



I-80 NORTH FORK BRIDGES REPLACEMENT PROJECT HIGHWAY TRAFFIC NOISE ANALYSIS PRESENTATION



November 14, 2023

How to MAXIMIZE today:

- **WEBINAR:** This is in Webinar format, only presenters will have speaking capabilities.
- **QUESTION:** Please direct your questions to the Q&A option. We will look to incorporate these throughout the presentation and during the Q&A portion at the end.
- **RECORDING:** We will be recording today's session.
- **PUBLIC SERVICE ANNOUNCEMENT:** If you are attending these meetings and currently have ongoing PennDOT real estate negotiations, those inquiries are considered private and will not be discussed in a Public Meeting setting. Should you wish to address any specific real estate questions, please speak with the team following this meeting to be connected to a representative.

Agenda

- Welcome and Introductions
- Major Bridge P3 Program Update
- I-80 North Fork Project Overview
- Analysis and Noise Sensitive Area Study
- Next Steps and Q&A

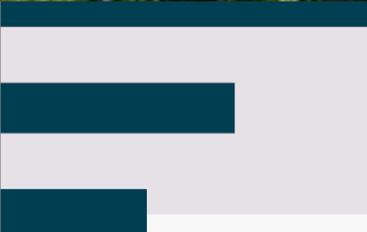


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Welcome & Introduction

Meet the I-80 North Fork Bridges Team





**Major Bridge P3 Program Update
PennDOT**

PENNDOT MAJOR BRIDGE P3



KEY DATES

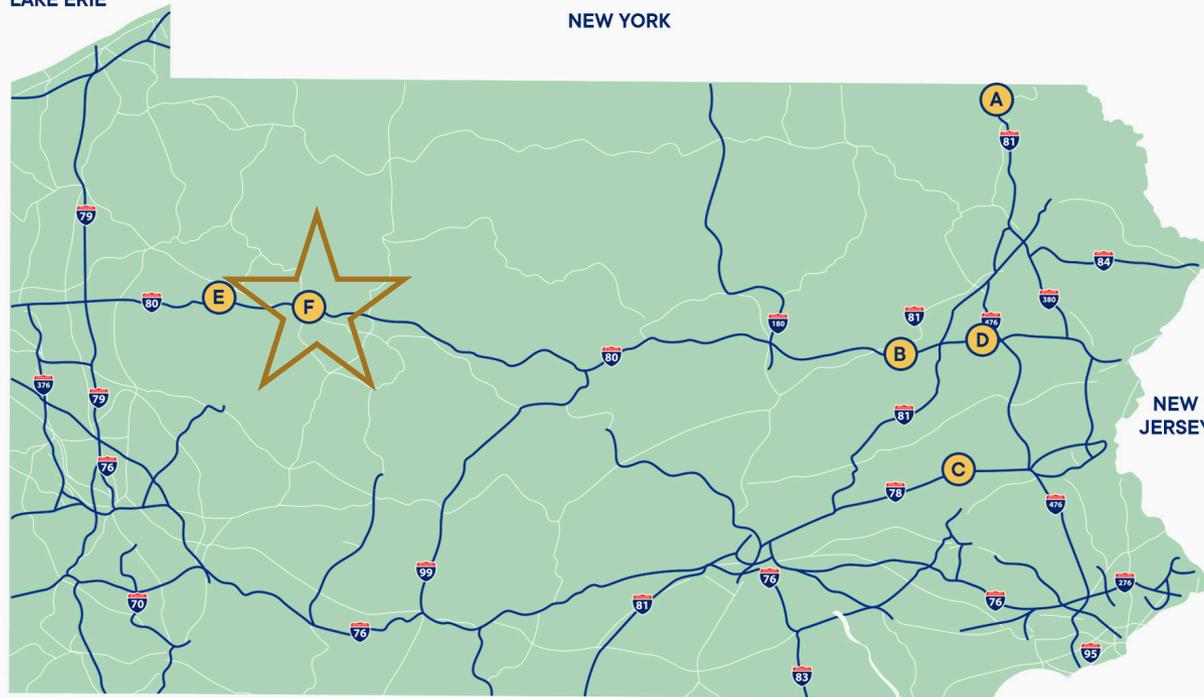
- November 2020- The Major Bridge P3 (MBP3) was approved by the Pennsylvania P3 Board, for the replacement or rehabilitation of nine (9) major interstate bridges throughout a progressive P3 delivery model.
- Since that time, Act 84 of 2022 amended the P3 law to eliminate mandatory tolling of existing free lanes. The act also preserved the department's ability to continue the MBP3 and move forward with the Predevelopment Agreement (PDA) with Bridging Pennsylvania Partners (BPP).
- August 2022- PennDOT chose to move the bridge projects in the MBP3 forward without tolling and pay for the project(s) using existing funds to make annual payments to the development entity over 35 years.
- December 2022- Financial Close is achieved on Package I, including six (6) bridges
- Spring 2024- Ahead of the start of construction and throughout construction, BPC and Major Bridge Subcontractor, Fay will be providing construction updates through public meetings and additional public outreach in coordination with local municipalities.
- May 2024- Anticipated Construction Start for I-80 North Fork Bridge



