## I-64 HAMPTON ROADS BRIDGE TUNNEL



# **NOISE ANALYSIS TECHNICAL REPORT**







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## I-64 Hampton Roads Bridge Tunnel Project Cities of Hampton and Norfolk, Virginia

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Prepared for:

## **Virginia Department of Transportation**

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## **EXECUTIVE SUMMARY**

The Federal Highway Administration (FHWA) regulations for assessment and mitigation of highway traffic noise in the planning and design of Federally aided highway projects are contained in Title 23 of the United States Code of Federal Regulations Part 772 (23 CFR 772). These regulations state that a "Type I" traffic noise impact analysis is required if through travel lanes or interchange ramps are added. This report details the noise impact analysis for the I-64 Hampton Roads Bridge Tunnel (HRBT) Improvement Project in Hampton and Norfolk, Virginia. This noise analysis was conducted in accordance with FHWA and Virginia Department of Transportation (VDOT) noise assessment regulations and guidelines.

This study details the noise impact assessment for the existing (2011) conditions and for the design-year (2040) No-Build, Build-8, and Build-10 Alternatives. The Build-8 Managed Alternative has not been modeled and computed explicitly; it was determined that the Build-8 Managed improvements would generate noise levels in the surrounding community between those generated by the Build-8 and the Build-10 Alternatives.

The table below summarizes the projected number of dwelling units and recreational receptors potentially exposed to noise impact by the project alternatives. The existing conditions and No-Build Alternative impact assessment includes the effects of the many existing noise barriers along I-64 in the study area. The Retained Build Alternatives impact assessment does not include the effects of any noise abatement, although it is VDOT policy to replace existing noise barriers with barriers of at least equivalent protection.

#### **Noise Impact Summary**

	Projected Number of Impacted Receptors by Alternative						
Land Use	2011 Existing	2040 No-Build	2040 Build-8	2040 Build-10			
Residential	572	681	837	818			
Recreational	105	136	182	199			
Interior	0	0	0	0			
Commercial	0	0	0	0			
Total	677	817	1019	1017			

Noise abatement by alternative measures to noise barriers was not found to be feasible. Noise barriers were evaluated for all of the impacted residential and recreational areas along I-64, including all areas where replacement barriers are required. In areas without existing barriers, noise abatement must be determined to be warranted, feasible and reasonable. This study made a preliminary determination of barrier feasibility and reasonableness for the Build-8 and Build-10 Alternatives. Up to approximately 15 miles of replacement and warranted barriers would be potentially feasible and reasonable under the Build-8 Alternative, which would benefit up to about 980 impacted receptors, and 1925 receptors in total. This length is also approximately 15 miles with the Build-10 Alternative; those barriers would benefit up to about 975 impacted receptors and a total of 1830 receptors. Total barrier construction costs for these barriers are estimated to be in the range of \$40 million to \$50 million.

A preliminary noise evaluation was performed and a more detailed review would be completed during final design. As such, noise barriers that are found to be feasible and reasonable during the preliminary noise analysis may also not be found to be feasible and reasonable during the final

design noise analysis. Conversely, noise barriers that were not considered feasible and reasonable may meet the established criteria and be recommended for construction.

The need for an analysis of reflected sound and the potential use of sound absorbing materials would be evaluated during the noise barrier analysis conducted during the final design phase of the project.

Construction activity may cause intermittent fluctuations in noise levels. During the construction phase of the project, all reasonable measures would be taken to minimize noise impact from these activities.

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#### 1. INTRODUCTION

#### 1.1 Overview

The Federal Highway Administration (FHWA) regulations for assessment and mitigation of highway traffic noise in the planning and design of Federally aided highway projects are contained in Title 23 of the United States Code of Federal Regulations Part 772 (23 CFR 772). These regulations state that a "Type I" traffic noise impact analysis is required through travel lanes or interchange ramps are added. This report details the noise impact analysis for the I-64 Hampton Roads Bridge Tunnel (HRBT) Improvement Project in Hampton and Norfolk, Virginia. This noise analysis was conducted in accordance with FHWA and Virginia Department of Transportation noise assessment regulations and guidelines.

This study details the noise impact assessment for the existing (2011) conditions and for the design-year (2040) No-Build, Build-8, and Build-10 Alternatives. The Build-8 Managed Alternative has not been modeled and computed explicitly; it was determined that the Build-8 Managed improvements would generate noise levels in the surrounding community between those generated by the Build-8 and the Build-10 Alternatives.

This report presents a description of noise terminology, the applicable standards and criteria, an evaluation of the existing noise conditions, a description of the computations of existing and future noise levels, a projection of future noise impact, and an evaluation of potential noise abatement measures. Appendix A presents the list of preparers, Appendix B tabulates the traffic data used in the noise modeling, Appendix C presents predicted noise levels, Appendix D presents all noise measurement data, Appendix E provides a response from VDOT project management on alternative noise abatement measures, Appendix F presents VDOT's Warranted, Feasible and Reasonable barrier worksheets, and Appendix G provides the Traffic Noise Model data.

#### 1.2 Summary of Proposed Roadway Improvements

In brief summary, the proposed roadway improvements involve the widening of I-64 between I-664 in Hampton and I-564 in Norfolk from 4 lanes and 6 lanes to 8 lanes under the Build-8 Alternative and to 10 lanes for the Build-10 Alternative. All interchanges would have some measure of ramp reconfiguration and additions to accommodate the modifications to the mainline roadways. **Figure 2**, presented in Section 3, shows lines in black that provide limited detail of the proposed Build-10 roadway improvements.

The Virginia Department of Transportation (VDOT), in cooperation with the Federal Highway Administration (FHWA), is considering a range of transportation alternatives along the I-64 Hampton Roads Bridge-Tunnel (HRBT) corridor. As part of this process, VDOT and FHWA are studying the environmental consequences of the No-Build Alternative and three Retained Build Alternatives: the Build-8 Alternative, Build-8 Managed Alternative, and the Build-10 Alternative. The study area is a one-mile wide corridor along I-64 from the interchange with I-664 in the City of Hampton to the interchange with I-564 interchange in the City of Norfolk, a distance of approximately 12 miles, including the 3.5-mile-long HRBT.

Details regarding all alternatives, including footprints, are included in the *Alternatives Technical Report*. Each of the three Retained Build Alternatives retained for detailed evaluation in the Draft EIS represent a set of improvements that form a stand-alone solution to the identified needs of the study.

- The **Build-8 Alternative** would provide four continuous mainline lanes in each direction of I-64 throughout the study area. Through the Hampton section of the study area, this alternative would require one lane of widening in each direction of I-64. Through the Norfolk section, this alternative would require the addition of two lanes in each direction of I-64. The eastbound and westbound directions would be separated by a concrete traffic barrier. The total pavement width of the Build-8 Alternative mainline would be approximately 150 feet. Through the Willoughby Spit portion of the Norfolk section, widening would occur on the south side of the existing roadway only. The eastbound approach bridge would be modified to carry two westbound lanes, and a new four-lane bridge would be constructed to the west of the existing bridges to carry the eastbound lanes. A new four-lane tunnel would be constructed approximately 200 feet west of the existing tunnel.
- The **Build-8 Managed Alternative** mainline, bridges, and tunnels would be similar to the Build-8 Alternative, providing four continuous mainline lanes in each direction of I-64 with a new bridge structure and tunnel. However, some or all of the travel lanes would be managed using tolls and/or vehicle occupancy restrictions. Additionally, the typical section would also include an approximate four-foot buffer separation between the general purpose lanes and any managed lanes, with the total width of the mainline pavement approximately 160 feet. The managed lanes would tie to the high occupancy vehicle (HOV) lanes on I-64 on both ends of the study area.
- The **Build-10 Alternative** would provide five continuous mainline lanes in each direction of I-64 throughout the study area, with the eastbound and westbound directions separated by a concrete traffic barrier. Throughout the Hampton section of the study, this alternative would require widening both directions of I-64 by two lanes. In the Norfolk section, this alternative would require widening both directions of I-64 by three lanes. The total width of the mainline pavement would be approximately 170 feet. The approach bridges and tunnel would be similar to the Build-8 Alternative; however, the new bridge-tunnel would include one westbound lane and five eastbound lanes.

In addition, the No-Build Alternative has been retained to serve as a baseline for the comparison of alternatives and their potential effects. Under the No-Build Alternative, I-64 would remain predominantly three lanes per direction within the Hampton section of the study area, with auxiliary lanes (acceleration and deceleration lanes) at the interchanges. The 3.5-mile HRBT would continue with current operations. Within the Norfolk section of the study area, I-64 would remain two lanes per direction, including the I-64 bridges across Willoughby Bay. VDOT would continue maintenance and repairs of I-64 and the HRBT as needed. There would be no rehabilitation or reconstruction of the HRBT.

## 1.3 Study Participants

Rummel, Klepper & Kahl, LLP (RK&K) was retained by VDOT to evaluate the projected environmental impacts associated with the I-64 HRBT Improvement Project under design by RK&K. Harris Miller & Hanson Inc. (HMMH) was retained by RK&K to perform the noise analysis for this study. Appendix A provides a list of preparers.

#### 2. NOISE TERMINOLOGY AND CRITERIA

## 2.1 Regulations and Guidelines

The noise impact of the I-64 HRBT Improvement Project was assessed in accordance with FHWA and VDOT noise assessment regulations and guidelines. The FHWA regulations are set forth in 23 CFR Part 772.<sup>1</sup> On July 13, 2010, FHWA published revised noise regulations which became effective on July 13, 2011. FHWA has also published a guidance document to support the new regulations.<sup>2</sup> VDOT prepared revisions to its noise policy in accordance with FHWA's requirements and revised policy. VDOT's revised policy received approval from FHWA and was updated on September 16, 2011.<sup>3</sup>

#### 2.2 Noise Abatement Criteria

To assess the degree of impact of highway traffic and noise on human activity, the FHWA established Noise Abatement Criteria (NAC) for different categories of land use (see **Table 1**). The NAC are given in terms of the hourly, A-weighted, equivalent sound level in decibels (dBA). The A-weighted sound level is a single number measure of sound intensity with weighted frequency characteristics that corresponds to human subjective response to noise. Most environmental noise (and the A-weighted sound level) fluctuates from moment to moment, and it is common practice to characterize the fluctuating level by a single number called the equivalent sound level ( $L_{\rm eq}$ ). The  $L_{\rm eq}$  is the value or level of a steady, non-fluctuating sound that represents the same sound energy as the actual time-varying sound evaluated over the same time period. For traffic noise assessment,  $L_{\rm eq}$  is typically evaluated over a one-hour period, and may be denoted as  $L_{\rm eq}(h)$ .

In this study, residential (Category B), recreational (Category C), indoor institutional (Category D), and commercial areas (Category E) were evaluated for noise impact. For Categories B and C, noise impact is assumed to occur when predicted exterior noise levels, due to the Project, approach or exceed 67 dBA in terms of  $L_{\rm eq}(h)$  during the loudest hour of the day. For Category D (noise-sensitive institutional) land uses such as schools and church buildings, noise impact would occur where predicted interior noise levels due to the Project approach or exceed 52 dBA,  $L_{\rm eq}(h)$  during the loudest hour of the day. For Category E land use, noise impact is assumed to occur where predicted exterior noise levels due to the Project approach or exceed 72  $L_{\rm eq}(h)$  during the loudest hour of the day. VDOT defines the word "approach" in "approach or exceed" as within 1 decibel. Therefore, the threshold for noise impact for Category B is where exterior noise levels are within 1 decibel of 67 dBA,  $L_{\rm eq}(h)$ , or 66 dBA. The threshold for noise impact for Category E is where exterior noise levels are within 1 decibel of 72 dBA,  $L_{\rm eq}(h)$ , or 71 dBA. Noise impact also would occur wherever Project noise causes a substantial increase over existing noise levels. VDOT defines a substantial increase as an increase of 10 decibels or more above existing noise levels.

<sup>&</sup>lt;sup>1</sup> 23 CFR Part 772, as amended 75 FR 39820, July 13, 2010; Effective date July 13, 2011 – "Procedures for Abatement of Highway Traffic Noise and Construction Noise", Federal Highway Administration, U.S. Department of Transportation. http://www.fhwa.dot.gov/environment/noise/regulations\_and\_guidance/

<sup>&</sup>lt;sup>2</sup> "Highway Traffic Noise: Analysis and Abatement Guidance", Federal Highway Administration, U.S. DOT, June 2010, revised January 2011. http://www.fhwa.dot.gov/environment/noise/regulations\_and\_guidance/analysis and abatement guidance/revguidance.pdf

<sup>&</sup>lt;sup>3</sup> "Highway Traffic Noise Impact Analysis Guidance Manual (Version 2)", Virginia Department of Transportation, updated September 16, 2011. http://www.virginiadot.org/projects/pr-noise-walls-about.asp\_

**Table 1. FHWA Noise Abatement Criteria** 

Activity Category	L <sub>eq</sub> (h) <sup>1</sup>	Description of Activity Category
А	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 <sup>2</sup>	67 (Exterior)	Residential
C <sup>2</sup>	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 (without building permits)

<sup>&</sup>lt;sup>1</sup> Hourly Equivalent A-weighted Sound Level (dBA)

Source: 23 CFR Part 772.

FHWA and VDOT policy also requires evaluations of undeveloped lands if they are considered "permitted", that is, when there is a definite commitment to develop land with an approved specific design of land use activities as evidenced by the issuance of at least one building permit. There is limited undeveloped land in this heavily-developed corridor. Potential noise impacts in permitted undeveloped land will be assessed as the information becomes available, and will be summarized in the Final Environmental Impact Statement.

When the predicted design-year Retained Build Alternative noise levels approach or exceed the NAC during the loudest hour of the day or cause a substantial increase in existing noise, consideration of traffic noise reduction measures is necessary. If it is found that such mitigation measures would cause adverse social, economic, or environmental effects that outweigh the benefits received, they may be dismissed from consideration. For this study, noise levels throughout the study area were determined for existing (2011) conditions and for the design-year (2040) No-Build, Build-8, and Build-10 Alternatives. The Build-8 Managed Alternative has not been modeled and computed explicitly. Because the Build-8 Managed Alternative is intermediate in total roadway width footprint and traffic volumes, it was determined that the Build-8 Managed

<sup>&</sup>lt;sup>2</sup> Includes undeveloped lands permitted for this activity category

improvements would generate noise levels in the surrounding community between those generated by the Build-8 and the Build-10 Alternatives. Therefore, since the Build-8 and Build-10 Alternatives would bracket the range of potential project noise impacts, it was considered unnecessary to model explicitly the Build-8 Managed Alternative.

All noise-sensitive land uses potentially affected by the project are near roads for which traffic data was developed as part of the environmental study. Therefore, all noise levels were computed from the appropriate loudest-hour traffic data. The computation methods and computed noise levels appear in the following section.

## 3. EXISTING NOISE CONDITIONS

A noise monitoring program was conducted along the I-64 Hampton Roads Bridge Tunnel (HRBT) corridor, consistent with FHWA and VDOT recommended procedures to document existing ambient noise levels in noise-sensitive locations in the study corridor, and to provide a means for validation of the noise prediction model. Both short-term (less than one hour) and long-term (24-hour) noise measurements were conducted in the study area. The measurement locations are shown in **Figures 1-1 and 1-2**; short-term site numbers are denoted with the prefix "ST", and long-term sites with the prefix "LT". Measurement sites were located near single-family homes, multi-family homes, and recreation areas as noted. The measurement locations and noise levels are shown in **Tables 2 and 3**.

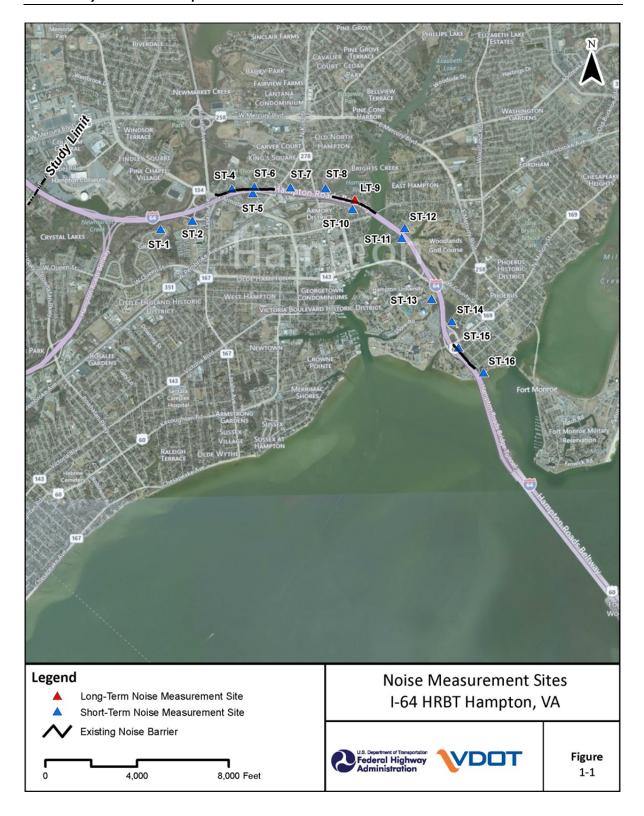
All noise measurements were conducted with RK&K-owned Rion NL06, Metrosonics dB 3080 and dB 308 Type 2 sound level meters. The noise measurement instrumentation was field calibrated regularly during the measurement program, as well as having calibrations traceable to the National Institute of Standards and Technology.

## 3.1 Short-Term Noise Monitoring

Short-term noise monitoring is not a process to determine design-year noise impacts or barrier locations. Short-term noise monitoring provides a level of consistency between what is present in real-world situations and how that is represented in the computer noise model. Short-term monitoring does not need to occur within every Common Noise Environment to validate the computer noise model.

Short-term noise monitoring of nominally 20 minutes duration was conducted at a total of 28 sites over the course of 4 days – October 18, 25 and November 8 - 9, 2011. The short-term monitoring locations are shown in **Figures 1-1 and 1-2**, and numbered with the prefix "ST". The short-term data collection procedure involved measurements of individual one-minute  $L_{\rm eq}$ s so that the minutes including noise events unrelated to traffic noise (such as aircraft operations) could later be separated or excluded, and the total measurement period  $L_{\rm eq}$  was determined both with and without the minutes that included these events. By comparing the two totals, the significance of non-traffic events to the overall noise level can be determined for the measurement period. Simultaneous traffic counts were performed during the short-term noise measurements, to provide a basis for the model validation effort.

The measured short-term noise levels appear in **Table 2** as equivalent sound levels ( $L_{eq}$ ), along with site address and measurement date, start time and duration. The measured "Total"  $L_{eq}$ s range from a low of 55 dBA at 48 Red Robin Turn in Hampton (Site ST-1) to a high of 74 dBA at 9279 Coleman Ave. in Norfolk (Site ST-25). These measurement results also show that the measured Total  $L_{eq}$ s and the "Traffic-only"  $L_{eq}$ s are same at most sites, which is an indication that traffic was the dominant source of noise at most locations in spite of the presence of occasional aircraft. Aircraft from





**Table 2. Short-Term Noise Measurement Results** 

Site	Address	Date	Time Start	Duration (min.)	Total L <sub>eq</sub> , dBA	Traffic Only L <sub>eq</sub> , dBA
ST-1	48 Red Robin Turn Hampton	10/18/2011	15:25	20	55	55
ST-2	Swing Set @ Horizon Plaza Apts Hampton	10/18/2011	15:25	20	60	60
ST-4	1303 Patrick Court Hampton	10/18/2011	17:10	20	62	62
ST-5	1105 Thomas Street Hampton	10/18/2011	17:10	20	69	69
ST-6	808 Langley Avenue Hampton	10/18/2011	17:10	11	66	66
ST-7	931 Mason Street Hampton	10/18/2011	17:10	20	69	66
ST-8	100 Spanish Trail (Pool Deck) Hampton	10/25/2011	11:50	20	61	61
ST-10	326 Poplar Avenue Hampton	10/25/2011	11:50	20	67	67
ST-11	101 Brough Lane Hampton	10/25/2011	11:50	20	67	67
ST-12	72 S Boxwood Street Hampton	10/25/2011	11:50	20	62	62
ST-13	Hampton University Baseball Stadium Hampton	10/25/2011	14:50	20	62	62
ST-14	114 Cameron Street Hampton	10/25/2011	14:50	20	63	63
ST-15	9 Home Place Hampton	10/25/2011	14:50	20	63	63
ST-16	Small Beach East Side of I-64 Hampton	10/25/2011	14:50	20	63	63
ST-17	1560 Chela Avenue Norfolk	11/8/2011	10:05	20	63	63
ST-18	1353 Bayville Court Norfolk	11/8/2011	10:05	20	66	65
ST-19	Int. of 14th View and Little Bay Avenue, Norfolk	11/8/2011	10:05	20	65	65
ST-20	Pier/Beach Willoughby Boat Club, Norfolk	11/8/2011	13:45	20	61	61
ST-21	Captain's Quarters Waterfront Park, Norfolk	11/8/2011	13:45	20	59	59

**Table 2. Short-Term Noise Measurement Results** 

Site	Address	Date	Time Start	Duration (min.)	Total L <sub>eq</sub> , dBA	Traffic Only L <sub>eq</sub> , dBA
ST-22	9605 6th View Street Norfolk	11/8/2011	13:45	20	61	58
ST-23	8667 O'Conner Crescent Norfolk	11/8/2011	15:25	20	69	64
ST-24	381 Cherry Street Norfolk	11/8/2011	15:25	20	65	62
ST-25	9279 Coleman Avenue Norfolk	11/8/2011	15:25	20	74	73
ST-26	9246 Hickory Street Norfolk	11/8/2011	15:25	20	66	61
ST-28	15 Burrage Road Norfolk	11/9/2011	10:00	20	59	59
ST-29	145 Burrage Road Norfolk	11/9/2011	11:00	20	69	1
ST-30	8587 Granby Street Norfolk	11/9/2011	11:00	20	64	64
ST-31	Executive Manor Apartments Norfolk	11/9/2011	10:00	20	69	69

Note: Site locations shown on map in Figures 1-1 and 1-2. Detailed data presented in Appendix D

Source: HMMH, 2012

Table 3. Measured Noise Levels at Long-Term Sites

		Measurement Period Loude					lest Hours	
Site No.	Location	Begin Date	Begin Time	End Date	End Time	L <sub>eq</sub> , dBA	Starting	
LT-9	415 Colbert Avenue, Hampton	10/25/ 2011	10:15	10/26/2011	10:15	67	6:00, 10/26	
LT-27	235 Burgoyne Road, Norfolk	11/08/ 2011	12:00	11/09/2011	12:00	68	14:00, 11/08	

 $Note: \textit{Site locations shown on map in Figures 1-1} \ and \ 1-2. \ \ Detailed \ data \ presented \ in \ Appendix \ D.$ 

Source: HMMH, 2012

Chambers Field at the Norfolk Naval Air Station occasionally dominate the noise level on a momentary basis, but due to the intermittent nature of aircraft operations, aircraft noise does not necessarily affect traffic noise levels in any given hour of the day. The Navy has prepared an "AICUZ" study report on compatible land uses around the facility. <sup>4</sup> The dominant source of noise at

<sup>&</sup>lt;sup>1</sup> Duration too short for meaningful measurement.

<sup>&</sup>lt;sup>4</sup> "Air Installations Compatible Use Zones Study for Naval Station Norfolk, Chambers Field, Norfolk, Virginia", U.S. Navy, Naval Facilities Engineering Command Mid-Atlantic, Norfolk, VA, October 2009.

nearly all of the sites was traffic on I-64. At ST-23, O'Conner Crescent and local traffic on Court J also likely contributed to the overall traffic noise level. Appendix D provides details of the data acquired during the noise measurement program, including noise monitor output, site sketches, photographs, noise level data with site summary results, and traffic counts.

#### 3.2 Long-Term Noise Monitoring

In addition to the short-term monitoring, long-term monitoring of 24 hours duration was conducted at two sites in the project area to determine the daily cycle of fluctuations in noise levels, and to assist in determining the loudest hour of the day under existing conditions. The measurement site locations, monitoring period and measured  $L_{eq}$  during the loudest hour of the day are summarized in **Table 3**. Graphs of the hourly sound levels are provided in Appendix D. The long-term measurement site locations are shown in **Figures 1-1 and 1-2**, and numbered with the prefix "LT."

The long-term sites were located adjacent to the I-64 HRBT Corridor where the noise environment was dominated by traffic. At long-term Site LT-9, located at 415 Colbert Avenue in Hampton, the highest hourly  $L_{eq}$  noise level approached 67 dBA for the hour starting at 6:00 am on October 26. At long-term Site LT-27, located at 235 Burgoyne Road in Norfolk, the highest hourly  $L_{eq}$  noise level approached 68 dBA during the hour starting at 2:00 pm on November 8. However, both 12:00 pm and 3:00 pm hours at LT-27 might typically be louder since traffic was observed to be stopped for extended periods in the eastbound direction due to lane closures during both hours. Also, aircraft traffic associated with Chambers Field undoubtedly had some influence on the measured  $L_{eq}$ s at Site LT-27, since it is located near the air field. The lowest nighttime  $L_{eq}$ s were 56 to 57 dBA at each of the two sites.

#### 3.3 Predicted Existing Noise Levels

For calculation of loudest-hour noise levels throughout the study area in the TNM noise-prediction computer model, many additional receiver locations were added to the measurement sites to provide a comprehensive basis of comparison for the analysis of noise impacts from the existing and future project conditions. Using the appropriate loudest-hour traffic data, existing and future traffic noise levels were predicted for the measurement sites and the additional receiver locations. The computation methods and predicted noise levels are presented in the next section of this report.

#### 3.4 Existing Noise Barriers

There are several existing metal and concrete noise barriers along I-64 within the study area. RK&K conducted a field survey of the locations so that ground elevation and heights of all of these barriers could be included in the noise modeling of both the existing and future conditions. **Figures 1-1 and 1-2** also show the locations of all existing barriers throughout the study area.

#### 4. PREDICTED NOISE LEVELS

#### 4.1 Noise Prediction Model

All traffic noise computations for this study were conducted using the latest version of the FHWA Traffic Noise Model (FHWA TNM 2.5).<sup>5</sup> The FHWA TNM incorporates state-of-the-art sound

<sup>&</sup>lt;sup>5</sup>Anderson, G.S., C.S.Y. Lee, G.G. Fleming, and C.W. Menge, "FHWA Traffic Noise Model, Version 1.0 User's Guide". Federal Highway Administration Report No. FHWA-PD-96-009, January 1998.

emissions and sound propagation algorithms, based on well-established theory or on accepted international standards. The acoustical algorithms contained within the FHWA TNM have been validated with respect to carefully conducted noise measurement programs, and show excellent agreement in most cases for sites with and without noise barriers.

Available project engineering plans, topographic contours and building information were used to create a three-dimensional model in the TNM of the geometry of the existing and future design roadway configurations and the surrounding terrain and buildings. The noise modeling also accounted for such factors as propagation over different types of ground (acoustically soft and hard ground), elevated roadway sections, significant shielding effects from local terrain and structures, distance from the road, traffic speed, and hourly traffic volumes including percentage of medium and heavy trucks. To fully characterize existing and future noise levels at all noise-sensitive land uses in the study area, over 1700 noise prediction receivers (also called "receptors" and "sites") were added to the thirty measurement sites in the TNM model. TNM runs are available in Appendix G to this report.

#### 4.2 Noise Model Validation

A validation of the noise modeling assumptions was conducted using the traffic counted on nearby roadways simultaneous with the noise measurement at each site, as input to the noise prediction model. The traffic counts are provided in Appendix D. Computed noise levels based on the counted traffic were compared to the measured noise levels to confirm the assumptions about aspects of the TNM model, such as the acoustical shielding provided by intervening terrain and existing noise barriers. The modeling assumptions were refined, as necessary, to obtain appropriate agreement between the computed and measured values. The validated modeling assumptions at the measurement sites and for the existing geometry were then extended to the design-year alternative and applied at prediction locations where no measurements were made.

Predicted noise levels at each of the 29 measurement sites where validation was conducted using the counted traffic as input to the model were on average slightly higher by 0.1 decibels when compared to the measured noise levels, with a standard deviation of the differences of 2.0 decibels. The difference between measured and computed levels is two or more decibels at 15 of the sites, which may be due to a combination of the relatively complex geometry of the different roadways in some sections, structure-radiated noise in areas where I-64 is on elevated structure, terrain and intervening structures in the area, and variations in speed that may have occurred on the roadways. The comparison of measured versus computed sound levels at each the measurement sites is shown in **Table 4**.

#### 4.3 Traffic Data for Noise Prediction

The traffic data used in the noise analysis must produce sound levels representative of the loudest (or "worst") hour of the day, per FHWA and VDOT policy. Hour-by-hour vehicle volumes, truck percentages, and speeds were developed by Rummel, Klepper & Kahl, LLP. For the I-64 mainline segments, hourly VDOT ENTRADA data were provided for determining the loudest-hour conditions based on hourly volumes and speeds. The AM peak period traffic volumes and speeds produced the loudest-hour conditions for the existing (2011) conditions on all I-64 mainline segments. The AM peak period traffic volumes and speeds produced the loudest-hour conditions for the No-Build, Build-8, and Build-10 Alternatives on all I-64 mainline segments except the 15th View Street to 4th View Street segment for the No-Build Alternative, the West of I-664 and East of Little Creek Rd segments for the Build-8 Alternative, and the East of Little Creek Rd segment for the Build-10 Alternative. Those exceptions were found to have loudest-hour conditions during the PM peak

Table 4. Computed vs. Measured Sound Levels at Measurement Sites

Site No.	Address	Land Use	Measured L <sub>eq</sub> (dBA) (Traffic-only)	Computed L <sub>eq</sub> (dBA)	Difference
ST-1	48 Red Robin Turn, Hampton	Residential	55.2	55.6	0.4
ST-2	Swing Set @ Horizon Plaza Apts., Hampton	Recreational	59.8	62.6	2.8
ST-4	1303 Patrick Court, Hampton	Residential	62.3	59.6	-2.7
ST-5	1105 Thomas Street, Hampton	Residential	69.1	69.2	0.1
ST-6	808 Langley Avenue, Hampton	Residential	65.5	64.2	-1.3
ST-7	931 Mason Street, Hampton	Residential	66.1	68.8	2.7
ST-8	100 Spanish Trail (Pool Deck), Hampton	Recreational	61.3	62.5	1.2
LT-9	Marshall Street Cul-De-Sac, Hampton	Residential	64.4	61.8	-2.6
ST-10	326 Poplar Avenue, Hampton	Residential	67.0	65.2	-1.8
ST-11	101 Brough Lane, Hampton	Residential	66.9	67.1	0.2
ST-12	72 Boxwood Street, Hampton	Residential	66.9	64.1	-2.8
ST-13	Hampton University Baseball Stadium, Hampton	Recreational	61.5	64.2	2.7
ST-14	114 Cameron Street, Hampton	Residential	63.1	65.3	2.2
ST-15	9 Home Place, Hampton	Residential	63.3	60.5	-2.8
ST-16	Small Beach East Side of I-64, Hampton	Residential	65.1	66.0	0.9
ST-17	1560 Chela Avenue, Norfolk	Residential	62.4	65.2	2.8
ST-18	1353 Bayville Court, Norfolk	Residential	65.4	64.3	-1.1
ST-19	Int. of 14th View and Little Bay Avenue, Norfolk	Residential	64.7	66.0	1.3
ST-20	Pier/Beach Willoughby Boat Club, Norfolk	Recreational	61.3	63.0	1.7
ST-21	Captain's Quarters Waterfront Park, Norfolk	Recreational	58.2	60.2	2.0
ST-22	9605 6th View Street, Norfolk	Residential	58.3	61.0	2.7
ST-23	8667 O'Conner Crescent Norfolk	Residential	63.8	64.5	0.7
ST-24	381 Cherry Street, Norfolk	Residential	61.3	59.2	-2.1
ST-25	9279 Coleman Avenue, Norfolk	Residential	72.7	70.2	-2.5
ST-26	9246 Hickory Street, Norfolk	Residential	61.0	60.0	-1.0

Table 4. Computed vs. Measured Sound Levels at Measurement Sites

Site No.	Address	Land Use	Measured L <sub>eq</sub> (dBA) (Traffic-only)	Computed L <sub>eq</sub> (dBA)	Difference	
LT-27	235 Burgoyne Road, Norfolk	Residential	65.2	65.3	0.1	
ST-28	15 Burrage Road, Norfolk	Residential	59.2	56.8	-2.4	
ST-30	8587 Granby Street, Norfolk	Residential	63.4	66.0	2.6	
ST-31	Executive Manor Apartments, Norfolk	Residential	68.5	68.8	0.3	
Overal	Overall Average					

Source: HMMH, 2012

period. The loudest hour found for each I-64 mainline segment was associated to the adjacent ramps and local roadways to determine appropriate volumes, truck percentages, and speeds.

Appendix B provides tables of the existing and future traffic data used in the noise model for all roadways in the network.

#### 4.4 Presentation of Results

The study area includes much residential and recreational land use adjacent to project roadways. To fully characterize existing and future noise levels at all noise-sensitive land uses in the study area, approximately 1780 additional noise prediction receptors (also called "receivers" and "sites") were added in the TNM model to the measurement sites. Each of these receptors represented exterior noise-sensitive land use, including the balconies on all floors of multi-family housing. The receptors are located out to distances of approximately 500 ft from the edge of the existing and proposed project roadways and ramps. Receptors are grouped into "Common Noise Environments" (CNEs) per current guidance from FHWA and VDOT. Each of these areas has similar sources of noise and similar land uses within it. For this section of the report, the ranges of noise levels and the projected noise impact are summarized by Common Noise Environment.

Aircraft from Chambers Field at the Norfolk Naval Air Station occasionally dominate the noise levels in the greater Norfolk area on a momentary basis. However, due to the intermittent nature of aircraft operations, aircraft noise does not necessarily affect traffic noise levels in any given hour of the day. Further, a conservative and appropriate approach for identifying the benefits of traffic noise abatement measures does not include contributions from intermittent aircraft. In that way, the full traffic noise-reduction benefits of noise barriers is addressed.

All predicted noise levels were the A-weighted equivalent sound level, or L<sub>eq</sub>, in dBA. Worst-hour noise levels were predicted for the existing (2011) and the design-year (2040) No-Build, Build-8, and Build-10 Alternatives. The Build-8 Managed Alternative has not been predicted explicitly; it was determined that the Build-8 Managed improvements would be very likely to generate noise levels in the surrounding community between those generated by the Build-8 and the Build-10 Alternatives. Therefore, since the Build-8 and Build-10 Alternatives would bracket the range of potential project noise impacts, it was considered unnecessary to model explicitly the Build-8 Modified Alternative. **Table 5**, located at the end of this section, presents the range of predicted noise levels at the receptors within each of the CNEs for each of the alternatives evaluated. The

table provides a description of location and land use of each CNE. **Figure 2**, located at the end of this section, shows where each of the CNEs and receptors in the study area are located. Tables in Appendix C provide the predicted noise level at each receptor by alternative, including Activity Category and number of dwelling or recreational units per receptor.

Predicted noise levels range from 44 to 75 dBA  $L_{eq}$  (exterior) for the existing conditions and from 45 to 76 dBA  $L_{eq}$  (exterior) for the No-Build Alternative for all receivers. On average, sound levels are predicted to increase from existing to future No-Build conditions by approximately one decibel. This is due to projected increases in traffic in the area in general.

Predicted sound levels at receptors under the Retained Build Alternatives evaluated are different from the future No-Build noise levels for a variety of reasons. First, some receptors represent properties that potentially would be acquired as part of the Project. No sound levels are predicted and no noise impact is assessed for the Build-8 and Build-10 Alternatives at the properties that potentially would be acquired under those alternatives. Second, all of the existing noise barriers evaluated under the existing condition and No-Build Alternative have been assumed to be removed as part of the widening associated with both the Build-8 and Build-10 Alternatives. As a result of the barrier removals and also the potential acquisition and elimination of some buildings adjacent to the project in some areas, the existing noise shielding provided by the barriers and buildings is reduced and predicted noise levels from I-64 traffic would increase at the remaining receptors, without abatement. While VDOT policy is to replace existing noise barriers, the Retained Build Alternatives sound levels shown in Table 5 reflect the future conditions without construction of replacement barriers. The replacement barriers are addressed in the Noise Abatement Measures section, below. A third primary reason that sound levels are different under the Retained Build Alternatives relative to the No-Build Alternative is that traffic volumes would increase with the addition of through travel lanes. Finally, sound levels are predicted to decrease in some areas because new roadways are moving traffic farther from some locations, and because in some cases, the edges of the new roadways provide increased noise shielding relative to the existing roadways.

**Table 5** shows that worst-hour L<sub>eq</sub> sound levels are predicted to range from 47 dBA to 75 dBA under the Build-8 Alternative and from 48 dBA to 74 dBA for the Build-10 Alternative. The receptors evaluated for the Retained Build Alternatives are the same as those for the existing condition and No-Build Alternative, except that none of the properties that potentially would be acquired for the project are included in the noise evaluation for the Retained Build Alternatives. Within each CNE, the greatest increases in the highest predicted sound levels at receptors are generally due to reduced noise shielding associated with the removal of existing noise barriers and in some cases, removal of buildings that provide some noise shielding. For example, in CNEs 12, 25, 37, 42, 43 and 50, the removal of both existing barriers and buildings would contribute to noticeably increased sound levels at some of the adjacent properties.

At some individual receptors, where loss of shielding from existing noise barriers and buildings is significant, predicted Retained Build Alternative sound levels without abatement would be 10 dBA or more higher than the existing noise levels, resulting in noise impact due to a "substantial increase" in existing noise. It should be kept in mind, however, that VDOT is committed to replacing existing noise barriers, so substantial increases in noise due to the removal of existing walls would be substantially mitigated.

In other areas under the Retained Build Alternatives, the highest predicted sound levels at noise-sensitive receptors are expected to decrease, by as much as four decibels under the Build-8 and 10 Alternatives. The decreases in some areas, such as CNEs 26, 27 and 28 on Willoughby Spit are mostly because the roadway noise sources are being moved somewhat farther away from the

nearby homes. In other areas such as CNEs 2, 7, 28 and 39, the highest predicted sound levels at noise-sensitive sites are lower because the properties closest to the roadway that are currently exposed to the highest noise levels potentially would be acquired in connection with the project, so no Retained Build Alternative noise levels are reported for them.

**Figure 2** presents in graphical form the predicted noise level results for all of the receptors modeled in the worst-case Build-10 Alternative. Each receptor location in **Figure 2** is shown with a dot that is colored to indicate its noise impact status as well as its noise abatement benefit status associated with the predicted Build-10 Alternative noise levels. Gray dots represent receptors that potentially would be acquired under the Build-10 Alternative. The NAC is 67 dBA  $L_{eq}$  at all residential and recreational receptors, and 72 dBA at the commercial and office land uses. At sites where there are patios/balconies at multiple levels, the color of the bottom half of the dot represents the first floor patio or balcony, and the top half of the dot represents the top floor balcony of that building.

Common Noise Environment boundaries are identified in **Figure 2** for areas with noise-sensitive land use, and they are described in some detail in **Table 5**. Areas that do not have noise-sensitive land uses are not identified with CNE boundaries; such land use is Activity Category E, F, or G, that is commercial with no exterior activity areas, industrial, or undeveloped, respectively. Information on undeveloped land that may have building permits for noise-sensitive development was not available for this study, and will be assessed in the Final Environmental Impact Statement.

Bluebird Gap Farm Recreation Area in CNE 2 would experience slight increases in noise levels from the existing condition to the Retained Build Alternatives. Existing loudest-hour noise levels are predicted up to 72 dBA in some areas, Build noise levels are predicted up to 73 dBA, L<sub>eq</sub>.

CNE 3 includes residences as well as the Hampton Coliseum. The Coliseum is occasionally used as an auditorium, so is classified as Activity Category D, with an interior NAC of 52 dBA. The air-conditioned masonry facility, with a noise reduction value of 25 decibels, is predicted to have interior worst-hour noise levels of 44 dBA under the Retained Build Alternatives, so would not be impacted.

CNE 9 includes single-family residences and the Perfecting Saints Church on Owen St. near the I-64 EB on-ramp from Lasalle Ave. The church has no apparent exterior activity areas. Interior noise levels are projected to be 40 to 41 dBA under the Retained Build Alternatives, assuming an outside-to-inside noise reduction of 25 decibels for masonry construction and air conditioning.

Woodlands Golf Course (CNE 17) is currently exposed to predicted traffic noise  $L_{eq}$ s ranging from 60 to 68 dBA within about 500 feet of I-64. In the Build-10 Alternative, noise levels at these receptors are predicted to increase to 63 to 69 dBA.

In Hampton University recreational areas, including Flemmie and Kittrell Hall Benches and the Baseball Stadium in CNEs 18, 19 and 23, future Build-10 Alternative worst-hour noise levels are predicted up to 73 dBA at the closest locations to I-64.

In the Hampton National Cemetery (CNE 20), existing traffic noise levels are predicted to range from 58 to 75 dBA. In the future Retained Build Alternatives, worst-hour noise levels are predicted to range from 61 to 72 dBA. The reduction in highest predicted noise levels is due to the potential acquisition of three of the Cemetery receptors nearest I-64. The property at the southern tip of Hampton south of I-64 where Strawberry Banks Boulevard is located is the former Strawberry Banks Hotel. The property is owned by Hampton University and is not currently in use.

The recreational, residential, and historic areas associated with the Fort Monroe and Fort Wool areas (CNEs 25A and 25B) are not predicted to be impacted in any of the alternatives, due to the significant distance the sites are from I-64. All predicted noise levels are less than 60 dBA during the loudest hour.

The Willoughby Harbor Marina (CNE 26A), is a recreational area, all of which potentially would be acquired due to construction of any Retained Build Alternative. Existing sound levels are predicted to reach 68 dBA during the loudest hour. Such public marinas are considered recreation areas, since the boat owners spend significant amounts of time recreating and socializing on their boats at the marinas, in addition to taking the boats out.

The Willoughby Elementary School building in CNE 33 would not be impacted under the Build-8 or Build-10 Alternatives, with predicted interior noise levels of 38 dBA. This air-conditioned building has masonry construction and an assumed noise reduction of 25 decibels.

The Baseball field at Ocean View Elementary School in CNE 36 would not be impacted in the Retained Build Alternatives, with loudest-hour  $L_{eq}s$  up to 62 dBA at the closest locations to I-64 under the Build-10 Alternative.

CNE 39 includes residences between 1st View Street and W. Bay Avenue and the First View Baptist Church. The church potentially would be acquired to accommodate a larger interchange at Bay Avenue.

CNE 43 includes residences from W. Chester Street to E. Bayview Boulevard and the First Church of God – Anderson. The interior of this air-conditioned masonry church would not be impacted under the Build-8 or Build-10 Alternatives with predicted interior worst-hour  $L_{e\alpha}$ s of 44 dBA.

The receptors of the two baseball fields on Navy property along Patrol Road nearest to I-64 in CNEs 46 and 48 would be impacted under any Retained Build Alternatives with worst-hour noise levels up to 68 dBA. Existing noise levels reach 65 to 66 dBA at the closest receptors in CNEs 46 and 48 respectively.

In the Forest Lawn Cemetery in CNE 47, the approximately 200 feet of the cemetery closest to Granby Street and I-64 is predicted to be impacted under both the Build-8 and Build-10 Alternatives. Predicted worst-hour noise levels are up to 72 dBA at the closest receptors in the Build-10 Alternative. Granby Street traffic contributes significantly to the predicted overall noise levels in this cemetery.

CNE 49 includes residences and the Wesley United Baptist Church between W Glen Road & E Little Creek Road. Some of the closest properties, including the church potentially would be acquired for the project construction. As a result, the highest worst-hour sound levels predicted in the Retained Build Alternatives is 69 dBA, whereas the closest properties are predicted to have  $L_{eq}s$  up to 71 dBA under existing conditions.

Replacement and potential noise barriers are also shown in **Figure 2**. The details of the replacement and potential noise barriers are discussed in the noise abatement section of this report.

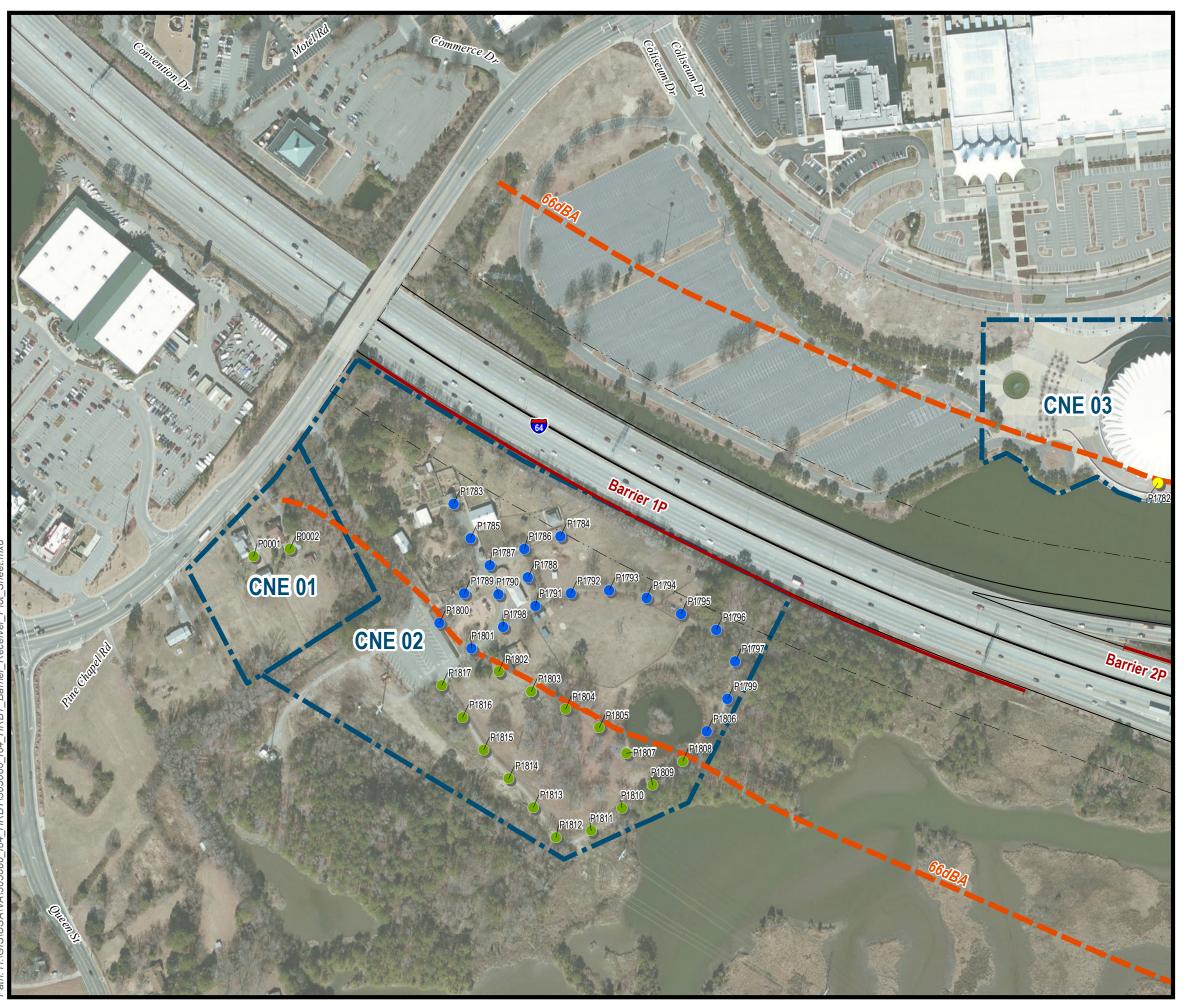
The next section of the report presents the noise impact assessment in detail.

Table 5. Range of Predicted Worst-Hour  $L_{\rm eq}$  Noise Levels, dBA

CNIE		Range of			
CNE	Area Land Use and Description	Exter		Levels, c	
ID		Existing	No- Build	Build- 8	Build- 10
НАМРТ	ON				
1	Single-family residences on Pine Chapel Rd.	61-62	62-63	62-63	62-63
2	Bluebird Gap Farm Recreation Area	59-72	60-73	61-73	62-73
3	Residences along Waterside Drive and Green Hill Drive, Hampton Coliseum	60-69	61-70	61-69	61-70
4	Residences on W Queen Street SB side I-664	51-70	52-71	51-71	50-70
5	Single-family residences on Allison Sutton Dr.	56-63	57-64	57-63	56-61
6	Single-family residences along Red Robin Turn	60-67	61-67	62-68	63-70
7	Multi-family residences in Horizon Plaza	60-66	60-66	62-62	63-63
8	Single-family residences near I-64 WB off-ramp to N Armistead Avenue	57-66	58-67	62-68	62-67
9	Single-family residences near I-64 EB on-ramp from LaSalle Avenue, Perfecting Saints Church	60-67	61-68	63-68	63-68
10	Single-family residences between N Armistead Avenue and Rip Rap Road, south of I-64	61-73	62-74	64-74	65-73
11	Residences between Thomas Street and Spanish Trail, north of I-64	44-71	45-72	47-72	48-71
12	Single-family residences between Creek Avenue and River Street, north of I-64	55-64	56-65	62-72	63-72
13	Single-family residences between Eaton Street and E Pembroke Avenue, south of I-64	57-67	58-68	60-70	61-71
14	River Street Park	53-68	54-69	N/A	N/A
15	Single-family residences between E Pembroke Avenue and S Boxwood Street, east of I-64	61-67	62-68	62-67	62-66
16	Single-family residences between Brough Lane and S Boxwood Street, west of I-64	56-68	57-69	58-68	58-69
17	Woodlands Golf Course	60-68	60-69	62-68	63-69
18/19 /23	Flemmie Kittrell Hall Benches and Hampton University Baseball Stadium	56-69	57-70	62-72	63-73
20	Hampton National Cemetery	58-75	59-75	61-72	62-72
21	Single-family residence buildings on Hampton University property, west of I-64	70-74	70-74	73-74	73-73
22	Single-family residences along Cameron Street	56-65	56-66	60-68	60-68
24	Commercial outdoor land use near I-64 WB on- ramp from Mallory Street	62-62	63-63	N/A	N/A
25	Single-family residences south of Mallory Street, east of I-64	51-66	52-67	58-73	59-71
25A	Marina and residences in Fort Monroe area	55-57	55-57	57-59	57-59
NORFO	LK	•		•	
25B	Fort Wool Historic Site park area	55-55	56-56	57-57	57-57
26	Beach area at west end of Willoughby Spit, north of I-64	65-70	66-70	65-67	65-67
26A	Willoughby Harbor Marina	58-68	58-68	N/A	N/A

Table 5. Range of Predicted Worst-Hour  $L_{\text{eq}}$  Noise Levels, dBA

ONE		Range of Predicted Worst-Hour L Exterior Noise Levels, dBA				
CNE	Area Land Use and Description	Exter				
ID	·	Existing	No- Build	Build- 8	Build- 10	
27	Residences west of 15th View Street, north of I-64	58-70	59-70	59-70	59-70	
28	Residences between 15th View Street and 13th View Street, north of I-64	58-75	58-76	59-72	59-72	
29	Residences on Willoughby Spit south of I-64	60-73	61-73	63-71	65-73	
30	Residences between 13th View Street and the end of Little Bay Avenue, north of I-64	56-72	57-73	58-70	58-70	
31	Captain's Quarters Nature Center and Park	64-69	65-70	64-67	65-67	
32	Residences between the end of Little Bay Avenue and 4th View Street, north of I-64	56-65	57-66	57-69	57-69	
33	Willoughby Elementary School	61-61	62-62	63-63	63-63	
34	Commercial outdoor land use at Norfolk Visitor's Center	63-63	64-64	N/A	N/A	
35	Residences at Willoughby Bay military housing complex	58-65	58-66	62-68	62-68	
36	Baseball field at Ocean View Elementary School	52-58	53-58	55-61	55-62	
37	Residences between W Government Avenue and Mace Arch, east of I-64	52-68	53-69	60-72	61-72	
38	Residences from Orange Avenue to Ridgewell Avenue, west of I-64	59-73	59-73	61-72	62-72	
39	Residences between 1st View Street and W Bay Avenue and First View Baptist Church, west of I-64	52-68	53-69	59-65	60-66	
40	Residences from Mace Arch to along W Bay Avenue, east of I-64	53-70	53-71	56-68	57-68	
41	Residences on W Bay Avenue EB, west of I-64	50-64	50-64	57-65	58-66	
42	Residences from Commodore Drive to W Bayview Boulevard, west of I-64	52-66	53-67	64-75	64-74	
43	Residences from W Chester Street to E Bayview Boulevard, east of I-64, First Church of God – Anderson	55-67	56-69	65-74	66-74	
44	Residences from W Bayview Boulevard to the south end of Executive Drive, west of I-64	56-70	56-71	64-70	64-71	
45	Residences from E Bayview Boulevard to the I-64 WB on-ramp from Granby Street, east of I-64	60-69	61-71	63-72	63-72	
46	Military baseball fields along Patrol Road near on- ramp to I-64 EB, west of I-64	59-65	59-66	61-68	62-68	
47	Forest Lawn Cemetery	60-68	61-70	62-71	63-72	
48	Military baseball field along Patrol Road near I- 564 interchange, west of I-64	60-66	60-66	62-68	63-68	
49	Residences and Wesley United Baptist Church between W Glen Road & E Little Creek Road, east of I-64	60-71	61-72	63-69	64-69	
50	Residences south of E Little Creek Rd, east of I-64	60-65	60-66	64-69	64-69	





## Location Map for Common Noise Environments, Receptors, **Build 10 Contours and Barriers**

Hampton and Norfolk, Virginia Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

## Receiver Site and Number

- Impacted and 5 or 6 dBA Insertion Loss
- Impacted and 7 dBA or more Insertion Loss
- Impacted and Not Benefited
- Not Impacted and Benefited
- Not Benefited or Impacted
- Potential Acquisitions
- -Top Floor Noise Prediction Result -Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

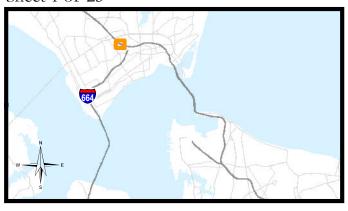
- Potential Barrier

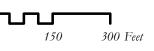
Replacement Barrier

66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

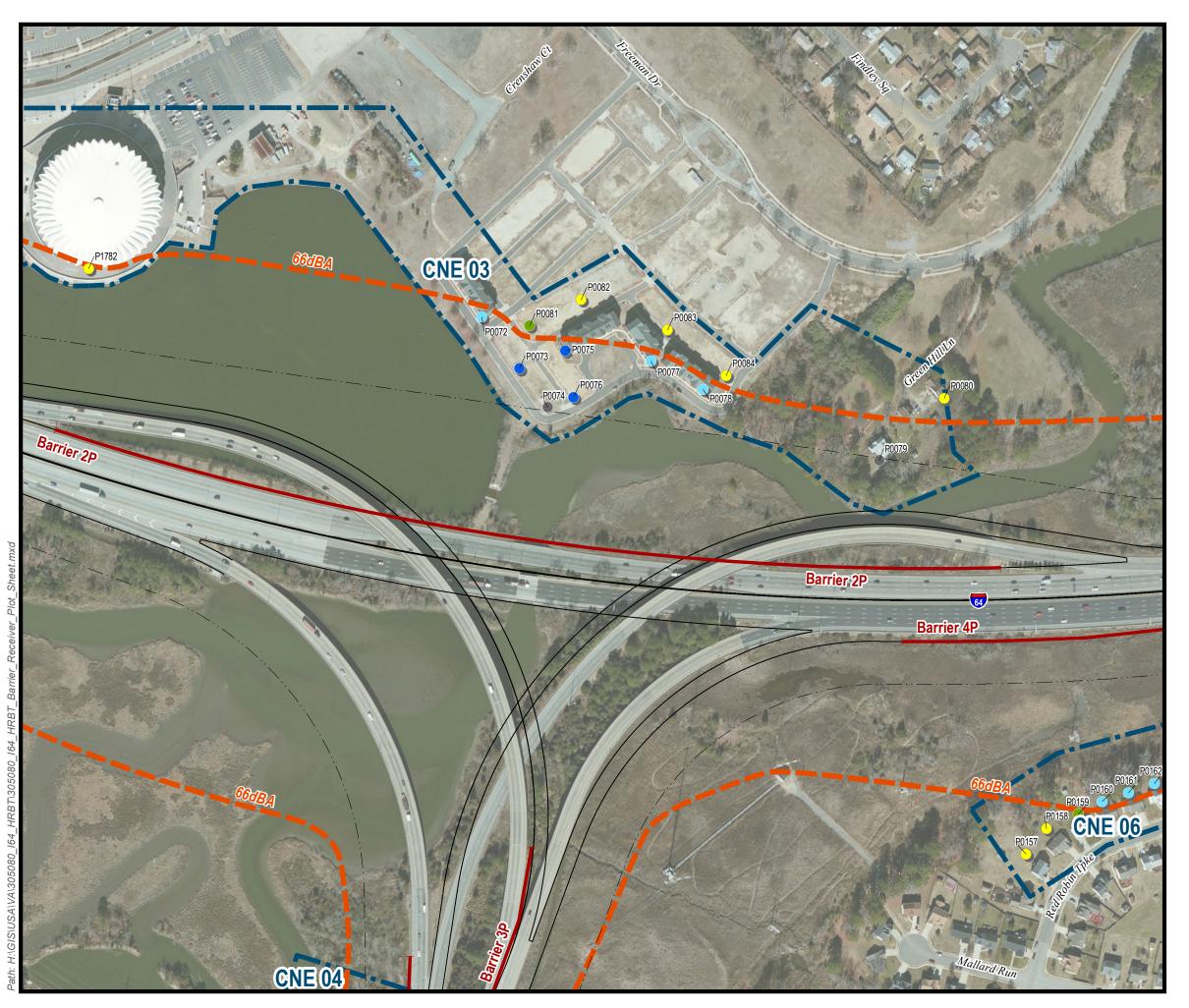
Common Noise Environment (CNE) Areas

## Sheet 1 of 25











## Location Map for Common Noise Environments, Receptors, Build 10 Contours and Barriers

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

## Receiver Site and Number

- Impacted and 5 or 6 dBA Insertion Loss
- Impacted and 7 dBA or more Insertion Loss
- Impacted and Not Benefited
- Not Impacted and Benefited
- Not Benefited or Impacted
- Potential Acquisitions
- Top Floor Noise Prediction Result

  Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

Potential Barrier

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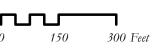
Replacement Barrier

66 dBA Leq Ground Floor Noise Contour without
 Potential Barriers in Residential and Recreational Areas

Common Noise Environment (CNE) Areas

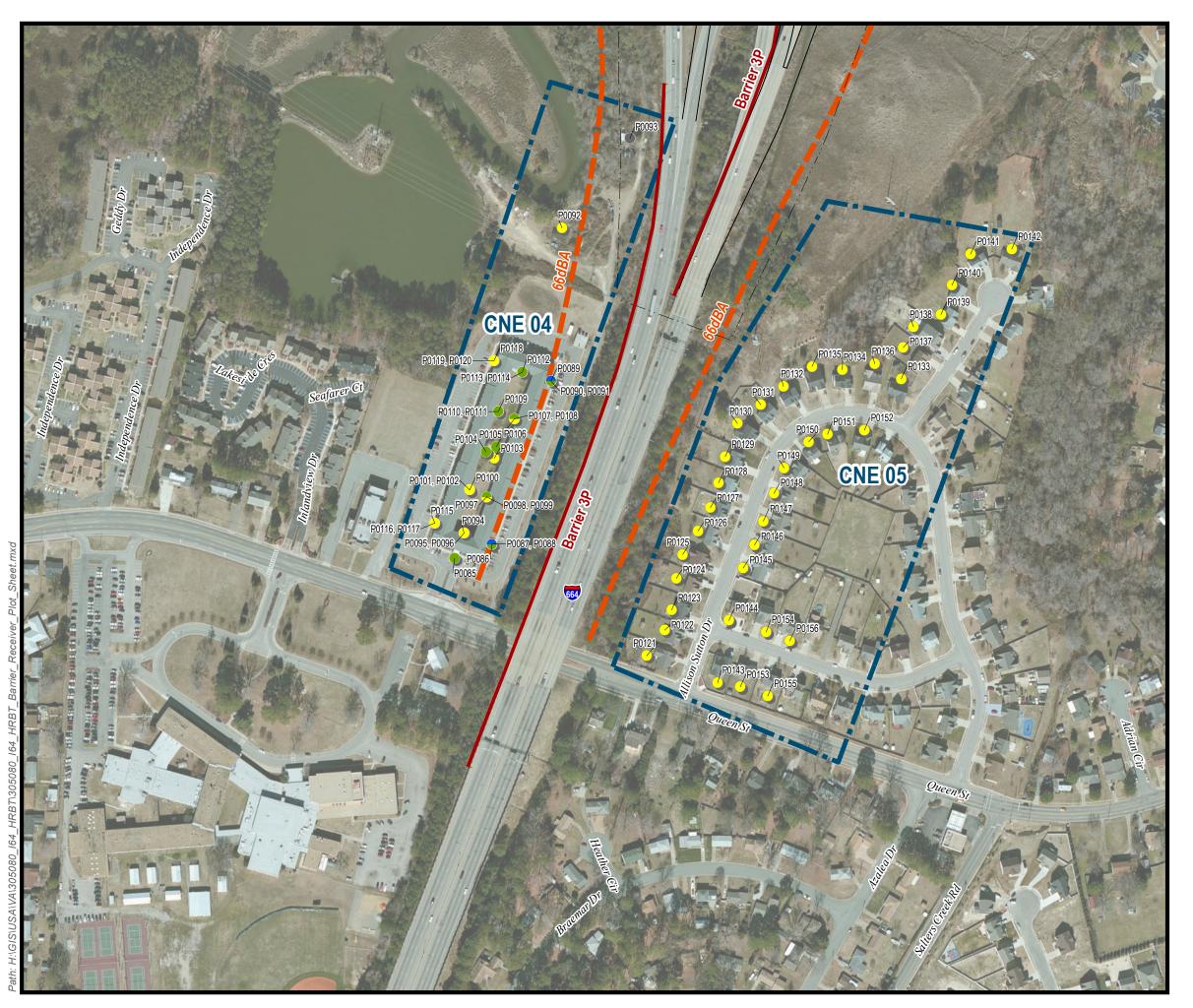
## Sheet 2 of 25







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## Location Map for Common Noise Environments, Receptors, **Build 10 Contours and Barriers**

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

## Receiver Site and Number

- Impacted and 5 or 6 dBA Insertion Loss
- Impacted and 7 dBA or more Insertion Loss
- Impacted and Not Benefited
- Not Impacted and Benefited
- Not Benefited or Impacted
- Potential Acquisitions
- Top Floor Noise Prediction Result -Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

- Potential Barrier

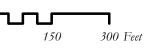
Replacement Barrier

66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

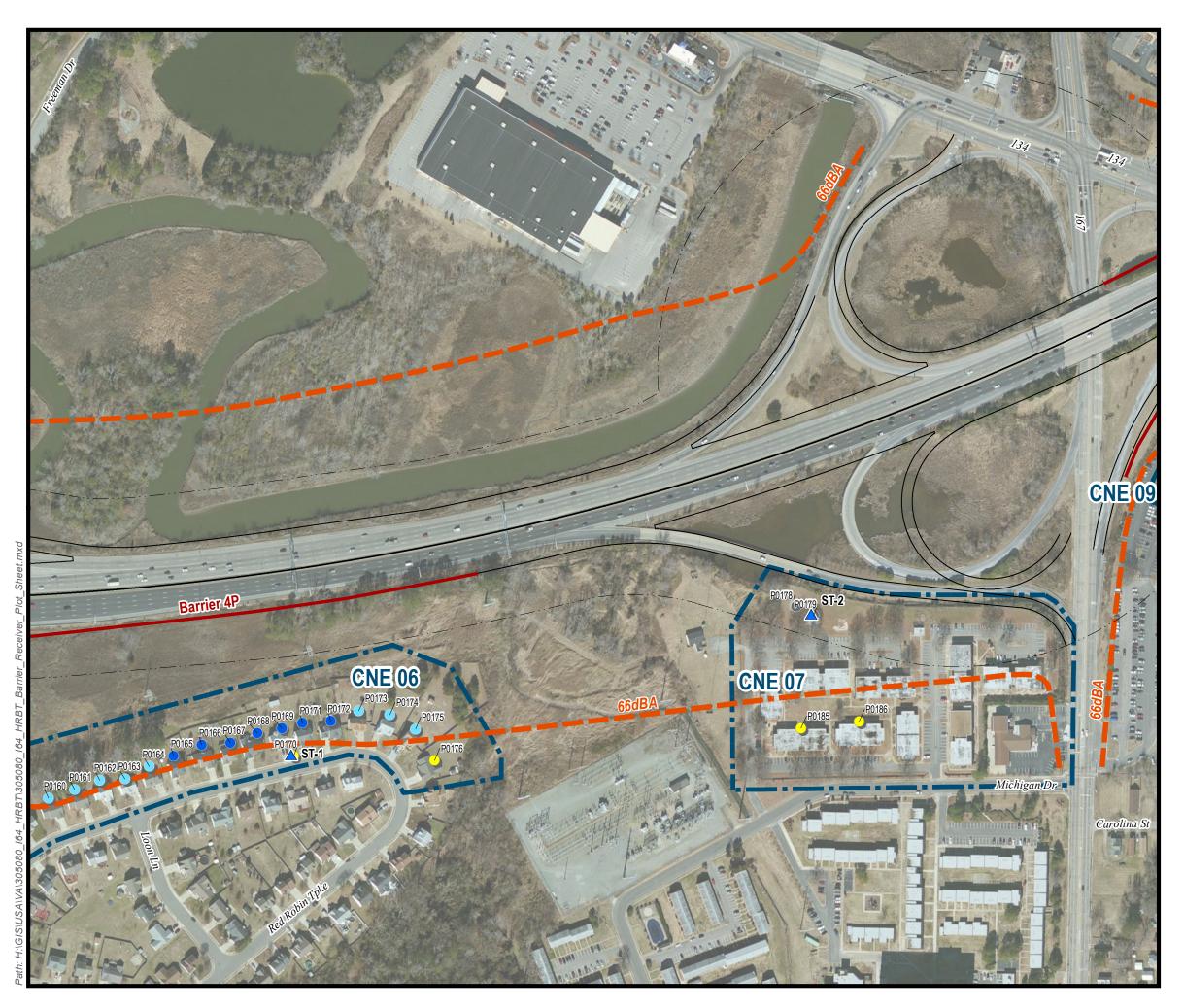
Common Noise Environment (CNE) Areas

## Sheet 3 of 25











## Location Map for Common Noise Environments, Receptors, Build 10 Contours and Barriers

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

## Receiver Site and Number

- Impacted and 5 or 6 dBA Insertion Loss
- Impacted and 7 dBA or more Insertion Loss
- Impacted and Not Benefited
- Not Impacted and Benefited
- Not Benefited or Impacted
- Potential Acquisitions
- Top Floor Noise Prediction Result

  Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

- Potential Barrier
  - ier 🧹

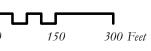
Replacement Barrier

 66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

Common Noise Environment (CNE) Areas

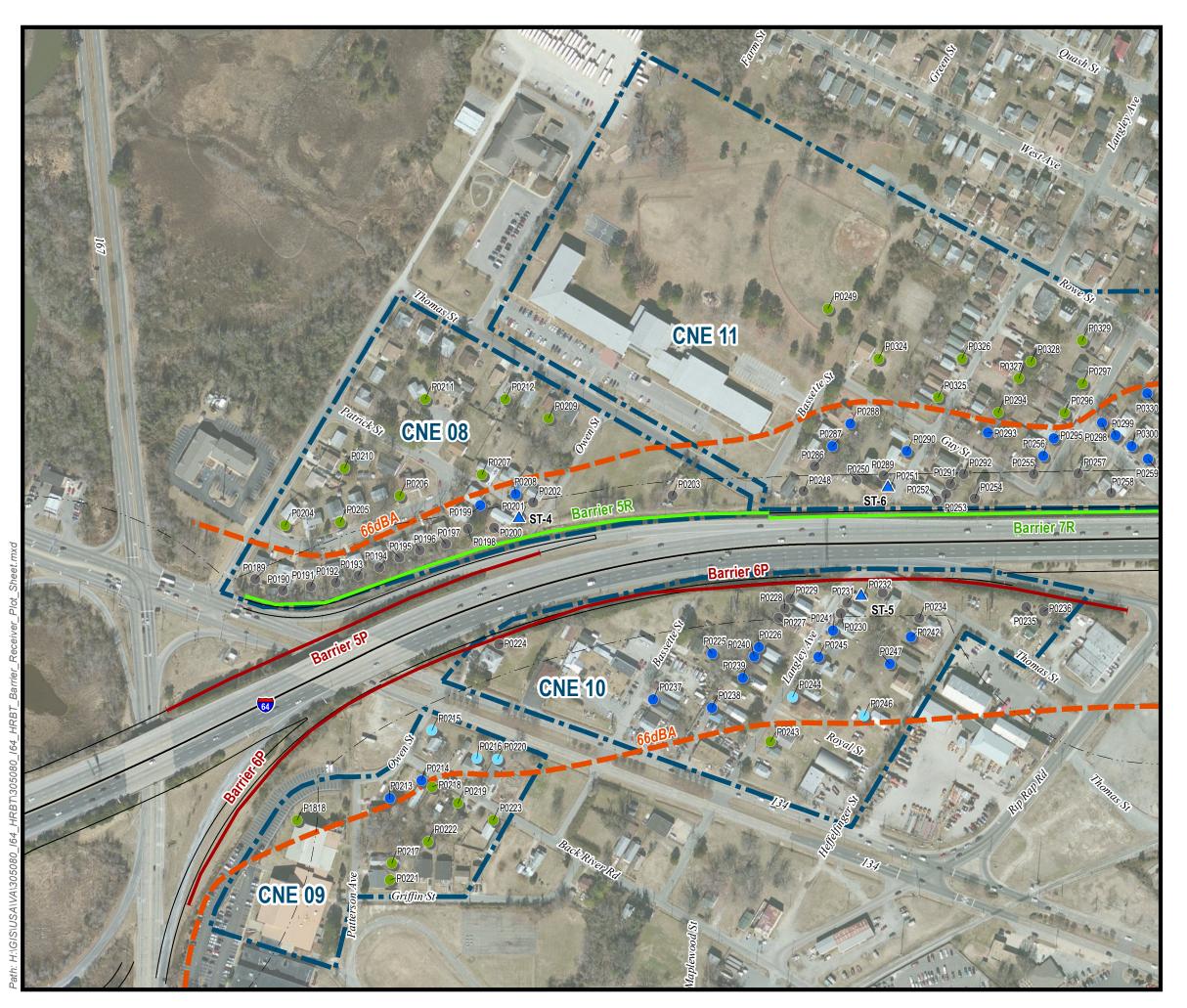
## Sheet 4 of 25







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## Location Map for Common Noise Environments, Receptors, **Build 10 Contours and Barriers**

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

## Receiver Site and Number

- Impacted and 5 or 6 dBA Insertion Loss
- Impacted and 7 dBA or more Insertion Loss
- Impacted and Not Benefited
- Not Impacted and Benefited
- Not Benefited or Impacted
- Potential Acquisitions
- -Top Floor Noise Prediction Result -Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

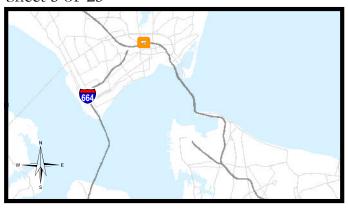
- Potential Barrier

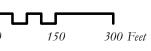
Replacement Barrier

66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

Common Noise Environment (CNE) Areas

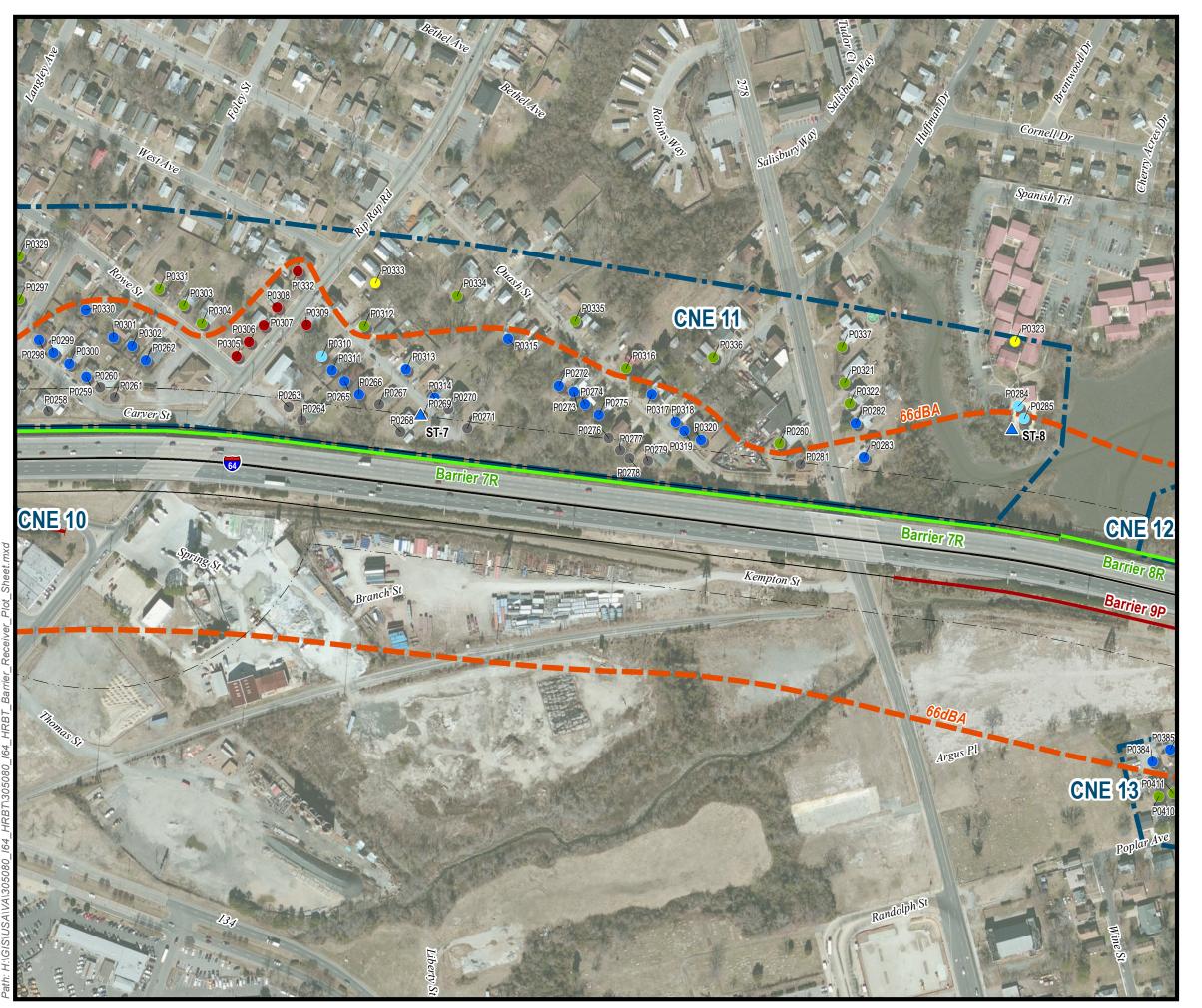
## Sheet 5 of 25













## Location Map for Common Noise Environments, Receptors, Build 10 Contours and Barriers

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

## Receiver Site and Number

- Impacted and 5 or 6 dBA Insertion Loss
- Impacted and 7 dBA or more Insertion Loss
- Impacted and Not Benefited
- Not Impacted and Benefited
- Not Benefited or Impacted
- Potential Acquisitions
- Top Floor Noise Prediction Result

  Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

## Noise Barriers

Potential Barrier



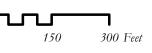
Replacement Barrier

 66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

Common Noise Environment (CNE) Areas

## Sheet 6 of 25







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## Location Map for Common Noise Environments, Receptors, **Build 10 Contours and Barriers**

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

## Receiver Site and Number

- Impacted and 5 or 6 dBA Insertion Loss
- Impacted and 7 dBA or more Insertion Loss
- Impacted and Not Benefited
- Not Impacted and Benefited
- Not Benefited or Impacted
- Potential Acquisitions
- -Top Floor Noise Prediction Result -Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

- Potential Barrier

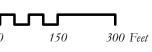
Replacement Barrier

66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

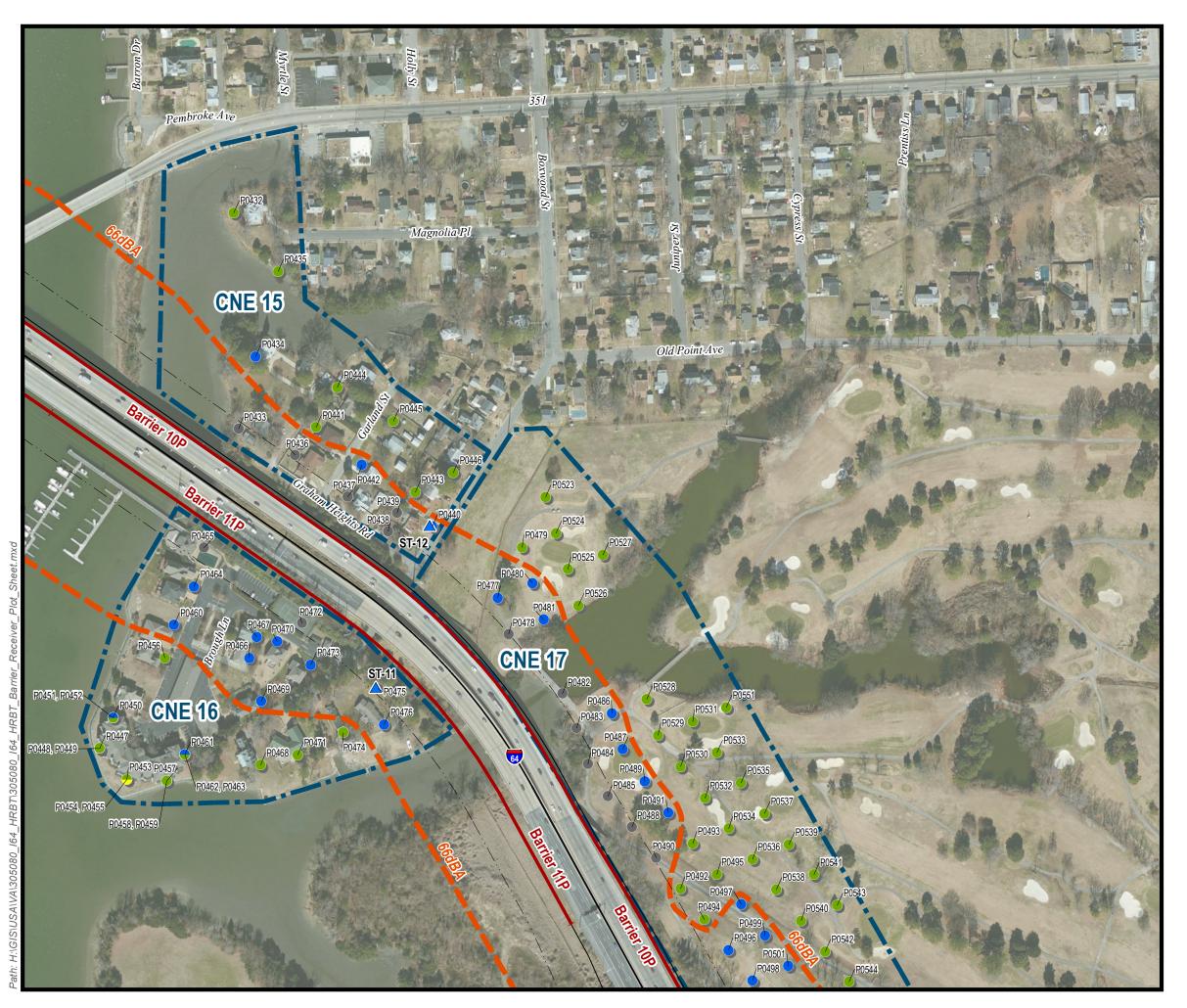
Common Noise Environment (CNE) Areas

## Sheet 7 of 25











## Location Map for Common Noise Environments, Receptors, **Build 10 Contours and Barriers**

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

## Receiver Site and Number

- Impacted and 5 or 6 dBA Insertion Loss
- Impacted and 7 dBA or more Insertion Loss
- Impacted and Not Benefited
- Not Impacted and Benefited
- Not Benefited or Impacted
- Potential Acquisitions
- Top Floor Noise Prediction Result -Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

