

I-64 HAMPTON ROADS BRIDGE TUNNEL



NOISE ANALYSIS TECHNICAL REPORT



December 4, 2012

NOISE ANALYSIS TECHNICAL REPORT

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

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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

Land Use	Projected Number of Impacted Receptors by Alternative			
	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 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 772.¹ 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.² 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, 2011.³

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_{eq}). The L_{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_{eq} is typically evaluated over a one-hour period, and may be denoted as $L_{eq}(h)$.

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 $L_{eq}(h)$ 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, $L_{eq}(h)$ 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 $L_{eq}(h)$ 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, $L_{eq}(h)$, or 66 dBA. The threshold for noise impact for Category E is where exterior noise levels are within 1 decibel of 72 dBA, $L_{eq}(h)$, 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.

¹ 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/

² "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

³ "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	$L_{eq}(h)^1$	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B ²	67 (Exterior)	Residential
C ²	67 (Exterior)	Active sport areas, 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)

¹ Hourly Equivalent A-weighted Sound Level (dBA)

² Includes undeveloped lands permitted for this activity category

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

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**.

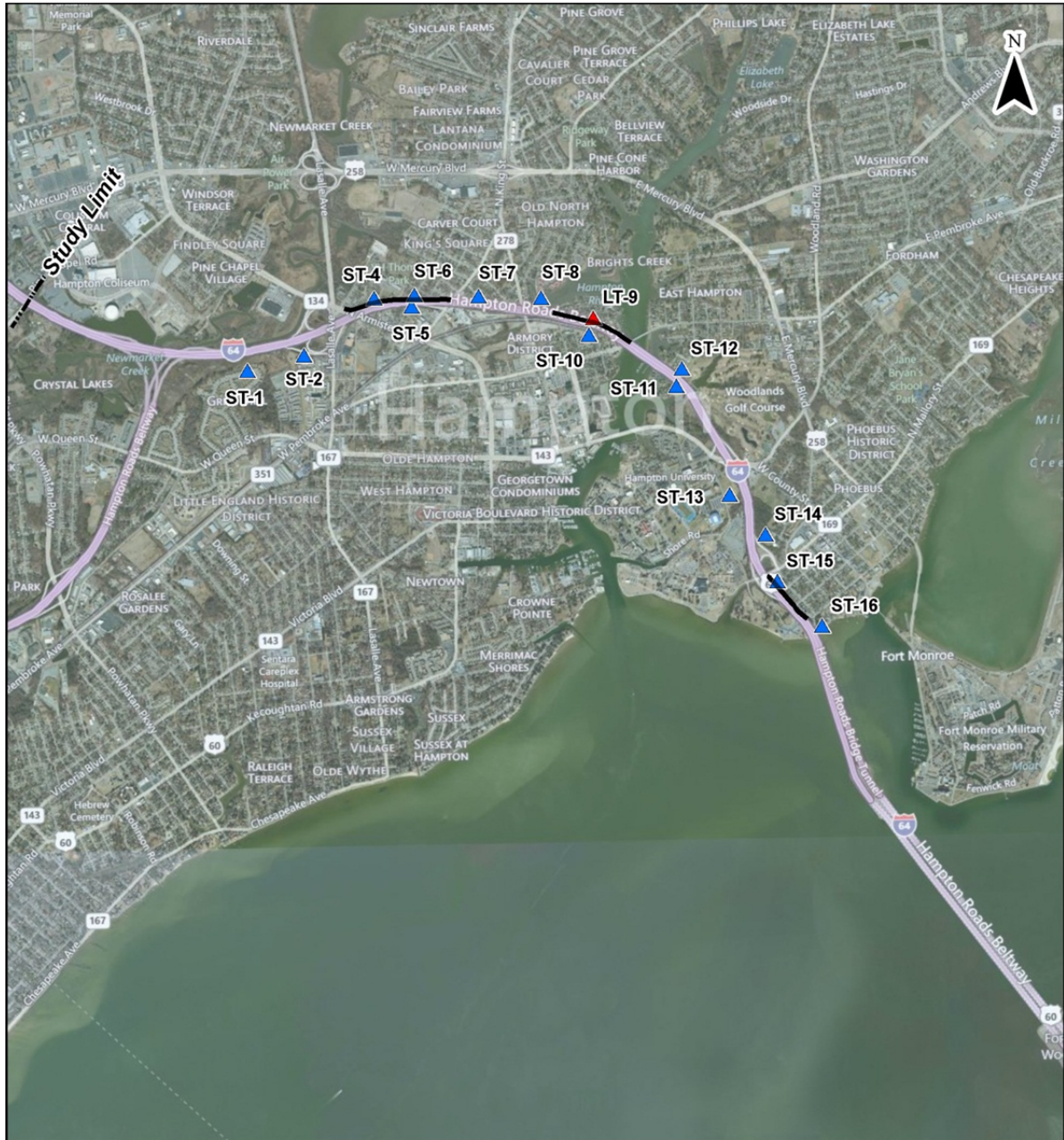
All noise measurements were conducted with RK&K-owned Rion NL06, Metrosonics dB 3080 and dB 308 Type 2 sound level meters. The noise measurement instrumentation was field calibrated regularly during the measurement program, as well as having calibrations traceable to the National Institute of Standards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