MAJOR BRIDGE P3 PACKAGE I

LAKE ERIE

NEW YORK



NEW
JERSEY

WEST VIRGINIA

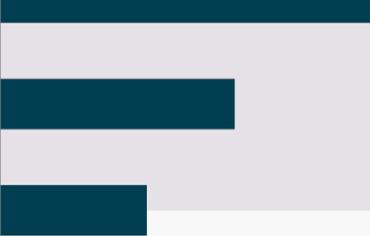
VIRGINIA

MARYLAND

BRIDGE PROJECTS

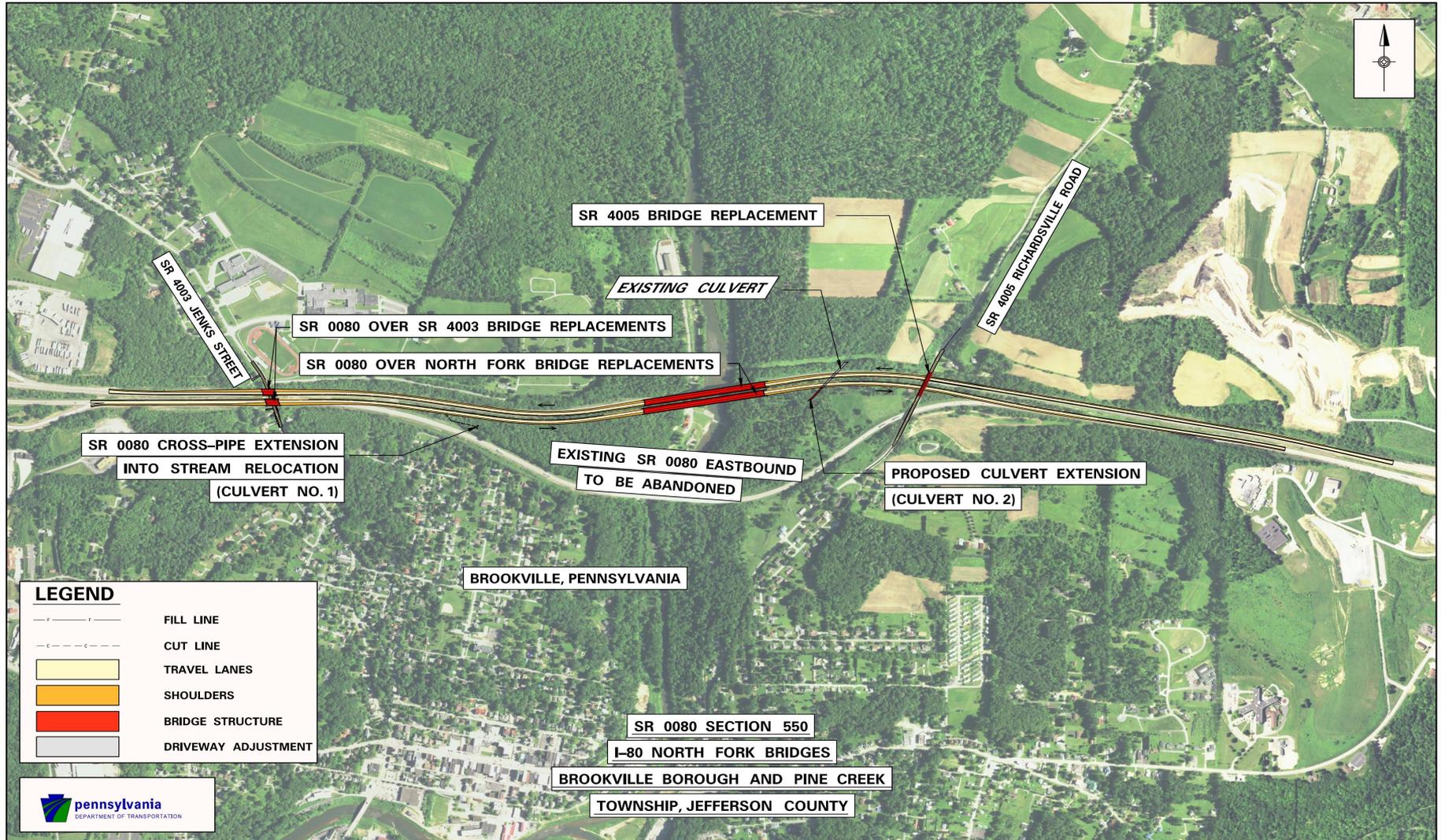
- A** I-81 SUSQUEHANNA
- B** I-80 NESCOPECK
- C** I-78 LENHARTSVILLE
- D** I-80 LEHIGH
- E** I-80 CANOE CREEK
- F** I-80 NORTH FORK