## Noise Barriers

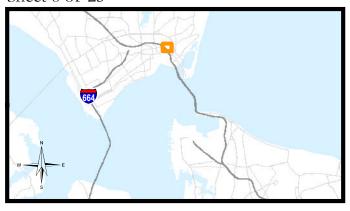
- Potential Barrier

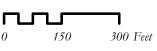
Replacement Barrier

66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

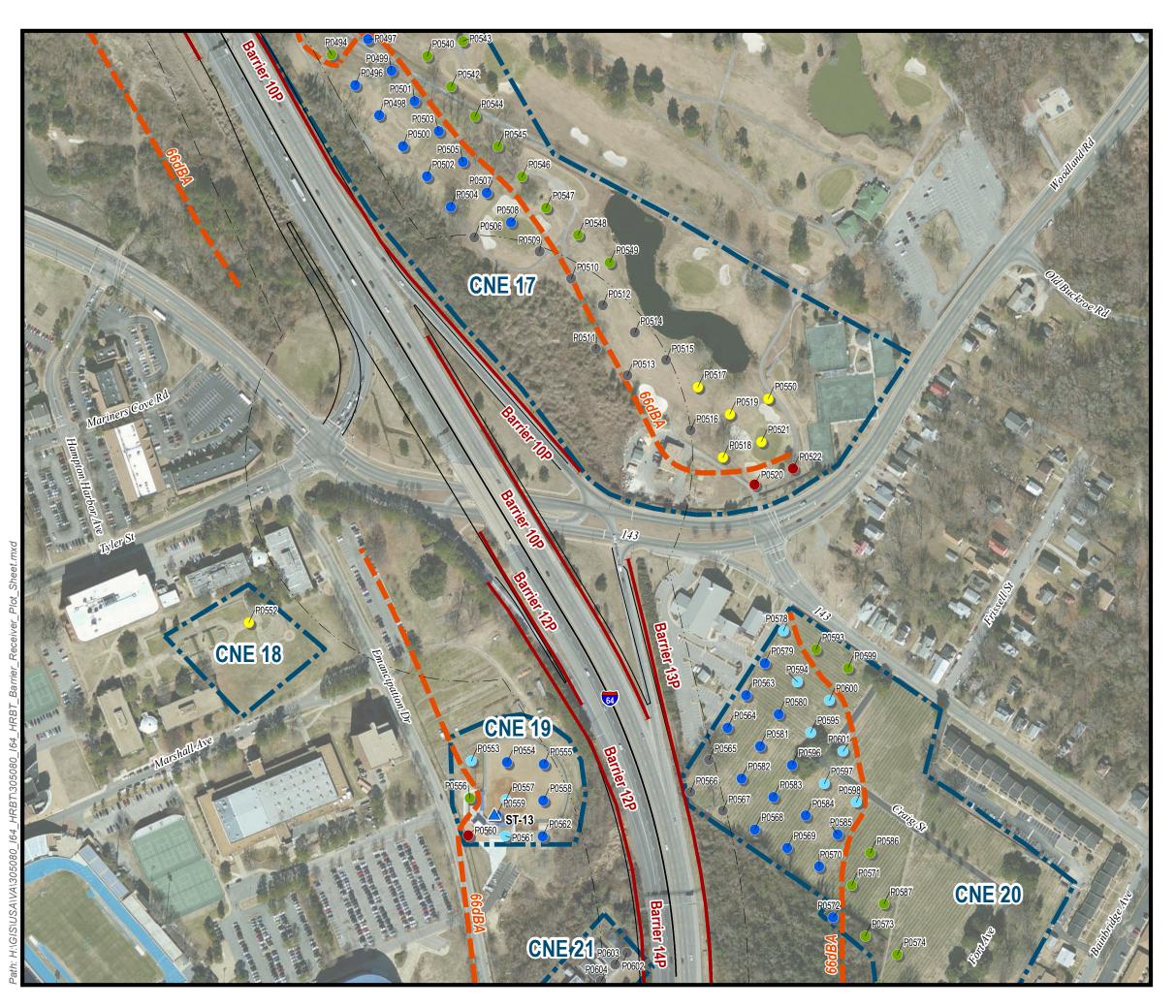
Common Noise Environment (CNE) Areas

## Sheet 8 of 25











## Location Map for Common Noise Environments, Receptors, Build 10 Contours and Barriers

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

## Receiver Site and Number

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- Not Benefited or Impacted
- Potential Acquisitions
- Top Floor Noise Prediction Result

  Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

## Noise Barriers

Potential Barrier

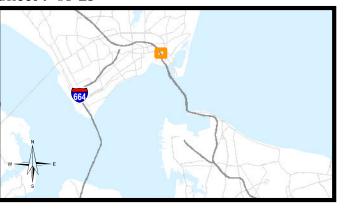


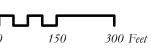
Replacement Barrier

 66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

Common Noise Environment (CNE) Areas

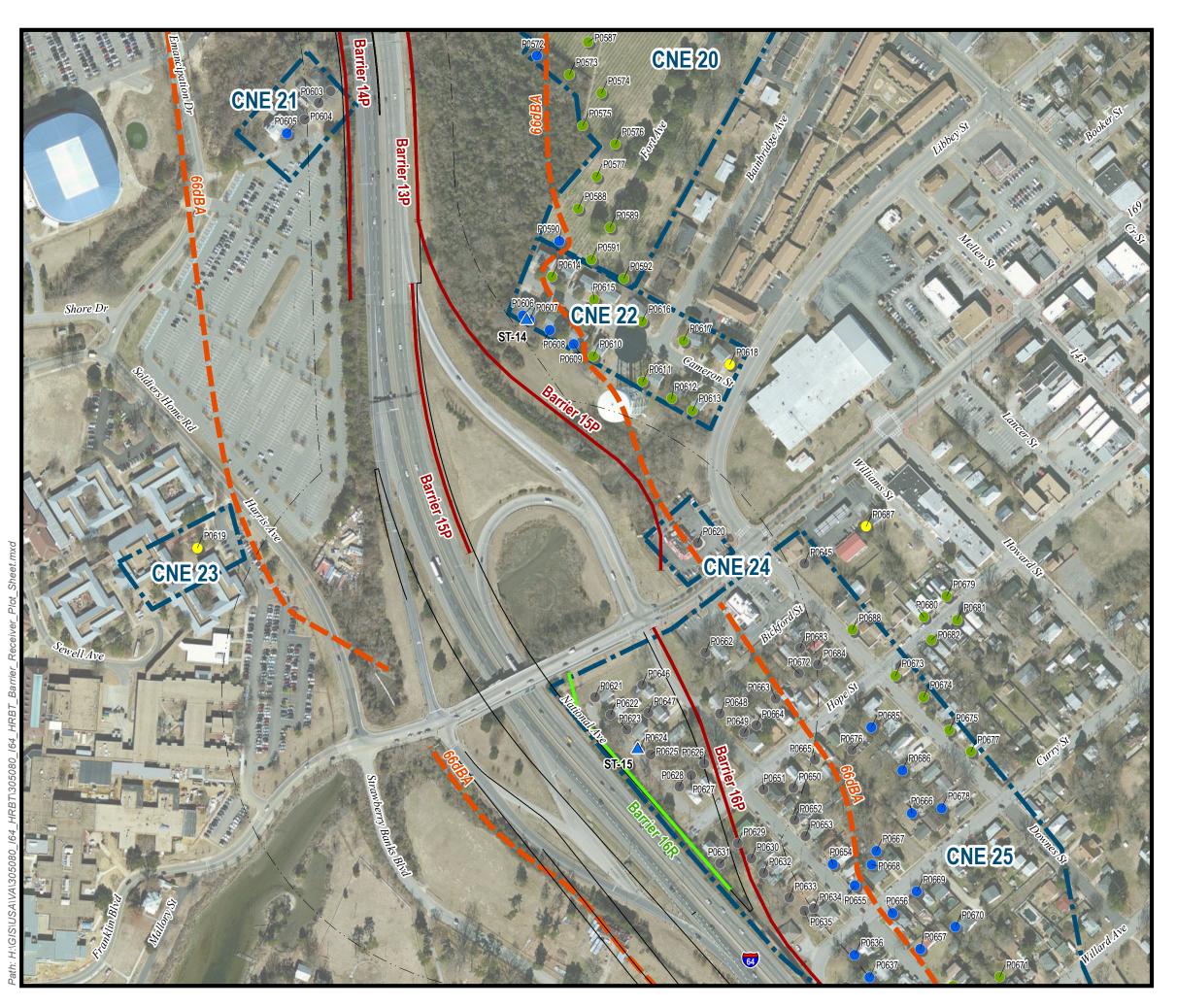
## Sheet 9 of 25







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## Location Map for Common Noise Environments, Receptors, **Build 10 Contours and Barriers**

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

## Receiver Site and Number

- Impacted and 5 or 6 dBA Insertion Loss
- Impacted and 7 dBA or more Insertion Loss
- Impacted and Not Benefited
- Not Impacted and Benefited
- Not Benefited or Impacted
- Potential Acquisitions
- Top Floor Noise Prediction Result -Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

- Potential Barrier

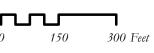
Replacement Barrier

66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

Common Noise Environment (CNE) Areas

## Sheet 10 of 25











## Location Map for Common Noise Environments, Receptors, **Build 10 Contours and Barriers**

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

## Receiver Site and Number

- Impacted and 5 or 6 dBA Insertion Loss
- Impacted and 7 dBA or more Insertion Loss
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- Not Impacted and Benefited
- Not Benefited or Impacted
- Potential Acquisitions
- Top Floor Noise Prediction Result -Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

## Noise Barriers

Potential Barrier

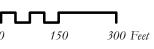
Replacement Barrier

66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

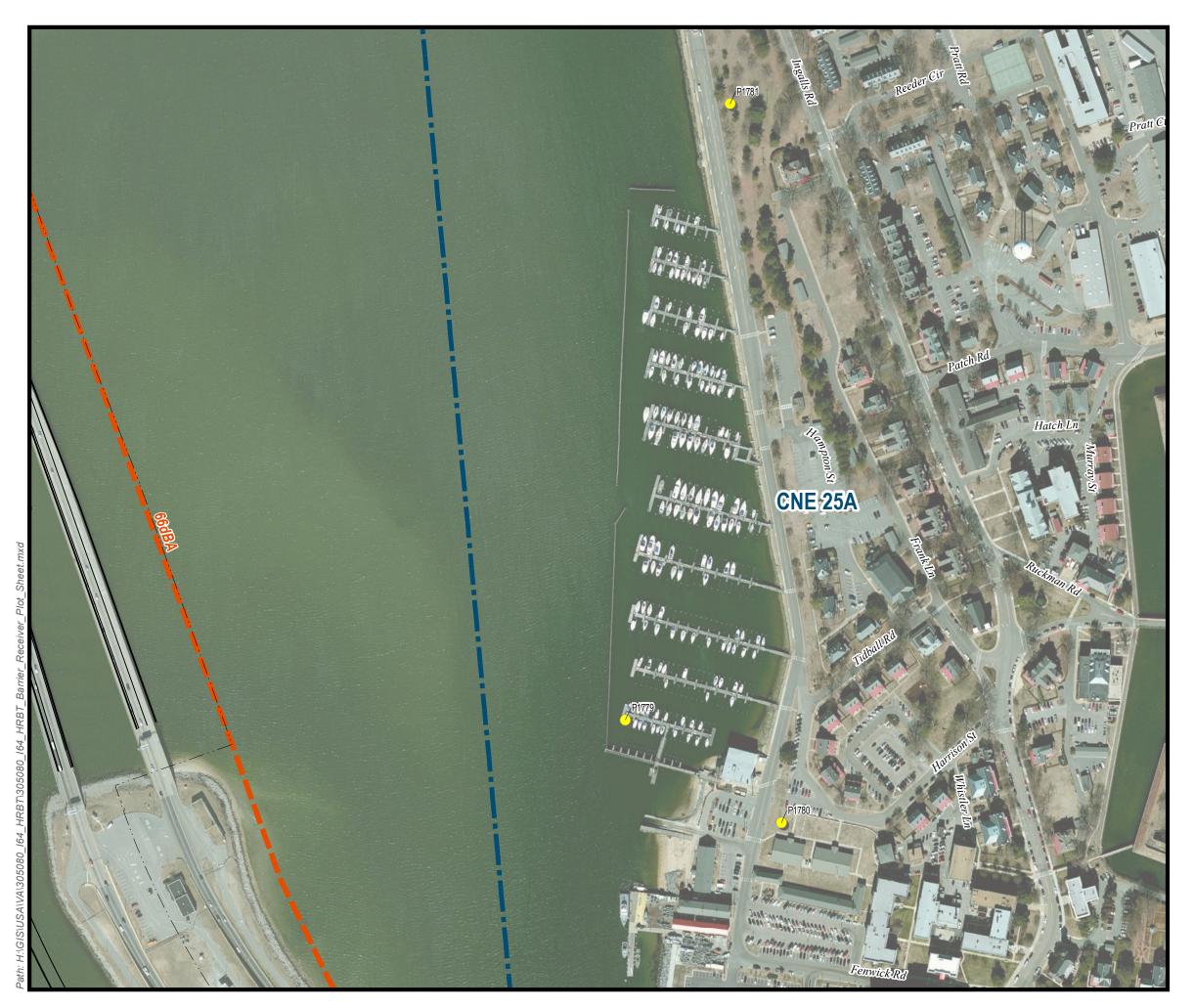
Common Noise Environment (CNE) Areas

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## Location Map for Common Noise Environments, Receptors, Build 10 Contours and Barriers

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

## Receiver Site and Number

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- Not Impacted and Benefited
- Not Benefited or Impacted
- Potential Acquisitions
- Top Floor Noise Prediction Result

  Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

Potential Barrier

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Replacement Barrier

 66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

Common Noise Environment (CNE) Areas

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150 300 Feet



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# Location Map for Common Noise Environments, Receptors, Build 10 Contours and Barriers

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

#### Receiver Site and Number

- Impacted and 5 or 6 dBA Insertion Loss
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- Potential Acquisitions
- Top Floor Noise Prediction Result

  Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
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#### Noise Barriers

Potential Barrier



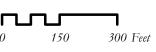
Replacement Barrier

66 dBA Leq Ground Floor Noise Contour without
 Potential Barriers in Residential and Recreational Areas

Common Noise Environment (CNE) Areas

## Sheet 13 of 25







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# Location Map for Common Noise Environments, Receptors, Build 10 Contours and Barriers

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

#### Receiver Site and Number

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- Not Impacted and Benefited
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- Potential Acquisitions
- Top Floor Noise Prediction Result

  Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

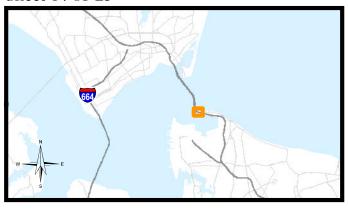
Potential Barrier

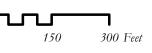
Replacement Barrier

 66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

Common Noise Environment (CNE) Areas

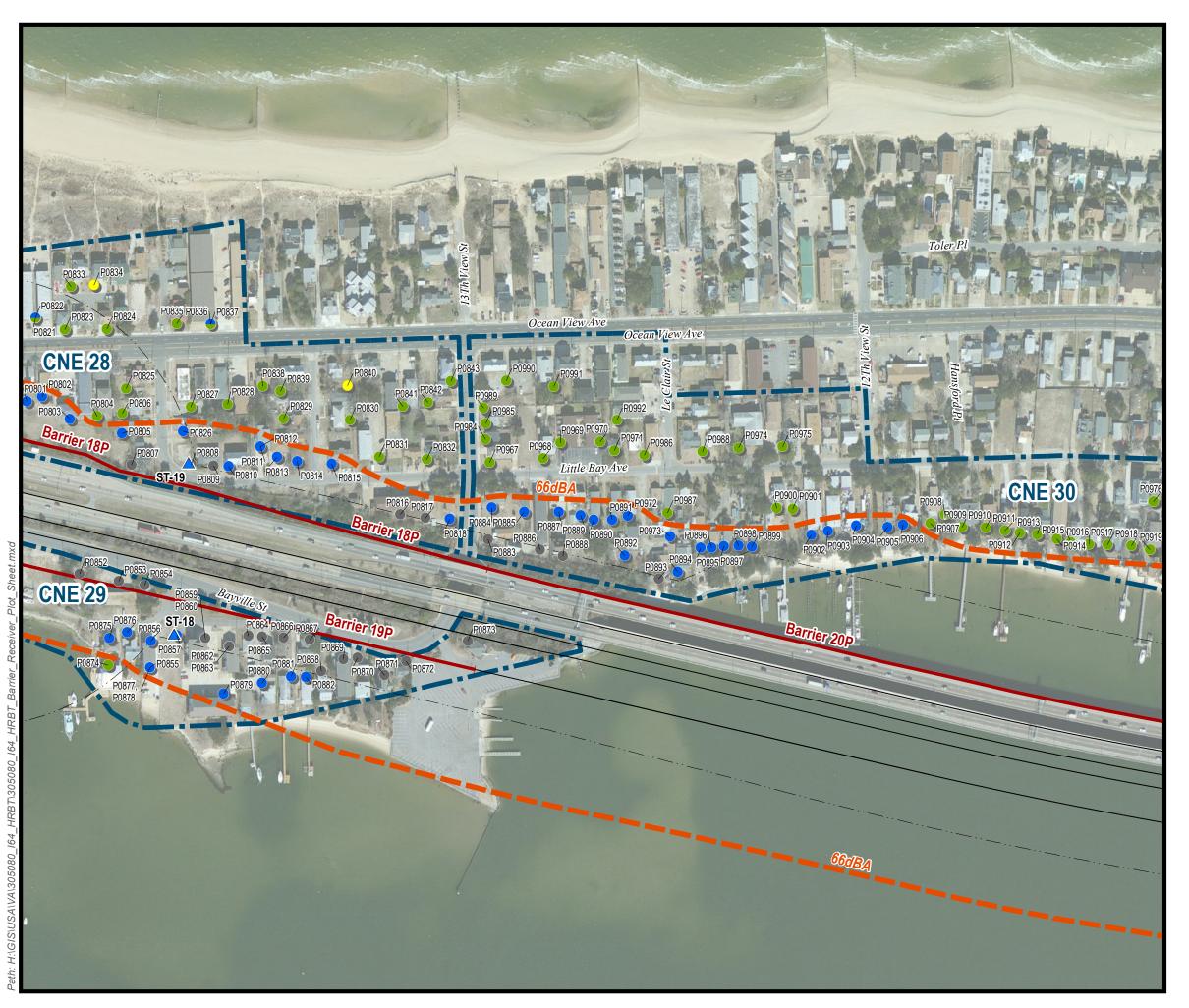
## Sheet 14 of 25







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# Location Map for Common Noise Environments, Receptors, **Build 10 Contours and Barriers**

Hampton and Norfolk, Virginia Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

#### Receiver Site and Number

- Impacted and 5 or 6 dBA Insertion Loss
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- Impacted and Not Benefited
- Not Impacted and Benefited
- Not Benefited or Impacted
- Potential Acquisitions
- -Top Floor Noise Prediction Result -Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

Potential Barrier



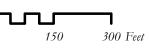
Replacement Barrier

66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

Common Noise Environment (CNE) Areas

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# Location Map for Common Noise Environments, Receptors, Build 10 Contours and Barriers

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

## Receiver Site and Number

- Impacted and 5 or 6 dBA Insertion Loss
- Impacted and 7 dBA or more Insertion Loss
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- Not Impacted and Benefited
- Not Benefited or Impacted
- Potential Acquisitions
- Top Floor Noise Prediction Result

  Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

Potential Barrier



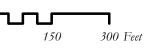
Replacement Barrier

 66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

Common Noise Environment (CNE) Areas

#### Sheet 16 of 25







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# Location Map for Common Noise Environments, Receptors, Build 10 Contours and Barriers

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

## Receiver Site and Number

- Impacted and 5 or 6 dBA Insertion Loss
- Impacted and 7 dBA or more Insertion Loss
- Impacted and Not Benefited
- Not Impacted and Benefited
- Not Benefited or Impacted
- Potential Acquisitions
- Top Floor Noise Prediction Result

  Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

Potential Barrier

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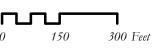
Replacement Barrier

 66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

Common Noise Environment (CNE) Areas

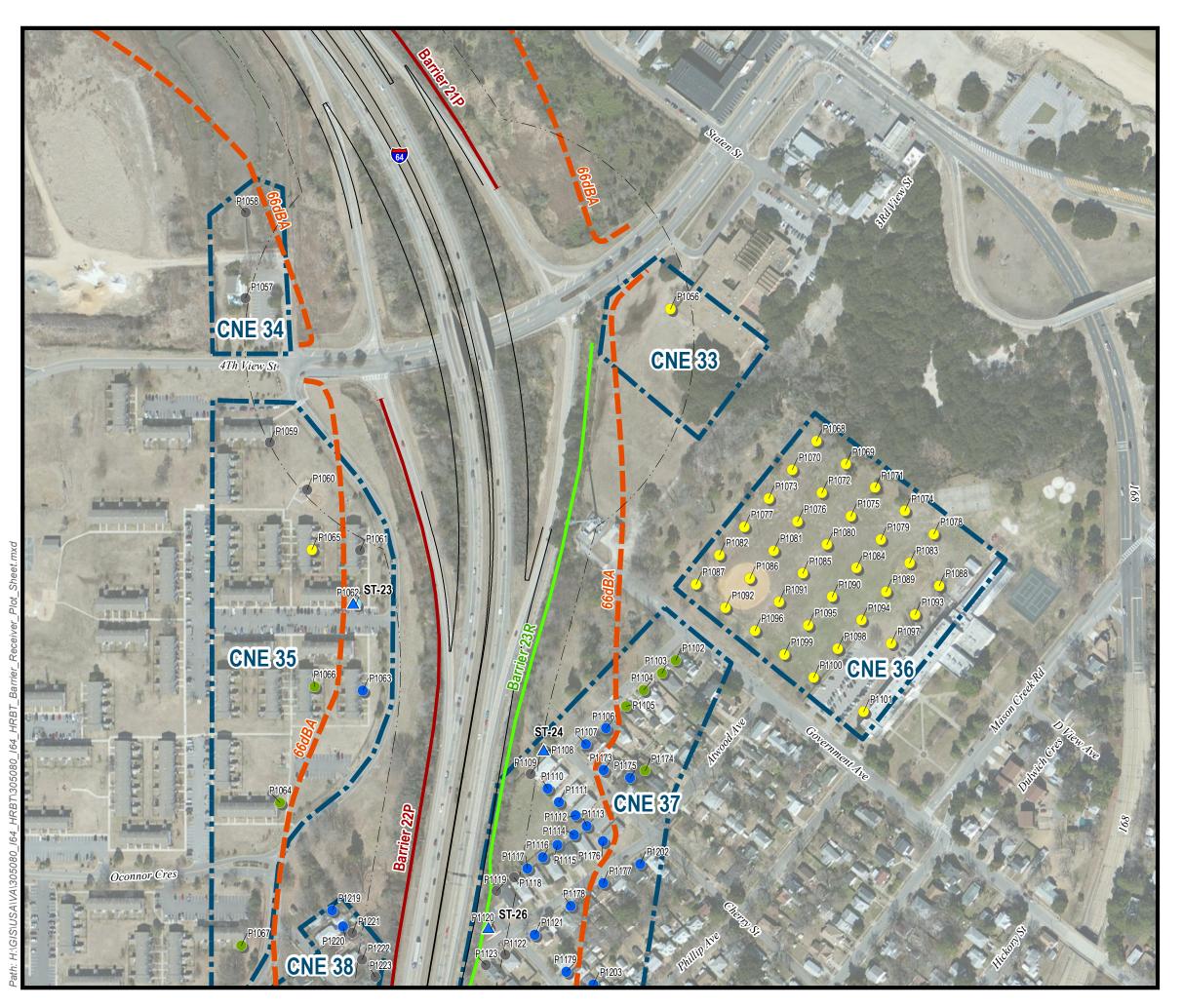
## Sheet 17 of 25







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# Location Map for Common Noise Environments, Receptors, Build 10 Contours and Barriers

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

#### Receiver Site and Number

- Impacted and 5 or 6 dBA Insertion Loss
- Impacted and 7 dBA or more Insertion Loss
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- Not Benefited or Impacted
- Potential Acquisitions
- Top Floor Noise Prediction Result

  Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

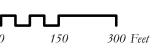
- Potential Barrier
- Replacement Barrier

 66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

Common Noise Environment (CNE) Areas

## Sheet 18 of 25







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# Location Map for Common Noise Environments, Receptors, Build 10 Contours and Barriers

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

#### Receiver Site and Number

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- Not Benefited or Impacted
- Potential Acquisitions
- Top Floor Noise Prediction Result

  Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

Potential Barrier

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Replacement Barrier

 66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

Common Noise Environment (CNE) Areas

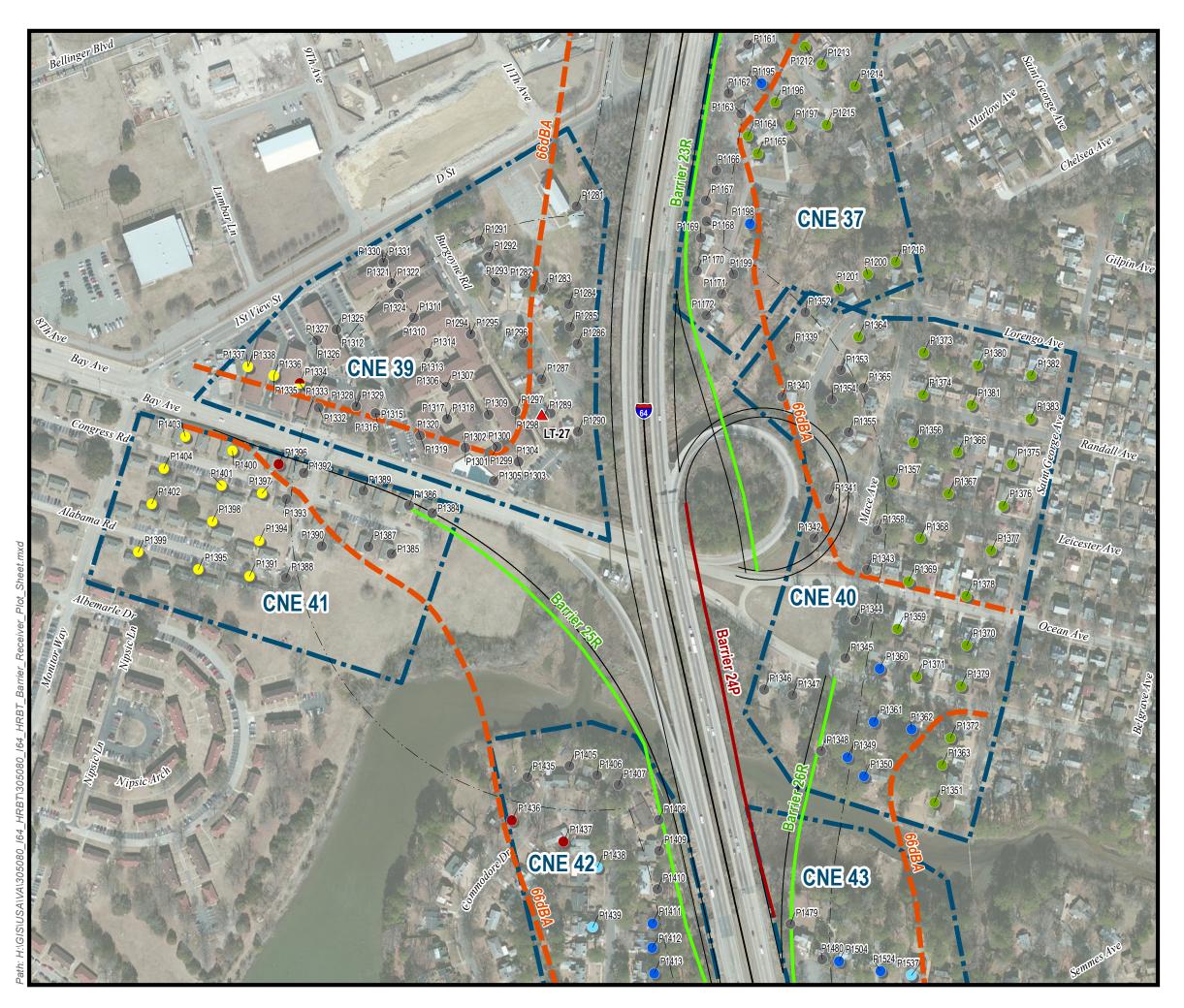
## Sheet 19 of 25













# Location Map for Common Noise Environments, Receptors, **Build 10 Contours and Barriers**

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

#### Receiver Site and Number

- Impacted and 5 or 6 dBA Insertion Loss
- Impacted and 7 dBA or more Insertion Loss
- Impacted and Not Benefited
- Not Impacted and Benefited
- Not Benefited or Impacted
- Potential Acquisitions
- -Top Floor Noise Prediction Result -Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

- Potential Barrier

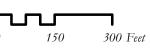
Replacement Barrier

66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

Common Noise Environment (CNE) Areas

## Sheet 20 of 25











# Location Map for Common Noise Environments, Receptors, **Build 10 Contours and Barriers**

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

#### Receiver Site and Number

- Impacted and 5 or 6 dBA Insertion Loss
- Impacted and 7 dBA or more Insertion Loss
- Impacted and Not Benefited
- Not Impacted and Benefited
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- Potential Acquisitions
- Top Floor Noise Prediction Result -Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

- Potential Barrier

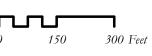
Replacement Barrier

66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

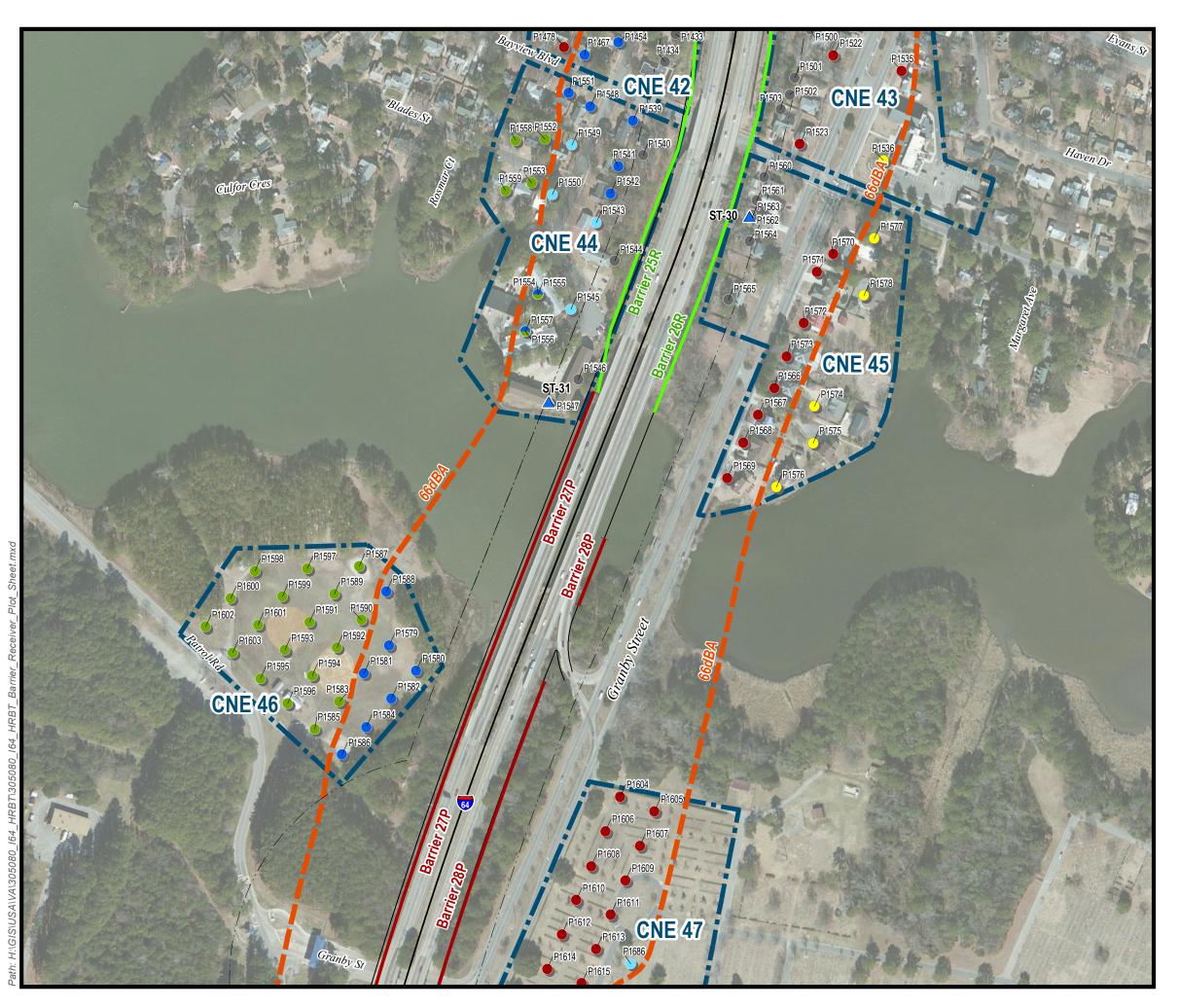
Common Noise Environment (CNE) Areas

#### Sheet 21 of 25











# Location Map for Common Noise Environments, Receptors, **Build 10 Contours and Barriers**

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

## Receiver Site and Number

- Impacted and 5 or 6 dBA Insertion Loss
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- Top Floor Noise Prediction Result -Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

Potential Barrier

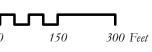
Replacement Barrier

66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

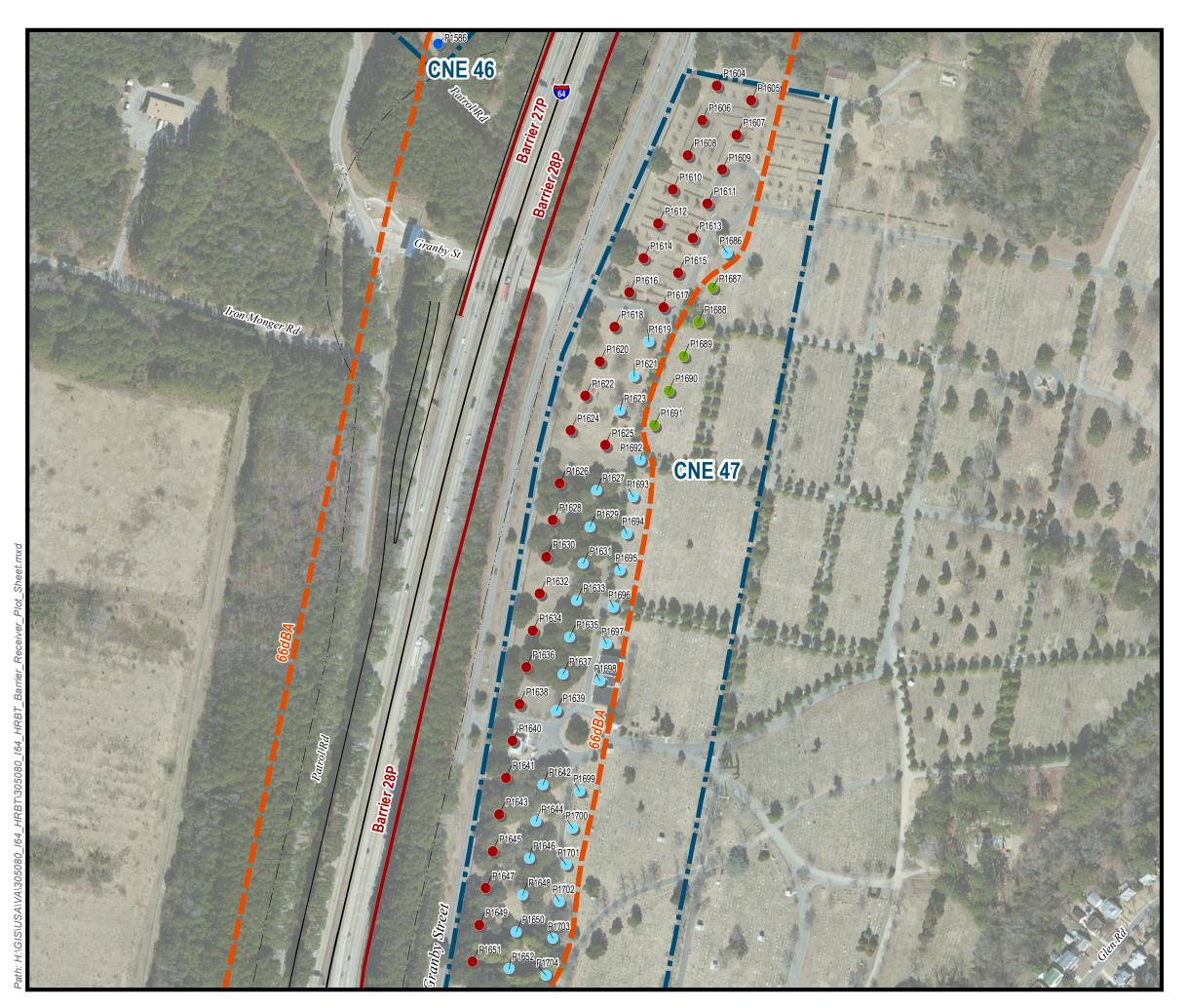
Common Noise Environment (CNE) Areas

## Sheet 22 of 25











# Location Map for Common Noise Environments, Receptors, **Build 10 Contours and Barriers**

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

#### Receiver Site and Number

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- Top Floor Noise Prediction Result -Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

Potential Barrier

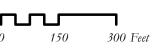
Replacement Barrier

66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

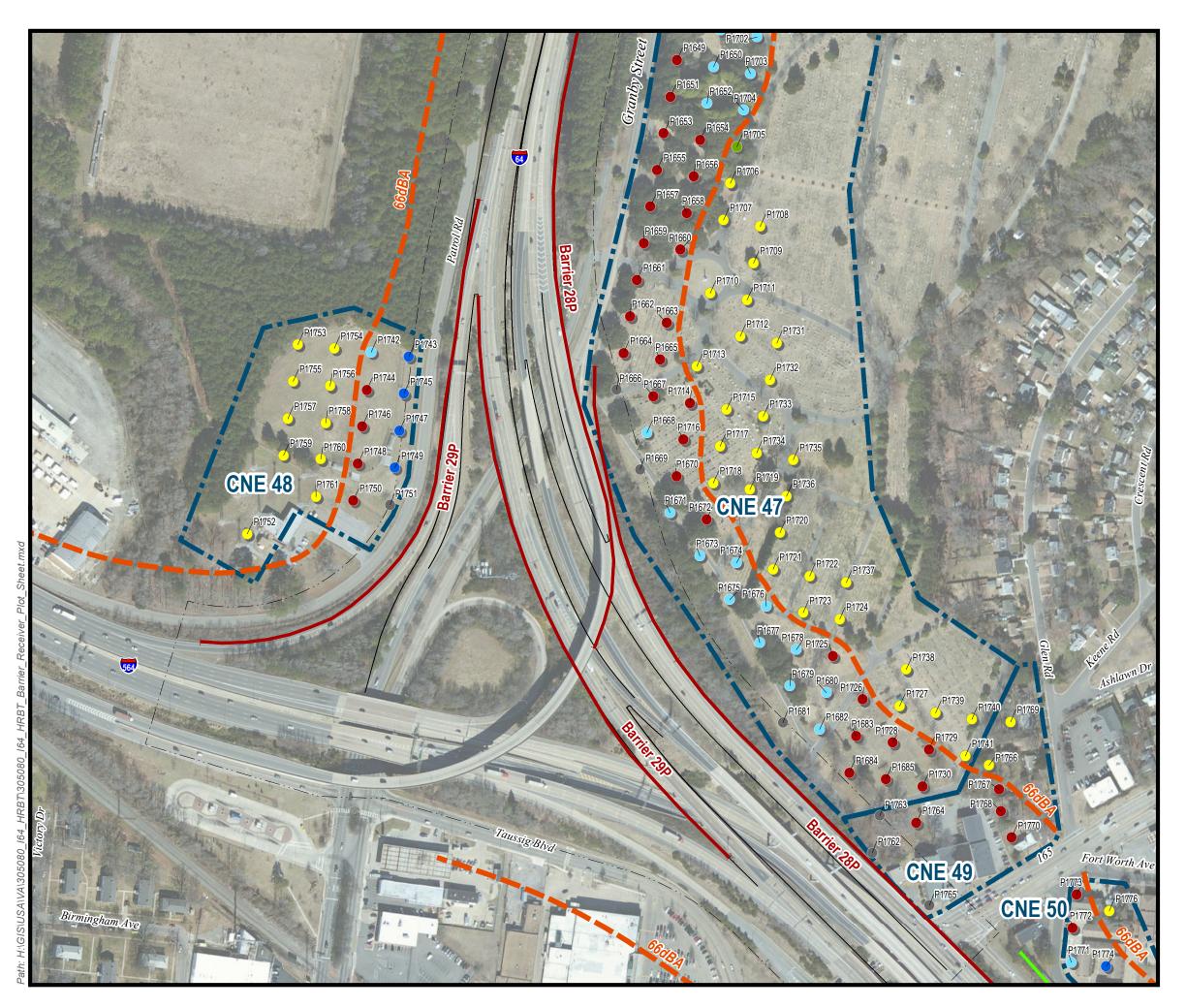
Common Noise Environment (CNE) Areas

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# Location Map for Common Noise Environments, Receptors, **Build 10 Contours and Barriers**

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

## Receiver Site and Number

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- Top Floor Noise Prediction Result -Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

- Potential Barrier

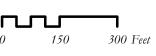
Replacement Barrier

66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

Common Noise Environment (CNE) Areas

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# Location Map for Common Noise Environments, Receptors, Build 10 Contours and Barriers

Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037 HMMH Report No. 305080.001

#### Receiver Site and Number

- Impacted and 5 or 6 dBA Insertion Loss
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- Top Floor Noise Prediction Result

  Bottom Floor Noise Prediction Result
- ▲ LT# Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

#### Noise Barriers

Potential Barrier



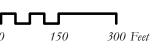
Replacement Barrier

 66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas

Common Noise Environment (CNE) Areas

# Sheet 25 of 25







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#### 5. NOISE IMPACT ASSESSMENT

The potential noise impact of the I-64 HRBT project was assessed according to FHWA and VDOT noise assessment guidelines, described in detail in Section 2. In summary, noise impact would occur wherever Project noise levels are expected to approach within one decibel or exceed 67 dBA,  $L_{\rm eq}$  outdoors at noise-sensitive land uses in Activity Categories B (residential) and C (recreational) during the loudest hour of the day. For Category D (noise-sensitive institutional) land uses such as schools and church buildings, noise impact would occur where predicted interior noise levels due to the Project approach or exceed 52 dBA  $L_{\rm eq}$  during the loudest hour of the day. For Category E (commercial) land use, noise impact is assumed to occur where predicted exterior noise levels approach or exceed 72 dBA,  $L_{\rm eq}$ . Noise impact also would occur wherever Project noise levels cause a substantial increase over existing noise levels—an increase of 10 dB or more is considered substantial by VDOT.

**Figure 2**, the study area graphic, shows the locations of individual receptors where noise impacts are projected to occur in the Build-10 Alternative. **Figure 2** also includes a noise impact contour for the worst-case Build-10 Alternative without abatement in the residential and recreational areas (at the applicable Activity Categories B and C NAC of 67 dBA, which is represented by 66 dBA  $L_{eq}$  for ground floor receptors).

**Table 6** presents a summary of the projected noise impact for the existing (2011) condition and design-year (2040) No-Build and Retained Build Alternatives. The impacts are summarized for the entire study area and separated by Activity Category and by type of impact. For each Activity Category, noise impact is first given as dwelling or recreational units that approach or exceed the NAC. This is the only type of impact that occurs for the existing condition and No-Build Alternative. For the Retained Build Alternatives, NAC impact is listed first, followed by substantial increase impact, and followed by total noise impact. As the table indicates, substantial increase impact counts include those receptors where NAC impact is also projected and those where it is not. Therefore, the totals are not necessarily the sum of the two impact counts, since properties with both types of impact are not counted twice.

**Table 6. Noise Impact Summary** 

	Activity	Existing	No- Build		Bui	ld-8			Buil	d-10	
Land Use	Category	NAC	NAC/ Total	NAC Only	Subst. Incr. Only	Both*	Total	NAC Only	Subst. Incr. Only	Both*	Total
Residential	В	572	681	624	62	151	837	589	57	172	818
Recreational Parks / Cemeteries	С	105	136	182	0	0	182	199	0	0	199
Interior	D	0	0	0	0	0	0	0	0	0	0
Commercial	Е	0	0	0	0	0	0	0	0	0	0
Total		677	817	806	62	151	1019	788	57	172	1017

<sup>\*</sup> Both indicates all receptors where both NAC and Substantial Increase impact is predicted.

Overall, residential impacts are approximately four times higher than the numbers of impacted recreational units under all alternatives. No Category D or Category E impacts are predicted under

any of the alternatives. Total noise impact under the existing conditions is 677 receptor units, 572 of which are residential, whereas under the No-Build Alternative, 681 residential units and a total of 817 units would be impacted. The Build-8 Alternative would have a total of 1019 impacted units, 837 of which would be residential. Of those, sound levels would approach or exceed the NAC at 775 dwellings, and 213 would be exposed to substantial increases in existing noise levels. The Build-10 Alternative would have a total of 1017 impacted units, 818 of which would be residential. At 761 of those dwellings, sound levels would approach or exceed the NAC, and 229 would be exposed to substantial increases in existing noise levels.

**Table 7** presents a listing of the projected noise impact by Common Noise Environment for each alternative. In this table, the impact totals are for both residential and recreational units combined.

**Table 7. Noise Impact by Common Noise Environment** 

CNE	Anna Land Han and Dannintian		_	reational by Noise	
ID	Area Land Use and Description	Existing	No- Build	Build-	Build- 10
HAMPT	ON				
1	Single-family residences on Pine Chapel Rd.	0	0	0	0
2	Bluebird Gap Farm Recreation Area	18	18	19	20
3	Residences along Waterside Drive and Green Hill Drive, Hampton Coliseum	16	30	37	36
4	Residences on W Queen Street SB side I-664	6	7	5	3
5	Single-family residences on Allison Sutton Dr.	0	0	0	0
6	Single-family residences along Red Robin Turn	7	9	14	15
7	Multi-family residences in Horizon Plaza	8	8	0	0
8	Single-family residences near I-64 WB off-ramp to N Armistead Avenue	3	5	3	2
9	Single-family residences near I-64 EB on-ramp from Lasalle Avenue, Perfecting Saints Church	1	3	3	5
10	Single-family residences between N Armistead Avenue and Rip Rap Road, south of I-64	20	22	16	18
11	Residences between Thomas Street and Spanish Trail, north of I-64	19	24	59	64
12	Single-family residences between Creek Avenue and River Street, north of I-64	0	0	18	21
13	Single-family residences between Eaton Street and E Pembroke Avenue, south of I-64	10	15	22	29
14	River Street Park	3	3	0	0
15	Single-family residences between E Pembroke Avenue and S Boxwood Street, east of I-64	5	8	4	2
16	Single-family residences between Brough Lane and S Boxwood Street, west of I-64	7	11	13	17
17	Woodlands Golf Course	15	25	20	21
18/19 /23	Flemmie, Kittrell Hall Benches and Hampton University Baseball Stadium	5	5	7	8
20	Hampton National Cemetery	10	12	18	22
21	Single-family residence buildings on Hampton University property, west of I-64	4	4	2	1

**Table 7. Noise Impact by Common Noise Environment** 

CNE	Avec Land Use and Description		=	reational by Noise	
ID	Area Land Use and Description	Existing	No- Build	Build- 8	Build- 10
22	Single-family residences along Cameron Street	0	2	4	6
24	Commercial outdoor land use near I-64 WB on- ramp from Mallory Street	0	0	0	0
25	Single-family residences south of Mallory Street, east of I-64	1	1	27	29
25A	Marina and residences in Fort Monroe area	0	0	0	0
NORFO	LK				
25B	Fort Wool Historic Site park area	0	0	0	0
26	Beach area at west end of Willoughby Spit, north of I-64	5	7	5	5
26A	Willoughby Harbor Marina	5	8	0	0
27	Residences west of 15th View Street, north of I-64	55	57	57	45
28	Residences between 15th View Street and 13th View Street, north of I-64	121	122	97	69
29	Residences on Willoughby Spit south of I-64	45	46	23	23
30	Residences between 13th View Street and the end of Little Bay Avenue, north of I-64	121	150	88	75
31	Captain's Quarters Nature Center and Park	4	4	4	4
32	Residences between the end of Little Bay Avenue and 4th View Street, north of I-64	0	6	25	25
33	Willoughby Elementary School	0	0	0	0
34	Commercial outdoor land use at Norfolk Visitor's Center	0	0	0	0
35	Residences at Willoughby Bay military housing complex	0	6	6	6
36	Baseball field at Ocean View Elementary School	0	0	0	0
37	Residences between W Government Avenue and Mace Arch, east of I-64	14	15	81	91
38	Residences from Orange Avenue to Ridgewell Avenue, west of I-64	34	38	35	31
39	Residences between 1st View Street and W Bay Avenue and First View Baptist Church, west of I-64	24	34	0	4
40	Residences from Mace Arch to along W Bay Avenue, east of I-64	4	5	3	6
41	Residences on W Bay Avenue EB, west of I-64	0	0	0	4
42	Residences from Commodore Drive to W Bayview Boulevard, west of I-64	3	3	69	67
43	Residences from W Chester Street to E Bayview Boulevard, east of I-64, First Church of God – Anderson	4	5	50	48
44	Residences from W Bayview Boulevard to the south end of Executive Drive, west of I-64	28	28	24	25

**Table 7. Noise Impact by Common Noise Environment** 

CNE			_	reational by Noise	
ID	Area Land Use and Description	Existing	No- Build	Build- 8	Build- 10
45	Residences from E Bayview Boulevard to the I-64 WB on-ramp from Granby Street, east of I-64	13	13	8	8
46	Military baseball fields along Patrol Road near on- ramp to I-64 EB, west of I-64	0	1	7	7
47	Forest Lawn Cemetery	35	45	92	100
48	Military baseball field along Patrol Road near I- 564 interchange, west of I-64	1	3	7	9
49	Residences and Wesley United Baptist Church between W Glen Road & E Little Creek Road, east of I-64	3	4	5	4
50	Residences south of E Little Creek Rd, east of I-64	0	5	42	42
Hampto	on Totals	158	212	291	319
Norfolk	Totals	519	605	728	698
Grand T	otals	677	817	1019	1017

As described in more detail above, in some areas, increased noise levels predicted in the Retained Build Alternatives due to the removal of existing barriers and buildings are offset by the greater distances the remaining noise-sensitive properties are from project roadways, resulting in little change in projected impact between the No-Build and Retained Build Alternatives. In other areas, such reduced shielding results in a noticeable increase in projected impacts. As stated above, it is VDOT's policy to replace existing noise barriers with equivalent protection where barriers must be removed for the construction of a roadway project. However, the noise impact assessment does not include such replacement barriers; proposed barriers are discussed in the Noise Abatement section that follows.

Reduced noise impact from the Retained Build Alternatives is projected in the Willoughby Spit area (CNEs 26 through 30) primarily because project roadways are being located farther from the residential areas than in the No-Build Alternative and existing conditions.

#### 6. NOISE ABATEMENT MEASURES

FHWA has identified certain noise abatement measures that may be incorporated in projects to reduce traffic noise impact. In general, mitigation measures can include alternative measures (traffic management, the alteration of horizontal and vertical alignment, and low-noise pavement), in addition to the construction of noise barriers.

Section 6.2.6 of VDOT policy states that when an existing noise barrier is physically impacted and/or relocated as part of a highway widening or major reconstruction project, the same level of protection must be provided, without consideration of cost-reasonableness. Further, if additional noise impacts are projected associated with the project, additional noise barrier height or length would be subject to VDOT's cost-reasonableness criteria. Barriers that are constructed to replace existing barriers that are removed as a result of the project are called "replacement" barriers in this report.

#### 6.1 Alternative Noise Abatement Measures

Traffic management measures normally considered for noise abatement include reduced speeds and truck restrictions. Reduced speeds would not be an effective noise mitigation measure since a substantial decrease in speed is necessary to provide a significant noise reduction. A 10 mph reduction in speed would result in only a two decibel decrease in noise level. Restricting truck usage on I-64 is not practical as truck traffic is a primary function of this Interstate highway, and diversion of truck traffic to other roadways would increase noise levels in those areas. The alteration of the horizontal or vertical alignment of I-64 for the sole purpose of noise abatement would not be practical because the road would have to be shifted significantly to make the measure effective. Such shifts would require right-of-way acquisitions and would likely create new noise impact.

Additionally, the Noise Policy Code of Virginia (HB 2577, as amended by HB 2025) states: Requires that whenever the Commonwealth Transportation Board or the Department plan for or undertake any highway construction or improvement project and such project includes or may include the requirement for the mitigation of traffic noise impacts, first consideration should be given to the use of noise reducing design and low noise pavement materials and techniques in lieu of construction of noise walls or sound barriers. Vegetative screening, such as the planting of appropriate conifers, in such a design would be utilized to act as a visual screen if visual screening is required. Consideration would be given to these measures during the final design stage, where feasible. The response from project management is included Appendix E.

#### 6.2 Noise Barriers

The only remaining abatement measure investigated was the construction of noise barriers. The feasibility of noise barriers was evaluated in locations where noise impact is predicted to occur in the Build conditions. Where the construction of noise barriers was found to be physically practical, barrier noise reduction was estimated based on roadway, barrier, and receiver geometry as described below.

To be constructed, any noise barriers identified in this document must satisfy final feasibility and cost reasonableness criteria. Therefore, the noise barrier design parameters and cost identified in this document are preliminary and should not be considered final. Final design parameters, feasibility, and cost reasonableness cannot be determined, as the noise barrier cost estimate must be based upon an approved road design alignment and include all required materials and installation costs. If a noise barrier is determined to be feasible and reasonable, the affected public would be given an opportunity to decide whether they are in favor of construction of the noise barrier.

The need for an analysis of reflected sound and the potential use of sound absorbing materials would be evaluated during the noise barrier analysis conducted during the final design phase of the project.

Aircraft from Chambers Field at the Norfolk Naval Air Station occasionally dominate the noise levels in the greater Norfolk area on a momentary basis. However, due to the intermittent nature of aircraft operations, aircraft noise does not necessarily affect traffic noise levels in any given hour of the day. Further, a conservative and appropriate approach for identifying the benefits of barriers for traffic noise does not include contributions from intermittent aircraft. In that way, the full traffic noise-reduction benefits of barriers is addressed.

#### 6.2.1 Feasibility and Reasonableness

FHWA and VDOT require that noise barriers be both "feasible" and "reasonable" to be recommended for construction.

To be feasible, a barrier must be effective, that is it must reduce noise levels at noise sensitive locations by at least 5 decibels, thereby "benefiting" the property. VDOT requires that at least fifty percent (50%) of the impacted receptors receive 5 decibels or more of insertion loss from the proposed barrier for it to be feasible.

A second feasibility criterion is that it must be possible to design and construct the barrier. Factors that enter into constructability include safety, barrier height, topography, drainage, utilities, maintenance of the barrier, and access to adjacent properties. VDOT has a maximum allowable height of 30 feet for noise barriers.

Barrier reasonableness is based on three factors: cost-effectiveness, ability to achieve VDOT's insertion loss design goal, and views of the benefited receptors. To be "cost-effective", a barrier cannot require more than 1600 square feet per benefited receptor (SF/BR). VDOT's maximum barrier height of 30 feet figures into the assessment of benefited receptors. Where multi-family housing includes balconies at elevations above that of a 30-ft high barrier, or terrain lifts ground-based receptors above the elevation of a 30-ft barrier, these receptors would not be assessed for barrier benefits and are thereby not included in the computation of the barrier's reasonableness.

The second reasonableness criterion is VDOT's noise reduction design goal of 7 decibels. This goal must be achieved for at least one of the impacted receptors, for the barrier to be considered reasonable.

The third reasonableness criterion relates to the views of the owners and residents of the potentially benefited properties. A majority of the benefited receptors must favor the barrier for it to be considered reasonable to construct. Community views are surveyed in the final design phase of projects.

#### **6.2.2** Details of Replacement and Potential Barriers

**Figure 2** presented in Section 3 shows the predicted noise level results for all of the receptors for the Retained Build Alternatives. A noise impact contour for the Build-10 Alternative without abatement is included for the residential and recreational areas (at the applicable Categories B and C NAC of 67 dBA, which is represented by 66 dBA  $L_{eq}$  at ground floor receptors). There are impacted receptors that show beyond the noise contour in **Figure 2**; those impacts are due to substantial increases in existing noise or they occur at upper floor receptors. **Figure 2** also shows the locations of noise abatement barriers as colored lines along the roadway and labeled with a barrier number.

Details of each of the barriers evaluated are given in **Table 8** and described in narratives following the table. The table and narratives include both "Replacement" barriers that would be constructed where existing barriers would be removed, and "Potential" barriers that would be warranted and were evaluated for feasibility and reasonableness. The table and narratives describe the barrier type, the CNE in which they would be located, the Retained Build Alternative to which they apply, the range of noise reduction they would provide, the length, height, surface area and estimated cost at \$37 per square foot, the number of dwelling units and recreational receptor units that would benefit from 5 decibels of noise reduction from the barrier, and the resulting surface area of barrier per benefited receptor (SF/BR). As long as 7 decibels of noise reduction can be achieved at

Table 8. Details of Replacement and Potential Noise Barriers

Build Reduction (RAMPTON)         Length (RAMPTON)         Length (RAMPTON)         Area (GAS)         Cost at (RAMPTON)         Number (RAMPT						<b>Barrier Data</b>	ata		Total		Non-		Surface Area
1,2   8   5-12   1,914   15   28,704   51,062,048   19   19   18   37   37   38   5-7   2,545   15-30   39,982   51,479,334   36   36   14   50   35   35   35   35   35   35   35	Barrier No. & Type (R/P)*	CNE	Build Alt.	Noise Reduction Range (dBA)	Length (ft)	Height Range (ft)	Surface Area* (sq ft)	Cost at \$37/sq ft	Number of Impacted Receptors	and Benefited Receptors	Impacted and Benefited Receptors	Total Benefited Receptors	of Barrier per Benefited Receptor (SF/BR)*
1,2         8         5-12         1,914         15         28,704         51,062,048         19         19         18         37           3         10         5-12         1,916         15         28,741         51,063,417         20         20         15         35           4         8         5-7         2,545         15-30         39,982         51,479,334         37         36         14         50           4         8         5-10         1,709         15-30         39,982         51,479,334         36         36         7         43           6         8         5-10         1,709         15-30         31,429         51,162,873         3         3         69         7         43           7         10         5-10         1,709         15-30         31,429         51,162,873         3         3         69         72         72           8         5-7         1,931         15         28,970         51,071,890         14         14         3         17         16           8         5-8         1,788         15         25,406         \$940,022         15         2         2         2	HAMPTON												
3         10         5-12         1,916         15         28,741         \$1,063,417         20         20         15         35         35,242         \$1,479,334         37         36         14         55         35         35         36         14         50         35         36         14         50         35         36         36         37         36         14         50         37         36         36         37         36         36         37         37         37         37         37         37         37         37         37         37         37         37         37         37         37         37         37         37         37	,	,	8	5-12	1,914	15	28,704	\$1,062,048	19	19	18	37	776
3         8         5-7         2,545         15-30         39,982         5,479,334         37         36         14         50           4         8         5-10         1,709         15-30         39,982         51,479,334         36         7         43           6         8         5-10         1,709         15-30         31,429         51,162,873         3         6         6         7         43           6         10         5-10         1,709         15-30         31,429         \$1,162,873         3         6         6         7         43           6         8         5-10         1,709         15-30         31,429         \$1,162,873         3         6         6         7         43           1         8         5-7         1,931         15         28,940,022         15         17	<u> </u>	T, 2	10	5-12	1,916	15	28,741	\$1,063,417	20	20	15	35	821
4         8         5-10         5-7         2,545         15-30         39,982         51,409,334         36         36         7         43           6         8         5-10         1,709         15-30         31,429         \$1,162,873         5         5         67         72         72           6         10         5-10         1,709         15-30         31,429         \$1,162,873         3         6         67         72         72           8         5-10         1,709         15-30         \$1,402         \$1,107,890         14         14         3         17         72         72         72         72         72,406         \$940,022         15         16         7         4         3         17         16         7         4         3         17         16         7         16         7         4         4         3         17         16         7         4         4         3         17         16         17         17,136         \$1,278,239         2         2         2         2         2         4         4         3         1         4         4         4         4         4         4 <td>ć</td> <td>r</td> <td>8</td> <td>2-7</td> <td>2,545</td> <td>15-30</td> <td>39,982</td> <td>\$1,479,334</td> <td>37</td> <td>36</td> <td>14</td> <td>50</td> <td>800</td>	ć	r	8	2-7	2,545	15-30	39,982	\$1,479,334	37	36	14	50	800
4         8         5-10         1,709         15-30         31,429         5,162,873         5         5         6         6         7         72           6         8         5-7         1,709         15-30         31,429         51,162,873         3         6         69         72         7           6         8         5-7         1,931         15         28,970         \$1,01,890         14         14         3         17         17           8         5-7         1,694         15         25,406         \$940,022         15         15         17         16         17         16         17         16         17         16         17,136 N         \$34,547 I         \$34,544 N         \$32         \$22         \$24         \$32         \$34         \$	47 7	n	10	2-7	2,545	15-30	39,982	\$1,479,334	36	36	7	43	930
6         10         5-10         1,709         15-30         31,429         5,162,873         3         3         69         72         72           8         5-7         1,931         15         28,970         51,071,890         14         14         3         17         17           8         5-7         1,694         15         25,406         \$940,022         15         15         17,136 N         \$93,043         3         3         3         17         16         17         16         17,136 N         \$1,278,239         2         <	כ	•	8	5-10	1,709	15-30	31,429	\$1,162,873	2	2	29	72	437
6         8         5-7         1,931         15         28,970         \$1,071,890         14         14         3         17         169           8         10         5-7         1,694         15         25,406         \$940,022         15         15         16         16         16         16         16         16         16         16         16         16         16         16         16         17,136 N         \$1,278,23         2         4         3         4         3         4         3         4         3         4         3         4         3         4         3         4         3         4         3         4         3         4         3         4         3	ج ح	4	10	5-10	1,709	15-30	31,429	\$1,162,873	3	3	69	72	437
8         5-8         1,694         15         25,406         \$940,022         15         15         1,694         15         25,839 T         \$993,043         3         3         22         25         3           8         5-8         1,788         15         17,136 N         \$1,136 N         \$3         2         2         25         25         25         24         24         2         2         2         2         24         24         2         2         2         2         2         24         24         2	(	Ú	8	2-7	1,931	15	28,970	\$1,071,890	14	14	3	17	1701*
8         5-8         1,788         15         26,839T 2136 N         \$993,043         3         3         22         25           9,10         8         5-10         2,116         15-30         34,547 Z         \$1,278,239         2         2         24         24           9,10         8         5-11         2,747         15         41,198         \$1,524,356         19         18         14         32         24           11         8         5-12         2,837         15         42,550         \$1,574,350         23         23         9         32         104 </td <td>4</td> <td>٥</td> <td>10</td> <td>2-5</td> <td>1,694</td> <td>15</td> <td>25,406</td> <td>\$940,022</td> <td>15</td> <td>15</td> <td>1</td> <td>16</td> <td>1588</td>	4	٥	10	2-5	1,694	15	25,406	\$940,022	15	15	1	16	1588
9.10         5-10         2,116         15-30         34,547T 24,823         51,278,239         2         2         2         24           9,10         8         5-11         2,747         15         41,198         \$1,524,326         19         18         14         32           11         8         5-12         2,837         15         42,550         \$1,574,350         23         9         32         104           11         8         5-12         3,563         15         53,514 T (3,980,018)         59         54         50         104           11         10         5-12         3,564         15         53,530 T (3,980,610)         64         58         43         101           12         8         6-12         2,259         15         33,918 T (3,1254,966)         18         18         18         13         41	0/ 01	0	8	2-8	1,788	15	26,839 T 17,136 N	\$993,043	3	3	22	25	1074 T 685 N
9,10         8         5-12         2,747         15         41,198         \$1,524,326         19         18         14         32           11         8         5-12         2,837         15         42,550         \$1,574,350         23         9         32         3           11         8         5-12         3,563         15         43,811 N         \$1,980,610         64         58         43         101           12         8         6-12         2,259         15         33,918 T         \$1,254,966         18         18         18         18         43         41		0	10	5-10	2,116	15-30	34,547 T 24,844 N	\$1,278,239	2	2	22	24	1439 T 1035 N
3,10         10         5-12         2,837         15         42,550         \$1,574,350         23         9         32           11         8         5-12         3,563         15         43,811 N         \$1,980,018         59         54         50         104           12         8         6-12         2,259         15         33,918 T         \$1,254,966         18         18         18         41	0	,	8	5-11	2,747	15	41,198	\$1,524,326	19	18	14	32	1287
11         8         5-12         3,563         15         43,811 N         \$1,980,018         59         54         50         104           12         12         8         6-12         3,564         15         43,827 N         \$1,254,966         18         18         18         23         41	70	9,10	10	5-12	2,837	15	42,550	\$1,574,350	23	23	6	32	1330
12 8 6-12 2,259 15 33,887 N \$1,980,610 64 58 43 43 101	Ç	7	8	5-12	3,563	15	53,514 T 43,811 N	\$1,980,018	29	54	20	104	515 T 421 N
12 8 6-12 2,259 15 33,918T \$1,254,966 18 18 23 41	<u> </u>	<b>T</b>	10	5-12	3,564	15	53,530 T 43,827 N	\$1,980,610	64	58	43	101	530 T 434 N
	8R	12	8	6-12	2,259	15	33,918 T 13,887 N	\$1,254,966	18	18	23	41	827 T 339 N

Table 8. Details of Replacement and Potential Noise Barriers

					<b>Barrier Data</b>	ata		Total		Non-		Surface Area
Barrier No. & Type (R/P)*	CNE	Build Alt.	Noise Reduction Range (dBA)	Length (ft)	Height Range (ft)	Surface Area* (sq ft)	Cost at \$37/sq ft	Number of Impacted Receptors	impacted and Benefited Receptors	Impacted and Benefited Receptors	Total Benefited Receptors	of Barrier per Benefited Receptor (SF/BR)*
8R	12	10	7-12	2,448	15	36,735 T 16,704 N	\$1,359,195	21	21	15	36	1020 T 464 N
00	C1	8	6-11	3,004	15	45,058	\$1,667,146	22	22	76	48	939
٦. ٢	CT	10	6-12	5,999	15	45,005	\$1,665,185	56	56	18	47	958
100	15 17	8	2-9	4,941	15	74,059	\$2,740,183	24	22	47	69	1073
IOF	13,17	10	5-10	4,708	15	70,595	\$2,612,015	23	21	45	99	1070
110	91	8	5-10	1,980	15	29,684	\$1,098,308	13	13	25	38	781
ATT	01	10	5-10	1,977	15	29,682	\$1,098,234	17	17	27	44	675
170	Üŀ	8	6-5	1,174	15	17,606	\$651,422	7	2	1	8	2201*
126	13	10	6-5	1,174	15	17,606	\$651,422	7	2	1	8	2201*
120	ć	8	5-11	1,837	15	27,546	\$1,019,202	22	22	14	36	765
LOF	70	10	5-11	1,837	15	27,546	\$1,019,202	22	22	14	36	765
170	,	8	10-12	785	15	11,766	\$435,342	2	2	0	2	5883*
14r	7.7	10	10	785	15	11,766	\$435,342	1	1	0	1	11,766*
150	,	8	5-11	2,128	15	31,896	\$1,180,152	4	4	22	26	1227
TOT	77	10	5-11	2,128	15	31,896	\$1,180,152	4	4	22	26	1227
16B/B	טר	∞	5-14	3,550	15	53,267 T 35,268 N	\$1,970,879	25	25	31	56	951 T 630 N
T (NOT	C7	10	5-12	3,499	15	52,482 T 34,483 N	\$1,941,834	29	29	28	57	921 T 605 N

Table 8. Details of Replacement and Potential Noise Barriers

					Barrier Data	ata		Total	7000	Non-		Surface Area
Barrier No. & Type (R/P)*	CNE	Build Alt.	Noise Reduction Range (dBA)	Length (ft)	Height Range (ft)	Surface Area* (sq ft)	Cost at \$37/sq ft	Number of Impacted Receptors	impacted and Benefited Receptors	Impacted and Benefited Receptors	Total Benefited Receptors	of Barrier per Benefited Receptor (SF/BR)*
NORFOLK												
77.	70 20	∞	5-13	4,636	15	69,516	\$2,572,092	57	57	20	107	650
I/F	77'07	10	6-12	4,454	15	982'99	\$2,471,082	20	20	62	112	596
101	o c	8	5-12	1,871	15	28,055	\$1,038,035	26	26	16	188	149
TOL	97	10	5-12	1,870	15	28,043	\$1,037,591	69	69	76	161	174
100	ć	8	6-10	1,809	15	27,117	\$1,003,329	23	23	0	23	1179
196	67	10	6-12	1,626	15	24,344	\$300,728	23	23	1	24	1014
מטר	10.00	8	6-12	4,518	15	67,762	\$2,507,194	92	95	169	261	260
20F	30,31	10	7-13	4,336	15	65,025	\$2,405,925	79	62	167	246	264
710	ιc	8	6-11	3,336	15	50,029	\$1,851,073	25	25	129	154	325
ZIF	76	10	6-11	3,339	15	50,073	\$1,852,701	25	25	129	154	325
טרנ	25 30	8	7-11	3,431	15	51,491	\$1,905,167	41	41	25	93	592
777	32,58	10	5-11	3,429	15	51,452	\$1,903,724	37	28	43	80	643
acc	7.0	8	5-11	5,340	15	80,116 T 28,835 N	\$2,946,292	81	81	44	125	641 T 231 N
73N	) c	10	5-10	5,338	15	80,053 T 28,772 N	\$2,961,961	91	91	32	123	651 T 234 N
avc	07	8	8-11	1,264	15	18,965	\$701,705	3	3	61	64	296
24F	04	10	8-10	1,137	15	17,061	\$631,257	9	9	89	64	267
25R	42,44	∞	5-11	4,914	15-22	96,265 T 23,832 N	\$3,561,805	93	93	14	107	900 T 223 N

Table 8. Details of Replacement and Potential Noise Barriers

					<b>Barrier Data</b>	ata		Total	1	Non-		Surface Area
Barrier No. & Type (R/P)*	CNE	Build Alt.	Noise Reduction Range (dBA)	Length (ft)	Height Range (ft)	Surface Area* (sq ft)	Cost at \$37/sq ft	Number of Impacted Receptors	Impacted and Benefited Receptors	Impacted and Benefited Receptors	Total Benefited Receptors	of Barrier per Benefited Receptor (SF/BR)*
25R	42,44	10	5-11	4,914	15-22	96,265 T 23,832 N	\$3,561,805	92	92	12	104	926 T 229 N
c c	Ç	8	5-12	3,357	15-22	66,583 T 15,501 N	\$2,463,571	51	37	0	38	1752 T 408 N
20K	4 5	10	5-11	3,173	15-22	63,837 T 12,755 N	\$2,361,969	67	27	0	28	2280 T 456 N
27P	97	8 & 10	8-9	1,808	15	27,121	\$1,003,477	7	7	18	25	1085
0/000	47,49,	8	6-9	2,908	15-25	126,072 T 98,881 N	\$4,664,664	139	08	26	106	1189 T 933 N
20K/ P	20	10	2-9	866'2	15-25	134,800 T 107,609 N	\$4,987,600	138	59	6	74	1822 T* 1454 N*
טטנ	01	8	5-10	3,314	15	49,716	\$1,839,492	7	7	11	18	2762*
767	0	10	2-5	3,314	15	49,716	\$1,839,492	6	5	0	2	9943*

- Barrier type R is Replacement, type P is Potential.

- Replacement barriers show T = Total surface area and SF/BR, and N = Net surface area and SF/BR, which excludes the existing barrier surface area

- Where Net SF/BR exceeds VDOT's maximum of 1600, a barrier would not be considered cost-reasonable - Barrier 28R/P for Build-10 technically not feasible because fewer than 50% of impacted receptors not benefited. Further refinement during design would likely make this barrier feasible.

one impacted receptor, which is achievable in most areas, the SF/BR is the primary determining factor in whether barriers would be reasonable (cost-effective). If barriers could not be developed that were both feasible and reasonable, the best attempt at developing a reasonable barrier is shown in the table, and the SF/BR value that resulted is given.

It is important to point out that the barrier analysis conducted for this EIS was conducted in an efficient manner, such that only two barrier heights were examined - 15 ft and 30 ft (VDOT's maximum barrier height). This efficient processing does not allow for fine-tuning of the SF/BR value with a variety of barrier heights, as would be carried out in a noise abatement final design analysis. As a result, this analysis gives initial impressions of the potential cost-effectiveness of barriers for each CNE, but cannot and should not be construed as definitive findings about the eventual reasonableness of any of the noise barriers evaluated. As mentioned earlier, all noisesensitive areas adjacent to the project corridor would be reevaluated for noise abatement in a much more detailed manner during the design phase of this project following this NEPA environmental documentation process. The barrier analysis was largely conducted separately for each CNE, unless the receptors in two adjacent CNEs clearly needed to be combined for a barrier evaluation. Barriers evaluated separately for adjacent CNEs may overlap somewhat near the border between the two CNEs. Therefore, if both barriers would be cost-reasonable where overlap occurs, the actual total barrier length may be somewhat less than the sum of the barrier lengths shown for the two barriers evaluated separately. This overlap is estimated to be less than ten percent of the total barrier length.

In summary, up to approximately 15 miles of replacement and warranted barriers would be potentially feasible and reasonable under the Build-8 Alternative, which would benefit up to about 980 impacted receptors, and 1925 receptors in total. This length is also approximately 15 miles with the Build-10 Alternative; those barriers would benefit up to about 975 impacted receptors and a total of 1830 receptors. Total barrier construction costs for these barriers are estimated to be in the range of \$40 million to \$50 million.

The detailed descriptions of each of the barriers shown in **Table 8** follow below.

#### **HAMPTON**

**Barrier 1P** is a Potential barrier that would be located along the eastbound lanes of I-64 west of the interchange with I-664. Barrier 1P under the Build-8 Alternative would benefit 19 impacted recreational receptors in the Bluebird Gap Farm recreation area (CNE 2), and a total of 37 receptors, including two homes along Pine Chapel Road (CNE 1). The barrier would be 15 feet high and 1914 feet long with a surface area of 28,704 sq. ft. and provide 5 to 12 decibels of noise reduction at the benefited receptors. The barrier would be feasible and reasonable with a surface area per benefited receptor of 776. In the Build-10 Alternative, 20 impacted receptors would be benefited, for a total of 35. The barrier length would be 1916 ft, with a surface area of 28,741 sq. ft and the barrier would also be feasible and reasonable with a surface area per benefited receptor of 821.

**Barrier 2P** is a Potential barrier in CNE 3 that would be located on the eastbound side of I-64 opposite the I-664 interchange. Barrier 2P under the Retained Build Alternatives would benefit 36 impacted multi-family units in the existing and permitted housing under development along Waterside Drive and Green Hill Drive with 5 to 7 decibels of noise reduction. A total of 50 dwelling units would be benefited under the Build-8 Alternative and 43 receptors with the Build-10 Alternative. With both alternatives, Barrier 2P would be 15 to 30 feet in height and 2545 feet long for a total of 39,982 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 800 in the Build-8 Alternative and 930 for the Build-10 Alternative.

**Barrier 3P** is a Potential barrier in CNE 4 that would be located on the southbound side of I-664 south of the interchange with I-64. Barrier 3P under the Build-8 Alternative would benefit 5 impacted residences and 67 additional multi-family residences along W. Queen Street. In the Build-10 Alternative, 3 impacted units would be benefited plus an additional 69. For both alternatives, Barrier 3P would provide 5 to 10 decibels of noise reduction at the benefited receptors. The barrier would be 15 to 30 feet in height and 1709 feet long for a total of 31,429 square feet. This barrier would be feasible and reasonable with a surface area per benefited receptor of 437.

**Barrier 4P** is a Potential barrier in CNE 6 that would be located on the eastbound side of I-64 east of the interchange with I-664. Barrier 4P under the Build-8 Alternative would benefit 14 impacted single-family residences and 3 additional residences along Red Robin Turn with 5 to 7 decibels of noise reduction. Barrier 4P would be 15 feet in height and 1931 feet long for a total of 28,970 square feet. The barrier would be feasible but not reasonable with a surface area per benefited receptor of 1701, which exceeds VDOT's maximum SF/BR of 1600. Under the Build-10 Alternative, Barrier 4P would benefit 15 impacted single-family residences and one additional residence along Red Robin Turn with 5 to 7 decibels of noise reduction. Barrier 4P would be 15 feet in height and 1694 feet long for a total of 25,406 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 1588.

Barrier 5R/P is a Replacement and Potential barrier in CNE 8 that would be located on the southbound side of I-664 south of the interchange with I-64. Barrier 5R/P under the Build-8 Alternative would benefit 3 impacted residences and 22 additional residences along W. Queen Street with 5 to 8 decibels of noise reduction. Barrier 5R/P would be 15 feet in height and 1788 feet long for a total of 26,839 square feet. The barrier replaces an existing barrier of 9703 square feet. The additional surface area of Barrier 5R/P would be feasible and reasonable with a net surface area per benefited receptor of 685. Under the Build-10 Alternative, Barrier 5R/P would benefit 2 impacted residences and 22 additional residences along W. Queen Street with 5 to 10 decibels of noise reduction. Barrier 5R/P would be 15 to 30 feet in height and 2116 feet long for a total of 34,547 square feet. The additional surface area of Barrier 5R/P would be feasible and reasonable with a net surface area per benefited receptor of 1035.

**Barrier 6P** is a Potential barrier that would benefit adjacent CNEs 9 and 10, and that would be located on the eastbound side of I-64 east of the interchange with Route 167. Barrier 6P under the Build-8 Alternative would benefit 18 impacted single-family residences and 14 additional residences between Patterson Ave. and Rip Rap Road. Barrier 6P would be 15 feet in height and 2747 feet long for a total of 41,198 square feet and provide 5 to 11 decibels of noise reduction at the affected properties. The barrier would be feasible and reasonable with a surface area per benefited receptor of 1287. Barrier 6P under the Build-10 Alternative would benefit 23 impacted single-family residences and 9 additional residences. Barrier 6P would be 15 feet in height and 2837 feet long for a total of 42,550 square feet and provide 5 to 12 decibels of noise reduction. The barrier would be feasible and reasonable with a surface area per benefited receptor of 1330.

**Barrier 7R** is a Replacement barrier in CNE 11 between Thomas Street and Spanish Trail, along the westbound side of I-64. In the Build-8 Alternative, the barrier would benefit 54 impacted residences plus 50 additional homes with 5 to 12 decibels of noise reduction. Barrier 7R would be 15 feet in height and 3563 feet long with a surface area of 53,514 square feet. The barrier replaces an existing barrier of 9703 square feet. The additional surface area of Barrier 7R would be feasible and reasonable with a surface area per benefited receptor of 421. In the Build-10 Alternative, the barrier would benefit 58 impacted residences plus 43 additional homes with 5 to 12 decibels of noise reduction. The barrier would be 15 feet in height and 3564 feet long with a surface area of

53,530 square feet. The additional surface area of Barrier 7R would be feasible and reasonable with a surface area per benefited receptor of 434.

Barrier 8R is a Replacement barrier in CNE 12 that would be located on the westbound side of I-64 between Creek Avenue and River Street. Barrier 8R under the Build-8 Alternative would benefit 18 impacted single-family units plus another 23 homes with 6 to 12 decibels of noise reduction. Barrier 8R would be 15 feet in height and 2259 feet long for a total of 33,918 square feet. The barrier replaces an existing barrier of 20,031 square feet. The additional surface area of Barrier 8R would be feasible and reasonable with a surface area per benefited receptor of 339. Barrier 8R under the Build-10 Alternative would benefit 21 impacted single-family units plus another 15 homes with 7 to 12 decibels of noise reduction. Barrier 8R would be 15 feet in height and 2448 feet long for a total of 36,735 square feet. The additional surface area of Barrier 8R would be feasible and reasonable with a surface area per benefited receptor of 464.

**Barrier 9P** is a Potential barrier that is located in CNE 13 between Eaton Street and East Pembroke Avenue, along the eastbound side of I-64. The barrier would benefit 22 impacted single-family residences in the Build-8 Alternative, plus an additional 26 homes with 6 to 11 decibels of noise reduction. Barrier 9P would be 15 feet in height and 3004 feet long with a surface area of 45,058 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 939. In the Build-10 Alternative, the barrier would benefit 29 impacted single-family residences plus an additional 18 homes with 6 to 12 decibels of noise reduction. Barrier 9P would be 15 feet in height and 2999 feet long with a surface area of 45,005 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 958.

