

Delaware River Joint Toll Bridge Commission

Scudder Falls Bridge Replacement Project Final Design

**Township of Lower Makefield, Bucks County, Pennsylvania
Township of Ewing, Mercer County, New Jersey**

Addendum: Final Design Noise Analysis Study Noise Sensitive Area (NSA) 11 Post March 15, 2016 Open House Response to Comments

April, 2016

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1. OVERALL PROJECT BACKGROUND

The Delaware River Joint Toll Bridge Commission (DRJTBC) proposes improvements to the Scudder Falls Bridge over the Delaware River and 4.4 miles of the adjoining Interstate 95 (I-95) mainline to alleviate traffic congestion and improve operational and safety conditions. The I-95/Scudder Falls Bridge, which was constructed in 1959, carries I-95 over the Delaware River, between Lower Makefield Township in Bucks County, Pennsylvania, and Ewing Township, a suburb of Trenton, in Mercer County, New Jersey as shown in Figure 1.

Figure 1: Aerial View of the Existing Scudder Falls Bridge Looking West
(LOWER SIDE IS NEW JERSEY, UPPER SIDE IS PENNSYLVANIA)



2. NSA 11 REPORT INTRODUCTION

This report provides information in response to the public comments received at the March 15, 2016 Open House/Public Hearing from residents in Noise Sensitive Area (NSA) 11, located in Ewing, New Jersey. This NSA is bordered to the northwest by I-95, by SR 29 and the Delaware River to the southwest and the New Jersey State Police property to the northeast. The land uses in this NSA include single family residences, the Villa Victoria Academy, the Delaware and Raritan Canal and the southwestern part of the New Jersey State Police complex. The overall project limits are shown in Figure 2. The NSA's for the entire project are shown in Figure 3.

This report also describes how this NSA was analyzed for sound level impacts and the process of determining possible abatement.

3. NOISE IMPACT CRITERIA

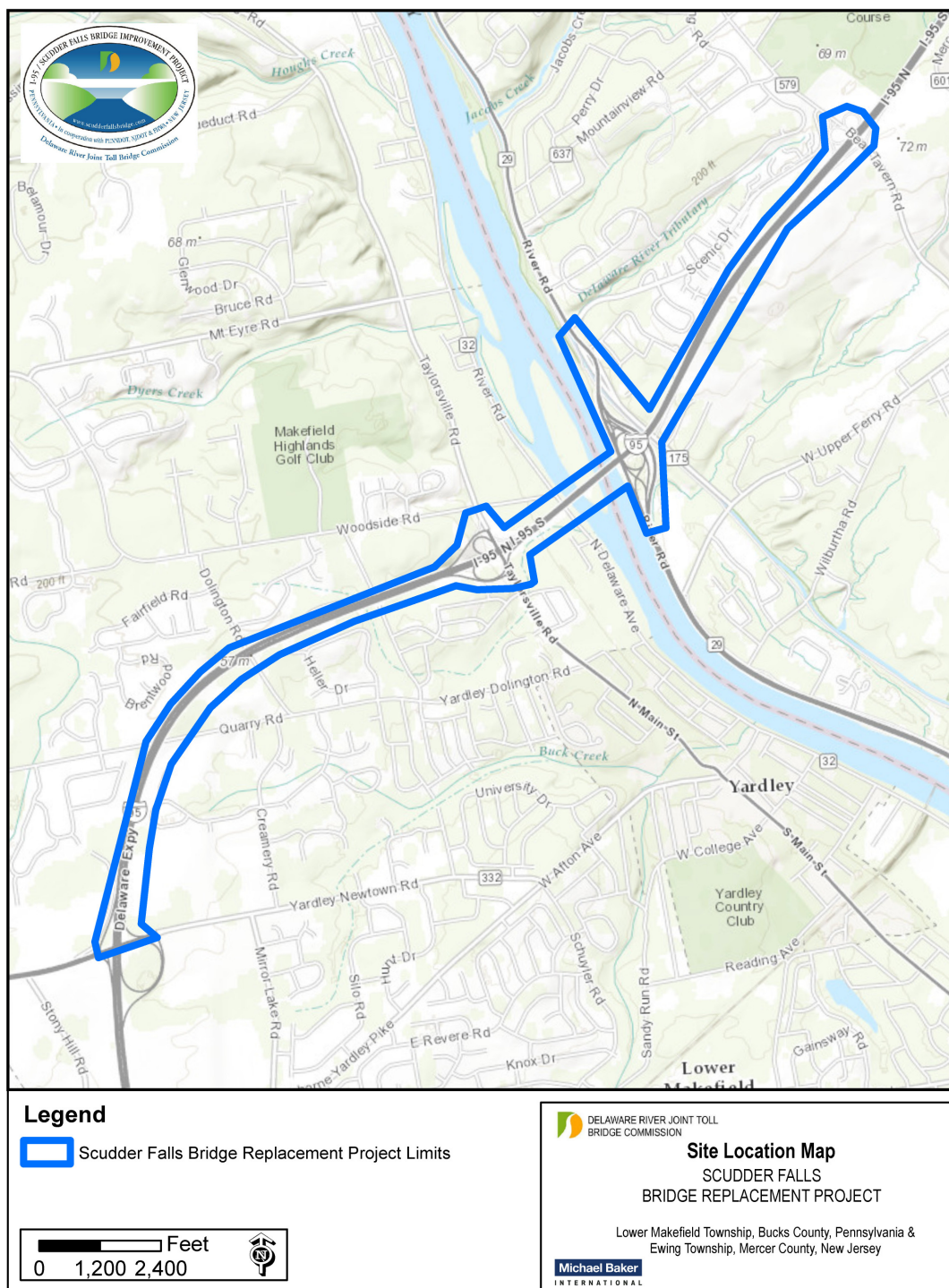
The Federal Highway Administration (FHWA) and New Jersey Department of Transportation (NJDOT) identifies a noise impact as being 66 decibels (dBA) or greater for a residential property over the average worst-hour sound level of the day. The 66 dBA represents the sound level averaged over the worst-hour. It does not represent a maximum single event pass-by sound level.