<p>Legend</p> <ul style="list-style-type: none"> ▲ Long-Term Noise Measurement Site ▲ Short-Term Noise Measurement Site Existing Noise Barrier 	<p>Noise Measurement Sites I-64 HRBT Hampton, VA</p>	
<p>0 4,000 8,000 Feet</p>		<p>Figure 1-1</p>



Table 2. Short-Term Noise Measurement Results

Site	Address	Date	Time Start	Duration (min.)	Total L _{eq} , dBA	Traffic Only L _{eq} , 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 _{eq} , dBA	Traffic Only L _{eq} , 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

¹ Duration too short for meaningful measurement.

Source: HMMH, 2012

Table 3. Measured Noise Levels at Long-Term Sites

Site No.	Location	Measurement Period				Loudest Hours	
		Begin Date	Begin Time	End Date	End Time	L _{eq} , 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: 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.⁴ The dominant source of noise at

⁴ "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).⁵ The FHWA TNM incorporates state-of-the-art sound

⁵Anderson, 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 _{eq} (dBA) (Traffic-only)	Computed L _{eq} (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_{eq} (dBA) (Traffic-only)	Computed L_{eq} (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
Overall Average					0.1

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_{eq} , 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_{eq} 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_{eq} .

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_{eqs} 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_{eq5} 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_{eq5} 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_{eq5} 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_{eq} Noise Levels, dBA

CNE ID	Area Land Use and Description	Range of Predicted Worst-Hour L_{eq} Exterior Noise Levels, dBA			
		Existing	No-Build	Build-8	Build-10
HAMPTON					
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
NORFOLK					
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_{eq} Noise Levels, dBA

CNE ID	Area Land Use and Description	Range of Predicted Worst-Hour L_{eq} Exterior Noise Levels, dBA			
		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

Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
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

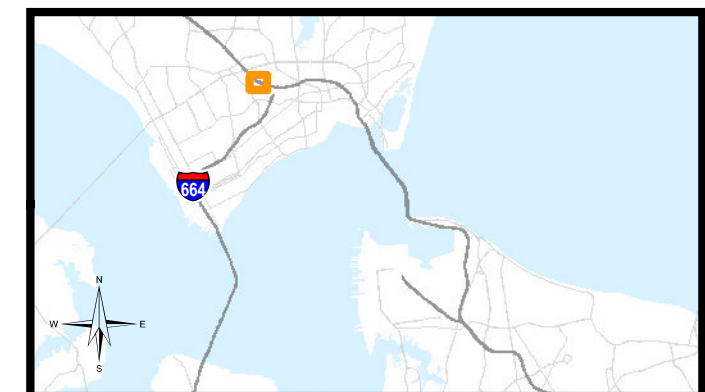
- Top Floor Noise Prediction Result
- Bottom Floor Noise Prediction Result

