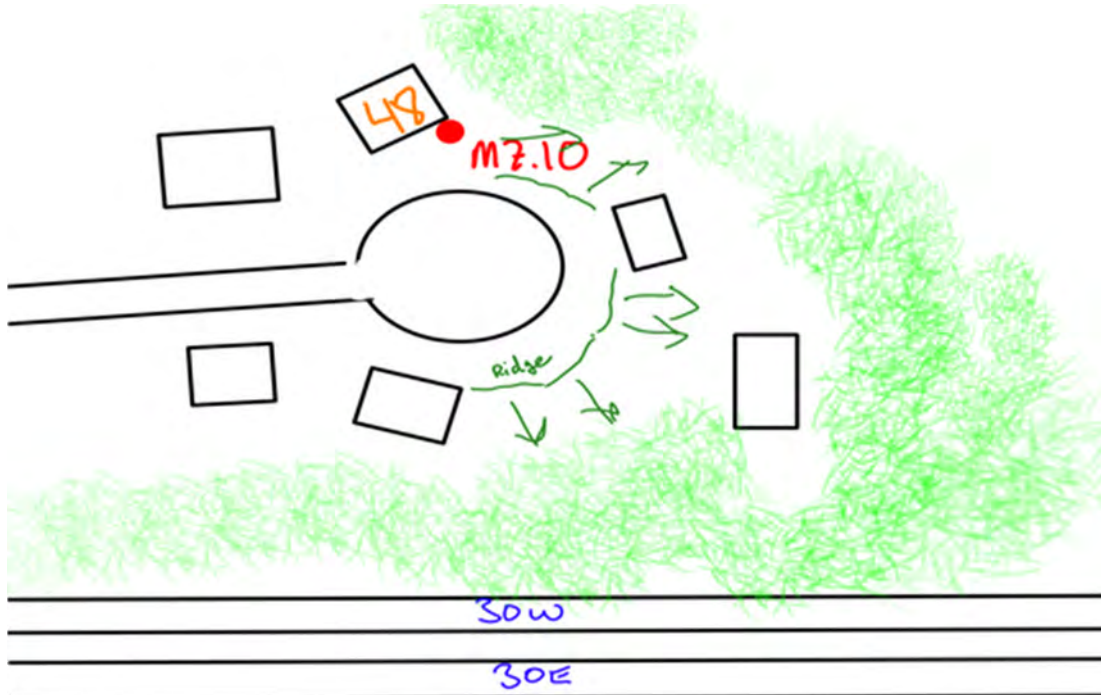
ID: M7.10 Start: 07:34 Stop: 07:54 ☒ 20 min ☐ 30 min ☐ 24 hr SLM #: 4228 $L_{eq}(dB)$: 57 $L_{min}(dB)$: 49 $L_{max}(dB)$: 69.3
 GPS (°N,°W): 39.99542043333333, -75.85013953333335 Stor #: 167 Calib(dB): 94.10 / 93.86 Meas. Ht(ft): 5
 Location: 48 Kimberly Cir. Coatesville, PA 19320 Relocated ☐ Yes ☒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

Traffic Data

Roadway #1:	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:	337 326	Auto:		Auto:		Auto:	
Med Tk:	28 12	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	28 26	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	3 4	Bus:		Bus:		Bus:	
MCycle:	0 1	MCycle:		MCycle:		MCycle:	

Notes:

Site Sketch:



Personnel:

166

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

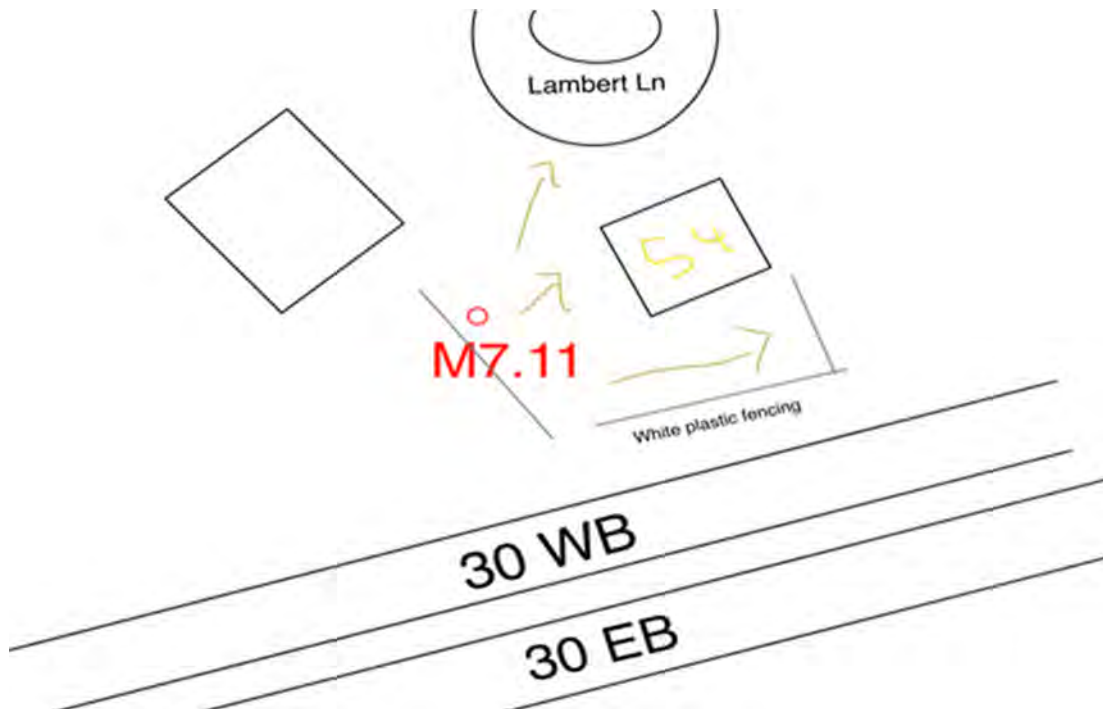
ID: M7.11 Start: 08:08 Stop: 08:28 ☒ 20 min ☐ 30 min ☐ 24 hr SLM #: 4229 $L_{eq}(dB)$: 66.6 $L_{min}(dB)$: 52.3 $L_{max}(dB)$: 81.9
 GPS (°N,°W): 39.99521608333334, -75.84833335 Stor #: 187 Calib(dB): 94.08 / 93.81 Meas. Ht(ft): 5
 Location: 54 Lambert Ln. Coatesville, PA 19320 Relocated ☐ Yes ☒ No
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

Traffic Data

Roadway #1:	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:	300 258	Auto:		Auto:		Auto:	
Med Tk:	33 19	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	23 25	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	1 5	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		MCycle:	

Notes:

Site Sketch:



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 covr: ☒ None ☐ Partly ☐ Cloudy
 Wind speed (mph): 5
 Wind direction: West

Measurement Data

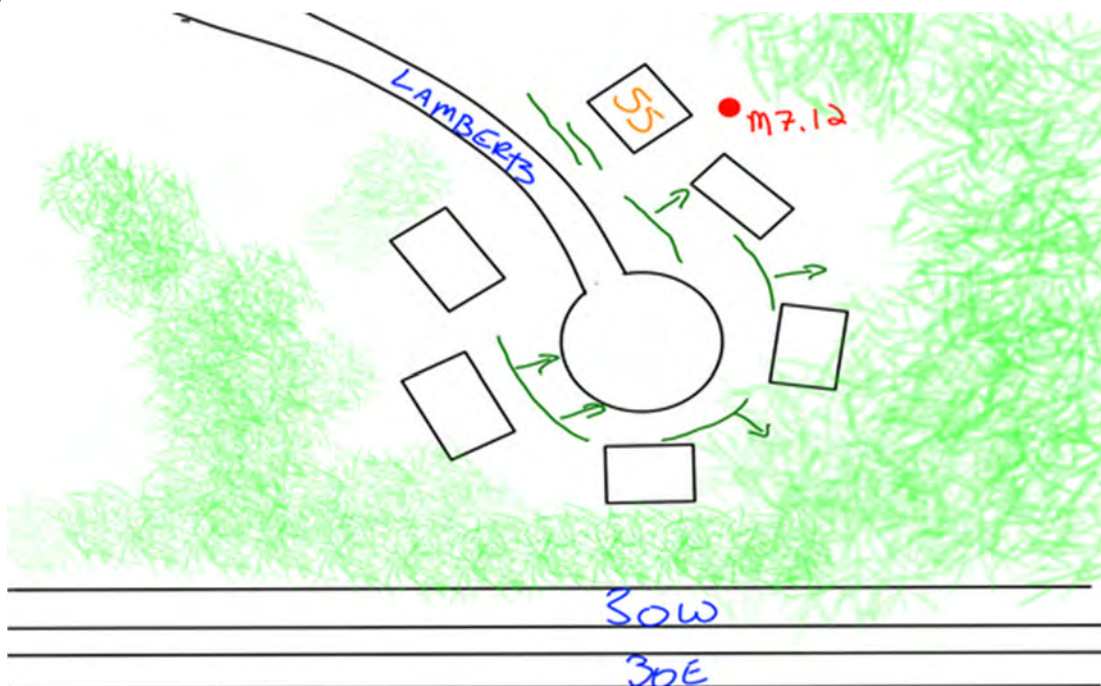
ID: M7.12 Start: 08:08 Stop: 08:28 ☒ 20 min ☐ 30 min ☐ 24 hr SLM #: 4228 $L_{eq}(dB)$: 58.2 $L_{min}(dB)$: 49 $L_{max}(dB)$: 71.4
 GPS (°N,°W): 39.99603213333333, -75.84822805 Stor #: 168 Calib(dB): 94.10 / 93.86 Meas. Ht(ft): 5
 Location: 55 Lambert Ln. Coatesville, PA 19320 Relocated ☐ Yes ☒ No
 Type(use,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