Barrier 10P is a Potential barrier that spans both CNEs 15 and 17. CNE 15 includes single-family homes between E. Pembroke Avenue and S. Boxwood Street on the westbound side of I-64, and adjacent CNE 17 includes the Woodlands Golf course. In the Build-8 Alternative, the barrier would benefit 4 impacted single-family residences and 18 impacted recreational receptors in the golf course with 5 to 9 decibels of noise reduction. An additional 12 homes and 35 golf course receptors would also be benefited, for a total of 69 benefited receptors. Barrier 10P would be 15 feet in height and 4941 feet long with a surface area of 74,059 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 1073. In the Build-10 Alternative, the barrier would benefit 2 impacted single-family residences and 19 impacted golf course receptors with 5 to 10 decibels of noise reduction. An additional 12 homes and 33 golf course receptors would also be benefited, for a total of 66 benefited receptors. Barrier 10P would be 15 feet in height and 4708 feet long with a surface area of 70,595 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 1070.

**Barrier 11P** is a Potential barrier that is located in CNE 16 between Brough Lane and S. Boxwood Street, along the eastbound side of I-64. The barrier would benefit 13 impacted single-family residences in the Build-8 Alternative, and an additional 25 homes with 5 to 10 decibels of noise reduction. Barrier 11P would be 15 feet in height and 1980 feet long with a surface area of 29,684 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 781. In the Build-10 Alternative, the barrier would benefit 17 impacted single-family residences, plus an additional 27 homes with 5 to 10 decibels of noise reduction. Barrier 11P would be 15 feet in height and 1977 feet long with a surface area of 29,682 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 675.

<u>Barrier 12P</u> is a Potential barrier for CNE 19 which covers the Hampton University Baseball Stadium, along the eastbound side of I-64. The barrier would benefit 7 impacted recreational receptors and one additional receptor with 5 to 9 decibels of noise reduction in the Build-8 Alternative. Eight

receptors are impacted and benefited in the Build-10 Alternative. For both alternatives, Barrier 12P would be 15 feet in height and 1774 feet long with a surface area of 20,317 square feet. The barrier evaluated would be feasible but not reasonable with a surface area per benefited receptor of 2540, which exceeds VDOT's maximum SF/BR of 1600.

**Barrier 13P** is a Potential barrier for CNE covering the Hampton National Cemetery, along the westbound side of I-64. In the Build-8 Alternative, the barrier would benefit 22 impacted recreational receptors and 14 additional receptors with 5 to 11 decibels of noise reduction. In the Build-10 Alternative, 22 impacted receptors would be benefited plus an additional 14 receptors. For both alternatives, barrier 13P would be 15 feet in height and 1837 feet long with a surface area of 27,546 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 765.

Barrier 14P is a Potential barrier located in CNE 21, a single-family residential area adjacent to Hampton University, along the eastbound side of I-64. The barrier would benefit 2 impacted single-family residences in the Build-8 Alternative with 10 to 12 decibels of noise reduction, and one impacted home in the Build-10 Alternative with 10 decibels of noise reduction. In both alternatives, barrier 14P would be 15 feet in height and 785 feet long with a surface area of 11,766 square feet. The barrier evaluated would be feasible but not reasonable with a surface area per benefited receptor of 5883, which exceeds VDOT's maximum SF/BR of 1600.

**Barrier 15P** is a Potential barrier for CNE 22, representing single-family homes along Cameron Street, along the westbound side of I-64. In the Build-8 Alternative, the barrier would benefit 4 impacted single-family residences and an additional 22 homes with 5 to 11 decibels of noise reduction. In the Build-10 Alternative, 4 impacted single-family residences and an additional 22homes would benefit from 5 to 11 decibels of noise reduction. In both alternatives, Barrier 15P would be 15 feet in height and 2496 feet long with a surface area of 37,416 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 1439.

Barrier 16R/P is a Replacement and Potential barrier for CNE 25, a residential area located on the westbound side of I-64, south of Mallory Street and along Segar Street. Barrier 16R/P under the Build-8 Alternative would benefit 25 impacted single-family units plus another 31 homes with 5 to 14 decibels of noise reduction. Barrier 16R/P would be 15 feet in height and 3550 feet long for a total of 53,267 square feet. The barrier replaces an existing barrier of 17,999 square feet. The additional surface area of Barrier 16R/P would be feasible and reasonable with a net surface area per benefited receptor of 630. Barrier 16R/P under the Build-10 Alternative would benefit 29 impacted single-family units plus another 28 homes with 5 to 12 decibels of noise reduction. Barrier 16R/P would be 15 feet in height and 3499 feet long for a total of 52,482 square feet. The additional surface area of Barrier 16R/P would be feasible and reasonable with a net surface area per benefited receptor of 605.

#### **NORFOLK**

**Barrier 17P** is a Potential barrier for CNEs 26 and 27, representing the beach area at the west end of Willoughby Spit and residences west of 15<sup>th</sup> View St., along the westbound side of I-64. In the Build-8 Alternative, the barrier would benefit 51 impacted residences and 6 impacted recreational receptors and an additional 49 homes and one recreational receptor with 5 to 13 decibels of noise reduction. Barrier 17P would be 15 feet in height and 4636 feet long with a surface area of 69,516 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 650. In the Build-10 Alternative, 50 impacted receptors plus an additional 62 receptors would be benefited with 6 to 12 decibels of noise reduction. Barrier 17P would be 15 feet in height

and 4454 feet long with a surface area of 66,786 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 596.

**Barrier 18P** is a Potential barrier for CNE 28, representing residences between 15<sup>th</sup> View Street and 13<sup>th</sup> View Street, along the westbound side of I-64. In the Build-8 Alternative, the barrier would benefit 97 impacted residences and an additional 91 homes with 5 to 12 decibels of noise reduction. Barrier 18P would be 15 feet in height and 1871 feet long with a surface area of 28,055 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 149. In the Build-10 Alternative, the barrier would benefit 69 impacted residences and an additional 92 homes with 5 to 12 decibels of noise reduction. Barrier 18P would be 15 feet in height and 1870 feet long with a surface area of 28,043 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 174.

**Barrier 19P** is a Potential barrier for CNE 29, representing residences on Willoughby Spit, along the eastbound side of I-64. In the Build-8 Alternative, the barrier would benefit 23 impacted residences with 6 to 10 decibels of noise reduction. Barrier 19P would be 15 feet in height and 1809 feet long with a surface area of 27,117 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 1179. In the Build-10 Alternative, the barrier would benefit 23 impacted residences and one additional residence with 6 to 12 decibels of noise reduction. Barrier 19P would be 15 feet in height and 1626 feet long with a surface area of 24,344 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 1014.

Barrier 20P is a Potential barrier for CNEs 30 and 31, representing residences between 13<sup>th</sup> View Street and the end of Little Bay Avenue, and the Captain's Quarters Nature Center and Park along the westbound side of I-64. In the Build-8 Alternative, the barrier would benefit 87 impacted residences and 5 impacted recreational receptors, and benefit an additional 167 homes and two recreational units with 6 to 12 decibels of noise reduction. Barrier 20P would be 15 feet in height and 4,518 feet long with a surface area of 67,762 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 260. In the Build-10 Alternative, the barrier would benefit 79 impacted receptors, plus an additional 167 receptors with 7 to 13 decibels of noise reduction. Barrier 20P would be 15 feet in height and 4,336 feet long with a surface area of 65,025 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 264.

<u>Barrier 21P</u> is a Potential barrier for CNE 32, representing residences between the end of Little Bay Avenue and 4<sup>th</sup> View Street, along the westbound side of I-64. In the Build-8 and 10 Alternatives, the barrier would benefit 25 impacted residences plus an additional 129 residences with 6 to 11 decibels of noise reduction. Barrier 21P would be 15 feet in height in both alternatives, and 3,336 feet long with a surface area of 50,029 square feet in the Build-8 Alternative, and 3,339 feet long with a surface area of 50,073 in the Build-10 Alternative. The barrier would be feasible and reasonable with a surface area per benefited receptor of 325 under both alternatives.

<u>Barrier 22P</u> is a Potential barrier for CNEs 35 and 38, which represent residences at Willoughby Bay military housing and residences between Orange Avenue and Ridgewell Avenue, on the eastbound side of I-64. In the Build-8 Alternative, the barrier would benefit 41 impacted residences plus an additional 52 residences with 7 to 11 decibels of noise reduction. Barrier 22P would be 15 feet in height and 3,431 feet long with a surface area of 51,491 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 592. In the Build-10 Alternative, the barrier would benefit 37 impacted residences plus an additional 43 residences with 5 to 11 decibels of noise reduction. Barrier 22P would be 15 feet in height and 3,429 feet long with a surface area

of 51,452 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 643.

Barrier 23R is a Replacement barrier for CNE 37, representing residences between W Government Avenue and Mace Arch, on the westbound side of I-64. In the Build-8 Alternative, the barrier would benefit 81 impacted residences plus an additional 44 residences with 5 to 11 decibels of noise reduction. Barrier 23R would be 15 feet in height and 5,340 feet long with a surface area of 80,116 square feet. The barrier replaces an existing barrier of 51,281 square feet. The additional surface area of Barrier 23R would be feasible and reasonable with a net surface area per benefited receptor of 231. In the Build-10 Alternative, the barrier would benefit 91 impacted residences plus an additional 32 residences with 5 to 10 decibels of noise reduction. Barrier 23R would be 15 feet in height and 5,338 feet long with a surface area of 80,053 square feet. The barrier replaces an existing barrier of 51,281 square feet. The additional surface area of Barrier 23R would be feasible and reasonable with a net surface area per benefited receptor of 234.

Barriers would not be feasible for either the four residences impacted under the Build-10 Alternative in CNE 39 or the four homes impacted in CNE 41. The impacted dwellings are on opposite sides of Bellinger Boulevard/Bay Avenue west of I-64. The noise environment at those homes is dominated by traffic on Bellinger Boulevard/Bay Avenue, and there are driveway curb cuts along the roadway. Noise barriers would not be feasible because sufficient noise reduction could not be achieved.

Barrier 24P is a Potential barrier for CNE 40, representing residences from Mace Arch to opposite the Bay Avenue interchange, on the westbound side of I-64. In the Build-8 Alternative, the barrier would benefit 3 impacted residences plus an additional 61 residences with 8 to 11 decibels of noise reduction. Barrier 24P would be 15 feet in height and 1,264 feet long with a surface area of 18,965 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 296. In the Build-10 Alternative, the barrier would benefit 6 impacted residences plus an additional 58 residences with 8 to 10 decibels of noise reduction. Barrier 24P would be 15 feet in height and 1,137 feet long with a surface area of 17,061 square feet. The barrier would be feasible and reasonable with a surface area per benefited receptor of 267. Aircraft noise is present in the area due to the proximity of Norfolk Naval Air Station, but it has not been accounted for directly in the noise barrier analysis. The noise-reduction benefits of the potential noise barrier would only apply to the highway noise; it is not expected to reduce aircraft noise to any appreciable degree.

Barrier 25R is a Replacement barrier for CNEs 42 and 44, representing residences from Commodore Drive to the south end of Executive Drive, on the eastbound side of I-64. In the Build-8 Alternative, the barrier would benefit 93 impacted residences plus an additional 14 residences with 5 to 11 decibels of noise reduction. In the Build-10 Alternative, 92 impacted residences would be benefited plus an additional 12 homes. In both alternatives, Barrier 25R would be 15 to 22 feet in height and 4914 feet long with a surface area of 96,265 square feet. The barrier replaces an existing barrier of 72,433 square feet that is up to 22 ft tall. The additional surface area of Barrier 25R would be feasible and reasonable with a net surface area per benefited receptor of 223 in the Build-8 Alternative, and 229 for Build-10. Aircraft noise is present in the area due to the proximity of Norfolk Naval Air Station, but it has not been accounted for directly in the noise barrier analysis. The noise-reduction benefits of the replacement noise barrier would only apply to the highway noise; it is not expected to reduce aircraft noise to any appreciable degree.

<u>Barrier 26R</u> is a Replacement barrier for CNE 43, representing residences between W Chester Street and E Bayview Boulevard, on the westbound side of I-64. In the Build-8 Alternative, the barrier

would benefit 37 impacted residences with 5 to 12 decibels of noise reduction. Barrier 26R would be 15 to 22 feet in height and 3,357 feet long with a surface area of 66,583 square feet. The barrier replaces an existing barrier of 51,082 square feet and up to 22 feet tall. The additional surface area of Barrier 26R would be feasible and reasonable with a surface area per benefited receptor of 408. In the Build-10 Alternative, the barrier would benefit 27 impacted residences with 5 to 11 decibels of noise reduction. Barrier 26R would be 15 to 22 feet in height and 3,173 feet long with a surface area of 63,837 square feet. The barrier replaces an existing barrier of 51,082 square feet. The additional surface area of Barrier 26R would be feasible and reasonable with a surface area per benefited receptor of 456. Aircraft noise is present in the area due to the proximity of Norfolk Naval Air Station, but it has not been accounted for directly in the noise barrier analysis. The noise-reduction benefits of the replacement noise barrier would only apply to the highway noise; it is not expected to reduce aircraft noise to any appreciable degree.

A barrier is not feasible for CNE 45, because the 8 impacted residences along Granby Street cannot be sufficiently benefited by a noise barrier along I-64. The noise contribution from Granby Street is so significant that it prevents the required minimum noise reduction of 5 decibels from being achieved.

Barrier 27P is a Potential barrier for CNE 46, representing the two baseball fields on Navy property near Mason Creek along Patrol Road, on the eastbound side of I-64. In the Build-8 and 10 Alternatives, the barrier would benefit 7 impacted recreational receptors and benefit an additional 18 receptors with 6 to89 decibels of noise reduction. Barrier 27P would be 15 feet in height and 1,808 feet long with a surface area of 27,121 square feet. The barrier would be feasible and reasonable for any Retained Build Alternatives with a surface area per benefited receptor of 1085. Aircraft noise is present in the area due to the proximity of Norfolk Naval Air Station, but it has not been accounted for directly in the noise barrier analysis. The noise-reduction benefits of the potential noise barrier would only apply to the highway noise; it is not expected to reduce aircraft noise to any appreciable degree.

Barrier 28R/P is a Replacement and Potential barrier for CNEs 47, 49 and 50, representing the Forest Lawn Cemetery along Granby Street, residences along W Glen Road and San Antonio Boulevard on either side of E Little Creek Road (Rt 165), and two recreational receptors, one associated with the cemetery adjacent to Wesley Memorial United Methodist Church on Rt. 165, and the other associated with a day care center next to the church. The barriers are located along the westbound side of I-64. The Potential barrier runs opposite the cemetery and along the eastbound on-ramp from I-564, overlapping with the continuation along I-64, then crossing the bridge over Rt. 165. The Replacement barrier is along the I-64 westbound off-ramp to Rt. 165. The potential barrier provides only modest noise reduction where the cemetery is bordered by Granby Street, due to the noise contribution from that roadway.

In the Build-8 Alternative, a 15 to 25-foot high barrier along I-64 would benefit 32 impacted residences and 48 impacted recreational receptors plus an additional 26 receptors with 5 to 9 decibels of noise reduction. Barrier 28R/P would be 7,908 feet long with a surface area of 126,072 square feet. The barrier replaces an existing barrier of 27,191 square feet. The additional surface area of Barrier 28R/P would be feasible and reasonable with a surface area per benefited receptor of 933.

In the Build-10 Alternative, higher Granby Street noise levels suggest the barrier would not be feasible because a barrier along I-64 cannot benefit at least 50 percent of impacted receptors. However, the details of the barrier evaluated for Build-10 are shown for information purposes. A 15 to 25-foot high barrier along I-64 would benefit 65 of 138 impacted receptors plus an additional

9 recreational receptors with 5 to 7 decibels of noise reduction. Such a Barrier 28R/P would be 7,998 feet long with a surface area of 134,800 square feet. The barrier would replace an existing barrier of 27,191 square feet. The additional surface area of Barrier 28R/P would not be feasible but would be reasonable with a surface area per benefited receptor of 1454.

Aircraft noise is present in the area due to the proximity of Norfolk Naval Air Station, but it has not been accounted for directly in the noise barrier analysis. The noise-reduction benefits of the potential noise barrier would only apply to the highway noise; it is not expected to reduce aircraft noise to any appreciable degree.

**Barrier 29P** is a Potential barrier for CNE 48, representing the single baseball field on Navy property near the I-564 interchange along Patrol Road, on the eastbound side of I-64. In the Build-8 Alternative, the barrier would benefit 7 impacted recreational receptors plus an additional 11 receptors with 5 to 10 decibels of noise reduction. In the Build-10 Alternative, the barrier would benefit 5 of 9 impacted recreational receptors with 5 to 7 decibels of noise reduction. In both alternatives, Barrier 29P would be 15 feet in height and 3, 314 feet long with a surface area of 49,716 square feet. The barrier would be feasible but not reasonable with a surface area per benefited receptor of 2762 in the Build-8 Alternative and 9943 in the Build-10 Alternative, both of which exceed VDOT's maximum SF/BR of 1600.

#### 7. CONSTRUCTION NOISE CONSIDERATION

Construction noise provisions are contained in Section 107.16(b)3 Noise of the 2007 VDOT Road and Bridge Specifications. The specifications have been reproduced below:

- The Contractor's operations shall be performed so that exterior noise levels measured during a noise-sensitive activity shall not exceed 80 decibels. Such noise level measurements shall be taken at a point on the perimeter of the construction limit that is closest to the adjoining property on which a noise-sensitive activity is occurring. A noise-sensitive activity is any activity for which lowered noise levels are essential if the activity is to serve its intended purpose and not present an unreasonable public nuisance. Such activities include, but are not limited to, those associated with residences, hospitals, nursing homes, churches, schools, libraries, parks, and recreational areas.
- The Department may monitor construction-related noise. If construction noise levels
  exceed 80 decibels during noise sensitive activities, the Contractor shall take corrective
  action before proceeding with operations. The Contractor shall be responsible for costs
  associated with the abatement of construction noise and the delay of operations
  attributable to noncompliance with these requirements.
- The Department may prohibit or restrict to certain portions of the project any work that produces objectionable noise between 10 P.M. and 6 A.M. If other hours are established by local ordinance, the local ordinance shall govern.
- Equipment shall in no way be altered so as to result in noise levels that are greater than those produced by the original equipment.
- When feasible, the Contractor shall establish haul routes that direct his vehicles away from developed areas and ensure that noise from hauling operations is kept to a minimum.

 These requirements shall not be applicable if the noise produced by sources other than the Contractor's operation at the point of reception is greater than the noise from the Contractor's operation at the same point.

#### 8. INFORMATION FOR LOCAL GOVERNMENT OFFICIALS

FHWA and VDOT policies require that VDOT provides certain information to local officials within whose jurisdiction the highway project is located, to minimize future traffic noise impacts of Type I projects on currently undeveloped lands. (Type I projects involve highway improvements with noise analysis.). This information must include information on noise-compatible land-use planning, noise impact zones in undeveloped land in the highway project corridor and Federal participation in Type II projects (noise abatement only). This section of the report provides that information, as well as information about VDOT's noise abatement program.

#### 8.1 Noise-Compatible Land-Use Planning

Section 9.0 of VDOT's 2011 noise policy outlines VDOT's approach to communication with local officials and provides information and resources on highway noise and noise-compatible land-use planning. VDOT's intention is to assist local officials in planning the uses of undeveloped land adjacent to highways to minimize the potential impacts of highway traffic noise.

Entering the Quiet Zone is a brochure that provides general information and examples to elected officials, planners, developers, and the general public about the problem of traffic noise and effective responses to it. A link to this brochure on FHWA's website at http://www.fhwa.dot.gov/environment/noise/noise\_compatible\_planning/federal\_approach/land\_use/qz00.cfm.

A wide variety of administrative strategies may be used to minimize or eliminate potential highway noise impacts, thereby preventing the need or desire for costly noise abatement structures such as noise barriers in future years. There are five broad categories of such strategies:

- Zoning,
- Other legal restrictions (subdivision control, building codes, health codes),
- Municipal ownership or control of the land,
- Financial incentives for compatible development, and
- Educational and advisory services.
- The Audible Landscape: A Manual for Highway and Land Use is a very well-written and comprehensive guide addressing these noise-compatible land use planning strategies, with significant detailed information. This document is available through FHWA's website at http://www.fhwa.dot.gov/environment/noise/noise\_compatible\_planning/federal\_approa ch/audible\_landscape/al00.cfm.

#### 8.2 VDOT's Noise Abatement Program

Information on VDOT's noise program is provided in "Highway Traffic Noise Impact Analysis Guidance Manual (Version 2)", updated September 16, 2011. This document is available at http://www.virginiadot.org/projects/pr-noise-walls-about.asp or from VDOT's Noise Abatement Section, Virginia Department of Transportation, 1401 E. Broad St., Richmond, VA 23219.

#### APPENDIX A. LIST OF PREPARERS

This appendix lists the preparers of this noise study report.

Preparers with Harris Miller Miller & Hanson Inc. are as follows:

- Christopher Menge, Project Manager
- James Ferguson, III, noise analysis
- Robert Gibson, noise analysis
- Ruth Mazur, noise analysis
- Ryan Cranfill, noise analysis
- Michael Hamilton, noise analysis, graphics
- Daniel Boudreau, noise analysis, graphics

TNM Certification of HMMH's Project Manager, Christopher Menge, is on file in VDOT's offices.

Rummel, Klepper & Kahl, LLP conducted the noise monitoring and prepared the traffic data needed for the noise analysis. RK&K staff who participated included:

- Kevin Hughes, noise measurements
- George Tye, noise measurements
- Marcel Klik, traffic analysis

## APPENDIX B. TRAFFIC DATA USED IN NOISE MODELING

This appendix lists the loudest-hour (or "worst-hour") traffic volumes and speeds used in the noise analysis modeling. Hour-by-hour vehicle volumes, truck percentages, and speeds were developed by Rummel, Klepper & Kahl, LLP.

Table B-1. Loudest-Hour Traffic for All Roadways: Existing Conditions

	Vehicle Volu	me in Loudes	st Hour (vph)	
Roadway Name and Location	Autos	Medium Trucks	Heavy Trucks	Speed (mph)
I-64 - West of I-664 - EB	5774	32	147	55
I-64 - I-664 to LaSalle Ave - EB	4401	25	112	55
I-64 - LaSalle Ave to Settlers Landing Rd - EB	3359	19	86	55
I-64 - Settlers Landing Rd to Mallory St - EB	3355	19	85	55
I-64 - HRBT - EB	3374	19	86	55
I-64 - 15th View St to 4th View St - EB	3359	19	86	55
I-64 - 4th View St to Bellinger Blvd - EB	2959	16	75	55
I-64 - Bellinger Blvd to Granby St (Patrol Rd) - EB	3374	19	86	55
I-64 - Granby St to I-564 - EB	3344	19	85	55
I-64 - East of I-564 - EB	1910	11	49	55
I-64 - East of Little Creek Rd (Build-8) - EB	4097	23	104	55
I-64 - West of I-664 - WB	5146	35	99	55
I-64 - I-664 to LaSalle Ave - WB	3922	27	75	55
I-64 - LaSalle Ave to Settlers Landing Rd - WB	2993	21	57	55
I-64 - Settlers Landing Rd to Mallory St - WB	2990	21	57	55
I-64 - HRBT - WB	3007	21	58	55
I-64 - 15th View St to 4th View St - WB	2993	21	57	55
I-64 - 4th View St to Bellinger Blvd - WB	2637	18	51	55
I-64 - Bellinger Blvd to Granby St (Patrol Rd) - WB	3007	21	58	55
I-64 - Granby St to I-564 - WB	2980	20	57	55
I-64 - East of I-564 - WB	1702	12	33	55
I-64 - East of Little Creek Rd (Build-8) - WB	3651	25	70	55
Off Ramp - EB I-64 to Settlers Landing Rd	646	2	10	25
On Ramp - Settlers Landing Rd to EB I-64	697	2	11	25
On Ramp - Settlers Landing Rd to WB I-64	697	4	10	25
Off Ramp - WB I-64 to Settlers Landing Rd	639	3	9	35
Off Ramp - EB I-64 to Mallory St	377	1	6	35
On Ramp - Mallory St to EB I-64	479	2	8	25
On Ramp - Mallory St to WB I-64	468	1	4	25
Off Ramp - WB I-64 to Mallory St	403	1	3	25
Off Ramp - EB I-64 to 4th View St	551	1	4	35
On Ramp - 4th View St to EB I-64	206	0	1	35
Off Ramp - WB I-64 to 4th View St	136	1	4	35
On Ramp - 4th View St to WB I-64	549	5	15	35
On Ramp - W Bay Ave to EB I-64	312	1	4	35

Table B-1. Loudest-Hour Traffic for All Roadways: Existing Conditions

	Vehicle Volu	me in Loudes	st Hour (vph)	
Roadway Name and Location	Autos	Medium Trucks	Heavy Trucks	Speed (mph)
Off Ramp - WB I-64 to West Bay Ave	680	6	6	25
On Ramp - Granby St to WB I-64	577	29	14	25
Interchange - On Ramp - EB I-564 to WB I-64	340	4	15	35
Interchange - Off Ramp - EB I-564 to WB I-64	132	1	5	50
Interchange - Off Ramp - EB I-564 to Granby St	152	1	5	45
Interchange - Off Ramp - EB I-564 to Little Creek Rd	197	1	2	25
Interchange - On Ramp - NB Granby St to WB I-564	359	3	7	25
Interchange - On Ramp - Little Creek Rd to EB I-64	489	1	6	25
Interchange - Off Ramp - WB I-64 to Little Creek Rd	499	3	9	25
Interchange - Off Ramp - EB I-64 to WB I-564	1673	19	61	40
Interchange - On Ramp - EB I-64 to WB I-564	1047	12	40	40
Interchange - Off Ramp - EB I-64 to SB Granby St	616	3	6	25
Interchange - Off Ramp - WB I-64 to NB Granby St	477	0	1	35
Interchange - EB I-564 - Terminal Blvd to Granby St	582	2	16	55
Interchange - WB I-564 - Granby St to Terminal Blvd	617	6	205	55
Interchange - EB I-64 HOV - Along I-64	781	1	5	55
Interchange - SB I-564 HOV - Along I-564	600	1	4	55
Interchange - NB I-564 HOV - Along I-564	549	1	3	55
Interchange - WB I-64 HOV - Along I-64	637	1	3	55
Armistead Avenue - WB	785	5	15	45
Armistead Avenue - EB	326	2	6	35
LaSalle Road N – NB	429	3	8	55
LaSalle Road N – SB	770	5	15	55
LaSalle Road S – NB	582	3	15	35
LaSalle Road S – SB	344	2	9	35
Rip Rap Road N - NB	519	3	13	35
Rip Rap Road N – SB	263	1	7	35
Rip Rap Road S - NB	97	1	2	35
Rip Rap Road S - SB	596	3	15	35
Settlers Landing Road East of I64 E EB	672	5	13	35
Settlers Landing Road East of I64 E WB	1155	8	22	35
Settlers Landing Road East of I64 W EB	611	3	16	35
Settlers Landing Road East of I64 W WB	638	4	12	35
Settlers Landing Road West of I64 E EB	1130	6	29	35
Settlers Landing Road West of I64 E WB	297	2	6	35

Table B-1. Loudest-Hour Traffic for All Roadways: Existing Conditions

	Vehicle Volu	me in Loudes	st Hour (vph)	
Roadway Name and Location	Autos	Medium Trucks	Heavy Trucks	Speed (mph)
Settlers Landing Road West of I64 W EB	912	5	23	35
Settlers Landing Road West of I64 W WB	262	1	7	35
I-664 SB	2809	25	103	50
I-664 NB	2750	23	70	50
Mallory Street West of I64 W	504	3	13	30
Mallory Street East of I64 W	1018	7	20	30
Mallory Street West of I64 E	1014	6	26	30
Mallory Street East of I64 E	1243	9	24	30
4th View Street EB West	189	2	9	35
4th View Street EB Center	406	5	19	35
4th View Street EB East	434	6	20	35
4th View Street WB West	383	5	18	35
4th View Street WB Center	241	3	11	35
4th View Street WB East	609	8	28	35
Bellinger Ave WB	680	6	6	25
Bellinger Ave EB	312	1	4	35
Granby Street NB	994	7	19	35
Granby Street SB	980	5	25	35
East Little Creek Road N NB	349	4	16	35
East Little Creek Road N SB	945	12	43	35
East Little Creek Road S NB	536	6	28	35
East Little Creek Road S SB	1148	15	53	35

Table B-2. Loudest-Hour Traffic for All Roadways: No-Build Alternative

	Vehicle Vol	lume in Loud	est Hour (vph)	
Roadway Name and Location	Autos	Medium Trucks	Heavy Trucks	Speed (mph)
I-64 - West of I-664 - EB	7448	41	190	55
I-64 - I-664 to LaSalle Ave - EB	4945	28	126	55
I-64 - LaSalle Ave to Settlers Landing Rd - EB	4184	23	107	55
I-64 - Settlers Landing Rd to Mallory St - EB	3322	22	109	55
I-64 - HRBT - EB	3496	23	114	55
I-64 - 15th View St to 4th View St - EB	3892	21	72	55
I-64 - 4th View St to Bellinger Blvd - EB	3370	19	86	55
I-64 - Bellinger Blvd to Granby St (Patrol Rd) - EB	3819	21	97	55
I-64 - Granby St to I-564 - EB	3770	21	96	55
I-64 - East of I-564 - EB	2967	17	76	55
I-64 - East of Little Creek Rd (Build-8) - EB	4766	27	121	55
I-64 - West of I-664 - WB	6637	46	127	55
I-64 - I-664 to LaSalle Ave - WB	4407	30	85	55
I-64 - LaSalle Ave to Settlers Landing Rd - WB	3729	26	72	55
I-64 - Settlers Landing Rd to Mallory St - WB	3254	29	87	55
I-64 - HRBT - WB	3425	31	92	55
I-64 - 15th View St to 4th View St - WB	3759	17	68	55
I-64 - 4th View St to Bellinger Blvd - WB	3003	21	58	55
I-64 - Bellinger Blvd to Granby St (Patrol Rd) - WB	3403	23	65	55
I-64 - Granby St to I-564 - WB	3359	23	64	55
I-64 - East of I-564 - WB	2644	18	51	55
I-64 - East of Little Creek Rd (Build-8) - WB	4247	29	81	55
Off Ramp - EB I-64 to Settlers Landing Rd	737	3	12	25
On Ramp - Settlers Landing Rd to EB I-64	531	2	8	25
On Ramp - Settlers Landing Rd to WB I-64	737	4	10	25
Off Ramp - WB I-64 to Settlers Landing Rd	531	3	8	35
Off Ramp - EB I-64 to Mallory St	301	1	5	35
On Ramp - Mallory St to EB I-64	477	2	8	25
On Ramp - Mallory St to WB I-64	304	1	3	25
Off Ramp - WB I-64 to Mallory St	481	1	4	25
Off Ramp - EB I-64 to 4th View St	675	1	4	35
On Ramp - 4th View St to EB I-64	81	0	1	35
Off Ramp - WB I-64 to 4th View St	78	1	2	35
On Ramp - 4th View St to WB I-64	728	5	22	35
On Ramp - W Bay Ave to EB I-64	302	1	4	35

Table B-2. Loudest-Hour Traffic for All Roadways: No-Build Alternative

	Vehicle Vol	ume in Loude	est Hour (vph)	
Roadway Name and Location	Autos	Medium Trucks	Heavy Trucks	Speed (mph)
Off Ramp - WB I-64 to West Bay Ave	836	7	7	25
On Ramp - Granby St to WB I-64	746	37	19	25
Interchange - On Ramp - EB I-564 to WB I-64	276	3	12	35
Interchange - Off Ramp - EB I-564 to WB I-64	70	0	2	50
Interchange - Off Ramp - EB I-564 to Granby St	132	1	5	45
Interchange - Off Ramp - EB I-564 to Little Creek Rd	175	0	2	25
Interchange - On Ramp - NB Granby St to WB I-564	936	9	18	25
Interchange - On Ramp - Little Creek Rd to EB I-64	576	2	7	25
Interchange - Off Ramp - WB I-64 to Little Creek Rd	554	3	10	25
Interchange - Off Ramp - EB I-64 to WB I-564	1133	13	41	40
Interchange - On Ramp - EB I-64 to WB I-564	550	6	21	40
Interchange - Off Ramp - EB I-64 to SB Granby St	575	3	5	25
Interchange - Off Ramp - WB I-64 to NB Granby St	603	0	2	35
Interchange - EB I-564 - Terminal Blvd to Granby St	358	1	10	55
Interchange - WB I-564 - Granby St to Terminal Blvd	617	6	205	55
Interchange - EB I-64 HOV - Along I-64	789	1	5	55
Interchange - SB I-564 HOV - Along I-564	789	1	5	55
Interchange - NB I-564 HOV - Along I-564	678	1	4	55
Interchange - WB I-64 HOV - Along I-64	678	1	4	55
Armistead Avenue – WB	902	6	17	35
Armistead Avenue – EB	439	3	8	35
LaSalle Road N – NB	536	4	10	55
LaSalle Road N – SB	926	6	18	55
LaSalle Road S – NB	679	4	17	35
LaSalle Road S – SB	388	2	10	35
Rip Rap Road N - NB	509	3	13	35
Rip Rap Road N – SB	315	2	8	35
Rip Rap Road S - NB	121	1	3	35
Rip Rap Road S - SB	582	3	15	35
Settlers Landing Road East of I64 E EB	633	4	12	35
Settlers Landing Road East of I64 E WB	1218	8	23	35
Settlers Landing Road East of I64 W EB	776	4	20	35
Settlers Landing Road East of I64 W WB	682	5	13	35
Settlers Landing Road West of I64 E EB	1334	7	34	35
Settlers Landing Road West of I64 E WB	341	2	7	35

Table B-2. Loudest-Hour Traffic for All Roadways: No-Build Alternative

	Vehicle Volu	ıme in Loude	st Hour (vph)	
Roadway Name and Location	Autos	Medium Trucks	Heavy Trucks	Speed (mph)
Settlers Landing Road West of I64 W EB	1043	6	27	35
Settlers Landing Road West of I64 W WB	315	2	8	35
I-664 SB	3237	30	130	50
I-664 NB	3290	26	80	50
Mallory Street West of I64 W	679	4	17	30
Mallory Street East of I64 W	2120	15	41	30
Mallory Street West of I64 E	1479	8	38	30
Mallory Street East of I64 E	1900	13	36	30
4th View Street EB West	378	5	17	35
4th View Street EB Center	826	11	38	35
4th View Street EB East	519	7	24	35
4th View Street WB West	850	11	39	35
4th View Street WB Center	449	6	21	35
4th View Street WB East	803	10	37	35
Bellinger Ave WB	836	7	7	25
Bellinger Ave EB	302	1	4	35
Granby Street NB	1681	12	32	35
Granby Street SB	1600	9	41	35
East Little Creek Road N NB	378	5	17	35
East Little Creek Road N SB	1535	20	71	35
East Little Creek Road S NB	1081	12	57	35
East Little Creek Road S SB	1771	23	81	35

Table B-3. Loudest-Hour Traffic for All Roadways: Build-8 Alternative

	Vehicle Volu	me in Loudes	st Hour (vph)	Current
Roadway Name and Location	Autos	Medium Trucks	Heavy Trucks	Speed (mph)
I-64 - West of I-664 - EB	7586	41	140	55
I-64 - I-664 to LaSalle Ave - EB	6368	35	162	55
I-64 - LaSalle Ave to Settlers Landing Rd - EB	5569	31	142	55
I-64 - Settlers Landing Rd to Mallory St - EB	5714	32	146	55
I-64 - HRBT - EB	5714	32	146	55
I-64 - 15th View St to 4th View St - EB	5580	31	142	55
I-64 - 4th View St to Bellinger Blvd - EB	5379	30	137	55
I-64 - Bellinger Blvd to Granby St (Patrol Rd) - EB	6254	35	159	55
I-64 - Granby St to I-564 - EB	6067	34	155	55
I-64 - East of I-564 - EB	4831	27	123	55
I-64 - East of Little Creek Rd (Build-8) - EB	5640	31	104	55
I-64 - West of I-664 - WB	7326	33	133	55
I-64 - I-664 to LaSalle Ave - WB	5674	39	109	55
I-64 - LaSalle Ave to Settlers Landing Rd - WB	4962	34	95	55
I-64 - Settlers Landing Rd to Mallory St - WB	5091	35	98	55
I-64 - HRBT - WB	5091	35	98	55
l-64 - 15th View St to 4th View St - WB	4973	34	95	55
I-64 - 4th View St to Bellinger Blvd - WB	4793	33	92	55
I-64 - Bellinger Blvd to Granby St (Patrol Rd) - WB	5573	38	107	55
I-64 - Granby St to I-564 - WB	5407	37	104	55
I-64 - East of I-564 - WB	4305	30	83	55
I-64 - East of Little Creek Rd (Build-8) - WB	5447	25	99	55
Off Ramp - EB I-64 to Settlers Landing Rd	654	2	10	25
On Ramp - Settlers Landing Rd to EB I-64	792	3	12	25
On Ramp - Settlers Landing Rd to WB I-64	737	4	10	25
Off Ramp - WB I-64 to Settlers Landing Rd	792	4	11	35
Off Ramp - EB I-64 to Mallory St	537	2	9	35
On Ramp - Mallory St to EB I-64	537	2	9	25
On Ramp - Mallory St to WB I-64	541	2	5	25
Off Ramp - WB I-64 to Mallory St	542	2	4	25
Off Ramp - EB I-64 to 4th View St	396	1	3	35
On Ramp - 4th View St to EB I-64	242	0	2	35
Off Ramp - WB I-64 to 4th View St	264	3	7	35
On Ramp - 4th View St to WB I-64	492	5	14	35
On Ramp - W Bay Ave to EB I-64	588	2	8	35

Table B-3. Loudest-Hour Traffic for All Roadways: Build-8 Alternative

	Vehicle Volu	me in Loudes	st Hour (vph)	Speed
Roadway Name and Location	Autos	Medium Trucks	Heavy Trucks	(mph)
Off Ramp - WB I-64 to West Bay Ave	1629	13	13	25
On Ramp - Granby St to WB I-64	916	46	23	25
Interchange - On Ramp - EB I-564 to WB I-64	674	7	30	35
Interchange - Off Ramp - EB I-564 to WB I-64	100	1	3	50
Interchange - Off Ramp - EB I-564 to Granby St	117	1	4	45
Interchange - Off Ramp - EB I-564 to Little Creek Rd	219	1	3	25
Interchange - On Ramp - NB Granby St to WB I-564	612	6	12	25
Interchange - On Ramp - Little Creek Rd to EB I-64	408	1	5	25
Interchange - Off Ramp - WB I-64 to Little Creek Rd	222	1	4	25
Interchange - Off Ramp - EB I-64 to WB I-564	2320	27	84	40
Interchange - On Ramp - EB I-64 to WB I-564	1343	16	51	40
Interchange - Off Ramp - EB I-64 to SB Granby St	961	5	9	25
Interchange - Off Ramp - WB I-64 to NB Granby St	264	0	1	35
Interchange - EB I-564 - Terminal Blvd to Granby St	195	1	5	55
Interchange - WB I-564 - Granby St to Terminal Blvd	617	6	205	55
Interchange - EB I-64 HOV - Along I-64	789	1	5	55
Interchange - SB I-564 HOV - Along I-564	789	1	5	55
Interchange - NB I-564 HOV - Along I-564	678	1	4	55
Interchange - WB I-64 HOV - Along I-64	678	1	4	55
Armistead Avenue – WB	1145	8	22	35
Armistead Avenue – EB	292	2	6	35
LaSalle Road N – NB	341	2	7	55
LaSalle Road N – SB	682	5	13	55
LaSalle Road S – NB	582	3	15	35
LaSalle Road S – SB	267	1	7	35
Rip Rap Road N - NB	364	2	9	35
Rip Rap Road N – SB	218	1	6	35
Rip Rap Road S - NB	97	1	2	35
Rip Rap Road S - SB	533	3	14	35
Settlers Landing Road East of I64 E EB	512	4	10	35
Settlers Landing Road East of I64 E WB	1218	8	23	35
Settlers Landing Road East of I64 W EB	727	4	19	35
Settlers Landing Road East of I64 W WB	828	6	16	35
Settlers Landing Road West of I64 E EB	1576	9	40	35
Settlers Landing Road West of I64 E WB	414	3	8	35

Table B-3. Loudest-Hour Traffic for All Roadways: Build-8 Alternative

	Vehicle Volu	me in Loudes	st Hour (vph)	Coord
Roadway Name and Location	Autos	Medium Trucks	Heavy Trucks	Speed (mph)
Settlers Landing Road West of I64 W EB	1285	7	33	35
Settlers Landing Road West of I64 W WB	339	2	9	35
I-664 SB	3247	35	114	50
I-664 NB	3285	22	90	50
Mallory Street West of I64 W	994	6	25	30
Mallory Street East of I64 W	1754	12	34	30
Mallory Street West of I64 E	1746	10	44	30
Mallory Street East of I64 E	1974	14	38	30
4th View Street EB West	708	9	33	35
4th View Street EB Center	708	9	33	35
4th View Street EB East	401	5	18	35
4th View Street WB West	378	5	17	35
4th View Street WB Center	425	5	20	35
4th View Street WB East	661	8	30	35
Bellinger Ave WB	1629	13	13	25
Bellinger Ave EB	588	2	8	35
Granby Street NB	1657	11	32	35
Granby Street SB	1600	9	41	35
East Little Creek Road N NB	1204	15	55	35
East Little Creek Road N SB	2408	31	111	35
East Little Creek Road S NB	963	11	51	35
East Little Creek Road S SB	2432	31	112	35

Table B-4 Loudest-Hour Traffic for All Roadways: Build-10 Alternative

	Vehicle Volu	me in Loudes	st Hour (vph)	
Roadway Name and Location	Autos	Medium Trucks	Heavy Trucks	Speed (mph)
I-64 - West of I-664 - EB	7943	44	202	55
I-64 - I-664 to LaSalle Ave - EB	6999	39	178	55
I-64 - LaSalle Ave to Settlers Landing Rd - EB	5949	33	152	55
I-64 - Settlers Landing Rd to Mallory St - EB	6041	34	154	55
I-64 - HRBT - EB	5911	33	151	55
I-64 - 15th View St to 4th View St - EB	5812	32	148	55
I-64 - 4th View St to Bellinger Blvd - EB	5812	32	148	55
I-64 - Bellinger Blvd to Granby St (Patrol Rd) - EB	6824	38	174	55
I-64 - Granby St to I-564 - EB	6528	36	166	55
I-64 - East of I-564 - EB	5116	28	130	55
I-64 - East of Little Creek Rd (Build-8) - EB	5813	32	107	55
I-64 - West of I-664 - WB	7078	49	136	55
I-64 - I-664 to LaSalle Ave - WB	6237	43	120	55
I-64 - LaSalle Ave to Settlers Landing Rd - WB	5301	36	102	55
I-64 - Settlers Landing Rd to Mallory St - WB	5383	37	103	55
I-64 - HRBT - WB	5268	36	101	55
I-64 - 15th View St to 4th View St - WB	5179	36	99	55
I-64 - 4th View St to Bellinger Blvd - WB	5179	36	99	55
I-64 - Bellinger Blvd to Granby St (Patrol Rd) - WB	6081	42	117	55
I-64 - Granby St to I-564 - WB	5817	40	112	55
I-64 - East of I-564 - WB	4559	31	87	55
I-64 - East of Little Creek Rd (Build-8) - WB	5614	25	102	55
Off Ramp - EB I-64 to Settlers Landing Rd	704	2	11	25
On Ramp - Settlers Landing Rd to EB I-64	792	3	12	25
On Ramp - Settlers Landing Rd to WB I-64	704	4	10	25
Off Ramp - WB I-64 to Settlers Landing Rd	792	4	11	35
Off Ramp - EB I-64 to Mallory St	559	2	9	35
On Ramp - Mallory St to EB I-64	436	2	7	25
On Ramp - Mallory St to WB I-64	563	2	5	25
Off Ramp - WB I-64 to Mallory St	439	1	4	25
Off Ramp - EB I-64 to 4th View St	360	1	2	35
On Ramp - 4th View St to EB I-64	367	1	2	35
Off Ramp - WB I-64 to 4th View St	378	4	10	35
On Ramp - 4th View St to WB I-64	385	4	11	35
On Ramp - W Bay Ave to EB I-64	680	2	10	35

Table B-4 Loudest-Hour Traffic for All Roadways: Build-10 Alternative

	Vehicle Volu	me in Loudes	st Hour (vph)	
Roadway Name and Location	Autos	Medium Trucks	Heavy Trucks	Speed (mph)
Off Ramp - WB I-64 to West Bay Ave	1884	16	16	25
On Ramp - Granby St to WB I-64	1165	58	29	25
Interchange - On Ramp - EB I-564 to WB I-64	732	8	33	35
Interchange - Off Ramp - EB I-564 to WB I-64	352	2	12	50
Interchange - Off Ramp - EB I-564 to Granby St	117	1	4	45
Interchange - Off Ramp - EB I-564 to Little Creek Rd	219	1	3	25
Interchange - On Ramp - NB Granby St to WB I-564	673	7	13	25
Interchange - On Ramp - Little Creek Rd to EB I-64	438	1	5	25
Interchange - Off Ramp - WB I-64 to Little Creek Rd	241	1	5	25
Interchange - Off Ramp - EB I-64 to WB I-564	2701	31	98	40
Interchange - On Ramp - EB I-64 to WB I-564	1460	17	55	40
Interchange - Off Ramp - EB I-64 to SB Granby St	1222	7	11	25
Interchange - Off Ramp - WB I-64 to NB Granby St	276	0	1	35
Interchange - EB I-564 - Terminal Blvd to Granby St	201	1	6	55
Interchange - WB I-564 - Granby St to Terminal Blvd	617	6	205	55
Interchange - EB I-64 HOV - Along I-64	789	1	5	55
Interchange - SB I-564 HOV - Along I-564	789	1	5	55
Interchange - NB I-564 HOV - Along I-564	678	1	4	55
Interchange - WB I-64 HOV - Along I-64	678	1	4	55
Armistead Avenue – WB	950	7	18	35
Armistead Avenue – EB	365	3	7	35
LaSalle Road N – NB	414	3	8	55
LaSalle Road N – SB	780	5	15	55
LaSalle Road S – NB	558	3	14	35
LaSalle Road S – SB	267	1	7	35
Rip Rap Road N - NB	436	2	11	35
Rip Rap Road N – SB	267	1	7	35
Rip Rap Road S - NB	97	1	2	35
Rip Rap Road S - SB	655	4	17	35
Settlers Landing Road East of I64 E EB	463	3	9	35
Settlers Landing Road East of I64 E WB	1316	9	25	35
Settlers Landing Road East of I64 W EB	630	4	16	35
Settlers Landing Road East of I64 W WB	780	5	15	35
Settlers Landing Road West of I64 E EB	1552	9	40	35
Settlers Landing Road West of I64 E WB	390	3	7	35

Table B-4 Loudest-Hour Traffic for All Roadways: Build-10 Alternative

	Vehicle Volu	me in Loudes	st Hour (vph)	
Roadway Name and Location	Autos	Medium Trucks	Heavy Trucks	Speed (mph)
Settlers Landing Road West of I64 W EB	1237	7	31	35
Settlers Landing Road West of I64 W WB	364	2	9	35
I-664 SB	2904	27	104	50
I-664 NB	2933	23	78	50
Mallory Street West of I64 W	364	2	9	30
Mallory Street East of I64 W	1949	13	37	30
Mallory Street West of I64 E	1940	11	49	30
Mallory Street East of I64 E	2168	15	42	30
4th View Street EB West	472	6	22	35
4th View Street EB Center	756	10	35	35
4th View Street EB East	897	11	41	35
4th View Street WB West	283	4	13	35
4th View Street WB Center	567	7	26	35
4th View Street WB East	803	10	37	35
Bellinger Ave WB	1884	16	16	25
Bellinger Ave EB	680	2	10	35
Granby Street NB	2022	14	39	35
Granby Street SB	1600	9	41	35
East Little Creek Road N NB	1228	16	56	35
East Little Creek Road N SB	2408	31	111	35
East Little Creek Road S NB	963	11	51	35
East Little Creek Road S SB	2432	31	112	35

## APPENDIX C. PREDICTED NOISE LEVELS

This appendix provides the predicted existing (2011) conditions and future design-year (2040) No-Build, Build-8, and Build-10 Alternative noise levels at all of the receiver (receptor) locations shown in the study graphics. Also provided are the name and location of each receiver site, the number of dwelling units or recreational units assigned, a description of the land use, the applicable Noise Abatement Criteria, and the computed loudest-hour  $L_{eq}$  sound levels. Existing conditions and the No-Build Alternative sound levels include the effects of existing noise barriers. Retained Build Alternative sound levels are shown both without and with the effects of potential noise abatement measures. **Table C-1** provides the sound levels for the receivers in Hampton; **Table C-2** provides the data for Norfolk.

Table C-1. Predicted Existing and Future Noise Levels, Hampton

7	aiysis i			uii	icpi	011	1				1				1	1				1					
S	Build- 10 IL**	2	9	9	7	0	7	7	9	9	0	2	2	4	4	4	9	9	8	6	9	10	6	3	0
ier Level	Build- 10 Leq	28	28	62	63	PA	61	63	61	09	PA	63	22	28	57	59	54	99	28	29	29	09	09	61	PA
With-Barrier Levels	Build-8 IL**	7	8	2	9	0	9	7	9	9	0	4	4	3	2	9	9	7	0	0	7	0	0	3	0
5	Build-8 Leq	26	26	62	63	PA	61	63	61	61	PA	62	22	28	57	59	55	22	29	70	29	20	71	61	РА
BA)	Build-10	62	63	89	69	PA	89	70	29	99	PA	92	62	62	61	63	29	62	92	89	92	69	70	64	РА
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	62	63	29	69	PA	29	69	29	29	PA	99	61	62	62	65	61	64	29	70	99	70	71	64	РА
udest-H	No- Build	62	63	99	89	69	64	89	92	99	70	9	61	61	61	64	63	99	20	70	89	71	71	92	71
P	Exist.	61	62	65	99	89	63	29	9	9	69	9	09	09	09	64	61	64	89	69	99	02	02	64	70
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
9	Units	1	1	7	2	2	7	2	2	7	1	1	7	7	7	7	0	1	1	1	1	1	1	1	1
9	Use*	SF	SF	MF	MF	MF	MF	JW	JW	JW	SF	SF	JW	JW	MF	MF	JW	JW	JW	MF	JW	JW	JW	JS	SF
	Receiver Site Name	48 Pine Chapel Rd Hampton Row 1 Flr1.5	50 Pine Chapel Rd Hampton Row 1 Flr1.5	Waterside Dr Hampton Row 1 Flr2	1 Greenhill Ln Hampton Row 1 Flr2	1 Greenhill Ln Hampton Row 1 Flr2	Waterside Dr Hampton Row 2 Flr2	1446 W Queen St Hampton Row 1 Flr1	1446 W Queen St Hampton Row 1 Flr1	1446 W Queen St Hampton Row 1 Flr2	1446 W Queen St Hampton Row 1 Flr3	1446 W Queen St Hampton Row 1 Flr1	1446 W Queen St Hampton Row 1 Flr2	1446 W Queen St Hampton Row 1 Flr3	W Queen St Hampton Row 1 Flr1	W Queen St Hampton Row 1 Flr1									
	Site No.	P0001	P0002	P0072	P0073	P0074	P0075	P0076	P0077	P0078	P0079	P0080	P0081	P0082	P0083	P0084	P0085	P0086	P0087	P0088	P0089	P0090	P0091	P0092	P0093

Table C-1. Predicted Existing and Future Noise Levels, Hampton

	uiysis	1001	,,,,,	urr	\ep	<i></i>	1	ı	ı	1		1	1	1	1	1							ı		=
<u>s</u>	Build- 10 IL**	2	2	4	4	4	2	2	2	3	4	2	2	4	2	9	2	2	2	9	2	9	1	2	r
ier Leve	Build- 10 Leg	51	51	52	47	48	51	53	53	54	47	47	47	46	47	51	47	47	51	<b>7</b> 7	47	09	26	25	C
With-Barrier Levels	Build-8 IL**	3	0	0	3	0	0	3	0	0	4	4	4	2	0	0	9	0	0	9	0	0	1	0	,
>	Build-8	50	54	58	49	55	59	51	55	58	49	50	49	47	53	58	47	53	57	45	53	22	55	09	
BA)	Build-10	53	54	57	52	54	58	55	55	57	52	53	52	51	52	57	52	52	22	20	52	22	57	09	
Loudest-Hour Lea (dBA)	Build-8	53	54	58	53	55	59	55	55	58	53	54	53	52	53	58	53	53	57	51	53	57	57	09	
udest-H	No- Build	54	54	58	53	55	59	55	55	58	53	54	53	52	53	58	53	53	28	52	53	28	57	61	-
2	Exist.	53	53	57	52	54	58	54	54	57	52	53	52	51	52	57	52	52	22	51	52	22	99	09	,
NAC	lmp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	-
	Kecp Units	4	4	4	6	6	6	6	6	6	0	0	0	6	6	6	6	6	6	4	4	4	1	Τ	,
-	Land Use*	MF																							
	Receiver Site Name	1446 W Queen St Hampton Row 2 Flr1	1446 W Queen St Hampton Row 2 Flr2	1446 W Queen St Hampton Row 2 Flr3	1446 W Queen St Hampton Row 2 Flr1	1446 W Queen St Hampton Row 2 Flr2	1446 W Queen St Hampton Row 2 Flr3	1446 W Queen St Hampton Row 2 Flr1	1446 W Queen St Hampton Row 2 Flr2	1446 W Queen St Hampton Row 2 Flr3	1446 W Queen St Hampton Row 2 Flr1	1446 W Queen St Hampton Row 2 Flr1	1446 W Queen St Hampton Row 2 Flr1	1446 W Queen St Hampton Row 2 Flr1	1446 W Queen St Hampton Row 2 Flr2	1446 W Queen St Hampton Row 2 Flr3	1446 W Queen St Hampton Row 2 Flr1	1446 W Queen St Hampton Row 2 Flr2	1446 W Queen St Hampton Row 2 Flr3	1446 W Queen St Hampton Row 2 Flr1	1446 W Queen St Hampton Row 2 Flr2	1446 W Queen St Hampton Row 2 Flr3	1446 W Queen St Hampton Row 3 Flr1	1446 W Queen St Hampton Row 3 Flr2	
	Site No.	P0094	P0095	P0096	P0097	P0098	P0099	P0100	P0101	P0102	P0103	P0104	P0105	P0106	P0107	P0108	P0109	P0110	P0111	P0112	P0113	P0114	P0115	P0116	1770

Table C-1. Predicted Existing and Future Noise Levels, Hampton

	uiysis i			ui i	icpi	011																			
s	Build- 10 IL**	2	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ier Leve	Build- 10 Leq	28	29	69	61	61	09	09	09	09	09	09	09	61	09	09	22	29	09	69	28	28	22	28	28
With-Barrier Levels	Build-8 IL**	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>	Build-8 Leq	57	62	63	63	62	62	62	62	62	62	62	62	62	62	62	59	61	61	90	59	60	59	59	29
BA)	Build-10	90	63	63	61	61	90	60	60	09	09	09	09	61	09	90	57	29	90	59	58	58	57	58	58
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	69	29	89	89	62	62	62	62	79	79	79	62	62	62	62	69	61	19	09	69	90	69	69	69
udest-H	No- Build	61	63	64	64	64	64	64	64	64	64	64	64	64	64	63	29	61	62	61	29	59	58	58	28
2	Exist.	09	62	63	63	63	63	63	63	63	63	63	63	63	63	62	28	09	61	09	69	28	22	28	28
NAC	lmp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
2000	Recp Units	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	Use*	MF	MF	MF	SF	SF	SF	SF	SF	SF															
	Receiver Site Name	1446 W Queen St Hampton Row 3 Flr1	1446 W Queen St Hampton Row 3 Flr2	1446 W Queen St Hampton Row 3 Flr3	62 Allison Sutton Dr Hampton Row 1 Flr1	60 Allison Sutton Dr Hampton Row 1 Flr1	58 Allison Sutton Dr Hampton Row 1 Flr1	56 Allison Sutton Dr Hampton Row 1 Flr1	54 Allison Sutton Dr Hampton Row 1 Flr1	52 Allison Sutton Dr Hampton Row 1 Flr1	50 Allison Sutton Dr Hampton Row 1 Flr1	48 Allison Sutton Dr Hampton Row 1 Flr1	46 Allison Sutton Dr Hampton Row 1 Flr1	44 Allison Sutton Dr Hampton Row 1 Flr1	42 Allison Sutton Dr Hampton Row 1 Flr1	40 Allison Sutton Dr Hampton Row 1 Flr1	32 Allison Sutton Dr Hampton Row 1 Flr1	36 Allison Sutton Dr Hampton Row 1 Flr1	38 Allison Sutton Dr Hampton Row 1 Flr1	34 Allison Sutton Dr Hampton Row 1 Flr1	3 Robert Connor Dr Hampton Row 1 Flr1	5 Robert Connor Dr Hampton Row 1 Flr1	7 Robert Connor Dr Hampton Row 1 Flr1	9 Robert Connor Dr Hampton Row 1 Flr1	11 Robert Connor Dr Hampton Row 1 Flr1
	Site No.	P0118	P0119	P0120	P0121	P0122	P0123	P0124	P0125	P0126	P0127	P0128	P0129	P0130	P0131	P0132	P0133	P0134	P0135	P0136	P0137	P0138	P0139	P0140	P0141

Table C-1. Predicted Existing and Future Noise Levels, Hampton

Receiver Site Name         Land Us*         Units Crit.         Exist.         No. Build-Bu
Land Units         Recp Imp. Crit.         Exist. Build Exist.         No- Build-8 Build-10 Build-8 Build-10 Build-8 Build-10 Build-8 Build-10 Leg Build-8 Build-
Land Use*         NAC Loudest-Hour Leq. (dBA)         Loudest-Hour Leq. (dBA)         Build-8 Build-10 Leq.         Build-8 Leq.         Mo-luits Crit.         Mo-luits Crit.         Mo-luits Build-8 Build-10 Leq.         Build-8 Build-10 Leq.         Build-8 Le
Land         Recp Lunis         Imp. Crit.         Exist.         No- Build-8 Build-8         Build-8 Build-10         Build-8 Leg         Build-8 Build-10         Build-8 Leg           SF         1         66         56         57         58         57         58           SF         1         66         61         60         59         60           SF         1         66         61         62         60         59         60           SF         1         66         59         60         59         58         57 <t< td=""></t<>
Land Units         NAC Imp. Loudest-Hour Leq (dl lmp. Crit.         Exist. Build Build-8 Build-8 Build-8 Build-8 Build-8 Grit.         No- Build Build-8 Build-8 Grit.         No- Build-8 Build-8 Grit.         No- Build-8 Build-8 Grit.         No- Build-8 Build-8 Grit.         No-
Land   Recp   Imp.   Exist     Use*   Units   Crit.   Exist     SF
Land Use*         Units Units         Imp. Exist           Use*         Units         Crit.         Exist           SF         1         66         61           SF         1         66         59           SF         1         66         57           SF         1         66         57           SF         1         66         57           SF         1         66         57           SF         1         66         61           SF         1         66         61           SF         1         66         67           SF         1         66         62           SF         1         66         61           SF         1         66         62           SF         1         66         62           SF         1         66         62           SF         1         66
Land Use*         Recp Imp. Crit.         Imp. Exist           SF         1         66         56           SF         1         66         61           SF         1         66         59           SF         1         66         57           SF         1         66         61           SF         1         66         61           SF         1         66         62           SF         1         66         62           SF         1         66         61           SF         1         66         62           SF         1         66
Land Recp Use* Use* Units Use* Units Use* Units SF 1 1
Land Use* Use* Use* Use* SF
Receiver Site Name  14 Robert Connor Dr Hampton Row 1 Flr1 2 Harlequin Dr Hampton Row 2 Flr1 39 Allison Sutton Dr Hampton Row 2 Flr1 37 Allison Sutton Dr Hampton Row 2 Flr1 35 Allison Sutton Dr Hampton Row 2 Flr1 37 Allison Sutton Dr Hampton Row 2 Flr1 38 Allison Sutton Dr Hampton Row 2 Flr1 29 Allison Sutton Dr Hampton Row 2 Flr1 20 Allison Sutton Dr Hampton Row 2 Flr1 27 Allison Sutton Dr Hampton Row 2 Flr1 27 Allison Sutton Dr Hampton Row 2 Flr1 26 Allison Sutton Dr Hampton Row 3 Flr1 27 Allison Sutton Dr Hampton Row 4 Flr1 38 Harlequin Dr Hampton Row 4 Flr1 40 Harlequin Dr Hampton Row 4 Flr1 51 Flarlequin Dr Hampton Row 1 Flr1 52 Red Robin Turn Hampton Row 1 Flr1 68 Red Robin Turn Hampton Row 1 Flr1 68 Red Robin Turn Hampton Row 1 Flr1
14 Robert 2 Harlequi 39 Allison 35 Allison 31 Allison 31 Allison 27 Allison 25 Allison 26 Harlequi 6 Harlequi 6 Harlequi 70 Red Ro 66 Red Ro
Polta

Table C-1. Predicted Existing and Future Noise Levels, Hampton

	uiysis		<i></i>	ui i	icpi	<i></i>																			
s	Build- 10 IL**	7	7	7	7	4	7	7	9	9	5	8	0	0	0	0	0	0	0	0	0	0	0	0	0
ier Level	Build- 10 Leq	61	62	62	62	29	62	63	63	63	63	62	PA	PA	63	63	PA								
With-Barrier Levels	Build-8 IL**	7	7	7	7	4	7	7	9	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0
>	Build-8	09	09	61	61	58	61	62	62	62	62	09	PA	PA	62	62	PA								
BA)	Build-10	89	69	69	69	63	69	69	70	69	89	9	PA	PA	63	63	PA								
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	29	89	89	89	62	89	89	89	89	29	64	PA	PA	62	62	PA								
udest-H	No- Build	99	99	29	29	61	29	29	29	29	99	63	89	99	61	09	99	99	29	29	99	64	63	62	61
P	Exist.	65	99	99	99	09	99	99	<b>29</b>	99	<u> </u>	62	29	99	09	09	9	99	99	99	92	63	62	61	09
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	kecp Units	1	1	1	1	0	1	1	1	1	1	1	8	0	40	48	1	1	1	1	1	1	1	1	1
-	Land Use*	SF	SF	SF	SF	Monit.	SF	SF	SF	SF	SF	SF	MF	Monit.	MF	MF	SF								
	Receiver Site Name	54 Red Robin Turn Hampton Row 1 Flr1	52 Red Robin Turn Hampton Row 1 Flr2	50 Red Robin Turn Hampton Row 1 Flr1	48 Red Robin Turn Hampton Row 1 Flr2	ST-1, 48 Red Robin Turn Hampton Row 1Fl1	46 Red Robin Turn Hampton Row 1 Flr2	44 Red Robin Turn Hampton Row 1 Flr2	42 Red Robin Turn Hampton Row 1 Flr2	40 Red Robin Turn Hampton Row 1 Flr2	38 Red Robin Turn Hampton Row 1 Flr2	36 Red Robin Turn Hampton Row 1 Flr1	Horizon Plaza	ST-2, 607 Michigan Dr Hampton Row 1 Flr1	607 Michigan Dr Hampton Row 2 FIr1	607 Michigan Dr Hampton Row 2 FIr1	1321 Willnew Dr Hampton Row 1 Flr1	1319 Willnew Dr Hampton Row 1 Flr1	1317 Willnew Dr Hampton Row 1 Flr1	1315 Willnew Dr Hampton Row 1 Flr1	1313 Willnew Dr Hampton Row 1 Flr1	1311 Willnew Dr Hampton Row 1 Flr1	1309 Willnew Dr Hampton Row 1 Flr1	1307 Willnew Dr Hampton Row 1 Flr1	1305 Willnew Dr Hampton Row 1 Flr1.5
	Site No.	P0166	P0167	P0168	P0169	P0170	P0171	P0172	P0173	P0174	P0175	P0176	P0178	P0179	P0185	P0186	P0189	P0190	P0191	P0192	P0193	P0194	P0195	P0196	P0197

Table C-1. Predicted Existing and Future Noise Levels, Hampton

Site No.         Receiver Site Name         Land Use*         Units Orit:         Land Crit.         Exist.         No- Build-8 Build-18 Build-18 Build-18 Build-18 Build-18 Build-18 Build-18 Build-18 IL**         Build-8
Receiver Site Name         Land Use*         Units Crit.         Crit.         Exist.         No- Build-8 Build-8 Build-8 Build-8 Build-8 Lea         IL**           1301 Willnew Dr Hampton Row 1 Flr 1         SF         1         66         60         61         66         66         60         64         66         59         7           1300 Patrick Ct Hampton Row 1 Flr 1         SF         1         66         59         60         PA         PA         PA         0           1300 Patrick St Hampton Row 1 Flr 1.5         SF         1         66         61         62         PA         PA         PA         PA           1213 Thomas St Hampton Row 2 Flr 1         SF         1         66         61         62         PA         PA         PA         PA           1318 Willnew Dr Hampton Row 2 Flr 1         SF         1         66         63         63         65         65         60         8         6
Receiver Site Name         Land Use* Use*         Units Orit.         Exist. Exist.         No- Build-8 Build-10 Leq Leq Leq Exist.         No- Leq Build-10 Leq
Receiver Site Name         Land Use*         Units Orit.         Laist. Exist.         No- Build-8 Build-10 Build-1
Receiver Site Name         Land Use*         Units Crit.         Laist Crit.         No-Build-Bui
Receiver Site Name         Land Use* Units         Units Crit.         Exist Crit.           1303 Willnew Dr Hampton Row 1 Flr1         SF         1         66         61           1303 Patrick Ct Hampton Row 1 Flr1         SF         1         66         59           ST-4, 1303 Patrick Ct Hampton Row 1 Flr1         SF         1         66         59           1300 Patrick St Hampton Row 1 Flr1         SF         1         66         60           1213 Thomas St Hampton Row 1 Flr1.5         SF         1         66         61           1218 Willnew Dr Hampton Row 2 Flr1         SF         1         66         63
Receiver Site Name         Land Use* Units         Units Crit.         Exist Crit.           1303 Willnew Dr Hampton Row 1 Flr1         SF         1         66         61           1303 Patrick Ct Hampton Row 1 Flr1         SF         1         66         59           ST-4, 1303 Patrick Ct Hampton Row 1 Flr1         SF         1         66         59           1300 Patrick St Hampton Row 1 Flr1         SF         1         66         60           1213 Thomas St Hampton Row 1 Flr1.5         SF         1         66         61           1218 Willnew Dr Hampton Row 2 Flr1         SF         1         66         63
Receiver Site Name         Land Use* Units         Units Crit.         Exist Crit.           1303 Willnew Dr Hampton Row 1 Flr1         SF         1         66         61           1303 Patrick Ct Hampton Row 1 Flr1         SF         1         66         59           ST-4, 1303 Patrick Ct Hampton Row 1 Flr1         SF         1         66         59           1300 Patrick St Hampton Row 1 Flr1         SF         1         66         60           1213 Thomas St Hampton Row 1 Flr1.5         SF         1         66         61           1218 Willnew Dr Hampton Row 2 Flr1         SF         1         66         63
Receiver Site NameLand Neep Use*Recp Units1303 Willnew Dr Hampton Row 1 Flr1SF11301 Willnew Dr Hampton Row 1 Flr1SF11303 Patrick Ct Hampton Row 1 Flr1SF1ST-4, 1303 Patrick Ct Hampton Row 1 Flr1SF11300 Patrick St Hampton Row 1 Flr1SF11213 Thomas St Hampton Row 1 Flr1.5SF11318 Willnew Dr Hampton Row 2 Flr1SF1
Receiver Site NameLand Use*1303 Willnew Dr Hampton Row 1 Flr1SF1301 Willnew Dr Hampton Row 1 Flr1SF1303 Patrick Ct Hampton Row 1 Flr1SFST-4, 1303 Patrick Ct Hampton Row 1 Flr1SF1300 Patrick St Hampton Row 1 Flr1SF1213 Thomas St Hampton Row 1 Flr1.5SF1318 Willnew Dr Hampton Row 2 Flr1SF
Receiver Site Name  1303 Willnew Dr Hampton Row 1 Flr1  1301 Willnew Dr Hampton Row 1 Flr1  1303 Patrick Ct Hampton Row 1 Flr1  ST-4, 1303 Patrick Ct Hampton Row 1 Flr1  1300 Patrick St Hampton Row 1 Flr1  1213 Thomas St Hampton Row 1 Flr1  1213 Willnew Dr Hampton Row 2 Flr1
PO198 PO199 PO200 PO201 PO202 PO203 PO203

Table C-1. Predicted Existing and Future Noise Levels, Hampton

? An	alysis	Tecl	nnic	al F	Rep	ort																			
S	Build- 10 IL**	7	7	0	11	11	0	0	0	0	0	0	0	0	0	0	6	8	6	11	6	11	9	5	6
ier Level	Build- 10 Lea	. 99	22	Vd	61	61	PA	ΡA	Vd	ΡA	Vd	ΡA	ΡA	ΡA	ΡA	ΡA	9	09	9	61	64	62	65	61	61
With-Barrier Levels	Build-8 IL**	7	9	0	11	11	0	0	0	0	0	0	0	11	0	0	8	7	6	10	11	10	2	9	6
>	Build-8	. 26	57	PA	61	61	PA	PA	PA	PA	PA	PA	PA	62	PA	PA	60	29	60	09	61	62	29	29	09
BA)	Build-10	63	64	PA	72	72	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	69	89	69	71	73	73	65	29	70
Loudest-Hour Leq (dBA)	Build-8	63	63	PA	71	71	PA	PA	PA	PA	PA	PA	PA	74	PA	PA	68	29	68	70	73	72	64	92	69
udest-H	No- Build	62	63	11	02	02	72	23	74	71	11	02	20	71	73	72	65	9	29	69	69	69	62	64	29
9	Exist.	61	62	20	69	69	71	72	73	20	20	69	69	70	72	71	64	64	99	89	68	89	61	63	99
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	kecp Units	1	1	1	1	1	1	1	1	1	1	0	2	1	1	1	2	2	2	1	2	1	2	2	1
-	Land Use*	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	Monit.	MF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF
	Receiver Site Name	818 Griffin St Hampton Row 3 Flr1	737 N Back River Rd Hampton Row 3 Flr1	916 N Armistead Ave Hampton Row 1 Flr1	424 Bassette St Hampton Row 1 Flr2	920 Langley Ave Hampton Row 1 Flr1	912 Langley Ave Hampton Row 1 Flr2	910 Langley Ave Hampton Row 1 Flr2	908 Langley Ave Hampton Row 1 Flr1	907 Langley Ave Hampton Row 1 Flr1	905 Langley Ave Hampton Row 1 Flr1	ST-5, 903 Langley Ave Hampton Row 1 Flr1	1105 Thomas St Hampton Row 1 Flr2	1103 Thomas St Hampton Row 1 Flr1	1016 Thomas St Hampton Row 1 Flr1	1014 Thomas St Hampton Row 1 Flr1	506 Bassette St Hampton Row 2 Flr1	932 Langley Ave Hampton Row 2 Flr1	924 Langley Ave Hampton Row 2 Flr1	922 Langley Ave Hampton Row 2 Flr1	915 Langley Ave Hampton Row 2 Flr1	402 Heffelfinger Ave Hampton Row 2 Flr1	931 Langley Ave Hampton Row 3 Flr1	925 Langley Ave Hampton Row 3 Flr1	917 Langley Ave Hampton Row 3 Flr1
	Site No.	P0222	P0223	P0224	P0225	P0226	P0227	P0228	P0229	P0230	P0231	P0232	P0233	P0234	P0235	P0236	P0237	P0238	P0239	P0240	P0241	P0242	P0243	P0244	P0245