- ▲ **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



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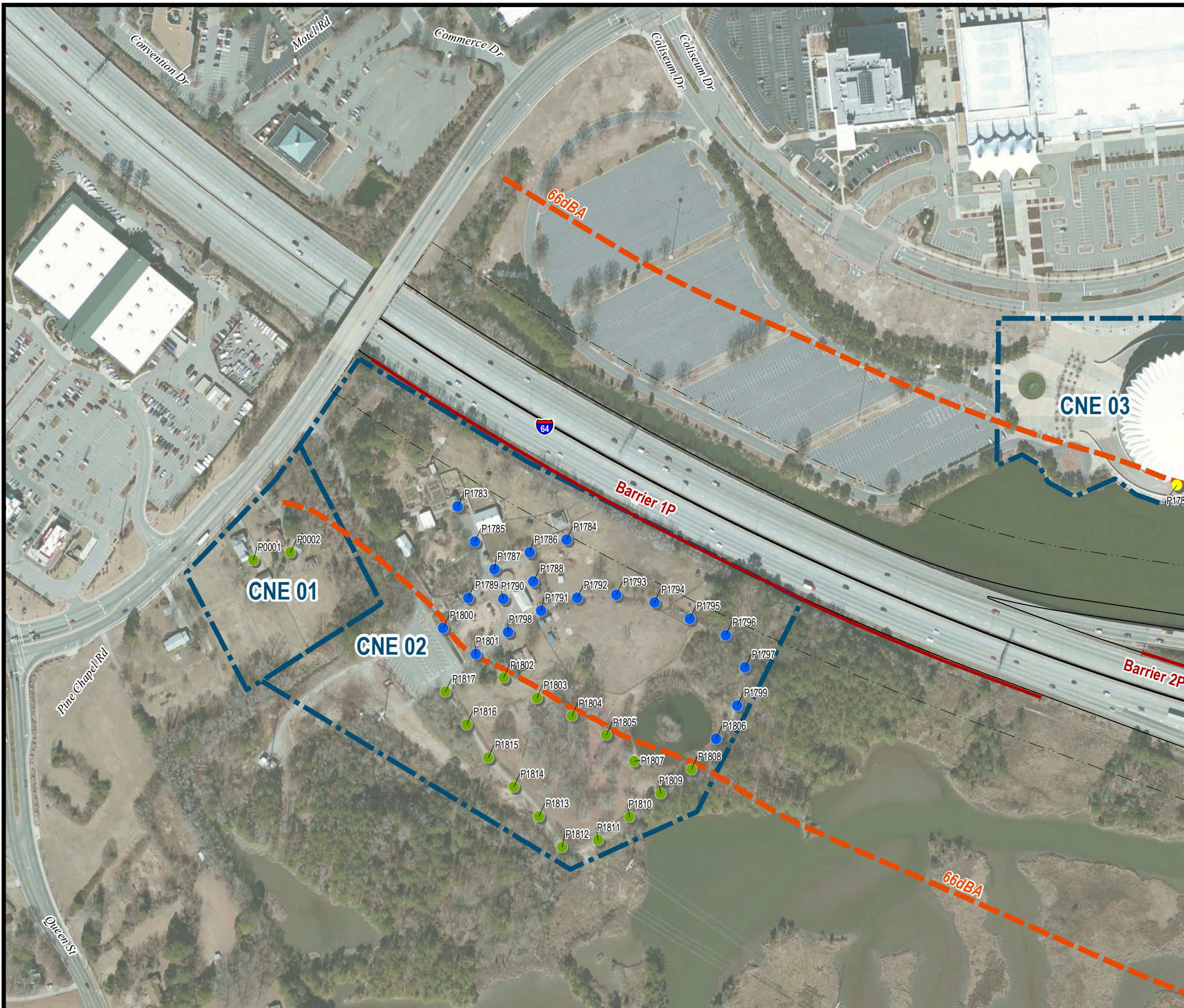


Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
Location Map for
Common Noise Environments, Receptors,
Build 10 Contours and Barriers