Traffic Data

Roadway #1:	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:	300 258	Auto:		Auto:		Auto:	
Med Tk:	33 19	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	23 25	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	1 5	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		MCycle:	

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:



7/15

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



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

Measurement Data

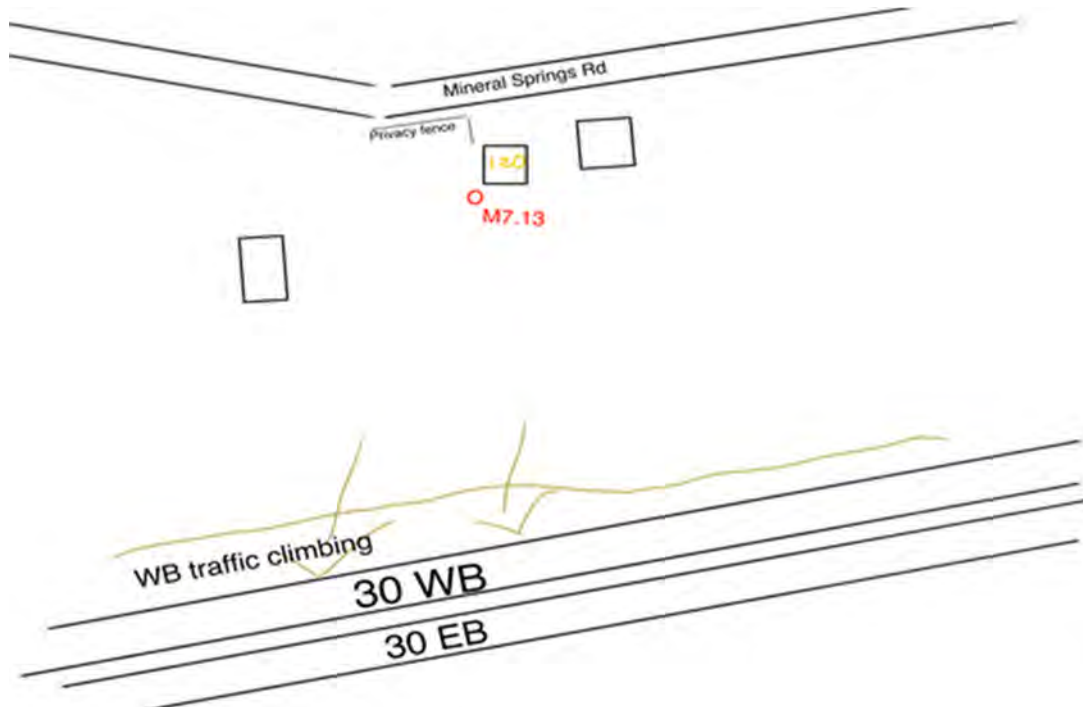
ID: **M7.13** Start: 11:26 Stop: 11:46 ☒ 20 min SLM #: 4229 **Leq (dB):** 65.2 **Lmin (dB):** 55.7 **Lmax (dB):** 77.1
☐ 30 min
☐ 24 hr Stor #: 192 Calib (dB): 94.08 / 93.81 Meas. Ht (ft): 5
 Relocated ☐ Yes ☒ No
 Location: 120 Mineral Spring Rd. Coatesville, PA 19320
 Type(use, NAC): Residential (B) 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:	235 293	Auto:		Auto:		Auto:	
Med Tk:	19 16	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	28 39	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	0 1	Bus:		Bus:		Bus:	
MCycle:	0 1	MCycle:		MCycle:		MCycle:	

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

Site Sketch:



28

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



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

Measurement Data

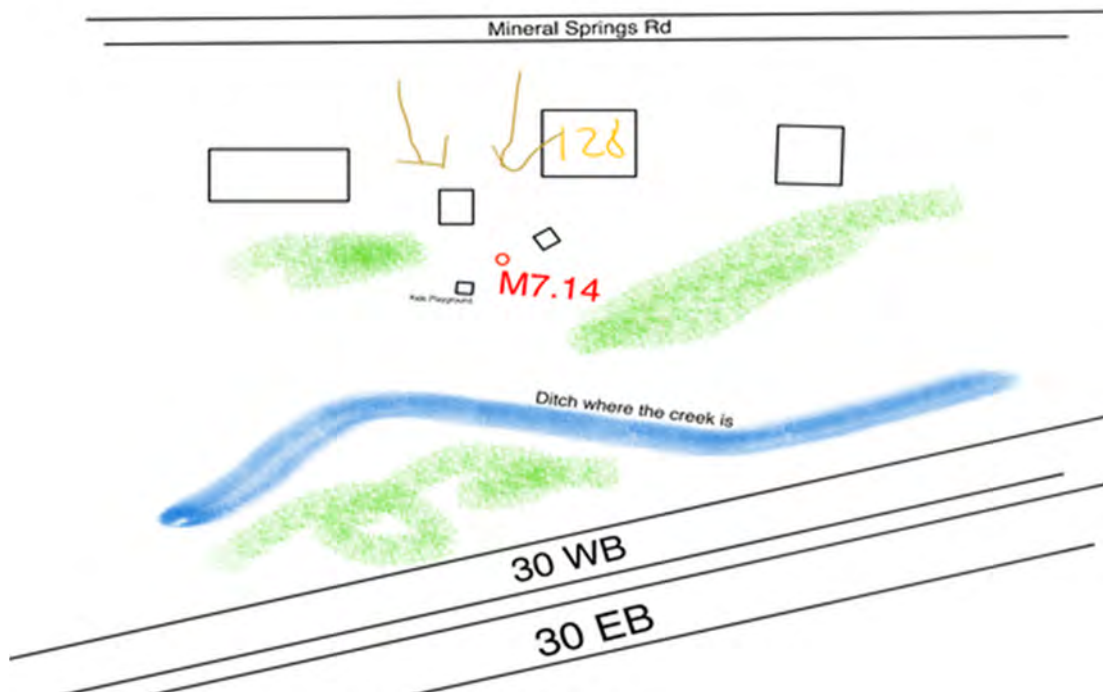
ID: M7.14 Start: 10:48 Stop: 11:08 ☒ 20 min SLM #: 4229 $L_{eq}(dB)$: 67.5 $L_{min}(dB)$: 52.3 $L_{max}(dB)$: 76.4
☐ 30 min
☐ 24 hr Stor #: 191 Calib(dB): 94.08 / 93.81 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Site Photographed ☒ Yes ☐ No
 GPS (°N,°W): 39.9966862, -75.84285008333332
 Location: 128 Mineral Spring Rd. Coatesville, PA 19320
 Type(use, NAC): Residential (B) 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:	186 232	Auto:		Auto:		Auto:	
Med Tk:	15 14	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	27 29	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	0 1	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		MCycle:	

Notes:

Site Sketch:



st

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



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

Measurement Data

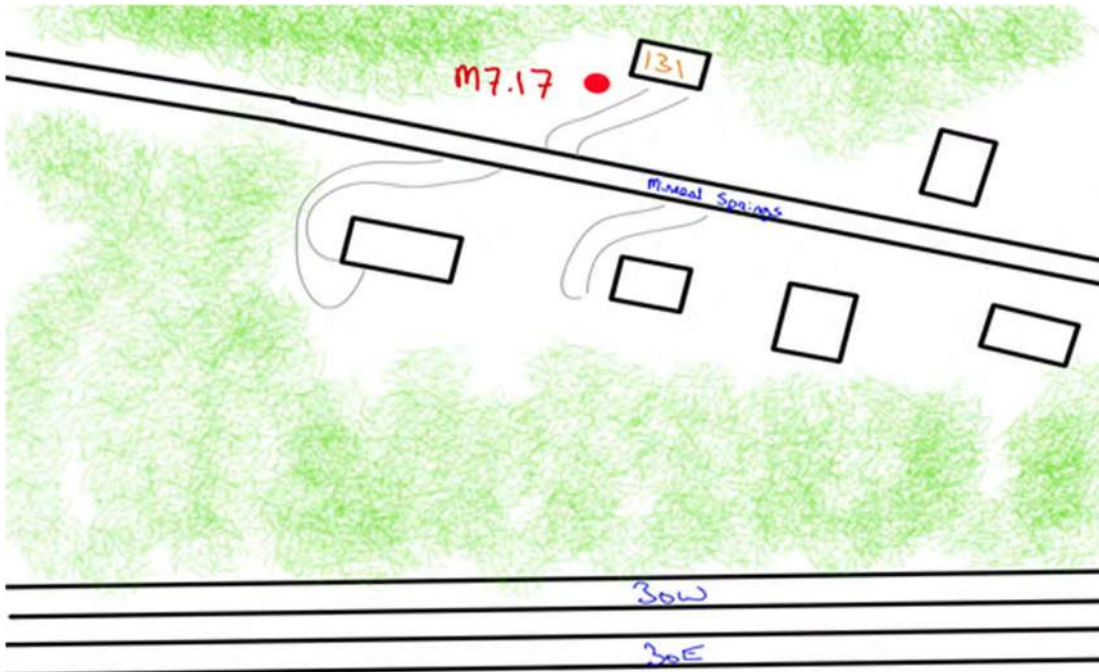
ID: M7.15 Start: 11:48 Stop: 11:08 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 63.4 $L_{min}(dB)$: 52.7 $L_{max}(dB)$: 71.1
☐ 30 min
☐ 24 hr Stor #: 172 Calib(dB): 94.10 / 93.86 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Site Photographed ☒ Yes ☐ No
 GPS (°N,°W): 39.99686272329755, -75.84230978935824
 Location: 131 Mineral Spring Rd. Coatesville, PA 19320
 Type(use, NAC): Residential (B) 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:	186 232	Auto:		Auto:		Auto:	
Med Tk:	15 14	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	27 29	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	0 1	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		MCycle:	

Notes:

Site Sketch:



Personnel: 4/13

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

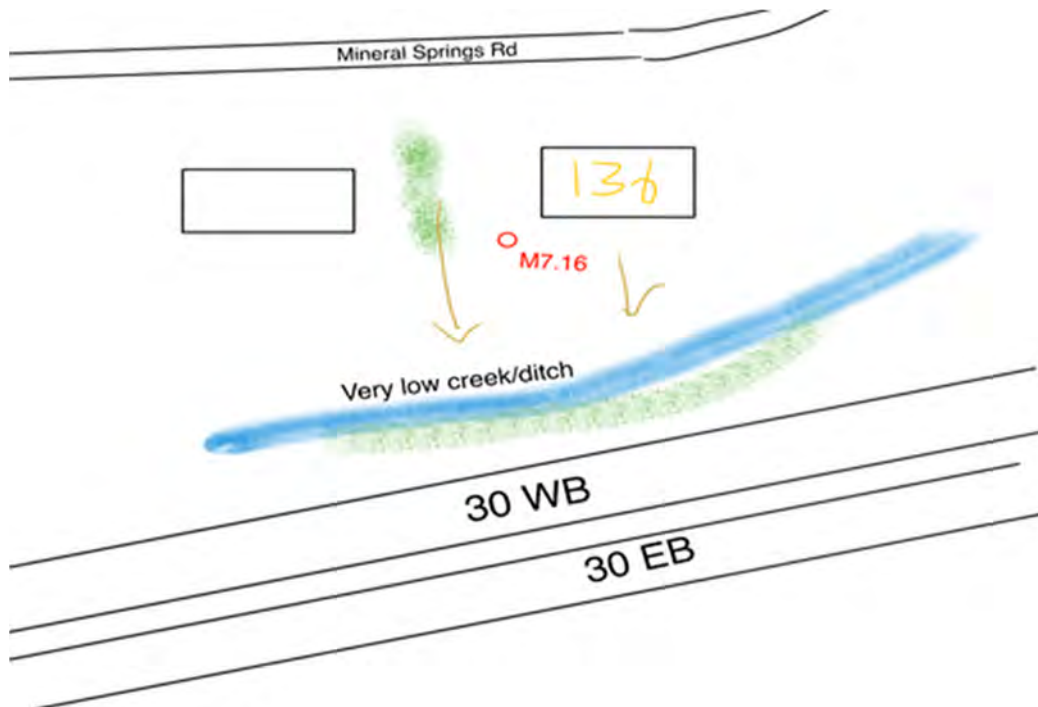
ID: M7.16 Start: 10:12 Stop: 10:32 ☒ 20 min ☐ 30 min ☐ 24 hr SLM #: 4229 $L_{eq}(dB)$: 72.7 $L_{min}(dB)$: 55.3 $L_{max}(dB)$: 85.5
 GPS (°N,°W): 39.99682436666667, -75.84074745 Stor #: 190 Calib(dB): 94.08 / 93.81 Meas. Ht(ft): 5
 Location: 136 Mineral Spring Rd. Coatesville, PA 19320 Relocated ☐ Yes ☒ No
 Type(use, NAC): Residential (B) Site Photographed ☒ Yes ☐ No Weighting: ☒ A ☐ B ☐ C ☐ Z

Traffic Data

Roadway #1:	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:	232 229	Auto:		Auto:		Auto:	
Med Tk:	23 14	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	29 41	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	1 3	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		MCycle:	

Notes:

Site Sketch:



8

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

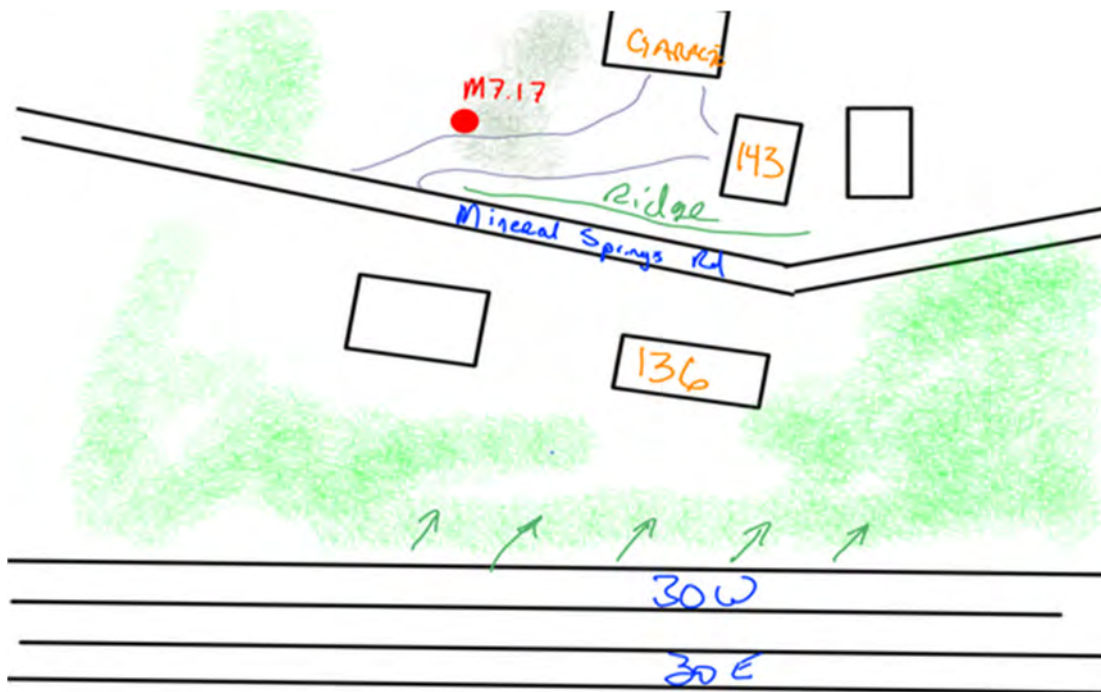
ID: M7.17 Start: 10:12 Stop: 10:32 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 64.9 $L_{min}(dB)$: 55.3 $L_{max}(dB)$: 73.8
☐ 30 min
☐ 24 hr Stor #: 171 Calib(dB): 94.10 / 93.86 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 143 Mineral Spring Rd. Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☐ Yes ☒ No
 Weighting: ☒ A ☐ B ☐ C ☐ Z