Table C-1. Predicted Existing and Future Noise Levels, Hampton

Exist.         NOT- Build-Build-Build-10         Build-10         Pullu-o Leq         Build-10         Leq- Leq         IL**           65         63         65         66         58         7           65         66         69         70         61         8           64         65         PA         PA         PA         0           63         64         65         PA         PA         PA         0           64         65         PA         PA         PA         0           64         65         PA         PA         PA         0           65         66         PA         PA         PA         0           64         65         PA         PA         PA         0           65         66         PA         PA         PA         0           64         65         PA         PA         PA         0           65         66         PA         PA         PA         0           67         63         PA         PA         PA         0           62         63         PA         PA         PA         0	Exist.         NU-         Build-8         Build-10         Leq-Leq-Leq-Leq-Leq-Leq-Leq-Leq-Leq-Leq-	Exist.         NU-         Build-s         Build-10         Leq-Leq-Leq-Leq-Leq-Leq-Leq-Leq-Leq-Leq-	Exist.         Build-Build-Build-10         Build-Build-Leg         Leg         Pulld-Build-Leg         Leg           62         63         65         66         69         70         61         Leg           64         65         PA	Exist.         NOT-         Build-Build-Build-10         Build-10         Pulld-Leq           62         63         65         66         58           65         66         69         70         61           64         65         PA         PA         PA           65         66         PA         PA         PA           67         63         64         PA         PA         PA           67         63         PA         PA         PA         PA           67         63         PA         PA         PA         PA           61         62         63         PA         PA         PA           62         63         PA         PA         PA         PA           62         63         PA         PA         PA         PA           67         68         PA         PA         P
62 63 65 66 69 70 64 65 64 65 64 65 64 65 64 65 64 64 65 64 64 65 65 65 65 65 65 65 65 65 65 65 65 65	65 66 69 70 66 64 65 PA	62 63 65 66 69 70 64 65 64 65 64 65 64 65 64 64 65 64 64 65 64 64 65 64 64 65 64 64 65 64 65 64 65 64 65 64 65 64 65 64 65 64 65 64 64 65 64 64 65 64 64 65 64 64 65 64 64 65 64 64 65 64 64 65 64 64 65 64 64 65 64 64 65 66 66 64 66 66 64 66 66 66 66 66 66 66	62 63 65 66 65 66 65 66 65 66 65 66 67 67 68 68 68 68 68 68 68 68 68 68 68 68 68	65 66 69 70 66 64 65 66 69 70 64 65 66 69 70 61 63 64 64 65 64 65 64 64 65 64 64 65 64 64 64 65 64 64 64 65 64 64 64 64 64 64 64 64 64 64 64 64 64
65 69 69 64 65 64 65 64 65 65 64 65 65 65 67 62 68 63 64 65 67 63 64 65 67 63 65 65 65 65 65 65 65 65 65 65 65 65 65	65 66 69 69 63 64 65 65 65 66 68 68	65 66 69 69 63 64 65 66 65 66 65 66 65 66 65 66 66 67 69	65 66 69 69 63 64 65 66 65 66 66 67 69 69 69	65 66 69 69 65 64 65 69 64 65 66 65 66 65 66 65 66 65 66 65 66 65 66 65 66 65 66 65 66 65 65
	65 64 64 65 65 65 67 67 67 67 67 67 67 67 67 67 67 67 67	65 64 64 65 65 65 61 61 61 62 62 63 63 64 64 65 65 67 67 67 67 67 67 67 67 67 67 67 67 67	65 64 64 65 65 65 67 67 68 68	65 64 64 63 63 65 65 67 67 67 67 67 67 67 67 67 67 67 67 67
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99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99			
1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
ST-6, 871 Langley Ave Hampton Row 1 Flr1 809 Langley Ave Hampton Row 1 Flr1 807 Langley Ave Hampton Row 1 Flr1 807 Langley Ave Hampton Row 1 Flr1 55 1104 Guy St Hampton Row 1 Flr2 56 220 Albert E Simpso* Hampton Row 1 Flr1 57 1011 Carver St Hampton Row 1 Flr1 57 1009 Carver St Hampton Row 1 Flr1 57 1009 Carver St Hampton Row 1 Flr1 57 1004 Carver St Hampton Row 1 Flr1 57 1003 Rowe St Hampton Row 1 Flr1 57 58 59 59 59 59 59 59 59 59 50 50 50 50 50 50 50 50 50 50 50 50 50	0w 1 Flr1 Flr1 0w 1 Flr1 0w 1 Flr1 rr1 rr1 rr1 rr1 rr1 rr1 rr1 rr1 rr1	0w 1 Flr1 Flr1 Ow 1 Flr1 Ow 1 Flr2 Ir1	0w 1 Flr1 Flr1 0w 1 Flr1 0w 1 Flr1 1r1 rr1 rr1 rr1 rr1 rr1 rr1 rr1 rr1	0w 1 Fl71 Fl71 Ow 1 Fl71 I 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
FIF1 SF  OW 1 FIF1 SF  OW 1 FIF2 SF  IT SF	Fir1   SF     SF	Fir1   SF     SF   SF     OW 1 Fir1   SF     I	Fir1   SF     SF     SF     SW 1 Fir1   SF     I   SF	Fir1   SF   SF   SF   SF   SF   SF   SF   S
OW 1 FIr1       SF         OW 1 FIr2       SF         r1       SF         r1       SF         r1       SF         r1       SF         r1       SF         1       SF         1       SF         1       SF         1       SF	SK         OW 1 Flr1       SF         Ir1       SF         Ir1       SF         Ir1       SF         Ir1       SF         I       SF	OW 1 FIr1       SF         OW 1 FIr2       SF         Ir1       SF         Ir1       SF         Ir1       SF         Ir1       SF         I       SF	OW 1 FIr1       SF         OW 1 FIr2       SF         Ir1       SF         Ir1       SF         Ir1       SF         I       SF	OW 1 FIT 1     SF       OW 1 FIT 2     SF       IT 1     SF       IT 1     SF       IT 1     SF       IT 1     SF       I 1     SF       I 2     SF       I 3     SF       I 4     SF       I 5     SF       I 5     SF       I 5     SF       I 6     SF       I 7     SF       I 8     SF       I 8     SF       I 8     SF       I 9     SF       I 1     SF       I 1     SF       I 2     SF       I 3     SF       I 4     SF       I 5     SF       I 6     SF       I 7     SF       I 8     SF       I 9     SF       I 1     SF
220 Albert E Simpso* Hampton Row 1 Flr1 SF 218 Albert E Simpso* Hampton Row 1 Flr2 SF 1001 Carver St Hampton Row 1 Flr1 SF 1009 Carver St Hampton Row 1 Flr1 SF 1006 Carver St Hampton Row 1 Flr1 SF 1004 Carver St Hampton Row 1 Flr1 SF 1002 Carver St Hampton Row 1 Flr1 SF 1003 Rowe St Hampton Row 1 Flr1 SF 938 Spring St Hampton Row 1 Flr1 SF 940 Spring St Hampton Row 1 Flr1 SF	220 Albert E Simpso* Hampton Row 1 FIr1 SF 218 Albert E Simpso* Hampton Row 1 FIr2 SF 1011 Carver St Hampton Row 1 FIr1 SF 1009 Carver St Hampton Row 1 FIr1 SF 1006 Carver St Hampton Row 1 FIr1 SF 1004 Carver St Hampton Row 1 FIr1 SF 1002 Carver St Hampton Row 1 FIr1 SF 1003 Rowe St Hampton Row 1 FIr1 SF 938 Spring St Hampton Row 1 FIr1 SF 940 Spring St Hampton Row 1 FIr1 SF 940 Spring St Hampton Row 1 FIr1 SF	220 Albert E Simpso* Hampton Row 1 Flr1 SF 218 Albert E Simpso* Hampton Row 1 Flr2 SF 1001 Carver St Hampton Row 1 Flr1 SF 1009 Carver St Hampton Row 1 Flr1 SF 1006 Carver St Hampton Row 1 Flr1 SF 1004 Carver St Hampton Row 1 Flr1 SF 1003 Rowe St Hampton Row 1 Flr1 SF 938 Spring St Hampton Row 1 Flr1 SF 940 Spring St Hampton Row 1 Flr1 SF	220 Albert E Simpso* Hampton Row 1 FIr1 SF 218 Albert E Simpso* Hampton Row 1 FIr2 SF 1001 Carver St Hampton Row 1 FIr1 SF 1009 Carver St Hampton Row 1 FIr1 SF 1006 Carver St Hampton Row 1 FIr1 SF 1004 Carver St Hampton Row 1 FIr1 SF 1002 Carver St Hampton Row 1 FIr1 SF 1003 Rowe St Hampton Row 1 FIr1 SF 938 Spring St Hampton Row 1 FIr1 SF 940 Spring St Hampton Row 1 FIr1 SF 940 Spring St Hampton Row 1 FIr1 SF 937 Mason St Hampton Row 1 FIr1 SF 935 Mason St Hampton Row 1 FIr1 SF 935 Mason St Hampton Row 1 FIr1 SF	220 Albert E Simpso* Hampton Row 1 Flr1 SF 218 Albert E Simpso* Hampton Row 1 Flr2 SF 1001 Carver St Hampton Row 1 Flr1 SF 1009 Carver St Hampton Row 1 Flr1 SF 1006 Carver St Hampton Row 1 Flr1 SF 1004 Carver St Hampton Row 1 Flr1 SF 1003 Rowe St Hampton Row 1 Flr1 SF 938 Spring St Hampton Row 1 Flr1 SF 938 Spring St Hampton Row 1 Flr1 SF 937 Mason St Hampton Row 1 Flr1 SF 935 Mason St Hampton Row 1 Flr1 SF
218 Albert E Simpso* Hampton Row 1 Flr2 SF 1011 Carver St Hampton Row 1 Flr1 SF 1009 Carver St Hampton Row 1 Flr1 SF 1006 Carver St Hampton Row 1 Flr1 SF 1004 Carver St Hampton Row 1 Flr1 SF 1002 Carver St Hampton Row 1 Flr1 SF 1003 Rowe St Hampton Row 1 Flr1 SF 938 Spring St Hampton Row 1 Flr1 SF 940 Spring St Hampton Row 1 Flr1 SF	218 Albert E Simpso* Hampton Row 1 Flr2 SF 1011 Carver St Hampton Row 1 Flr1 SF 1009 Carver St Hampton Row 1 Flr1 SF 1006 Carver St Hampton Row 1 Flr1 SF 1004 Carver St Hampton Row 1 Flr1 SF 1002 Carver St Hampton Row 1 Flr1 SF 1003 Rowe St Hampton Row 1 Flr1 SF 938 Spring St Hampton Row 1 Flr1 SF 940 Spring St Hampton Row 1 Flr1 SF 940 Spring St Hampton Row 1 Flr1 SF	218 Albert E Simpso* Hampton Row 1 Flr2 SF 1011 Carver St Hampton Row 1 Flr1 SF 1009 Carver St Hampton Row 1 Flr1 SF 1006 Carver St Hampton Row 1 Flr1 SF 1004 Carver St Hampton Row 1 Flr1 SF 1002 Carver St Hampton Row 1 Flr1 SF 1003 Rowe St Hampton Row 1 Flr1 SF 938 Spring St Hampton Row 1 Flr1 SF 938 Spring St Hampton Row 1 Flr1 SF 938 Spring St Hampton Row 1 Flr1 SF 937 Mason St Hampton Row 1 Flr1 SF	218 Albert E Simpso* Hampton Row 1 Flr2 SF 1011 Carver St Hampton Row 1 Flr1 SF 1009 Carver St Hampton Row 1 Flr1 SF 1006 Carver St Hampton Row 1 Flr1 SF 1004 Carver St Hampton Row 1 Flr1 SF 1002 Carver St Hampton Row 1 Flr1 SF 1003 Rowe St Hampton Row 1 Flr1 SF 938 Spring St Hampton Row 1 Flr1 SF 940 Spring St Hampton Row 1 Flr1 SF 937 Mason St Hampton Row 1 Flr1 SF 935 Mason St Hampton Row 1 Flr1 SF 935 Mason St Hampton Row 1 Flr1 SF	218 Albert E Simpso* Hampton Row 1 Flr2 SF 1011 Carver St Hampton Row 1 Flr1 SF 1009 Carver St Hampton Row 1 Flr1 SF 1006 Carver St Hampton Row 1 Flr1 SF 1004 Carver St Hampton Row 1 Flr1 SF 1002 Carver St Hampton Row 1 Flr1 SF 1003 Rowe St Hampton Row 1 Flr1 SF 938 Spring St Hampton Row 1 Flr1 SF 940 Spring St Hampton Row 1 Flr1 SF 937 Mason St Hampton Row 1 Flr1 SF 935 Mason St Hampton Row 1 Flr1 SF
1011 Carver St Hampton Row 1 Flr1SF1009 Carver St Hampton Row 1 Flr1SF1006 Carver St Hampton Row 1 Flr1SF1004 Carver St Hampton Row 1 Flr1SF1003 Rowe St Hampton Row 1 Flr1SF938 Spring St Hampton Row 1 Flr1SF940 Spring St Hampton Row 1 Flr1SF	1011 Carver St Hampton Row 1 Flr1SF1009 Carver St Hampton Row 1 Flr1SF1006 Carver St Hampton Row 1 Flr1SF1004 Carver St Hampton Row 1 Flr1SF1002 Carver St Hampton Row 1 Flr1SF1003 Rowe St Hampton Row 1 Flr1SF938 Spring St Hampton Row 1 Flr1SF940 Spring St Hampton Row 1 Flr1SF940 Spring St Hampton Row 1 Flr1SF	1011 Carver St Hampton Row 1 Flr1SF1009 Carver St Hampton Row 1 Flr1SF1006 Carver St Hampton Row 1 Flr1SF1004 Carver St Hampton Row 1 Flr1SF1003 Rowe St Hampton Row 1 Flr1SF938 Spring St Hampton Row 1 Flr1SF940 Spring St Hampton Row 1 Flr1SF937 Mason St Hampton Row 1 Flr1SF935 Mason St Hampton Row 1 Flr1SF	1011 Carver St Hampton Row 1 Flr1SF1009 Carver St Hampton Row 1 Flr1SF1006 Carver St Hampton Row 1 Flr1SF1004 Carver St Hampton Row 1 Flr1SF1002 Carver St Hampton Row 1 Flr1SF1003 Rowe St Hampton Row 1 Flr1SF938 Spring St Hampton Row 1 Flr1SF940 Spring St Hampton Row 1 Flr1SF937 Mason St Hampton Row 1 Flr1SF933 Mason St Hampton Row 1 Flr1SF933 Mason St Hampton Row 1 Flr1SF	1011 Carver St Hampton Row 1 Flr1SF1009 Carver St Hampton Row 1 Flr1SF1006 Carver St Hampton Row 1 Flr1SF1004 Carver St Hampton Row 1 Flr1SF1002 Carver St Hampton Row 1 Flr1SF1003 Rowe St Hampton Row 1 Flr1SF938 Spring St Hampton Row 1 Flr1SF940 Spring St Hampton Row 1 Flr1SF937 Mason St Hampton Row 1 Flr1SF935 Mason St Hampton Row 1 Flr1SF933 Mason St Hampton Row 1 Flr1SF931 Mason St Hampton Row 1 Flr1SF
1009 Carver St Hampton Row 1 Flr1SF1006 Carver St Hampton Row 1 Flr1SF1004 Carver St Hampton Row 1 Flr1SF1002 Carver St Hampton Row 1 Flr1SF938 Spring St Hampton Row 1 Flr1SF940 Spring St Hampton Row 1 Flr1SF	1009 Carver St Hampton Row 1 Flr1SF1006 Carver St Hampton Row 1 Flr1SF1004 Carver St Hampton Row 1 Flr1SF1002 Carver St Hampton Row 1 Flr1SF938 Spring St Hampton Row 1 Flr1SF940 Spring St Hampton Row 1 Flr1SF937 Mason St Hampton Row 1 Flr1SF	SF S	1009 Carver St Hampton Row 1 Flr1SF1006 Carver St Hampton Row 1 Flr1SF1004 Carver St Hampton Row 1 Flr1SF1002 Carver St Hampton Row 1 Flr1SF938 Spring St Hampton Row 1 Flr1SF940 Spring St Hampton Row 1 Flr1SF937 Mason St Hampton Row 1 Flr1SF935 Mason St Hampton Row 1 Flr1SF933 Mason St Hampton Row 1 Flr1SF	1009 Carver St Hampton Row 1 Flr1SF1006 Carver St Hampton Row 1 Flr1SF1004 Carver St Hampton Row 1 Flr1SF1002 Carver St Hampton Row 1 Flr1SF1003 Rowe St Hampton Row 1 Flr1SF940 Spring St Hampton Row 1 Flr1SF937 Mason St Hampton Row 1 Flr1SF935 Mason St Hampton Row 1 Flr1SF931 Mason St Hampton Row 1 Flr1SF931 Mason St Hampton Row 1 Flr1SF
1006 Carver St Hampton Row 1 Flr1SF11004 Carver St Hampton Row 1 Flr1SF11002 Carver St Hampton Row 1 Flr1SF1938 Spring St Hampton Row 1 Flr1SF1940 Spring St Hampton Row 1 Flr1SF1	1006 Carver St Hampton Row 1 Flr1       SF       1         1004 Carver St Hampton Row 1 Flr1       SF       1         1002 Carver St Hampton Row 1 Flr1       SF       1         1003 Rowe St Hampton Row 1 Flr1       SF       1         938 Spring St Hampton Row 1 Flr1       SF       1         940 Spring St Hampton Row 1 Flr1       SF       1         937 Mason St Hampton Row 1 Flr1       SF       1	1006 Carver St Hampton Row 1 Flr1       SF       1         1004 Carver St Hampton Row 1 Flr1       SF       1         1002 Carver St Hampton Row 1 Flr1       SF       1         938 Spring St Hampton Row 1 Flr1       SF       1         940 Spring St Hampton Row 1 Flr1       SF       1         937 Mason St Hampton Row 1 Flr1       SF       1         935 Mason St Hampton Row 1 Flr1       SF       1	1006 Carver St Hampton Row 1 Flr1       SF       1         1004 Carver St Hampton Row 1 Flr1       SF       1         1002 Carver St Hampton Row 1 Flr1       SF       1         1003 Rowe St Hampton Row 1 Flr1       SF       1         940 Spring St Hampton Row 1 Flr1       SF       1         940 Spring St Hampton Row 1 Flr1       SF       1         937 Mason St Hampton Row 1 Flr1       SF       1         933 Mason St Hampton Row 1 Flr1       SF       1	1006 Carver St Hampton Row 1 Flr1       SF       1         1004 Carver St Hampton Row 1 Flr1       SF       1         1002 Carver St Hampton Row 1 Flr1       SF       1         938 Spring St Hampton Row 1 Flr1       SF       1         940 Spring St Hampton Row 1 Flr1       SF       1         937 Mason St Hampton Row 1 Flr1       SF       1         935 Mason St Hampton Row 1 Flr1       SF       1         933 Mason St Hampton Row 1 Flr1       SF       1         931 Mason St Hampton Row 1 Flr1       SF       1         931 Mason St Hampton Row 1 Flr1       SF       1
1004 Carver St Hampton Row 1 Flr1       SF       1         1002 Carver St Hampton Row 1 Flr1       SF       1         1003 Rowe St Hampton Row 1 Flr1       SF       1         938 Spring St Hampton Row 1 Flr1       SF       1         940 Spring St Hampton Row 1 Flr1       SF       1	1004 Carver St Hampton Row 1 Flr1       SF       1         1002 Carver St Hampton Row 1 Flr1       SF       1         1003 Rowe St Hampton Row 1 Flr1       SF       1         938 Spring St Hampton Row 1 Flr1       SF       1         940 Spring St Hampton Row 1 Flr1       SF       1         937 Mason St Hampton Row 1 Flr1       SF       1	1004 Carver St Hampton Row 1 Flr1       SF       1         1002 Carver St Hampton Row 1 Flr1       SF       1         1003 Rowe St Hampton Row 1 Flr1       SF       1         938 Spring St Hampton Row 1 Flr1       SF       1         940 Spring St Hampton Row 1 Flr1       SF       1         937 Mason St Hampton Row 1 Flr1       SF       1         935 Mason St Hampton Row 1 Flr1       SF       1	1004 Carver St Hampton Row 1 Flr1       SF       1         1002 Carver St Hampton Row 1 Flr1       SF       1         1003 Rowe St Hampton Row 1 Flr1       SF       1         940 Spring St Hampton Row 1 Flr1       SF       1         937 Mason St Hampton Row 1 Flr1       SF       1         933 Mason St Hampton Row 1 Flr1       SF       1         933 Mason St Hampton Row 1 Flr1       SF       1	1004 Carver St Hampton Row 1 Flr1       SF       1         1002 Carver St Hampton Row 1 Flr1       SF       1         1003 Rowe St Hampton Row 1 Flr1       SF       1         938 Spring St Hampton Row 1 Flr1       SF       1         940 Spring St Hampton Row 1 Flr1       SF       1         937 Mason St Hampton Row 1 Flr1       SF       1         933 Mason St Hampton Row 1 Flr1       SF       1         931 Mason St Hampton Row 1 Flr1       SF       1
1002 Carver St Hampton Row 1 Flr1SF11003 Rowe St Hampton Row 1 Flr1SF1938 Spring St Hampton Row 1 Flr1SF1940 Spring St Hampton Row 1 Flr1SF1	1002 Carver St Hampton Row 1 Flr1       SF       1         1003 Rowe St Hampton Row 1 Flr1       SF       1         938 Spring St Hampton Row 1 Flr1       SF       1         940 Spring St Hampton Row 1 Flr1       SF       1         937 Mason St Hampton Row 1 Flr1       SF       1	1002 Carver St Hampton Row 1 Flr1SF11003 Rowe St Hampton Row 1 Flr1SF1938 Spring St Hampton Row 1 Flr1SF1940 Spring St Hampton Row 1 Flr1SF1937 Mason St Hampton Row 1 Flr1SF1	1002 Carver St Hampton Row 1 Flr1       SF       1         1003 Rowe St Hampton Row 1 Flr1       SF       1         938 Spring St Hampton Row 1 Flr1       SF       1         940 Spring St Hampton Row 1 Flr1       SF       1         937 Mason St Hampton Row 1 Flr1       SF       1         933 Mason St Hampton Row 1 Flr1       SF       1	1002 Carver St Hampton Row 1 Flr1       SF       1         1003 Rowe St Hampton Row 1 Flr1       SF       1         938 Spring St Hampton Row 1 Flr1       SF       1         940 Spring St Hampton Row 1 Flr1       SF       1         937 Mason St Hampton Row 1 Flr1       SF       1         933 Mason St Hampton Row 1 Flr1       SF       1         933 Mason St Hampton Row 1 Flr1       SF       1         931 Mason St Hampton Row 1 Flr1       SF       1
1003 Rowe St Hampton Row 1 Flr1SF1938 Spring St Hampton Row 1 Flr1SF1940 Spring St Hampton Row 1 Flr1SF1	1003 Rowe St Hampton Row 1 Flr1SF1938 Spring St Hampton Row 1 Flr1SF1940 Spring St Hampton Row 1 Flr1SF1	1003 Rowe St Hampton Row 1 Flr1SF1938 Spring St Hampton Row 1 Flr1SF1940 Spring St Hampton Row 1 Flr1SF1937 Mason St Hampton Row 1 Flr1SF1	1003 Rowe St Hampton Row 1 Flr1SF1938 Spring St Hampton Row 1 Flr1SF1940 Spring St Hampton Row 1 Flr1SF1937 Mason St Hampton Row 1 Flr1SF1933 Mason St Hampton Row 1 Flr1SF1	1003 Rowe St Hampton Row 1 Flr1SF1938 Spring St Hampton Row 1 Flr1SF1940 Spring St Hampton Row 1 Flr1SF1937 Mason St Hampton Row 1 Flr1SF1935 Mason St Hampton Row 1 Flr1SF1933 Mason St Hampton Row 1 Flr1SF1931 Mason St Hampton Row 1 Flr1SF1
938 Spring St Hampton Row 1 Flr1SF1940 Spring St Hampton Row 1 Flr1SF1	938 Spring St Hampton Row 1 Flr1SF1940 Spring St Hampton Row 1 Flr1SF1937 Mason St Hampton Row 1 Flr1SF1	938 Spring St Hampton Row 1 Flr1SF1940 Spring St Hampton Row 1 Flr1SF1937 Mason St Hampton Row 1 Flr1SF1935 Mason St Hampton Row 1 Flr1SF1	938 Spring St Hampton Row 1 Flr1 SF 1 940 Spring St Hampton Row 1 Flr1 SF 1 937 Mason St Hampton Row 1 Flr1 SF 1 935 Mason St Hampton Row 1 Flr1 SF 1	938 Spring St Hampton Row 1 Flr1       SF       1         940 Spring St Hampton Row 1 Flr1       SF       1         937 Mason St Hampton Row 1 Flr1       SF       1         933 Mason St Hampton Row 1 Flr1       SF       1         931 Mason St Hampton Row 1 Flr1       SF       1
940 Spring St Hampton Row 1 Flr1 SF 1	940 Spring St Hampton Row 1 Flr1 SF 1 937 Mason St Hampton Row 1 Flr1 SF 1	940 Spring St Hampton Row 1 Flr1 SF 1 937 Mason St Hampton Row 1 Flr1 SF 1 935 Mason St Hampton Row 1 Flr1 SF 1	940 Spring St Hampton Row 1 Flr1 SF 1 937 Mason St Hampton Row 1 Flr1 SF 1 935 Mason St Hampton Row 1 Flr1 SF 1	940 Spring St Hampton Row 1 Flr1 SF 1 937 Mason St Hampton Row 1 Flr1 SF 1 935 Mason St Hampton Row 1 Flr1 SF 1 933 Mason St Hampton Row 1 Flr1 SF 1
	937 Mason St Hampton Row 1 Flr1 SF 1	937 Mason St Hampton Row 1 Flr 1 SF 1 935 Mason St Hampton Row 1 Flr 1 SF 1	937 Mason St Hampton Row 1 Flr1 SF 1 935 Mason St Hampton Row 1 Flr1 SF 1 933 Mason St Hampton Row 1 Flr1 SF 1	937 Mason St Hampton Row 1 Flr 1 SF 1 935 Mason St Hampton Row 1 Flr 1 SF 1 933 Mason St Hampton Row 1 Flr 1 SF 1

Table C-1. Predicted Existing and Future Noise Levels, Hampton

	uiysis	_			icp.	-	<u> </u>	1				<u> </u>	<u> </u>	1	1	1									
<u>s</u>	Build-	0	0	11	11	11	11	0	0	0	0	8	0	8	8	2	2	0	11	11	0	12	0	0	6
ier Leve	Build-	PA	PA	58	58	59	29	PA	ΡA	ΡA	ΡA	28	PA	28	59	62	62	ΡA	09	28	PA	09	PA	PA	28
With-Barrier Levels	Build-8	12	0	11	11	12	11	0	0	0	0	8	0	8	8	2	4	12	11	6	0	11	0	0	8
5	Build-8	09	PA	57	58	58	59	PA	PA	PA	PA	58	PA	58	59	61	62	61	29	58	PA	29	PA	PA	58
BA)	Build-10	PA	PA	69	70	71	71	PA	PA	PA	PA	99	PA	99	29	29	29	PA	71	69	PA	71	PA	PA	29
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	72	PA	89	89	70	70	PA	PA	PA	PA	99	PA	99	29	99	29	72	20	29	PA	70	PA	PA	99
udest-H	No- Build	70	71	64	65	99	65	29	89	89	29	99	29	65	29	64	64	63	61	29	64	61	65	64	61
P	Exist.	69	70	63	64	65	64	99	29	29	29	65	99	64	99	63	63	62	09	58	63	09	64	63	09
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	71	99	99	99	99	99	99	99	99	99	99	99	99	99
	Kecp Units	1	1	П	1	1	1	1	1	1	1	1	1	1	1	15	0	1	7	1	1	7	1	1	7
F 0.0	Land Use*	SF	Retail	SF	SF	SF	MF	Monit.	SF																
	Receiver Site Name	924 Mason St Hampton Row 1 Flr2	920 Mason St Hampton Row 1 Flr1	921 Quash St Hampton Row 1 Flr1	917 Quash St Hampton Row 1 Flr2	915 Quash St Hampton Row 1 Flr1	913 Quash St Hampton Row 1 Flr2	907 Quash St Hampton Row 1 Flr2	905 Quash St Hampton Row 1 Flr2	903 Quash St Hampton Row 1 Flr2	843 Quash St Hampton Row 1 Flr1	Hampton Rds Realty	811 N King St Hampton Row 1 Flr2	812 N King St Hampton Row 1 Flr2	804 N King St Hampton Row 1 Flr2	100 Spanish Tr Hampton Row 1 Flr3	ST-8, 100 Spanish Tr Hampton Row 1 Flr1	325 Bassette St Hampton Row 2 Flr1	329 Bassette St Hampton Row 2 Flr1	335 Bassette St Hampton Row 2 Flr1	806 Langley Ave Hampton Row 2 Flr2	802 Langley Ave Hampton Row 2 Flr2	805 Langley Ave Hampton Row 2 Flr1	801 Langley Ave Hampton Row 2 Flr1	719 Langley Ave Hampton Row 2 Flr1
	Site No.	P0270	P0271	P0272	P0273	P0274	P0275	P0276	P0277	P0278	P0279	P0280	P0281	P0282	P0283	P0284	P0285	P0286	P0287	P0288	P0289	P0290	P0291	P0292	P0293

Table C-1. Predicted Existing and Future Noise Levels, Hampton

65 66 64 63 63 65 67	Build-10         Leq         IL**           65         56         8           66         58         8           64         57         8           63         55         7           66         58         8           67         58         8           67         58         9	Leq IL**  56 8 58 8 57 8 55 7 58 8 58 8 58 8	Leq IL** 56 8 58 8 57 8 55 7 58 8 58 8 58 8 58 8	Leq II.**  56 8 8 57 8 8 55 7 58 8 8 58 8 58 8 58 8 5	Leq IL** 56 8 58 8 57 8 55 7 58 8 58 8 58 8 58 8 58	Leq IL**  56 8 58 8 57 8 55 7 58 8 58 8 58 8 58 8 58	Leq IL**  56 8 58 8 57 8 55 7 58 8 58 8 58 8 58 8 58	Leq IL**  56 8 58 8 57 8 55 7 58 8 58 8 58 8 58 8 58	Leq IL**  56 8 58 8 57 8 55 7 58 8 58 8 58 8 58 8 58	***************************************	***  8 8 8 8 7 8 8 8 8 7 7 8 8 8 8 7 7 7 7	***	***  8 8 8 7 8 8 8 8 8 8 8 8 8 7 8 8 8 8 7 7 8 8 8 8 7 7 8 8 8 8 7 7 8 8 8 8 7 7 8 8 8 8 8 7 7 8 8 8 8 8 7 7 8 8 8 8 8 7 7 8 8 8 8 8 8 7 7 8 8 8 8 8 8 8 7 7 8 8 8 8 8 8 7 8 7 8 8 8 8 8 8 8 8 7 8 8 8 8 8 8 8 7 8 8 8 8 8 8 8 8 7 8 8 8 8 8 8 8 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 7 8	**	***  8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	### 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	##
-8 Build-10	65 66 64 63 63 66 67									Lea	56 56 57 57 58 58 58 58 58 58 58 58 58 58 64 64 63 63 63	56 58 58 58 58 58 58 58 58 58 58 58 58 64 64 64 64 64 64 66 60 60	56 57 58 58 58 58 58 58 58 58 58 58 63 63 63 60 60	88 88 88 88 88 88 88 88 88 88 88 88 88	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		
		65 66 64 63 65 67 67	65 66 64 63 66 67 67 66 66	55 55 55 55 55 55 55 55 55 55 55 55 55													
	64 64 63 66 66 66	64 66 63 66 66 66 67	64 66 63 66 66 67 66														
59 60 58 59 59 60 60 61	60 60 61 61	60 60 60 61 61 62	60 60 61 61 62 62	60 60 61 61 62 62 62	60 60 61 61 62 62 62 62 62 62	60 60 60 61 61 62 62 62 63 67	60 60 60 61 62 62 62 62 62 63 64 67	60 60 60 61 61 62 62 62 63 64 65 65 66 66	60 60 60 61 61 62 62 62 62 63 64 65 65 66 66	60 60 60 61 61 62 62 62 63 64 65 67 67 67 67 67 67 67 67 67 67 67 67 67	60 60 60 61 61 62 62 62 62 65 65 66 66 66 67 67 67 67 67 67 66 67 67 67	60 60 60 61 61 62 62 63 64 65 65 65 66 66 66 67 67 67 67 67 67 67 67 67 67	60 60 60 60 61 61 62 62 62 65 66 66 66 66 66 66 66 67 67 67 67 67 67	60 60 60 60 61 62 62 63 64 65 66 66 66 66 66 66 66 66 67 67 68 66 67 67 68 67 68 68 68 69 60 60 60 60 60 60 60 60 60 60 60 60 60	60 60 60 60 60 60 60 60 60 60 60 60 60 6	60 60 60 60 60 60 60 60 60 60 60 60 60 6	60 60 60 60 60 61 61 62 62 65 66 66 66 66 65 65 65 65 65 65 65 65
2 66 58 1 66 59 1 66 60	99 99	99 99 99	99 99 99 99	99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99
	SF 1 SF 1	SF 1 SF 1 SF 1 SF 1	SF 1 SF 1 SF 1 SF 1	SF 1 1 SF	SF 1	SF 1 1 SF	SF 1	SF 1	SF 1 1 SF	SF 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SF 1 1 SF 1 SF 1 1 SF 1	SF 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SF 1 1 SF 1 SF 1 1 SF	SF 1 1   SF 1   SF 1   SF 1   SF 1 1	SF 1 1	SF 1 1 SF 1 SF 1 1 SF	SF 1 SF 1 SF 1 SF 1 SF 1 SF 1 SF 1 SF 1
SF	SF SF SF	SF SF SF	SF S	S S S S S S S S S S S S S S S S S S S	SF S	S S S S S S S S S S S S S S S S S S S	SF S	SF S	SF	S       78	SF       SP       SP <td< td=""><td>7.       <td< td=""><td>SF       SP       <td< td=""><td>72       73       74       75   <td>S         TS         TS</td><td>S         TS       <td< td=""><td>SF         TS         TS</td></td<></td></td></td<></td></td<></td></td<>	7.       7. <td< td=""><td>SF       SP       <td< td=""><td>72       73       74       75   <td>S         TS         TS</td><td>S         TS       <td< td=""><td>SF         TS         TS</td></td<></td></td></td<></td></td<>	SF       SP       SP <td< td=""><td>72       73       74       75   <td>S         TS         TS</td><td>S         TS       <td< td=""><td>SF         TS         TS</td></td<></td></td></td<>	72       73       74       75 <td>S         TS         TS</td> <td>S         TS       <td< td=""><td>SF         TS         TS</td></td<></td>	S         TS         TS	S         TS       TS <td< td=""><td>SF         TS         TS</td></td<>	SF         TS         TS
1 66	SF 1 66 SF 1 66	SF     1     66       SF     1     66       SF     1     66	SF     1     66       SF     1     66       SF     1     66       SF     1     66	SF     1     66	SF     1     66	SF     1     66	SF     1     66	SF     1     66	SF     1     66	SF       1       66	SF       1       66	SF       1       66	SF       1       66         SF       3       66	SF       1       66         SF       3       66         SF       3       66	SF       1       66         SF       3       66         SF       3       66         SF       3       66         SF       1       66         SF       3       66         SF       1       66	SF       1       66         SF       3       66         SF       3       66         SF       4       66	SF       1       66         SF       3       66         SF       3       66         SF       4       66         SF       4       66         SF       4       66         SF       4       66
	SF 1 66 60	SF 1 66 60 SF 1 66 61	SF     1     66     60       SF     1     66     61       SF     1     66     61	SF     1     66     60       SF     1     66     61       SF     1     66     61       SF     1     66     61	SF     1     66     60       SF     1     66     61       SF     1     66     61       SF     1     66     60       SF     1     66     60	SF     1     66     60       SF     1     66     61       SF     1     66     61       SF     1     66     60       SF     1     66     61       SF     1     66     61	SF     1     66     60       SF     1     66     61       SF     1     66     61       SF     1     66     60       SF     1     66     66       SF     1     66     66       SF     1     66     66	SF     1     66     60       SF     1     66     61       SF     1     66     61       SF     1     66     61       SF     1     66     66       SF     1     66     66       SF     1     66     66       SF     1     66     66	SF       1       66       60         SF       1       66       61         SF       1       66       61         SF       1       66       60         SF       1       66       66         SF       1       66       66         SF       1       66       66         SF       1       66       66         SF       1       66       66	SF     1     66     60       SF     1     66     61       SF     1     66     61       SF     1     66     61       SF     1     66     66       SF     1     66     66       SF     1     66     66       SF     1     66     66       SF     1     66     65       SF     1     66     65	SF       1       66       60         SF       1       66       61         SF       1       66       61         SF       1       66       60         SF       1       66       66         SF       1       66       66         SF       1       66       66         SF       1       66       65         SF       1       66       65         SF       1       66       67         SF       1       66       67         SF       1       66       67	SF       1       66       60         SF       1       66       61         SF       1       66       61         SF       1       66       61         SF       1       66       66         SF       1       66       66         SF       1       66       66         SF       1       66       65         SF       1       66       67	SF       1       66       60         SF       1       66       61         SF       1       66       61         SF       1       66       60         SF       1       66       66         SF       1       66       66         SF       1       66       65         SF       1       66       65         SF       1       66       67         SF       1       66       65         SF       1       66       65         SF       3       66       65	SF       1       66       60         SF       1       66       61         SF       1       66       61         SF       1       66       66         SF       1       66       66         SF       1       66       66         SF       1       66       66         SF       1       66       65         SF       1       66       67         SF       1       66       67         SF       1       66       65         SF       3       66       61         SF       3       66       64	SF       1       66       60         SF       1       66       61         SF       1       66       61         SF       1       66       60         SF       1       66       66         SF       1       66       66         SF       1       66       66         SF       1       66       67         SF       1       66       67         SF       1       66       64         SF       3       66       61         SF       3       66       64         SF       3       66       64         SF       1       66       64	SF       1       66       60         SF       1       66       61         SF       1       66       61         SF       1       66       66         SF       1       66       66         SF       1       66       66         SF       1       66       65         SF       1       66       67         SF       1       66       64         SF       1       66       64         SF       3       66       64         SF       3       66       64         SF       3       66       64         SF       4       66       68	SF       1       66       60         SF       1       66       61         SF       1       66       61         SF       1       66       60         SF       1       66       66         SF       1       66       66         SF       1       66       65         SF       1       66       67         SF       1       66       64         SF       3       66       64         SF       3       66       64         SF       4       66       68         SF       4       66       66         SF       4       66       66         SF       4       66       60         SF       4       66       60

Table C-1. Predicted Existing and Future Noise Levels, Hampton

	uiysis i			ui r	ιερι	<i>-</i>																			
S	Build- 10 IL**	6	6	8	7	7	4	8	6	6	8	6	8	6	8	3	4	6	6	8	9	0	0	0	0
ier Leve	Build- 10 Leq	28	29	29	28	28	44	99	99	55	55	22	53	22	22	62	29	22	99	99	28	PA	PA	PA	PA
With-Barrier Levels	Build-8 IL**	6	6	6	7	8	4	7	8	7	8	8	7	6	8	4	4	6	8	8	9	0	12	0	0
>	Build-8 Leq	28	28	29	58	58	43	55	55	54	55	54	53	22	55	61	28	54	55	26	57	PA	09	PA	PA
BA)	Build-10	29	29	29	65	65	48	64	65	63	63	63	61	99	63	99	63	64	64	64	64	PA	PA	PA	РА
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	<b>29</b>	<b>29</b>	<b>29</b>	92	92	47	62	64	61	62	62	09	<u> </u>	89	<u> </u>	62	89	89	9	89	Vd	72	ΡA	ЬА
udest-H	No- Build	64	65	99	63	64	45	57	28	99	58	28	26	61	29	64	61	59	09	62	62	64	63	65	65
Po	Exist.	63	64	9	62	63	44	99	25	26	57	25	22	09	28	64	61	28	69	61	61	63	62	64	64
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	Kecp Units	1	1	1	1	1	14	1	3	5	1	1	2	3	7	1	2	2	3	3	1	1	1	1	1
	Land Use*	SF	SF	SF	SF	SF	MF	SF	SF	SF	SF	SF	SF	SF	SF	Church	SF	SF	SF	SF	SF	SF	SF	SF	SF
	Receiver Site Name	842 Quash St Hampton Row 2 Flr2	840 Quash St Hampton Row 2 Flr1	Quash St Hampton Row 2 Flr1	832 N King St Hampton Row 2 Flr1	814 N King St Hampton Row 2 FIr1.5	100 Spanish Tr Hampton Row 2 Flr1	1215 Guy St Hampton Row 3 Flr2	724 Langley Ave Hampton Row 3 Flr1	716 Langley Ave Hampton Row 3 Flr1	Langley Ave Hampton Row 3 Flr1	707 Langley Ave Hampton Row 3 Flr1	1125 Rowe St Hampton Row 3 Flr1	1011 Rowe St Hampton Row 3 Flr1	1008 Rowe St Hampton Row 3 Flr2	Humble Beginnings	213 Rip Rap Rd Hampton Row 3 Flr1	941 Quash St Hampton Row 3 Flr2	926 Quash St Hampton Row 3 Flr2	13 Kempton St Hampton Row 3 Flr2	834 N King St Hampton Row 3 Flr1	295 Creek Ave Hampton Row 1 Flr1	297 Creek Ave Hampton Row 1 Flr2	200 Cooper St Hampton Row 1 Flr2	202 Cooper St Hampton Row 1 Flr2
	Site No.	P0318	P0319	P0320	P0321	P0322	P0323	P0324	P0325	P0326	P0327	P0328	P0329	P0330	P0331	P0332	P0333	P0334	P0335	P0336	P0337	P0338	P0339	P0340	P0341

Table C-1. Predicted Existing and Future Noise Levels, Hampton

And	alysis 1	Гес	nnic	al F	Rep	ort																			
S	Build- 10 IL**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12	11
With-Barrier Levels	Build- 10 Leq	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	09	09	29
/ith-Barr	Build-8 IL**	0	0	0	0	12	0	0	0	0	6	0	0	0	0	8	0	0	8	0	0	0	12	12	10
>	Build-8 Leq	PA	PA	PA	PA	09	PA	PA	PA	PA	09	PA	PA	PA	PA	28	PA	PA	58	PA	PA	PA	09	29	29
BA)	Build-10	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	72	72	70
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	PA	PA	PA	PA	72	PA	PA	PA	PA	69	PA	PA	PA	PA	99	PA	PA	99	PA	PA	PA	71	71	69
udest-H	No- Build	64	64	64	63	62	<u> </u>	64	64	64	79	£9	62	29	29	19	62	61	09	69	89	25	62	19	61
2	Exist.	63	63	63	62	61	64	63	63	63	61	62	61	61	61	09	61	09	29	58	22	26	61	09	09
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
9	Units	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	2
!	Use*	SF	SF	SF	SF	SF	JS	JS	SF	SF	SF	Monit.	SF	JS	JS	JS	JS	SF	JS	JS	JS	SF	SF	ЗE	SF
	Receiver Site Name	304 Creek Ave Hampton Row 1 Flr1.5	305 Cooper St Hampton Row 1 Flr1	307 Cooper St Hampton Row 1 Flr1	309 Cooper St Hampton Row 1 Flr1.5	311 Cooper St Hampton Row 1 Flr1	310 Cooper St Hampton Row 1 Flr1	312 Cooper St Hampton Row 1 Flr1	314 Cooper St Hampton Row 1 Flr1	316 Cooper St Hampton Row 1 Flr1	718 Marshall St Hampton Row 1 Flr1	LT-9, 415 Colbert Ave Hampton Row 1 Flr1	415 Colbert Ave Hampton Row 1 Flr2	421 Colbert Ave Hampton Row 1 Flr2	423 Colbert Ave Hampton Row 1 Flr1	425 Colbert Ave Hampton Row 1 Flr1	424 Colbert Ave Hampton Row 1 Flr2	623 River St Hampton Row 1 Flr2	544 River St Hampton Row 1 Flr1	542 River St Hampton Row 1 Flr2	540 River St Hampton Row 1 Flr1	538 River St Hampton Row 1 Flr2	299 Creek Ave Hampton Row 2 Flr1	301 Creek Ave Hampton Row 2 Flr2	305 Creek Ave Hampton Row 2 Flr1
	Site No.	P0342	P0343	P0344	P0345	P0346	P0347	P0348	P0349	P0350	P0351	P0352	P0353	P0354	P0355	P0356	P0357	P0358	P0359	P0360	P0361	P0362	P0363	P0364	P0365

Table C-1. Predicted Existing and Future Noise Levels, Hampton

An	alysis 1	Tech	nnic	al F	Rep	ort																			
S	Build- 10 IL**	12	11	12	11	6	6	8	8	8	8	7	6	10	8	8	8	7	7	10	10	10	10	10	11
ier Level	Build- 10 Leq	09	69	09	69	89	25	28	22	89	25	25	99	25	22	99	55	99	99	22	22	57	22	26	26
With-Barrier Levels	Build-8 IL**	12	11	12	11	6	6	8	8	8	7	9	6	6	8	8	7	9	9	6	6	6	6	10	10
>	Build-8 Leq	09	28	59	29	22	26	28	22	28	28	28	26	99	22	22	55	26	22	26	57	57	54	22	55
BA)	Build-10	72	20	71	20	29	99	29	92	99	92	64	99	29	63	64	63	63	64	29	29	67	64	99	29
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	72	89	71	69	99	65	99	65	99	65	64	65	92	62	64	63	63	63	99	99	99	63	65	65
udest-H	No- Build	61	69	61	61	65	69	09	26	09	09	69	28	28	99	22	56	22	28	63	64	64	61	62	64
P	Exist.	09	28	61	09	28	28	29	28	69	69	28	22	22	22	99	22	26	22	62	63	63	09	61	63
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	Units	1	7	1	1	1	1	7	7	1	7	1	2	7	7	1	1	4	7	1	1	1	1	1	1
-	Use*	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF
	Receiver Site Name	308 Creek Ave Hampton Row 2 Flr2	312 Creek Ave Hampton Row 2 Flr2	313 Cooper St Hampton Row 2 Flr1	807 Marshall St Hampton Row 2 Flr1	808 Marshall St Hampton Row 2 Flr2	429 Cooper St Hampton Row 2 Flr2	422 Cooper St Hampton Row 2 Flr1	719 River St Hampton Row 2 Flr1	437 Colbert Ave Hampton Row 2 Flr1	628 River St Hampton Row 2 Flr2	716 River St Hampton Row 2 Flr2	341 Creek Ave Hampton Row 3 Flr2	811 Marshall St Hampton Row 3 Flr1	403 Creek Ave Hampton Row 3 Flr1.5	812 Marshall St Hampton Row 3 Flr2	434 Creek Ave Hampton Row 3 Flr1	438 Creek Ave Hampton Row 3 Flr1	720 River St Hampton Row 3 Flr2	112 Colbert Ave Hampton Row 1 Flr2	108 Colbert Ave Hampton Row 1 Flr1	617 Eaton St Hampton Row 1 Flr1	125 Poplar Ave Hampton Row 1 Flr1	613 Eaton St Hampton Row 1 Flr1	607 Washington St Hampton Row 1 Flr2
	Site No.	P0366	P0367	P0368	P0369	P0370	P0371	P0372	P0373	P0374	P0375	P0376	P0377	P0378	P0379	P0380	P0381	P0382	P0383	P0384	P0385	P0386	P0387	P0388	P0389

Table C-1. Predicted Existing and Future Noise Levels, Hampton

AII	aiysis i	eci	IIIIC	uir	iepi	יונ																		_	
S	Build- 10 IL**	11	10	12	11	10	11	11	11	10	6	6	6	6	6	6	7	9	0	8	8	8	7	6	6
ier Leve	Build- 10 Leq	99	99	29	69	25	28	29	29	29	28	69	28	29	28	69	28	28	PA	29	29	22	54	54	26
With-Barrier Levels	Build-8 IL**	10	10	11	11	10	10	10	10	10	6	6	6	6	6	6	9	9	8	7	7	7	9	8	6
5	Build-8	99	55	59	28	26	22	58	58	28	22	58	58	29	28	28	59	59	59	59	09	55	54	54	55
BA)	Build-10	29	99	71	20	29	89	69	70	69	29	89	29	89	29	29	65	65	PA	99	89	63	61	63	65
Loudest-Hour Leq (dBA)	Build-8	92	92	70	89	99	29	89	89	89	99	29	99	89	99	29	92	64	29	99	29	62	09	62	64
udest-H	No- Build	64	£9	89	<b>29</b>	64	<b>59</b>	<b>29</b>	89	89	<u> </u>	<b>29</b>	99	89	<b>29</b>	89	64	£9	89	99	89	09	28	09	62
2	Exist.	63	62	29	99	63	64	99	67	29	64	99	65	29	99	29	63	62	67	65	67	59	57	59	61
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	kecp Units	1	1	1	1	2	1	1	1	0	2	1	2	1	1	1	1	1	1	1	1	1	1	1	2
!	Land Use*	SF	SF	SF	SF	MF	SF	SF	SF	Monit.	MF	SF	MF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF
	Receiver Site Name	605 Washington St Hampton Row 1 Flr1	603 Washington St Hampton Row 1 Flr2	606 Washington St Hampton Row 1 Flr2	602 Washington St Hampton Row 1 Flr2	304 Poplar Ave Hampton Row 1 Flr2	314 Poplar Ave Hampton Row 1 Flr2	324 Poplar Ave Hampton Row 1 Flr2	326 Poplar Ave Hampton Row 1 Flr1	ST-10, 326 Poplar Ave Hampton Row 1 Flr1	509 Marshall St Hampton Row 1 Flr2	511 Marshall St Hampton Row 1 Flr1	501 Marshall St Hampton Row 1 Flr2	502 Marshall St Hampton Row 1 Flr2	415 E Pembroke Ave Hampton Row 1 Flr2	421 E Pembroke Ave Hampton Row 1 Flr2	316 Marshall St Hampton Row 1 Flr1	314 Marshall St Hampton Row 1 Flr1.5	433 E Pembroke Ave Hampton Row 1 Flr2	440 E Pembroke Ave Hampton Row 1 Flr2	442 E Pembroke Ave Hampton Row 1 Flr2	113 Poplar Ave Hampton Row 2 Flr1	115 Poplar Ave Hampton Row 2 Flr1	524 Eaton St Hampton Row 2 Flr1	525 Washington St Hampton Row 2 Flr1
	Site No.	P0390	P0391	P0392	P0393	P0394	P0395	P0396	P0397	P0398	P0399	P0400	P0401	P0402	P0403	P0404	P0405	P0406	P0407	P0408	P0409	P0410	P0411	P0412	P0413

Table C-1. Predicted Existing and Future Noise Levels, Hampton

	uiysis i	-	,,,,,	ui i	icpi	-	1					1	1												
<u>s</u>	Build- 10 IL**	6	6	6	6	6	8	6	8	8	6	0	0	0	0	0	0	0	0	2	0	7	9	0	0
ier Leve	Build- 10 Leq	22	99	99	22	99	28	25	25	54	55	PA	PA	ΡA	ΡA	ΡA	ΡA	ΡA	ЬA	25	ЬA	69	57	ΡA	ΡA
With-Barrier Levels	Build-8 IL**	8	8	6	8	8	8	8	7	8	8	0	0	0	0	0	0	0	0	2	0	8	9	0	0
>	Build-8 Leq	55	55	26	55	26	58	57	28	54	22	PA	PA	PA	PA	PA	PA	PA	PA	57	PA	58	57	PA	PA
BA)	Build-10	64	65	99	64	65	29	99	65	63	64	PA	PA	PA	PA	PA	PA	PA	PA	62	PA	99	63	PA	PA
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	63	64	64	62	64	99	9	65	62	63	PA	PA	PA	PA	PA	PA	PA	PA	62	PA	99	63	PA	PA
udest-H	No- Build	61	62	64	62	64	99	99	64	09	61	63	69	54	64	69	29	55	69	62	89	99	63	89	29
2	Exist.	09	61	£9	61	63	92	<u> </u>	£9	69	09	63	89	23	<b>E9</b>	89	89	54	89	19	<b>29</b>	<b>59</b>	62	<b>29</b>	99
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	kecp Units	2	2	8	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-	Land Use*	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	Rec.	Rec.	Rec.	Rec.	Rec.	Rec.	Rec.	Rec.	SF	SF	SF	SF	SF	SF
	Receiver Site Name	303 Elm Ave Hampton Row 2 Flr2	317 Elm Ave Hampton Row 2 Flr2	325 Elm Ave Hampton Row 2 Flr2	326 Elm Ave Hampton Row 2 Flr2	349 E Pembroke Ave Hampton Row 2 Flr1	418 Marshall St Hampton Row 2 Flr2.5	403 E Pembroke Ave Hampton Row 2 Flr2	410 E Pembroke Ave Hampton Row 2 Flr2	520 Eaton St Hampton Row 3 Flr1	509 Washington St Hampton Row 3 Flr1	River Street Park	River St Hampton Row 1 Flr1	River Street Park	River Street Park	534 River St Hampton Row 1 Flr1	River St Hampton Row 1 Flr1	441 E Pembroke Ave Hampton Row 1 Flr1	534 River St Hampton Row 2 Flr1	25 Magnolia PI Hampton Row 1 Flr2	8 Graham Heights Rd Hampton Row 1 Flr1	10 Graham Heights Rd Hampton Row 1 Flr2	24 Magnolia PI Hampton Row 1 Flr1	3 Garland St Hampton Row 1 Flr1	2 Graham Heights Rd Hampton Row 1 Flr1.5
	Site No.	P0414	P0415	P0416	P0417	P0418	P0419	P0420	P0421	P0422	P0423	P0424	P0425	P0426	P0427	P0428	P0429	P0430	P0431	P0432	P0433	P0434	P0435	P0436	P0437

Table C-1. Predicted Existing and Future Noise Levels, Hampton

An	alysis	Tecl	nnic	al F	Rep	ort																			
S	Build- 10 IL**	0	0	6	8	6	6	7	8	6	5	5	9	7	6	6	4	4	5	8	9	9	7	6	7
ier Level	Build- 10 Lea	PA	PA	89	57	57	99	22	99	22	22	22	22	56	25	28	54	22	99	22	54	52	22	28	22
With-Barrier Levels	Build-8 IL**	0	6	6	6	6	6	8	6	6	3	4	2	9	7	8	3	3	4	8	9	9	7	8	9
S	Build-8	PA	58	57	57	57	99	26	22	54	26	26	57	57	28	26	22	22	57	57	53	54	26	29	57
BA)	Build-10	PA	PA	99	65	99	65	64	64	63	09	09	62	63	92	29	28	29	61	92	09	61	63	29	64
Loudest-Hour Leq (dBA)	Build-8	PA	29	99	99	99	65	64	64	64	09	09	62	63	92	29	58	59	61	65	59	61	63	29	63
udest-H	No- Build	89	29	<b>29</b>	99	99	65	64	£9	64	28	69	09	62	£9	9	22	69	61	64	29	61	62	9	62
9	Exist.	29	99	99	65	65	64	63	62	£9	22	28	29	61	63	64	99	28	09	63	29	09	61	9	61
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	kecp Units	1	1	0	1	1	2	2	3	2	2	2	2	3	3	3	2	2	2	1	2	2	2	1	3
	Land Use*	SF	SF	Monit.	SF	SF	SF	ЗS	ЗS	ЗS	MF	MF	MF	MF	JW	JW	JW	JW	MF	ЗS	MF	MF	MF	ЗS	MF
	Receiver Site Name	74 S Boxwood St Hampton Row 1 Flr1	72 S Boxwood St Hampton Row 1 Flr1.75	ST-12, 72 S Boxwood St Hampton Row 1 Fl1	7 Garland St Hampton Row 2 Flr1	6 Garland St Hampton Row 2 Flr1	70 S Boxwood St Hampton Row 2 Flr1	9 Garland St Hampton Row 3 Flr1	12 Garland St Hampton Row 3 Flr1	66 S Boxwood St Hampton Row 3 Flr1.5	Brough Ln Hampton Row 1 Flr1	Brough Ln Hampton Row 1 Flr2	Brough Ln Hampton Row 1 Flr3	Brough Ln Hampton Row 1 Flr1	Brough Ln Hampton Row 1 Flr2	Brough Ln Hampton Row 1 Flr3	Brough Ln Hampton Row 1 Flr1	Brough Ln Hampton Row 1 Flr2	Brough Ln Hampton Row 1 Flr3	22 Brough Ln Hampton Row 1 Flr2	Brough Ln Hampton Row 1 Flr1	Brough Ln Hampton Row 1 Flr2	Brough Ln Hampton Row 1 Flr3	20 Brough Ln Hampton Row 1 Flr1	Brough Ln Hampton Row 1 Flr1
	Site No.	P0438	P0439	P0440	P0441	P0442	P0443	P0444	P0445	P0446	P0447	P0448	P0449	P0450	P0451	P0452	P0453	P0454	P0455	P0456	P0457	P0458	P0459	P0460	P0461

Table C-1. Predicted Existing and Future Noise Levels, Hampton

	uiysis i		,,,,,	uii	icpi	<i></i>																			
s	Build- 10 IL**	8	8	10	0	6	6	8	6	6	8	0	6	6	0	10	6	0	6	6	6	0	0	0	0
ier Leve	Build- 10 Leq	28	09	29	PA	22	28	22	22	29	99	PA	29	99	PA	28	28	PA	99	57	22	PA	PA	PA	PA
With-Barrier Levels	Build-8 IL**	7	8	10	0	6	6	7	8	6	8	0	6	8	0	6	8	0	7	8	8	6	0	0	0
>	Build-8 Leq	28	29	59	PA	26	58	55	22	29	26	PA	28	26	PA	58	29	PA	28	58	28	28	PA	PA	PA
BA)	Build-10	99	89	69	PA	99	29	63	99	89	64	PA	29	65	PA	89	29	PA	92	99	99	PA	PA	PA	ЬА
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	<u> </u>	<b>29</b>	89	PA	<u> </u>	<b>29</b>	29	99	89	£9	Vd	<b>29</b>	64	PA	29	<b>29</b>	Vd	<u> </u>	99	99	99	ΡA	Vd	ΡΑ
udest-H	No- Build	64	99	29	69	<u> </u>	29	£9	<u> </u>	89	64	69	89	99	69	89	89	89	99	29	<b>29</b>	<b>29</b>	<b>29</b>	99	29
P	Exist.	63	9	99	89	64	99	62	9	29	63	89	29	9	89	29	29	29	9	99	99	99	99	99	99
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	kecp Units	3	3	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1
	Land Use*	JW	JW	SF	MF	SF	SF	SF	SF	SF	SF	JW	SF	SF	Monit.	SF	Rec.								
	Receiver Site Name	Brough Ln Hampton Row 1 Flr2	Brough Ln Hampton Row 1 Flr3	16 Brough Ln Hampton Row 1 Flr2	Brough Ln Hampton Row 1 Flr1	17 Brough Ln Hampton Row 1 Flr2	15 Brough Ln Hampton Row 1 Flr2.5	107 S Boxwood St Hampton Row 1 Flr2.5	21 Brough Ln Hampton Row 1 Flr2	13 Brough Ln Hampton Row 1 Flr2	105 S Boxwood St Hampton Row 1 Flr1	Brough Ln Hampton Row 1 Flr1	11 Brough Ln Hampton Row 1 Flr2	103 S Boxwood St Hampton Row 1 Flr1	ST-11, 101 S Boxwood St Hampton Rw 1 Fl1	101 S Boxwood St Hampton Row 1 Flr1	Woodlands Golf Course								
	Site No.	P0462	P0463	P0464	P0465	P0466	P0467	P0468	P0469	P0470	P0471	P0472	P0473	P0474	P0475	P0476	P0477	P0478	P0479	P0480	P0481	P0482	P0483	P0484	P0485

Table C-1. Predicted Existing and Future Noise Levels, Hampton

					_		F)	190	3			
		700	Dog	NAC	LO LO	Jaest-Ho	Loudest-Hour Leg (dBA)	BA)	<b>S</b>	With-Barrier Levels	er Level	10
Site No.	Receiver Site Name	Use*	Units	lmp. Crit.	Exist.	No- Build	Build-8	Build-10	Build-8 Leq	Build-8 IL**	Build- 10 Leq	Build- 10 IL**
P0486	Woodlands Golf Course	Rec.	1	99	65	99	99	99	22	6	57	8
P0487	Woodlands Golf Course	Rec.	1	99	99	99	99	99	22	6	28	8
P0488	Woodlands Golf Course	Rec.	1	99	64	65	PA	PA	PA	0	PA	0
P0489	Woodlands Golf Course	Rec.	1	99	65	99	99	99	22	8	28	6
P0490	Woodlands Golf Course	Rec.	1	99	65	99	9	PA	26	7	PA	0
P0491	Woodlands Golf Course	Rec.	1	99	64	65	9	99	57.10	7.60	57.50	8.00
P0492	Woodlands Golf Course	Rec.	1	99	65	99	9	92	28	7	26	9
P0493	Woodlands Golf Course	Rec.	1	99	64	65	9	65	22	8	28	8
P0494	Woodlands Golf Course	Rec.	1	99	65	99	99	65	28	8	29	7
P0495	Woodlands Golf Course	Rec.	1	99	63	64	9	92	22	7	28	8
P0496	Woodlands Golf Course	Rec.	1	99	99	29	29	69	26	8	29	6
P0497	Woodlands Golf Course	Rec.	1	99	63	64	99	99	28	8	58	8
P0498	Woodlands Golf Course	Rec.	1	99	89	69	89	89	29	6	29	6
P0499	Woodlands Golf Course	Rec.	1	99	65	99	9	99	28	7	58	8
P0500	Woodlands Golf Course	Rec.	1	99	29	89	89	69	29	6	09	10
P0501	Woodlands Golf Course	Rec.	1	99	64	65	65	99	28	7	58	8
P0502	Woodlands Golf Course	Rec.	1	99	99	67	68	68	59	9	59	6
P0503	Woodlands Golf Course	Rec.	1	99	64	65	99	99	58	8	58	8
P0504	Woodlands Golf Course	Rec.	1	99	99	67	68	69	59	9	59	6
P0505	Woodlands Golf Course	Rec.	1	99	63	64	99	67	58	8	58	8
P0506	Woodlands Golf Course	Rec.	1	99	67	67	PA	PA	PA	0	PA	0
P0507	Woodlands Golf Course	Rec.	1	99	65	99	67	68	58	9	58	6
P0508	Woodlands Golf Course	Rec.	1	99	65	99	67	29	58	6	58	6
P0509	Woodlands Golf Course	Rec.	1	99	64	65	PA	PA	PA	0	PA	0

Table C-1. Predicted Existing and Future Noise Levels, Hampton

	uiysis		<i></i>	urr	lep																				Ē
<u>s</u>	Build- 10 IL**	0	0	0	0	0	0	0	4	3	4	2	3	1	6	6	6	8	6	8	8	8	8	∞	(
ier Leve	Build- 10 L <sub>eq</sub>	PA	09	62	09	65	61	65	22	22	26	22	22	26	22	22	26	22	-						
With-Barrier Levels	Build-8 IL**	0	0	0	0	0	0	0	4	3	4	2	3	1	8	8	8	8	8	8	8	8	8	8	
>	Build-8	PA	59	61	09	65	61	64	57	57	57	57	26	57	57	57	57	57							
BA)	Build-10	PA	64	65	64	29	64	99	64	65	65	92	64	65	65	65	64	65							
Loudest-Hour L <sub>eq</sub> (dBA)	Bnild-8	PA	63	65	63	99	64	99	64	65	65	92	64	92	92	9	64	65							
udest-H	No- Build	64	65	63	64	63	63	63	62	63	61	65	62	65	64	65	99	65	64	65	65	65	64	64	
Lo	Exist.	63	64	63	64	62	62	63	61	62	61	65	61	64	63	64	65	64	63	64	64	64	63	63	•
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	,
	Kecp Units	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	,
	Land Use*	Rec.	(																						
	Receiver Site Name	Woodlands Golf Course																							
	Site No.	P0510	P0511	P0512	P0513	P0514	P0515	P0516	P0517	P0518	P0519	P0520	P0521	P0522	P0523	P0524	P0525	P0526	P0527	P0528	P0529	P0530	P0531	P0532	

Table C-1. Predicted Existing and Future Noise Levels, Hampton

Table C-1. Predicted Existing and Future Noise Levels, Hampton

			JAN	_	Idest-Ho	I oudest-Hour I (dBA)	RA)	>	With-Barrier Levels	ier I eve	<u>v</u>
Receiver Site Name	Land Use*	Recp Units	Imp.	Exist.	No- Build	Build-8	Build-10	Build-8	Build-8 IL**	Build- 10 Leg	Build- 10 IL**
Hampton Institute	Educ.	1	99	89	69	72	72	63	8	63	8
ST-13, W Tyler St Hampton Row 1 Flr1	Monit.	0	99	64	64	29	29	59	7	29	7
Hampton Institute	Educ.	1	99	62	62	65	99	61	3	19	3
Hampton Institute	Educ.	1	99	65	92	29	89	61	9	19	9
Hampton Institute	Educ.	1	99	89	89	71	71	63	8	63	8
Hampton National Cemetery	Rec.	1	99	67	29	69	70	61	8	19	8
Hampton National Cemetery	Rec.	1	99	69	69	71	72	61	10	61	10
Hampton National Cemetery	Rec.	1	99	72	72	PA	PA	PA	0	VΑ	0
Hampton National Cemetery	Rec.	1	99	75	75	PA	PA	PA	0	٧d	0
Hampton National Cemetery	Rec.	1	99	72	72	PA	PA	PA	0	Vd	0
Hampton National Cemetery	Rec.	1	99	69	69	71	72	61	11	19	11
Hampton National Cemetery	Rec.	1	99	99	29	69	70	09	6	09	6
Hampton National Cemetery	Rec.	1	99	64	64	99	67	59	7	29	7
Hampton National Cemetery	Rec.	1	99	62	62	65	65	58	7	28	7
Hampton National Cemetery	Rec.	1	99	63	63	99	99	58	7	28	7
Hampton National Cemetery	Rec.	1	99	61	62	63	65	57	6	22	9
Hampton National Cemetery	Rec.	1	99	90	09	62	63	56	6	26	9
Hampton National Cemetery	Rec.	1	99	09	61	63	64	57	9	22	9
Hampton National Cemetery	Rec.	1	99	59	09	62	63	57	5	22	5
Hampton National Cemetery	Rec.	1	99	90	61	63	64	57	6	22	9
Hampton National Cemetery	Rec.	1	99	62	63	99	99	61	5	61	5
Hampton National Cemetery	Rec.	1	99	65	92	29	89	61	7	19	7
Hampton National Cemetery	Rec.	1	99	65	99	89	89	61	7	61	7
Hampton National Cemetery	Rec.	1	99	29	89	70	70	61	9	61	9

Table C-1. Predicted Existing and Future Noise Levels, Hampton

				0.00	-	11 400 10	P)   "	180				
	700		200	NAC	2	ndest-H	Loudest-Hour Leq (dBA)	BA)	<b>S</b>	With-Barrier Levels	er Level	S
Receiver Site Name Use*	Land Use*		Units	lmp. Crit.	Exist.	No- Build	Build-8	Build-10	Build-8 Leq	Build-8 IL**	Build- 10 Leq	Build- 10 IL**
Hampton National Cemetery Rec.	Rec.		1	99	69	70	72	72	62	10	62	10
Hampton National Cemetery Rec.	Rec.		1	99	29	29	70	70	61	6	61	6
Hampton National Cemetery Rec.	Rec.		1	99	65	9	29	89	09	8	09	8
Hampton National Cemetery Rec.	Rec.		1	99	63	63	99	99	59	7	29	7
Hampton National Cemetery Rec.	Rec	. :	1	99	61	61	64	65	58	9	28	9
Hampton National Cemetery Rec.	Re	ن	1	99	09	61	63	64	22	9	25	9
Hampton National Cemetery Rec.	Re	С.	1	99	61	62	64	92	28	9	89	9
Hampton National Cemetery Rec.	Re	c.	1	99	60	09	63	64	28	5	28	5
Hampton National Cemetery Rec.	Re	С.	1	99	62	62	9	99	28	7	28	7
Hampton National Cemetery Rec.	Re	c.	1	99	60	09	62	63	22	9	25	9
Hampton National Cemetery Rec.	Re	С.	1	99	58	26	61	62	26	5	99	5
Hampton National Cemetery Rec.	Rec	ı;	1	66	62	62	65	65	09	5	09	5
Hampton National Cemetery	Re	ı;	1	66	63	64	99	67	60	9	60	9
Hampton National Cemetery Rec.	Re	С.	1	66	63	64	67	67	60	9	9	6
P0596 Hampton National Cemetery Re	Re	Rec.	1	99	65	99	89	69	61	7	61	7
Hampton National Cemetery Rec.	Re	Ç.	1	99	64	64	99	29	9	9	09	9
Hampton National Cemetery	Re	С.	1	66	62	62	65	99	59	9	59	9
Hampton National Cemetery Rec.	Re	c.	1	99	61	61	64	65	59	5	59	5
Hampton National Cemetery Rec.	Re	ن.	1	99	62	63	65	99	9	9	09	9
Hampton National Cemetery Rec.	Re	ن:	1	66	62	62	65	99	60	9	60	9
W Tyler St Hampton Row 1 Flr1	SI		1	66	74	74	PA	PA	PA	0	PA	0
W Tyler St Hampton Row 1 Flr1	S	ш	1	99	73	73	PA	PA	PA	0	ΡA	0
W Tyler St Hampton Row 1 Flr1	S	SF	1	66	71	72	74	PA	63	12	PA	0
W Tyler St Hampton Row 1 Flr1	0,	SF	1	66	70	70	73	73	63	10	63	10

Table C-1. Predicted Existing and Future Noise Levels, Hampton

7111	uiysis i		,,,,,	ui i	iep	υιι																			
s	Build- 10 IL**	11	11	10	6	6	9	2	2	8	9	9	2	3	0	0	0	0	0	0	0	0	0	0	0
ier Leve	Build- 10 Leq	57	99	99	22	55	26	26	99	99	99	26	26	99	64	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA
With-Barrier Levels	Build-8 IL**	11	11	10	6	6	9	2	2	8	9	9	2	3	0	0	0	0	0	0	0	0	0	0	0
5	Build-8	57	99	26	22	55	26	26	26	26	26	26	26	26	63	PA	PA	PA	PA	PA	PA	PA	PA	PA	РА
BA)	Build-10	89	89	29	99	65	63	62	61	65	63	62	62	09	64	PA	PA	PA	PA	PA	PA	PA	PA	PA	РА
Loudest-Hour Leq (dBA)	Build-8	89	<b>29</b>	99	<u> </u>	64	62	61	61	<u> </u>	62	19	61	09	£9	ΡA	ΡA	ΡA	ΡA	ΡA	ΡA	ΡΑ	Vd	ΡΑ	PA
udest-H	No- Build	99	65	63	62	61	59	57	22	62	09	59	58	26	09	63	61	61	60	61	90	59	29	61	61
P	Exist.	65	64	£9	19	09	89	25	99	29	69	89	25	99	09	29	09	09	09	09	09	28	69	09	9
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	71	99	99	99	99	99	99	99	99	99
	recp Units	2	0	2	2	2	2	2	2	4	4	2	2	2	24	8	1	1	1	0	1	1	1	1	1
-	Use*	MF	Monit.	MF	School	Comm.	SF	SF	SF	Monit.	SF	SF	SF	SF	SF										
	Receiver Site Name	112 Cameron St Hampton Row 1 Flr2	ST-14, 112 Cameron St Hampton Row 1 Flr1	112 Cameron St Hampton Row 1 Flr2	112 Cameron St Hampton Row 2 Flr2	Mcclellan Ave Hampton Row 1 Flr1	236 S Mallory St Hampton Row 2 Flr1	3 Home Pl Hampton Row 1 Flr2	Home PI Hampton Row 1 Flr1	9 Home Pl Hampton Row 1 Flr2	ST-15, 9 Home Pl Hampton Row 1 Flr1	22 Segar St Hampton Row 1 Flr1	404 S Hope St Hampton Row 1 Flr2	406 S Hope St Hampton Row 1 Flr1	408 S Hope St Hampton Row 1 Flr1	112 Segar St Hampton Row 1 Flr2									
	Site No.	9090d	P0607	P0608	P0609	P0610	P0611	P0612	P0613	P0614	P0615	P0616	P0617	P0618	P0619	P0620	P0621	P0622	P0623	P0624	P0625	P0626	P0627	P0628	P0629

Table C-1. Predicted Existing and Future Noise Levels, Hampton

AIII	aiysis i		mil	ui r	iepi	UI L																			
S	Build- 10 IL**	0	0	0	0	0	0	12	12	0	0	0	0	6	8	8	0	0	0	0	0	0	0	0	0
ier Leve	Build- 10 Leq	PA	PA	PA	PA	PA	PA	29	09	PA	PA	PA	PA	29	28	28	PA	PA	PA	PA	PA	PA	PA	PA	ЬА
With-Barrier Levels	Build-8 IL**	0	0	0	0	14	0	12	12	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0
>	Build-8 Leq	PA	PA	PA	PA	59	PA	29	29	PA	PA	PA	29	89	99	99	PA	PA	PA	PA	PA	PA	PA	PA	PA
BA)	Build-10	PA	PA	PA	PA	PA	PA	71	71	PA	PA	PA	PA	89	99	99	PA	PA	PA	PA	PA	PA	PA	PA	PA
Loudest-Hour Leq (dBA)	Build-8	PA	PA	ΡA	PA	73	PA	71	71	ΡA	ΡA	ΡA	69	89	99	99	ΡA	ΡA	ΡA	ΡΑ	ΡΑ	PA	ΡA	PA	РА
udest-H	No- Build	61	61	61	61	09	61	29	28	09	61	09	61	29	9	99	61	61	28	22	22	22	28	28	28
2	Exist.	09	61	09	09	59	09	28	28	29	09	09	09	99	64	9	09	29	22	99	99	54	22	57	57
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	Units	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
9	Use*	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	Monit.	SF	SF	SF	SF	SF	SF	SF	SF	SF
	Receiver Site Name	114 Segar St Hampton Row 1 Flr1.5	413 S Hope St Hampton Row 1 Flr2	116 Segar St Hampton Row 1 Flr1	118 Segar St Hampton Row 1 Flr1	404 S Curry St Hampton Row 1 Flr1	406 S Curry St Hampton Row 1 Flr2	401 S Curry St Hampton Row 1 Flr2	206 Segar St Hampton Row 1 Flr1	207 National Ave Hampton Row 1 Flr1	211 National Ave Hampton Row 1 Flr2	215 National Ave Hampton Row 1 Flr2	220 Segar St Hampton Row 1 Flr3	325 S Willard Ave Hampton Row 1 Flr1	323 S Willard Ave Hampton Row 1 Flr2	ST-16, 325 S Willard Ave Hampton Row 1 Fl1	225 S Mallory St Hampton Row 2 Flr1	6 Segar St Hampton Row 2 Flr1	16 Segar St Hampton Row 2 Flr2	23 Segar St Hampton Row 2 Flr1	322 S Hope St Hampton Row 2 Flr2	321 S Hope St Hampton Row 2 Flr2	323 S Hope St Hampton Row 2 Flr2	111 Segar St Hampton Row 2 Flr2	113 Segar St Hampton Row 2 Flr2
	Site No.	P0630	P0631	P0632	P0633	P0634	P0635	P0636	P0637	P0638	P0639	P0640	P0641	P0642	P0643	P0644	P0645	P0646	P0647	P0648	P0649	P0650	P0651	P0652	P0653

Table C-1. Predicted Existing and Future Noise Levels, Hampton

Table C-1. Predicted Existing and Future Noise Levels, Hampton

	uiysis			ui i	icp							1	1	1	1	1									_
S	Build- 10 IL**	6	2	5	2	9	0	0	6	6	7	9	0	0	0	0	0	0	6	11	11	12	12	12	12
er Level	Build- 10 Leq	53	54	54	54	54	PA	PA	22	54	29	26	57	57	58	57	29	44	64	63	63	62	62	62	62
With-Barrier Levels	Build-8 IL**	6	2	2	9	9	0	0	6	10	3	9	0	0	0	0	0	0	12	12	12	12	12	12	12
5	Build-8	52	53	53	53	53	PA	PA	54	53	28	55	57	57	58	57	29	44	61	61	61	61	61	61	61
BA)	Build-10	62	59	59	59	59	PA	PA	63	64	62	62	57	57	58	57	29	44	73	73	70	73	67	70	29
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	61	59	29	59	59	PA	PA	63	63	61	61	57	57	58	57	29	44	72	73	69	73	29	70	<b>29</b>
udest-H	No- Build	53	54	54	53	53	52	52	53	53	28	55	99	99	57	55	57	43	72	73	70	73	29	70	29
2	Exist.	52	53	23	53	53	54	54	25	23	25	54	22	55	99	55	25	41	11	72	89	72	99	69	99
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	51	99	99	99	99	99	99	99
	kecp Units	3	3	7	3	3	7	7	7	8	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1
1	Land Use*	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	Rec.	Rec.	Hist.	Rec.	Marina	And.	Rec.						
	Receiver Site Name	120 Downes St Hampton Row 4 Flr1	212 S Hope St Hampton Row 5 Flr1	218 S Hope St Hampton Row 5 Flr1	213 S Hope St Hampton Row 5 Flr1	219 S Hope St Hampton Row 5 Flr1	22 Downes St Hampton Row 5 Flr1	306 S Hope St Hampton Row 5 Flr1	102 Downes St Hampton Row 5 Flr1	114 Downes St Hampton Row 5 Flr1	8 Williams St Hampton Row 6 Flr1	228 S Hope St Hampton Row 6 Flr1	Fort Wool	Fort Wool	Fort Monroe	Fort Monroe	Old Point Comfort	Hampton Coliseum	60 Pine Chapel Rd Hampton Row 1 Flr 1	60 Pine Chapel Rd Hampton Row 1 Flr 1	60 Pine Chapel Rd Hampton Row 2 Flr 1	60 Pine Chapel Rd Hampton Row 1 Flr 1	60 Pine Chapel Rd Hampton Row 2 Flr 1	60 Pine Chapel Rd Hampton Row 2 Flr 1	60 Pine Chapel Rd Hampton Row 2 Flr 1
	Site No.	P0678	6290d	0890d	P0681	P0682	£890d	P0684	5890d	9890d	Z890d	P0688	P1777	P1778	P1779	P1780	P1781	P1782	P1783	P1784	P1785	P1786	P1787	P1788	P1789

Table C-1. Predicted Existing and Future Noise Levels, Hampton

2 /	And	-						Report																		
	rels	-   Build-  -   10 IL**	12	10	10	6	6	6	6	6	8	8	8	8	8	7	7	9	7	9	9	9	7	7	2	ш
	rier Lev	Build- 10 Leq	62	61	61	62	62	61	29	29	29	29	09	28	57	22	57	57	28	26	26	26	28	28	26	47
	With-Barrier Levels	Build-8 IL**	12	10	10	11	11	10	10	10	10	10	10	6	6	8	8	7	8	7	7	9	7	7	9	5
	^	Build-8 Leq	61	09	09	09	59	59	58	28	28	28	58	57	22	26	26	55	22	55	55	55	22	22	22	55
	BA)	Build-10	89	89	71	74	74	74	73	73	89	71	99	99	64	64	65	65	71	92	92	92	63	62	62	69
	Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	29	89	20	73	73	73	73	73	29	20	65	99	64	64	64	64	20	64	64	64	62	61	61	61
	udest-Ho	No- Build	29	89	70	73	73	73	73	73	29	70	65	65	63	64	64	63	70	63	63	63	62	61	61	9
	Lo	Exist.	99	99	69	72	72	72	72	72	99	69	64	64	62	£9	63	62	69	62	62	62	61	69	69	59
	NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	0000	Units	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	,
	700	Use*	Rec.	Ber																						
		Receiver Site Name	60 Pine Chapel Rd Hampton Row 2 Flr 1	60 Pine Chapel Rd Hampton Row 2 Flr 1	60 Pine Chapel Rd Hampton Row 2 Flr 1	60 Pine Chapel Rd Hampton Row 1 Flr 1	60 Pine Chapel Rd Hampton Row 1 Flr 1	60 Pine Chapel Rd Hampton Row 1 Flr 1	60 Pine Chapel Rd Hampton Row 1 Flr 1	60 Pine Chapel Rd Hampton Row 1 Flr 1	60 Pine Chapel Rd Hampton Row 2 Flr 1	60 Pine Chapel Rd Hampton Row 2 Flr 1	60 Pine Chapel Rd Hampton Row 3 Flr 1	60 Pine Chapel Rd Hampton Row 3 Flr 1	60 Pine Chapel Rd Hampton Row 3 Flr 1	60 Pine Chapel Rd Hampton Row 3 Flr 1	60 Pine Chapel Rd Hampton Row 3 Flr 1	60 Pine Chapel Rd Hampton Row 3 Flr 1	60 Pine Chapel Rd Hampton Row 2 Flr 1	60 Pine Chapel Rd Hampton Row 3 Flr 1	60 Pine Chapel Rd Hampton Row 3 Flr 1	60 Pine Chapel Rd Hampton Row 3 Flr 1	60 Pine Chapel Rd Hampton Row 4 Flr 1	60 Pine Chapel Rd Hampton Row 4 Flr 1	60 Pine Chapel Rd Hampton Row 4 Flr 1	60 Pine Chanel Rd Hampton Row 4 Flr 1
		Site No.	P1790	P1791	P1792	P1793	P1794	P1795	P1796	P1797	P1798	P1799	P1800	P1801	P1802	P1803	P1804	P1805	P1806	P1807	P1808	P1809	P1810	P1811	P1812	P1813

Table C-1. Predicted Existing and Future Noise Levels, Hampton

				NAC	2	Idest-Ho	Loudest-Hour L., (dBA)	BA)	>	With-Barrier Levels	er Level	,
Cito No	Pocoiver Cite Name	Land	Recp				bar is		0.114 0	פייום ס פייום	012	D.::12
אופ אס.		Use*	Units	Crit.	Exist.	Build	Build-8	Build-8 Build-10	Pulld-8	Pulld-8	Dulla- 10 Leq	10 IL**
P1814	P1814 60 Pine Chapel Rd Hampton Row 4 Flr 1	Rec.	1	99	29	09	61	62	55	2	57	5
P1815	P1815 60 Pine Chapel Rd Hampton Row 4 Flr 1	Rec.	1	99	61	62	62	63	99	9	28	9
P1816	P1816 60 Pine Chapel Rd Hampton Row 4 Flr 1	Rec.	1	99	09	62	62	63	22	7	28	7
P1817	P1817 60 Pine Chapel Rd Hampton Row 4 Flr 1	Rec.	1	99	09	61	62	62	22	7	28	7
P1818	P1818 Perfecting Saints Church	Church	1	51	39	40	40	41	33	7	33	8
* CE- Cing	* CE- Cinalo Eamily NAE- Multi Eamily Day - Dareational Monit - noice monitoring star And - Andtroing Edus - Edusational Communical Institutional Com	otion monito	ring cito	المرام – مرام	torium Edi	ic – Educe	tional Cor	nm – Comm	ercial Inct -	- Institution	al Com -	

SF= Single-Family, MF= Multi-Family, Rec.= Recreational, Monit.= noise monitoring site, Aud: = Auditorium, Educ.= Educational, Comm.= Commercial, Inst.= Institutional, Cem.=

 $^{**}$  Some subtractions may appear to be incorrect due to rounding of decibels Source: HMMH, 2012

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

				7	_	1 4000	7)	[ [ ]	*	Slove Laciane Barrion	10,70	
		- המת - המת	Rocn	NAC	בים	n-1cann	Loudest-Hour Leg (UBA)	( <del>V</del> a	5	IIII-DallI	בו דבאבו	•
Site No.	Receiver Site Name	Use*	Units	lmp. Crit.	Exist.	No- Build	Build-8	Build-10	Build-8 Leq	Build-8 IL**	Build- 10 L <sub>eq</sub>	Build- 10 IL**
P0689	Beach Norfolk Row 1 Fir1	Rec.	1	99	02	70	PA	PA	PA	0	PA	0
P0690	Beach Norfolk Row 1 Fir1	Rec.	1	99	<b>29</b>	89	29	29	09	8	59	7
P0691	Beach Norfolk Row 2 Fir1	Rec.	1	99	99	29	29	99	29	7	59	7
P0692	Beach Norfolk Row 2 Fir1	Rec.	1	99	<b>59</b>	99	99	99	26	7	59	7
P0693	Beach Norfolk Row 2 Fir1	Rec.	1	99	99	99	99	99	26	7	59	7
P0694	Beach Norfolk Row 3 FIr1	Rec.	1	99	99	99	99	99	26	7	58	7
P0695	Beach Norfolk Row 3 FIr1	Rec.	1	99	<u> </u>	99	65	92	28	7	58	7
P0696	1525 Bayville Street Norfolk Row 1 Flr1	Marina	1	99	64	65	PA	PA	PA	0	PA	0
P0697	1525 Bayville Street Norfolk Row 1 Flr1	Marina	1	66	9	99	PA	PA	PA	0	PA	0
P0698	1525 Bayville Street Norfolk Row 1 Flr1	Marina	1	99	64	65	PA	PA	PA	0	PA	0
P0699	1525 Bayville Street Norfolk Row 1 Flr1	Marina	1	99	99	99	PA	PA	PA	0	PA	0
P0700	1525 Bayville Street Norfolk Row 1 Flr1	Marina	1	99	<u> </u>	9	PA	PA	PA	0	PA	0
P0701	1525 Bayville Street Norfolk Row 1 Flr1	Marina	1	66	99	99	PA	PA	PA	0	PA	0
P0702	1525 Bayville Street Norfolk Row 1 Flr1	Marina	1	66	9	99	PA	PA	PA	0	PA	0
P0703	1525 Bayville Street Norfolk Row 1 Flr1	Marina	1	66	92	65	PA	PA	PA	0	PA	0
P0704	1525 Bayville Street Norfolk Row 1 Flr1	Marina	1	66	63	64	PA	PA	PA	0	PA	0
P0705	1525 Bayville Street Norfolk Row 1 Flr1	Marina	1	66	65	65	PA	PA	PA	0	PA	0
P0706	1525 Bayville Street Norfolk Row 1 Flr1	Marina	1	66	63	64	PA	PA	PA	0	PA	0
P0707	1525 Bayville Street Norfolk Row 1 Flr1	Marina	1	66	65	99	PA	PA	PA	0	PA	0
P0708	1525 Bayville Street Norfolk Row 1 Flr1	Marina	1	66	63	64	PA	PA	PA	0	PA	0
P0709	1525 Bayville Street Norfolk Row 1 Flr1	Marina	1	66	99	99	PA	PA	PA	0	PA	0
P0710	1525 Bayville Street Norfolk Row 1 Flr1	Marina	1	66	64	64	PA	PA	PA	0	PA	0
P0711	1525 Bayville Street Norfolk Row 1 Flr1	Marina	1	99	29	29	PA	PA	РА	0	PA	0
P0712	1525 Bayville Street Norfolk Row 1 Flr1	Marina	1	99	64	65	PA	PA	РА	0	РА	0

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

				0 8 14	-	11 4000.	h)   1 2110	140		lith Down	0.01	
200	<u>ה</u>		Rocn	NAC	PO	udest-H	Loudest-Hour L <sub>eq</sub> (aBA)	BA)	<b>&gt;</b>	Witn-Barrier Levels	ier Level	S
Receiver Site Name Use*	Use*		Units	Imp. Crit.	Exist.	No- Build	Build-8	Build-10	Build-8 Leq	Build-8 IL**	Build- 10 Leq	Build- 10 IL**
1525 Bayville Street Norfolk Row 1 Flr1 Marina	Marir	ъг	1	99	89	89	PA	PA	PA	0	PA	0
1525 Bayville Street Norfolk Row 1 Flr1 Marina	Mari	na	1	99	9	65	PA	PA	PA	0	PA	0
1525 Bayville Street Norfolk Row 2 Flr1 Marina	Mar	ina	1	99	£9	63	PA	PA	PA	0	Vd	0
1525 Bayville Street Norfolk Row 2 Flr1 Ma	Ma	Marina	1	99	62	62	PA	PA	PA	0	PA	0
1525 Bayville Street Norfolk Row 2 Flr1 Ma	Ĕ	Marina	1	99	63	64	PA	PA	PA	0	PA	0
1525 Bayville Street Norfolk Row 2 Flr1 Mi	Ξ	Marina	1	99	62	62	PA	PA	PA	0	PA	0
1525 Bayville Street Norfolk Row 2 Flr1 M	Σ	Marina	1	99	£9	64	PA	PA	PA	0	Vd	0
1525 Bayville Street Norfolk Row 2 Flr1 M	Σ	Marina	1	99	62	63	PA	PA	PA	0	ΡA	0
1525 Bayville Street Norfolk Row 2 Flr1 M.	Σ	Marina	1	99	64	64	PA	PA	PA	0	ΡA	0
1525 Bayville Street Norfolk Row 2 Flr1 Mi	Ž	Marina	1	99	£9	63	PA	PA	PA	0	Vd	0
1525 Bayville Street Norfolk Row 2 Flr1 Ma	M	Marina	1	99	62	62	PA	PA	PA	0	ΡA	0
1525 Bayville Street Norfolk Row 2 Flr1 Ma	Ma	Marina	1	99	09	61	PA	PA	PA	0	ΡA	0
1525 Bayville Street Norfolk Row 2 Flr1 Ma	Ma	Marina	1	99	62	63	PA	PA	PA	0	PA	0
1525 Bayville Street Norfolk Row 2 Flr1 M	Σ	Marina	1	99	61	61	PA	PA	PA	0	PA	0
1525 Bayville Street Norfolk Row 2 Flr1 N	2	Marina	1	99	62	63	РА	PA	РА	0	PA	0
1525 Bayville Street Norfolk Row 2 Flr1 M	Σ	Marina	1	99	61	61	PA	PA	PA	0	PA	0
1525 Bayville Street Norfolk Row 2 Flr1 Mi	Š	Marina	1	99	62	63	PA	PA	PA	0	PA	0
1525 Bayville Street Norfolk Row 2 Flr1 M	Σ	Marina	1	99	61	62	PA	PA	PA	0	PA	0
1525 Bayville Street Norfolk Row 2 Flr1 Ma	Ma	Marina	1	99	62	63	PA	PA	PA	0	PA	0
1525 Bayville Street Norfolk Row 2 Flr1 Ma	Ĕ	Marina	1	99	61	62	PA	PA	PA	0	PA	0
1525 Bayville Street Norfolk Row 2 Flr1 M	Σ	Marina	1	99	63	63	PA	PA	PA	0	PA	0
1525 Bayville Street Norfolk Row 2 Flr1 Mi	Ž	Marina	1	99	61	62	PA	PA	PA	0	PA	0
1525 Bayville Street Norfolk Row 3 Flr1 M	Σ	Marina	1	99	61	62	PA	PA	PA	0	PA	0
1525 Bayville Street Norfolk Row 3 Flr1 M	Σ	Marina	1	99	09	61	PA	PA	PA	0	PA	0