 PROJECTS MOVING FORWARD UNDER THE MBP3



I-80 North Fork Project Overview
Michael Baker

Proposed Realignment



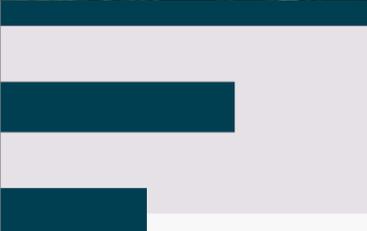
Introduction: Review of the Final Sound Barrier Locations

Presentation of the Final Sound Barrier Locations to Update the Public Voting Based on the following project modifications:

- The eastbound soundwall's western terminus was moved to the edge of the pavement from the hillside.
- Provide access in the eastbound soundwall to a stormwater detention basin.
- Shortening of westbound soundwall's eastern terminus for cost purposes while still maintaining a sound level reduction to impacted sites.
- Moving ~100' of the westbound soundwall's western terminus along the edge of pavement for a smoother transition toward the right-of-way.
- Connection adjustments to both Jenks Road (SR 4003) overpasses mounted on the moment slabs, including 90-degree single panel turns



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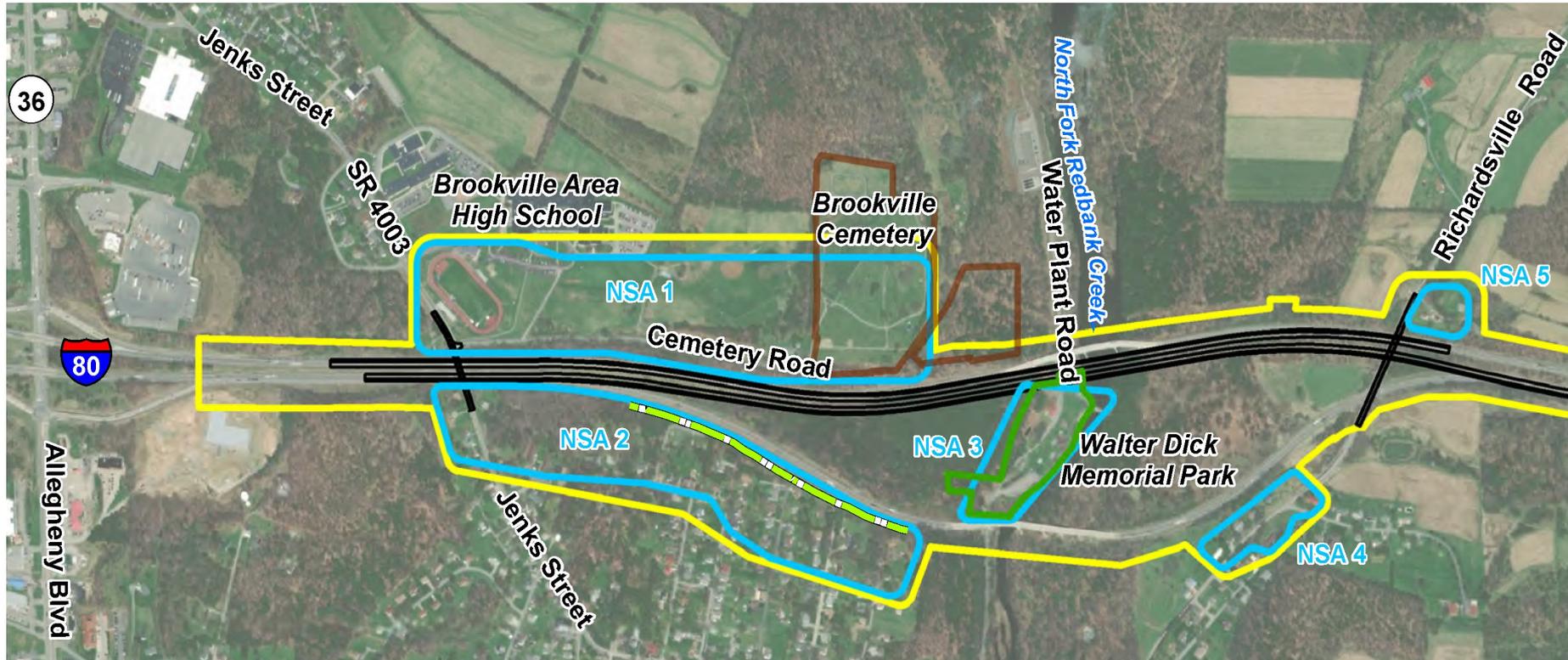