Traffic Data

Roadway #1:	Roadway #2:	Roadway #3:	Roadway #4:
Width(ft): 30	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: 232 229	Auto:	Auto:	Auto:
Med Tk: 23 14	Med Tk:	Med Tk:	Med Tk:
Hvy Tk: 29 41	Hvy Tk:	Hvy Tk:	Hvy Tk:
Bus: 1 3	Bus:	Bus:	Bus:
MCycle: 0 0	MCycle:	MCycle:	MCycle:

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:



KAB

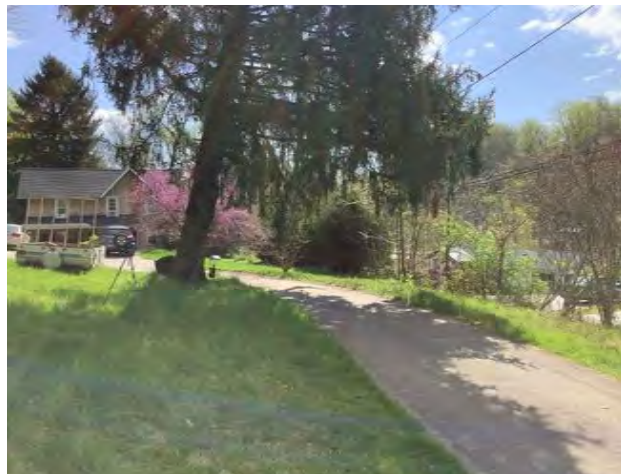
Personnel:

M7.17 Site Photos:

North:



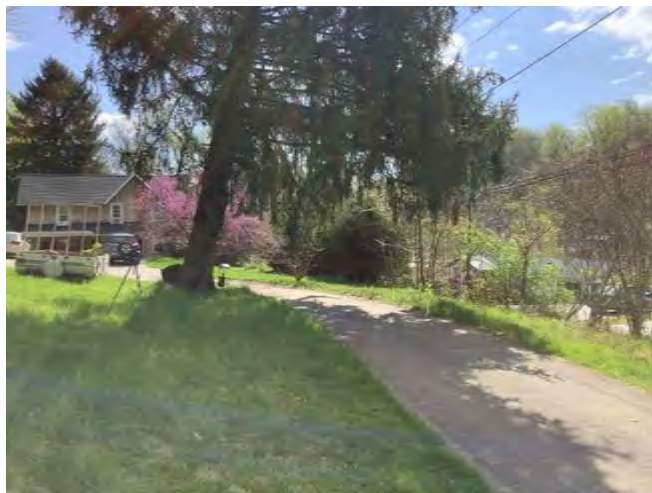
East:



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



Temperature (F): 55
 Cloud covr: ☒ None ☐ Partly ☐ Cloudy
 Wind speed (mph): 0
 Wind direction:

Measurement Data

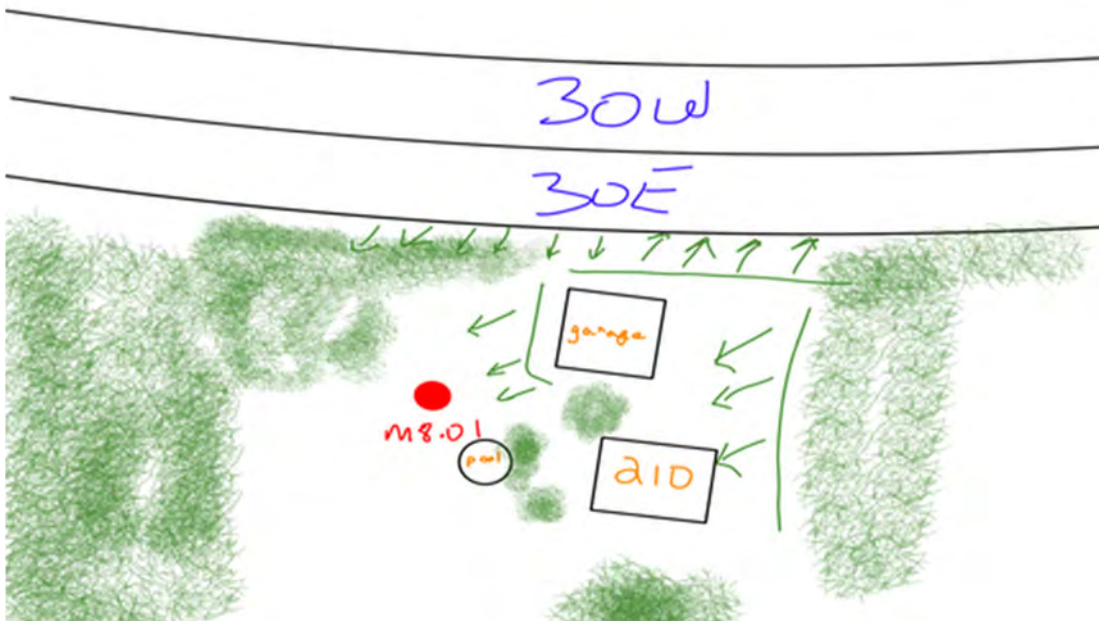
ID: M8.01 Start: 07:12 Stop: 07:32 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 66.3 $L_{min}(dB)$: 50.4 $L_{max}(dB)$: 76.6
☐ 30 min
☐ 24 hr Stor #: 195 Calib(dB): 93.88 / 93.94 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 210 Mount Airy Rd. Coatesville, PA 19320
 Type(use, NAC): Residential (B) Site Photographed ☒ 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:	508 222	Auto:		Auto:		Auto:	
Med Tk:	20 16	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	26 19	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	1 4	Bus:		Bus:		Bus:	
MCycle:	2 1	MCycle:		MCycle:		MCycle:	

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

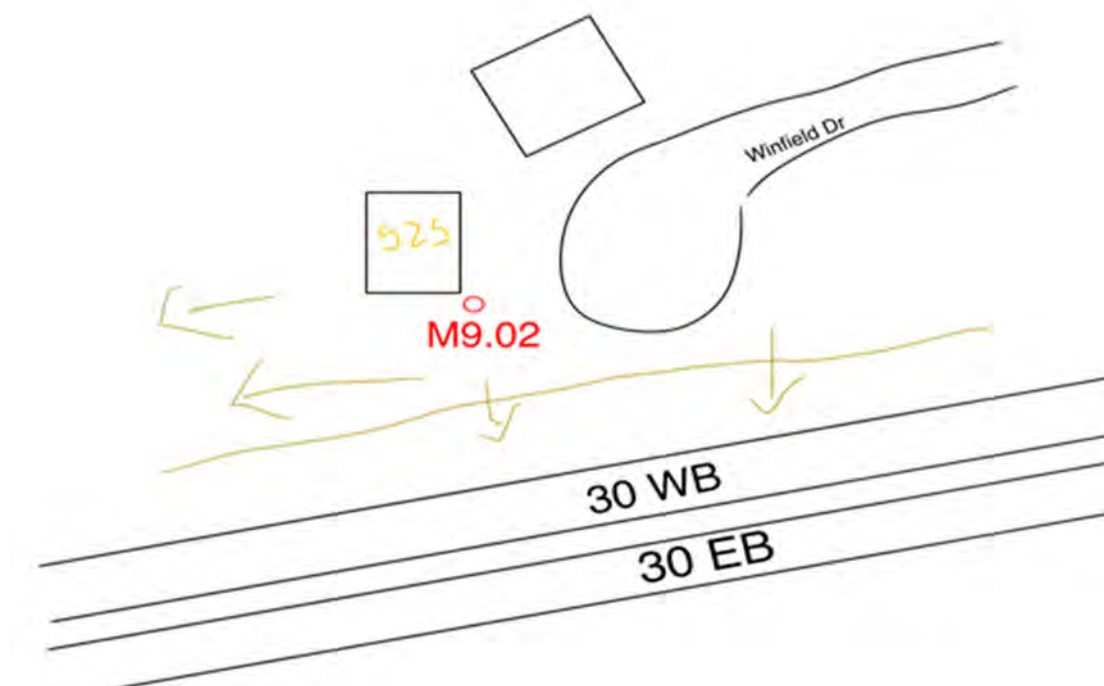
ID: M9.02 Start: 08:50 Stop: 09:10 ☒ 20 min SLM #: 4229 $L_{eq}(dB)$: 72.4 $L_{min}(dB)$: 59.1 $L_{max}(dB)$: 81.4
☐ 30 min
☐ 24 hr Stor #: 188 Calib(dB): 94.08 / 93.81 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Site Photographed ☒ Yes ☐ No
 GPS (°N,°W): 39.99828531666667, -75.83298119999999
 Location: 525 Enfield Dr. Coatesville, PA 19320
 Type(use, NAC): Residential (B) 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:



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 covr: ☒ None ☐ Partly ☐ Cloudy
 Wind speed (mph): 0
 Wind direction:

Measurement Data

ID: M9.03 Start: 16:55 Stop: 17:15 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 66.7 $L_{min}(dB)$: 51.5 $L_{max}(dB)$: 76.6
☐ 30 min
☐ 24 hr Stor #: 194 Calib(dB): 94.05 / 94.12 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:	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:	387 526	Auto:		Auto:		Auto:	
Med Tk:	7 25	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	11 20	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	2 1	Bus:		Bus:		Bus:	
MCycle:	2 1	MCycle:		MCycle:		MCycle:	

Notes:

Site Sketch:



KAS

Personnel:

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



Temperature (F): 46
 Cloud covr: ☐ None ☒ Partly ☐ Cloudy
 Wind speed (mph): 10
 Wind direction: West

Measurement Data

ID: **M9.04** Start: 08:50 Stop: 09:10 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 63.2 $L_{min}(dB)$: 54.6 $L_{max}(dB)$: 72.4
☐ 30 min
☐ 24 hr Stor #: 169 Calib(dB): 94.10 / 93.86 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:	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: Some wind gust through measurement but not causing spiking or noise from vegetation. Helicopter at minute 18.

Site Sketch:



Personnel: 103

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 cov: ☒ None ☐ Partly ☐ Cloudy
 Wind speed (mph): 5
 Wind direction: North

Measurement Data

ID: M9.05 Start: 16:55 Stop: 17:15 ☒ 20 min SLM #: 4229 $L_{eq}(dB)$: 54.4 $L_{min}(dB)$: 46.8 $L_{max}(dB)$: 66.2
☐ 30 min
☐ 24 hr Stor #: 195 Calib(dB): 94.14 / 93.98 Meas. Ht(ft): 5
 Relocated ☒ Yes ☐ No
 Site Photographed ☒ Yes ☐ No
 GPS (°N,°W): 39.998894400000005, -75.83180278333333
 Location: 253 Coleridge Ln. Coatesville, PA 19320
 Type(use, NAC): Residential (B) 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:	387 526	Auto:		Auto:		Auto:	
Med Tk:	7 25	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	11 20	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	2 1	Bus:		Bus:		Bus:	
MCycle:	2 1	MCycle:		MCycle:		MCycle:	

Notes: Relocated due to fenced in yard and no residents available. Moved to adjacent property.

Site Sketch:



Personnel: 10/13

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



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 SLM #: 4229 $L_{eq}(dB)$: 60.3 $L_{min}(dB)$: 51 $L_{max}(dB)$: 73.6
☐ 30 min
☐ 24 hr Stor #: 189 Calib(dB): 94.08 / 93.81 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 140 Mount Airy Rd. Coatesville, PA 19320
 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:	290 239	Auto:		Auto:		Auto:	
Med Tk:	27 22	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	31 29	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	1 7	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		MCycle:	

Notes:

Site Sketch:



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



Temperature (F): 48
 Cloud covr: ☐ None ☒ Partly ☐ Cloudy
 Wind speed (mph): 10
 Wind direction: West

Measurement Data

ID: M9.07 Start: 09:25 Stop: 09:45 ☒ 20 min SLM #: 4228 $L_{eq}(dB)$: 56.2 $L_{min}(dB)$: 49.5 $L_{max}(dB)$: 64.8
☐ 30 min
☐ 24 hr Stor #: 170 Calib(dB): 94.10 / 93.86 Meas. Ht(ft): 5
 Relocated ☐ Yes ☒ No
 Location: 140 Mount Airy Rd. Coatesville, PA 19320
 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:	290 239	Auto:		Auto:		Auto:	
Med Tk:	27 22	Med Tk:		Med Tk:		Med Tk:	
Hvy Tk:	31 29	Hvy Tk:		Hvy Tk:		Hvy Tk:	
Bus:	1 7	Bus:		Bus:		Bus:	
MCycle:	0 0	MCycle:		MCycle:		MCycle:	

Notes: 9:42 wind gusts. 9:44 wind gust. Noise from trees.

Site Sketch:



Personnel:

16

M9.07 Site Photos:
North:



East:



South:



West:



APPENDIX B

Traffic Volumes and TNM Traffic Inputs

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

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
X	X

In tolerance:

Out of tolerance:

See comments:

Contains non-accredited tests: Yes ☒ No

Calibration service: Basic ☒ 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

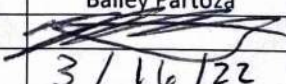
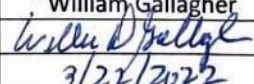
Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence	Cal. Due
				Cal. Lab / Accreditation	
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	Environmental Monitor	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.
Document stored Y:\Calibration Lab\SLM 2022\LD831_0004228_M1.doc

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. Due
				Cal. Lab / Accreditation	
4838-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 D. Gallagher
Signature	<i>Ronnie Buchanan</i>	Signature	<i>William D. Gallagher</i>
Date	4/16/2021	Date	4/19/2021

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.

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Page 1 of 2

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
X	X

In tolerance:
Out of tolerance:
See comments:
Contains non-accredited tests: Yes X No

Customer: Environmental Acoustics
Tel/Fax: 717-886-5291 / 717-763-8150

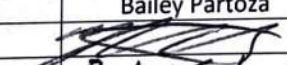
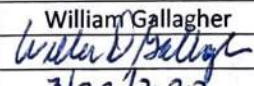
Address: 207 Senate Avenue,
Camp Hill, PA 17011

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. Due
				Cal. Lab / Accreditation	
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	Environmental Monitor	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

APPENDIX D

PENNDOT Warranted, Feasible, and Reasonable Worksheets

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

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

General

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

Warranted

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

☐ Yes ☐ No
2. Criteria requiring consideration of noise abatement (note N/A if category is not impacted or present or analysis not required). A “yes” answer to any of the following three questions requires the consideration of noise abatement.
 - a. With the proposed project, are design year noise levels predicted to approach or exceed the NAC level(s) in Table 1?

☐ Yes ☐ No
 - b. With the proposed project, is there predicted to be a substantial design year noise level increase of 10 dB(A) or more at Activity Category A, B, C, D, or E receptor(s)?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

1. Impacted receptor units

- a. Total number of impacted receptor units:

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

- c. Is the percentage 50 or greater?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

Reasonableness

1. Community Desires Related to the Barrier

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

☐ Yes ☐ No

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

- a. Area (SF) of the proposed noise wall

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

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

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

☐ Yes ☐ No

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

a. Does the noise wall reduce design year exterior_noise levels by at least 7 dB(A) for at least one benefited receptor?

☐ Yes ☐ No

b. Does the noise wall provide an insertion loss of at least 7 dB(A) for more receptors than required under 3a.while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

c. Does the noise wall provide insertion losses of greater than 7 dB(A) while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

d. Does the noise wall reduce future exterior levels to the low-60-decibel range (60-63) for Category B and C receptors and the upper-60 dB(A) range (65-68) for Category E receptors?

☐ Yes ☐ No

e. Does the noise wall reduce design year noise levels back to existing levels?