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

	uiysis	_		<u> </u>	l CP		1					1													
S	Build-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
ier Leve	Build-	PA	PA	PA	PA	PA	PA	Vd	VΑ	Vd	Vd	PA	Vd	Vd	Vd	Vd	ΡA	ΡA	ΡA	ΡA	ΡA	PA	Vd	Vd	89
With-Barrier Levels	Build-8	. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
5	Build-8	PA	28																						
BA)	Build-10	PA	99																						
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	PA	99																						
ndest-H	No- Build	62	61	09	09	59	09	09	61	09	61	09	61	09	09	09	59	58	59	58	59	58	59	58	29
P	Exist.	61	09	09	09	59	09	26	09	29	09	59	09	26	26	26	58	58	58	58	58	58	58	58	99
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	66	99	99	99
3	kecp Units	П	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4
7	Land Use*	Marina	MF																						
	Receiver Site Name	1525 Bayville Street Norfolk Row 3 Flr1	1525 Bayville Street Norfolk Row 4 Flr1	1596 Lea View Ave Norfolk Row 1 Flr1																					
	Site No.	P0737	P0738	P0739	P0740	P0741	P0742	P0743	P0744	P0745	P0746	P0747	P0748	P0749	05Z0d	P0751	P0752	P0753	P0754	P0755	P0756	P0757	P0758	P0759	09Z0d

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

2 Ar																										Report N. C.
vels	- Build	10	7	8	0	∞	∞	∞	6	6	6	8	8	7	9	8	7	7	7	7	7	12	10	9	9	,
rier Le	Build-	10 Leq	59	59	PA	59	58	58	28	28	58	57	57	57	28	29	57	26	52	22	22	57	59	22	26	בע
With-Barrier Levels	Build-8	*	7	8	10	10	6	6	6	10	6	6	6	0	0	8	8	7	7	8	7	13	11	7	7	10
>	<u>\qq</u>	Led	29	59	09	59	59	59	28	29	29	28	28	99	99	09	57	26	26	26	26	22	59	26	26	7.5
BA)	Build-10		99	99	PA	29	29	99	99	29	99	99	65	65	92	29	64	62	62	62	62	69	70	62	62	9
Loudest-Hour L (dBA)	Build-8		99	67	69	69	89	89	29	89	89	29	29	99	99	89	64	63	63	63	63	70	70	63	63	99
udest-Ho	- oN -	Build	29	69	70	70	69	69	69	70	70	69	89	29	29	70	65	63	63	63	63	89	69	62	62	99
P	Exist.		99	68	69	69	89	89	89	02	69	89	<b>29</b>	<b>29</b>	99	69	64	63	62	62	62	89	68	62	61	59
NAC	lmp.	CZI.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	Recp Units		4	0	1	Т	2	Т	2	1	1	4	4	7	3	1	2	2	1	1	12	12	12	9	1	2
	Land Use*		MF	SF	SF	SF	MF	SF	MF	SF	SF	MF	MF	MF	MF	SF	SF	MF	SF	SF	MF	MF	MF	MF	SF	SF
	Receiver Site Name		1564 Chela Av Norfolk Row 1 Flr1	ST-17, 1560 Chela Ave Norfolk Row 1 Flr1	1549 Chela Av Norfolk Row 1 Flr1	1547 Chela Av Norfolk Row 1 Flr1	1545 Chela Av Norfolk Row 1 Flr1	1541 Chela Av Norfolk Row 1 Flr1	1525 Chela Av Norfolk Row 1 Flr1	1522 W Ocean View Av Norfolk Rw1 Flr1	1518 W Ocean View Av Norfolk Rw1 Flr1	1514 W Ocean View Av Norfolk Rw1 Flr1	1508 W Ocean View Av Norfolk Rw1 Flr1	1504 W Ocean View Av Norfolk Rw1 Flr1	1500 W Ocean View Av Norfolk Rw1 Flr1	1560 Chela Av Norfolk Row 2 Flr1	1552 Chela Av Norfolk Row 2 Flr1	1540 Chela Av A1 Norfolk Row 2 Fir1	1530 Chela Av Norfolk Row 2 Flr1	1526 Chela Av Norfolk Row 2 Flr1	1518 Chela Av A1 Norfolk Row 2 Fir1	1518 Chela Av A1 Norfolk Row 2 Fir2	1518 Chela Av A1 Norfolk Row 2 Flr3	N S Chela Av Norfolk Row 2 Flr1	1500 Chela Av Norfolk Row 2 Flr1	1561 Lea View Av Norfolk Row 3 Flr1
	Site No.		P0761	P0762	P0763	P0764	P0765	P0766	P0767	P0768	P0769	P0770	P0771	P0772	P0773	P0774	P0775	P0776	P0777	P0778	P0779	P0780	P0781	P0782	P0783	P0784

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

An	alysis	Teci	nnic	al F	кер	ort			1	1		1	1							1				
S	Build- 10 IL**	6	7	7	7	9	9	7	9	9	6	0	6	8	0	0	0	9	9	8	7	8	7	0
ier Level	Build-	55	54	53	53	53	99	99	28	28	58	PA	28	58	PA	PA	PA	28	28	29	28	28	22	PA
With-Barrier Levels	Build-8	6	8	7	7	9	9	8	9	9	6	6	8	8	0	0	0	7	9	8	8	8	8	0
3	Build-8	55	54	53	53	53	99	99	28	59	59	59	59	59	PA	PA	PA	61	58	59	58	29	58	РА
BA)	Build-10	63	61	09	59	59	62	63	63	64	29	PA	29	99	PA	PA	PA	29	29	29	92	99	64	PA
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	64	61	09	09	59	63	64	64	65	89	89	89	29	PA	PA	PA	89	89	89	99	29	99	PA
udest-H	No- Build	64	62	61	09	59	63	63	63	65	69	69	89	99	71	9/	92	69	69	69	29	29	29	70
P	Exist.	63	61	09	59	58	62	62	62	64	69	89	89	99	70	75	22	89	89	89	99	<b>29</b>	99	69
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	Kecp Units	2	2	1	7	2	3	1	9	2	2	4	4	4	11	11	11	4	4	14	2	1	1	2
-	Land Use*	SF	MF	SF	MF	MF	MF	SF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	SF	SF	MF
	Receiver Site Name	1551 Lea View Av Norfolk Row 3 Flr1	1541 Lea View Av Norfolk Row 3 Flr1	1527 Lea View Av Norfolk Row 3 Flr1	1521 Lea View Av Norfolk Row 3 Flr1	1507 Lea View Av Norfolk Row 3 Flr1	1560 Lea View Av Norfolk Row 4 Flr1	1542 Lea View Av Norfolk Row 4 Flr1	9724 15th View St Norfolk Row 1 Flr1	1452 W Ocean View Av Norfolk Rw 1 Flr1	1451 W Ocean View Av Norfolk Rw 1 Flr1	1447 W Ocean View Av Norfolk Rw 1 Flr1	1443 W Ocean View Av Norfolk Rw 1 Flr1	1439 W Ocean View Av Norfolk Rw 1 Flr1	9663 Rallston St Norfolk Row 1 Flr1	9663 Rallston St Norfolk Row 1 Flr2	9663 Rallston St Norfolk Row 1 Fir3	1427 W Ocean View Av Norfolk Rw 1 Flr1	1423 W Ocean View Av Norfolk Rw 1 Flr1	1411 W Ocean View Av Norfolk Rw 1 Flr1	1407 W Ocean View Av Norfolk Rw 1 Flr1	9655 14th View St Norfolk Row 1 Flr1	9659 14th View St Norfolk Row 1 Flr1	1410 Little Bay Av Norfolk Row 1 Flr1
	Site No.	P0785	P0786	P0787	P0788	P0789	P0790	P0791	P0792	P0793	P0794	P0795	P0796	P0797	P0798	P0799	P0800	P0801	P0802	P0803	P0804	P0805	P0806	P0807

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

And	alysis I	Technic	cal I	кер	ort	<u> </u>									<u> </u>									
s	Build- 10 IL**	0	0	8	7	12	8	8	8	0	0	8	9	9	9	10	2	2	9	7	9	7	9	9
ier Level	Build- 10 Leq	Α٩	ЬA	69	28	09	28	89	89	ЬA	ЬA	28	22	25	99	28	99	22	26	28	22	99	22	54
With-Barrier Levels	Build-8 IL**	8	8	8	8	12	8	8	8	8	8	8	6	9	7	11	9	9	7	8	6	7	6	9
>	Build-8 Leq	09	09	09	58	09	59	29	28	29	29	26	22	22	99	28	99	26	57	28	22	22	22	54
BA)	Build-10	РА	PA	29	99	72	99	99	99	PA	PA	99	63	63	62	89	61	61	63	99	61	62	61	09
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	89	89	89	99	72	29	29	99	29	29	29	64	63	63	69	62	62	64	99	62	62	61	61
udest-H	No- Build	69	89	89	99	71	29	<b>29</b>	9	<b>29</b>	<b>29</b>	29	63	62	61	29	61	09	64	29	61	61	09	59
P	Exist.	89	89	29	65	70	99	99	9	99	29	29	62	61	09	99	09	09	63	29	61	09	09	29
NAC	lmp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
2000	Units	0	4	4	1	1	4	1	4	12	2	2	3	1	12	12	2	2	1	1	9	9	1	2
9	Use*	Monit.	MF	MF	MF	MF	MF	SF	MF	MF	MF	MF	SF	SF	MF	MF	SF	SF	SF	SF	MF	MF	SF	MF
	Receiver Site Name	ST-19, Inter Of 14th View And Little Bay Ave Norfolk Row 1 Flr1	1352 Little Bay Av Norfolk Row 1 Flr1	1346 Little Bay Av Norfolk Row 1 Flr1	1342 Little Bay Av A Norfolk Row 1 Flr1	1342 Little Bay Av A Norfolk Row 1 Flr2	1336 Little Bay Av Norfolk Row 1 Flr1	1330 Little Bay Av Norfolk Row 1 Flr1	1324 Little Bay Av Norfolk Row 1 Flr1	1315 Little Bay Av Norfolk Row 1 Flr1	1305 Little Bay Av Norfolk Row 1 Flr1	1301 Little Bay Av Norfolk Row 1 Flr1	1442 W Ocean View Av Norfolk Rw 2 Flr1	1432 W Ocean View Av Norfolk Rw 2 Flr1	1426 W Ocean View Av Norfolk Rw 2 Flr1	1426 W Ocean View Av Norfolk Rw 2 Flr2	1420 W Ocean View Av Norfolk Rw 2 Flr1	1406 W Ocean View Av Norfolk Rw 2 Flr1	1401 W Ocean View Av Norfolk Rw 2 Flr1	9654 14th View St Norfolk Row 2 Flr1	1381 W Ocean View Av Norfolk Rw 2 Flr1	1371 W Ocean View Av Norfolk Rw 2 Flr1	9657 Richview St Norfolk Row 2 Flr1	9656 Richview St Norfolk Row 2 Flr1
	Site No.	P0808	P0809	P0810	P0811	P0812	P0813	P0814	P0815	P0816	P0817	P0818	P0819	P0820	P0821	P0822	P0823	P0824	P0825	P0826	P0827	P0828	P0829	P0830

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

	aiysis i		·····	<i>a, ,</i>	icp.		1												1						
S	Build- 10 IL**	7	7	2	4	2	2	6	9	2	4	2	9	9	0	0	0	0	0	0	0	0	0	0	0
er Level	Build- 10 Leq	57	57	22	54	55	55	22	22	54	22	22	54	54	ΡΑ	PA									
With-Barrier Levels	Build-8 IL**	7	9	2	5	5	5	6	9	5	5	6	9	9	0	0	0	0	0	0	0	0	0	0	0
>	Build-8	57	57	55	55	55	55	22	55	54	22	22	22	55	PA										
BA)	Build-10	65	64	29	59	09	09	99	61	09	29	09	61	09	PA										
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	64	63	09	59	61	09	99	61	29	09	61	61	61	PA										
udest-H	No- Build	64	63	28	58	59	59	64	09	29	58	29	09	09	72	71	70	70	72	73	73	73	71	71	70
2	Exist.	63	62	28	58	59	58	£9	69	28	28	69	69	69	71	71	69	69	71	72	73	72	71	02	69
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Č	Kecp Units	12	2	2	1	1	9	9	1	5	4	5	1	1	1	1	1	1	1	2	1	1	1	5	1
1	Land Use*	MF	MF	SF	SF	SF	MF	MF	SF	SF	MF	MF	SF	SF	SF	MF	SF	SF	SF	SF	SF	MF	SF	MF	SF
	. Receiver Site Name	1318 Little Bay Av Norfolk Row 2 Flr1	1306 Little Bay Av Norfolk Row 2 Flr1	1416 W Ocean View Av Norfolk Rw 3 Flr1	1412 W Ocean View Av Norfolk Rw 3 Flr1	1384 W Ocean View Av Norfolk Rw 3 Flr1	1372 W Ocean View Av Norfolk Rw 3 Flr1	1372 W Ocean View Av Norfolk Rw 3 Flr2	1353 W Ocean View Av Norfolk Rw 3 Flr1	9659 Richview St Norfolk Row 3 Flr1	1323 W Ocean View Av Norfolk Rw 3 Flr1	1311 W Ocean View Av Norfolk Rw 3 Flr1	9673 13th View St Norfolk Row 3 Flr1	1303 W Ocean View Av Norfolk Rw 4 Flr1	1501 Bayville St Norfolk Row 1 Flr1	1459 Bayville St Norfolk Row 1 Flr1	1455 Bayville St Norfolk Row 1 Flr1	1449 Bayville St Norfolk Row 1 Flr1	1445 Bayville St Norfolk Row 1 Flr1	1441 Bayville St Norfolk Row 1 Flr1	1439 Bayville St Norfolk Row 1 Flr1	1435 Bayville St Norfolk Row 1 Flr1	1416 Bayville Ct Norfolk Row 1 Flr1	1407 Bayville St Norfolk Row 1 Flr1	9629 14th View St Norfolk Row 1 Flr1
	Site No.	P0831	P0832	EE80d	P0834	P0835	P0836	<b>2</b> 80d	8E80d	6E80d	P0840	P0841	P0842	P0843	P0844	P0845	P0846	P0847	P0848	P0849	P0850	P0851	P0852	E580d	P0854

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

And		ecr	nnic	al Rep	ort																			$\overline{}$
S	Build- 10 IL**	11	12	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	8	8	10
er Level	Build- 10 Leq	58	61	09	PA	58	60	60	61															
With-Barrier Levels	Build-8 IL**	6	10	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	7	8	8
<b>×</b>	Build-8 Leq	29	61	09	PA	59	60	09	61															
BA)	Build-10	69	73	89	PA	65	68	89	71															
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	89	71	29	PA	63	67	29	69															
udest-H	No- Build	9	89	99	69	71	71	69	71	71	29	29	29	99	65	29	99	99	29	68	61	63	64	29
ΓO	Exist.	64	89	99	69	70	70	89	20	20	99	99	99	99	64	99	99	92	99	68	60	63	63	99
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
000	Units	1	3	0	3	3	3	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1
2	Use*	MF	MF	Monit.	MF	MF	MF	MF	MF	MF	SF	MF	SF	SF	SF	MF	SF	SF	Rec.	Rec.	SF	SF	SF	MF
	Receiver Site Name	1403 Bayville Ct Norfolk Row 1 Flr1	1403 Bayville Ct Norfolk Row 1 Flr1	ST-18, 1353 Bayville Court Norfolk Row1 Flr1	1349 Bayville St Norfolk Row 1 Flr1	1349 Bayville St Norfolk Row 1 Flr2	1349 Bayville St Norfolk Row 1 Flr3	1349 Bayville St Norfolk Row 1 Flr1	1349 Bayville St Norfolk Row 1 Flr2	1349 Bayville St Norfolk Row 1 Flr3	1347 Bayville Ct Norfolk Row 1 Flr1	1345 Bayville Ct Norfolk Row 1 Flr1	1343 Bayville St Norfolk Row 1 Flr1	1337 Bayville St Norfolk Row 1 Flr1	1333 Bayville St Norfolk Row 1 Flr1	1331 Bayville St Norfolk Row 1 Flr1	1325 Bayville St Norfolk Row 1 Flr1	1321 Bayville St Norfolk Row 1 Flr1	1311 Bayville St Norfolk Row 1 Flr1	9604 13th View St Norfolk Row 1 Flr1	1405 Bayville Ct Norfolk Row 2 Flr1	1407 Bayville Ct Norfolk Row 2 Flr1	1461 Bayville Ct Norfolk Row 2 Flr1	1403 Bayville Ct Norfolk Row 2 Flr2
	Site No.	P0855	P0856	P0857	P0858	P0859	P0860	P0861	P0862	P0863	P0864	P0865	P0866	P0867	P0868	P0869	P0870	P0871	P0872	P0873	P0874	P0875	P0876	P0877

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

66     57     9     57       66     57     9     56       66     57     9     56       66     56     9     56       65     56     9     56       59     56     9     56       50     53     7     57	57     9     57       57     9     56       57     9     56       56     9     56       56     9     56       53     7     52       56     9     56	57     9     57       57     9     56       57     9     56       56     9     56       56     9     56       53     7     52       56     9     56       56     9     56       56     9     56       56     9     56       56     9     56	9 57 9 56 9 56 9 56 7 52 9 56 9 56	9 57 9 56 9 56 7 52 9 56 9 56 9 56	9 57 9 56 9 56 7 52 9 56 9 56 9 56 9 56	57 56 56 56 57 56 56 56 56 56 56 56 56 56 56 56 56 56	57 56 56 56 56 56 56 56 56 56	57 56 56 57 58 58 58 58 58 58 58 58 58 58 58 58 58	57 56 56 56 56 56 56 56 56 56 56 56 56 56	57 56 56 56 57 58 58 58 58 58 58 58 58 58 58 58 58 58	57 56 56 56 57 56 56 56 56 56 56 56 56 56 56 56 56 56	57 56 56 56 56 56 56 56 56 56 56 56 56 56	57 56 56 57 58 58 58 58 58 58 58 58 58 58 58 58 58	57 56 56 56 56 56 56 56 56 56 56 56 56 56	57 56 56 56 57 56 56 56 56 56 56 56 56 56 56 56 56 56	57 56 56 56 56 56 56 56 56 56 56 56 56 56
66 57 9 66 56 9 65 56 9 7	57 9 56 9 56 9 53 7 56 9	57 9 56 9 56 9 53 7 56 9 56 9	6 6 6 6 6 6 6		6 6 6 6 6 6											
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99 95			57 56 56 53 53 56 56 56	57 56 56 56 56 56 56 56												0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
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99 65 65			66 65 59 65 65 65	66 65 59 65 65 65 65	66 65 65 65 65 65 65 65	66 65 65 65 65 65 65 65	66 65 59 65 65 65 65 65 65 65	66 65 65 65 65 65 65 65 65 65	66 65 65 65 65 65 65 65 65 65 65	66 65 65 65 65 65 65 65 65 65 65	66 65 65 65 65 65 65 65 65 65 65 65 65	66 65 65 65 65 65 65 65 65 65 65 65 65 6	66 65 65 65 65 65 65 65 65 65 65 65 65 6	66 65 65 65 65 65 65 65 65 65 65 65 65 6	66 65 65 65 65 65 65 65 65 65 65 65 65 6	65 65 65 65 65 65 65 65 65 65 65 65 65 6
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65 65 65 65	65 65 65 59 65	65 65 65 65 65 65 65 65 65 65	65 65 59 65 65 65	65 65 65 65 65 65	65 65 65 65 65 65 65	65 65 65 65 65 65 65	65 65 65 65 65 65 65 65 65	65 65 65 65 65 65 65 65 65	65 65 65 65 65 65 65 65 65 65 65 65 65 6	65 65 65 65 65 65 65 65 65 65 65	65 65 65 65 65 65 65 65 65 65 65 65 65 6	65 65 65 65 65 65 65 65 65 65 65 65 65 6	65 65 65 65 65 65 65 65 65 65 65 65 65 6	65 65 65 65 65 65 65 65 65 65 65 65 65 6	65 65 65 65 65 65 65 65 65 65 65 65 65 6	65 65 65 65 65 65 65 65 65 65 65 65 65 6
65 65 65	65 65 65 59 65	65 65 65 65 65 65 65 65 65	65 65 59 65 64 64	65 65 65 64 64	65 65 65 64 64 64	65 65 65 64 64 64 64	65 65 65 64 64 64 64 64	65 65 64 64 64 64 64 64 64 64	65 65 64 64 64 64 64 64 64	65 65 64 64 64 64 64 64 64 64 64 64	65 65 65 64 64 64 64 64 64 64 64	65 65 64 64 64 64 64 64 64 64 64 64 64 64 64	65 64 64 64 64 64 64 64 64 64 64 64 64 64	65 65 65 64 64 64 64 64 64 64 64 64 64 64 64 64	65 65 64 64 64 64 64 64 64 64 64 64 64 64 64	65 65 64 64 64 64 64 64 64 64 64 64 64 64 64
99 99	99 99	99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99
7 7 7 7 -	1 1 1 2 2 7	7 7 7 1 1 7 7 7	1 1 1 2 2 1	1 1 7 1 1 1 7 7 1	1 1 1 7 1 1 7 7 1	2 1 1 1 2 7 2 2 2	1 1 1 2 7 1 1 1 2 7 1 1 1 2 2 1	1 1 2 1 1 1 2 1 1 2 2 1	1 1 1 2 1 1 2 2 7	1 1 1 1 2 1 1 1 2 2 1	3 1 1 1 2 1 1 2 5 7		1 1 3 1 1 1 2 1 1 1 2 2 1	1 1 1 3 1 1 1 2 1 1 1 2 7 1 1 1 7 7 7 7 7 7 7 7	9 1 1 1 3 1 1 1 2 2 2 2	1 0 1 1 1 2 1 1 1 2 7 1 1 1 2 7 1
A S A	AF SF SF SF	AF SF SF MF MF SF	MF SF	AF SF	A S S S S S S S S S S S S S S S S S S S	AF SF	MF MF SF	A A A A A A A A A A A A A A A A A A A	AF A	A A A A A A A A A A A A A A A A A A A	AF SF	A       A       A       A       A       A       B <t< td=""><td>  M</td><td>A       A</td><td>  MF</td><td>A     A     B</td></t<>	M	A       A	MF	A     A     B
1158 Willoughby Bay Av Norfolk Rw1 Flr1 1155 Little Bay Av Norfolk Row 1 Flr1 1151 Little Ray Av Norfolk Row 1 Flr1	1158 Willoughby Bay Av Norfolk Rw1 Flr1 1155 Little Bay Av Norfolk Row 1 Flr1 1151 Little Bay Av Norfolk Row 1 Flr1 1147 Little Bay Av Norfolk Row 1 Flr1	1158 Willoughby Bay Av Norfolk Rw1 Flr1 1155 Little Bay Av Norfolk Row 1 Flr1 1151 Little Bay Av Norfolk Row 1 Flr1 1147 Little Bay Av Norfolk Row 1 Flr1 1143 Little Bay Av Norfolk Row 1 Flr1	1155 Little Bay Av Norfolk Row 1 Flr 1 1155 Little Bay Av Norfolk Row 1 Flr 1 1151 Little Bay Av Norfolk Row 1 Flr 1 1147 Little Bay Av Norfolk Row 1 Flr 1 1143 Little Bay Av Norfolk Row 1 Flr 1 1143 Little Bay Av Norfolk Row 1 Flr 1	1155 Little Bay Av Norfolk Rw1 Flr1 1155 Little Bay Av Norfolk Row 1 Flr1 1151 Little Bay Av Norfolk Row 1 Flr1 1147 Little Bay Av Norfolk Row 1 Flr1 1143 Little Bay Av Norfolk Row 1 Flr1 1139 Little Bay Av Norfolk Row 1 Flr1 1139 Little Bay Av Norfolk Row 1 Flr1	1155 Little Bay Av Norfolk Rw1 Flr1 1155 Little Bay Av Norfolk Row 1 Flr1 1151 Little Bay Av Norfolk Row 1 Flr1 1147 Little Bay Av Norfolk Row 1 Flr1 1143 Little Bay Av Norfolk Row 1 Flr1 1139 Little Bay Av Norfolk Row 1 Flr1 1135 Little Bay Av Norfolk Row 1 Flr1 1135 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1	1155 Little Bay Av Norfolk Rw1 Flr1 1155 Little Bay Av Norfolk Row 1 Flr1 1151 Little Bay Av Norfolk Row 1 Flr1 1147 Little Bay Av Norfolk Row 1 Flr1 1143 Little Bay Av Norfolk Row 1 Flr1 1139 Little Bay Av Norfolk Row 1 Flr1 1135 Little Bay Av Norfolk Row 1 Flr1 1135 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1	1155 Little Bay Av Norfolk Row 1 FIr1 1155 Little Bay Av Norfolk Row 1 FIr1 1151 Little Bay Av Norfolk Row 1 FIr1 1147 Little Bay Av Norfolk Row 1 FIr1 1143 Little Bay Av Norfolk Row 1 FIr1 1139 Little Bay Av Norfolk Row 1 FIr1 1135 Little Bay Av Norfolk Row 1 FIr1 1125 Little Bay Av Norfolk Row 1 FIr1	1155 Little Bay Av Norfolk Rw1 Flr1 1155 Little Bay Av Norfolk Row 1 Flr1 1151 Little Bay Av Norfolk Row 1 Flr1 1147 Little Bay Av Norfolk Row 1 Flr1 1143 Little Bay Av Norfolk Row 1 Flr1 1139 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1 1123 Little Bay Av Norfolk Row 1 Flr1 1129 Little Bay Av Norfolk Row 1 Flr1	1155 Little Bay Av Norfolk Rw1 Flr1 1155 Little Bay Av Norfolk Row 1 Flr1 1151 Little Bay Av Norfolk Row 1 Flr1 1147 Little Bay Av Norfolk Row 1 Flr1 1143 Little Bay Av Norfolk Row 1 Flr1 1139 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1 1119 Little Bay Av Norfolk Row 1 Flr1	1155 Little Bay Av Norfolk Rw1 Flr1 1155 Little Bay Av Norfolk Row 1 Flr1 1151 Little Bay Av Norfolk Row 1 Flr1 1147 Little Bay Av Norfolk Row 1 Flr1 1143 Little Bay Av Norfolk Row 1 Flr1 1139 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1 1121 Little Bay Av Norfolk Row 1 Flr1 1119 Little Bay Av Norfolk Row 1 Flr1	1155 Little Bay Av Norfolk Rw1 Flr1 1155 Little Bay Av Norfolk Row 1 Flr1 1151 Little Bay Av Norfolk Row 1 Flr1 1147 Little Bay Av Norfolk Row 1 Flr1 1139 Little Bay Av Norfolk Row 1 Flr1 1139 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1 1119 Little Bay Av Norfolk Row 1 Flr1 1119 Little Bay Av Norfolk Row 1 Flr1 11109 Little Bay Av Norfolk Row 1 Flr1 11109 Little Bay Av Norfolk Row 1 Flr1 1109 Little Bay Av Norfolk Row 1 Flr1	1155 Little Bay Av Norfolk Rw1 Flr1 1155 Little Bay Av Norfolk Row 1 Flr1 1151 Little Bay Av Norfolk Row 1 Flr1 1147 Little Bay Av Norfolk Row 1 Flr1 1143 Little Bay Av Norfolk Row 1 Flr1 1139 Little Bay Av Norfolk Row 1 Flr1 1129 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1 1109 Little Bay Av Norfolk Row 1 Flr1 1110 Little Bay Av Norfolk Row 1 Flr1 1100 Little Bay Av Norfolk Row 1 Flr1 1107 Little Bay Av Norfolk Row 1 Flr1 1107 Little Bay Av Norfolk Row 1 Flr1 1100 Willoughby Bay Av Norfolk Rw1 Flr1	1155 Little Bay Av Norfolk Row 1 Flr1 1155 Little Bay Av Norfolk Row 1 Flr1 1151 Little Bay Av Norfolk Row 1 Flr1 1147 Little Bay Av Norfolk Row 1 Flr1 1143 Little Bay Av Norfolk Row 1 Flr1 1135 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1 1115 Little Bay Av Norfolk Row 1 Flr1 1119 Little Bay Av Norfolk Row 1 Flr1 11109 Little Bay Av Norfolk Row 1 Flr1 11101 Little Bay Av Norfolk Row 1 Flr1 1107 Little Bay Av Norfolk Row 1 Flr1	1155 Little Bay Av Norfolk Rw1 Flr1 1155 Little Bay Av Norfolk Row 1 Flr1 1151 Little Bay Av Norfolk Row 1 Flr1 1151 Little Bay Av Norfolk Row 1 Flr1 1143 Little Bay Av Norfolk Row 1 Flr1 1139 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1 1126 Little Bay Av Norfolk Row 1 Flr1 1109 Little Bay Av Norfolk Row 1 Flr1 1109 Little Bay Av Norfolk Row 1 Flr1 1100 Little Bay Av Norfolk Row 1 Flr1 1107 Little Bay Av Norfolk Row 1 Flr1 1107 Little Bay Av Norfolk Row 1 Flr1 11064 Willoughby Bay Av Norfolk Rw1 Flr1 11063 Willoughby Bay Av Norfolk Rw1 Flr1	1155 Little Bay Av Norfolk Rw1 Flr1 1155 Little Bay Av Norfolk Row 1 Flr1 1151 Little Bay Av Norfolk Row 1 Flr1 1151 Little Bay Av Norfolk Row 1 Flr1 1143 Little Bay Av Norfolk Row 1 Flr1 1139 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1 1115 Little Bay Av Norfolk Row 1 Flr1 1115 Little Bay Av Norfolk Row 1 Flr1 1115 Little Bay Av Norfolk Row 1 Flr1 1110 Little Bay Av Norfolk Row 1 Flr1 1100 Little Bay Av Norfolk Row 1 Flr1 1101 Little Bay Av Norfolk Row 1 Flr1 1106 Little Bay Av Norfolk Row 1 Flr1 1107 Little Bay Av Norfolk Row 1 Flr1 1108 Willoughby Bay Av Norfolk Rw1 Flr1 11063 Willoughby Bay Av Norfolk Rw1 Flr1 11063 Willoughby Bay Av Norfolk Rw1 Flr1 11063 Willoughby Bay Av Norfolk Rw1 Flr1	1155 Little Bay Av Norfolk Rw1 Flr1 1155 Little Bay Av Norfolk Row 1 Flr1 1151 Little Bay Av Norfolk Row 1 Flr1 1147 Little Bay Av Norfolk Row 1 Flr1 1143 Little Bay Av Norfolk Row 1 Flr1 1135 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1 1125 Little Bay Av Norfolk Row 1 Flr1 1119 Little Bay Av Norfolk Row 1 Flr1 1109 Little Bay Av Norfolk Row 1 Flr1 1109 Little Bay Av Norfolk Row 1 Flr1 1100 Willoughby Bay Av Norfolk Rw1 Flr1 11064 Willoughby Bay Av Norfolk Rw1 Flr1 11063 Willoughby Bay Av Norfolk Rw1 Flr1 Little Bay Av Norfolk Rw1 Flr1 11063 Willoughby Bay Av Norfolk Rw1 Flr1 Little Bay Av Norfolk Rw1 Flr1 Little Bay Av Norfolk Rw1 Flr1 Little Bay Av Norfolk Row 1 Flr1 Little Bay Av Norfolk Row 1 Flr1
1155 Little Ba			P0907       1155 Little Barrier         P0908       1151 Little Barrier         P0909       1147 Little Barrier         P0910       1143 Little Barrier         P0911       1139 Little Barrier					<del>                                      </del>								
	SF 1 66 65	SF 1 66 65 MF 2 66 64	SF     1     66     65       MF     2     66     64       SF     1     66     64	SF 1 66 65 MF 2 66 64 SF 1 66 64 SF 1 66 64	SF     1     66     65       MF     2     66     64       SF     1     66     64       SF     1     66     64       SF     1     66     64	SF     1     66     65       MF     2     66     64       SF     1     66     64       SF     1     66     64       MF     5     66     64	SF     1     66     65       MF     2     66     64       SF     1     66     64       SF     1     66     64       MF     5     66     64       SF     1     66     64       SF     1     66     64       SF     1     66     64	SF     1     66     65       MF     2     66     64       SF     1     66     64       SF     1     66     64       MF     5     66     64       SF     1     66     64       SF     1     66     64       SF     1     66     64       SF     1     66     64	SF     1     66     65       MF     2     66     64       SF     1     66     64       SF     1     66     64       MF     5     66     64       SF     1     66     64	SF     1     66     65       MF     2     66     64       SF     1     66     64       SF     1     66     64       MF     5     66     64       SF     1     66     64	SF     1     66     65       MF     2     66     64       SF     1     66     64       SF     1     66     64       MF     5     66     64       SF     1     66     64       SF     1     66     64       SF     1     66     64       SF     1     66     64       MF     3     66     64	SF 1 66 65  NF 2 66 64  SF 1 66 64  SF 1 66 64  SF 1 66 64  NF 5 66 64  SF 1 66 64	SF     1     66     65       MF     2     66     64       SF     1     66     64       SF     1     66     64       MF     5     66     64       SF     1     66     64       SF     1     66     64       SF     1     66     64       MF     3     66     64       SF     1     66     64	SF 1 66 65  NF 2 66 64  SF 1 66 64	SF     1     66     65       MF     2     66     64       SF     1     66     64       SF     1     66     64       MF     5     66     64       SF     1     66     64       MF     6     64     64	SF 1 66 65  NF 2 66 64  SF 1 66 64  SF 1 66 64  SF 1 66 64  NF 5 66 64  SF 1 66 64  NF 3 66 64  SF 1 66 64  NF 6 66 64  NF 8 1 66 64  NF 8 1 66 64  NF 6 66 64  NF 7 1 66 64  NF 8 1 66 64  NF 8 1 66 64  NF 9 1 66 64  NF 6 66 64

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

An	alysis T	Tech	nnic	al F	Rep	ort																			
S	Build- 10 IL**	11	12	6	6	6	10	6	6	6	10	6	6	8	6	6	6	6	8	6	6	6	10	11	12
ier Level	Build- 10 Leq	22	57	22	99	99	99	99	99	99	99	99	26	99	99	99	99	22	22	26	52	56	52	57	22
With-Barrier Levels	Build-8 IL**	11	12	6	6	6	10	6	6	6	10	6	6	6	6	6	6	6	8	6	6	6	10	11	12
5	Build-8	22	57	26	26	26	26	26	26	26	26	26	99	22	26	26	26	22	26	26	55	56	55	57	57
BA)	Build-10	29	69	65	65	99	99	92	99	65	65	65	65	64	92	92	92	64	92	92	64	65	65	89	70
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	29	69	65	65	99	99	65	99	65	99	65	65	64	65	65	65	64	65	65	64	65	65	89	70
udest-H	No- Build	<b>29</b>	89	99	99	99	65	99	29	99	<b>29</b>	99	99	99	29	29	29	99	99	29	99	67	99	89	69
2	Exist.	29	29	9	99	99	64	99	99	99	99	99	65	9	99	99	99	99	99	99	99	99	99	29	89
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
2	Recp Units	2	2	1	1	2	1	5	2	5	1	1	1	5	1	1	1	1	1	1	5	1	12	1	1
9	Land Use*	MF	MF	SF	SF	MF	SF	MF	MF	MF	SF	SF	SF	MF	SF	SF	SF	SF	SF	SF	MF	SF	MF	MF	MF
	Receiver Site Name	1055 Little Bay Av A Norfolk Row 1 Flr1	1055 Little Bay Av A Norfolk Row 1 Flr2	1051 Little Bay Av Norfolk Row 1 Flr1	1045 Little Bay Av Norfolk Row 1 Flr1	1043 Little Bay Av Norfolk Row 1 Flr1	1039 Little Bay Av Norfolk Row 1 Flr1	1033 Little Bay Av Norfolk Row 1 Flr1	1027 Little Bay Av Norfolk Row 1 Flr1	1023 Little Bay Av Norfolk Row 1 Flr1	1021 Little Bay Av Norfolk Row 1 Flr1	1019 Little Bay Av Norfolk Row 1 Flr1	1019 Little Bay Av Norfolk Row 1 Flr1	1001 Little Bay Av Norfolk Row 1 Flr1	955 Little Bay Av Norfolk Row 1 Flr1	951 Little Bay Av Norfolk Row 1 Flr1	947 Little Bay Av Norfolk Row 1 Flr1	937 Little Bay Av Norfolk Row 1 Flr1	933 Little Bay Av Norfolk Row 1 Flr1	931 Little Bay Av Norfolk Row 1 Flr1	925 Little Bay Av Norfolk Row 1 Flr1	921 Little Bay Av Norfolk Row 1 Flr1	905 Little Bay Av Norfolk Row 1 Flr1	9605 9th View St Norfolk Row 1 Flr1	9605 9th View St Norfolk Row 1 Flr2
	Site No.	P0926	P0927	P0928	P0929	P0930	P0931	P0932	P0933	P0934	P0935	P0936	P0937	P0938	P0939	P0940	P0941	P0942	P0943	P0944	P0945	P0946	P0947	P0948	P0949

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

And	alysis 1	ecr	nnic	al F	Rep	ort																		
S	Build- 10 IL**	11	10	11	12	10	11	11	10	0	0	10	10	12	0	0	13	12	8	8	10	10	8	6
ier Level	Build- 10 Leq	89	25	52	22	89	99	23	23	ΡA	ΡA	28	22	22	ΡA	PA	28	54	26	22	22	22	54	57
With-Barrier Levels	Build-8 IL**	11	10	11	12	6	11	11	10	0	0	10	10	12	0	0	13	12	7	8	6	6	8	6
>	Build-8 Leq	28	22	22	55	58	99	53	53	PA	PA	28	22	22	PA	PA	28	54	26	22	26	26	52	56
BA)	Build-10	70	29	92	29	29	29	64	62	PA	PA	89	65	70	PA	PA	70	99	63	63	65	65	62	99
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	70	29	92	29	29	29	64	63	PA	PA	29	92	70	PA	PA	70	99	63	63	92	92	63	65
udest-H	No- Build	69	99	99	99	<i>L</i> 9	89	<u> </u>	61	23	23	62	<b>29</b>	02	7.5	71	69	29	63	89	<b>9</b>	64	63	99
9	Exist.	89	9	9	99	99	29	64	61	72	72	61	99	69	71	70	69	99	62	62	64	64	62	65
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
2000	Recp Units	1	5	1	1	0	2	4	2	3	3	1	9	9	3	3	9	9	4	1	3	3	1	2
3	Use*	MF	MF	MF	MF	Monit.	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	SF	MF	MF	SF	MF
	Receiver Site Name	9605 9th View St Norfolk Row 1 Flr3	9605 9th View St Norfolk Row 1 Flr1	9605 9th View St Norfolk Row 1 Flr1	9605 9th View St Norfolk Row 1 Flr2	ST-20, Near Pier @ Willoughby Boat Club Norfolk Row 1 FIr1	863 Little Bay Av 1 Norfolk Row 1 Flr1	863 Little Bay Av 1 Norfolk Row 1 Flr1	861 Little Bay Av Norfolk Row 1 Flr1	833 Little Bay Av #17 Norfolk Row 1 Flr1	833 Little Bay Av #17 Norfolk Row 1 Flr2	833 Little Bay Av #17 Norfolk Row 1 Flr1	833 Little Bay Av #17 Norfolk Row 1 Flr1	833 Little Bay Av #17 Norfolk Row 1 Flr2	833 Little Bay Av #17 Norfolk Row 1 Flr2	833 Little Bay Av #17 Norfolk Row 1 Flr1	833 Little Bay Av #17 Norfolk Row 1 Flr2	833 Little Bay Av #17 Norfolk Row 1 Flr1	9640 13th View St A Norfolk Row 2 Flr1	1274 Little Bay Av Norfolk Row 2 Flr1	1268 Little Bay Av 1 Norfolk Row 2 Flr1	1268 Little Bay Av 1 Norfolk Row 2 Flr1	1260 Little Bay Av Norfolk Row 2 Flr1	1259 Little Bay Av Norfolk Row 2 Flr1
	Site No.	P0950	P0951	P0952	P0953	P0954	P0955	P0956	P0957	P0958	P0959	P0960	P0961	P0962	P0963	P0964	P0965	9960d	P0967	P0968	6960d	P0970	P0971	P0972

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

With-Barrier  -8 Build-8 Build
<u>α</u> σ σ α α α
<b>a</b> 9 9 4 4 6 4
Build-10 66 63 63 61 62 62
Loudest-Hour Leq (dBA)  No-Build Build-8 Bui 64 64 64 63 63 62 63 64 65 64 65 63 63 64 65
No- Build 64 63 62 62 64 63
Exist. 63 62 62 64 64 65
MAC   Crit.   Crit.   66   66   66   66   66   66   66
Recp Units 1 5 6 6 6
Land Use*  SF  MF  MF  MF  MF  MF  MF  MF
Receiver Site Name 1255 Little Bay Av Norfolk Row 2 Flr1 1226 Little Bay Av Norfolk Row 2 Flr1 1216 Little Bay Av Norfolk Row 2 Flr1 1105 Little Bay Av Norfolk Row 2 Flr1 1067 Little Bay Av Norfolk Row 2 Flr1 1079 Little Bay Av Norfolk Row 2 Flr1
P0973 P0974 P0975 P0976 P0977 P0977 P0978 P0978

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

	lysis 1	ech	hnic	al F	Report																		
- Build-	10 IL**	10	10	10	6	6	6	8	6	)	· ∞	n ∞ ∞			0 8 8 8 7 7								
VILLI-DALLIEI LEVEIS	8 Build- 10 Leq	26	55	26	26	26	26	22	52	_	55	55	55 57 58	55 57 58 58 57	55 57 58 57 57 58	55 57 58 57 57 57 57 57	55 57 58 57 58 57 57 57	55 57 58 57 57 57 57 57	55 57 58 58 57 57 57 57 57	55 57 58 58 58 57 57 57 57 57	55 57 58 58 57 57 57 57 57 57 57	55 57 58 58 57 57 57 57 57 57 57 57	55 57 58 57 57 57 57 57 57 57 57 57 57 57 57 57
יייין אַ מייי	Build-8	10	6	10	6	6	6	8	8		∞	∞ ∞	∞ ∞ ∞	8 8 8 7	8 8 8 7 8	8 8 8 7 8 7	8 8 8 7 8 7 7	8 8 8 7 7 7 7	8 8 8 7 7 7 7	8 8 8 7 8 7 7 7 7	8 8 7 7 7 7 8 8	8 8 8 7 8 7 7 7 7 8 8	8 8 8 7 8 7 7 7 7 8 8 8
	Build-8	99	55	99	26	99	99	22	22		55	55	55 57 57	55 57 57 57	55 57 57 57 57	55 57 57 57 57 57	55 57 57 57 57 57 57	55 57 57 57 57 57 57 57	55 57 57 57 57 57 57 57 57	55 57 57 57 57 57 57 57 57	55 57 57 57 57 57 57 57 57 57 57 57	55 57 57 57 57 57 57 57 57 57 57	55 57 57 57 57 57 57 57 57 57 57 57 57 5
(Kan	Build-10	99	65	99	9	99	9	<b>E9</b>	63	)	63	63	63 65 65	63 65 65 64	63 65 65 64 64 65	65 65 64 65 65 65	63 65 64 64 65 65	63 65 64 65 65 65 64 64	65 65 64 65 65 64 64 64	65 65 64 65 65 64 64 64	65 65 64 65 65 65 64 64 64 64	65 65 64 65 64 64 64 64 64	65 65 65 65 64 64 64 64 64 64 64 65
Loudest-Houl Leg (ubA)	Build-8	99	64	99	65	99	92	63	63		63	63	63 65	63 65 65 64	63 65 65 64 65	63 65 65 64 64 65 65	63 65 64 65 65 65 65	63 65 64 64 65 65 64 64	63 65 64 65 65 65 64 64 64	63 65 64 65 65 64 64 64 64	63 65 64 65 65 64 64 64 64 64	63 65 64 65 65 64 64 64 65 65	63 65 64 64 64 64 64 65 65 65 65 65 65 65 65 66 67 67 67 68 68 68 68 68 68 68 68 68 68 68 68 68
ממטרייי	No- Build	92	65	65	65	92	<u> </u>	64	64		64	64	64 66 66	64 66 66 64	64 66 64 63	64 66 64 63 64	64 66 66 64 65 64	64 66 66 64 64 64	64 66 66 64 64 64 64	64 66 66 64 64 64 64 64	64 66 66 64 64 64 64 64 64	64 66 66 64 64 64 64 64 64	64 66 66 64 64 64 64 64 64 64 64
3	Exist.	64	9	64	64	9	9	63	63		64	65	64 65	64 65 65 63	64 65 63 63	65 65 63 64 64	64 65 63 64 64 63	64 65 65 65 65 65 65 65 65 65 65 65 65 65	64 64 63 63 64 64 63 63 63	64 65 63 64 64 63 63 63	64 65 64 64 63 63 63 64 64 64	64 65 63 64 63 63 63 64 64 64	64 63 63 63 63 64 64 64 64 65 63 63 63 63 63 64 64 64 64 65 65 65 65 65 65 65 65 65 65 65 65 65
ZAC	lmp. Crit.	99	99	99	99	99	99	99	99		99	99	99	99	99 99 99	99 99 99 99 99 99	99 99 99 99 99	99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99	99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99
Reco	Units	1	1	0	0	1	1	2	1		1	1 1			7 1 1 1 2	7 1 1 1 2 7	4 4 5 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 2 2 4 2	1 1 1 1 1 2 2 4 2 2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 2 2 4 2 2 1 1 1 1 1 1 2 2 4 4 2 2 1 1 1 1	1 1 1 7 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 7 7 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1
Land	Use*	Rec.	Rec.	Rec.	Monit.	Rec.	Rec.	JW	SF		SF	SF SF	SF SF SF	SF SF SF	SF SF SF SF	SF SF SF MF	SF SF SF MF MF	SF SF SF MF MF MF	SF SF SF MF MF MF MF	SF SF SF MF MF MF MF MF	SF SF SF MF MF MF MF MF SF SF	SF SF SF MF MF MF MF MF MF MF MF MF MF MF MF MF	SF SF SF MF MF MF MF SF SF SF
	Receiver Site Name	800 Little Bay Av Norfolk Row 2 Flr1	800 Little Bay Av Norfolk Row 2 Flr1	800 Little Bay Av Norfolk Row 2 Flr1	ST-21, Playground @ Captains Qtrs Waterfront Pa* Norfolk Row 2 FIr1	800 Little Bay Av Norfolk Row 2 Flr1	800 Little Bay Av Norfolk Row 2 Flr1	799 W Ocean View Av Norfolk Row 1 Flr1	793 W Ocean View Av Norfolk Row 1 Flr1		783 W Ocean View Av Norfolk Row 1 Flr1	783 W Ocean View Av Norfolk Row 1 Flr1 775 W Ocean View Av Norfolk Row 1 Flr1	783 W Ocean View Av Norfolk Row 1 Flr1 775 W Ocean View Av Norfolk Row 1 Flr1 765 W Ocean View Av Norfolk Row 1 Flr1	783 W Ocean View Av Norfolk Row 1 Flr1 775 W Ocean View Av Norfolk Row 1 Flr1 765 W Ocean View Av Norfolk Row 1 Flr1 759 W Ocean View Av Norfolk Row 1 Flr1	783 W Ocean View Av Norfolk Row 1 Flr1 775 W Ocean View Av Norfolk Row 1 Flr1 765 W Ocean View Av Norfolk Row 1 Flr1 759 W Ocean View Av Norfolk Row 1 Flr1 755 W Ocean View Av Norfolk Row 1 Flr1	783 W Ocean View Av Norfolk Row 1 Flr1 775 W Ocean View Av Norfolk Row 1 Flr1 765 W Ocean View Av Norfolk Row 1 Flr1 759 W Ocean View Av Norfolk Row 1 Flr1 755 W Ocean View Av Norfolk Row 1 Flr1 751 W Ocean View Av Norfolk Row 1 Flr1	783 W Ocean View Av Norfolk Row 1 Flr1 775 W Ocean View Av Norfolk Row 1 Flr1 765 W Ocean View Av Norfolk Row 1 Flr1 759 W Ocean View Av Norfolk Row 1 Flr1 755 W Ocean View Av Norfolk Row 1 Flr1 751 W Ocean View Av Norfolk Row 1 Flr1 747 Willoughby Bay Av A Norfolk Row 1 Flr1	783 W Ocean View Av Norfolk Row 1 Flr1 775 W Ocean View Av Norfolk Row 1 Flr1 765 W Ocean View Av Norfolk Row 1 Flr1 759 W Ocean View Av Norfolk Row 1 Flr1 755 W Ocean View Av Norfolk Row 1 Flr1 751 W Ocean View Av Norfolk Row 1 Flr1 747 Willoughby Bay Av A Norfolk Row 1 Flr1 743 W Ocean View Av Norfolk Row 1	783 W Ocean View Av Norfolk Row 1 Flr1 775 W Ocean View Av Norfolk Row 1 Flr1 765 W Ocean View Av Norfolk Row 1 Flr1 759 W Ocean View Av Norfolk Row 1 Flr1 755 W Ocean View Av Norfolk Row 1 Flr1 751 W Ocean View Av Norfolk Row 1 Flr1 747 Willoughby Bay Av A Norfolk Row 1 Flr1 743 W Ocean View Av Norfolk Row 1 Flr1 743 W Ocean View Av Norfolk Row 1 Flr1 743 W Ocean View Av Norfolk Row 1 Flr1	783 W Ocean View Av Norfolk Row 1 Flr1 775 W Ocean View Av Norfolk Row 1 Flr1 765 W Ocean View Av Norfolk Row 1 Flr1 759 W Ocean View Av Norfolk Row 1 Flr1 751 W Ocean View Av Norfolk Row 1 Flr1 751 W Ocean View Av Norfolk Row 1 Flr1 747 Willoughby Bay Av A Norfolk Row 1 Flr1 748 W Ocean View Av Norfolk Row 1 Flr1 749 W Ocean View Av Norfolk Row 1 Flr1 735 W Ocean View Av Norfolk Row 1 Flr1 735 W Ocean View Av Norfolk Row 1 Flr1	783 W Ocean View Av Norfolk Row 1 Flr1 775 W Ocean View Av Norfolk Row 1 Flr1 765 W Ocean View Av Norfolk Row 1 Flr1 759 W Ocean View Av Norfolk Row 1 Flr1 755 W Ocean View Av Norfolk Row 1 Flr1 751 W Ocean View Av Norfolk Row 1 Flr1 747 Willoughby Bay Av A Norfolk Row 1 Flr1 743 W Ocean View Av Norfolk Row 1 Flr1 739 W Ocean View Av Norfolk Row 1 Flr1 735 W Ocean View Av Norfolk Row 1 Flr1 735 W Ocean View Av Norfolk Row 1 Flr1 737 W Ocean View Av Norfolk Row 1 Flr1	783 W Ocean View Av Norfolk Row 1 Flr1 775 W Ocean View Av Norfolk Row 1 Flr1 765 W Ocean View Av Norfolk Row 1 Flr1 759 W Ocean View Av Norfolk Row 1 Flr1 751 W Ocean View Av Norfolk Row 1 Flr1 751 W Ocean View Av Norfolk Row 1 Flr1 747 Willoughby Bay Av A Norfolk Row 1 Flr1 748 W Ocean View Av Norfolk Row 1 Flr1 739 W Ocean View Av Norfolk Row 1 Flr1 735 W Ocean View Av Norfolk Row 1 Flr1 737 W Ocean View Av Norfolk Row 1 Flr1 717 W Ocean View Av Norfolk Row 1 Flr1	783 W Ocean View Av Norfolk Row 1 Flr1 775 W Ocean View Av Norfolk Row 1 Flr1 765 W Ocean View Av Norfolk Row 1 Flr1 759 W Ocean View Av Norfolk Row 1 Flr1 755 W Ocean View Av Norfolk Row 1 Flr1 751 W Ocean View Av Norfolk Row 1 Flr1 747 Willoughby Bay Av A Norfolk Row 1 Flr1 743 W Ocean View Av Norfolk Row 1 Flr1 739 W Ocean View Av Norfolk Row 1 Flr1 735 W Ocean View Av Norfolk Row 1 Flr1 737 W Ocean View Av Norfolk Row 1 Flr1 727 W Ocean View Av Norfolk Row 1 Flr1 727 W Ocean View Av Norfolk Row 1 Flr1 727 W Ocean View Av Norfolk Row 1 Flr1 709 W Ocean View Av Norfolk Row 1 Flr1
	Site No.	P0997	8660d	8 6660d	P1000 8	P1001 8	P1002 8	P1003 7	P1004 7	P1005 7		P1006 7	t t										

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

	aiysis i			<u> </u>	icpi	<i>511</i>																			
S	Build- 10 IL**	8	8	8	8	6	6	6	6	6	6	11	6	6	6	8	8	8	8	6	6	7	2	2	7
ier Level	Build- 10 Leq	57	99	99	99	99	22	22	57	22	22	29	57	57	22	22	56	26	26	55	55	54	53	20	51
With-Barrier Levels	Build-8 IL**	8	8	6	6	6	6	6	6	6	6	11	6	6	6	6	8	8	8	6	6	7	7	7	7
>	Build-8 Leq	57	56	26	99	56	57	26	56	26	22	58	56	56	26	26	55	55	55	54	54	53	53	50	51
IBA)	Build-10	65	64	64	65	65	99	99	99	99	99	69	65	65	92	65	64	64	64	64	63	61	09	57	58
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	65	65	92	92	92	99	99	99	92	99	69	65	65	92	64	64	64	63	63	63	60	59	57	58
udest-H	No- Build	63	£9	79	89	89	64	64	64	64	64	99	89	89	62	62	61	61	09	09	09	57	25	28	28
9	Exist.	63	62	62	62	62	64	63	63	£9	64	9	62	62	61	61	60	09	09	59	59	57	26	22	57
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	kecp Units	1	1	1	1	2	4	12	1	0	4	4	2	2	2	1	1	12	4	6	7	5	1	2	1
-	Land Use*	SF	SF	MF	MF	MF	MF	MF	SF	Monit.	MF	MF	MF	MF	MF	SF	MF	MF	MF	MF	MF	MF	SF	SF	Church
	. Receiver Site Name	705 W Ocean View Av Norfolk Row 1 Flr1	649 W Ocean View Av Norfolk Row 1 Flr1	639 W Ocean View Av Norfolk Row 1 Flr1	631 W Ocean View Av Norfolk Row 1 Flr1	627 W Ocean View Av Norfolk Row 1 Flr1	615 W Ocean View Av Norfolk Row 1 Flr1	605 W Ocean View Av Norfolk Row 1 Flr1	9605 6th View St Norfolk Row 1 Flr1	ST-22, 9605 6th View Street Norfolk Row1	583 W Ocean View Av A Norfolk Row 1 Flr1	583 W Ocean View Av A Norfolk Row 1 Flr2	581 W Ocean View Av Norfolk Row 1 Flr1	573 W Ocean View Av Norfolk Row 1 Flr1	569 W Ocean View Av Norfolk Row 1 Flr1	565 W Ocean View Av Norfolk Row 1 Flr1	541 W Ocean View Av Norfolk Row 1 Flr1	533 W Ocean View Av Norfolk Row 1 Flr1	529 W Ocean View Av Norfolk Row 1 Flr1	517 W Ocean View Av A Norfolk Row 1 Flr1	517 W Ocean View Av A Norfolk Row 1 Flr1	509 W Ocean View Av Norfolk Row 1 Flr1	507 W Ocean View Av Norfolk Row 1 Flr1	791 W Ocean View Av Norfolk Row 2 Flr1	777 W Ocean View Av Norfolk Row 2 Flr1
	Site No.	P1019	P1020	P1021	P1022	P1023	P1024	P1025	P1026	P1027	P1028	P1029	P1030	P1031	P1032	P1033	P1034	P1035	P1036	P1037	P1038	P1039	P1040	P1041	P1042

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

8 Build-8   6   6   6   6   6   6   6   6   6	Build-8 Bi
57 51 58 52 63 54 61 53 61 53 61 53 61 53 61 53 61 53 62 55 64 55 64 55 64 55 64 55 64 67 88 38 88 38 8A PA	64 55 61 64 65 64 65 61 66 61 66 61 66 61 65 65 65 65 65 65 65 65 65 65 65 65 65
58 62 63 64 64 64 65 64 64 64 64 64 64 64 64 64 64 64 64 64	58 62 63 64 64 64 64 64 64 64 64 64 64 64 64 64
	58 62 63 64 64 64 64 64 64 64 64 64 64 64 64 64
58 62 63 61 61 61 61 61 61 62 63 64 64 64 64 64 64 64 64 64 64 64 64 64	58 61 61 61 61 61 61 61 61 61 61 61 61 61
63 61 61 61 62 63 64 64 61 61 61 61 61 61 61 62 63 64 64 64 64 64 64 64 64 64 64 64 64 64	62 61 61 61 61 61 61 61 61 61 61 61 61 61
63 61 61 62 62 61 61 61 61 PA PA PA PA PA PA PA PA PA PA PA PA PA	63 61 61 62 62 63 63 88 84 61 61 61 61 61 62 63 64 64 65 64 65 64 64 65 64 64 64 64 64 64 64 64 64 64 64 64 64
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64 64 64 64 64 61 61 61 61 61 61 61 61 62 61 62 61 62 61 62 61 62 61 62 64 64 64 64 64 64 64 64 64 64 64 64 64	64 64 64 64 65 63 63 64 64 64 64 64 64 64 64 64 64 64 64 64
64 64 62 63 61 61 61 61 61 62 61 62 61 62 83 38 9A P	64 64 62 63 61 61 61 62 61 62 61 62 61 62 7 88 38 38 9A P
62 63 54 61 61 53 61 61 53 61 62 53 61 62 53 61 62 54 PA P	62 63 54 61 61 53 61 61 53 61 62 53 61 62 53 PA P
61 61 53 61 62 53 61 62 53 61 62 54 88 38 38 PA PA PA PA PA PA PA PA PA PA PA PA PA PA PA PA P	61 61 53 61 62 53 61 62 53 81 38 38 PA PA PA PA PA PA PA PA PA PA PA PA PA PA PA PA P
61 61 53 61 62 53 61 62 54 PA PA P	61 61 53 61 62 53 61 62 54 PA PA PA PA PA PA PA PA PA PA PA P
61 62 53 8 61 62 54 8 38 38 38 0 PA PA PA 0	61 62 53 8 8 68 61 62 54 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9
61 62 54 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	61 62 54 8  38 38 38 0  PA PA PA PA 0  65 66 61 5
38 38 0 0 PA PA PA 0 PA 0 PA PA PA 0 PA PA PA 0 PA PA PA 0 PA PA 0 PA PA PA 0 PA	38       38       38       0         PA       PA       PA       0         FA       PA       PA       0         FA       PA       PA       0         FA       FA       0       0         FA       FA       0
PA         PA         PA         PA         0           FA         PA         PA         0	PA         PA         PA         0           PA         PA         0         0           PA         PA         PA         0           PA         PA         PA         0           PA         PA         PA         0           65         66         61         5           68         68         61         7
PA         PA         PA         0           PA         PA         PA         0           PA         PA         PA         0           PA         PA         PA         0           65         66         61         5	PA         PA         PA         0           PA         PA         PA         0           PA         PA         PA         0           PA         PA         PA         0           65         66         61         5           68         68         61         7
PA         PA         PA         0           PA         PA         PA         0           PA         PA         PA         0           65         66         61         5	PA         PA         PA         0           PA         PA         PA         0           PA         PA         PA         0           65         66         61         5           68         68         61         7
PA         PA         PA         0           PA         PA         0           65         66         61         5	PA         PA         PA         0           PA         PA         0           65         66         61         5           68         68         61         7
PA         PA         PA         0           65         66         61         5	PA         PA         PA         0           65         66         61         5           68         68         61         7
65 66 61 5	65     66     61     5       68     68     61     7
	68 68 61 7

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

Units Units Charles Ch						_	H-taper-H	(A	RAI	>	/ith_Rarri	love I avel	
Imp. Crit.         Exist. Buildday         Wollday Buildday B	700	700		Doca	NAC	ב	uaest-H	our L <sub>eq</sub> (a	BA)	\$	ıtn-barrı	er Level	<b>S</b>
66         61         61         65         65         58         7         58           66         59         60         63         64         61         2         61           66         58         58         62         62         57         58         61         62	Receiver Site Name Use*	Use*		Units	Imp. Crit.	Exist.	No- Build	Build-8	Build-10	Build-8	Build-8 IL**	Build- 10 Leq	Build- 10 IL**
66         59         60         63         64         61         61         69         64         61         61         61         62<	Court J Norfolk Row 1 Flr1 MF	MF		9	99	61	61	65	65	58	7	58	7
66         58         62         62         57         59         57         67         67         67         67         67         67         67         67         67         67         67         58         64         56         77         56         77         56         77         56         77         57         58         67         77         56         77         58         78         58         78<	Court J Norfolk Row 2 FIr1	MF		9	99	29	09	63	64	61	2	61	2
66         60         63         64         56         7         56           66         57         58         59         59         59         0         59           66         56         57         58         59         59         59         0         59           66         57         58         59         59         59         0         59         59           66         57         58         59         59         59         59         58         58         58         58         58         58         58         58         58         58         58         58         59         60         59         60         59         60         59         59         60         59         60         59         59         59         59         59         59         59         59         59         60         59         59         60         59         59         59         59         59         59         60         59         59         59         59         59         59         59         59         59         59         59         59         59         59         59	Court J Norfolk Row 2 Flr1	MF		9	99	28	89	62	62	57	5	22	5
66         57         58         59         59         69         69         59         59         69         69         59         69         69         59         69         59         69         59         69         59         69         59         69         59         69         59         69         59         69         59         69         59         69         59         69         59         69         59         69         59         69         59         60         59         59         60         59         59         60         59         60         59         60         59         60         59         59         60         59         60         59         60         59         60         59         60         59         60         59         60         50         60         50         60<	Court J Norfolk Row 2 Flr1 MF	MF		9	99	09	09	63	64	99	7	99	7
1         66         56         57         58         58         58         58         58         58         58         58         58         58         59 </td <td>9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.</td> <td>Rec.</td> <td></td> <td>1</td> <td>99</td> <td>57</td> <td>28</td> <td>59</td> <td>59</td> <td>59</td> <td>0</td> <td>59</td> <td>0</td>	9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.	Rec.		1	99	57	28	59	59	59	0	59	0
1         66         57         58         59 </td <td>9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.</td> <td>Rec.</td> <td></td> <td>1</td> <td>99</td> <td>99</td> <td>25</td> <td>28</td> <td>28</td> <td>28</td> <td>0</td> <td>28</td> <td>0</td>	9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.	Rec.		1	99	99	25	28	28	28	0	28	0
1         66         55         56         57         58         59         57         58         59         60         58         59         59         59         59         59 </td <td>9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.</td> <td>Rec</td> <td></td> <td>1</td> <td>99</td> <td>22</td> <td>89</td> <td>29</td> <td>29</td> <td>59</td> <td>0</td> <td>26</td> <td>0</td>	9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.	Rec		1	99	22	89	29	29	59	0	26	0
1         66         56         57         58         58         58         60         58         60         58         60         58         58         58         58         58         50         60         50         60         50         60 </td <td>9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.</td> <td>Rec</td> <td></td> <td>1</td> <td>99</td> <td>22</td> <td>99</td> <td>57</td> <td>57</td> <td>57</td> <td>0</td> <td>22</td> <td>0</td>	9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.	Rec		1	99	22	99	57	57	57	0	22	0
1         66         57         58         59         60         59         60         60           1         66         54         55         56         57         56         57         59         60         60         57           1         66         56         57         59         59         59         0         59         59         59         59         59         59         59         59         50         59	9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.	Rec.		1	99	99	22	58	58	58	0	28	0
1         66         54         55         56         58         58         0         58         59         59         59         59         59         59         50 <td>9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.</td> <td>Rec.</td> <td></td> <td>1</td> <td>99</td> <td>22</td> <td>89</td> <td>29</td> <td>09</td> <td>29</td> <td>0</td> <td>09</td> <td>0</td>	9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.	Rec.		1	99	22	89	29	09	29	0	09	0
66         56         56         58         58         58         68         58         58         58         68         58         59         59         59         59         59         59         59         59         59         59         59         59         59         59         59         59         59         59         59         50<	9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.	Rec.		1	99	54	22	26	57	26	0	22	0
66         56         57         59         59         59         59         59         59         59         59         59         59         50<	9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.	Rec.		1	99	99	99	58	58	58	0	28	0
66         57         58         60         60         60         60         60         60           66         53         54         55         56         55         0         56         56           66         55         56         58         58         58         0         58         57           66         56         57         59         60         59         0         60         50         61	9501 Mason Creek Rd Norfolk Row 1 Fir1 Rec.	Rec.		1	99	26	57	59	59	59	0	59	0
1         66         53         54         55         56         55         56         57         57         0         56         57           1         66         55         56         58         58         58         58         58         58         58         58         58         58         60         58         60	9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.	Rec.		1	99	57	58	90	90	90	0	90	0
1         66         55         56         58         57         57         67         57         57         58         58         58         58         58         58         58         60         58         58         60         58         60         58         60         60         58         60 </td <td>9501 Mason Creek Rd Norfolk Row 1 Fir1 Rec.</td> <td>Rec</td> <td>٠;</td> <td>1</td> <td>99</td> <td>53</td> <td>54</td> <td>55</td> <td>26</td> <td>55</td> <td>0</td> <td>26</td> <td>0</td>	9501 Mason Creek Rd Norfolk Row 1 Fir1 Rec.	Rec	٠;	1	99	53	54	55	26	55	0	26	0
1         66         55         56         58         58         58         58         58         58         58         58         60         59         0         58         60         60         50         60 <td>9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.</td> <td>Rec</td> <td>ı;</td> <td>1</td> <td>99</td> <td>22</td> <td>55</td> <td>57</td> <td>57</td> <td>57</td> <td>0</td> <td>57</td> <td>0</td>	9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.	Rec	ı;	1	99	22	55	57	57	57	0	57	0
1         66         56         57         59         60         59         60 </td <td>9501 Mason Creek Rd Norfolk Row 1 Fir1 Rec.</td> <td>Rec</td> <td>٠:</td> <td>1</td> <td>99</td> <td>22</td> <td>56</td> <td>58</td> <td>58</td> <td>58</td> <td>0</td> <td>58</td> <td>0</td>	9501 Mason Creek Rd Norfolk Row 1 Fir1 Rec.	Rec	٠:	1	99	22	56	58	58	58	0	58	0
1         66         58         58         61 </td <td>9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.</td> <td>Rec</td> <td>٠:</td> <td>1</td> <td>99</td> <td>26</td> <td>57</td> <td>59</td> <td>09</td> <td>59</td> <td>0</td> <td>09</td> <td>0</td>	9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.	Rec	٠:	1	99	26	57	59	09	59	0	09	0
1         66         54         54         56         56         56         56         56         56         56         56         56         57         58         57         0         58         58         58         58         59         58         59         58         70         59         70 <td>9501 Mason Creek Rd Norfolk Row 1 Fir1 Rec.</td> <td>Rec</td> <td></td> <td>1</td> <td>99</td> <td>28</td> <td>58</td> <td>61</td> <td>61</td> <td>61</td> <td>0</td> <td>61</td> <td>0</td>	9501 Mason Creek Rd Norfolk Row 1 Fir1 Rec.	Rec		1	99	28	58	61	61	61	0	61	0
1         66         55         55         57         58         57         0         58           1         66         55         56         58         59         58         0         59           1         66         57         57         60         60         0         60         60           1         66         58         58         61         62         61         62         62	9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.	Rec		1	99	54	54	56	56	56	0	26	0
1         66         55         56         58         59         58         0         59           1         66         57         57         60         60         60         60         60           1         66         58         58         61         62         61         0         62	9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.	Rec		1	99	52	55	57	58	57	0	58	0
1         66         57         57         60 </td <td>9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.</td> <td>Rec</td> <td></td> <td>1</td> <td>99</td> <td>22</td> <td>99</td> <td>58</td> <td>29</td> <td>58</td> <td>0</td> <td>26</td> <td>0</td>	9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.	Rec		1	99	22	99	58	29	58	0	26	0
1         66         58         58         61         62         61         0         62	9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.	Rec	٠;	1	99	22	57	60	90	90	0	9	0
	9501 Mason Creek Rd Norfolk Row 1 Flr1 Rec.	Re		1	99	28	28	61	62	61	0	62	0

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

And	alysis 1	Tech	nnic	al F	Rep	ort																		
S	Build- 10 IL**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	9	9	7	8	0	0	10
ier Level	Build- 10 Leq	52	25	89	69	61	99	25	69	09	99	28	65	89	25	25	28	28	69	09	09	ЬА	ΡA	61
With-Barrier Levels	Build-8 IL**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	9	9	9	7	6	0	10
5	Build-8	52	99	28	26	61	22	22	28	09	99	57	59	28	99	26	57	28	28	26	09	61	PA	61
BA)	Build-10	22	57	28	29	61	99	22	29	09	99	58	59	28	22	63	63	64	92	29	89	РА	PA	71
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	55	99	28	29	61	52	57	28	09	26	57	59	28	99	62	62	63	64	65	29	71	PA	71
udest-H	No- Build	23	22	22	99	57	54	22	22	99	54	54	55	54	23	25	22	89	28	25	28	29	69	59
2	Exist.	53	54	22	22	57	23	54	54	22	53	54	54	23	52	22	57	22	57	22	22	28	59	58
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	Recp Units	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	2	0	2	2
9	Use*	Rec.	MF	SF	SF	SF	SF	MF	Monit.	MF	MF													
	Receiver Site Name	9501 Mason Creek Rd Norfolk Row 1 Flr1	9501 Mason Creek Rd Norfolk Row 1 Flr1	9501 Mason Creek Rd Norfolk Row 1 Flr1	9501 Mason Creek Rd Norfolk Row 1 Flr1	9501 Mason Creek Rd Norfolk Row 1 Flr1	9501 Mason Creek Rd Norfolk Row 1 Flr1	9501 Mason Creek Rd Norfolk Row 1 Flr1	9501 Mason Creek Rd Norfolk Row 1 Flr1	9501 Mason Creek Rd Norfolk Row 1 Flr1	9501 Mason Creek Rd Norfolk Row 1 Flr1	9501 Mason Creek Rd Norfolk Row 1 Flr1	9501 Mason Creek Rd Norfolk Row 1 Flr1	9501 Mason Creek Rd Norfolk Row 1 Flr1	9501 Mason Creek Rd Norfolk Row 1 Flr1	365 W Government Av Norfolk Row 1 Flr1	9466 Garrett Av Norfolk Row 1 Flr1	9460 Garrett Av Norfolk Row 1 Flr1	9456 Garrett Av Norfolk Row 1 Flr1	9450 Garrett Av Norfolk Row 1 Flr1	9442 Garrett Av Norfolk Row 1 Flr1	ST-24, 381 Cherry Street Norfolk Row 1 FIr1	381 Cherry St Norfolk Row 1 Flr1	379 Cherry St Norfolk Row 1 Flr1
	Site No.	P1088	P1089	P1090	P1091	P1092	P1093	P1094	P1095	P1096	P1097	P1098	P1099	P1100	P1101	P1102	P1103	P1104	P1105	P1106	P1107	P1108	P1109	P1110

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

And	alysis 1	ect	nnic	al F	Repo	ort																		
S	Build- 10 IL**	6	6	6	6	6	10	10	0	0	0	10	0	0	10	6	6	10	6	10	0	0	0	8
ier Level	Build- 10 Leq	61	09	69	09	19	61	62	ΡA	ΡA	ЬА	19	ΡA	Vd	19	09	9	09	09	09	ΡA	PA	PA	09
With-Barrier Levels	Build-8 IL**	6	6	8	8	6	10	10	0	0	0	10	11	0	10	6	6	10	10	10	0	0	0	6
×	Build-8 Leq	61	29	29	26	09	61	61	PA	PA	РА	09	62	PA	09	29	59	09	09	09	PA	PA	PA	59
BA)	Build-10	70	69	89	69	20	71	72	PA	PA	РА	71	PA	PA	71	69	69	70	69	70	PA	PA	PA	89
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	70	89	29	89	69	70	72	PA	PA	РА	20	72	PA	20	89	68	70	69	70	PA	PA	PA	68
udest-H	No- Build	89	25	99	25	89	28	69	69	09	09	89	69	69	25	99	26	25	25	25	28	58	69	26
ΓO	Exist.	22	99	99	99	25	57	28	29	29	29	22	28	69	22	26	26	26	26	26	28	28	28	55
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Bocn	Units	2	2	2	2	2	2	2	2	1	0	1	1	1	1	1	1	1	1	1	1	4	4	1
-	Use*	MF	MF	MF	MF	MF	MF	MF	MF	SF	Monit.	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	MF	MF	SF
	Receiver Site Name	365 Cherry St Norfolk Row 1 Fir1	363 Cherry St Norfolk Row 1 Fir1	361 Cherry St Norfolk Row 1 Fir1	9421 Atwood Av Norfolk Row 1 Flr1	9417 Atwood Av Norfolk Row 1 Fir1	9413 Atwood Av Norfolk Row 1 Flr1	9409 Atwood Av Norfolk Row 1 Fir1	9405 Atwood Av Norfolk Row 1 Fir1	9401 Atwood Av Norfolk Row 1 Fir1	ST-26, Corner Of Duvall And Hickory Street Norfolk Row 1 Flr1	348 Maple Av Norfolk Row 1 Flr1	9326 Atwood Av Norfolk Row 1 Fir1	9324 Atwood Av Norfolk Row 1 Flr1	343 Maple Av Norfolk Row 1 Flr1	9329 Phillip Av Norfolk Row 1 Flr1	9325 Phillip Av Norfolk Row 1 Flr1	9323 Phillip Av Norfolk Row 1 Flr1	9319 Phillip Av Norfolk Row 1 Flr1	9315 Phillip Av Norfolk Row 1 Flr1	9311 Phillip Av Norfolk Row 1 Flr1	9301 Phillip Av Norfolk Row 1 Flr1	9301 Phillip Av Norfolk Row 1 Flr1	9308 Phillip Av Norfolk Row 1 Flr1
	Site No.	P1111	P1112	P1113	P1114	P1115	P1116	P1117	P1118	P1119	P1120	P1121	P1122	P1123	P1124	P1125	P1126	P1127	P1128	P1129	P1130	P1131	P1132	P1133

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

AII	aiysis i	eci	IIIIC	uir	tep	יונ																			
S	Build- 10 IL**	8	8	0	0	0	0	0	0	7	0	0	0	8	0	0	7	7	0	7	7	0	7	7	9
ier Level	Build- 10 Leq	09	61	ΡA	ΡA	ΡA	PA	PA	PA	65	ΡA	PA	PA	28	ΡA	PA	28	29	PA	26	59	PA	28	58	29
With-Barrier Levels	Build-8 IL**	6	8	8	0	0	8	0	0	8	6	0	0	6	8	0	8	7	7	7	7	7	7	7	9
5	Build-8	29	09	61	PA	PA	09	PA	PA	28	29	PA	PA	28	29	PA	58	29	26	57	57	59	57	58	29
BA)	Build-10	89	89	PA	PA	PA	PA	PA	PA	99	PA	PA	PA	99	PA	PA	99	29	PA	99	99	PA	65	65	65
Loudest-Hour Leq (dBA)	Build-8	89	89	89	PA	PA	29	PA	PA	99	29	PA	PA	99	29	PA	99	99	99	9	64	99	64	92	65
udest-H	No- Build	26	57	28	28	28	57	58	58	56	57	57	58	26	57	58	56	57	58	56	55	58	56	57	57
2	Exist.	22	99	22	28	28	57	57	57	52	99	57	57	22	22	57	26	57	57	52	54	57	26	57	57
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	Kecp Units	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	2	1	1	1	1	1
	Use*	MF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	MF	SF	MF	MF	SF	SF	SF	SF	SF
	Receiver Site Name	9302 Phillip Av Norfolk Row 1 Flr1	9294 Phillip Av Norfolk Row 1 Flr1	9290 Phillip Av Norfolk Row 1 Flr1	9286 Phillip Av Norfolk Row 1 Flr1	9284 Phillip Av Norfolk Row 1 Flr1	9281 Mason Creek Rd Norfolk Row 1 Flr1	9277 Mason Creek Rd Norfolk Row 1 Flr1	9273 Mason Creek Rd Norfolk Row 1 Flr1	9272 Mason Creek Rd Norfolk Row 1 Flr1	9268 Mason Creek Rd Norfolk Row 1 Flr1	9264 Mason Creek Rd Norfolk Row 1 Flr1	9260 Mason Creek Rd Norfolk Row 1 Flr1	9261 Hickory St Norfolk Row 1 Flr1	9255 Hickory St Norfolk Row 1 Flr1	9251 Hickory St Norfolk Row 1 Flr1	9250 Hickory St Norfolk Row 1 Flr1	9246 Hickory St Norfolk Row 1 Flr1	9242 Hickory St Norfolk Row 1 Flr1	9243 Peachtree St Norfolk Row 1 Flr1	9239 Peachtree St Norfolk Row 1 Flr1	9235 Peachtree St Norfolk Row 1 Flr1	9238 Peachtree St Norfolk Row 1 Flr1	9234 Peachtree St Norfolk Row 1 Flr1	9230 Peachtree St Norfolk Row 1 Flr1
	Site No.	P1134	P1135	P1136	P1137	P1138	P1139	P1140	P1141	P1142	P1143	P1144	P1145	P1146	P1147	P1148	P1149	P1150	P1151	P1152	P1153	P1154	P1155	P1156	P1157

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

SF         1         66         58         58         PA         PA         PA         PA         O         PA         O           SF         1         66         66         66         PA         PA         PA         O         PA         O           SF         1         66         67         68         PA         PA         O         PA         O           SF         1         66         65         67         PA         PA         PA         O         PA         O           SF         1         66         65         66         65         65         65         58         7
1     66     61     61     PA     PA     PA       1     66     66     66     PA     PA     PA       1     66     67     68     PA     PA     PA       1     66     67     68     PA     PA     PA       1     66     66     67     PA     PA     PA       1     66     65     66     65     65     60
1     66     66     66     PA     PA       1     66     66     66     PA     PA       1     66     67     68     PA     PA       1     66     66     67     PA     PA       1     66     65     65     65
1 66 66 66 PA 1 66 67 68 PA 1 66 66 67 PA 1 66 65 66 65
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L
208 Ridgewell Cir Norfolk Row 1 Flr1

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

- 711	uiysis	700	,,,,,	ui i	icpi	011																			
S	Build-	8	6	7	7	7	7	8	8	8	8	7	7	7	7	8	8	6	0	8	8	7	8	9	7
ier Level	Build-	58	59	57	58	09	58	57	28	22	22	99	29	28	28	57	99	22	PA	54	54	57	56	56	57
With-Barrier Levels	Build-8	-	6	7	7	8	8	6	6	8	8	7	9	4	4	4	2	8	0	9	7	7	7	7	8
>	Build-8	-eq	59	57	58	59	57	26	28	57	22	26	29	61	61	09	28	57	PA	55	55	57	55	56	56
BA)	Build-10	99	89	64	65	29	65	65	99	65	65	63	65	99	99	65	63	99	PA	62	63	64	64	63	64
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	64	29	63	64	29	92	92	99	92	92	63	92	92	92	64	63	92	PA	61	62	64	62	62	64
udest-H	No- Build	54	55	53	54	99	54	22	99	22	22	22	69	£9	64	64	£9	99	29	61	£9	52	54	23	54
9	Exist.	54	55	53	54	55	54	54	99	54	54	54	28	62	64	63	63	99	99	61	62	54	23	52	53
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	Kecp	2	1	2	2	2	3	2	1	2	1	3	3	1	1	2	1	3	1	1	1	2	3	1	2
	Land Use*	MF	SF	SF	SF	SF	SF	SF	SF	SF	SF	MF	SF	SF	SF	SF	SF	SF	SF	SF	SF	MF	SF	SF	SF
	Receiver Site Name	9322 Phillip Av Norfolk Row 2 Flr1	9312 Phillip Av Norfolk Row 2 Flr1	9309 Mason Creek Rd Norfolk Row 2 Flr1	9301 Mason Creek Rd Norfolk Row 2 Flr1	9285 Mason Creek Rd Norfolk Row 2 Flr1	9276 Mason Creek Rd Norfolk Row 2 Flr1	9269 Hickory St Norfolk Row 2 Flr1	9265 Hickory St Norfolk Row 2 Flr1	9256 Hickory St Norfolk Row 2 Flr1	9253 Peachtree St Norfolk Row 2 Flr1	9246 Peachtree St Norfolk Row 2 Flr1	9219 1st View St Norfolk Row 2 Flr1	9208 1st View St Norfolk Row 2 Flr1	189 Bearden Rd Norfolk Row 2 Flr1	185 Bearden Rd Norfolk Row 2 Flr1	177 Bearden Rd Norfolk Row 2 Flr1	214 Ridgewell Cir Norfolk Row 2 Flr1	218 Ridgewell Cir Norfolk Row 2 Flr1	9131 Mace Arch Norfolk Row 2 Fir1	9127 Mace Arch Norfolk Row 2 Fir1	349 Cherry St Norfolk Row 3 Flr1	9401 Phillip Av Norfolk Row 3 Flr1	9317 Mason Creek Rd Norfolk Row 3 Flr1	9284 Mason Creek Rd Norfolk Row 3 Flr1
	Site No.	P1182	P1183	P1184	P1185	P1186	P1187	P1188	P1189	P1190	P1191	P1192	P1193	P1194	P1195	P1196	P1197	P1198	P1199	P1200	P1201	P1202	P1203	P1204	P1205