Analysis & Noise Sensitive Area Study
Michael Baker

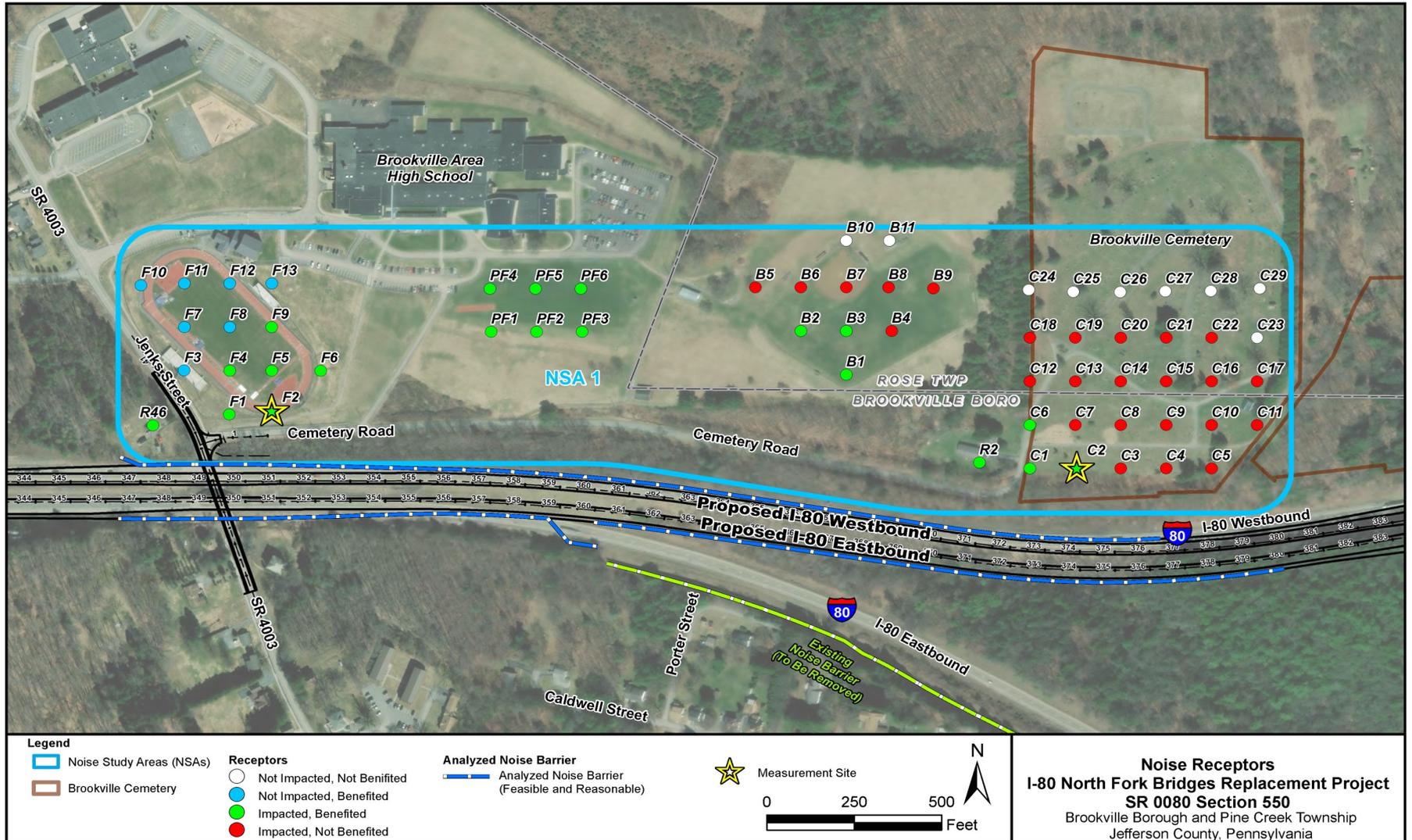
Analysis Process

- Every noise-sensitive analysis receptor was modeled to include all residences, schools, parks, etc.
- Representative noise measurements were taken at sites within each Noise Study Area (NSA).
- The FHWA-approved Traffic Noise Model (TNM) was used to predict the worst-case sound levels for the existing and future conditions at all noise-sensitive receptors.
- Impacts were identified where the modeled Design Year Build Alternative sound level equaled or exceeded 66 decibels (dBA) or if the proposed project caused an increase of 10 or more dBA over the existing condition.
- (dBA) stands for decibels (dB) on the A-weighted (human) perception scale

Highway Traffic Noise Study Areas (NSAs)



Predicted Impacts – NSA 1

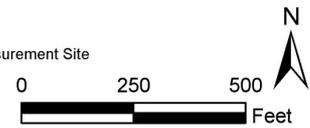


Predicted Impacts – NSA 2



- Legend**
- NSA Area
 - Brookville Cemetery
- Receptors**
- Not Impacted, Not Benefited
 - Not Impacted, Benefited
 - Impacted, Benefited
 - Impacted, Not Benefited

- Preliminary Noise Barrier**
- Preliminary Analyzed Noise Barrier (Feasible and Reasonable)
 - ★ Measurement Site



Noise Receptors
I-80 North Fork Bridges Replacement Project
SR 0080 Section 550
 Brookville Borough and Pine Creek Township
 Jefferson County, Pennsylvania

Highway Traffic Noise – Evaluation Analysis

PennDOT’s 3-step Analysis:

- **Warranted?** Do the design year build alternative noise levels **“approach or exceed”** (1 dB(A) below) criteria-as shown on the right, or is there a **“substantial increase”** (10 dB(A)+ over existing levels)?
- **Feasible?** Constructible and ≥ 5 dB(A) reduction for at least 50% of **“impacted”** receptors behind noise wall with at least one receptor getting a ≥ 7 dB(A) reduction.
- **Reasonable?** Cost-effective at less than 2,000 square feet / **“benefited receptor”** (≥ 5 dB reduction whether impacted or not)

What is an acceptable level of highway noise?