☐ Yes ☐ No

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

a. Does noise wall reduce design year interior_noise levels by at least 7 dB(A) for the facility’s analysis point?

☐ Yes ☐ No

b. While conforming to the MaxSF/BR criteria and justified by a “point of diminishing returns’ evaluation, does the noise wall provide an interior insertion loss above the 7 dB(A) minimum

☐ Yes ☐ No

Decision

Is the Noise Wall WARRANTED? ☐ Yes ☐ No

Is the Noise Wall FEASIBLE? ☐ Yes ☐ No

Is the Noise Wall REASONABLE? ☐ Yes ☐ No

Additional Reasons for Decision:

Responsible/Qualified Individuals Making the Above Decisions

PennDOT, Engineering District Environmental Manager

Date: _____

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

Date: _____

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

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

General

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

Warranted

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

☐ Yes ☐ No
2. Criteria requiring consideration of noise abatement (note N/A if category is not impacted or present or analysis not required). A “yes” answer to any of the following three questions requires the consideration of noise abatement.
 - a. With the proposed project, are design year noise levels predicted to approach or exceed the NAC level(s) in Table 1?

☐ Yes ☐ No
 - b. With the proposed project, is there predicted to be a substantial design year noise level increase of 10 dB(A) or more at Activity Category A, B, C, D, or E receptor(s)?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

1. Impacted receptor units

- a. Total number of impacted receptor units:

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

- c. Is the percentage 50 or greater?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

Reasonableness

1. Community Desires Related to the Barrier

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

☐ Yes ☐ No

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

- a. Area (SF) of the proposed noise wall

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

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

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

☐ Yes ☐ No

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

a. Does the noise wall reduce design year exterior_noise levels by at least 7 dB(A) for at least one benefited receptor?

☐ Yes ☐ No

b. Does the noise wall provide an insertion loss of at least 7 dB(A) for more receptors than required under 3a.while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

c. Does the noise wall provide insertion losses of greater than 7 dB(A) while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

d. Does the noise wall reduce future exterior levels to the low-60-decibel range (60-63) for Category B and C receptors and the upper-60 dB(A) range (65-68) for Category E receptors?

☐ Yes ☐ No

e. Does the noise wall reduce design year noise levels back to existing levels?

☐ Yes ☐ No

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

a. Does noise wall reduce design year interior_noise levels by at least 7 dB(A) for the facility’s analysis point?

☐ Yes ☐ No

b. While conforming to the MaxSF/BR criteria and justified by a “point of diminishing returns’ evaluation, does the noise wall provide an interior insertion loss above the 7 dB(A) minimum

☐ Yes ☐ No

Decision

Is the Noise Wall WARRANTED? ☐ Yes ☐ No

Is the Noise Wall FEASIBLE? ☐ Yes ☐ No

Is the Noise Wall REASONABLE? ☐ Yes ☐ No

Additional Reasons for Decision:

Responsible/Qualified Individuals Making the Above Decisions

PennDOT, Engineering District Environmental Manager

Date: _____

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

Date: _____

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

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

General

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

Warranted

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

☐ Yes ☐ No
2. Criteria requiring consideration of noise abatement (note N/A if category is not impacted or present or analysis not required). A “yes” answer to any of the following three questions requires the consideration of noise abatement.
 - a. With the proposed project, are design year noise levels predicted to approach or exceed the NAC level(s) in Table 1?

☐ Yes ☐ No
 - b. With the proposed project, is there predicted to be a substantial design year noise level increase of 10 dB(A) or more at Activity Category A, B, C, D, or E receptor(s)?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

1. Impacted receptor units

- a. Total number of impacted receptor units:

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

- c. Is the percentage 50 or greater?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

Reasonableness

1. Community Desires Related to the Barrier

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

☐ Yes ☐ No

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

- a. Area (SF) of the proposed noise wall

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

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

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

☐ Yes ☐ No

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

a. Does the noise wall reduce design year exterior_noise levels by at least 7 dB(A) for at least one benefited receptor?

☐ Yes ☐ No

b. Does the noise wall provide an insertion loss of at least 7 dB(A) for more receptors than required under 3a.while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

c. Does the noise wall provide insertion losses of greater than 7 dB(A) while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

d. Does the noise wall reduce future exterior levels to the low-60-decibel range (60-63) for Category B and C receptors and the upper-60 dB(A) range (65-68) for Category E receptors?

☐ Yes ☐ No

e. Does the noise wall reduce design year noise levels back to existing levels?

☐ Yes ☐ No

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

a. Does noise wall reduce design year interior_noise levels by at least 7 dB(A) for the facility’s analysis point?

☐ Yes ☐ No

b. While conforming to the MaxSF/BR criteria and justified by a “point of diminishing returns’ evaluation, does the noise wall provide an interior insertion loss above the 7 dB(A) minimum

☐ Yes ☐ No

Decision

Is the Noise Wall WARRANTED? ☐ Yes ☐ No

Is the Noise Wall FEASIBLE? ☐ Yes ☐ No

Is the Noise Wall REASONABLE? ☐ Yes ☐ No

Additional Reasons for Decision:

Responsible/Qualified Individuals Making the Above Decisions

PennDOT, Engineering District Environmental Manager

Date: _____

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

Date: _____

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

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

General

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

Warranted

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

☐ Yes ☐ No
2. Criteria requiring consideration of noise abatement (note N/A if category is not impacted or present or analysis not required). A “yes” answer to any of the following three questions requires the consideration of noise abatement.
 - a. With the proposed project, are design year noise levels predicted to approach or exceed the NAC level(s) in Table 1?

☐ Yes ☐ No
 - b. With the proposed project, is there predicted to be a substantial design year noise level increase of 10 dB(A) or more at Activity Category A, B, C, D, or E receptor(s)?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

1. Impacted receptor units

- a. Total number of impacted receptor units:

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

- c. Is the percentage 50 or greater?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

Reasonableness

1. Community Desires Related to the Barrier

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

☐ Yes ☐ No

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

- a. Area (SF) of the proposed noise wall

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

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

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

☐ Yes ☐ No

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

a. Does the noise wall reduce design year exterior_noise levels by at least 7 dB(A) for at least one benefited receptor?

☐ Yes ☐ No

b. Does the noise wall provide an insertion loss of at least 7 dB(A) for more receptors than required under 3a.while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

c. Does the noise wall provide insertion losses of greater than 7 dB(A) while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

d. Does the noise wall reduce future exterior levels to the low-60-decibel range (60-63) for Category B and C receptors and the upper-60 dB(A) range (65-68) for Category E receptors?

☐ Yes ☐ No

e. Does the noise wall reduce design year noise levels back to existing levels?

☐ Yes ☐ No

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

a. Does noise wall reduce design year interior_noise levels by at least 7 dB(A) for the facility’s analysis point?

☐ Yes ☐ No

b. While conforming to the MaxSF/BR criteria and justified by a “point of diminishing returns’ evaluation, does the noise wall provide an interior insertion loss above the 7 dB(A) minimum

☐ Yes ☐ No

Decision

Is the Noise Wall WARRANTED? ☐ Yes ☐ No

Is the Noise Wall FEASIBLE? ☐ Yes ☐ No

Is the Noise Wall REASONABLE? ☐ Yes ☐ No

Additional Reasons for Decision:

Responsible/Qualified Individuals Making the Above Decisions

PennDOT, Engineering District Environmental Manager

Date:_____

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

Date:_____

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

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

General

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

Warranted

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

☐ Yes ☐ No
2. Criteria requiring consideration of noise abatement (note N/A if category is not impacted or present or analysis not required). A “yes” answer to any of the following three questions requires the consideration of noise abatement.
 - a. With the proposed project, are design year noise levels predicted to approach or exceed the NAC level(s) in Table 1?

☐ Yes ☐ No
 - b. With the proposed project, is there predicted to be a substantial design year noise level increase of 10 dB(A) or more at Activity Category A, B, C, D, or E receptor(s)?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

1. Impacted receptor units

- a. Total number of impacted receptor units:

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

- c. Is the percentage 50 or greater?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

Reasonableness

1. Community Desires Related to the Barrier

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

☐ Yes ☐ No

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

- a. Area (SF) of the proposed noise wall

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

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

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

☐ Yes ☐ No

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

a. Does the noise wall reduce design year exterior_noise levels by at least 7 dB(A) for at least one benefited receptor?