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

And		eci	inic	air	(	ер	eport	eport	<u>eport</u>	ерогт	eport	ерогт	eport	ерогт	ероп									
els	Build-	∞	8	7	9	7	7	8	7	7	9	7	∞	8	11	11	0	0	0	0	10	0	0	0
ier Lev	Build- 10 Leq	57	99	26	55	26	22	22	99	55	22	53	55	22	09	09	PA	PA	PA	PA	09	ΡA	ΡA	PA
With-Barrier Levels	Build-8 IL**	∞	8	7	2	2	2	2	4	4	4	9	8	8	10	11	11	0	0	10	10	0	6	0
>	Build-8	99	55	26	26	57	59	09	29	26	22	54	55	22	09	09	61	PA	PA	60	59	PA	29	PA
BA)	Build-10	65	64	63	61	63	64	65	63	61	61	61	63	63	71	72	PA	PA	PA	PA	20	PA	PA	PA
Loudest-Hour Leq (dBA)	Build-8	64	64	63	09	62	64	64	63	61	61	61	62	63	70	71	72	PA	PA	70	69	PA	89	PA
udest-H	No- Build	54	54	54	55	58	09	62	61	59	09	09	53	53	29	69	70	71	73	71	69	70	89	70
9	Exist.	54	23	54	22	22	69	19	19	29	69	69	52	23	99	89	69	71	23	02	89	02	89	69
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
9000	recp Units	2	7	2	2	2	1	1	1	1	1	1	1	7	1	1	1	2	2	1	1	1	1	0
9	Use*	MF	SF	SF	SF	MF	SF	SF	SF	SF	SF	SF	SF	MF	SF	SF	SF	MF	MF	SF	MF	SF	SF	Monit.
	Receiver Site Name	9275 Hickory St Norfolk Row 3 Flr1	9270 Hickory St Norfolk Row 3 Flr1	9257 Peachtree St Norfolk Row 3 Flr1	9241 1st View St Norfolk Row 3 Flr1	9228 1st View St Norfolk Row 3 Flr1	9226 1st View St Norfolk Row 3 Flr1	188 Bearden Rd Norfolk Row 3 Flr1	184 Bearden Rd Norfolk Row 3 Flr1	E S Bearden Rd Norfolk Row 3 Flr1	W S Bearden Rd Norfolk Row 3 Flr1	9135 Mace Arch Norfolk Row 3 FIr1	251 Orange Av Norfolk Row 4 Flr1	9266 Hickory St Norfolk Row 4 Flr1	384 Orange Av Norfolk Row 1 Flr1	382 Orange Av Norfolk Row 1 Flr1	378 Orange Av Norfolk Row 1 Flr1	374 Orange Av Norfolk Row 1 Fir1	370 Orange Av Norfolk Row 1 Flr1	9291 Atwood Av Norfolk Row 1 Flr1	9289 Atwood Av Norfolk Row 1 Flr1	9284 Atwood Av Norfolk Row 1 Flr1	9280 Atwood Av Norfolk Row 1 Flr1	ST-25, 9279 Coleman Ave. Norfolk Row1 Fl1
	Site No.	P1206	P1207	P1208	P1209	P1210	P1211	P1212	P1213	P1214	P1215	P1216	P1217	P1218	P1219	P1220	P1221	P1222	P1223	P1224	P1225	P1226	P1227	P1228

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

68 PA 59 9 67 68 58 9 66 67 58 9 PA PA PA 0 PA PA PA 0 PA PA PA 0 PA PA PA 0
68 PA 59 9 66 67 58 9 9 PA PA PA 0 PA PA PA 0 PA PA PA 0 PA PA PA 0 PA
68 PA 59 67 68 58 66 67 58 PA PA PA PA PA PA PA PA 67 68 59 PA PA PA
65 68 67 68 PA
68 68 69 69 69
66 67 66 65 67
1 1 66
S S
9257 Phillip Av Norfolk Row 1 Flr1

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

An	alysis T	eci	nnic	al H	tep	ort																			
S	Build- 10 IL**	10	6	6	6	6	6	10	6	6	8	8	6	6	8	6	6	8	6	6	6	10	10	10	6
ier Level	Build- 10 Leq	28	29	25	25	89	22	99	25	25	89	28	25	25	99	99	22	22	99	54	54	24	24	99	53
With-Barrier Levels	Build-8 IL**	10	6	8	6	6	6	10	10	6	6	6	6	10	6	6	8	8	6	6	6	6	6	10	8
S	Build-8	57	58	26	99	22	54	22	26	22	28	57	57	22	22	22	54	54	22	53	54	54	54	52	53
BA)	Build-10	29	89	99	99	29	64	92	99	99	29	99	99	99	64	92	64	63	64	63	63	64	64	99	62
Loudest-Hour Leq (dBA)	Build-8	<b>29</b>	<b>29</b>	<u> </u>	<u> </u>	99	89	<b>59</b>	99	99	<b>29</b>	<b>29</b>	99	99	64	64	62	62	64	62	89	89	89	9	61
udest-H	No- Build	65	29	9	64	64	62	63	63	64	99	64	63	64	62	63	62	62	63	61	61	61	61	63	29
P	Exist.	65	99	64	£9	£9	61	62	63	64	9	64	63	64	62	63	61	62	62	09	09	61	09	63	29
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	Recp Units	2	1	1	1	1	2	1	4	1	2	1	1	2	3	2	2	2	1	2	1	2	2	1	1
9	Use*	MF	SF	SF	SF	SF	SF	SF	SF	SF	MF	SF	SF	SF	SF	SF	SF	MF	SF	SF	SF	MF	SF	SF	MF
	Receiver Site Name	9283 Atwood Av Norfolk Row 2 Flr1	9276 Atwood Av Norfolk Row 2 Flr1	9266 Atwood Av Norfolk Row 2 Flr1	9259 Coleman Av Norfolk Row 2 Flr1	9250 Coleman Av Norfolk Row 2 Flr1	9246 Coleman Av Norfolk Row 2 Flr1	9237 Phillip Av Norfolk Row 2 Flr1	9226 Phillip Av Norfolk Row 2 Flr1	9223 Mason Creek Rd Norfolk Row 2 Flr1	9214 Mason Creek Rd Norfolk Row 2 Flr1	9210 Mason Creek Rd Norfolk Row 2 Flr1	246 Ridgewell Av Norfolk Row 2 Flr1	9284 Rippard Av Norfolk Row 3 Flr1	9274 Rippard Av Norfolk Row 3 Flr1	9271 Atwood Av Norfolk Row 3 Fir1	9263 Atwood Av Norfolk Row 3 Fir1	9258 Atwood Av Norfolk Row 3 Fir1	9251 Coleman Av Norfolk Row 3 Flr1	9247 Coleman Av Norfolk Row 3 Flr1	9236 Coleman Av Norfolk Row 3 Flr1	9225 Phillip Av Norfolk Row 3 Flr1	9214 Phillip Av Norfolk Row 3 Flr1	9217 Mason Creek Rd Norfolk Row 3 Flr1	9200 Mason Creek Rd Norfolk Row 3 Flr1
	Site No.	P1253	P1254	P1255	P1256	P1257	P1258	P1259	P1260	P1261	P1262	P1263	P1264	P1265	P1266	P1267	P1268	P1269	P1270	P1271	P1272	P1273	P1274	P1275	P1276

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

φ	8 Build-10 62 63 63 65 PA PA	62 62 63 63 65 PA PA PA	62 62 63 63 65 PA PA PA PA PA	62 63 63 PA	62 62 63 63 65 PA PA PA PA PA PA	16-10   16-10	662 663 663 664 665 665 665 665 665 665 665 665 665	10							
4 4 5 1 1 2 4 4 A															
	51 62 50 61 50 62 52 64 15 PA 55 PA 56 PA					62 64 64 64 64 64 64 64 PA PA PA PA PA PA PA PA PA PA PA PA PA	61 62 64 64 64 64 64 64 64 64 64 64 64 64 64	62 64 64 64 64 64 64 64 64 64 64 64 64 64	62 61 62 62 64 64 64 64 64 64 64 64 64 64 64 64 64	62 64 64 64 64 64 64 64 64 64 64 64 64 64	62 61 62 62 64 64 64 64 64 64 64 64 64 64 64 64 64	62 64 65 64 64 64 64 64 64 64 64 64 64 64 64 64	64 65 61 62 62 63 64 64 64 64 64 64 64 64 64 64 64 64 64	62 64 65 65 64 65 65 65 65 65 65 65 65 65 65 65 65 65	62 61 62 62 64 64 64 64 64 64 64 64 64 64 64 64 64
59 60 60 60 61 62 44 45 64 65															
1 66 1 66 1 51 1 66	1 66 1 66 1 66 1 66	1 66 1 66 1 66 1 66 1 66	1 66 1 66 1 66 1 66 1 66	1 66 - 1 51 1 66 1 66 1 66	1 66 - 1 51 - 1 66 - 1 66 - 1 66 - 1 66 - 1 66	1 66 1 66 1 66 1 66 1 66 1 66 1 66	1 66 1 66 1 66 1 66 1 66 1 66 0 66	1 66 1 66 1 66 1 66 1 66 1 66 1 66 1 66	1 66 1 1 66 1 66 1 66 1 66 1 66 1 66 1	1 66 1 66 1 66 1 66 1 66 1 66 1 66 1 66 1 66 1 66	1 66 1 1 66 1 66 1 66 1 66 1 66 1 66 1	1 66 1 66 1 66 1 66 1 66 1 66 1 66 1 66	1 66 1 66 1 66 1 66 1 66 1 66 1 66 1 66	1 66 1 66 1 66 1 66 1 66 1 66 1 66 1 66	1 66 1 66 1 66 1 66 1 66 1 66 1 66 1 66
h- 1 51 or 1 66	1 66 1 66 1 66	1 66 1 66 1 66	1 66 1 66 1 66 1 66	1 66 1 66 1 66 1 66 1 66	1 66 1 66 1 66 1 66 1 66 1 66	1 66 1 66 1 66 1 66 1 66 1 66	1 66 1 66 1 66 1 66 1 66 1 66 1 66 1 6	1 66 1 66 1 66 1 66 1 66 1 66 1 66 1 66	1 66 1 66 1 66 1 66 1 66 1 66 1 66 1 6	1 66 1 66 1 66 1 66 1 66 1 66 1 66 1 66	1 51 1 66 1 66 1 66 1 66 1 66 1 66 1 66	1 66 1 66 1 1 66 1 66 1 1 66 1 6	1 51 1 66 1 66 1 66 1 66 1 66 1 66 1 66	1 66 1 66 1 1 66 1 66 1 1 66 1 6	1 66 1 66 1 66 1 66 1 66 1 66 1 66 1 6
1 51	1 51 1 66 1 66	1 51 1 66 1 66	1 66 1 66 1 66 1 66	1 66 1 66 1 66 1 66	1 66 1 66 1 1 66	1 66 1 66 1 66 1 66 1 66 1 66	1 66 1 66 1 66 1 66 1 66 1 66	1 66 1 1 66 1 1 66 1 1 1 66 1 1 1 66 1 1 1 66 1 1 1 66 1 1 1 66 1 1 1 66 1 1 1 66 1 1 1 66 1 1 1 66 1 1 1 66 1 1 1 66 1 1 1 66 1 1 1 66 1 1 1 66 1 1 1 66 1 1 1 1 66 1 1 1 1 66 1	1 66 1 66 1 66 1 66 1 66 1 66 1 66 1 66	1 66 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	1 66 1 66 1 66 1 66 1 66 1 66 1 66 1 66	1 66 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	1 66 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	1 66 1 66 1 66 1 66 1 66 1 66 1 66 1 66	1 66 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
1 66 64	1 66 64 1 66 65	1     66     64       1     66     65       1     66     65       1     66     67	1     66     64       1     66     65       1     66     67       1     66     67       1     66     67	1     66     64       1     66     65       1     66     67       1     66     67       1     66     67       1     66     67	1     66     64       1     66     65       1     66     67       1     66     67       1     66     68       1     66     68       1     66     66	1     66     64       1     66     65       1     66     67       1     66     67       1     66     68       1     66     66       1     66     66       1     66     66	1     66     64       1     66     65       1     66     67       1     66     67       1     66     68       1     66     66       1     66     66       0     66     67	1     66     64       1     66     65       1     66     67       1     66     67       1     66     66       1     66     66       0     66     64       1     66     64       1     66     64       1     66     68	1       66       64         1       66       65         1       66       67         1       66       67         1       66       66         1       66       66         1       66       67         0       66       64         1       66       68         1       66       68         1       66       68         1       66       68         1       66       68	1 66 64 1 1 66 65 1 1 66 65 1 1 66 67 1 1 66 68 1 1 66 66 1 1 1 66 67 1 1 66 68 1 1 66 68 1 1 66 63 1 1 66 63 1 1 66 63 1	1       66       64         1       66       65         1       66       67         1       66       67         1       66       66         1       66       66         0       66       64         1       66       68         1       66       68         1       66       63         1       66       63         1       66       63         1       66       63         1       66       63	1 66 64 1 66 65 1 66 67 1 66 67 1 66 68 1 66 66 1 66 66 1 66 64 1 66 63 1 66 63 1 66 63 6 63 6 66	1 66 64 1 66 65 1 66 67 1 66 68 1 66 68 1 66 66 1 66 68 1 66 68 1 66 68 1 66 68 6 64 6 66 68	1 66 64 1 66 65 1 66 67 1 66 67 1 66 68 1 66 66 1 66 66 1 66 63 1 66 63 1 66 63 1 66 63 2 66 66 6 63 7 66 66 8 7 66 8 8 67 8 9 66 8 9 67 8 9 66 8 9 67 8 9 66 8 9 67 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	1 66 64 1 66 65 1 66 65 1 66 67 1 66 68 1 66 68 1 66 68 1 66 62 1 66 63 1 66 63 6 66 63 6 66 65 6 66 65 6 66 65 6 66 66
	1 66 65	1     66     65       1     66     67	1     66     65       1     66     67       1     66     67	1     66     65       1     66     67       1     66     67       1     66     68	1     66     65       1     66     67       1     66     67       1     66     68       1     66     68       1     66     66	1     66     65       1     66     67       1     66     67       1     66     68       1     66     66       1     66     66       1     66     66	1     66     65       1     66     67       1     66     68       1     66     66       1     66     66       1     66     67       0     66     67	1     66     65       1     66     67       1     66     68       1     66     66       1     66     66       0     66     67       0     66     64       1     66     64       1     66     68	1     66     65       1     66     67       1     66     68       1     66     66       1     66     67       1     66     67       0     66     64       1     66     68       1     66     68       1     66     68       1     66     68	1     66     65       1     66     67       1     66     68       1     66     66       1     66     67       1     66     64       1     66     64       1     66     68       1     66     68       1     66     63       1     66     63	1 66 65 1 1 66 65 1 1 66 67 1 1 66 68 1 1 66 66 1 1 66 64 1 1 66 68 1 1 66 68 1 1 66 63 1 1 66 63 1 1 66 63 1 1 66 63 1	1       66       65         1       66       67         1       66       68         1       66       66         1       66       67         1       66       64         1       66       63         1       66       63         1       66       63         1       66       63         6       66       63         6       66       66	1       66       65         1       66       67         1       66       68         1       66       68         1       66       64         1       66       68         1       66       68         1       66       63         1       66       63         1       66       63         6       66       66         6       66       66	1       66       65         1       66       67         1       66       68         1       66       66         1       66       67         1       66       64         1       66       63         1       66       63         1       66       63         6       66       66         6       66       66         6       66       66         6       66       66         6       66       66         6       66       66         6       66       66	1 66 65 1 1 66 65 1 1 66 67 1 1 66 68 1 1 66 68 1 1 66 64 1 1 66 68 1 1 66 63 1 1 66 63 1 1 66 63 1 1 66 65 63 1 1 66 65 63 1 1 66 65 65 65 65 65 65 65 65 65 65 65 65

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

_		uiysis i		I	<u> </u>	icp.																			
	<u>s</u>	Build- 10 IL**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	,
	er Leve	Build- 10 Leq	PA	ΡA	ΡA	PA	PA	PA	PA	PA															
	With-Barrier Levels	Build-8 IL**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5	Build-8 Leq	PA																						
	BA)	Build-10	PA																						
	Loudest-Hour Leq (dBA)	Build-8	PA																						
	ndest-H	No- Build	59	62	61	65	99	69	99	58	63	28	62	57	63	99	57	64	29	63	26	29	09	62	
	Po	Exist.	59	62	61	64	65	89	65	57	63	57	61	57	63	99	99	63	29	62	52	29	09	62	
	NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	
	200	Units	2	2	4	4	9	9	1	4	4	9	9	8	8	4	10	10	7	2	4	4	2	2	
	700	Use*	MF																						
		Receiver Site Name	254 W Bay Av Norfolk Row 2 Flr1	254 W Bay Av Norfolk Row 2 Fir2	254 W Bay Av Norfolk Row 2 Flr1	254 W Bay Av Norfolk Row 2 Flr2	254 W Bay Av Norfolk Row 2 Flr1	254 W Bay Av Norfolk Row 2 Flr2	254 W Bay Av Norfolk Row 2 Flr1	254 W Bay Av Norfolk Row 3 Flr1	254 W Bay Av Norfolk Row 3 Flr2	254 W Bay Av Norfolk Row 3 Flr1	254 W Bay Av Norfolk Row 3 Flr2	254 W Bay Av Norfolk Row 4 Flr1	254 W Bay Av Norfolk Row 4 Fir2	254 W Bay Av Norfolk Row 4 Flr1	254 W Bay Av Norfolk Row 4 Flr1	254 W Bay Av Norfolk Row 4 Fir2	254 W Bay Av Norfolk Row 4 Fir1	254 W Bay Av Norfolk Row 4 Fir2	254 W Bay Av Norfolk Row 4 Fir1	254 W Bay Av Norfolk Row 4 Fir2	254 W Bay Av Norfolk Row 4 Fir1	254 W Bay Av Norfolk Row 4 Fir2	
		Site No.	P1299	P1300	P1301	P1302	P1303	P1304	P1305	P1306	P1307	P1308	P1309	P1310	P1311	P1312	P1313	P1314	P1315	P1316	P1317	P1318	P1319	P1320	

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

	uiysis	_	,,,,,		icp.		1					1	1			1									_
s	Build- 10 IL**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ier Level	Build-	PA	PA	PA	PA	PA	PA	Vd	Vd	Vd	Vd	63	99	09	<u> </u>	09	64	ΡA	Vd	Vd	Vd	Vd	ΡA	ΡA	Vd
With-Barrier Levels	Build-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>	Build-8	PA	PA	PA	PA	PA	PA	ЬА	Vd	Vd	Vd	62	9	69	64	69	<b>E9</b>	ΡA	Vd	Vd	Vd	ΡA	ΡA	ΡA	٧d
BA)	Build-10	PA	63	99	09	65	09	64	PA	PA	PA	PA	PA	PA	PA	PA									
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	PA	PA	PA	PA	РА	РА	PA	PA	PA	PA	62	65	29	64	59	63	PA	PA	PA	PA	PA	PA	PA	PA
udest-H	No- Build	56	62	61	53	59	57	62	99	62	28	99	09	22	26	99	26	9	99	63	9	63	64	9	71
2	Exist.	99	62	09	52	29	99	19	55	19	89	99	29	55	89	99	89	<u> </u>	<u> </u>	89	64	62	64	<u> </u>	02
NAC	lmp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	66	66	99	99	99	66	99	66	99
	Kecp Units	4	4	4	4	4	2	2	4	4	0	4	4	8	8	4	4	1	1	1	1	1	2	2	1
1	Land Use*	MF	SF	SF	SF	SF	SF	SF	SF	SF															
	. Receiver Site Name	254 W Bay Av Norfolk Row 5 Flr1	254 W Bay Av Norfolk Row 5 Flr2	254 W Bay Av Norfolk Row 5 Flr2	254 W Bay Av Norfolk Row 5 Flr1	254 W Bay Av Norfolk Row 5 Fir2	254 W Bay Av Norfolk Row 5 FIr1	254 W Bay Av Norfolk Row 5 Flr2	254 W Bay Av Norfolk Row 6 Flr1	254 W Bay Av Norfolk Row 6 Flr2	254 W Bay Av Norfolk Row 6 Flr1	254 W Bay Av Norfolk Row 7 Flr1	254 W Bay Av Norfolk Row 7 Flr2	254 W Bay Av Norfolk Row 8 Flr1	254 W Bay Av Norfolk Row 8 Flr2	254 W Bay Av Norfolk Row 9 Flr1	254 W Bay Av Norfolk Row 9 Flr2	9121 Mace Arch Norfolk Row 1 Fir1	9115 Mace Arch Norfolk Row 1 Flr1	9101 Mace Arch Norfolk Row 1 Flr1	200 W Ocean Av Norfolk Row 1 Flr1	194 W Ocean Av Norfolk Row 1 Fir1	195 W Ocean Av Norfolk Row 1 Fir1	194 W Bay Av Norfolk Row 1 Flr1	203 W Bay Av Norfolk Row 1 Flr1
	Site No.	P1323	P1324	P1325	P1326	P1327	P1328	P1329	P1330	P1331	P1332	P1333	P1334	P1335	P1336	P1337	P1338	P1339	P1340	P1341	P1342	P1343	P1344	P1345	P1346

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

AIII	aiysis i	eci	IIIIC	uir	tep	υι																			
S	Build- 10 IL**	0	0	6	6	8	0	0	0	0	8	8	0	8	8	6	10	10	8	0	6	8	8	8	8
ier Level	Build- 10 L <sub>eq</sub>	PA	ΡA	69	69	22	PA	PA	ΡA	PA	23	22	PA	99	28	28	26	22	22	PA	51	51	23	22	53
With-Barrier Levels	Build-8 IL**	0	0	11	11	6	0	0	0	0	6	8	0	6	6	11	11	11	6	0	6	6	8	6	6
5	Build-8 Leq	PA	PA	22	57	54	PA	PA	PA	PA	52	54	PA	54	26	26	55	54	54	PA	20	20	52	53	51
BA)	Build-10	PA	PA	89	89	62	PA	PA	PA	PA	61	63	PA	63	99	29	99	65	63	PA	29	09	61	63	61
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	PA	PA	89	89	62	PA	PA	PA	PA	61	62	PA	63	92	99	92	92	62	PA	26	26	09	61	9
udest-H	No- Build	69	89	99	<u> </u>	69	64	29	£9	63	69	19	61	19	£9	64	62	61	61	61	99	25	89	69	57
P	Exist.	69	89	99	9	28	63	62	62	62	28	09	09	09	62	64	61	09	09	09	52	57	22	29	57
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
2	Units	1	1	1	1	2	1	1	1	1	2	1	1	2	2	1	1	2	1	3	3	3	2	3	4
9	Use*	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	MF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF
	. Receiver Site Name	201 W Bay Av Norfolk Row 1 Flr1	193 W Bay Av Norfolk Row 1 Flr1	189 W Bay Av Norfolk Row 1 Flr1	179 W Bay Av Norfolk Row 1 Flr1	8957 Saint George Av Norfolk Row 1 Flr1	9123 Mace Arch Norfolk Row 2 Flr1	9108 Mace Arch Norfolk Row 2 Fir1	9104 Mace Arch Norfolk Row 2 Fir1	9100 Mace Arch Norfolk Row 2 Flr1	191 W Randall Av Norfolk Row 2 Flr1	194 W Leicester Av Norfolk Row 2 Flr1	195 W Leicester Av Norfolk Row 2 Flr1	187 W Ocean Av Norfolk Row 2 Flr1	184 W Bay Av Norfolk Row 2 Flr1	183 W Bay Av Norfolk Row 2 Flr1	177 W Bay Av Norfolk Row 2 Flr1	8965 Saint George Av Norfolk Row 2 Flr1	9108 Mace Arch Norfolk Row 3 Flr1	9119 Mace Av Norfolk Row 3 Flr1	183 W Randall Av Norfolk Row 3 Flr1	182 W Leicester Av Norfolk Row 3 Flr1	185 W Leicester Av Norfolk Row 3 Flr1	186 W Ocean Av Norfolk Row 3 Flr1	169 W Ocean Av Norfolk Row 3 Flr1
	Site No.	P1347	P1348	P1349	P1350	P1351	P1352	P1353	P1354	P1355	P1356	P1357	P1358	P1359	P1360	P1361	P1362	P1363	P1364	P1365	P1366	P1367	P1368	P1369	P1370

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

AII	aiysis i	eci	111110	uir	\ep	UIL																			
S	Build- 10 IL**	8	10	8	8	6	6	8	8	8	8	6	8	6	0	0	0	0	0	0	0	0	0	0	0
ier Level	Build- 10 Leq	22	22	53	52	49	20	50	52	54	20	20	49	49	РА	PA	PA	PA	PA	PA	PA	61	PA	PA	62
With-Barrier Levels	Build-8 IL**	10	10	8	6	6	6	6	6	6	6	6	8	6	0	0	0	0	0	0	0	0	0	0	0
>	Build-8 Leq	54	54	52	51	48	49	49	51	52	49	49	48	48	PA	09	PA	PA	61						
BA)	Build-10	64	92	61	09	58	59	58	09	62	28	28	22	22	PA	61	PA	PA	62						
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	63	64	09	09	57	58	58	29	61	28	28	26	99	PA	09	PA	PA	61						
udest-H	No- Build	61	09	58	57	54	55	55	57	29	52	52	53	53	64	09	63	59	52	62	26	54	62	57	54
2	Exist.	09	09	57	26	53	54	55	22	28	54	54	53	53	64	09	63	59	52	62	26	53	61	57	54
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
2	recp Units	2	2	1	2	3	3	3	3	2	3	3	3	2	2	2	4	4	2	4	9	4	2	2	4
9	Land Use*	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	MF										
	. Receiver Site Name	176 W Bay Av Norfolk Row 3 Flr1	8973 Saint George Av Norfolk Row 3 Flr1	195 W Lorengo Av Norfolk Row 4 Flr1	190 W Randall Av Norfolk Row 4 Flr1	171 W Randall Av Norfolk Row 4 Flr1	168 W Leicester Av Norfolk Row 4 Flr1	171 W Leicester Av Norfolk Row 4 Flr1	172 W Ocean Av Norfolk Row 4 Flr1	168 W Bay Av Norfolk Row 4 Flr1	183 W Lorengo Av Norfolk Row 5 Flr1	182 W Randall Av Norfolk Row 5 Flr1	171 W Lorengo Av Norfolk Row 6 Flr1	170 W Randall Av Norfolk Row 6 Flr1	199 W Bay Av Norfolk Row 1 Flr1	199 W Bay Av Norfolk Row 1 Flr1	199 W Bay Av Norfolk Row 2 Flr1	199 W Bay Av Norfolk Row 2 Flr1	199 W Bay Av Norfolk Row 2 Flr1	199 W Bay Av Norfolk Row 3 Flr1	199 W Bay Av Norfolk Row 3 Flr1	199 W Bay Av Norfolk Row 3 Flr1	199 W Bay Av Norfolk Row 4 Flr1	199 W Bay Av Norfolk Row 4 Flr1	199 W Bay Av Norfolk Row 4 Flr1
	Site No.	P1371	P1372	P1373	P1374	P1375	P1376	P1377	P1378	P1379	P1380	P1381	P1382	P1383	P1384	P1385	P1386	P1387	P1388	P1389	P1390	P1391	P1392	P1393	P1394

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

	uiysis			<u> </u>	icp.		1																		
<u>s</u>	Build- 10 IL**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	10	10	6	10	0	0	0
ier Level	Build- 10 L <sub>o</sub>	59	99	63	09	28	92	19	69	<u> </u>	09	ΡA	ΡA	ΡA	ΡA	ΡA	ΡA	<u> </u>	64	£9	64	62	ΡA	ΡA	ΡA
With-Barrier Levels	Build-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10	10	10	6	10	0	12	0
>	Build-8	59	65	62	09	57	64	09	28	64	29	PA	PA	PA	PA	PA	64	64	63	63	63	62	PA	62	PA
BA)	Build-10	59	99	63	09	58	65	61	29	92	09	PA	PA	PA	PA	PA	PA	74	74	73	73	72	PA	PA	PA
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	59	65	62	09	57	64	09	28	64	29	PA	PA	PA	PA	PA	75	74	73	73	72	72	PA	75	PA
udest-H	No- Build	52	61	99	53	20	61	55	25	09	55	99	<b>29</b>	<b>29</b>	99	99	99	25	25	25	25	52	89	28	89
9	Exist.	51	61	99	52	20	61	22	51	09	54	99	99	99	55	99	99	25	25	99	22	52	25	25	89
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	Kecp Units	4	4	2	4	9	4	4	9	4	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	Land Use*	MF	SF	SF																					
	Receiver Site Name	199 W Bay Av Norfolk Row 4 Flr1	199 W Bay Av Norfolk Row 5 Flr1	199 W Bay Av Norfolk Row 5 Flr1	199 W Bay Av Norfolk Row 5 FIr1	199 W Bay Av Norfolk Row 5 FIr1	199 W Bay Av Norfolk Row 6 FIr1	199 W Bay Av Norfolk Row 6 Flr1	199 W Bay Av Norfolk Row 6 Flr1	199 W Bay Av Norfolk Row 7 Flr1	199 W Bay Av Norfolk Row 7 Flr1	198 Commodore Dr Norfolk Row 1 Flr1	194 Commodore Dr Norfolk Row 1 Flr1	192 Commodore Dr Norfolk Row 1 Flr1	190 Commodore Dr Norfolk Row 1 Flr1	186 Commodore Dr Norfolk Row 1 Flr1	184 Commodore Dr Norfolk Row 1 Flr1	180 Commodore Dr Norfolk Row 1 Flr1	178 Commodore Dr Norfolk Row 1 Flr1	176 Commodore Dr Norfolk Row 1 Flr1	174 Commodore Dr Norfolk Row 1 Flr1	172 Commodore Dr Norfolk Row 1 Flr1	160 Commodore Dr Norfolk Row 1 Flr1	165 Commodore Dr Norfolk Row 1 Flr1	158 Burrage Rd Norfolk Row 1 Flr1
	Site No.	P1395	P1396	P1397	P1398	P1399	P1400	P1401	P1402	P1403	P1404	P1405	P1406	P1407	P1408	P1409	P1410	P1411	P1412	P1413	P1414	P1415	P1416	P1417	P1418

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

? An	alysis	Tecl	hnic	al F	Rep	ort																			
S	Build-	11	11	10	10	8	9	5	7	7	8	8	7	7	9	6	6	10	7	7	5	5	7	7	7
ier Level	Build-	62	62	61	62	63	63	63	62	61	61	29	61	61	61	09	09	09	61	61	61	62	29	59	59
With-Barrier Levels	Build-8	11	11	11	10	6	7	2	7	7	8	8	7	7	7	8	6	6	7	8	2	2	7	7	7
>	Build-8	61	62	09	61	62	62	62	62	09	09	29	09	09	26	09	29	29	09	09	61	62	28	59	58
BA)	Build-10	73	73	71	72	71	69	89	69	89	69	29	89	89	29	69	69	69	89	89	99	29	99	99	99
Loudest-Hour Leq (dBA)	Build-8	72	72	71	71	70	69	29	69	29	89	29	29	29	99	89	89	89	29	89	99	29	65	99	65
udest-H	No- Build	55	99	22	22	99	22	55	99	22	25	22	99	99	<b>5</b> 2	54	23	54	54	54	54	54	54	54	55
2	Exist.	55	55	54	55	55	54	22	99	22	22	54	99	26	54	54	53	53	53	54	53	54	54	54	54
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	Kecp Units	1	1	1	1	1	1	1	1	1	1	1	2	1	2	2	1	2	1	1	1	1	1	1	1
-	Land Use*	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	MF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF
	Receiver Site Name	167 Commodore Dr Norfolk Row 2 Flr1	160 Burrage Rd Norfolk Row 2 Flr1	161 Burrage Rd Norfolk Row 2 Flr1	156 Rodman Rd Norfolk Row 2 Flr1	155 Rodman Rd Norfolk Row 2 Flr1	152 Swanson Rd Norfolk Row 2 Flr1	151 Swanson Rd Norfolk Row 2 Fir1	144 W Evans St Norfolk Row 2 FIr1	145 W Evans St Norfolk Row 2 FIr1	8621 Executive Dr Norfolk Row 2 Flr1	144 Lembla St Norfolk Row 2 Flr1	8609 Executive Dr Norfolk Row 2 Flr1	140 W Bayview Blvd Norfolk Row 2 Flr1	173 Commodore Dr Norfolk Row 3 Flr1	169 Commodore Dr Norfolk Row 3 Flr1	164 Burrage Rd Norfolk Row 3 Flr1	163 Burrage Rd Norfolk Row 3 Flr1	158 Rodman Rd Norfolk Row 3 Flr1	157 Rodman Rd Norfolk Row 3 Flr1	154 Swanson Rd Norfolk Row 3 Flr1	153 Swanson Rd Norfolk Row 3 Fir1	148 W Evans St Norfolk Row 3 FIr1	149 W Evans St Norfolk Row 3 FIr1	148 Lembla St Norfolk Row 3 Flr1
	Site No.	P1442	P1443	P1444	P1445	P1446	P1447	P1448	P1449	P1450	P1451	P1452	P1453	P1454	P1455	P1456	P1457	P1458	P1459	P1460	P1461	P1462	P1463	P1464	P1465

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

	uiysis i	CU		ui i	icpi	<i>)</i> (																		
S	Build- 10 IL**	7	7	8	7	9	7	2	2	9	9	9	7	9	0	0	0	0	10	11	0	0	0	0
ier Leve	Build- 10 Leq	29	29	28	29	09	29	09	61	28	29	29	28	28	PA	PA	PA	PA	63	63	PA	PA	PA	PA
With-Barrier Levels	Build-8 IL**	7	7	9	7	9	9	5	2	9	9	9	7	9	0	0	0	11	11	11	12	0	0	0
>	Build-8 Leq	59	58	29	28	29	29	9	61	57	29	58	58	57	PA	PA	PA	63	61	62	63	PA	PA	PA
BA)	Build-10	99	99	99	99	99	99	65	99	64	92	65	65	64	PA	PA	PA	PA	73	74	PA	PA	PA	PA
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	92	92	92	92	92	92	64	92	64	92	64	64	64	PA	PA	PA	74	72	73	74	PA	PA	PA
udest-H	No- Build	54	22	54	23	23	23	23	23	23	23	54	23	55	64	19	69	28	69	59	69	69	28	69
P	Exist.	54	22	54	25	25	25	23	53	23	23	53	23	22	63	09	28	28	28	58	28	28	28	28
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	Recp Units	1	1	2	1	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
!	Land Use*	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF
	Receiver Site Name	147 Lembla St Norfolk Row 3 Flr1	144 W Bayview Blvd Norfolk Row 3 Flr1	164 Burrage Rd Norfolk Row 4 Flr1	165 Burrage Rd Norfolk Row 4 Flr1	160 Rodman Rd Norfolk Row 4 Flr1	159 Rodman Rd Norfolk Row 4 Flr1	156 Swanson Rd Norfolk Row 4 FIr1	155 Swanson Rd Norfolk Row 4 Fir1	152 W Evans St Norfolk Row 4 FIr1	153 W Evans St Norfolk Row 4 FIr1	150 Lembla St Norfolk Row 4 Flr1	151 Lembla St Norfolk Row 4 Flr1	148 W Bayview Blvd Norfolk Row 4 Flr1	158 W Chester St Norfolk Row 1 Flr1	156 W Chester St Norfolk Row 1 Fir1	155 W Chester St Norfolk Row 1 Fir1	153 W Chester St Norfolk Row 1 Fir1	147 Commodore Pl Norfolk Row 1 Flr1	149 Commodore Pl Norfolk Row 1 Flr1	151 Commodore Pl Norfolk Row 1 Flr1	153 Commodore Pl Norfolk Row 1 Flr1	146 Burrage Rd Norfolk Row 1 Flr1	145 Burrage Rd Norfolk Row 1 Flr1
	Site No.	P1466	P1467	P1468	P1469	P1470	P1471	P1472	P1473	P1474	P1475	P1476	P1477	P1478	P1479	P1480	P1481	P1482	P1483	P1484	P1485	P1486	P1487	P1488

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

7	aiysis i		c	<i>a, ,</i>	icp.								1												
S	Build- 10 IL**	6	6	7	7	2	4	3	2	3	1	2	1	7	2	9	8	7	7	4	2	2	2	2	1
ier Leve	Build- 10 Leq	29	63	£9	64	63	£9	64	99	99	69	89	20	£9	19	09	61	61	62	62	9	64	92	<b>29</b>	02
With-Barrier Levels	Build-8 IL**	8	8	7	7	2	9	9	9	2	2	2	2	6	7	9	7	9	9	4	2	3	5	4	1
S	Build-8 Leq	62	62	62	63	61	62	61	62	63	89	99	89	09	29	26	09	09	62	61	64	63	62	64	69
BA)	Build-10	71	72	70	70	89	89	89	89	89	70	70	70	70	29	29	69	89	69	99	67	99	68	69	71
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	70	71	69	20	29	29	89	89	89	20	89	70	69	99	65	29	99	89	92	29	99	67	89	20
udest-H	No- Build	99	57	22	22	57	22	26	09	62	89	99	69	26	28	26	26	26	57	58	64	62	61	64	69
2	Exist.	99	99	99	99	55	99	25	69	61	99	9	29	69	25	22	22	22	99	22	62	9	59	62	29
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
2000	Recp Units	1	1	1	2	2	1	1	1	1	1	1	1	2	1	2	1	2	1	3	2	1	1	2	2
9	Land Use*	ЗS	SF	ЗS	ЗS	SF	ЗS	ЗS	ЗS	ЗS	ЗS	SF	SF	ЗS	ЗS	ЗS	ЗS	ЗS	ЗS	ЗS	SF	SF	SF	SF	SF
	Receiver Site Name	8802 Gramel St Norfolk Row 2 Flr1	8800 Gramel St Norfolk Row 2 Flr1	8723 Semmes Av Norfolk Row 2 Flr1	8719 Semmes Av Norfolk Row 2 Flr1	8718 Semmes Av Norfolk Row 2 Flr1	8714 Semmes Av Norfolk Row 2 Flr1	115 Landale Rd Norfolk Row 2 Flr1	112 W Evans St Norfolk Row 2 FIr1	107 W Evans St Norfolk Row 2 Flr1	8629 Granby St Norfolk Row 2 Flr1	8621 Granby St Norfolk Row 2 Flr1	100 W Bayview Blvd Norfolk Row 2 Flr1	150 W Chester St Norfolk Row 3 Flr1	8819 Gramel St Norfolk Row 3 Flr1	8808 Gramel St Norfolk Row 3 Flr1	8806 Gramel St Norfolk Row 3 Flr1	8803 Semmes Av Norfolk Row 3 Flr1	N S Semmes Av Norfolk Row 3 Flr1	8722 Semmes Av Norfolk Row 3 Flr1	8715 Granby St Norfolk Row 3 Flr1	8711 Granby St Norfolk Row 3 Flr1	111 Landale Rd Norfolk Row 3 Fir1	8701 Granby St Norfolk Row 3 Flr1	8650 Granby St Norfolk Row 3 Flr1
	Site No.	P1512	P1513	P1514	P1515	P1516	P1517	P1518	P1519	P1520	P1521	P1522	P1523	P1524	P1525	P1526	P1527	P1528	P1529	P1530	P1531	P1532	P1533	P1534	P1535

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

	u.y3.3	eciiiii	Jui	ιcρ	υιι								1										
S	Build- 10 IL**	П	2	2	8	0	7	7	9	0	5	0	0	7	9	9	7	9	5	2	7	2	8
ier Level	Build- 10 Leg	43	63	99	61	PA	62	62	63	ЬА	9	ΡA	РА	09	61	09	29	28	69	09	64	60	63
With-Barrier Levels	Build-8 IL**	2	8	3	8	0	7	7	9	0	7	0	0	7	9	9	7	9	5	5	7	5	8
>	Build-8	42	09	64	61	PA	19	29	29	Vd	29	Vd	Vď	09	09	09	89	89	89	69	<b>E9</b>	09	29
BA)	Build-10	44	69	89	69	PA	69	69	69	PA	70	PA	РА	29	67	99	99	64	64	65	71	65	71
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	44	29	29	69	PA	89	69	69	PA	69	PA	РА	29	99	99	65	64	64	65	70	65	70
udest-H	No- Build	42	59	63	59	61	69	28	25	£9	64	71	69	25	28	26	26	28	28	09	99	59	29
9	Exist.	41	58	62	29	09	28	28	99	62	64	20	89	22	28	58	26	22	28	29	99	59	99
NAC	Imp. Crit.	51	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	Kecp Units	П	1	2	1	1	1	2	1	2	8	20	0	1	1	1	1	1	1	4	4	4	4
9	Land Use*	Church- Interior	SF	SF	SF	SF	ЗS	ЫF	ЗS	ЫF	ЫF	ЫK	Monit.	ЗS	ЗS	ЗS	ЗS	ЗS	ЗS	ЫK	ЫF	MF	MF
	Receiver Site Name	8606 Granby St Norfolk Row 3 Fir1	148 W Chester St Norfolk Row 4 Flr1	8707 Granby St Norfolk Row 4 Flr1	8598 Executive Dr Norfolk Row 1 Flr1	133 W Bayview Blvd Norfolk Row 1 Flr1	8594 Executive Dr Norfolk Row 1 Flr1	8586 Executive Dr Norfolk Row 1 Flr1	8580 Executive Dr Norfolk Row 1 Flr1	8576 Executive Dr Norfolk Row 1 Flr1	8562 Executive Dr Norfolk Row 1 Flr1	8554 Executive Dr Norfolk Row 1 Flr1	ST-31, Executive Manor Apartments Norfolk Row 1 Flr1	143 W Bayview Blvd Norfolk Row 2 Flr1	140 Blades St Norfolk Row 2 Fir1	141 Blades St Norfolk Row 2 Flr1	147 W Bayview Blvd Norfolk Row 3 Flr1	142 Blades St Norfolk Row 3 Fir1	147 Blades St Norfolk Row 3 Fir1	8562 Executive Dr Norfolk Row 3 Flr1	8562 Executive Dr Norfolk Row 3 Flr2	8562 Executive Dr Norfolk Row 3 Flr1	8562 Executive Dr Norfolk Row 3 Flr2
	Site No.	P1536	P1537	P1538	P1539	P1540	P1541	P1542	P1543	P1544	P1545	P1546	P1547	P1548	P1549	P1550	P1551	P1552	P1553	P1554	P1555	P1556	P1557

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

And	alysis 1	Tech	nnic	al F	Rep	ort																		
S	Build- 10 IL**	9	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8
ier Level	Build- 10 L <sub>eq</sub>	89	09	Vd	PA	PA	ΡΑ	Vd	Vd	02	71	72	72	69	71	20	20	64	9	9	9	63	29	09
With-Barrier Levels	Build-8 IL**	9	2	0	0	0	0	0	0	2	1	1	1	2	1	2	2	4	2	4	3	4	8	8
>	Build-8 Leq	28	29	PA	PA	PA	РА	PA	PA	89	69	70	70	29	69	89	89	09	09	61	62	59	29	09
BA)	Build-10	64	92	PA	PA	PA	РА	PA	PA	70	71	72	72	69	71	70	70	64	65	65	65	63	29	89
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	64	64	PA	PA	PA	РА	PA	PA	70	71	71	72	69	71	70	70	64	65	65	92	63	29	89
udest-H	No- Build	28	69	89	89	89	89	89	69	69	02	71	71	69	70	69	69	62	63	64	63	61	92	99
P	Exist.	28	28	29	29	29	29	29	89	89	69	69	69	29	89	29	89	61	62	62	62	09	64	65
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
9000	Units	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	Use*	SF	SF	SF	SF	SF	Monit.	SF	SF	Parks	Parks													
	Receiver Site Name	146 Blades St Norfolk Row 4 Flr1	151 Blades St Norfolk Row 4 Flr1	101 W Bayview Blvd Norfolk Row 1 Flr1	8591 Granby St Norfolk Row 1 Flr1	8587 Granby St Norfolk Row 1 Flr1	ST-30, 8587 Granby Street Norfolk Row 1 FI1	8585 Granby St Norfolk Row 1 Flr1	8577 Granby St Norfolk Row 1 Flr1	8562 Granby St Norfolk Row 1 Flr1	8552 Granby St Norfolk Row 1 Flr1	8548 Granby St Norfolk Row 1 Flr1	8540 Granby St Norfolk Row 1 Flr1	8592 Granby St Norfolk Row 2 Flr1	8580 Granby St Norfolk Row 2 Flr1	8576 Granby St Norfolk Row 2 Flr1	8568 Granby St Norfolk Row 2 Flr1	8562 Granby St Norfolk Row 2 Flr1	8556 Granby St Norfolk Row 2 Flr1	8544 Granby St Norfolk Row 2 Flr1	109 E Bayview Blvd Norfolk Row 3 Flr1	8584 Granby St Norfolk Row 3 Flr1	Baseball Field Norfolk Row 1 Flr1	Baseball Field Norfolk Row 1 Flr1
	Site No.	P1558	P1559	P1560	P1561	P1562	P1563	P1564	P1565	P1566	P1567	P1568	P1569	P1570	P1571	P1572	P1573	P1574	P1575	P1576	P1577	P1578	P1579	P1580

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

t. No- Build-8 64 66 65 65 65 65 65 65 65 65 65 65 65 65	No-Build-8           Build-8           64         66           65         67           63         65           64         66           62         65           64         66           63         65           64         66           63         65           64         66           63         65           64         66           65         64           63         65           63         65           64         66           63         65           63         65           63         65           63         65           64         66           63         65           64         66           63         65           64         66           63         65           64         66	NO-Build-Build-Build-Build-Build         Build-Build	No-Build-Buil	No-Build-Buil	No-build         Build-Build	Vo-nuild         Build-8         Build-8           64         66         66           65         67         67           63         65         65           64         66         66           62         65         65           64         66         66           63         65         65           64         66         66           63         65         65           63         65         65           61         64         64           63         65         65           61         63         64           62         64         64           63         65         65           61         63         64           60         63         63           61         64         64           62         64         64           63         63         63           61         64         64           62         64         64           64         64         64           65         65         65         65	Io-         Build-8         Build-8           54         66         66           55         67         67           53         65         65           54         66         66           52         65         65           54         66         66           53         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Build         Build-8         Build-8           64         66         67           63         65         67           64         66         6           62         65         6           63         65         6           64         66         6           63         65         6           64         66         6           63         65         6           63         65         6	Build Build-8           Build Build-8           64         66           63         65           64         66           62         65           64         66           63         65           64         66           63         65           64         66           63         65           64         66           63         65           63         65           64         66           63         65           63         65           63         65           63         65           64         66           63         65           64         66           63         65           64         66	8uild-8 66 67 65 65 66 65 66 64 64 64	8uild-8 66 66 65 65 66 66 64 64 64 65	8uild-8 66 67 65 65 66 66 64 64 64 64	8uild-8 66 66 65 65 66 66 64 64 65 65 65 64 64 64 65	8uild-8 66 67 65 65 66 66 64 64 64 64 64 64	8uild-8 66 66 66 66 66 66 66 66 66 66 67 66 68 69 69 69 69 69 69 69	8uild-8 66 67 67 65 66 66 64 64 64 64 64 64 64 64 64					
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	Parks 1 66	Parks         1         66           Parks         1         66	Parks     1     66       Parks     1     66       Parks     1     66	Parks       1       66         Parks       1       66         Parks       1       66         Parks       1       66	Parks       1       66	Parks       1       66	Parks       1       66	Parks       1       66	Parks       1       66	Parks       1       66	Parks       1       66	Parks       1       66         Parks       1       66	Parks       1       66         Parks       1       66

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

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	Build-8	89	69	29	69	29	69	29	0	69	69	69	69	69 69 69	69 99 99	69 99 99	69 69 69 69 69 69 69 7	69 69 69 69 69	69 69 69 69 69 69 69 69	69 69 69 69 69 69	69 69 69 69 69 69 69 69 69 69	69 69 69 69 69 69 69 69 79 70 70	69 69 69 69 69 69 69 69 70 70 70	69 69 69 69 69 69 69 79 70 70 70 70 70 70	69 69 69 69 69 69 69 69 69 79 70 70 70 70 70 70 70 70 70 70 70 70 70
	No- Build	99	89	99	89	65	89	פב	CO	89	68	68 65 68	68 65 65 65 65 65 65 65 65 65 65 65 65 65	68 68 65 65 68	68 68 68 68 65 68 68	68 68 68 68 68 68 68 68 68 68 68 68 68 6	68 68 68 65 68 68 68 68	68 68 68 68 68 68 65 65 65	68 68 65 65 65 65 65 65 65 65 65 65 65 65 65	68 68 68 68 68 68 68 65 65 65 65	68 68 68 68 68 68 68 68 68 68 68 68	68 68 68 68 68 68 68 68 68 65 65 65	68 68 68 68 68 68 68 68 68 68 68 68 68 6	68 68 68 68 69 69 69 69 69 69 69 69	68 65 65 65 65 65 65 65 65 65 65 65 65 65
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ر ۱ ۲	lmp. Crit.	99	99	99	99	99	99	99	,	99	99	99	99	99 99 99	99 99 99 99 99	99 99 99 99 99	99 99 99 99 99 99	99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99	99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99	99 99 99 99 99 99 99 99 99 99 99 99 99
Recp	Units	1	1	1	1	1	1	1	-	1	1 1	1 1 1 1	1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1										
Land	Use*	Cem.		Cem.	Cem.	Cem.	Cem. Cem. Cem.	Cem. Cem. Cem.	Cem. Cem. Cem. Cem.	Cem. Cem. Cem. Cem.	Cem. Cem. Cem. Cem. Cem.	Cem. Cem. Cem. Cem. Cem.	Cem. Cem. Cem. Cem. Cem. Cem. Cem. Cem.	Cem. Cem. Cem. Cem. Cem. Cem.	Cem. Cem. Cem. Cem. Cem. Cem.	Cem. Cem. Cem. Cem. Cem. Cem. Cem. Cem.	Cem. Cem. Cem. Cem. Cem. Cem. Cem. Cem.	Cem. Cem. Cem. Cem. Cem. Cem. Cem.	Cem. Cem. Cem. Cem. Cem. Cem. Cem. Cem.						
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i	Receiver Site Name	orfolk Ro	rfolk Ro		orfolk Ro	orfolk Ro	orfolk Ro	orfolk Roorfolk Roorf	orfolk Roorfolk Roorf	orfolk Roorfolk Roorf	orfolk Roorfolk Roorf	orfolk Roorfolk Roorf	orfolk Roorfolk Roorf	orfolk Roorfolk Roorf	orfolk Roorfolk Roorf	orfolk Roorfolk Roorf	orfolk Roorfolk Roorf	orfolk Roorfolk Roorf	orfolk Roorfolk Roorf	orfolk Roorfolk Roorf					
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	Site No.	P1605 8	P1606 8	P1607 8	P1608 8	P1609 8	P1610 8	01611				1 1 1										<del>                                     </del>		<del>                                     </del>	

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

Build-10         Build-8           68         62           71         68           68         62           72         68           68         62           72         68           68         62           72         68           68         62           68         62           68         62           68         62           68         62           68         62           68         62           68         62		Build-8 Leq 62 68 68 68 68 68 68 68 68 68 69 69 69 69 69 69 60 60 60 60 60 60 60 60 60 60 60 60 60	iild-8 662 68 68 68 68 68 68 68 68 68 68 68 68 68	<del>0</del> 7 7 9 9 9 9 9 9 9 9 9 9 9 9 9	<b>∞</b>		
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1     66     68       1     66     64       1     66     68       1     66     64	1     66     68       1     66     64       1     66     68       1     66     64       1     66     64       1     66     68	1     66     68       1     66     64       1     66     68       1     66     64       1     66     68       1     66     68       1     66     68	66 68 64 66 68 66 68 68 66 68 68 66 68 68 66 68 66 68 66 68 66 66	66 68 64 66 68 64 66 68 64 66 68 68 66 68 68 66 68 66 68 66 68 66 66	66 68 64 66 68 66 68 66 68 68 66 68 68 68 68 68	66 68 64 66 68 66 64 66 68 68 68 68 68 68 68 68 68 68 68 68	66 68 64 64 66 68 68 68 69 68 69 69 69 69 69 69 69 69 69 69 69 69 69
1     66     64     65       1     66     68     69       1     66     64     65	1     66     64     65       1     66     68     69       1     66     64     65       1     66     68     69	1     66     64     65       1     66     68     69       1     66     64     65       1     66     68     69       1     66     64     65	66     64     65       66     68     69       66     64     65       66     68     69       66     64     65       66     64     65       66     68     69	66     64     65       66     68     69       66     64     65       66     68     69       66     64     65       66     68     69       66     68     69       66     68     69	66     64     65       66     68     69       66     64     65       66     68     69       66     68     69       66     68     69       66     68     69       66     68     69       66     68     69       66     68     69	66         64         65           66         68         69           66         64         65           66         68         69	66       64       65         66       68       69         66       64       65         66       64       65         66       64       65         66       68       69         66       68       69         66       68       69         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65
1         66         68         69           1         66         64         65	1     66     68     69       1     66     64     65       1     66     68     69	1     66     68     69       1     66     64     65       1     66     68     69       1     66     64     65	66     68     69       66     64     65       66     68     69       66     64     65       66     68     69	66     68     69       66     64     65       66     68     69       66     64     65       66     68     69       66     68     69	66     68     69       66     64     65       66     68     69       66     68     69       66     68     69       66     68     69       66     68     69       66     68     69	66       68       69         66       64       65         66       68       69         66       68       69         66       68       69         66       64       65         66       68       69         66       64       65         66       68       69         66       68       69         66       68       69         66       68       69         66       68       69         66       68       69         66       68       69         66       68       69         66       68       69         66       68       69         66       68       69         66       68       69         66       68       69	66       68       69         66       64       65         66       68       69         66       68       69         66       68       69         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65
1 66 64 65	1         66         64         65           1         66         68         69	1     66     64     65       1     66     68     69       1     66     64     65	66     64     65       66     68     69       66     64     65       66     68     69	66     64     65       66     68     69       66     64     65       66     68     69       66     68     69	66     64     65       66     68     69       66     64     65       66     68     69       66     68     69       66     68     69       66     64     65	66       64       65         66       68       69         66       64       65         66       68       69	66       64       65         66       68       69         66       64       65         66       68       69         66       68       69         66       68       69         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65
	1 66 68 69	1     66     68     69       1     66     64     65	66     68     69       66     64     65       66     68     69	66     68     69       66     64     65       66     68     69       66     68     69	66     68     69       66     64     65       66     68     69       66     68     69       66     68     69       66     68     69	66       68       69         66       64       65         66       68       69         66       68       69         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       68       69         66       68       69         66       68       69         66       68       69         66       68       69         66       68       69         66       68       69         66       68       69	66       68       69         66       64       65         66       68       69         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65         66       64       65
66     64     65     68       66     68     69     71       66     68     69     71       66     64     65     68       66     68     69     71	66         68         69         71           66         68         69         71           66         64         65         68           66         68         69         71	66     68     69     71       66     64     65     68       66     68     69     71	66         64         65         68         69           66         68         69         71         72	68 69 71 72		66         68         69         71         72           66         64         65         68         68           66         68         69         71         72           66         64         65         68         68           66         68         69         70         71           66         64         65         68         68	66         68         69         71         72           66         64         65         68         68           66         68         69         71         72           66         64         65         68         68           66         68         69         70         71           66         64         65         68         68           66         67         69         70         70
66     64     65     68       66     68     69     71       66     68     69     71       66     64     65     68       66     68     69     71       66     68     69     71       66     64     65     68	66     68     69     71       66     68     69     71       66     64     65     68       66     68     69     71       66     68     69     71       66     64     65     68	66         68         69         71           66         64         65         68           66         68         69         71           66         64         65         68	66         64         65         68         69           66         68         69         71         72           66         64         65         68         68	66         68         69         71         72           66         64         65         68         68	66 64 65 68 68	66         64         65         68<	66     64     65     68     68     68       66     68     69     71     72       66     64     65     68     68       66     68     69     70     71       66     64     65     68     68       66     64     65     68     68       66     67     69     70     70
66     64     65     68       66     68     69     71       66     68     69     71       66     64     65     68       66     64     65     68       66     64     65     68       66     64     65     68       66     68     69     71	66         68         69         71           66         68         69         71           66         64         65         68           66         68         69         71           66         64         65         68           66         64         65         68           66         68         69         71	66     68     69     71       66     64     65     68       66     68     69     71       66     64     65     68       66     68     69     71	66         64         65         68         69           66         68         69         71         72           66         64         65         68         68           66         68         69         71         72	66         68         69         71         72           66         64         65         68         68           66         68         69         71         72	66         64         65         68         68           66         68         69         71         72	66         68         69         71         72           66         64         65         68         68           66         68         69         70         71           66         64         65         68         68	66         68         69         71         72           66         64         65         68         68           66         68         69         70         71           66         64         65         68         68           66         67         69         70         70
66     64     65     68       66     68     69     71       66     68     69     71       66     64     65     68       66     68     69     71       66     64     65     68       66     64     65     68       66     68     69     71       66     68     69     71       66     68     69     71	66     68     69     71       66     68     69     71       66     64     65     68       66     64     65     68       66     64     65     68       66     68     69     71       66     68     69     71       66     68     69     71	66     68     69     71       66     64     65     68       66     68     69     71       66     64     65     68       66     68     69     71       66     68     69     71       66     68     69     71	66         64         65         68         69         69         69         69         69         71         72<	66         68         69         71         72           66         64         65         68         68           66         68         69         71         72           66         64         65         68         68	66         64         65         68         68         68           66         68         69         71         72           66         64         65         68         68	66         64         65         68         68         68           66         68         69         70         71           66         64         65         68         68	66         64         65         68         68         68           66         68         69         70         71           66         64         65         68         68           66         67         69         70         70
66     64     65     68       66     68     69     71       66     68     69     71       66     64     65     68       66     64     65     68       66     64     65     68       66     64     65     68       66     64     65     68       66     64     65     68       66     68     69     71       66     68     69     71	66         68         69         71           66         68         69         71           66         64         65         68           66         64         65         68           66         64         65         68           66         68         69         71           66         64         65         68           66         64         65         68           66         64         65         68           66         68         69         71           66         68         69         71	66     68     69     71       66     64     65     68       66     68     69     71       66     64     65     68       66     64     65     68       66     64     65     68       66     68     69     71       66     68     69     71	66         64         65         68         69         69         69         69         69         69         69         68<	66         68         69         71         72           66         64         65         68         68           66         68         69         71         72           66         64         65         68         68           66         68         69         71         72	66         64         65         68         68         68           66         68         69         71         72           66         64         65         68         68           66         68         69         71         72	66         68         69         70         71           66         64         65         68         68	66         68         69         70         71           66         64         65         68         68           66         67         69         70         70
66         64         65         68           66         68         69         71           66         68         69         71           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         68         69         71           66         68         69         71           66         68         69         71           66         68         69         71           66         68         69         71	66         68         69         71           66         68         69         71           66         64         65         68           66         64         65         68           66         68         69         71           66         68         69         71           66         64         65         68           66         68         69         71           66         68         69         71           66         68         69         71           66         68         69         71           66         68         69         71           66         68         69         71	66         68         69         71           66         64         65         68           66         68         69         71           66         64         65         68           66         68         69         71           66         64         65         68           66         64         65         68           66         68         69         71           66         68         69         71           66         68         69         71           66         68         69         71	66         64         65         68         69         69         69         69         71         72<	66         68         69         71         72           66         64         65         68         68           66         68         69         71         72           66         64         65         68         68           66         68         69         71         72           66         68         69         71         72           66         68         69         71         72	66         64         65         68<	66 64 65 68 68	66         64         65         68         68           66         67         69         70         70
66         64         65         68           66         68         69         71           66         68         69         71           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68	66         68         69         71           66         68         69         71           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68	66         68         69         71           66         64         65         68           66         68         69         71           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         64         65         68           66         68         69         70	66         64         65         68         69         69         69         69         69         69         69         71         72<	66         68         69         71         72           66         64         65         68         68           66         68         69         71         72           66         64         65         68         68           66         64         65         68         68           66         64         65         68         68           66         64         65         68         68           66         68         69         70         71	66         64         65         68         68         68         68         68         68         68         71         72<		02 02 69 29 99

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

	uiysis		,,,,,,	ui i	icpi	,,,																			
S	Build- 10 IL**	9	2	9	5	7	5	7	4	7	5	5	5	5	5	5	2	9	9	9	9	9	9	9	9
ier Level	Build- 10 Lea	61	62	62	62	61	62	64	9	99	61	61	61	09	09	09	09	09	09	09	09	09	09	09	09
With-Barrier Levels	Build-8 IL**	7	9	7	9	6	8	7	8	7	2	2	2	2	9	2	9	9	9	9	9	9	9	9	9
>	Build-8	9	61	09	09	9	9	9	60	09	61	61	9	09	09	9	60	09	9	9	9	60	60	60	60
BA)	Build-10	67	99	29	29	PA	89	67	69	89	99	65	65	65	65	65	99	99	99	99	99	66	99	99	99
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	29	99	29	29	89	29	29	89	89	99	65	65	65	65	65	65	9	65	65	99	99	99	99	99
udest-H	No- Build	65	64	99	<u> </u>	<b>29</b>	99	99	<b>29</b>	99	64	64	89	89	89	64	64	64	89	89	89	63	89	89	63
2	Exist.	64	63	64	64	99	9	9	99	9	63	63	63	63	63	63	63	63	63	63	62	62	62	62	62
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
2	recp Units	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	Land Use*	Cem.	Cem.	Cem.	Cem.	Cem.	Cem.	Cem.	Cem.	Cem.	Cem.	Cem.	Cem.	Cem.	Cem.	Cem.	Cem.	Cem.	Cem.	Cem.	Cem.	Cem.	Cem.	Cem.	Cem.
	. Receiver Site Name	E S Granby St Norfolk Row 1 Flr1	8100 Granby St Norfolk Row 1 Flr1	E S Granby St Norfolk Row 1 Flr1	8100 Granby St Norfolk Row 1 Flr1	8100 Granby St Norfolk Row 1 Fir1	8100 Granby St Norfolk Row 1 Fir1	8100 Granby St Norfolk Row 1 Flr1	8100 Granby St Norfolk Row 1 Flr1	8100 Granby St Norfolk Row 1 Flr1	8100 Granby St Norfolk Row 2 Flr1	8100 Granby St Norfolk Row 2 Flr1	8100 Granby St Norfolk Row 2 Fir1	8100 Granby St Norfolk Row 2 Flr1	8100 Granby St Norfolk Row 2 Fir1	8100 Granby St Norfolk Row 2 Fir1	8100 Granby St Norfolk Row 2 Fir1	8100 Granby St Norfolk Row 2 Flr1							
	Site No.	P1677	P1678	6191d	P1680	P1681	P1682	P1683	P1684	P1685	P1686	7891d	P1688	6891d	0691d	1691d	P1692	P1693	P1694	5691d	9691d	P1697	P1698	6691d	P1700

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

Crit.         Muild build build         Muild build build         Muild build	Build         Control         Leq         IL**           62         63         65         66         60         6           62         63         65         66         60         6           62         63         65         66         60         6           62         63         65         66         60         5           61         63         64         65         60         4           61         63         64         65         61         4           60         62         63         64         65         4           60         62         63         64         60         3           62         63         64         60         3           62         63         64         60         3           62         63         64         60         3	Build         Leq         IL**           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         5           63         64         65         60         4           63         64         65         61         4           62         63         64         65         4           62         63         64         60         3           63         64         65         61         4           63         64         65         61         3           63         64         65         61         3           63         64         65         61         3           62         63         64         60         3           62         63         64         65         61         3           62         63         64         65         63         64         63           62         63         64         65         63         64	Build         Leq         IL**           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         5           63         64         65         60         4           63         64         65         61         4           62         63         64         60         3           62         63         64         60         3           62         63         64         60         3           62         63         64         60         3           62         63         64         60         3           62         63         64         60         3           62         63         64         60         3           62         63         64         60         3           62         63         64         60         3           62         63         64	Build         Control         Leq         IL**           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         5           63         64         65         60         4           63         64         65         61         4           62         63         64         60         3           62         63         64         60         3           63         64         65         61         3           63         64         65         61         3           62         63         64         60         3           62         63         64         60         3           62         63         64         60         3           62         63         64         61         3           62         63         64         61         3           62         63         64         61         3           63         64 <th>Build         Leq         IL**           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         5           63         64         65         60         4           63         64         65         61         4           62         63         64         60         3           62         63         64         60         3           62         63         64         60         3           62         63         64         60         3           62         63         64         61         3           63         65         65         62         3           64         65         62         3           64         65         62         3           64         65         62         3           64         65         62         3           64</th> <th>Build         Author         Leq         IL**           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         64         65         60         4           63         64         65         60         4           62         63         64         60         3           62         63         64         60         3           63         64         65         61         3           62         63         64         60         3           63         64         65         61         3           62         63         64         61         3           62         63         64         61         3           64         65         66         3         6           63         64         65         62         3           64         65         66         3         6           64         65</th> <th>Build         Control         Leq         IL**           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         5           63         64         65         60         4           63         64         65         61         3           62         63         64         60         3           62         63         64         60         3           62         63         64         61         3           63         64         65         62         3           63         65         65         62         3           63         65         65         62         3           64         65         65         3           64         65         62         3           64         65         62         3           64         65         61         3</th> <th>Build         Leq         IL**           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         5           63         64         65         60         4           63         64         65         61         4           62         63         64         60         3           63         64         65         61         3           62         63         64         60         3           63         64         65         61         3           62         63         64         61         3           63         64         65         62         3           64         65         66         62         3           64         65         66         3         6           64         65         65         3           64         66         62         3</th> <th>Build         Leq         IL**           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         64         65         60         4           63         64         65         61        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      61         3           63         64         65         61         3           62         63         64         60         3           63         64         65         61         3           63         65         65         62         3           64         65         66         62         3           64         65         66         62         3           63         64         65         62         3           64         66         66         62         4           64         66         66</th> <th>Build         Lea         IL**           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         64         65         60         4           63         64         65         60         4           63         64         65         61         3           62         63         64         60         3           63         64         65         61         3           63         64         65         61         3           64         65         65         62         3           64         65         65         62         3           64         65         65         62         4           63         64         65         62         4           64         65         65         3           64         65         62         3</th> <th>Build         Leq         IL**           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         64         65         60         4           63         64         65         61         4           63         64         65         61         3           62         63         64         60         3           63         64         65         61         3           63         64         65         61         3           63         65         65         62         3           64         65         66         62         4           63         64         65         62         4           64         65         65         62         4           63         65         65         61         4           63         64         64</th> <th>Build         Leq         IL**           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         64         65         60         4           63         64         65         60         4           63         64         65         61         3           62         63         64         60         3           63         64         65         61         3           63         64         65         61         3           64         65         65         62         4           63         64         65         62         3           64         65         65         62         4           63         64         65         62         4           63         64         64         61         4           63         64         64</th>	Build         Leq         IL**           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         5           63         64         65         60         4           63         64         65         61         4           62         63         64         60         3           62         63         64         60         3           62         63         64         60         3           62         63         64         60         3           62         63         64         61         3           63         65         65         62         3           64         65         62         3           64         65         62         3           64         65         62         3           64         65         62         3           64	Build         Author         Leq         IL**           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         65         66         60         6           63         64         65         60         4           63         64         65         60         4           62         63         64         60         3           62         63         64         60         3           63         64         65         61         3           62         63         64         60         3           63         64    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Cem. Cem. Cem. Cem.													
Granby St Norfolk Row 2 Flr1	Granby St Norfolk Row 2 Flr1	00 Granby St Norfolk Row 2 Flr1	00 Granby St Norfolk Row 2 FIr1	00 Granby St Norfolk Row 2 Flr1	0 Granby St Norfolk Row 2 FIr1	O Granby St Norfolk Row 2 Fir1	00 Granby St Norfolk Row 2 Flr1	00 Granby St Norfolk Row 2 Flr1	1100 Granby St Norfolk Row 2 Flr1	8100 Granby St Norfolk Row 2 Flr1	8100 Granby St Norfolk Row 2 Fir1	8100 Granby St Norfolk Row 2 Flr1	8100 Granby St Norfolk Row 2 Fir1
	Cem.	Cem.	Cem. Cem.	Cem. Cem.	Cem. Cem. Cem.	Cem. Cem. Cem. Cem.	Cem. Cem. Cem. Cem. Cem. Cem. Cem. Cem.	Cem. Cem. Cem. Cem. Cem. Cem.	Cem. Cem. Cem. Cem. Cem. Cem. Cem. Cem.	Cem. Cem. Cem. Cem. Cem. Cem. Cem. Cem.	Cem. Cem. Cem. Cem. Cem. Cem. Cem. Cem.	Cem. Cem. Cem. Cem. Cem. Cem. Cem. Cem.	Cem. Cem. Cem. Cem. Cem. Cem. Cem. Cem.

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

	uiysis		,,,,,c	ui i	LCP		<u> </u>																		
s	Build- 10 IL**	4	3	3	3	2	2	2	2	2	2	2	2	3	2	2	2	2	2	7	4	8	4	7	4
ier Leve	Build- 10 Leq	62	62	63	64	64	9	61	61	61	62	61	61	61	62	63	62	64	61	61	61	09	62	09	62
With-Barrier Levels	Build-8 IL**	2	9	2	9	9	7	3	3	3	3	3	3	4	2	2	2	2	2	7	9	8	9	8	9
>	Build-8	09	09	09	09	09	61	09	09	09	61	09	09	09	29	29	29	09	09	09	29	59	09	29	59
BA)	Build-10	99	99	65	29	99	29	63	63	63	64	63	63	63	64	9	64	92	99	89	99	89	99	89	99
Loudest-Hour Leq (dBA)	Build-8	65	99	65	99	99	29	62	63	63	63	62	63	63	64	65	64	9	92	29	92	29	9	29	99
udest-H	No- Build	64	64	63	65	64	65	61	61	62	62	61	62	61	62	62	62	63	63	99	64	65	64	65	64
P	Exist.	63	63	62	64	63	64	09	09	09	61	09	09	09	61	61	61	62	63	9	63	92	63	92	63
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	Kecp Units	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	Land Use*	Cem.	Parks																						
	. Receiver Site Name	8100 Granby St Norfolk Row 2 Flr1	8100 Granby St Norfolk Row 3 Flr1	Baseball Field Norfolk Row 1 Flr1																					
	Site No.	P1725	P1726	P1727	P1728	P1729	P1730	P1731	P1732	P1733	P1734	P1735	P1736	P1737	P1738	P1739	P1740	P1741	P1742	P1743	P1744	P1745	P1746	P1747	P1748

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

A//	aiysis i		<i></i>	urr	iepi		1						<u> </u>											=
S	Build- 10 IL**	7	4	0	4	3	3	3	3	3	3	3	3	3	0	0	1	0	2	2	1	2	1	2
ier Leve	Build- 10 Leq	19	62	PA	09	09	61	09	19	09	19	09	61	19	ΡA	ЬA	89	ЬА	64	9	99	62	69	63
With-Barrier Levels	Build-8 IL**	6	7	10	9	4	5	4	2	2	2	5	9	9	0	8	7	0	5	4	4	5	2	7
5	Build-8 Leq	59	59	59	28	59	59	58	59	58	59	58	59	28	PA	61	62	РА	09	62	63	59	67	61
BA)	Build-10	89	99	PA	64	63	64	63	64	63	64	63	64	92	PA	PA	69	РА	92	99	67	64	69	68
Loudest-Hour L <sub>eq</sub> (dBA)	Build-8	89	99	89	64	62	64	62	64	63	64	63	64	64	PA	69	69	РА	92	99	67	63	69	68
udest-H	No- Build	99	64	99	63	09	62	61	62	61	62	62	63	63	70	89	29	47	62	63	63	61	99	62
의	Exist.	9	64	99	63	09	61	09	61	61	62	61	62	63	69	29	99	46	61	62	62	09	64	61
NAC	Imp. Crit.	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	51	99	99	99	99	99	99
1000	Units	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	12
1	Land Use*	Parks	Cem.	Cem.	Cem.	Church- Interior	SF	SF	SF	SF	Day Care	MF												
	. Receiver Site Name	Baseball Field Norfolk Row 1 Flr1	Baseball Field Norfolk Row 2 Flr1	8100 Granby St Norfolk Row 1 Flr1	8100 Granby St Norfolk Row 1 Flr1	8100 Granby St Norfolk Row 1 Flr1	274 E Little Creek Rd Norfolk Row 1 Flr1	7907 West Glen Rd Norfolk Row 2 Flr1	7905 West Glen Rd Norfolk Row 2 Flr1	7903 West Glen Rd Norfolk Row 2 Fir1	7911 West Glen Rd Norfolk Row 2 Flr1	292 E Little Creek Rd Norfolk Row 2 Flr1	7816 San Antonio Blvd Norfolk Row 1 Flr1											
	Site No.	P1749	P1750	P1751	P1752	P1753	P1754	P1755	P1756	P1757	P1758	P1759	P1760	P1761	P1762	P1763	P1764	P1765	P1766	P1767	P1768	P1769	P1770	P1771

Table C-2. Predicted Existing and Future Noise Levels, Norfolk

			ć	NAC	Loi	ndest-H	Loudest-Hour Leq (dBA)	BA)	>	With-Barrier Levels	er Level	S
Site No.	Receiver Site Name	Land Use*	Kecp Units	lmp. Crit.	Exist.	No- Build	Build-8	Build-8 Build-10	Build-8	Build-8 Build-8 Build- Lea IL** 10 Lea	Build-	Build- 10 IL**
P1772	P1772 7820 San Antonio Blvd Norfolk Row 1 Flr1	MF	5	99	63	64	89	89	64	4	65	3
P1773	P1773 305 Fort Worth Av Norfolk Row 1 Flr1	MF	2	99	65	99	69	69	29	2	89	1
P1774	P1774 7816 San Antonio Blvd Norfolk Row 1 Flr1	MF	12	99	61	61	99	99	57	6	59	7
P1775	P1775 324 San Antonio Blvd Norfolk Row 1 Flr1	MF	8	99	09	09	29	29	57	10	29	0
P1776	P1776 309 Fort Worth Av Norfolk Row 2 Flr1	MF	2	99	61	62	64	64	09	4	62	2
* CE- Cingl	* SE- Sinclo-Eamily Mac - Multi-Eamily Bec - Bereational Monit - noise monitoring site Aud - Auditorium Edur - Edurational Comm - Commercial Inst - Institutional Com	- noise monito	ring cito	Aud - Audi	torium Ed	ic - Educi	tional Cor	nm - Comm	ercial Inct -	- Institution	- Would	

SF= Single-Family, MF= Multi-Family, Rec.= Recreational, Monit.= noise monitoring site, Aud: = Auditorium, Educ.= Educational, Comm.= Commercial, Inst.= Institutional, Cem.=

\*\* Some subtractions may appear to be incorrect due to rounding of decibels

"PA" = Potential Acquisition of receptor for project construction

Source: HMMH, 2012

### APPENDIX D. NOISE MEASUREMENT DATA

This appendix includes data acquired during the noise measurement program, including noise monitor output, site sketches, photographs, noise level data with site summary results, and traffic counts.