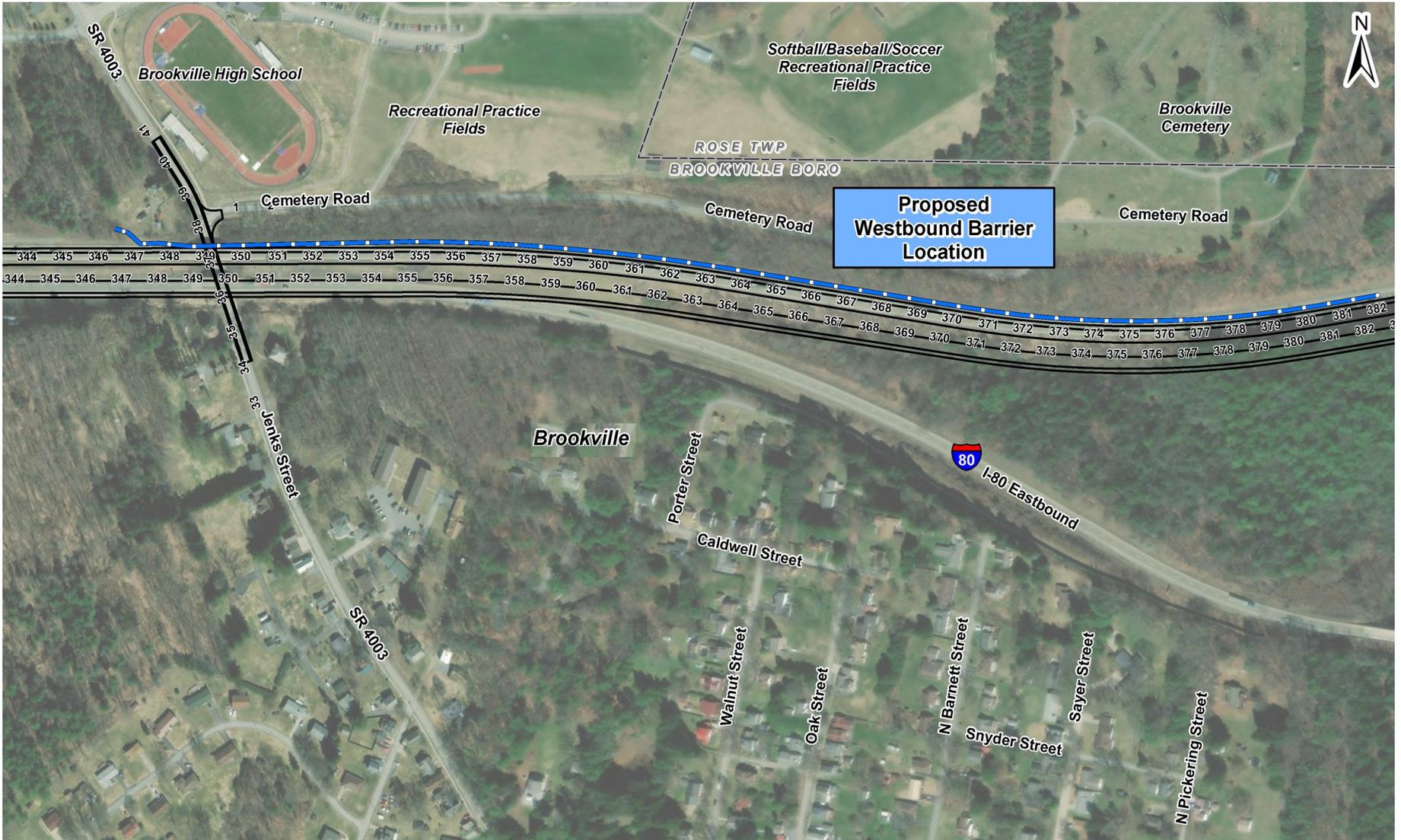
NOISE ABATEMENT CRITERIA
HOURLY A-WEIGHTED SOUND LEVEL IN DECIBELS (dBA)

ACTIVITY CATEGORY	Leq(h) ¹	DESCRIPTION OF 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 ²	67(Exterior)	Residential
C ²	67 (Exterior)	Active sport areas, amphitheatres, 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 ²	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A, B, or C.
F	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, ship-yards, utilities (water resources, water treatment, electrical), and warehousing.
G	--	Undeveloped lands that are not permitted.