☐ Yes ☐ No

b. Does the noise wall provide an insertion loss of at least 7 dB(A) for more receptors than required under 3a.while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

c. Does the noise wall provide insertion losses of greater than 7 dB(A) while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

d. Does the noise wall reduce future exterior levels to the low-60-decibel range (60-63) for Category B and C receptors and the upper-60 dB(A) range (65-68) for Category E receptors?

☐ Yes ☐ No

e. Does the noise wall reduce design year noise levels back to existing levels?

☐ Yes ☐ No

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

a. Does noise wall reduce design year interior_noise levels by at least 7 dB(A) for the facility’s analysis point?

☐ Yes ☐ No

b. While conforming to the MaxSF/BR criteria and justified by a “point of diminishing returns’ evaluation, does the noise wall provide an interior insertion loss above the 7 dB(A) minimum

☐ Yes ☐ No

Decision

Is the Noise Wall WARRANTED? ☐ Yes ☐ No

Is the Noise Wall FEASIBLE? ☐ Yes ☐ No

Is the Noise Wall REASONABLE? ☐ Yes ☐ No

Additional Reasons for Decision:

Responsible/Qualified Individuals Making the Above Decisions

PennDOT, Engineering District Environmental Manager

Date: _____

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

Date: _____

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

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

General

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

Warranted

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

☐ Yes ☐ No
2. Criteria requiring consideration of noise abatement (note N/A if category is not impacted or present or analysis not required). A “yes” answer to any of the following three questions requires the consideration of noise abatement.
 - a. With the proposed project, are design year noise levels predicted to approach or exceed the NAC level(s) in Table 1?

☐ Yes ☐ No
 - b. With the proposed project, is there predicted to be a substantial design year noise level increase of 10 dB(A) or more at Activity Category A, B, C, D, or E receptor(s)?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

1. Impacted receptor units

- a. Total number of impacted receptor units:

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

- c. Is the percentage 50 or greater?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

Reasonableness

1. Community Desires Related to the Barrier

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

☐ Yes ☐ No

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

- a. Area (SF) of the proposed noise wall

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

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

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

☐ Yes ☐ No

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

a. Does the noise wall reduce design year exterior_noise levels by at least 7 dB(A) for at least one benefited receptor?

☐ Yes ☐ No

b. Does the noise wall provide an insertion loss of at least 7 dB(A) for more receptors than required under 3a.while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

c. Does the noise wall provide insertion losses of greater than 7 dB(A) while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

d. Does the noise wall reduce future exterior levels to the low-60-decibel range (60-63) for Category B and C receptors and the upper-60 dB(A) range (65-68) for Category E receptors?

☐ Yes ☐ No

e. Does the noise wall reduce design year noise levels back to existing levels?

☐ Yes ☐ No

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

a. Does noise wall reduce design year interior_noise levels by at least 7 dB(A) for the facility’s analysis point?

☐ Yes ☐ No

b. While conforming to the MaxSF/BR criteria and justified by a “point of diminishing returns’ evaluation, does the noise wall provide an interior insertion loss above the 7 dB(A) minimum

☐ Yes ☐ No

Decision

Is the Noise Wall WARRANTED? ☐ Yes ☐ No

Is the Noise Wall FEASIBLE? ☐ Yes ☐ No

Is the Noise Wall REASONABLE? ☐ Yes ☐ No

Additional Reasons for Decision:

Responsible/Qualified Individuals Making the Above Decisions

PennDOT, Engineering District Environmental Manager

Date: _____

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

Date: _____

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

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

General

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

Warranted

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

☐ Yes ☐ No
2. Criteria requiring consideration of noise abatement (note N/A if category is not impacted or present or analysis not required). A “yes” answer to any of the following three questions requires the consideration of noise abatement.
 - a. With the proposed project, are design year noise levels predicted to approach or exceed the NAC level(s) in Table 1?

☐ Yes ☐ No
 - b. With the proposed project, is there predicted to be a substantial design year noise level increase of 10 dB(A) or more at Activity Category A, B, C, D, or E receptor(s)?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

1. Impacted receptor units

- a. Total number of impacted receptor units:

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

- c. Is the percentage 50 or greater?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

Reasonableness

1. Community Desires Related to the Barrier

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

☐ Yes ☐ No

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

- a. Area (SF) of the proposed noise wall

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

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

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

☐ Yes ☐ No

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

a. Does the noise wall reduce design year exterior_noise levels by at least 7 dB(A) for at least one benefited receptor?

☐ Yes ☐ No

b. Does the noise wall provide an insertion loss of at least 7 dB(A) for more receptors than required under 3a.while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

c. Does the noise wall provide insertion losses of greater than 7 dB(A) while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

d. Does the noise wall reduce future exterior levels to the low-60-decibel range (60-63) for Category B and C receptors and the upper-60 dB(A) range (65-68) for Category E receptors?

☐ Yes ☐ No

e. Does the noise wall reduce design year noise levels back to existing levels?

☐ Yes ☐ No

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

a. Does noise wall reduce design year interior_noise levels by at least 7 dB(A) for the facility’s analysis point?

☐ Yes ☐ No

b. While conforming to the MaxSF/BR criteria and justified by a “point of diminishing returns’ evaluation, does the noise wall provide an interior insertion loss above the 7 dB(A) minimum

☐ Yes ☐ No

Decision

Is the Noise Wall WARRANTED? ☐ Yes ☐ No

Is the Noise Wall FEASIBLE? ☐ Yes ☐ No

Is the Noise Wall REASONABLE? ☐ Yes ☐ No

Additional Reasons for Decision:

Responsible/Qualified Individuals Making the Above Decisions

PennDOT, Engineering District Environmental Manager

Date: _____

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

Date: _____

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

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

General

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

Warranted

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

☐ Yes ☐ No
2. Criteria requiring consideration of noise abatement (note N/A if category is not impacted or present or analysis not required). A “yes” answer to any of the following three questions requires the consideration of noise abatement.
 - a. With the proposed project, are design year noise levels predicted to approach or exceed the NAC level(s) in Table 1?

☐ Yes ☐ No
 - b. With the proposed project, is there predicted to be a substantial design year noise level increase of 10 dB(A) or more at Activity Category A, B, C, D, or E receptor(s)?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

1. Impacted receptor units

- a. Total number of impacted receptor units:

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

- c. Is the percentage 50 or greater?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

Reasonableness

1. Community Desires Related to the Barrier

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

☐ Yes ☐ No

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

- a. Area (SF) of the proposed noise wall

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

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

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

☐ Yes ☐ No

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

a. Does the noise wall reduce design year exterior_noise levels by at least 7 dB(A) for at least one benefited receptor?

☐ Yes ☐ No

b. Does the noise wall provide an insertion loss of at least 7 dB(A) for more receptors than required under 3a.while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

c. Does the noise wall provide insertion losses of greater than 7 dB(A) while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

d. Does the noise wall reduce future exterior levels to the low-60-decibel range (60-63) for Category B and C receptors and the upper-60 dB(A) range (65-68) for Category E receptors?

☐ Yes ☐ No

e. Does the noise wall reduce design year noise levels back to existing levels?

☐ Yes ☐ No

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

a. Does noise wall reduce design year interior_noise levels by at least 7 dB(A) for the facility’s analysis point?

☐ Yes ☐ No

b. While conforming to the MaxSF/BR criteria and justified by a “point of diminishing returns’ evaluation, does the noise wall provide an interior insertion loss above the 7 dB(A) minimum

☐ Yes ☐ No

Decision

Is the Noise Wall WARRANTED? ☐ Yes ☐ No

Is the Noise Wall FEASIBLE? ☐ Yes ☐ No

Is the Noise Wall REASONABLE? ☐ Yes ☐ No

Additional Reasons for Decision:

Responsible/Qualified Individuals Making the Above Decisions

PennDOT, Engineering District Environmental Manager

Date: _____

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

Date: _____

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

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

General

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

Warranted

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

☐ Yes ☐ No
2. Criteria requiring consideration of noise abatement (note N/A if category is not impacted or present or analysis not required). A “yes” answer to any of the following three questions requires the consideration of noise abatement.
 - a. With the proposed project, are design year noise levels predicted to approach or exceed the NAC level(s) in Table 1?