ASSESSMENT AREA:	MEASUREMENT S	SITE NO.: _ 😎 /
ADDRESS:	48 RED RUBIN TURN	
OWNER:	EDWARD +TINA FUTCH	
DESCRIPTION:	SFIT	
NOISE SOURCES:	I-64	
NOISE MONITOR:	2032 Pics+1-4	S/N: Memosonics 3000
MICROPHONE:	14" MEMOSONICS	S/N: 12075
CALIBRATOR:	METROSOMICS CL 304	S/N: 2465
TEMP. RANGE (°F):	<u>83°</u> WEATHER CON	DITIONS: SUNM, CALM



I-64 HRBT Noise Analysis

Harris Miller Miller and Hanson Inc

 Site Number
 ST-1

 Location:
 48 Red Robin Turn, Hampton, VA

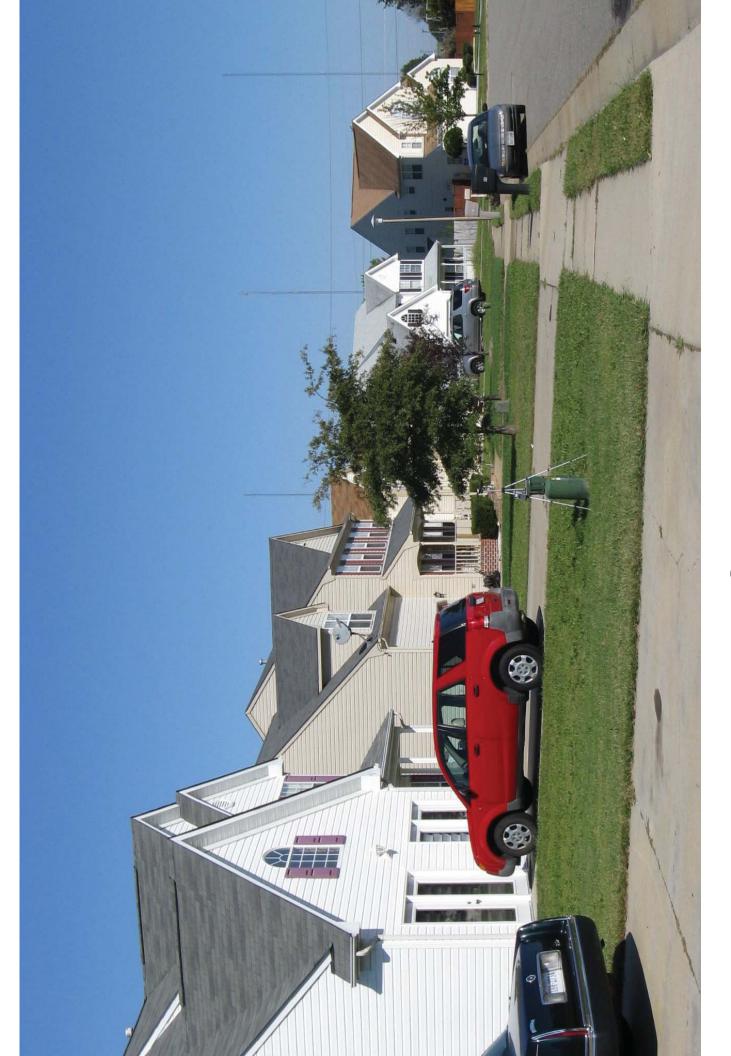
 Date:
 10/18/2011

 Start Time:
 15:25

 Duration (min):
 20

Enter Y for Yes Non-Traffic Exclude	ŀ																			
L-ed Non-	54.4	55.3	53.9	56.7	54	54.8	55.7	54.7	56.1	54	55.3	54.9	54	54.7	53.8	55.2	55.5	57.1	56.7	55.9
Time	15:25	15:26	15:27	15:28	15:29	15:30	15:31	15:32	15:33	15:34	15:35	15:36	15:37	15:38	15:39	15:40	15:41	15:42	15:43	15:44

Overall	275422.9	338844.2	245470.9	467735.1	251188.6	301995.2	371535.2	295120.9	407380.3	251188.6	338844.2	309029.5	251188.6	295120.9	239883.3	331131.1	354813.4	512861.4	467735.1	389045.1	0	0	0	0 (	0	<b>O</b> C	0	0	0	0	0	0	O (	0 0	0 0	0 (	0 0	55.2	55.2
Traffic-only	275422.8703	338844.1561	245470.8916	467735.1413	251188.6432	301995.172	371535.2291	295120.9227	407380.2778	251188.6432	338844.1561	309029.5433	251188.6432	295120.9227	239883.2919	331131.1215	354813.3892	512861.384	467735.1413	389045.145	0	0	0	0	0 0			0	0	0	0	0 0	0 (	0 0			0 C		
Energy	275422.8703	338844.1561	245470.8916	467735.1413	251188.6432	301995.172	371535.2291	295120.9227	407380.2778	251188.6432	338844.1561	309029.5433	251188.6432	295120.9227	239883.2919	331131.1215	354813.3892	512861.384	467735.1413	389045.145	0	0	0	0	0 0		0	0	0	0	0	0 0	0	o c		) (	0 0	Traffic-only Leg:	1





TEMP. RANGE (°F):

PROJECT:

830

Hampton Roads Bridge Tunnel Noise Analysis

WEATHER CONDITIONS: SUNNY CALM

JOB NO.:

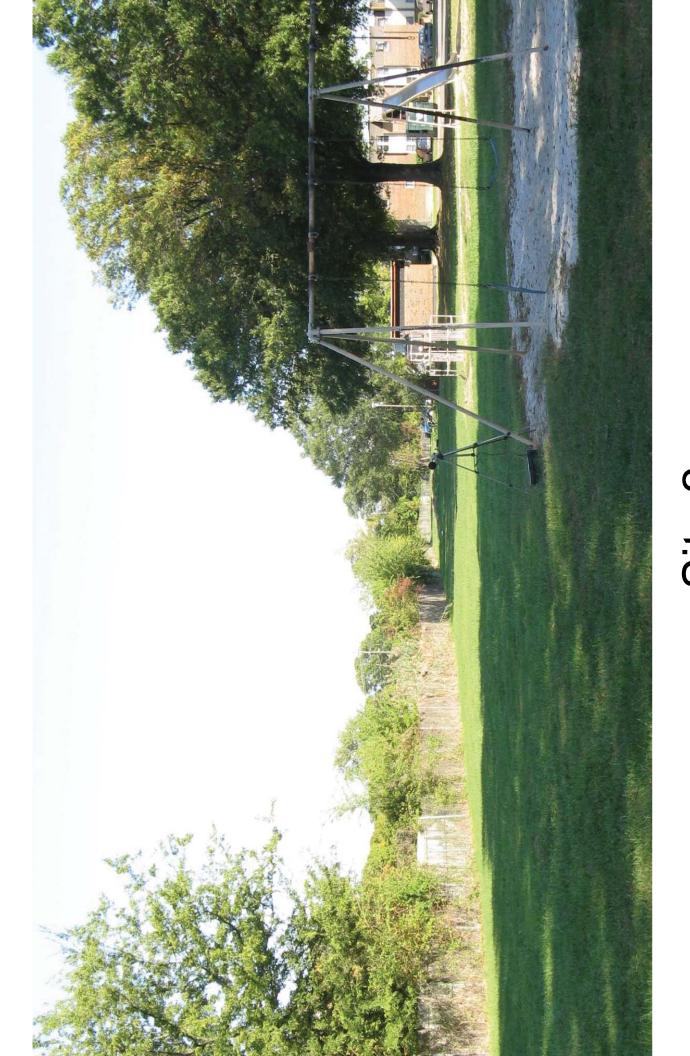
## SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA:	MEASUREMENT SI	ITE NO.: 2
ADDRESS:	MICHIGAN DRIVE	
OWNER:	HORIZON PLAZA APTS	
DESCRIPTION:	PLAYGROUND	
NOISE SOURCES:	I-64	
NOISE MONITOR:	RION#3 (NL-06) NH-19 UC-52 File 00.AU2	S/N: 00380352
MICROPHONE:	NH-19 UC 52 City 00 9112	S/N: 03506 5852
CALIBRATOR:	RION NC-73	S/N: 10417650



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1	Exclude																							
for Yes	"																							
Enter Y for Yes	Non-Iranic																							
	-uou																							
		58.9	50.3	09	59.6	58.4	58.7	58.5	58.7	58.4	60.2	59.9	59.7	64	60.4	59.3	09	6.09	58.6	59				
-	red																							
	0	» വ	0 1		6	0	_	2	8	4	2	9	7	80	0	0	_	2	8	4				
i	IIMe	15:25	15:27	15:28	15:29	15:30	15:31	15:32	15:33	15:34	15:35	15:36	15:37	15:38	15:39	15:40	15:41	15:42	15:43	15:44				

	_	7	0	0	Φ.	Σ.	Ŋ	ω.	Ŋ	Σ.	6	.2	(Ú	99	Ø	80	0	6	99	7	0	0	0	0	0 (	0 0	) C	0	0	0	0 0	<b>)</b> (	0 0	0	0	0	0	0	∞.	∞.
Overall	776247.	645654.	1071519	1000000	912010.8	691831	741310.2	707945.8	741310.2	691831	1047129	977237.	933254.3	2511886	1096478	851138	1000000	1230269	724436	794328.2																			59.8	59.8
Traffic-only	776247.1166	645654.229	1071519.305	1000000	912010.8394	691830.9709	741310.2413	707945.7844	741310.2413	691830.9709	1047128.548	977237.221	933254.3008	2511886.432	1096478.196	851138.0382	1000000	1230268.771	724435.9601	794328.2347	0	0	0	0	0	0		0	0	0	0			0	0	0	0	0		
Energy	776247.1166	645654.229	1071519.305	1000000	912010.8394	691830.9709	741310.2413	707945.7844	741310.2413	691830.9709	1047128.548	977237.221	933254.3008	2511886.432	1096478.196	851138.0382	1000000	1230268.771	724435.9601	794328.2347	0	0	0	0	0	0 0		0	0	0	0 (	<b>O</b> C		0	0	0	0		Traffic-only Leq:	Overall Leq:





### TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA:	-	STA
MEASUREMENT SITE NO.:	1,2	END

ADDRESS/DESCRIPTION:

1,2 From RAMPON

I-64 SB TO LASKLE AVE, SB START TIME:

END TIME: DATE:

PERSONNEL:

3:25 PM

3:45 PM Oct 182011

**DIRECTION 2** 

NB

GWT/CS

Roadway: I-64

First Sample ( 5 minutes)
Start Time:

Start Time: 3:25

Automobiles

Medium Trucks (6 Tires)

Heavy Trucks (>6 Tires)

DIRECTION 1

292

Roadway: I-64

Second Sample ( \_\_\_\_ minutes)

Start Time:

3.30

Automobiles

Medium Trucks (6 Tires)

Heavy Trucks (>6 Tires)

280

\_\_\_\_\_

Roadway: T-64

Third Sample ( 5 minutes)

Start Time:

3:35

Automobiles

Medium Trucks (6 Tires)

Heavy Trucks (>6 Tires)

338 11 6 OK

Roadway: I-44

Fourth Sample (<u>5</u> minutes)

Start Time:

3:40

Automobiles

Medium Trucks (6 Tires)

Heavy Trucks (>6 Tires)

344 5 5

Notes:

4	-				
100					
	V I				
100	Virginia	Departme	nt of Tran	sportatio	20

PROJECT:

Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.:

### SHORT-TERM NOISE MEASUREMENT SITE LOG

MEASUREMENT SITE NO.: 4 ASSESSMENT AREA:

ADDRESS: 1303 PATRICK CT.

OWNER: CHARLES RETNOLDS

DESCRIPTION: SF1+

I-64 **NOISE SOURCES:** 

2032 Pic 13-16 NOISE MONITOR:

STN: NETROSOMES 30FO

1/4" METROSOMES MICROPHONE:

S/N: 12075 S/N: 2465

METROSOMES CL 304 CALIBRATOR:

TEMP. RANGE (°F):

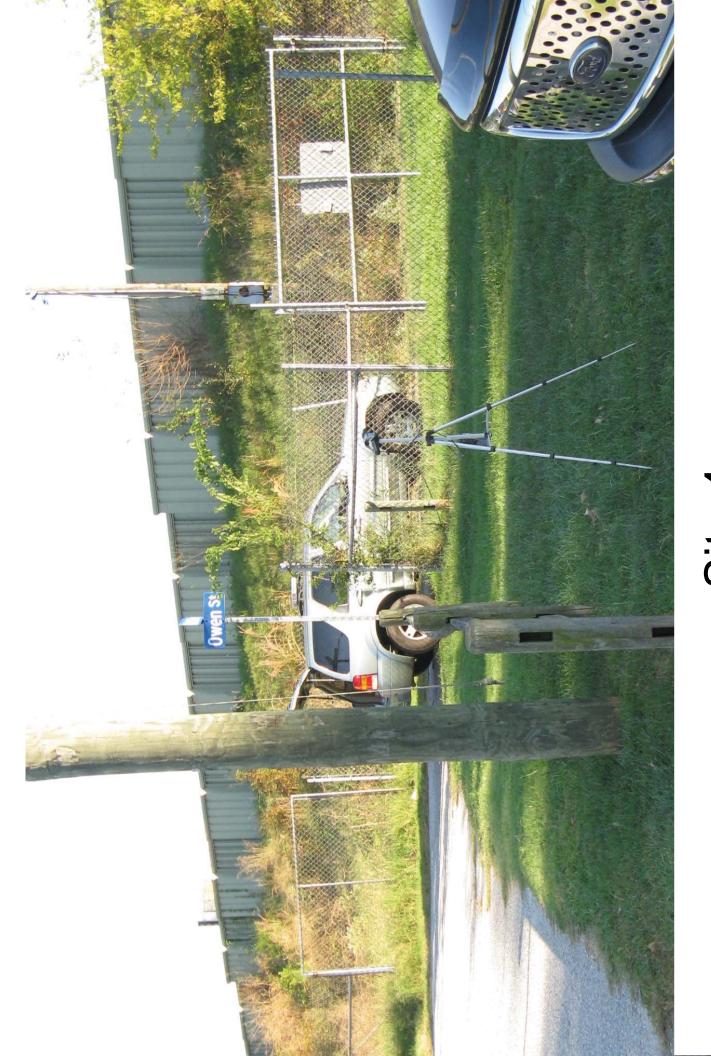
WEATHER CONDITIONS: SUNNY, CALM



Site Number	ST-4
Location:	1303 Patrick Court, Hampton, VA
Date:	10/18/2011
Start Time:	17:10
Duration (min).	20

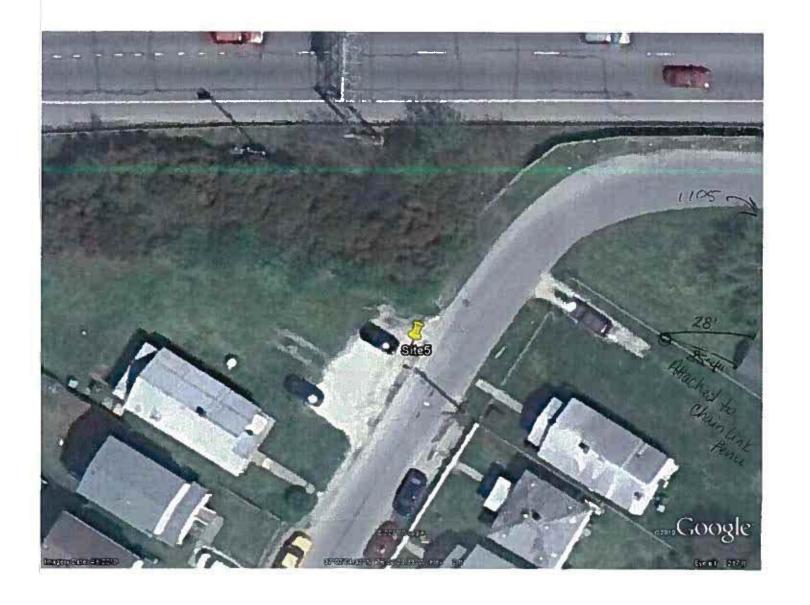
Enter Y for Yes	Non-Traffic Exclude																				
LEVEL	Led Non-1	61.8	62.1	61.8	64.1	61.6	62.3	62.5	62	62.2	62.2	62.4	61.4	61.9	62.2	62.7	63	62.4	6.09	62.7	63.1
A SELECTION SOON DEVEL	Time	17:10	17:11	17:12	17:13	17:14	17:15	17:16	17:17	17:18	17:19	17:20	17:21	17:22	17:23	17:24	17:25	17:26	17:27	17:28	17:29

02.3		Overall Led.
		Tramc-only Led:
6 63		3
0 0	0 0	0 0
0	0	0
0	0	0
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0	0	0
0 0	000	o c
0	0	0
0	0	0
1862087	1862087.137	1862087.137
1230269		
1737801	1737800.829	1737800.829
1995262	1995262.315	1995262.315
1862087	1862087.137	1862087.137
1659587	1659586.907	1659586.907
1548817	1548816.619	1548816.619
1380384	1380384.265	1380384.265
1737801	1737800.829	1737800.829
1659587	1659586.907	1659586.907
1584893	1584893.192	1584893.192
1778279	1778279.41	1778279.41
1698244	1698243.652	1698243.652
1445440	1445439.771	1445439.771
2570396	2570395.783	2570395.783
1513561	1513561.248	1513561.248
1621810	1621810.097	1621810.097
1513561	1513561.248	1513561.248
Overall	Traffic-only	Energy



WDCT	PROJECT:	Hampton Roads Bridge Tunnel Noise Analysis
Virginia Department of Transportation	JOB NO.:	

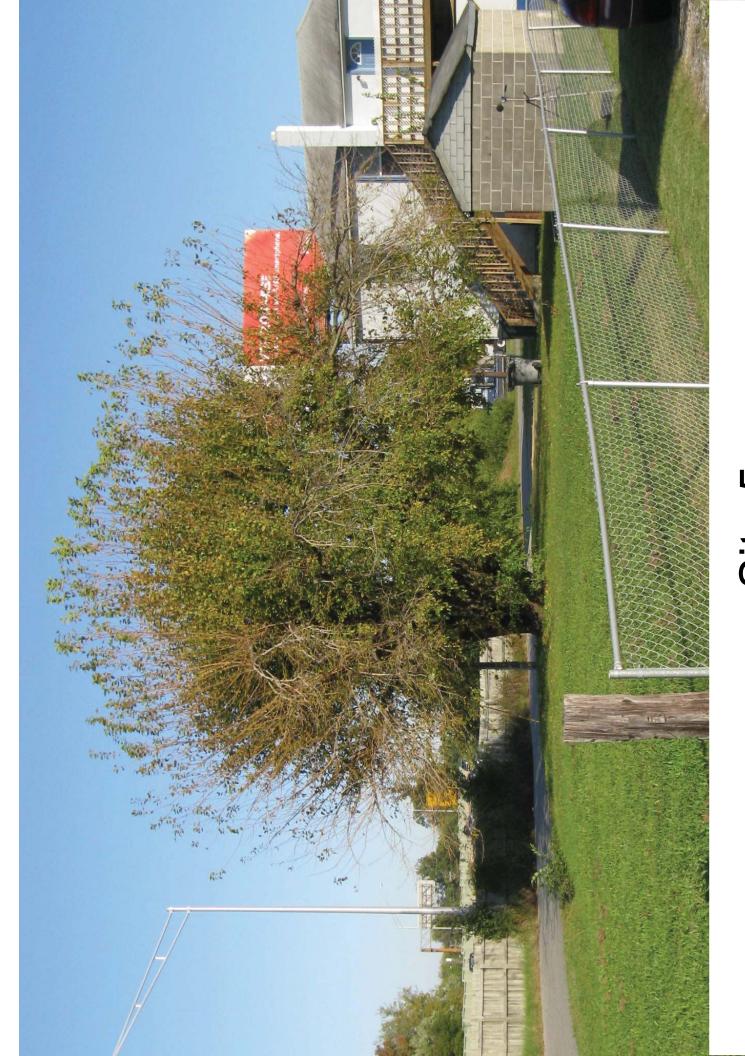
ASSESSMENT AREA:	海 2	MEASUREMENT SIT	ΓΕ NO.:5
ADDRESS:	1105 PHOMAS	ST	
OWNER:	THOMAS STRUE		
DESCRIPTION:	Duper		
NOISE SOURCES:	I-64	-	
NOISE MONITOR:	RION 3 (NC-06	) Pie # 9.17	S/N: 00380352
MICROPHONE: VC-5	2 WHate Pron	• •	S/N: 03506 57522
CALIBRATOR:	RION NC-73	File 01.AU2	S/N: 10417650
TEMP. RANGE (°F):	79-810	WEATHER CONDI	TIONS: SUNNIT, CALM



Site Number	ST-5
Location:	1105 Thomas Street, Hampton, VA
Date:	10/18/2011
1	
Start Time:	17:10
Duration (min).	00

Yes	Exclude																				
Enter Y for Yes		_																			
Ent	Non-Traffic																				
		69.1	69	68.9	70.5	68.9	69.4	68.4	9.89	68.1	69.3	69.7	68.9	68.9	68.9	69.5	70	68	9.89	8.69	69
	Led																				
	Time	17:10	17:11	17:12	17:13	17:14	17:15	17:16	17:17	17:18	17:19	17:20	17:21	17:22	17:23	17:24	17:25	17:26	17:27	17:28	17:29

Overall	8128305	7943282	7762471	11220185	7762471	8709636	6918310	7244360	6456542	8511380	9332543	7762471	7762471	7762471	8912509	10000000	6309573	7244360	9549926	7943282	0	0	0	0	0 0	00	0	0	0	0	0 0	00	C	0	0	0	69.1	69.1
Traffic-only	8128305.162	7943282.347	7762471.166	11220184.54	7762471.166	8709635.9	6918309.709	7244359.601	6456542.29	8511380.382	9332543.008	7762471.166	7762471.166	7762471.166	8912509.381	10000000	6309573.445	7244359.601	9549925.86	7943282.347	0	0	0	0	0 0	0	0	0	0	0	0 0	0		0	0	0		
Energy	8128305.162	7943282.347	7762471.166	11220184.54	7762471.166	8709635.9	6918309.709	7244359.601	6456542.29	8511380.382	9332543.008	7762471.166	7762471.166	7762471.166	8912509.381	10000000	6309573.445	7244359.601	9549925.86	7943282.347	0	0	0	0	0 0	0	0	0	0	0	0 0	0		0	0	ŀ	ōŀ	Overall Leq:



1	//_		PROJECT:
M	V L		IOR NO ·

Hampton	Roads	Bridge	Tunnel	Noise	Analys	is
---------	-------	--------	--------	-------	--------	----

ASSESSMENT AREA:	MEASUREMENT SITE NO.: 6	
ADDRESS: (Sor)	808 LANGLOY AVE	
OWNER:	DEBLA CORBIN	
DESCRIPTION:	SFA	
NOISE SOURCES:	I-64	10
NOISE MONITOR:	2033 = Pic 17-20 S/N: METROSONIES 3	087
MICROPHONE:	12052 = S/N: METROSICS /4"	
CALIBRATOR:	REMOSONICS CL 304 S/N: 2465	
TEMP. RANGE (°F):	79-81° WEATHER CONDITIONS: SUNNY, CALM	

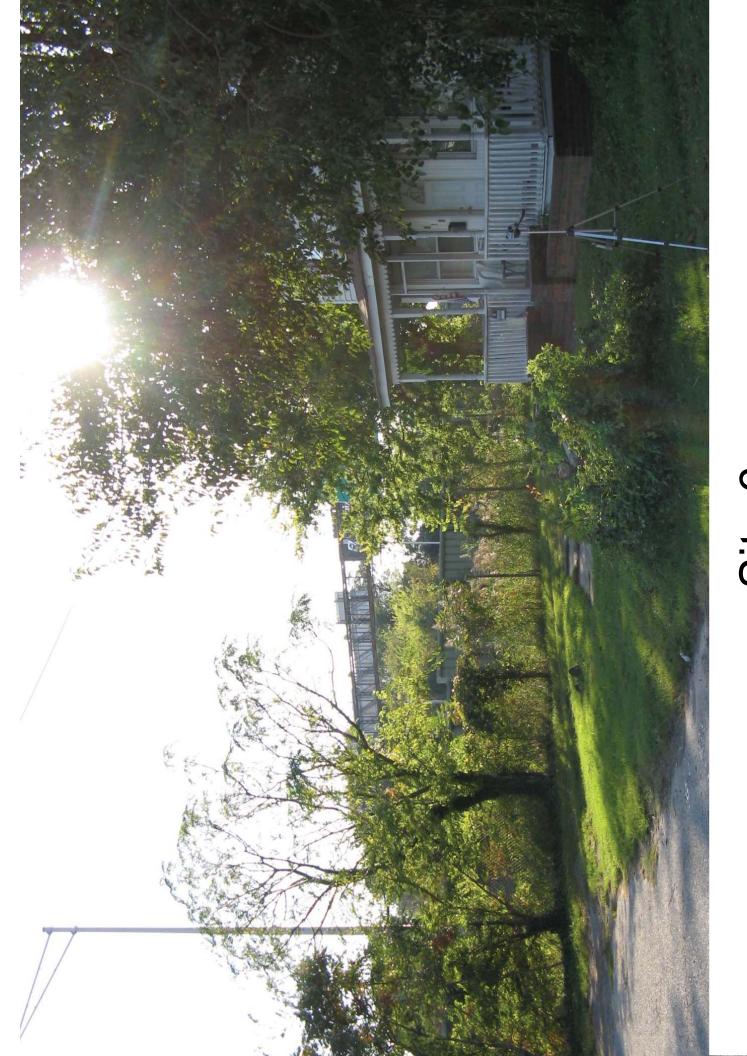


I-64 HRBT Noise Analysis

Site Number	9-LS
Location:	808 Langley Ave, Hampton, VA
Date:	10/18/2011
Start Time:	17:10
Duration (min):	11

Enter Y for Yes	Non-Traffexclude													
Led	Non-	65.2	65.6	65.5	65.3	64.4	65.3	92	66.2	9.99	65.2	65.9		
VALIDATION SOUND LEVEL	Time	17:10	17:11	17:12	17:13	17:14	17:15	17:16	17:17	17:18	17:19	17:20	17:21 17:22 17:24 17:26 17:26 17:28 17:29	

Overall	3311311	3630781	3548134	3388442	2754229	3388442	3162278	4168694	4570882	3311311	3890451	0	0	0	0	0 (	0	0 (	0	0	0 0	0 0	0	<b>O</b> C	0 0	0 0	0	0	0	0	0	0	0	0	0	0	0	0 0	פעע	00.0	65.5
Traffic-only	3311311.215	3630780.548	3548133.892	3388441.561	2754228.703	3388441.561	3162277.66	4168693.835	4570881.896	3311311.215	3890451.45	0	0	0	0 (	0	0 0		0 (	0	0 0						0	0	0	0	0	0	0	0	0	0	0 (				
Energy	3311311.215	3630780.548	3548133.892	3388441.561	2754228.703	3388441.561	3162277.66	4168693.835	4570881.896	3311311.215	3890451.45	0	0	0	0 (	0	0 0		0 (	0 (	0 0		0 0					0	0	0	0	0	0	0	0	0	0 (			I allic-only Led:	Overall Leq:



1					
1	Virginia	Departme	nt of Trans	portation	

TEMP. RANGE (°F):

PROJECT:

Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.:

### SHORT-TERM NOISE MEASUREMENT SITE LOG

MEASUREMENT SITE NO.: 7 ASSESSMENT AREA: ADDRESS: 931 MASON ST. SOLOMON JONES + CERESTINE MONROE OWNER: DESCRIPTION: NOISE SOURCES: 2342 Pic 21-24 NOISE MONITOR: S/N: METROSOMES &B 308 S/N: N/A S/N: 2465 MICROPHONE: CALIBRATOR: WEATHER CONDITIONS: SUNNY, CALM

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.

MOTE: 15' FROM CORNOR OF HOUSE, ACON'T STRAIGHT LINE FROM HOUSE SIDE. Site 7

ST-7	931 Mason St, Hampton, VA	10/18/2011	17:10	20
Site Number S	Location:	Date:	Start Time:	Duration (min):

for Yes  Exclude																									
Enter Y for Yes Non-Traffic Exclud																				>					
ž	99	99	9.59	65.4	66.3	65.6	66.2	9.99	66.5	66.5	9:59	99	62.9	66.1	62.9	65.8	65.4	65.7	65.6	79					
3																									
,																									
_																									
Time	17:10	17:11	17:12	17:13	17:14	17:15	17:16	17:17	17:18	17:19	17:20	17:21	17:22	17:23	17:24	17:25	17:26	17:27	17:28	17:29					
	ľ	•	•	-		•	-	-		-	-	•		-	-		-	-	-	-					

Energy	_	
3981071.706	3981071.706	3981072
3981071.706	3981071.706	3981072
3630780.548	3630780.548	3630781
3467368.505	3467368.505	3467369
4265795.188	4265795.188	4265795
3630780.548	3630780.548	3630781
4168693.835	4168693.835	4168694
4570881.896	4570881.896	4570882
4466835.922	4466835.922	4466836
4466835.922	4466835.922	4466836
3630780.548	3630780.548	3630781
3981071.706	3981071.706	3981072
3890451.45	3890451.45	3890451
4073802.778	4073802.778	4073803
6165950.019	6165950.019	6165950
3801893.963	3801893.963	3801894
3467368.505	3467368.505	3467369
3715352.291	3715352.291	3715352
3630780.548	3630780.548	3630781
79432823.47	0	79432823
0	0	0
0	0	0
0	0	0
0	0	0
0 (	0	0
		0 (
		0 0
		0 0
0		0 0
0	0	0
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0	0	0
0	0	0
0	0	0
0	0	0
0 0	0 0	0
		0 0
0	0	00
Traffic-only Leq:		66.1
Overall Leq:		6.89

Site 7



### TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA:		START TIME
MEASUREMENT SITE NO.:	4,5,6,7	END TIME:
ADDRESS/DESCRIPTION:		DATE:

FROM BREAK IN FENEE DATE:

PERSONNEL:

**DIRECTION 1** 

SB

2:10-4 Oct 11 2011 **GWT/CS** 

**DIRECTION 2** 

NB

Roadway: 2-64 First Sample (<u>5</u> minutes) Start Time: 5,70

AMD THOMAS ST.

I-6.4 Roadway: Second Sample (5 minutes) Start Time: 5:15

Roadway: Third Sample ( 5 minutes) Start Time: 5:20

Roadway: I-64 Fourth Sample ( 5 minutes) Start Time: 5.25

Heavy Trucks (>6 Tires)

Medium Trucks (6 Tires)

**Automobiles** 

**Automobiles** 

Medium Trucks (6 Tires) Heavy Trucks (>6 Tires)

5:10-5:25

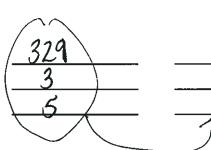
**Automobiles** 

Medium Trucks (6 Tires) Heavy Trucks (>6 Tires)

Automobiles

Medium Trucks (6 Tires)

Heavy Trucks (>6 Tires)



Notes:

	PROJECT:	Hampton Roads Bridge Tunnel Noise Analysis
Virginia Department of Transportation	JOB NO.:	

ASSESSMENT AREA:	3 MEASUREMENT SITE NO.: 2	
ADDRESS:	HTS TOLKING WROOBA APTS. POOL	
OWNER:	100 SPANISH-TRAIL	
DESCRIPTION:	POOL AMEA	
NOISE SOURCES:		_
NOISE MONITOR: / NC	9/N: 003803	9
MICROPHONE:	UC-57 SIN: 79621 5	-852

MICROPHONE: UC-52 S/N: 79631 585.

CALIBRATOR: PLON NC.73 TILZ 00 S/N: 104.7650

TEMP. RANGE (°F): 63-64°F WEATHER CONDITIONS: SUMM, CALINE WARPS 5-10 ME

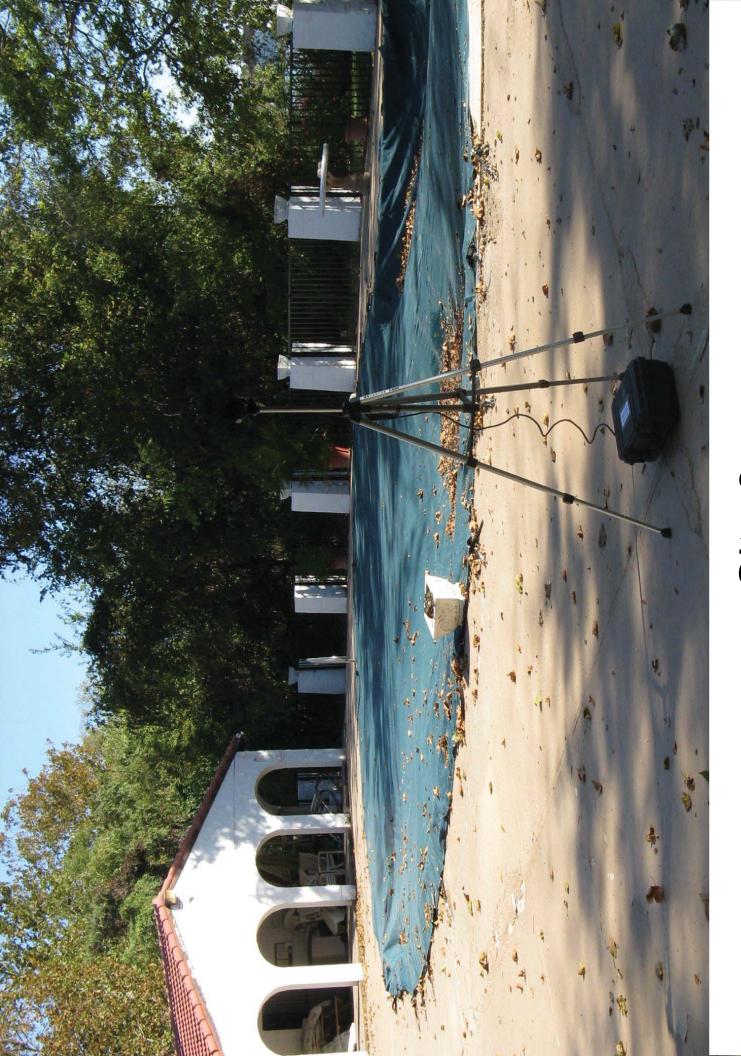
SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & NNW

NOTE: 12' PURPONDICULAR TO PILLARS



Enter Y for Yes Non-Traffic Exclude																												
Time	61 5	59.9	63.6	62.9	61.6	62.4	62.5	60.5	8.09	59.7	59.8	60.2	59.9	61.4	58.9	61.3	61.5	61.1	61.1	61.3								
Time	11.50	11:51	11:52	11:53	11:54	11:55	11:56	11:57	11:58	11:59	12:00	12:01	12:02	12:03	12:04	12:05	12:06	12:07	12:08	12:09								

61.0		Overall Leq.
61.3		Traffic-only Leq:
	0	
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o c		
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0 0	0	0 0
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0	0	0
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0	0	0
0	0	0
0		00
0 0		
0	0	0
1348963	1348962.883	1348962.883
1288250	1288249.552	1288249.552
1288250	1288249.552	1288249.552
1412538	1412537.545	1412537.545
1348963	1348962.883	1348962.883
776247.1	776247.1166	776247.1166
1380384	1380384.265	1380384.265
977237.2	977237.221	977237.221
1047129	1047128.548	1047128.548
954992.6	954992.586	954992.586
933254.3	933254.3008	933254.3008
1202264	1202264.435	1202264.435
1122018	1122018.454	1122018.454
1778279	1778279.41	1778279.41
1737801	1737800.829	1737800.829
1445440	1445439.771	1445439.771
1949845	1949844.6	1949844.6
2290868	2290867.653	2290867.653
977237.2	977237.221	977237.221
1412538	1412537.545	1412537.545
Overall	Traffic-only	Energy



**ASSESSMENT AREA:** 

### SHORT-TERM NOISE MEASUREMENT SITE LOG

ADDRESS:	415 Corps	NI_		
OWNER:				
DESCRIPTION:				
NOISE SOURCES:				
NOISE MONITOR:	PLON Z (NO	x6) Pics# 1-4	S/N: 01270249	•
MICROPHONE:	UC-52	/	S/N: 7965,	
CALIBRATOR:	RION NC-73		S/N: 10417650	
TEMP. RANGE (°F):	63-64°F	WEATHER CONDITION	ONS: SUNNY, 5-10,	

MEASUREMENT SITE NO.:

NNW

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.

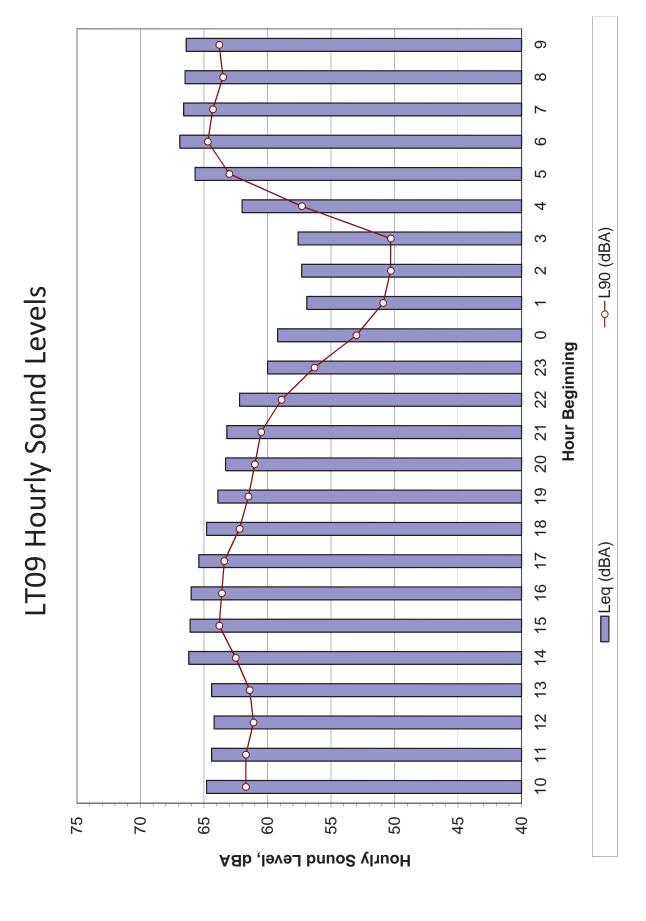
24-HR? 10:15 -> 10:15 tm



Site Number	6-L1
Location:	Marshall St - Cul-De-Sac, Hampton VA
Date:	10/25-26/2011
Start Time:	10:10
Duration (Hour):	24

	Energy Tra	3019951.72	n 2754228.703	2630267.992	2754228.703	4168693.835	4073802.778	3981071.706	3467368.505	3019951.72	2454708.916	2137962.09	2089296.131	1659586.907	1000000	831763.7711	489778.8194	537031.7964	575439.9373	1584893.192	3715352.291	4897788.194	4570881.896	4466835.922	4365158.322
			For Validation																						
or Yes	Exclude																								
Enter Y for Yes	Non-Traffic																								
	Leq	64.8	64.4	64.2	64.4	66.2	66.1	99	65.4	64.8	63.9	63.3	63.2	62.2	09	59.2	56.9	57.3	57.6	62	65.7	6.99	9.99	66.5	66.4
	Time	10:10	11:10	12:10	13:10	14:10	15:10	16:10	17:10	18:10	19:10	20:10	21:10	22:10	23:10	0:10	1:10	2:10	3:10	4:10	5:10	6:10	7:10	8:10	9:10

	Energy	Traffic-only	Overall
	3019951.72	3019951.72	3019952
on	2754228.703	2754228.703	2754229
	2630267.992	2630267.992	2630268
	2754228.703	2754228.703	2754229
	4168693.835	4168693.835	4168694
	4073802.778	4073802.778	4073803
	3981071.706	3981071.706	3981072
	3467368.505	3467368.505	3467369
	3019951.72	3019951.72	3019952
	2454708.916	2454708.916	2454709
	2137962.09	2137962.09	2137962
	2089296.131	2089296.131	2089296
	1659586.907	1659586.907	1659587
	1000000	1000000	1000000
	831763.7711	831763.7711	831763.8
	489778.8194	489778.8194	489778.8
	537031.7964	537031.7964	537031.8
	575439.9373	575439.9373	575439.9
	1584893.192	1584893.192	1584893
	3715352.291	3715352.291	3715352
	4897788.194	4897788.194	4897788
	4570881.896	4570881.896	4570882
	4466835.922	4466835.922	4466836
	4365158.322	4365158.322	4365158
	Traffic-only Leq:		64.3
	Overall Leq:		64.3





	PROJECT:	Hampton Roads Bridge Tunnel Noise Analysis
Virginia Department of Transportation	JOB NO.:	

ASSESSMENT AREA:	3 MEASUREMENT SITE NO.:
ADDRESS:	326 POPLAR
OWNER:	
DESCRIPTION:	
NOISE SOURCES:	
NOISE MONITOR:	2032 PICS# 9-12 S/N: MOTHO 3060
MICROPHONE:	Metro 14 S/N: 12075
CALIBRATOR:	Nomo CL-307 S/N: 2465
TEMP. RANGE (°F):	63-66° WEATHER CONDITIONS: SUNNY, 5-10 mgh WINN

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & NNW wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



I-64 HRBT Noise Analysis

Site Number	ST-10
Location:	326 Poplar Ave., Hampton, VA.
Date:	10/25/2011
Start Time:	11:50
Duration (min):	20

Enter Y for Yes	Non-Traffic Exclude																					
nter Y f	raffic E																					
Ш	Non-T																					
		66.1	67.8	67.8	65.2	99	67.4	65.6	69.1	6.99	68.3	67.8	66.5	9.99	6.99	65	65.8	68.7	65.8	66.7	6.99	
	ı																					
Led	ı																					
	ı																					
	Time	11:50	11:51	11:52	11:53	11:54	11:55	11:56	11:57	1:58	1:59	12:00	12:01	12:02	12:03	12:04	12:05	12:06	12:07	12:08	12:09	
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4897788	4897788.194	4897788.194
4677351	4677351.413	4677351.413
3801894	3801893.963	3801893.963
7413102	7413102.413	7413102.413
3801894	3801893.963	3801893.963
3162278	3162277.66	3162277.66
4897788	4897788.194	4897788.194
4570882	4570881.896	4570881.896
4466836	4466835.922	4466835.922
6025596	6025595.861	6025595.861
6760830	6760829.754	6760829.754
4897788	4897788.194	4897788.194
8128305	8128305.162	8128305.162
3630781	3630780.548	3630780.548
5495409	5495408.739	5495408.739
3981072	3981071.706	3981071.706
3311311	3311311.215	3311311.215
6025596	6025595.861	6025595.861
6025596	6025595.861	6025595.861
4073803	4073802.778	4073802.778
Overall	Traffic-only	Energy

## Site 10

WOUT	PROJECT:	Hampton Roads Bridge Tunnel Noise Analysis
Virginia Department of Transportation	JOB NO.:	

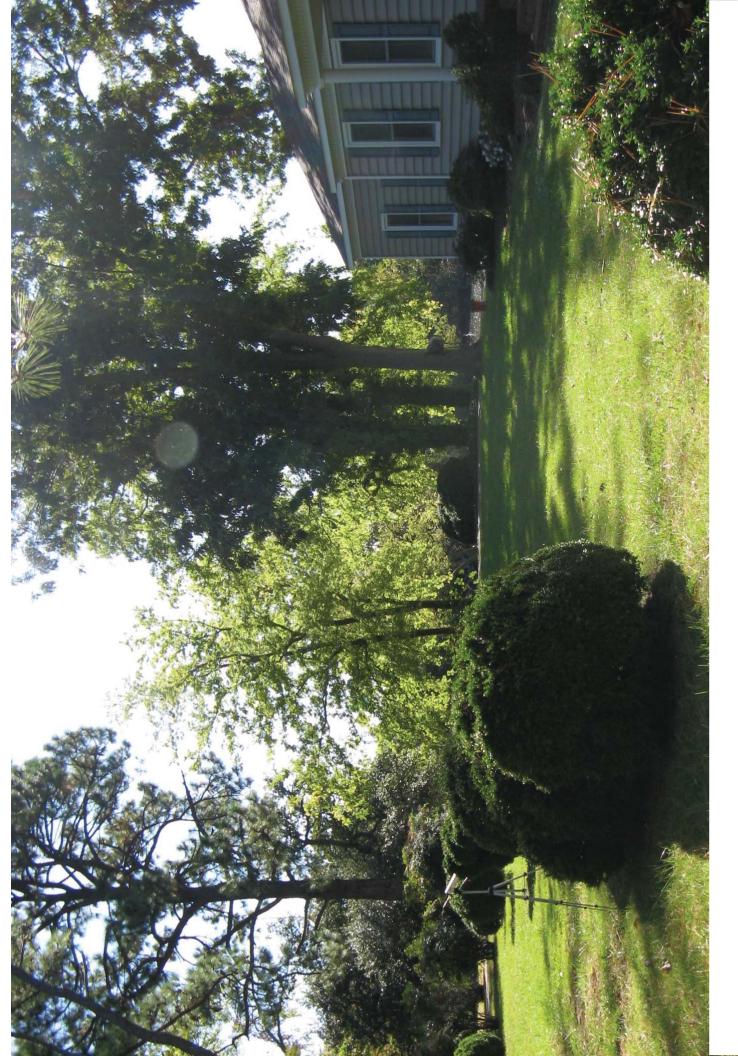
ASSESSMENT AREA:	3	MEASUREMENT SITE	E NO.: _	11	
ADDRESS:	101 B	ough Laure			_
OWNER:		J			_
DESCRIPTION:					
NOISE SOURCES:					_
NOISE MONITOR: MOTEO	83 200	Pics # 17-21	S/N: _	2342	_
MICROPHONE:	INTEGRAC 1/2"		S/N: _	NA	<u>_</u>
CALIBRATOR:	METRO CL-304		S/N: _	2465	_
TEMP. RANGE (°F):	63-64°F	WEATHER CONDITI	IONS: _	SNNM 5-10A	uph lin
SITE SKETCH: Show road	/				UNW

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



Enter Y for Yes	Non-Traffic Exclude																				
Ent	Non-Tra	<b>66.3</b>	66.2	65.5	6.99	89	66.4	89	6.69	65.1	67.2	7.69	67.4	66.1	66.3	64.9	65.8	6.99	65.3	66.5	65.5
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Ped																					
	Time	11:50	11:51	11:52	11:53	11:54	11:55	11:56	11:57	11:58	11:59	12:00	12:01	12:02	12:03	12:04	12:05	12:06	12:07	12:08	12:09
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	4168693.835 3548133.892 4897788.194 6309573.445 9772372.21 3235936.569 5248074.602 9332543.008 5495408.739 4073802.778 4265795.188 3090295.433	4168694 3548134 4897788 6309573 4365158 6309573 9772372 5248075 5248075 9332543 6495409 4073803 4265795 3090295
	3548133.892 4897788.194 6309573.445 4365158.322 6309573.445 9772372.21 3235936.569 5248074.602 9332543.008 5495408.739 4073802.778 4265795.188 3090295.433	3548134 4897788 6309573 4365158 6309573 9772372 5248075 9332543 5495409 4073803 4265795 3090295
	4897788.194 6309573.445 4365158.322 6309573.445 9772372.21 3235936.569 5248074.602 9332543.008 5495408.739 4073802.778 4265795.188 3090295.433	4897788 6309573 4365158 6309573 9772372 3235937 5248075 9332543 5495409 4073803 4265795 3090295
	6309573.445 4365158.322 6309573.445 9772372.21 3235936.569 5248074.602 9332543.008 5495408.739 4073802.778 4265795.188 3090295.433 3801893.963	6309573 4365158 6309573 9772372 3235937 5248075 9332543 5495409 4073803 4265795 3090295
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	6309573.445 9772372.21 3235936.569 5248074.602 9332543.008 5495408.739 4073802.778 4265795.188 3090295.433 3801893.963	6309573 9772372 3235937 5248075 9332543 5495409 4073803 4265795 3090295
	9772372.21 3235936.569 5248074.602 9332543.008 5495408.739 4073802.778 4265795.188 3090295.433 3801893.963	9772372 3235937 5248075 9332543 5495409 4073803 4265795 3090295
	3235936.569 5248074.602 9332543.008 5495408.739 4073802.778 4265795.188 3090295.433 3801893.963	3235937 5248075 9332543 5495409 4073803 4265795 3090295
	5248074.602 9332543.008 5495408.739 4073802.778 4265795.188 3090295.433 3801893.963	5248075 9332543 5495409 4073803 4265795 3090295
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Traffic-only Leq:		6.99
Overall Leq:		6.99



WOOT	PROJECT:	Hampton Roads Bridge Tunnel Noise Analysis
Virginia Department of Transportation	JOB NO.:	

ASSESSMENT AREA:	3 MEASUREM	IENT SITE NO.: 12
ADDRESS:	72 Box wood	
OWNER:	•	
DESCRIPTION:		
NOISE SOURCES:		
NOISE MONITOR:	2033 Rus# 13-	· 16 S/N! moreo de 3000
MICROPHONE:	METHO 14"	S/N: 12052
CALIBRATOR:	METRO CL-304	S/N: 2465
TEMP. RANGE (°F):	63-64° F WEATHER	R CONDITIONS: SURVY, 5-10 MBL WIND

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



I-64 HRBT Noise Analysis

Site Number	ST-12
Location:	72 Boxwood Street, Hampton, VA.
Date:	10/25/2011
Start Time:	11:50
Duration (min):	20

Enter Y for Yes	Non-Traffic Exclude																				
beJ		66.3	66.2	65.5	6.99	89	66.4	89	6.69	65.1	67.2	7.69	67.4	66.1	66.3	64.9	65.8	6.99	65.3	66.5	65.5
	Time	11:50	11:51	11:52	11:53	11:54	11:55	11:56	11:57	11:58	11:59	12:00	12:01	12:02	12:03	12:04	12:05	12:06	12:07	12:08	12:09

0.00		Overall Ley.
66.9		Traffic-only Leg:
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		4466835.922
3388442	3388441.561	3388441.561
4897788	4897788.194	4897788.194
3801894	3801893.963	3801893.963
3090295	3090295.433	3090295.433
4265795	4265795.188	4265795.188
4073803	4073802.778	4073802.778
5495409	5495408.739	5495408.739
9332543	9332543.008	9332543.008
5248075	5248074.602	5248074.602
3235937	3235936.569	3235936.569
9772372	9772372.21	9772372.21
6309573	6309573.445	6309573.445
4365158	4365158.322	4365158.322
6309573	6309573.445	6309573.445
4897788	4897788.194	4897788.194
3548134	3548133.892	3548133.892
4168694	4168693.835	4168693.835
4265795	4265795.188	4265795.188
Overall	Traffic-only	Energy

Site 12

### TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA: MEASUREMENT SITE NO.: ADDRESS/DESCRIPTION:	3 8 70 12	_ START TIME: _ END TIME: _ DATE: _ PERSONNEL:	Oct 25 2011  GWT/\$8 alg
Roadway: First Sample ( minutes) Start Time:	Rtz. 64	DIRECTION 1	DIRECTION 2
Start Time: 11:50 A	Automobiles  Medium Trucks (6 Tires)	187	1/04
Roadway:	Heavy Trucks (>6 Tires)	o	
Second Sample ( minutes) Start Time:	Automobiles		166
	Medium Trucks (6 Tires) Heavy Trucks (>6 Tires)		<u>4</u> 12
Roadway: Third Sample ( minutes) Start Time:	pr 64		
12:00	Automobiles  Medium Trucks (6 Tires)  Heavy Trucks (>6 Tires)	- 171 - \$	
Roadway: Fourth Sample ( minutes) Start Time:	PTZ, 64	. —	
12:05	Automobiles		_17/
	Medium Trucks (6 Tires)		48
	Heavy Trucks (>6 Tires)		9

WOUT	PROJECT:	Hampton Roads Bridge Tunnel Noise Analysis
Virginia Department of Transportation	JOB NO.:	

ASSESSMENT AREA	1: <u>4</u>	MEASUREMENT S	SITE NO.:/3
ADDRESS:	HOLDON UN	V, SUTTERLU	STADIUM
OWNER:			
DESCRIPTION:			
NOISE SOURCES:			
NOISE MONITOR:	NETRO dB308	21 - 24	S/N: 2342
MICROPHONE:	IN7611 1/2"		S/N: N/A
CALIBRATOR:	METRO CL-304		S/N: 246
TEMP. RANGE (°F):	67-68	WEATHER CON	DITIONS: SUNM 5-10MPh
			<u> </u>

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



I-64 HRBT Noise Analysis

Enter Y for Yes	Non-Traffic Exclude																				
LEVEL		61.4	62.6	61.7	62	61	62.6	58.8	61	61.4	62.4	2.09	59.8	61.4	61.5	61.1	60.5	61.7	62.1	62.4	62.4
VALIDATION SOUND LEVEL	Time	14:50	14:51	14:52	14:53	14:54	14:55	14:56	14:57	14:58	14:59	15:00	15:01	15:02	15:03	15:04	15:05	15:06	15:07	15:08	15:09

1800.364,263   1800.364,263   1819700.859   1819700.859   1819700.859   1819700.859   1819700.859   1819700.859   1819700.859   1819700.859   1819700.859   1819700.859   1819700.859   1819700.859   1819700.829   1737800.829	1819701 1479108 1584893 1258925 1819701 758577.6 1258925 1380384 1737801
1819/00.859 1479108.388 1584893.192 1258925.412 1258925.412 1380384.265 1737800.829 1174897.555 954992.586 1412537.545 142018.454 1479108.388 1621810.097 1737800.829 1737800.829 1737800.829 0	\$197.01 1791.08 5848.93 5589.25 3197.01 8577.6 2589.25 380.384
1584893.192 1258925.412 181970.859 758577.575 758577.575 758677.575 11258925.412 1380384.265 11737800.829 11412537.545 1122018.454 1479108.388 1621810.097 1737800.829 1737800.829 1737800.829 0 0 0 0 0	584893 558925 319701 8577.6 258925 380384 737801
1258925.412 1819700.859 758577.575 1258925.412 1380384.265 11737800.829 1174897.555 954992.565 11280384.265 1412537.545 1412537.545 1428249.552 1122018.454 1479108.38 1621810.097 1737800.829 1737800.829 1737800.829 0	258925 319701 8577.6 258925 380384 37801
1819700.859 75857.575 1258925.412 1380384.265 1737800.829 1174897.555 954992.586 1380384.265 1412537.545 142537.545 142537.545 14279108.454 1479108.388 1621810.097 1737800.829 1737800.829 0 0	319701 8577.6 258925 380384 737801
75857.575 7 758925.412 1380384.265 1737800.829 1174897.555 954992.586 1380384.265 1412537.545 1412537.545 142537.545 1479108.388 1621810.097 1737800.829 1737800.829 1737800.829 0 0 0 0 0 0 0 0 0	8577.6 258925 380384 737801
1258925.412 1380384.265 1737800.829 1174897.555 954992.586 1412537.545 1122018.454 1479108.388 1621810.097 1737800.829 1737800.829 0 0	258925 380384 737801
1380384.265 1737800.829 1174897.555 954992.586 1380384.265 1412537.545 1122018.454 1479108.388 1621810.097 1737800.829 1737800.829 0 0 0	380384
1737800.829 1174897.555 954992.586 1380384.265 1412537.545 1122018.454 1479108.388 1621810.097 1737800.829 1737800.829 0 0 0	737801
1174897.555 95499.586 1380384.265 1412537.545 1228249.552 1122018.454 1479108.388 1621810.097 1737800.829 1737800.829 0 0 0 0 0	0007
954992.586 1380384.265 1412537.545 122018.454 1479108.388 1621810.097 1737800.829 1737800.829 0 0 0	1174898
1380384,265 1412537,545 1288249,552 1122018,454 1479108,388 1621810.097 1737800,829 1737800,829 0 0 0 0 0	954992.6
1412537.545 1288249.552 1122018.454 1479108.388 1621810.097 1737800.829 1737800.829 0 0 0 0	1380384
1288249.552 1 1122018.454 1 1479108.388 1- 1621810.097 1 1737800.829 1 1737800.829 1 0 0 0 0 0 0	1412538
1122018.454 1 1479108.388 1-1 1621810.097 1-1 1737800.829 1-1 1737800.829 1-1 1737800.829 1-1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1288250
1479108.388 1 1621810.097 1 1737800.829 1 1737800.829 1 0 0 0 0 0 0 0 0 0 0	122018
1621810.097 1 1737800.829 1 1737800.829 1 0 0 0 0 0 0 0 0 0	479108
1737800.829 1 1737800.829 1 0 0 0 0 0 0 0 0 0	621810
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Traffic-only Leq:	61.5
Leg:	61.5

Site 13

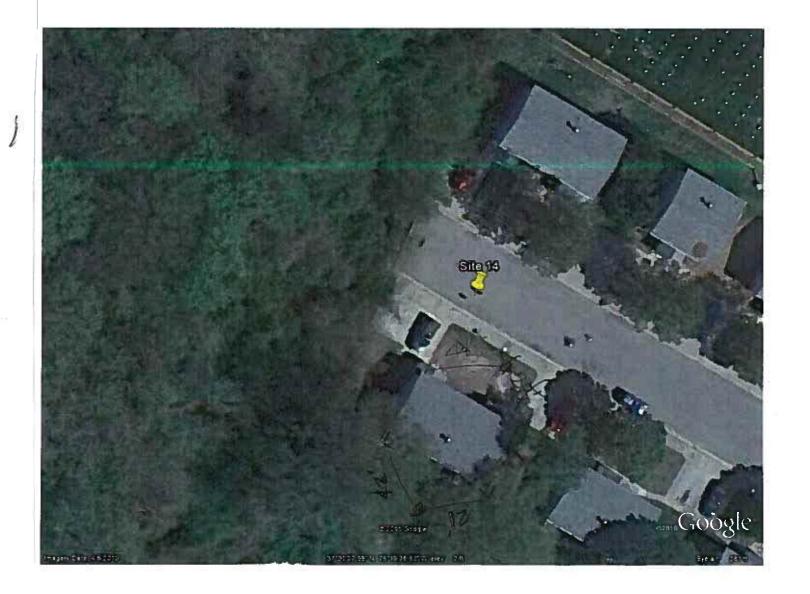
	PROJECT:
Wrginia Department of Transpo	JOB NO.:

Hampton Roads Bridge Tun	inel Noise Analysi:
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### SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA:	MEASUREMENT SITE NO.:/ Y	
ADDRESS:	114 Cameron	
OWNER:		•
DESCRIPTION:		-
NOISE SOURCES:		•
NOISE MONITOR:	2034 Pics \$ 29-32 S/N: Marks somes de	30₽(
MICROPHONE:	Marko Y4" S/N: 12052	_
CALIBRATOR:	Marko CL-304 S/N: 2+65	_
TEMP. RANGE (°F):	67-68 WEATHER CONDITIONS: SWN1, 5-10M	ph NW
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	NU

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



I-64 HRBT Noise Analysis

orte Number	4-10
Location:	114 Cameron Street, Hampton, VA.
Date:	10/25/2011
Start Time:	14:50
Duration (min):	20

	Enter y for yes Traffic Exclude																					
L	Enter y for yes  Non-Traffic Exclude																					
		64.4	63.4	62.8	62.5	61.2	63	62.6	62.4	67.9	63.5	63.4	67.9	63.1	64.6	62.1	63.3	64.2	62.6	62.5	63.3	
200	ה בי																					
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	Time	14:50	14:51	14:52	14:53	14:54	14:55	14:56	14:57	14:58	14:59	15:00	15:01	15:02	15:03	15:04	15:05	15:06	15:07	15:08	15:09	
1																						

Overall	2754229	2187762	1905461	1778279	1318257	1995262	1819701	1737801	1949845	2238721	2187762	1949845	2041738	2884032	1621810	2137962	2630268	1819701	1778279	2137962	0	0	0	0	0 0	0 0	0	0	0	0	0 0	0 (	0 0	· C	00	C	0	63.1	63.1
Traffic-only	2754228.703	2187761.624	1905460.718	1778279.41	1318256.739	1995262.315	1819700.859	1737800.829	1949844.6	2238721.139	2187761.624	1949844.6	2041737.945	2884031.503	1621810.097	2137962.09	2630267.992	1819700.859	1778279.41	2137962.09	0	0	0	0	0		0	0	0	0	0 0		o c		0		0		
Energy	2754228.703	2187761.624	1905460.718	1778279.41	1318256.739	1995262.315	1819700.859	1737800.829	1949844.6	2238721.139	2187761.624	1949844.6	2041737.945	2884031.503	1621810.097	2137962.09	2630267.992	1819700.859	1778279.41	2137962.09	0	0	0	0	0		0	0	0	0	0 0	> 0	o c		0		0	Traffic-only Leq:	Overall Leq:

Site 14

<b>NODT</b>	PROJECT:	Hampton Roads Bridge Tunnel Noise Analysis
Virginia Department of Transportation	JOB NO.:	

ASSESSMENT AREA:	4	MEASUREMENT SIT	E NO.:	15	
ADDRESS:	9 Home	Place			
OWNER:					
DESCRIPTION:					_
NOISE SOURCES:					
NOISE MONITOR:	2032	Acs 33 - 36	S/N:	METRO	dB3080
MICROPHONE:	Metho 1/4"	7 7 79	S/N:	,207	5
CALIBRATOR:	METRO CL-30	Y	S/N:	246	5
TEMP. RANGE (°F):	67-68	WEATHER CONDIT	IONS: _	SUNNY	5-10mg 4

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.

NOTE: 29 From House Cornor, 30' From FONCE CORN Google

I-64 HRBT Noise Analysis

iper	51-15
Location:	9 Home Place, Hampton, VA.
Date:	10/25/2011
Start Time:	14:50
Duration (min):	20

_																						
	Enter Y for Yes Traffic Exclude																					
	Enter Y for Yes  Non-Traffic Exclude																					
		64.9	62.9	63.6	63.4	62.6	62.7	63.2	62.6	63.2	63.8	62.1	62.5	67.9	64.4	62.8	64.3	62.2	63.4	64.1	63	
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0	Time	14:50	14:51	14:52	14:53	14:54	14:55	14:56	14:57	14:58	14:59	15:00	15:01	15:02	15:03	15:04	15:05	15:06	15:07	15:08	15:09	
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02.3		Overall Leq.
63.3		Traffic-only Leq:
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1995262	1995262.315	1995262.315
2570396	2570395.783	2570395.783
2187762	2187761.624	2187761.624
1659587	1659586.907	1659586.907
2691535	2691534.804	2691534.804
1905461	1905460.718	1905460.718
2754229	2754228.703	2754228.703
1949845	1949844.6	1949844.6
1778279	1778279.41	1778279.41
1621810	1621810.097	1621810.097
2398833	2398832.919	2398832.919
2089296	2089296.131	2089296.131
1819701	1819700.859	1819700.859
2089296	2089296.131	2089296.131
1862087	1862087.137	1862087.137
1819701	1819700.859	1819700.859
2187762	2187761.624	2187761.624
2290868	2290867.653	2290867.653
1949845	1949844.6	1949844.6
3090295	3090295.433	3090295.433
Overall	Traffic-only	Energy

Site 15

WDOT	PROJECT:	Hampton Roads Bridge Tunnel Noise Analysis
Virgin a Department of Transportation	JOB NO.:	

SHORT-TERM NOISE MEASUREMENT SITE LOG	EILZ (	D A
---------------------------------------	--------	-----

SHUKI-I	EKIM NOISE ME	ASUKEWIENI SII	ELC	6 F12 001
ASSESSMENT AREA:	4	MEASUREMENT SITE	E NO.:	16
ADDRESS:	325			
OWNER:				
DESCRIPTION:				
NOISE SOURCES:				
NOISE MONITOR: /NL	-06) (KON 3	Pics # 37 - 40	S/N:	60380362
MICROPHONE:	06-52	ILLY 001	S/N:	58522
CALIBRATOR:	PION NC- 73	1	S/N:	10417650
TEMP. RANGE (°F):	67-68	WEATHER CONDIT	IONS:	SUNN 1, 5-10 mph
				NNW

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.

MOTE! MOTER PLACED AT END DE BRICK WALKWAYL

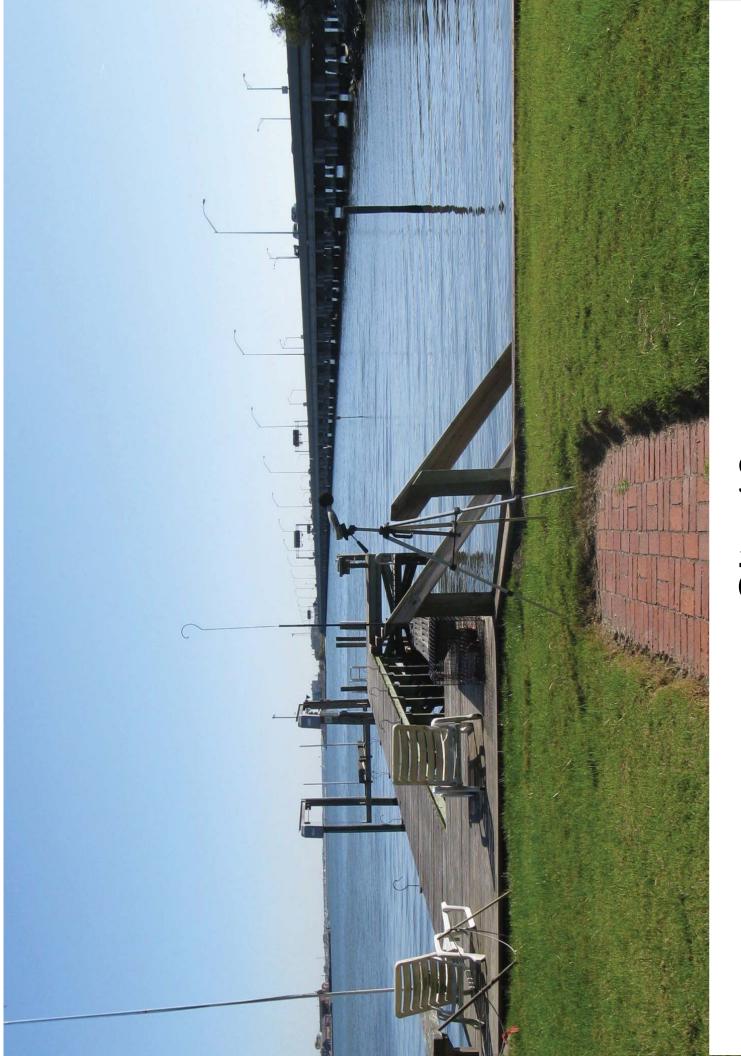


I-64 HRBT Noise Analysis

Site Number	01-10
Location:	Small Beach East Side of I-64, Hampton, VA.
Date:	10/25/2011
Start Time:	14:50
Duration (min):	20

Enter Y for Yes	Non-Traffic Exclude																										
Levet.		64.2	63.4	65.4	65.1	64.8	63.5	64.6	66.1	64.5	65.2	62:9	64.7	65.3	8.99	99	9	2.99	64.5	65.1	63.8						
VALIDATION SOUND LEVEL	Time	14:50	14:51	14:52	14:53	14:54	14:55	14:56	14:57	14:58	14:59	15:00	15:01	15:02	15:03	15:04	15:05	15:06	15:07	15:08	15:09						

1.00		Overall Leq.
65.1		raffic-only Leq:
0 4	>	
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0	0	0
0	0	0
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0 0		0 0
2398833	2398832.919	2398832.919
3235937	3235936.569	3235936.569
2818383	2818382.931	2818382.931
4677351	4677351.413	4677351.413
3162278	3162277.66	3162277.66
3981072	3981071.706	3981071.706
4786301	4786300.923	4786300.923
3388442	3388441.561	3388441.561
2951209	2951209.227	2951209.227
3890451	3890451.45	3890451.45
3311311	3311311.215	3311311.215
2818383	2818382.931	2818382.931
4073803	4073802.778	4073802.778
2884032	2884031.503	2884031.503
2238721	2238721.139	2238721.139
3019952	3019951.72	3019951.72
3235937	3235936.569	3235936.569
3467369	3467368.505	3467368.505
2187762	2187761.624	2187761.624
2630268	2630267.992	2630267.992
Overall	Traffic-only	Energy



### TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA:	4	_ START TIME:	
MEASUREMENT SITE NO.:	13 70 16	_ END TIME:	
ADDRESS/DESCRIPTION:		DATE:	Oct/252011
		PERSONNEL:	GWT/98 als
Roadway: First Sample ( <u>b</u> minutes) Start Time:	Automobiles	DIRECTION 1  4055T  200	DIRECTION 2
	Medium Trucks (6 Tires) Heavy Trucks (>6 Tires)	2	
Roadway: Second Sample ( <u> </u> minutes) Start Time:			2:12
	Automobiles		242
	Medium Trucks (6 Tires)		
	Heavy Trucks (>6 Tires)		<u> </u>
Roadway:  Third Sample ( <u>S</u> minutes)  Start Time:			
3,00	Automobiles	j 80	
	Medium Trucks (6 Tires)	1	
	Heavy Trucks (>6 Tires)	1	
Roadway: Fourth Sample ( minutes) Start Time:			
31.05 P	Automobiles		240
	Medium Trucks (6 Tires)		5
	Heavy Trucks (>6 Tires)		<u>l</u> o
Notes:			

### TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA: MEASUREMENT SITE NO.: ADDRESS/DESCRIPTION:	5 17-19 COUNTOD AT 15TH VIEW	_ START TIME: _ END TIME: _ DATE: _ PERSONNEL:	10:05 10:25 Value 8 2011 GWT/CS
Roadway: First Sample ( 5 minutes) Start Time: 10:05  10:04 backfire 10:07 - hammering ongoing	Automobiles  Medium Trucks (6 Tires)  Heavy Trucks (>6 Tires)	DIRECTION 1 EB 143 8	DIRECTION 2
Roadway: Second Sample (_5_ minutes) Start Time: 10:10  10:11 huicapter Landom hammung	Automobiles  Medium Trucks (6 Tires)  Heavy Trucks (>6 Tires)		
Roadway: Third Sample (_5 minutes) Start Time: 10:15 10:18 propular plane	Automobiles  Medium Trucks (6 Tires)  Heavy Trucks (>6 Tires)	_162 5 (0	
Roadway: Fourth Sample ( 5 minutes) Start Time: 10:20  10:22-plane 10:23 jut (antire minuta)	Automobiles  Medium Trucks (6 Tires)  Heavy Trucks (>6 Tires)		

Notes:

- Resident Contrary Home 47 Some point During motheracus

WDOT	PROJECT:	Hampton Roads Bridge Tunnel Noise Analysis
Virginia Department of Transportation	JOB NO.:	

ASSESSMENT AREA:		MEASUREMENT SITE	E NO.:	17
ADDRESS:	1560 Chela	lve		
OWNER:				
DESCRIPTION:				
NOISE SOURCES:				
NOISE MONITOR:	db 308	. Pics 5-8	S/N:	2342
MICROPHONE:	INTEGRAL		S/N:	N/A
CALIBRATOR:	Me72050mcs	CL-307	S/N:	2465
TEMP. RANGE (°F):	57-580	WEATHER CONDIT	IONS:	SUNNY CALL

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.

Note: If Sometime during measurement, resident returned home.



Site Number Location: Date:	ST-17   1560 Chela Ave, Norfolk, VA.   11/8/2011
Start Time:	10:05
Duration (min):	20

F	-	Springs - Issuer	00 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	_		Troffic calc	
====		MOII-Hallic	Excidue		Ellelgy	Hallic-Ulliy	Overall
10:05	61.8				1513561.248	1513561.248	1513561
10:06	61.8				1513561.248	1513561.248	1513561
10:07	61.3				1348962.883	1348962.883	1348963
10:08	64.4	>		unknown disturbance	2754228.703	0	2754229
10:09	61.8				1513561.248	1513561.248	1513561
10:10	61				1258925.412	1258925.412	1258925
10:11	68.7	>		helicopter	7413102.413	0	7413102
10:12	61.3				1348962.883	1348962.883	1348963
10:13	61.3				1348962.883	1348962.883	1348963
10:14	61.4				1380384.265	1380384.265	1380384
10:15	63				1995262.315	1995262.315	1995262
10:16	65.6			possible return of resident, in v	3630780.548	3630780.548	3630781
10:17	62.8				1905460.718	1905460.718	1905461
10:18	63.7				2344228.815	2344228.815	2344229
10:19	62.5				1778279.41	1778279.41	1778279
10:20	62.2				1659586.907	1659586.907	1659587
10:21	64.6	>		prop plane	2884031.503	0	2884032
10:22	60.4				1096478.196	1096478.196	1096478
10:23	63.9	>		jet	2454708.916	0	2454709
10:24	63.6				2290867.653	2290867.653	2290868
							C
					0	0	0
					0	0	0
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					0	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
					Traffic-only Leq:		62.4
					Overall Leq:		63.4

Site 17

1	DOT
Virgini	a Department of Transportation

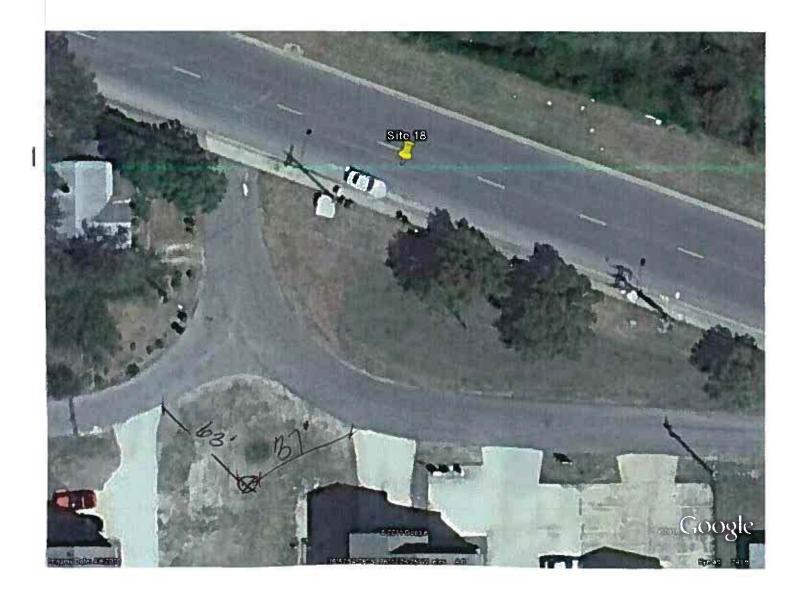
Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.:

### SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA:		MEASUREMENT SITE	NO.:	18
ADDRESS:	1753	Bayville C.	ant	
OWNER:				
DESCRIPTION:				
NOISE SOURCES:				
NOISE MONITOR: dB 30	80 2032	Pics 1-4 Lety	S/N:	2032
MICROPHONE:	1/4" METRO	7-7-9	S/N:	12075
CALIBRATOR:	METRO CL-30	7	S/N:	2465
TEMP. RANGE (°F):	57-58°	WEATHER CONDITI	ONS:	SUNNY, CALM

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



	han	Enter Y	Enter Y for Yes				
Time		Non-Traffic Exclude	Exclude		Energy	Traffic-only	Overall
10:05	64.3				2691534.804	2691534.804	2691535
10:06	65.7				3715352.291	3715352.291	3715352
10:07	62.9				1949844.6	1949844.6	1949845
10:08	64.9				3090295.433	3090295.433	3090295
10:09	66.4				4365158.322	4365158.322	4365158
10:10	65.1				3235936.569	3235936.569	3235937
10:11	89	>		helicopter	6309573.445	0	6309573
10:12	65.3				3388441.561	3388441.561	3388442
10:13	64.7				2951209.227	2951209.227	2951209
10:14	99				3981071.706	3981071.706	3981072
10:15	66.3				4265795.188	4265795.188	4265795
10:16	65.2				3311311.215	3311311.215	3311311
10:17	64.9				3090295.433	3090295.433	3090295
10:18	65.9				3890451.45	3890451.45	3890451
10:19	65.8				3801893.963	3801893.963	3801894
10:20	64.9				3090295.433	3090295.433	3090295
10:21	65.8				3801893.963	3801893.963	3801894
10:22	65.7				3715352.291	3715352.291	3715352
10:23	66.3				4265795.188	4265795.188	4265795
10:07	0 39				3800464 46	3800454 45	2800454
10.24	6:60				0000451.45	3630451.45	0000451
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					0 0		0 0
					0	0	0 0
					0	0	0
					Traffic-only Leq:		65.4

Site 18

	DOT
Virgini Virgini	Department of Transportation

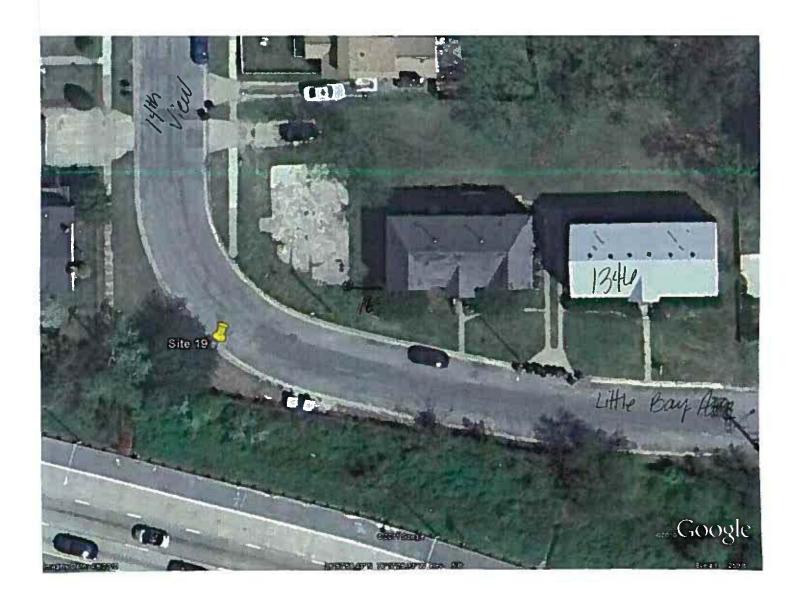
PROJECT:

Hampton Roads Bridge Tunnel Noise Analysis

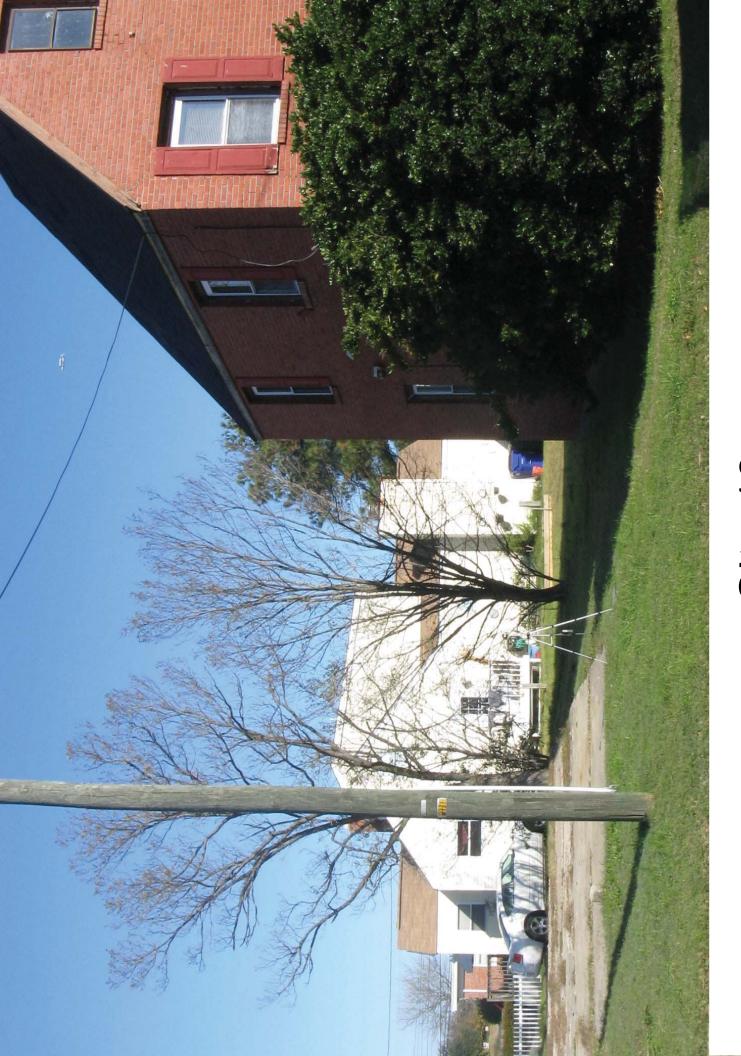
JOB NO.:

#### SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA:	5	MEASUREMENT SITE NO.:	19
ADDRESS:	INTENSORTION OF	14 DEN + UTILE B	MY AVE.
OWNER:			
DESCRIPTION:			
NOISE SOURCES:			
NOISE MONITOR:	dB 3080	Pic #9-12 S/N:	2033
MICROPHONE:	1/4" Memosones	S/N:	12052
CALIBRATOR:	MATERO CL-309	S/N:	2465
TEMP. RANGE (°F):	57-58	WEATHER CONDITIONS:	SUNNY, CAM



	han	Enter Y	Enter Y for Yes				
Time		Non-Traffic Exclude	Exclude		Energy	Traffic-only	Overall
10:05	64				2511886.432	2511886.432	2511886
10:06	64.3				2691534.804	2691534.804	2691535
10:07	64.1				2570395.783	2570395.783	2570396
10:08	64.9				3090295.433	3090295.433	3090295
10:09	63.3				2137962.09	2137962.09	2137962
10:10	63.7				2344228.815	2344228.815	2344229
10:11	67.4	>		helicopter	5495408.739	0	5495409
10:12	64.7				2951209.227	2951209.227	2951209
10:13	63.5				2238721.139	2238721.139	2238721
10:14	64.5				2818382.931	2818382.931	2818383
10:15	65.8				3801893.963	3801893.963	3801894
10:16	63.4				2187761.624	2187761.624	2187762
10:17	64.4				2754228.703	2754228.703	2754229
10:18	65.8				3801893.963	3801893.963	3801894
10:19	64.9				3090295.433	3090295.433	3090295
10:20	65.4				3467368.505	3467368.505	3467369
10:21	66.1				4073802.778	4073802.778	4073803
10:22	64.4				2754228.703	2754228.703	2754229
10:23	67.6	>		jet plane	5754399.373	0	5754399
10.24	65.7				3715352,291	3715352 291	3715352
							0 0
					0	0	0 0
					0	0	0
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					0	0	0
					0 0	0 0	0 0
					0	0	00
					Traffic-only Leq:		64.7



ASSESSMENT AREA:	6	START TIME:	1:45
MEASUREMENT SITE NO.:	20-22	END TIME:	2:05
ADDRESS/DESCRIPTION:	COUNTED AT SITE 22	DATE:	NNOet 8 2011
	6nt view	PERSONNEL:	GWT/CS
Dandoo		DIRECTION 1	DIRECTION 2
Roadway:  First Sample ( 5 minutes)  Start Time: 1:45		EB	WB
1:48 Helicopter 7 directle over Site 22 lasting 245 second	Automobiles	133	
losting 245 second	Medium Trucks (6 Tires) Heavy Trucks (>6 Tires)	20	
Roadway: Second Sample ( _5_ minutes) Start Time: ( ;50			
1, 50	Automobiles		219
	Medium Trucks (6 Tires)		4
	Heavy Trucks (>6 Tires)		4
Roadway: Third Sample ( minutes) Start Time: 1:55			
	Automobiles	123	_
late in 1.50, ellegio	Medium Trucks (6 Tires)	4	
late in 1:54, early 1:5: helicopter -> relevanto sites 20,21	Heavy Trucks (>6 Tires)		_
Roadway: Fourth Sample ( 5 minutes) Start Time: 2:00			
L.00	Automobiles		199
	Medium Trucks (6 Tires)		<u> </u>
	Heavy Trucks (>6 Tires)		
Notes:			

PROJECT:	Hampton Roads Bridge Tunnel Noise Analysis
Virginia Department of Transportation JOB NO.:	

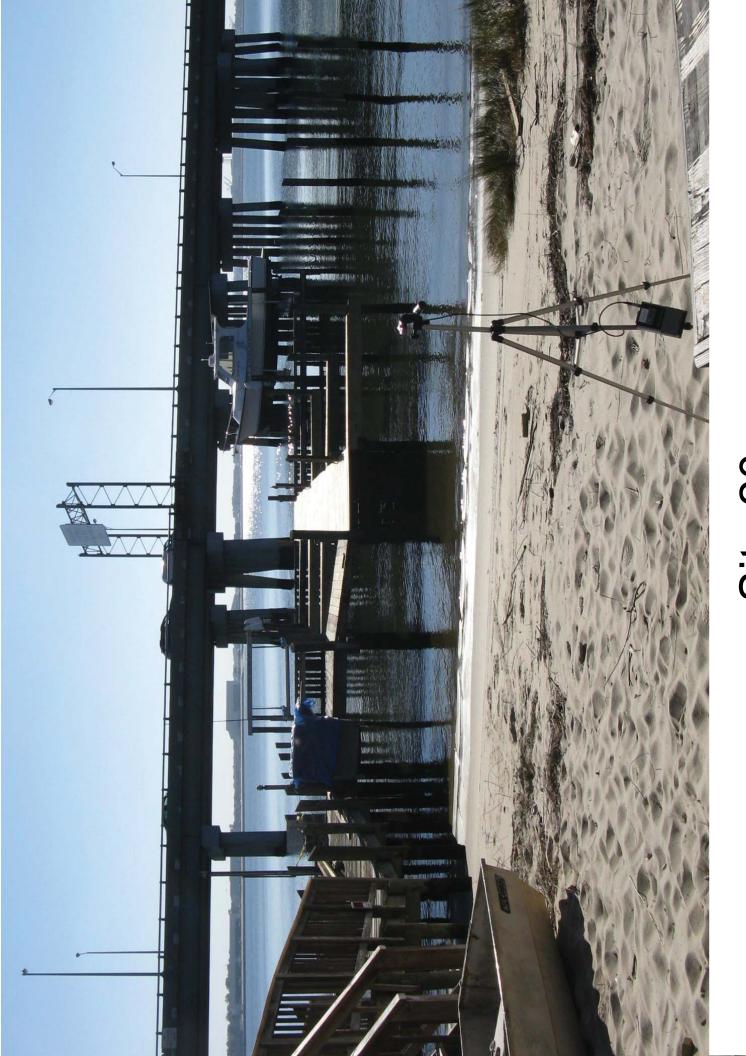
ASSESSMENT AREA:	N	MEASUREMENT SITE NO.:	20
ADDRESS:	Pier/Beach Willow	July Boat Club	
OWNER:		0 1 1 1	
DESCRIPTION:			
NOISE SOURCES:			
NOISE MONITOR:	<u> 263080</u> 1		2033
MICROPHONE:	14" METROSONICS	S/N:	12052
CALIBRATOR:	14"METROSONICS	S/N:	2465
TEMP. RANGE (°F):	620	WEATHER CONDITIONS:	SUNNY, CALM
			~ 5 mph w



at Club 8/2011 13:45	ST-20 Piew/Beach Willoughby Boat Club 11/8/2011 13:45
----------------------------	----------------------------------------------------------------