¹ Impact thresholds should not be used as design standards for noise abatement purposes.
² Includes undeveloped lands permitted for this activity category
 Source: 23 CFR Part 772

The results determined that sound barriers were feasible and reasonable in two (2) locations:

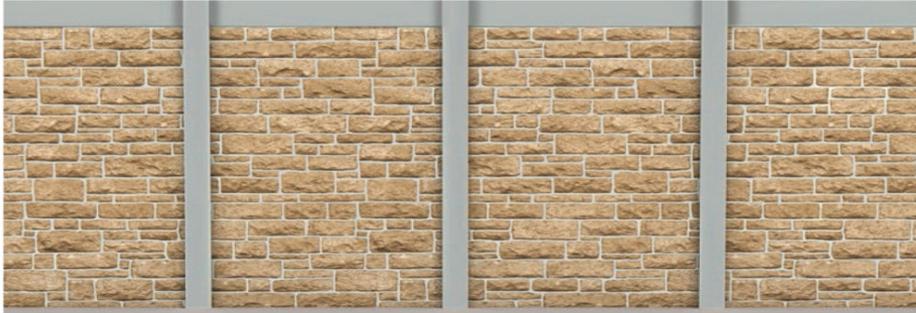
Proposed I-80 Westbound Barrier



Sound Wall Considerations

- The OWNERS and RENTERS of BENEFITED sites will vote on approving the sound barrier's color and texture.
- Benefited voters will vote on the walls for their respective sides.
 - Voters south of I-80 will vote on the Eastbound Barrier
 - Voters north of I-80 will vote on the Westbound Barrier
- Reasonable efforts were made to contact people for voting purposes.
- $\geq 50\%$ of the tallied votes must be in favor of the sound barrier in order to move forward into the Final Design phase.
- The barrier's color and texture will be tallied from the received "Yes" votes.
- PennDOT will determine the highway-side texture and color.
- Final results interpretation will be made by PennDOT, considering all feedback gained during the public involvement process.

Barrier Style and Color Options



- **Ashlar Stone (Brown)**



- **Ashlar Stone (Gray)**



- **Ashlar Stone (Tan)**

Barrier Style and Color Options



- **Grape Stake (Brown)**



- **Grape Stake (Gray)**



- **Grape Stake (Tan)**

Barrier Style and Color Options



- **Irregular Stone (Brown)**



- **Irregular Stone (Gray)**



- **Irregular Stone (Tan)**

**I-80 (SR 0080) North Fork Bridges Project
SR 0080 Eastbound (EB) Sound Barrier Wall Construction & Style Consideration
Public Input Survey Questionnaire**

Please provide us with the following information to ensure your vote will be applied to the correct barrier:

Property Street Address: _____

Receptor Number: _____

Name: _____

Phone (optional): _____ Email (optional): _____

Are you the current property owner? Yes No

If not an owner, are you a renter? Other property representative? Renter Other

Are you in favor of the sound barrier wall for your community? Yes No

If yes, which **BARRIER STYLE** do you prefer? (Please choose only one.)

Ashlar Stone Irregular Stone Grape Stake

If yes, which **COLOR** do you prefer? (Please choose only one.)

Gray Brown Tan

Comments (optional): _____

Signed: _____, Date: _____

Please return the questionnaire using the postage-paid envelope by 11/13/2023 to:

Kelly Barber, P.E. – Chief
PA Department of Transportation – Bureau of Construction and Materials
Engineering Automation and Services Division
81 Lab Lane
Harrisburg, PA 17110

OR: You may scan and send via email to PennDOT at: KELUCKENBI@pa.gov.

Thank you for your input in this roadway design process. Your cooperation is deeply appreciated.

Highway Traffic
Noise – Sample
Sound Wall Ballot

Highway Traffic Noise – Next Steps

PennDOT sincerely requests that you follow-up by voting through either the provided pre-paid postage envelopes or scanning your preferences to

MBP3ProjectTeam@pa.gov

by

December 1st, 2023



THANK YOU FOR ATTENDING!



November 14, 2023