☐ Yes ☐ No
 - b. With the proposed project, is there predicted to be a substantial design year noise level increase of 10 dB(A) or more at Activity Category A, B, C, D, or E receptor(s)?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

1. Impacted receptor units

- a. Total number of impacted receptor units:

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

- c. Is the percentage 50 or greater?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

Reasonableness

1. Community Desires Related to the Barrier

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

☐ Yes ☐ No

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

- a. Area (SF) of the proposed noise wall

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

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

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

☐ Yes ☐ No

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

a. Does the noise wall reduce design year exterior_noise levels by at least 7 dB(A) for at least one benefited receptor?

☐ Yes ☐ No

b. Does the noise wall provide an insertion loss of at least 7 dB(A) for more receptors than required under 3a.while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

c. Does the noise wall provide insertion losses of greater than 7 dB(A) while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

d. Does the noise wall reduce future exterior levels to the low-60-decibel range (60-63) for Category B and C receptors and the upper-60 dB(A) range (65-68) for Category E receptors?

☐ Yes ☐ No

e. Does the noise wall reduce design year noise levels back to existing levels?

☐ Yes ☐ No

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

a. Does noise wall reduce design year interior_noise levels by at least 7 dB(A) for the facility’s analysis point?

☐ Yes ☐ No

b. While conforming to the MaxSF/BR criteria and justified by a “point of diminishing returns’ evaluation, does the noise wall provide an interior insertion loss above the 7 dB(A) minimum

☐ Yes ☐ No

Decision

Is the Noise Wall WARRANTED? ☐ Yes ☐ No

Is the Noise Wall FEASIBLE? ☐ Yes ☐ No

Is the Noise Wall REASONABLE? ☐ Yes ☐ No

Additional Reasons for Decision:

Responsible/Qualified Individuals Making the Above Decisions

PennDOT, Engineering District Environmental Manager

Date: _____

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

Date: _____

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

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

General

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

Warranted

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

☐ Yes ☐ No
2. Criteria requiring consideration of noise abatement (note N/A if category is not impacted or present or analysis not required). A “yes” answer to any of the following three questions requires the consideration of noise abatement.
 - a. With the proposed project, are design year noise levels predicted to approach or exceed the NAC level(s) in Table 1?

☐ Yes ☐ No
 - b. With the proposed project, is there predicted to be a substantial design year noise level increase of 10 dB(A) or more at Activity Category A, B, C, D, or E receptor(s)?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

1. Impacted receptor units

- a. Total number of impacted receptor units:

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

- c. Is the percentage 50 or greater?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

Reasonableness

1. Community Desires Related to the Barrier

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

☐ Yes ☐ No

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

- a. Area (SF) of the proposed noise wall

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

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

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

☐ Yes ☐ No

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

a. Does the noise wall reduce design year exterior_noise levels by at least 7 dB(A) for at least one benefited receptor?

☐ Yes ☐ No

b. Does the noise wall provide an insertion loss of at least 7 dB(A) for more receptors than required under 3a.while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

c. Does the noise wall provide insertion losses of greater than 7 dB(A) while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

d. Does the noise wall reduce future exterior levels to the low-60-decibel range (60-63) for Category B and C receptors and the upper-60 dB(A) range (65-68) for Category E receptors?

☐ Yes ☐ No

e. Does the noise wall reduce design year noise levels back to existing levels?

☐ Yes ☐ No

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

a. Does noise wall reduce design year interior_noise levels by at least 7 dB(A) for the facility’s analysis point?

☐ Yes ☐ No

b. While conforming to the MaxSF/BR criteria and justified by a “point of diminishing returns’ evaluation, does the noise wall provide an interior insertion loss above the 7 dB(A) minimum

☐ Yes ☐ No

Decision

Is the Noise Wall WARRANTED? ☐ Yes ☐ No

Is the Noise Wall FEASIBLE? ☐ Yes ☐ No

Is the Noise Wall REASONABLE? ☐ Yes ☐ No

Additional Reasons for Decision:

Responsible/Qualified Individuals Making the Above Decisions

PennDOT, Engineering District Environmental Manager

Date: _____

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

Date: _____

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

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

General

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

Warranted

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

☐ Yes ☐ No
2. Criteria requiring consideration of noise abatement (note N/A if category is not impacted or present or analysis not required). A “yes” answer to any of the following three questions requires the consideration of noise abatement.
 - a. With the proposed project, are design year noise levels predicted to approach or exceed the NAC level(s) in Table 1?

☐ Yes ☐ No
 - b. With the proposed project, is there predicted to be a substantial design year noise level increase of 10 dB(A) or more at Activity Category A, B, C, D, or E receptor(s)?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

1. Impacted receptor units

- a. Total number of impacted receptor units:

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

- c. Is the percentage 50 or greater?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

Reasonableness

1. Community Desires Related to the Barrier

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

☐ Yes ☐ No

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

- a. Area (SF) of the proposed noise wall

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

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

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

☐ Yes ☐ No

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

a. Does the noise wall reduce design year exterior_noise levels by at least 7 dB(A) for at least one benefited receptor?

☐ Yes ☐ No

b. Does the noise wall provide an insertion loss of at least 7 dB(A) for more receptors than required under 3a.while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

c. Does the noise wall provide insertion losses of greater than 7 dB(A) while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

d. Does the noise wall reduce future exterior levels to the low-60-decibel range (60-63) for Category B and C receptors and the upper-60 dB(A) range (65-68) for Category E receptors?

☐ Yes ☐ No

e. Does the noise wall reduce design year noise levels back to existing levels?

☐ Yes ☐ No

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

a. Does noise wall reduce design year interior_noise levels by at least 7 dB(A) for the facility’s analysis point?

☐ Yes ☐ No

b. While conforming to the MaxSF/BR criteria and justified by a “point of diminishing returns’ evaluation, does the noise wall provide an interior insertion loss above the 7 dB(A) minimum

☐ Yes ☐ No

Decision

Is the Noise Wall WARRANTED? ☐ Yes ☐ No

Is the Noise Wall FEASIBLE? ☐ Yes ☐ No

Is the Noise Wall REASONABLE? ☐ Yes ☐ No

Additional Reasons for Decision:

Responsible/Qualified Individuals Making the Above Decisions

PennDOT, Engineering District Environmental Manager

Date: _____

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

Date: _____

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

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

General

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

Warranted

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

☐ Yes ☐ No
2. Criteria requiring consideration of noise abatement (note N/A if category is not impacted or present or analysis not required). A “yes” answer to any of the following three questions requires the consideration of noise abatement.
 - a. With the proposed project, are design year noise levels predicted to approach or exceed the NAC level(s) in Table 1?

☐ Yes ☐ No
 - b. With the proposed project, is there predicted to be a substantial design year noise level increase of 10 dB(A) or more at Activity Category A, B, C, D, or E receptor(s)?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

1. Impacted receptor units

- a. Total number of impacted receptor units:

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

- c. Is the percentage 50 or greater?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

Reasonableness

1. Community Desires Related to the Barrier

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

☐ Yes ☐ No

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

- a. Area (SF) of the proposed noise wall

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

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

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

☐ Yes ☐ No

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

a. Does the noise wall reduce design year exterior_noise levels by at least 7 dB(A) for at least one benefited receptor?

☐ Yes ☐ No

b. Does the noise wall provide an insertion loss of at least 7 dB(A) for more receptors than required under 3a.while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

c. Does the noise wall provide insertion losses of greater than 7 dB(A) while still conforming to the MaxSF/BR value of 2,000 and a “point of diminishing returns” evaluation?

☐ Yes ☐ No

d. Does the noise wall reduce future exterior levels to the low-60-decibel range (60-63) for Category B and C receptors and the upper-60 dB(A) range (65-68) for Category E receptors?

☐ Yes ☐ No

e. Does the noise wall reduce design year noise levels back to existing levels?

☐ Yes ☐ No

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

a. Does noise wall reduce design year interior_noise levels by at least 7 dB(A) for the facility’s analysis point?

☐ Yes ☐ No

b. While conforming to the MaxSF/BR criteria and justified by a “point of diminishing returns’ evaluation, does the noise wall provide an interior insertion loss above the 7 dB(A) minimum

☐ Yes ☐ No

Decision

Is the Noise Wall WARRANTED? ☐ Yes ☐ No

Is the Noise Wall FEASIBLE? ☐ Yes ☐ No

Is the Noise Wall REASONABLE? ☐ Yes ☐ No

Additional Reasons for Decision:

Responsible/Qualified Individuals Making the Above Decisions

PennDOT, Engineering District Environmental Manager

Date: _____

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

Date: _____