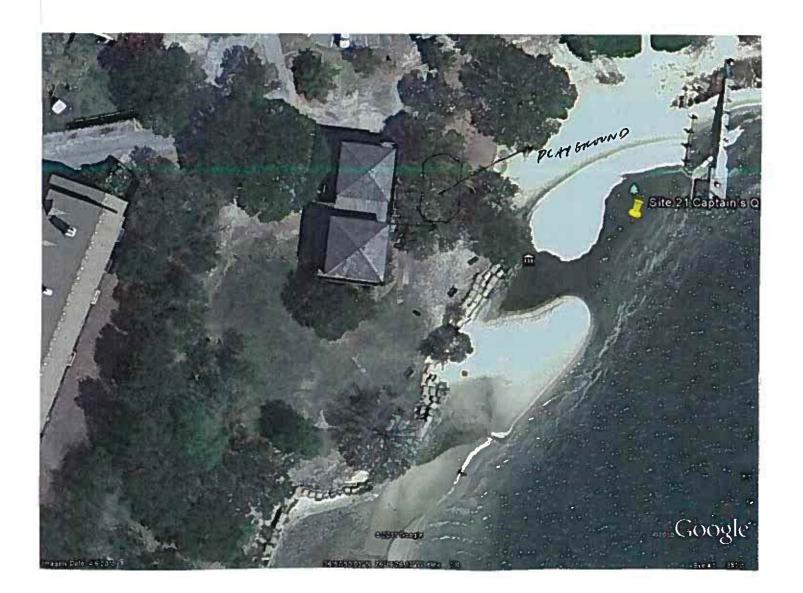
Enter
Leq
D LEVEL
VALIDATION SOUND LEVEL

i	bal	Enter 1	Enter 7 for 7 es		L	- E	=
IIme		Non-Traffic Exclude	Exclude		Energy	ı ramc-oniy	Overall
13:45	61.6				1445439.771	1445439.771	1445440
13:46	62				1584893.192	1584893.192	1584893
13:47	62.1				1621810.097	1621810.097	1621810
13:48	63.6	>		helicopter	2290867.653	0	2290868
13:49	9.09				1148153.621	1148153.621	1148154
13:50	61.8				1513561.248	1513561.248	1513561
13:51	61.4				1380384.265	1380384.265	1380384
13:52	62.6				1819700.859	1819700.859	1819701
13:53	61.7				1479108.388	1479108.388	1479108
13:54	62.1				1621810.097	1621810.097	1621810
13:55	62.2				1659586.907	1659586.907	1659587
13:56	61.8				1513561.248	1513561.248	1513561
13:57	60.2				1047128.548	1047128.548	1047129
13:58	61.2				1318256.739	1318256.739	1318257
13:59	61				1258925.412	1258925.412	1258925
14:00	59.6				912010.8394	912010.8394	912010.8
14:01	8.09				1202264.435	1202264.435	1202264
14:02	59.6				912010.8394	912010.8394	912010.8
14:03	0 01				077737	100 750770	077037 0
14.03	9.95 5.08				1122018 454	1122018 454	1122018
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					00	0 0	0 0
					Traffic-only Leq:		61.3
					Overall Leq:		61.4



WOUT	PROJECT:	Hampton Roads Bridge Tunnel Noise Analysis
Virginia Department of Transportation	JOB NO.:	

ASSESSMENT AREA:	<u> </u>	MEASUREMENT SI		221
ADDRESS:	Contains Quart	ers waterfront !	Parke	
OWNER:				
DESCRIPTION:			-	
NOISE SOURCES:				
NOISE MONITOR:	<u>db308</u>	Pics # 25 - 32	S/N:	2342
MICROPHONE:	_ INTERAL		S/N:	MA
CALIBRATOR:	CL-304 MF	TRO	S/N:	2465
TEMP. RANGE (°F):	62"	WEATHER CONDI	TIONS:	SUNNY ~5mph



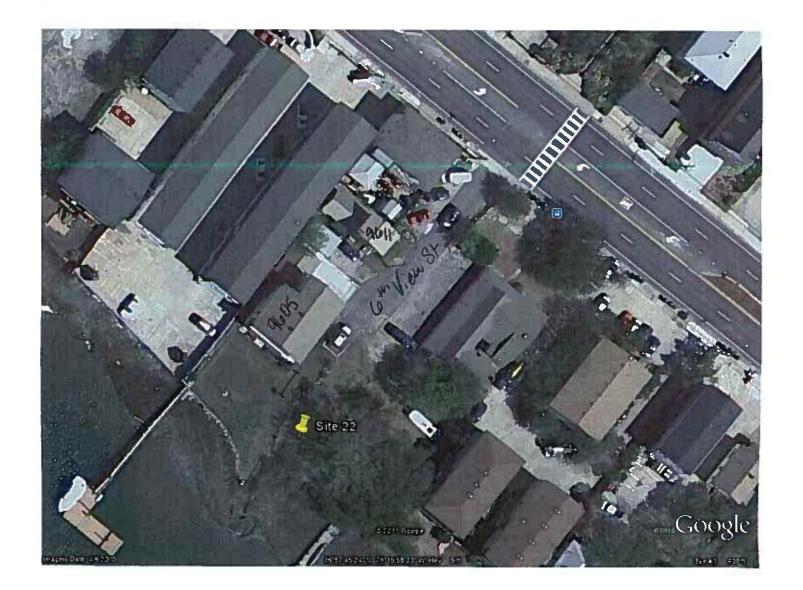
Ë	<b>-</b>	April 2 Company of the Company of th	Evoludo.		, 52°C	Troffic only	
10.4E	100	MOII-II MIII	LACIDAG		04.2020 E4.62	042020 E4E2	042020 E
5.45	T-SC				2010:00210	012030.3102	0.00010
13:46	9:09				1148153.621	1148153.621	1148154
13:47	62.2			helicopter	1659586.907	0	1659587
13:48	63.4	>			2187761.624	0	2187762
13:49	58.5				707945.7844	707945.7844	707945.8
13:50	57.8				602559.5861	602559.5861	602559.6
13:51	58.7				741310.2413	741310.2413	741310.2
13:52	62			unknown disturbance	1584893.192	0	1584893
13:53	62.3	>		=	1698243.652	0	1698244
13:54	58.1				645654.229	645654.229	645654.2
13:55	58.2				660693.448	660693.448	660693.4
13:56	58.5				707945.7844	707945.7844	707945.8
13:57	56.6				457088.1896	457088.1896	457088.2
13:58	59.3				851138.0382	851138.0382	851138
13:59	55.5				354813.3892	354813.3892	354813.4
14:00	56.6				457088.1896	457088.1896	457088.2
14:01	57.7				588843.6554	588843.6554	588843.7
14:02	55.7				371535.2291	371535.2291	371535.2
14:03	58.6				724435.9601	724435.9601	724436
14:04	58.8				758577.575	758577.575	758577.6
					0	0	0
					0	0	0
					0	0	0
					0	0	0
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					0 0	0 0	0 0
							0 0
							0 0
							0 0
					0 0		0 0
					0	0	0
					0	0	0
					0	0	0
					Traffic-only Leq:		58.2
					Overall Leq:		59.5

# Site 21

		PROJEC	T:
Arginia Departme	ent of Transportation	JOB NO.	:

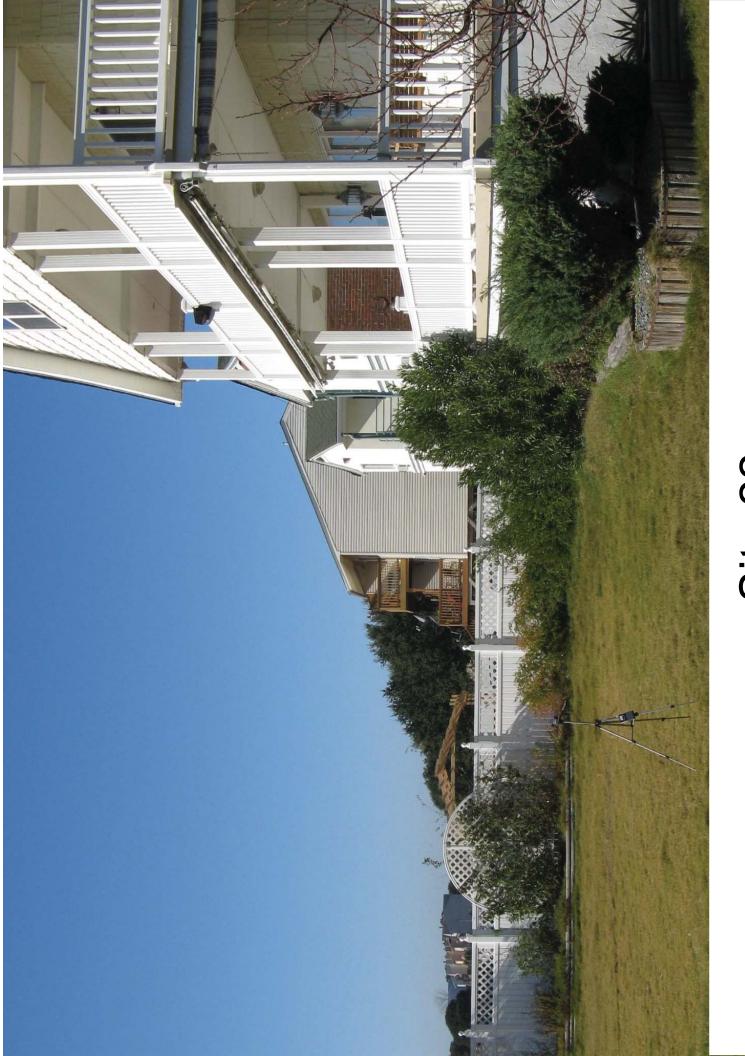
Hampton Roads Bridge	<b>Tunnel Noise Analysis</b>
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ASSESSMENT AREA:	6	MEASUREMENT SITE	E NO.:	
ADDRESS:	9605 600 Views	St.		
OWNER:				
DESCRIPTION:				
NOISE SOURCES:				
NOISE MONITOR:	db 3080	Pic # 17-20	S/N:	2032
MICROPHONE:	1/4" METEO		S/N:	12075
CALIBRATOR:	METRO CL-304		S/N:	2465
TEMP. RANGE (°F):	620	WEATHER CONDIT	IONS:	SUMMY, ~ 5 Mph



Site Number	ST-22
Location:	9605 6th View Street, Norfolk, VA.
Date:	11/8/2011
Start Time:	13:45
Duration (min):	20

	hed	Enter Y for Yes	Se			
Time		Non-Traffic Exclude	Ide	Energy	Traffic-only	Overall
13:45	59.2			831763.7711	831763.7711	831763.8
13:46	58.1			645654.229	645654.229	645654.2
13:47	57			501187.2336	501187.2336	501187.2
13:48	70.9	>	helicopter	12302687.71	0	12302688
13:49	58.2			660693.448	660693.448	660693.4
13:50	58.5			707945.7844	707945.7844	707945.8
13:51	57.9			616595.0019	616595.0019	616595
13:52	59.3			851138.0382	851138.0382	851138
13:53	59			794328.2347	794328.2347	794328.2
13:54	58.7			741310.2413	741310.2413	741310.2
13:55	58.6			724435.9601	724435.9601	724436
13:56	58.2			660693.448	660693.448	660693.4
13:57	57.3			537031.7964	537031.7964	537031.8
13:58	58.7			741310.2413	741310.2413	741310.2
13:59	56.6			457088.1896	457088.1896	457088.2
14:00	57.3			537031.7964	537031.7964	537031.8
14:01	58.5			707945.7844	707945.7844	707945.8
14:02	55.7			371535.2291	371535.2291	371535.2
14:03	59.7			933254.3008	933254.3008	933254.3
14:04	59.8			954992.586	954992.586	954992 6
						0 0
						0 0
						0 0
				0 0		0 0
				0	0	0
				0	0	0
				0	0	0
				0	0	0
				0	0	0
				0	0	0
				0	0	0
				0	0	0
				0	0	0
				0	0	0
				0	0	0
				0	0	0
				0	0	0
				0	0	0
				Traffic-only Leq:		58.3
				Overall Leq:		61.0



#### TRAFFIC VOLUME COUNT DATA SHEET

	ASSESSMENT AREA: MEASUREMENT SITE NO.: ADDRESS/DESCRIPTION:	23-27 GOUNTED AT SITE 23 OCONNON CASSIONT	START TIME:  END TIME:  DATE:  PERSONNEL:	3:25 3:45 9a_2011 GWT/CS
t'	Roadway: First Sample ( 5 minutes) Start Time: 3:25 Heli copter - late 3:27, early 3:28 (185) over site 23 3:29 helicopter rasting about 30 sec Roadway: Site 23	Heavy Trucks (>6 Tires)	DIRECTION 1 WB (Right)  - 214	DIRECTION 2  ( left to hi ght)
Steed haff	Second Sample (5 minutes)  Start Time: 3:30  3:31 plane passing ≈ 15sec (conty)  3:32:30 helicopter pass 1 asting ≈ 20-30sec 3:34 helicopter in disto Roadway:  Third Sample (5 minutes)	, Automobiles		196 7 9
al humbord	3:37:50 can will out me passes 3:39 toward end Theavy thick passes Roadway:	Medium Trucks (6 Tires)	<u>213</u> 1 9	
77	Fourth Sample (5 minutes) Start Time: 3:40 3:40:50 helicopter lasting = 10 3:42:40 helicopter 3:44:50 plane	Automobiles  Automobiles  Automobiles  Control  Automobiles  Automobil		43 *

Notes: X FOR LAST COUNTING PORTIOD IN EB DIRECTION, TRAFFIC DISAPPORENT AFFOR 135 MINUTE, INDICATING A DISRUPTION IN TRAFFIC FLOW PRIOR TO ASSESSMENT AREA.

WDDT	PROJECT:	Hampton Roads Bridge Tunnel Noise Analysis
Virginia Department of Transportation	17 XLJ K17 X +	

ASSESSMENT AREA:	7	<b>MEASUREMENT SIT</b>	E NO.:	23
ADDRESS:	8667 0'Conn	er Cuscent		
OWNER:				
DESCRIPTION:				
NOISE SOURCES:				
NOISE MONITOR:	db 308	Ait 33 - 36	S/N:	2342
MICROPHONE:	INTEGRAL	Pic#49-52	S/N:	NA
CALIBRATOR:	MUSED CL-304	110 11 5	S/N:	2465
TEMP. RANGE (°F):	60	WEATHER CONDIT	ΓΙΟNS:	SUNDY, ~ GMPH

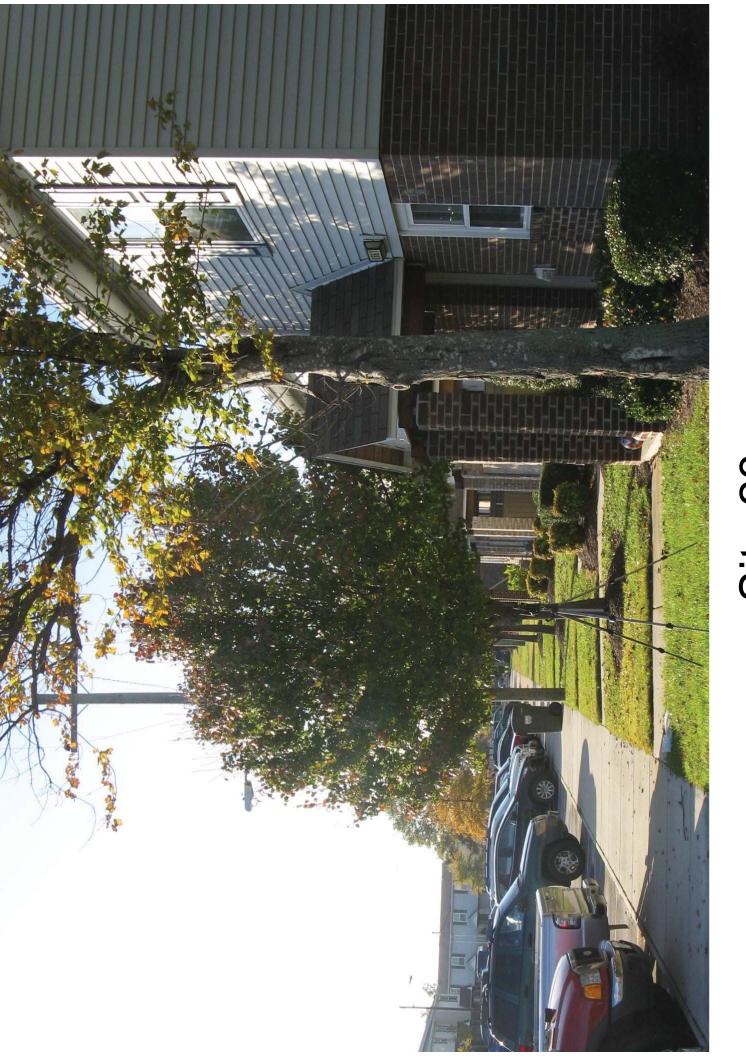
SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.

MOTE: 11' FROM CONNOR, MONE STRANGET LINE OF SIDE FRATING O'CONNOR CRESCONS Google

Site Number	ST-23
Location:	8667 U Conner Crescent, Norrolk, v.A.
Date:	11/8/2011
Start Time:	15:25
Duration (min):	20

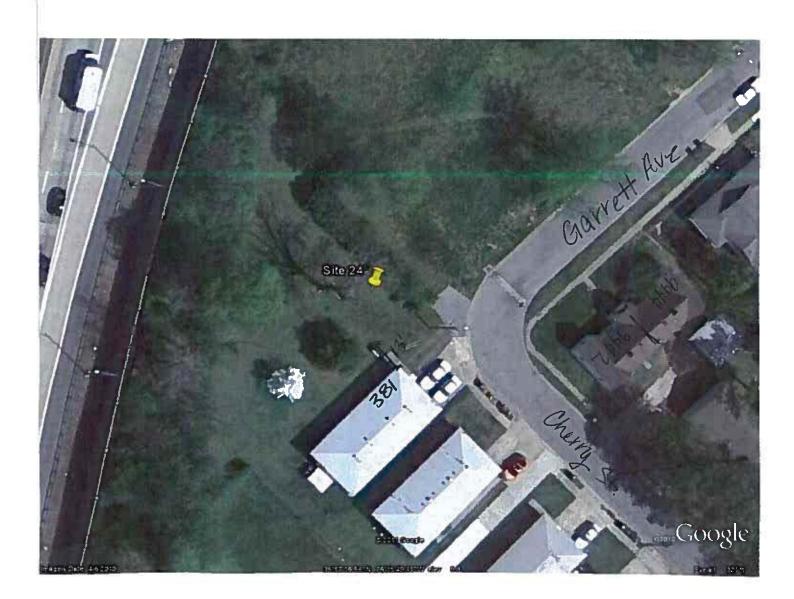
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	ben	Enter	Enter Y for Yes				
Time		Non-Traffic Exclude	Exclude:		Energy	Traffic-only	Overall
15:25	65.6				3630780.548	3630780.548	3630781
15:26	64				2511886.432	2511886.432	2511886
15:27	63.7				2344228.815	2344228.815	2344229
15:28	67.8	>		helicopter	6025595.861	0	6025596
15:29	79			=	79432823.47	0	79432823
15:30	65.2			plane	3311311.215	3311311.215	3311311
15:31	64.5				2818382.931	2818382.931	2818383
15:32	63.9			plane	2454708.916	0	2454709
15:33	6.99	>		helicopter	4897788.194	0	4897788
15:34	64.7				2951209.227	0	2951209
15:35	64.1				2570395.783	2570395.783	2570396
15:36	62.9				1949844.6	1949844.6	1949845
15:37	62.4				1737800.829	1737800.829	1737801
15:38	61.3				1348962.883	1348962.883	1348963
15:39	62.7				1862087.137	1862087.137	1862087
15:40	63.6			heavy truck on O'Conner Cresce	2290867.653	2290867.653	2290868
15:41	62.8	>	>	helicopter & Traf Disruption	1905460.718	C	C
16.40	C C 2		. >	Policostor O Traf Division	1650506 007		) (
15:42	7.70		-	nelicopter & Irai Disruption	1029280.907	0	0
15:43	58.7	>	>	Traffic Disruption	741310.2413	0	0
15:44	59.2		>	Traffic Disruption	831763.7711	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
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					0	0	0
					0	0	0
					0 0	0 0	0 0
				<u>II-</u>	Fraffic-only Leg:		63.8
					Overall Leg:		68.8
				ני			



WOUT	PROJECT:	Hampton Roads Bridge Tunnel Noise Analysis
Virginia Department of Transportation	JOB NO.:	

ASSESSMENT AREA:	7	MEASUREMENT SIT	E NO.:	24
ADDRESS:	381 Chem 5 +			
OWNER:				
DESCRIPTION:				
NOISE SOURCES:	<u> </u>			
NOISE MONITOR:	_db380	Pic#45-48	S/N:	2032
MICROPHONE:	1/4" METROSO	MCS	S/N:	12075
CALIBRATOR:	METHO CL-30		S/N:	2465
TEMP. RANGE (°F):	600	WEATHER CONDI	TIONS:	SUNNY, ~ 6Mph



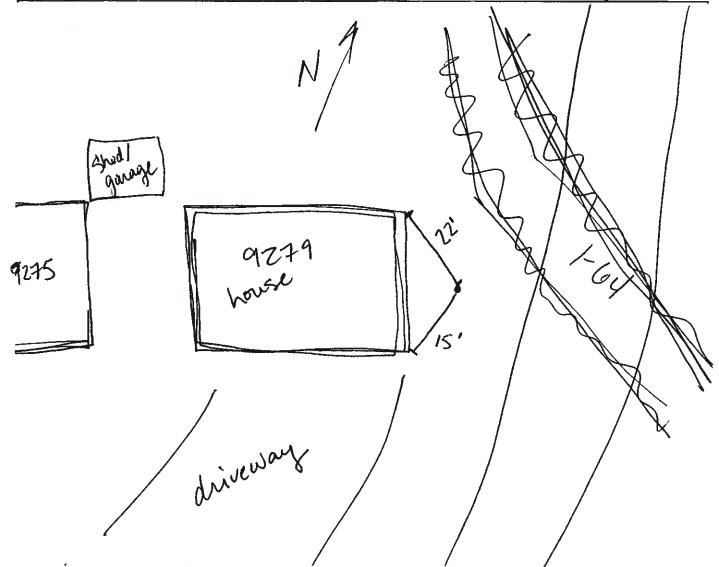
Site Number ST-24	381 Cherry Street, Norfolk, VA.	11	Start Time:	Duration (min)
	VA.	11/8/2011	15:25	20

i	2						
Time		Non-Traffic Exclude	Exclude		Energy	I raffic-only	Overall
15:25	61.8				1513561.248	1513561.248	1513561
15:26	2.09				1174897.555	1174897.555	1174898
15:27	67.8	>		helicopter	6025595.861	0	6025596
15:28	63				1995262.315	1995262.315	1995262
15:29	75.4	>		helicopter	34673685.05	0	34673685
15:30	62.8				1905460.718	1905460.718	1905461
15:31	63				1995262.315	1995262.315	1995262
15:32	63.9	>		helicopter	2454708.916	0	2454709
15:33	62.3				1698243.652	1698243.652	1698244
15:34	62.1				1621810.097	1621810.097	1621810
15:35	62				1584893.192	1584893.192	1584893
15:36	8.09				1202264.435	1202264.435	1202264
15:37	60.5				1122018.454	1122018.454	1122018
15:38	60.3				1071519.305	1071519.305	1071519
15:39	60.3				1071519.305	1071519.305	1071519
15:40	61.5				1412537.545	1412537.545	1412538
15:41	63.6	>		helicopter	2290867.653	0	2290868
15:42	58.3				676082.9754	676082.9754	676083
15:43	57.4				549540.8739	549540.8739	549540.9
15:44	60.1				1023292.992	1023292.992	1023293
					0	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
					0 (	0	0
					0 0	0	0 0
							0 0
							0 0
					0 0		0 0
					0	0	0
					0	0	0
					0 0	0 0	0 0
				_	Traffic-only Leg:		61.3

Site 24

WDDT	PROJECT:	Hampton Roads Bridge Tunnel Noise Analysis
Virginia Department of Transportation	JOB NO.:	

ASSESSMENT AREA:		MEASUREMENT SITE N	10.: _	25
ADDRESS:	9279 Coleman	Avenue		
OWNER:				
DESCRIPTION:				
NOISE SOURCES:				
NOISE MONITOR:	Rion NLOU#2	Pic 37-46 s	S/N: _	61276299
MICROPHONE:	VC-52-	File 00. AUZS	S/N: _	79631
CALIBRATOR:	RION N C-73	\$	S/N: _	10417650
TEMP. RANGE (°F):	600	WEATHER CONDITION	NS: _	SUNNY, ~ 6 mph



Site Number         ST-25           Location:         9279 Coleman Ave., Norfolk, VA.           Date:         11/8/2011           Start Time:         15:25	olk, VA. 1/8/2011 15:25
-------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------

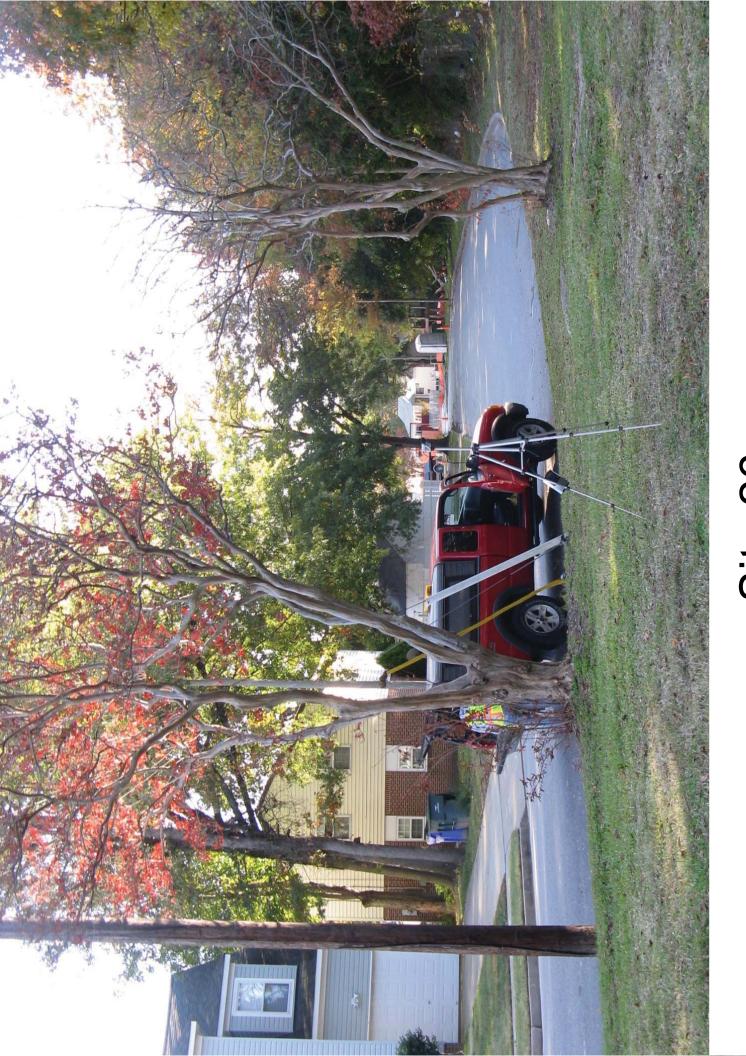
i	3	- I I I I I I I I I I I I I I I I I I I	H. 61- 101 163			TC.	
allie.	_	Non-Hailic Exclude	Exclude		Errergy	Hallic-Uniy	
15:25	73.6				22908676.53	22908676.53	22908677
15:26	72.9				19498446	19498446	19498446
15:27	72.1				16218100.97	16218100.97	16218101
15:28	73.3				21379620.9	21379620.9	21379621
15:29	7.9.7	>		helicopter	93325430.08	0	93325430
15:30	74				25118864.32	25118864.32	25118864
15:31	73.1				20417379.45	20417379.45	20417379
15:32	73.1				20417379.45	20417379.45	20417379
15:33	72.7				18620871.37	18620871.37	18620871
15:34	73.1				20417379.45	20417379.45	20417379
15:35	72.8				19054607.18	19054607.18	19054607
15:36	71.6				14454397.71	14454397.71	14454398
15:37	70.3				10715193.05	10715193.05	10715193
15:38	70.5				11220184.54	11220184.54	11220185
15:39	72.7				18620871.37	18620871.37	18620871
15:40	68.2	>	>	traffic absent EB direction	6606934.48	0	0
15:41	69.5	>	>	helicopter	8912509.381	0	0
15:42	67.5	>	>	traffic absent EB direction	5623413.252	0	0
15.72	V 99	>	>	traffic aboost ED direction	12GE 1EB 222		
0.40	4.00	- >	- >	ualine absent EB ullection	4303130.322		0 (
15:44	68.9	<b>-</b>	<b>-</b>	traffic absent EB direction	//624/1.166	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
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					0	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
					Traffic-only Leq:		72.7
					Overall Leq:		73.7
				•			



	ROJECT: Hampton Roads Bridge Tunnel Noise Analysis DB NO.:
SHORT-TI	ERM NOISE MEASUREMENT SITE LOG
ASSESSMENT AREA: ADDRESS: OWNER: DESCRIPTION:	measurement site no.: 26 conerd Duvall and Hickory
NOISE SOURCES: NOISE MONITOR: MICROPHONE: CALIBRATOR: TEMP. RANGE (°F):	Db 3080         Pic #41-44         S/N: 2033           1/4" METRO SOUCES         S/N: 12052           NETRO CL-30P         S/N: 2465           WEATHER CONDITIONS: 5UNU1, ~6 mp
	dway, homes, local roads, reference distances, arrows for North & dway is in cut, at grade, elevated, where direct lines of sight exist.
HICKOR	Stronglish pole

Site Number Location: Date: Start Time:	ST-26 9246 Hickory Street, Norfolk, VA. 11/8/2011 15:25
Duration (min):	20

	han	Enter Y	Enter Y for Yes				
Time		Non-Traffic Exclude	Exclude		Energy	Traffic-only	Overall
15:25	61				1258925.412	1258925.412	1258925
15:26	6.09				1230268.771	1230268.771	1230269
15:27	61.6				1445439.771	1445439.771	1445440
15:28	61.9				1548816.619	1548816.619	1548817
15:29	76.7	>		helicopter	46773514.13	0	46773514
15:30	61				1258925.412	1258925.412	1258925
15:31	8.09				1202264.435	1202264.435	1202264
15:32	64.2	>		helicopter	2630267.992	0	2630268
15:33	60.7				1174897.555	1174897.555	1174898
15:34	61.9				1548816.619	1548816.619	1548817
15:35	60.3				1071519.305	1071519.305	1071519
15:36	62				1584893.192	1584893.192	1584893
15:37	59.2				831763.7711	831763.7711	831763.8
15:38	61.5				1412537.545	1412537.545	1412538
15:39	62.6				1819700.859	1819700.859	1819701
15:40	59.7				933254.3008	933254.3008	933254.3
15:41	59.9				977237.221	977237.221	977237.2
15.42	60.3				1071519.305	1071519.305	1071519
15:43	5.65				891250.9381	891250 9381	891250.9
					4040056 700	4040056 700	4040067
15:44	91.2				1318256.739	1318256.739	131825/
							0 0
							0 0
							0 0
							0 0
					0 0		0 0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
					0	0	0
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					0 (	0	0 (
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							0 0
							0 0
					0	0	0
					0	0	0
					Traffic-only Leq:		61.0



VDOT	
Virginia Department of Transportation	

PROJECT:

Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.:

#### SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA:

235 Burgoyne & Pol & HR 12=1 Should be omitted blotraffi Stopped ADDRESS:

OWNER:

Dog barking from 8 pm - 9 pm AT 231 Burgoyn DESCRIPTION:

**NOISE SOURCES: NOISE MONITOR:** 

PIONNLO10#3 Pic 13-10 S/N: 00380352

MICROPHONE:

UC-52 File 00. AUZ

S/N: 58522

RION NC-73

S/N: 10417650

TEMP. RANGE (°F):

CALIBRATOR:

WEATHER CONDITIONS:

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.

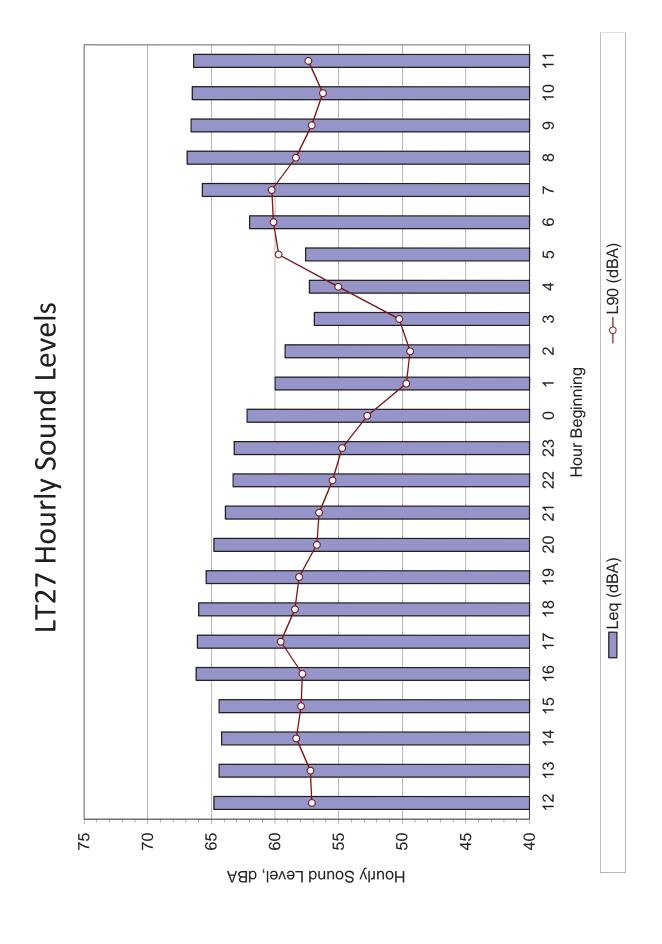
\*24-HR\*



Site Number	LT-27
Location:	235 Burgoyne Road Cul-De-Sac, Hampton VA
Date:	11/8-9/2011
Start Time:	12:00
Duration (5 min):	288

Enter Y for Yes	Exclude									>																
Enter	Non-Traffic									>																
	Leq	90'99	67.34	68.14	65.23	67.62	62.87	66.16	65.25	62.54	60.38	58.87	58.74	57.55	56.54	55.96	56.84	59.54	62.71	62.81	62.58	61.44	63.52	60.28	65.00	
	Time	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	1:00	2:00	3:00	4:00	2:00	00:9	7:00	8:00	9:00	10:00	11:00	

63.2		Overall Leq:
63.2		Traffic-only Leq:
3161833.425	3161833.425	3161833.425
1065561.185	1065561.185	1065561.185
2251034.239	2251034.239	2251034.239
1392358.262	1392358.262	1392358.262
1810197.563	1810197.563	1810197.563
1909810.425	1909810.425	1909810.425
1864619.909	1864619.909	1864619.909
899531.2365	899531.2365	899531.2365
483392.7516	483392.7516	483392.7516
394109.1578	394109.1578	394109.1578
450423.4602	450423.4602	450423.4602
568587.0482	568587.0482	568587.0482
748806.3608	748806.3608	748806.3608
770047.2894	770047.2894	770047.2894
1092565.049	1092565.049	1092565.049
0	0	1795298.657
3348040.521	3348040.521	3348040.521
4130327.863	4130327.863	4130327.863
1047128.548	1047128.548	1047128.548
1230268.771	1230268.771	1230268.771
3332858.102	3332858.102	3332858.102
6515599.928	6515599.928	6515599.928
5416997.592	5416997.592	5416997.592
4032896.487	4032896.487	4032896.487
Overall	Traffic-only	Energy





Hampton Roads Bridge Tunnel Noise Anal	ysis
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# TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA:	8	_ START TIME:	10400
MEASUREMENT SITE NO.:	28-31	_ END TIME:	10,20
ADDRESS/DESCRIPTION:	GUNTED AT SITE 31	DATE:	2 2011
	execunte da	_ PERSONNEL:	GWT/CS
1/2/1/		DIRECTION 1	DIRECTION 2
Roadway:  First Sample ( minutes)  Start Time:		SB (EB)	NB (WB
10100	Automobiles	173	
7070	Medium Trucks (6 Tires)	3	
	Heavy Trucks (>6 Tires)	13	
Roadway: Second Sample ( 5 minutes) Start Time:			
10105	Automobiles		134
	Medium Trucks (6 Tires)		2
	Heavy Trucks (>6 Tires)		16
Roadway:  Third Sample ( 5 minutes)  Start Time:			
10110	Automobiles	1/2	
10110	Medium Trucks (6 Tires)	5	
	Heavy Trucks (>6 Tires)	4	
Roadway: Fourth Sample ( minutes) Start Time:			
W:15	Automobiles		157
- /	Medium Trucks (6 Tires)		8
	Heavy Trucks (>6 Tires)		
Notes:			

\ \ \ \	RUMMEL, KLEPPER & KAHL, LLP 75 Years "A Tradition Of Excellence"	Subject Prepared By	Noise Messu	Cm.	of of
	157 Burrage Rd : 37- 10:00 — 10:05 —	te 28			
	10:10 10:10:5	0 plane			
	10:10 10:10:5	30 maybe pl Just	ane, maybe a loud frick		
	GOGENTUE MENON	-, SITE 31			
	-NO DISTURBANCES	OBSERVEY)			
)					

	DOT
Virginia	Department of Transportation

PROJECT:
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Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.:

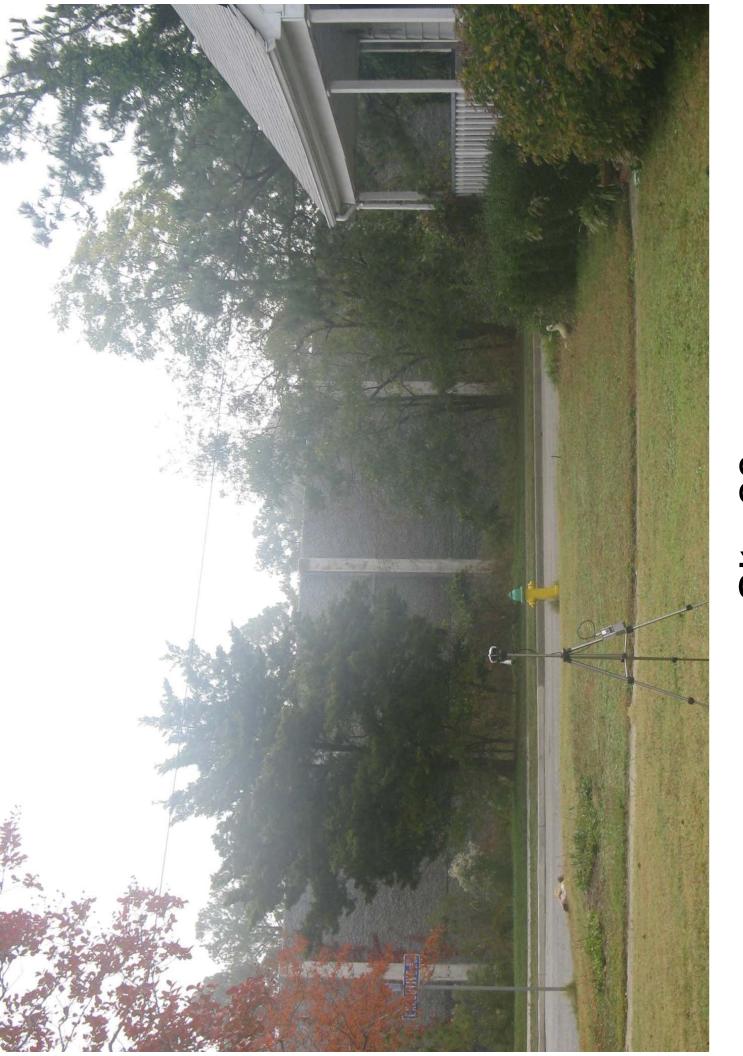
#### SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA:	8	MEASUREMENT SITE	NO.:	25
ADDRESS:	15 Burrage Re	gad		
OWNER:				
DESCRIPTION:				
NOISE SOURCES:				
NOISE MONITOR:	db 3080	Pic#53-54	S/N:	2032
MICROPHONE:	1/4" merco		S/N:	12075
CALIBRATOR:	METRO CL-304		S/N:	2465
TEMP. RANGE (°F):	54°	WEATHER CONDITION	NS:	SUNNY, CALM



ST-28	15 Burrage Road, Norfolk, VA.	-		
	VA.	11/9/2011	10:00	CC

	הפת	Enter Y for Yes	or res				
Time		Non-Traffic Exclude	xclude		Energy	Traffic-only	Overall
10:00	58.6				724435.9601	724435.9601	724436
10:01	58.7				741310.2413	741310.2413	741310.2
10:02	59.7				933254.3008	933254.3008	933254.3
10:03	58.7				741310.2413	741310.2413	741310.2
10:04	59.6				912010.8394	912010.8394	912010.8
10:05	60.3				1071519.305	1071519.305	1071519
10:06	60.5				1122018.454	1122018.454	1122018
10:07	59.7				933254.3008	933254.3008	933254.3
10:08	59.4				870963.59	870963.59	870963.6
10:09	59.2				831763.7711	831763.7711	831763.8
10:10	60.8	>		plane	1202264.435	0	1202264
10:11	59.5				891250.9381	891250.9381	891250.9
10:12	58.3				676082.9754	676082.9754	676083
10:13	57.6				575439.9373	575439.9373	575439.9
10:14	58				630957.3445	630957.3445	630957.3
10:15	58.7				741310.2413	741310.2413	741310.2
10:16	57.5				562341.3252	562341.3252	562341.3
10:17	59.2				831763.7711	831763.7711	831763.8
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VDDT Virginia Department of Transportation	PROJECT:	Hampton Roads Bridge Tunnel Noise Analysis
	JOB NO.:	

ASSESSMENT AREA:	behind 145 Burrage, Lorun of Gramel Stand W. Wesmont Ave.						
ADDRESS:	behind 145	Burrage Ponnero	f Gram	el Stand	WW.Amont		
OWNER:				- -	Ave.		
DESCRIPTION:					· <del></del>		
NOISE SOURCES:							
NOISE MONITOR:	db 3080	Pic#61-64	S/N:	1032			
MICROPHONE:	14" METEROSO	<u> 4</u> 10_S		12075			
CALIBRATOR:	METRO CL-304		S/N:	2465			
TEMP. RANGE (°F):	57-	WEATHER CONDI	TIONS:	SUNNY	, carm		
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11:01	62.8				1905460.718	1905460.718	1905461
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11:03	7.07	>	-uou	non-mainline traffic source,	11748975.55	0	11748976
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11:06	69.2	>	that	that was observed to "begin"	8317637.711	0	8317638
11:07	69.4	>-	mom	nower started at the 11:41	8709635.9	0	8709636
11:08	69.2	>	minu	minute when the meter	8317637.711	0	8317638
11:09	69.2	>	wası	was retrieved.	8317637.711	0	8317638
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WOUT	PROJECT:	Hampton Roads Bridge Tunnel Noise Analysis
Virginia Department of Transportation	JOB NO.:	

# SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA:	<u> </u>	MEASUREMENT SITI	E NO.:	30
ADDRESS:	8587 Caranb	y Street		
OWNER:				
DESCRIPTION:			•	
NOISE SOURCES:		***		
NOISE MONITOR:	dh 3080	Pic# 65-68	S/N:	2033
MICROPHONE:	144 METROSONICS	••	S/N:	12052
CALIBRATOR:	METRO CL-304		S/N:	2465
TEMP. RANGE (°F):	57*	WEATHER CONDIT	IONS:	Surviy, Cain

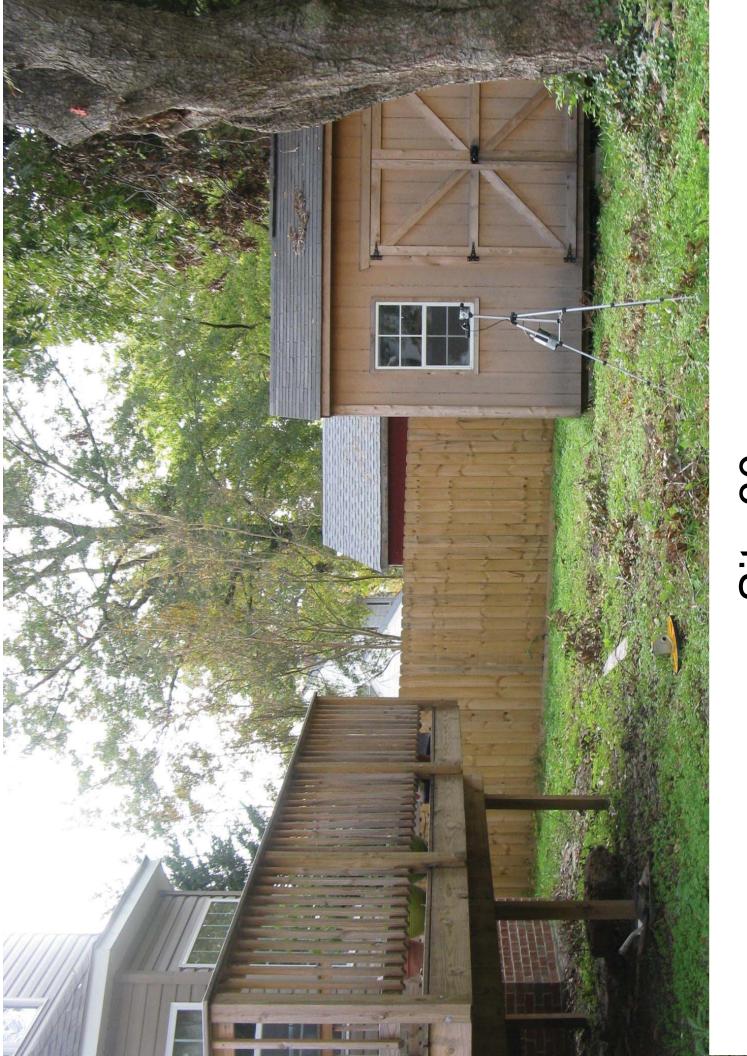
SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



Site Number	ST-30
Location:	8587 Granby Street, Norfolk, VA.
Date:	11/9/2011
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11:05	64.2	>		plane flyover begun	2630267.992	0	2630268
11:06	63.6				2290867.653	2290867.653	2290868
11:07	62.6				1819700.859	1819700.859	1819701
11:08	62.5				1778279.41	1778279.41	1778279
11:09	64.6				2884031.503	2884031.503	2884032
11:10	62.4				1737800.829	1737800.829	1737801
11:11	62.7				1862087.137	1862087.137	1862087
11:12	63.1				2041737.945	2041737.945	2041738
11:13	63.1				2041737.945	2041737.945	2041738
11:14	62.9				1949844.6	1949844.6	1949845
11:15	63.5				2238721.139	2238721.139	2238721
11:16	62.3				1698243.652	1698243.652	1698244
11:17	63.9				2454708.916	2454708.916	2454709
11:18	63.1				2041737,945	2041737.945	2041738
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	PROJECT:	Hampton Roads Bridge Tunnel Noise Analysis
Virginia Department of Transportation	JOB NO.:	

## SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: ADDRESS:		MEASUREMENT SITE		3/
	- Executive N	lanor Apartment	<u> </u>	
OWNER:				
DESCRIPTION:				
NOISE SOURCES:				
NOISE MONITOR:	db 3080	Dic#57-60	S/N:	2033
MICROPHONE:	1/4" METHOSONICS			12052
CALIBRATOR:	METRO CL-304		S/N:	2465
TEMP. RANGE (°F):	540	WEATHER CONDITI	ONS:	SUNNY, CALM

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



Site Number ST-31  Location: Exeutive Manor Apartments, Norfolk, VA.  Date: 11/9/2011 Start Time: 10:00
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VALIDATION SOUND LEVEL

	Energy	4677351.413	8912509.381	7585775.75	7943282.347	3715352.291	8709635.9	8511380.382	8317637.711	10232929.92	6606934.48	8912509.381	6025595.861	8128305.162	6606934.48	5888436.554	5495408.739	1995262.315	8511380.382	5888436.554	10471285.48	0	0	0	0	0	0	0	0 0			0	0	0	0	0	0 0	Traffic-only Log.	rialite-dility Ecq.
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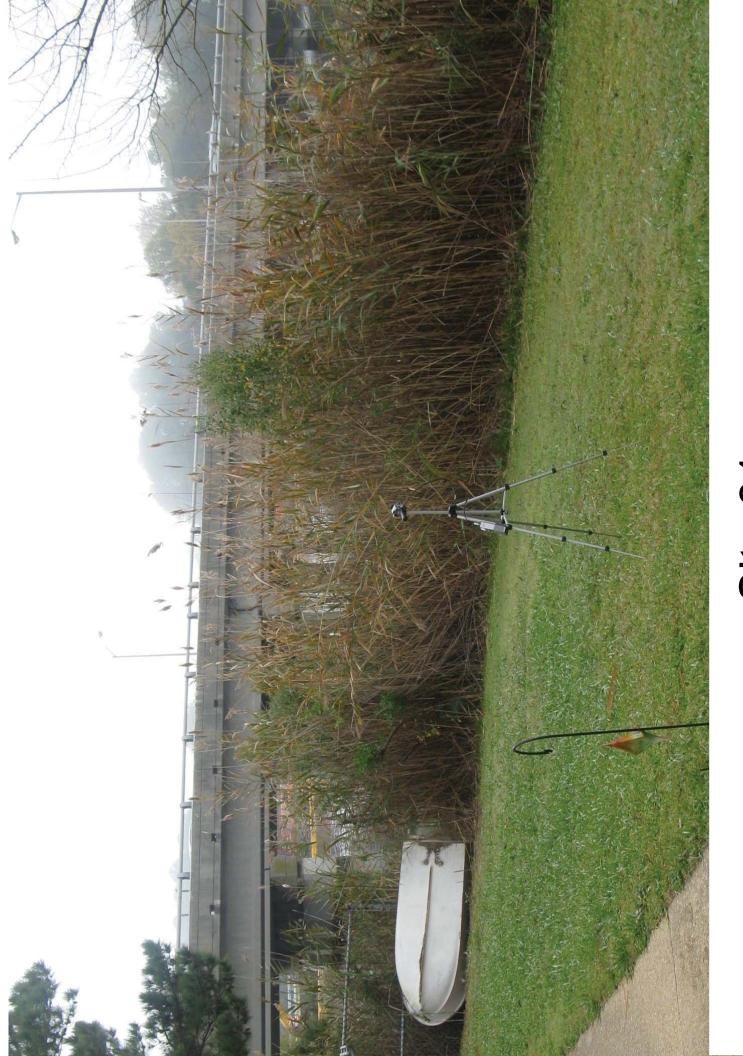
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# APPENDIX E. RESPONSE FROM VDOT PROJECT MANAGEMENT ON ALTERNATIVE NOISE ABATEMENT MEASURES

This appendix includes a memo and survey sent to the VDOT project managers about the potential for use of alternative noise abatement measures, pursuant to Virginia House Bill 2577.

#### **DEPARTMENT OF TRANSPORTATION**

1401 EAST BROAD STREET RICHMOND, VIRGINIA 23219-2000

Gregory A. Whirley Commissioner

September 26, 2012

#### **MEMORANDUM**

**TO:** Rick Correa, Project Manager

Angel Deem, Environmental Project Manager

**FROM:** Christopher Menge (Harris Miller Miller & Hanson Inc.), Noise Abatement

Engineer

**SUBJECT:** UPC 99037, I-64 HRBT Location Study

Virginia House Bill 2577 on Alternative noise abatement measures

The 2009 General Assembly passed Chapter 120 (HB 2577, as amended by HB2025), which amends the Code of Virginia by adding in Article 15 of Chapter 1 of Title 33.1 a section numbered 33.1-223.2:21, relating to highway noise abatement.

House Bill 2025 States: Requires that whenever the Commonwealth Transportation Board or the Department plan for or undertake any highway construction or improvement project and such project includes or may include the requirement for the mitigation of traffic noise impacts, first consideration should be given to the use of noise reducing design and low noise pavement materials and techniques in lieu of construction of noise walls or sound barriers. Vegetative screening, such as the planting of appropriate conifers, in such a design would be utilized to act as a visual screen if visual screening is required.

In an effort to honor the intent of HB 2025 we are asking for your input (per <u>Chapter VI of Materials Division's Manual of Instruction</u> and <u>Section 2B-3 Determination of Roadway Design</u> of the VDOT Road Design manual (pages 2B-5 and 2B-6)). As part of the Noise Technical Report and technical files, we are seeking your professional opinion by providing comments for the project noted above. Please distribute this memorandum to the appropriate District staff and combine all responses into one response.

Should you have any questions, please contact me at me at (781) 229-0707 x3153, or you can reach Paul Kohler, VDOT's Noise Abatement Section Manager at (804) 371-6766. Thank you for your time and consideration regarding this request.

where it won't require additional right of way.

Comment: Is noise reducing design feasible in lieu of construction of noise walls or sound barriers? For example, the roadway alignment can be shifted away from noise sensitive receptors or the roadway can be placed in deep cut (Location & Design to address) Response: Yes. As this project is developed through the detailed design phase, there will be opportunities to evaluate the feasibility of adjusting roadway geometrics for the purpose of reducing noise impacts. Obviously, the value of any such noise reduction solutions will have to be evaluated against the additional costs and/or additional environmental impacts that they may generate. Can the project support the use of low noise pavement in lieu of construction of Comment: noise walls or sound barriers? (Materials Division to address) The Virginia Department of Transportation is not authorized by the Federal Response: Highway Administration to use "quiet pavement" at this time as a form of noise mitigation. Upon completion of the Quiet Pavement Pilot Program and approval from FHWA, the use of "quiet pavement" will be given additional consideration. Comment: Can landscaping be utilized to act as a visual screen if visual screening is required? (Location & Design to address) Yes. Landscaping could possibly be used as a visual screening in areas where it can Response: be placed outside of the clear zone, where it will not decrease sight distance, and

Note: Please provide the name of each responder.

### APPENDIX F. WARRANTED, FEASIBLE, AND REASONABLE WORKSHEETS

This appendix presents the preliminary Warranted, Feasible, and Reasonable Worksheets for the noise barriers evaluated in this study.

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	1P Build 8
Community Name and/or CNE#	CNEs 1 & 2
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	19
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	19
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	28,704 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	19
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	18
d.	Total number of benefited receptors.	37
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	776 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	1,914 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,062,048
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision						
Is the Noise Barrier(s) WARRANTED?	Yes					
Is the Noise Barrier(s) FEASIBLE?	Yes					
Is the Noise Barrier(s) REASONABLE?	Yes					
Additional Reasons for Decision:						

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	2P Build 8
Community Name and/or CNE#	CNE 3
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	37
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	36
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	97%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	39,982 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	36
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	14
d.	Total number of benefited receptors.	50
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	800 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	2,545 ft
b.	Height range of the proposed noise barrier. (ft)	15 to 30
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,479,334
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision					
Is the Noise Barrier(s) WARRANTED?	Yes				
Is the Noise Barrier(s) FEASIBLE?	Yes				
Is the Noise Barrier(s) REASONABLE?	Yes				
Additional Reasons for Decision:					

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	3P Build 8
Community Name and/or CNE#	CNE 4
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	1
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	1
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	31,429 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	1
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	23
d.	Total number of benefited receptors.	24
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	1,310 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
	Length of the proposed noise barrier. (ft)	1,709 ft
b.	Height range of the proposed noise barrier. (ft)	15 to 30
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,162,873
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	4P Build 8
Community Name and/or CNE#	CNE 6
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted		
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA	
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA	
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	,
2	Criteria requiring consideration of noise abatement		
a.	Project causes design year noise levels to approach or exceed the Noise Abatement		
	Criteria?	Yes	
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No	

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	14
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	14
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	28,970 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	14
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	3
d.	Total number of benefited receptors.	17
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	1,704 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	No
g.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	1,931 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,071,890
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Barrier(s) WARRANTED?	Yes
Barrier(s) FEASIBLE?	Yes
Barrier(s) REASONABLE?	No
easons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	5R/P Build 8
Community Name and/or CNE#	CNE 8
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	3	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	3
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	3
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	26,839 SF
b.	Surface Area of the existing barrier that will be removed (ft²)	9,703 SF
c.	Additional (Net) Surface Area of the Replacement Barrier (ft²)	17,136 SF
d.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	3
e.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	22
f.	Total number of benefited receptors.	25
g.	Net Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	685 SF/BR
h.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
i.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Details of Total Proposed Noise Barrier	
a.	Total length of the proposed noise barrier. (ft)	1,788 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. $(\$/ft^2)$	\$37/SF
e.	Total Barrier Cost (\$)	\$993,043
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	6P Build 8
Community Name and/or CNE#	CNEs 9 & 10
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	19
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	18
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	95%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	41,198 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	18
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	14
d.	Total number of benefited receptors.	32
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	1,287 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
	Length of the proposed noise barrier. (ft)	2,747 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,524,326
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	7R Build 8
Community Name and/or CNE#	CNE 11
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2 a.	Criteria requiring consideration of noise abatement Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	59
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	54
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	92%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	53,514 SF
b.	Surface Area of the existing barrier that will be removed (ft²)	9,703 SF
c.	Additional (Net) Surface Area of the Replacement Barrier (ft²)	43,811 SF
d.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	54
e.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	50
f.	Total number of benefited receptors.	104
g.	Net Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	421 SF/BR
h.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
i.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Details of Total Proposed Noise Barrier	
a.	Total length of the proposed noise barrier. (ft)	3,563 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,980,018
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	8R Build 8
Community Name and/or CNE#	CNE 12
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.		
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	Yes

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	18
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	18
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	33,918 SF
b.	Surface Area of the existing barrier that will be removed (ft²)	20,031 SF
c.	Additional (Net) Surface Area of the Replacement Barrier (ft²)	13,887 SF
d.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	18
e.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	23
f.	Total number of benefited receptors.	41
g.	Net Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	339 SF/BR
h.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
i.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Details of Total Proposed Noise Barrier	
a.	Total length of the proposed noise barrier. (ft)	2,259 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,254,966
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	9P Build 8
Community Name and/or CNE#	CNE 13
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	22
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	22
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	45,058 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	22
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	26
d.	Total number of benefited receptors.	48
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	939 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	3,004 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,667,146
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	10P Build 8
Community Name and/or CNE#	CNEs 15 & 17
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	24
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	22
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	92%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	74,059 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	22
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	47
d.	Total number of benefited receptors.	69
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	1,073 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	4,941 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$2,740,183
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	11P Build 8
Community Name and/or CNE#	CNE 16
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted		
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA	
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA	
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	
2	Criteria requiring consideration of noise abatement		
a.	Project causes design year noise levels to approach or exceed the Noise Abatement		
	Criteria?	Yes	
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No	

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	13
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	13
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	29,684 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	13
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	25
d.	Total number of benefited receptors.	38
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	781 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
	Length of the proposed noise barrier. (ft)	1,980 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,098,308
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Yes
Yes
Yes
-

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	12P Build 8
Community Name and/or CNE#	CNE 19
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	7
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	7
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	17,606 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	7
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	1
d.	Total number of benefited receptors.	8
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	2,201 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	No
g.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	1,174 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$651,422
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Yes
Yes
Yes

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	13P Build 8
Community Name and/or CNE#	CNE 20
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	22
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	22
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	27,546 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	22
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	14
d.	Total number of benefited receptors.	36
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	765 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
	Length of the proposed noise barrier. (ft)	1,837 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,019,202
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	14P Build 8
Community Name and/or CNE#	CNE 21
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted		
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA	
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA	
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	,
2	Criteria requiring consideration of noise abatement		
a.	Project causes design year noise levels to approach or exceed the Noise Abatement		
	Criteria?	Yes	
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No	

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	2
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	2
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	11,766 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	2
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	0
d.	Total number of benefited receptors.	2
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	5,883 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	No
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
	Length of the proposed noise barrier. (ft)	785 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$435,342
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	15P Build 8
Community Name and/or CNE#	CNE 22
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	4
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	4
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage	NA
	issues or site distance issues?	
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	31,896 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	4
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	22
d.	Total number of benefited receptors.	26
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	1,227 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
	Length of the proposed noise barrier. (ft)	2,128 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,180,152
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	16R/P Build 8
Community Name and/or CNE#	CNE 25
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	Yes

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	25
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	25
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	53,267 SF
b.	Surface Area of the existing barrier that will be removed (ft²)	17,999 SF
c.	Additional (Net) Surface Area of the Replacement Barrier (ft²)	35,268 SF
d.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	25
e.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	31
f.	Total number of benefited receptors.	56
g.	Net Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	630 SF/BR
h.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
i.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Details of Total Proposed Noise Barrier	
a.	Total length of the proposed noise barrier. (ft)	3,550 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,970,879
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	17P Build 8
Community Name and/or CNE#	CNEs 26 & 27
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted		
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).		NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):		NA
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
2 a.	Criteria requiring consideration of noise abatement Project causes design year noise levels to approach or exceed the Noise Abatement Criteria?		Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No	

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	57
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	57
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Decembles	
1	Reasonableness Surface Aug (Surgar fact) Barefit Feature	
1	Surface Area (Square foot)-Benefit Factors Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	69,516 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	57
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	50
d.	Total number of benefited receptors.	107
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	650 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	4,636 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$2,572,092
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Yes
Yes
Yes

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	18P Build 8
Community Name and/or CNE#	CNE 28
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted		
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA	
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA	
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	
2	Criteria requiring consideration of noise abatement		
a.	Project causes design year noise levels to approach or exceed the Noise Abatement		
	Criteria?	Yes	
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No	

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	97
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	97
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	28,055 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	97
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	91
d.	Total number of benefited receptors.	188
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	149 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	1,871 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,038,035
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Yes
Yes
Yes

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	19P Build 8
Community Name and/or CNE#	CNE 29
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted		
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA	
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA	
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	,
2	Criteria requiring consideration of noise abatement		
a.	Project causes design year noise levels to approach or exceed the Noise Abatement		
	Criteria?	Yes	
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No	

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	23
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	23
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	27,117 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	23
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	0
d.	Total number of benefited receptors.	23
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	1,179 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
	Length of the proposed noise barrier. (ft)	1,809 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,003,329
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Yes
Yes
Yes

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	20P Build 8
Community Name and/or CNE#	CNEs 30 & 31
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted		
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA	
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA	
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	
2	Criteria requiring consideration of noise abatement		
a.	Project causes design year noise levels to approach or exceed the Noise Abatement		
	Criteria?	Yes	
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No	

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	92
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	92
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	67,762 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	92
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	169
d.	Total number of benefited receptors.	261
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	260 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	4,518 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$2,507,194
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	21P Build 8
Community Name and/or CNE#	CNE 32
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	25
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	25
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	50,029 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	25
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	129
d.	Total number of benefited receptors.	154
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	325 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	3,336 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,851,073
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	22P Build 8
Community Name and/or CNE#	CNEs 35 & 38
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2 a.	Criteria requiring consideration of noise abatement Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	41
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	41
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	51,491 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	41
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	52
d.	Total number of benefited receptors.	93
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	554 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
	Length of the proposed noise barrier. (ft)	3,431 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,905,167
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	23R Build 8
Community Name and/or CNE#	CNE 37
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	Yes

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	81
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	81
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	80,116 SF
b.	Surface Area of the existing barrier that will be removed (ft²)	51,281 SF
c.	Additional (Net) Surface Area of the Replacement Barrier (ft²)	28,835 SF
d.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	81
e.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	44
f.	Total number of benefited receptors.	125
g.	Net Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	231 SF/BR
h.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
i.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Details of Total Proposed Noise Barrier	
a.	Total length of the proposed noise barrier. (ft)	5,340 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$2,964,292
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	24P Build 8
Community Name and/or CNE#	CNE 40
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted		
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA	
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA	
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	,
2	Criteria requiring consideration of noise abatement		
a.	Project causes design year noise levels to approach or exceed the Noise Abatement		
	Criteria?	Yes	
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No	

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	3
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	3
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	18,965 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	3
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	61
d.	Total number of benefited receptors.	64
e.	Surface Area per benefited receptor unit. (ft²/BR)	296 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	1,264 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$701,705
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	25R Build 8
Community Name and/or CNE#	CNEs 42 & 44
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was	NA
	issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	Yes

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	93
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	93
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	102,139 SF
b.	Surface Area of the existing barrier that will be removed (ft²)	72,433 SF
c.	Additional (Net) Surface Area of the Replacement Barrier (ft²)	29,706 SF
d.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	93
e.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	14
f.	Total number of benefited receptors.	107
g.	Net Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	278 SF/BR
h.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
i.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Details of Total Proposed Noise Barrier	
a.	Total length of the proposed noise barrier. (ft)	6,813 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$3,779,143
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	26R Build 8
Community Name and/or CNE#	CNE 43
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2 a.	J	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	Yes

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	51
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	37
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	73%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	D	1
1	Reasonableness Surface Area (Square foot)-Benefit Factors	
	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	66,583 SF
b.	Surface Area of the existing barrier that will be removed (ft²)	51,082 SF
c.	Additional (Net) Surface Area of the Replacement Barrier (ft²)	15,501 SF
d.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	37
e.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	1
f.	Total number of benefited receptors.	38
g.	Net Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	408 SF/BR
h.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
i.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Details of Total Proposed Noise Barrier	
a.	Total length of the proposed noise barrier. (ft)	3,357 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$2,463,571
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Yes
Yes
Yes

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	27P Build 8
Community Name and/or CNE#	CNE 46
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted		
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA	
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA	
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	,
2	Criteria requiring consideration of noise abatement		
a.	Project causes design year noise levels to approach or exceed the Noise Abatement		
	Criteria?	Yes	
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No	

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	7
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	7
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	27,121 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	7
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	18
d.	Total number of benefited receptors.	25
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	1,085 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	1,808 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,003,477
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	28R/P Build 8
Community Name and/or CNE#	CNEs 47, 49 & 50
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	139
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	80
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	58%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	126,072 SF
b.	Surface Area of the existing barrier that will be removed (ft²)	27,191 SF
c.	Additional (Net) Surface Area of the Replacement Barrier (ft²)	98,881 SF
d.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	80
e.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	26
f.	Total number of benefited receptors.	106
g.	Net Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	933 SF/BR
h.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
i.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Details of Total Proposed Noise Barrier	
a.	Total length of the proposed noise barrier. (ft)	7,908 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$4,664,664
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

e Noise Barrier(s) WARRANTED?	Yes
e Noise Barrier(s) FEASIBLE?	Yes
e Noise Barrier(s) REASONABLE?	Yes
tional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	29P Build 8
Community Name and/or CNE#	CNE 48
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted		
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).		NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):		NA
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
2	Criteria requiring consideration of noise abatement		
a.	Project causes design year noise levels to approach or exceed the Noise Abatement		
	Criteria?		Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No	

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	7
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	7
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	49,716 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	7
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	11
d.	Total number of benefited receptors.	18
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	2,762 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	No
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
	Length of the proposed noise barrier. (ft)	3,314 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,839,492
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	1P Build 10
Community Name and/or CNE#	CNEs 1 & 2
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2 a.	Criteria requiring consideration of noise abatement Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	20
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	20
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	28,741 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	20
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	15
d.	Total number of benefited receptors.	35
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	821 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	1,916 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,063,417
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	2P Build 10
Community Name and/or CNE#	CNE 3
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted		
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).		NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):		NA
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
2	Criteria requiring consideration of noise abatement		
a.	Project causes design year noise levels to approach or exceed the Noise Abatement		
	Criteria?		Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No	

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	36
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	36
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	39,982 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	36
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	7
d.	Total number of benefited receptors.	43
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	930 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
	Length of the proposed noise barrier. (ft)	2,545 ft
b.	Height range of the proposed noise barrier. (ft)	15 to 30 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,479,334
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	3P Build 10
Community Name and/or CNE#	CNE 4
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	3
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	3
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	31,429 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	3
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	69
d.	Total number of benefited receptors.	72
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	437 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	1,709 ft
b.	Height range of the proposed noise barrier. (ft)	15 to 30 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,162,873
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	4P Build 10
Community Name and/or CNE#	CNE 6
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	15
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	15
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	25,406 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	15
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	1
d.	Total number of benefited receptors.	16
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	1,588 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	1,694 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$940,022
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Yes
Yes
Yes

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	5R/P Build 10
Community Name and/or CNE#	CNE 8
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	2
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	2
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	34,547 SF
b.	Surface Area of the existing barrier that will be removed (ft²)	9,703 SF
c.	Additional (Net) Surface Area of the Replacement Barrier (ft²)	24,844 SF
d.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	2
e.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	22
f.	Total number of benefited receptors.	24
g.	Net Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	1,035 SF/BR
h.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
i.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Details of Total Proposed Noise Barrier	
a.	Total length of the proposed noise barrier. (ft)	2,116 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,278,239
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	6P Build 10
Community Name and/or CNE#	CNEs 9 & 10
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	23
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	23
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	42,550 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	23
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	9
d.	Total number of benefited receptors.	32
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	1,330 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
	Length of the proposed noise barrier. (ft)	2,837 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,574,350
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	7R Build 10
Community Name and/or CNE#	CNE 11
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	3	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	Yes

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	64
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	58
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	91%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	53,530 SF
b.	Surface Area of the existing barrier that will be removed (ft²)	9,703 SF
c.	Additional (Net) Surface Area of the Replacement Barrier (ft²)	43,827 SF
d.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	58
e.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	43
f.	Total number of benefited receptors.	101
g.	Net Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	434 SF/BR
h.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
i.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Details of Total Proposed Noise Barrier	
a.	Total length of the proposed noise barrier. (ft)	3,564 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,980,610
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	8R Build 10
Community Name and/or CNE#	CNE 12
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	Yes

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	21
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	21
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	36,735 SF
b.	Surface Area of the existing barrier that will be removed (ft²)	20,031 SF
c.	Additional (Net) Surface Area of the Replacement Barrier (ft²)	16,704 SF
d.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	21
e.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	15
f.	Total number of benefited receptors.	36
g.	Net Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	464 SF/BR
h.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
i.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Details of Total Proposed Noise Barrier	
a.	Total length of the proposed noise barrier. (ft)	2,448 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,359,195
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

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Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	9P Build 10
Community Name and/or CNE#	CNE 13
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	29
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	29
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	45,005 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	29
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	18
d.	Total number of benefited receptors.	47
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	958 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	2,999 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,665,185
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	10P Build 10
Community Name and/or CNE#	CNEs 15 & 17
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted		
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).		NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):		NA
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
2	Criteria requiring consideration of noise abatement		
a.	Project causes design year noise levels to approach or exceed the Noise Abatement		
	Criteria?		Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No	

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	23
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	21
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	91%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	70,595 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	21
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	45
d.	Total number of benefited receptors.	66
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	1,070 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	4,708 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$2,612,015
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	11P Build 10
Community Name and/or CNE#	CNE 16
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	17
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	17
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	29,682 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	17
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	27
d.	Total number of benefited receptors.	44
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	675 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
	Length of the proposed noise barrier. (ft)	1,977 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,098,234
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	12P Build 10
Community Name and/or CNE#	CNE 19
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	7
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	7
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	17,606 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	7
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	1
d.	Total number of benefited receptors.	8
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	2,201 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	No
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	1,174 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$651,422
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	13P Build 10
Community Name and/or CNE#	CNE 20
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	22
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	22
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	27,546 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	22
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	14
d.	Total number of benefited receptors.	36
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	765 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
	Length of the proposed noise barrier. (ft)	1,837 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,019,202
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	14P Build 10
Community Name and/or CNE#	CNE 21
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	1
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	1
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	11,766 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	1
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	0
d.	Total number of benefited receptors.	1
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	11,766 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	No
g.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	785 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$435,342
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Hampton
District:	Hampton Roads
Barrier System ID:	15P Build 10
Community Name and/or CNE#	CNE 22
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	4
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	4
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	31,896 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	4
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	22
d.	Total number of benefited receptors.	26
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	1,227 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
	Length of the proposed noise barrier. (ft)	2,128 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,180,152
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	16R/P Build 10
Community Name and/or CNE#	CNE 25
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	Yes

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	29
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	29
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	52,482 SF
b.	Surface Area of the existing barrier that will be removed (ft²)	17,999 SF
c.	Additional (Net) Surface Area of the Replacement Barrier (ft²)	34,483 SF
d.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	29
e.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	28
f.	Total number of benefited receptors.	57
g.	Net Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	605 SF/BR
h.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
i.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Details of Total Proposed Noise Barrier	
a.	Total length of the proposed noise barrier. (ft)	3,499 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,941,834
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	17P Build 10
Community Name and/or CNE#	CNEs 26 & 27
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	50
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	50
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	66,786 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	50
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	62
d.	Total number of benefited receptors.	112
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	596 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	4,454 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$2,471,082
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	18P Build 10
Community Name and/or CNE#	CNE 28
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted		
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).		NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):		NA
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
2	Criteria requiring consideration of noise abatement		
a.	Project causes design year noise levels to approach or exceed the Noise Abatement		
	Criteria?		Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No	

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	69
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	69
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	28,043 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	69
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	92
d.	Total number of benefited receptors.	161
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	174 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	1,870 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,037,591
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Yes
Yes
Yes

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	19P Build 10
Community Name and/or CNE#	CNE 29
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	23
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	23
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	24,344 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	23
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	1
d.	Total number of benefited receptors.	24
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	1,014 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	1,626 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$900,728
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	20P Build 10
Community Name and/or CNE#	CNEs 30 & 31
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted		
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA	
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA	
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	
2	Criteria requiring consideration of noise abatement		
a.	Project causes design year noise levels to approach or exceed the Noise Abatement		
	Criteria?	Yes	
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No	

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	79
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	79
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	65,025 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	79
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	167
d.	Total number of benefited receptors.	246
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	264 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
	Length of the proposed noise barrier. (ft)	4,336 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$2,405,925
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	21P Build 10
Community Name and/or CNE#	CNE 32
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted		
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA	
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA	
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	,
2	Criteria requiring consideration of noise abatement		
a.	Project causes design year noise levels to approach or exceed the Noise Abatement		
	Criteria?	Yes	
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No	

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	25
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	25
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	50,073 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	25
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	129
d.	Total number of benefited receptors.	154
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	325 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
	Length of the proposed noise barrier. (ft)	3,339 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,852,701
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	22P Build 10
Community Name and/or CNE#	CNEs 35 & 38
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	37
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	37
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	51,452 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	37
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	43
d.	Total number of benefited receptors.	80
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	643 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
	Length of the proposed noise barrier. (ft)	3,429 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,903,724
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	23R Build 10
Community Name and/or CNE#	CNE 37
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	Yes

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	91
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	91
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	80,053 SF
b.	Surface Area of the existing barrier that will be removed (ft²)	51,281 SF
c.	Additional (Net) Surface Area of the Replacement Barrier (ft²)	28,772 SF
d.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	91
e.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	32
f.	Total number of benefited receptors.	123
g.	Net Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	234 SF/BR
h.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
i.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Details of Total Proposed Noise Barrier	
a.	Total length of the proposed noise barrier. (ft)	5,338 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$2,961,961
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	24P Build 10
Community Name and/or CNE#	CNE 40
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	6
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	6
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	17,061 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	6
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	58
d.	Total number of benefited receptors.	64
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	267 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
	Length of the proposed noise barrier. (ft)	1,137 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$631,257
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Yes
Yes
Yes

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	25R Build 10
Community Name and/or CNE#	CNEs 42 & 44
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.		
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	Yes

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	92
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	92
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	96,265 SF
b.	Surface Area of the existing barrier that will be removed (ft²)	72,433 SF
c.	Additional (Net) Surface Area of the Replacement Barrier (ft²)	23,832 SF
d.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	92
e.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	12
f.	Total number of benefited receptors.	104
g.	Net Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	229 SF/BR
h.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
i.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Details of Total Proposed Noise Barrier	
a.	Total length of the proposed noise barrier. (ft)	4,914 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$3,561,805
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Yes
3.7
Yes
Yes
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Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	26R Build 10
Community Name and/or CNE#	CNE 43
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.		
	issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	J	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	Yes

Fe	easibility	
1 Im	npacted receptor units	
a. Nu	umber of impacted receptor units:	49
b. Nu	umber of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	27
c. Pe	ercentage of impacted receptor units receiving 5 dB(A) or more IL	55%
d. Is	the percentage 50 or greater?	Yes
II .	ill placement of the noise barrier cause engineering or safety conflicts, e.g drainage sues or site distance issues?	NA
3 W	ill placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4 W	ill placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	1
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	63,837 SF
b.	Surface Area of the existing barrier that will be removed (ft²)	51,082 SF
c.	Additional (Net) Surface Area of the Replacement Barrier (ft²)	12,755 SF
d.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	27
e.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	1
f.	Total number of benefited receptors.	28
g.	Net Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	456 SF/BR
h.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
i.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Details of Total Proposed Noise Barrier	
a.	Total length of the proposed noise barrier. (ft)	3,173 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$2,361,969
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Yes
Yes
Yes

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	27P Build 10
Community Name and/or CNE#	CNE 46
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	7
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	7
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	100%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	27,121 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	7
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	18
d.	Total number of benefited receptors.	25
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	1,085 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	1,808 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,003,477
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Decision	
Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes
Additional Reasons for Decision:	

Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	28R/P Build 10
Community Name and/or CNE#	CNEs 47, 49, & 50
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted	
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
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
2	Criteria requiring consideration of noise abatement	
a.	3	
	Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	138
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	65
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	47%
d.	Is the percentage 50 or greater?	No
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	134,800 SF
b.	Surface Area of the existing barrier that will be removed (ft²)	27,191 SF
c.	Additional (Net) Surface Area of the Replacement Barrier (ft²)	107,609 SF
d.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	65
e.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	9
f.	Total number of benefited receptors.	74
g.	Net Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	1,454 SF/BR
h.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
i.	Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes
2	Additional Details of Total Proposed Noise Barrier	
a.	Total length of the proposed noise barrier. (ft)	7,998 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$4,987,600
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Yes Yes
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1 68
Yes
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Date:	26-Sep-12
Project No. and UPC:	Project # 0064-965-004, P101; VDOT UPC 99037
County:	Norfolk
District:	Hampton Roads
Barrier System ID:	29P Build 10
Community Name and/or CNE#	CNE 48
Noise Abatement Category(s)	В
Design phase:	Preliminary design

	Warranted		
1 a.	Community Documentation (if applicable) Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA	
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA	
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	
2	Criteria requiring consideration of noise abatement		
a.	Project causes design year noise levels to approach or exceed the Noise Abatement		
	Criteria?	Yes	
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No	

	Feasibility	
1	Impacted receptor units	
a.	Number of impacted receptor units:	9
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	5
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	56%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	NA
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	NA

	Reasonableness	
1	Surface Area (Square foot)-Benefit Factors	
a.	Surface Area (Total square foot) of the proposed noise barrier. (ft <sup>2</sup> )	49,715 SF
b.	Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	5
c.	Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	0
d.	Total number of benefited receptors.	5
e.	Surface Area per benefited receptor unit. (ft <sup>2</sup> /BR)	9,943 SF/BR
f.	Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	No
g.	Does the barrier provide an IL of at least $7\ dB(A)$ for at least one impacted receptor in the design year?	Yes
2	Additional Noise Barrier Details	
a.	Length of the proposed noise barrier. (ft)	3,315 ft
b.	Height range of the proposed noise barrier. (ft)	15 ft
c.	Average height of the proposed noise barrier. (ft)	15 ft
d.	Cost per square foot. (\$/ft <sup>2</sup> )	\$37/SF
e.	Total Barrier Cost (\$)	\$1,839,455
f.	Barrier Material	Absorptive
3	Community Desires Related to the Barrier  Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier 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 impacted receptor unit owners do not desire the barrier."	

Yes
Yes
No

# APPENDIX G. TRAFFIC NOISE MODEL (TNM) INPUT AND OUTPUT

The print-out of all TNM runs including input and output are provided upon request. This print-out is very voluminous and is provided in electronic .PDF format or in TNM file format.