When traffic volumes and noise levels for a site are predicted out to the future design year (in this case 2030) to meet or exceed this criteria, then abatement must be analyzed to determine if it is feasible and reasonable. Feasibility is primarily determined if a minimum noise reduction can be achieved and reasonableness is primarily determined if it is cost effective by benefiting as many impacted noise sensitive sites as possible.

Delaware River Joint Toll Bridge Commission
Scudder Falls Bridge Replacement Project

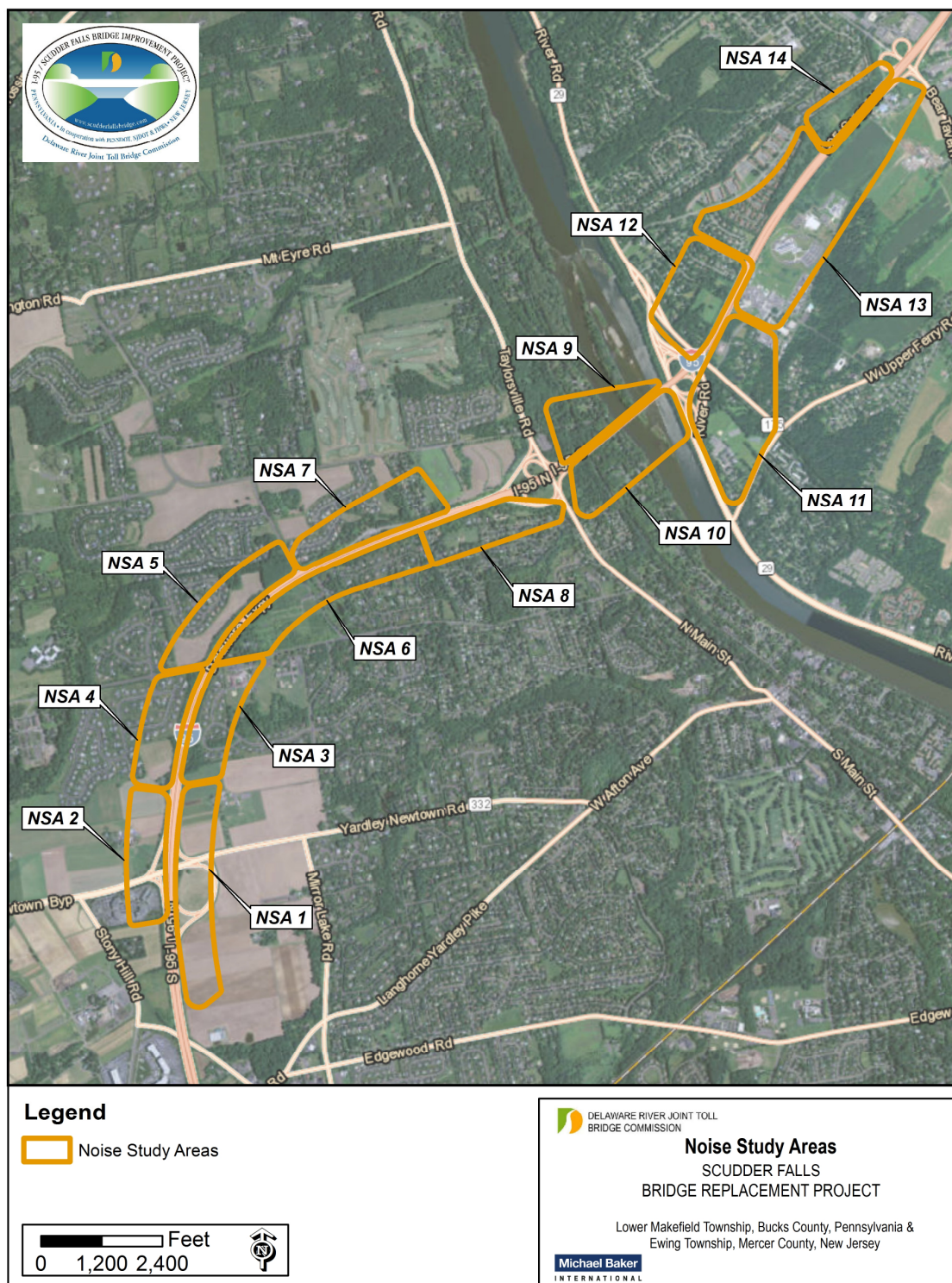
Final Design Noise Analysis Study, NSA 11, Post March 15, 2016 Open House