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

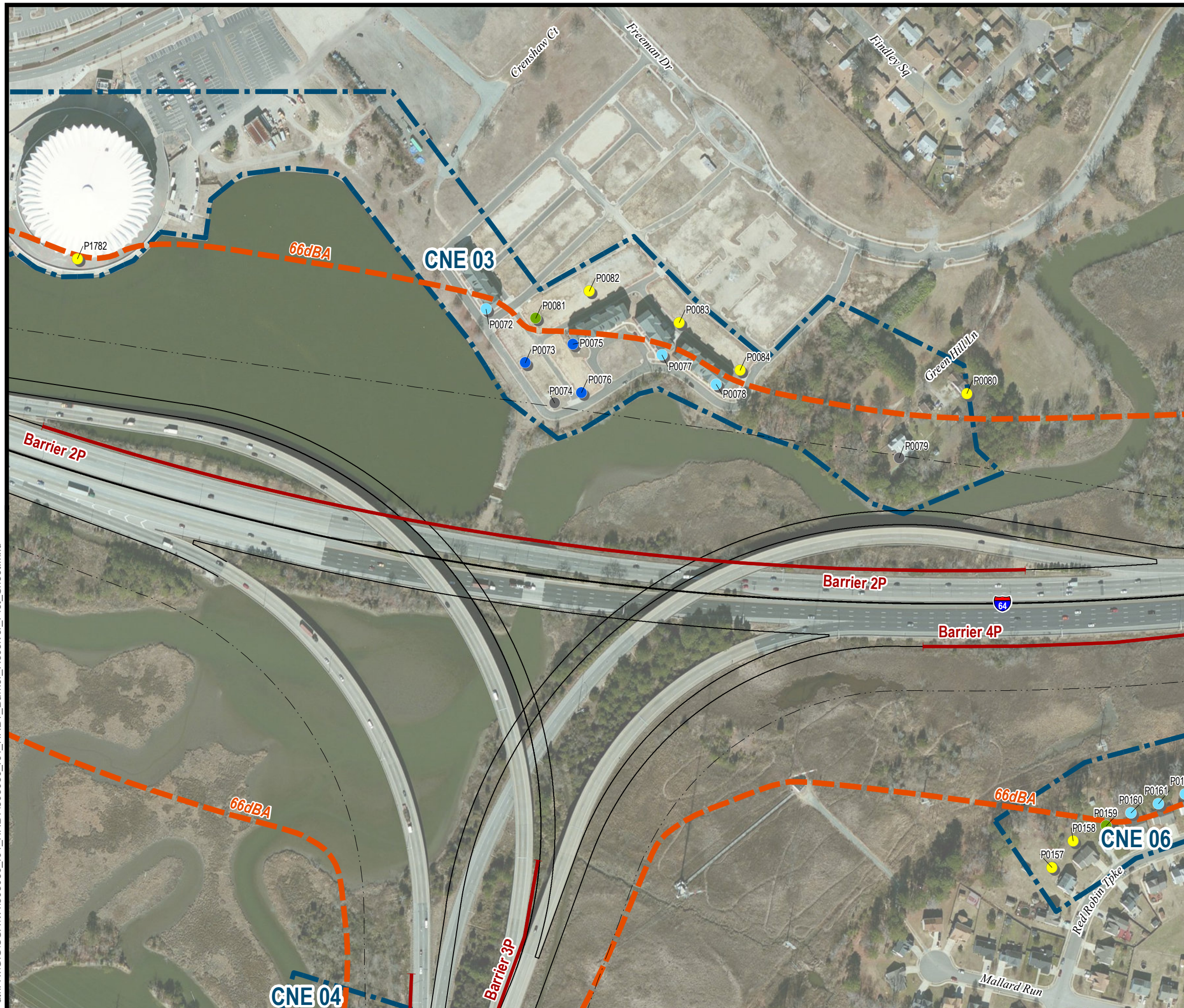
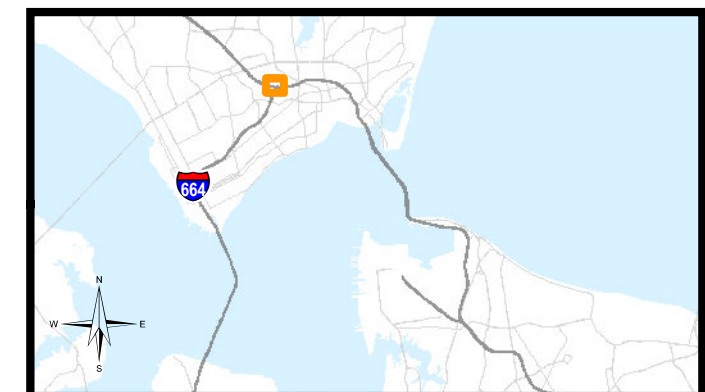
- Top Floor Noise Prediction Result
- Bottom Floor Noise Prediction Result