Figure 2: Scudder Falls Bridge Replacement Project Limits



Final Design Noise Analysis Study, NSA 11, Post March 15, 2016 Open House

Figure 3: Project Area NSAs



4. NOISE MEASUREMENTS AND MODELING

Noise measurements were performed to validate the model results to determine impacts. Please note that impacts are not determined through the measurement program, but rather through the modeling results from the future design year. Measurements were taken during the peak and/or non-peak hours (7 AM, 8 AM and 2 PM periods) at three (3) locations including a single family house on Upper River Road approximately 450 feet south of the State Police Drive intersection, on the Canal path just south of the State Police Drive/Upper River Road intersection and at the Villa Victoria Academy, respectively.

The sound levels recorded during these measurements were 55, 62 and 59 dBA, respectively. These recorded sound levels were also inclusive of abutting Upper River Road traffic noise in addition to I-95 traffic noise.

A long term 24-hour monitor was also located near the State Police property right-of-way line with I-95 in the vicinity of the single family residences on State Police Drive. This measurement site was located inside the I-95 northbound right of way fence, immediately adjacent to I-95, less than 30 feet from the edge of the nearest travel lane.

The sound levels recorded during the 24-hour measurement at 30 feet from the edge of the travel lane ranged from 73-82 dBA, respectively, with the 7 AM and 8 AM hourly periods recording the loudest sound levels. Please note that this is within 30 feet of I-95. Using the same traffic that was counted during the worst hour, the modeled sound level at the nearest residence in NSA 11 was predicted to be 62 dBA during the same time period.

As a result of the noise measurement program and the design year modeling, there was one predicted impact (on the Canal path, located close to I-95). Noise abatement was analyzed for feasibility (minimum dBA reduction) and reasonableness (cost effectiveness). Though the minimum reduction was achieved, the cost was more than 18 times the criteria limit. As a result, noise abatement was not recommended to be carried into final design.

5. CONCLUSIONS

As a result of the measurements and modeling analysis performed, noise abatement was not carried forward into final design. Nevertheless, a new noise analysis modeling run was performed as a result of the public involvement process and comments from the local residents.

The results of the analysis indicated that the nearest homes on State Police Drive are still predicted to be below the 66 dBA impact criteria (low 60's dBA). This will be due to the minimal noise increases resulting from the modest traffic volume increases predicted in future years.

As a result of these measurements and modeling, no additional noise abatement features are recommended.