- ▲ 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 2 of 25



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Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
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

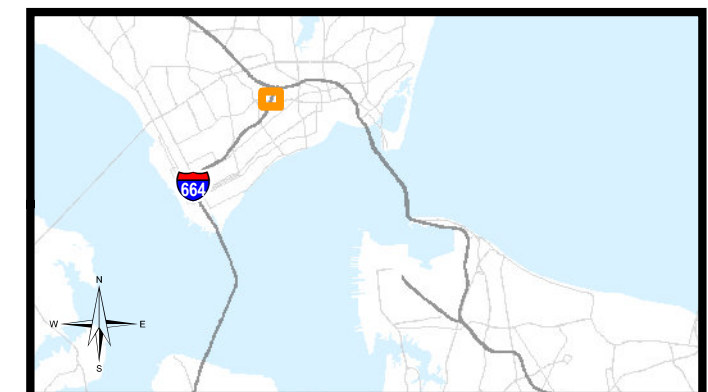
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- Impacted and 7 dBA or more Insertion Loss
- Impacted and Not Benefited
- Not Impacted and Benefited
- Not Benefited or Impacted
- Potential Acquisitions

- 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



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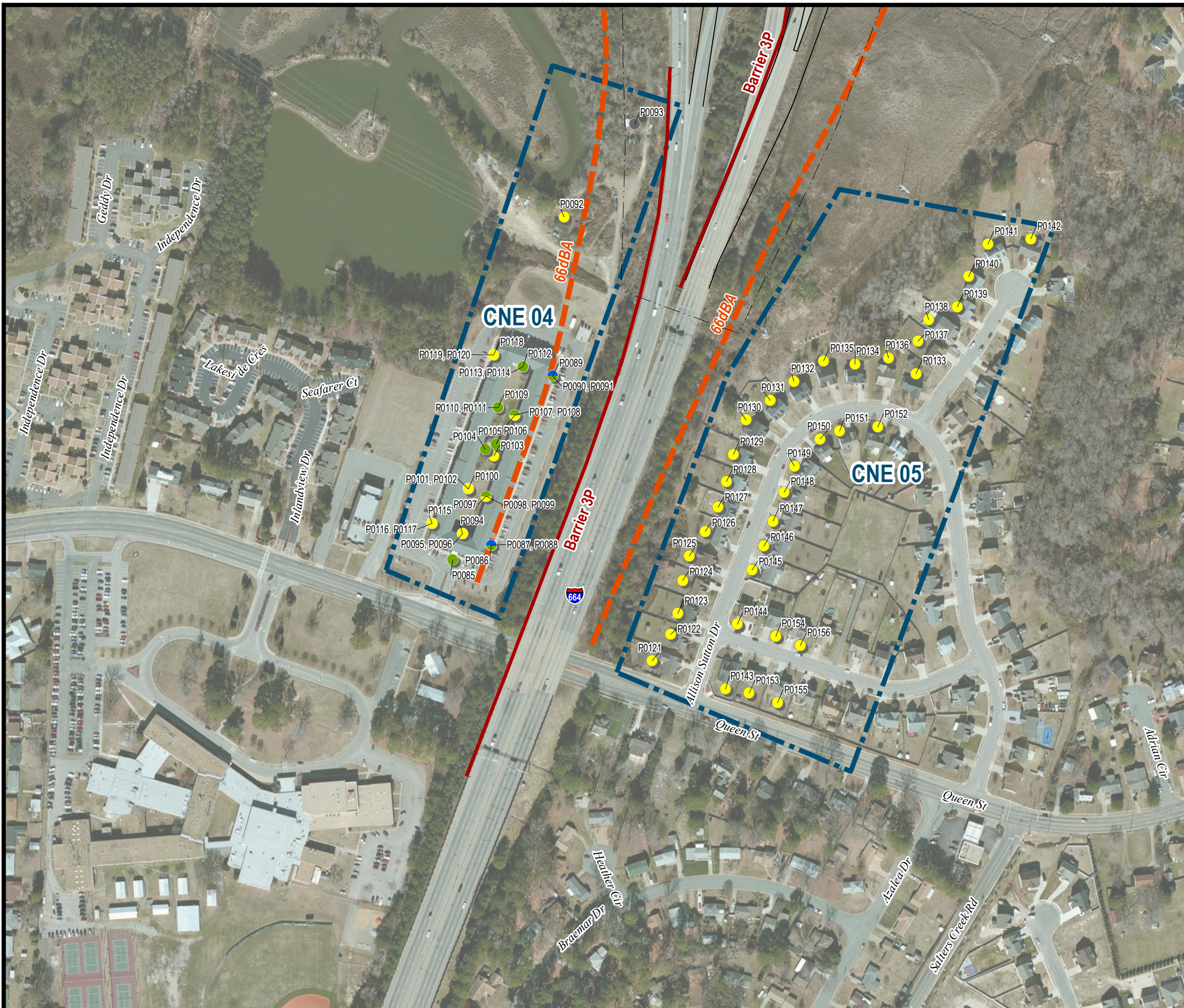


Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
Location Map for
Common Noise Environments, Receptors,
Build 10 Contours and Barriers

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

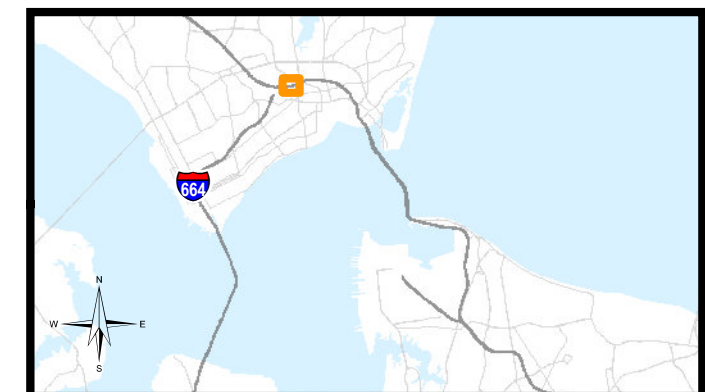
- Top Floor Noise Prediction Result
- Bottom Floor Noise Prediction Result

- ▲ **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 4 of 25



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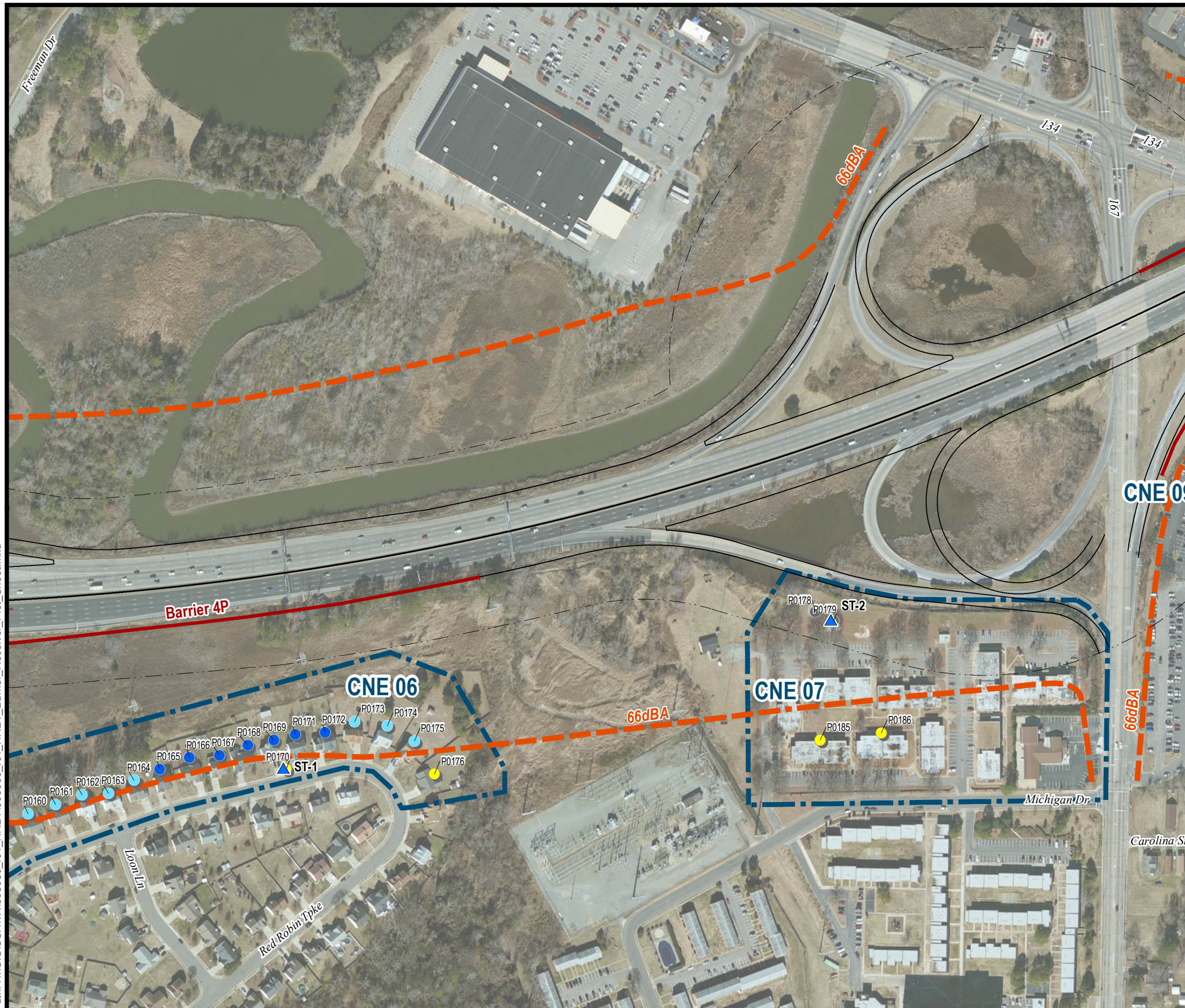


Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
Location Map for
Common Noise Environments, Receptors,
Build 10 Contours and Barriers

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

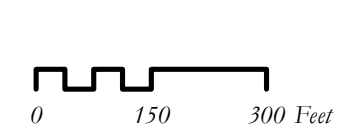
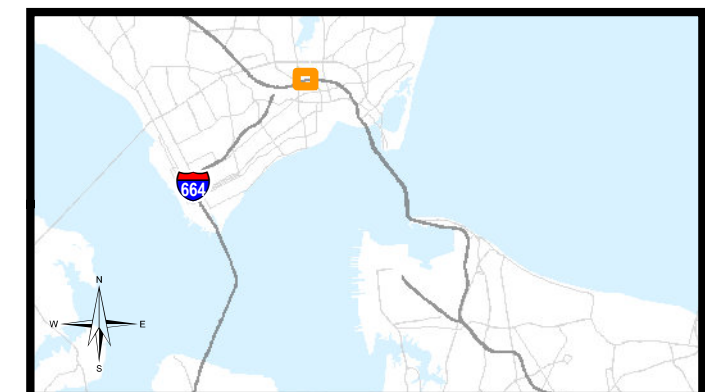
- Top Floor Noise Prediction Result
- Bottom Floor Noise Prediction Result

- ▲ 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

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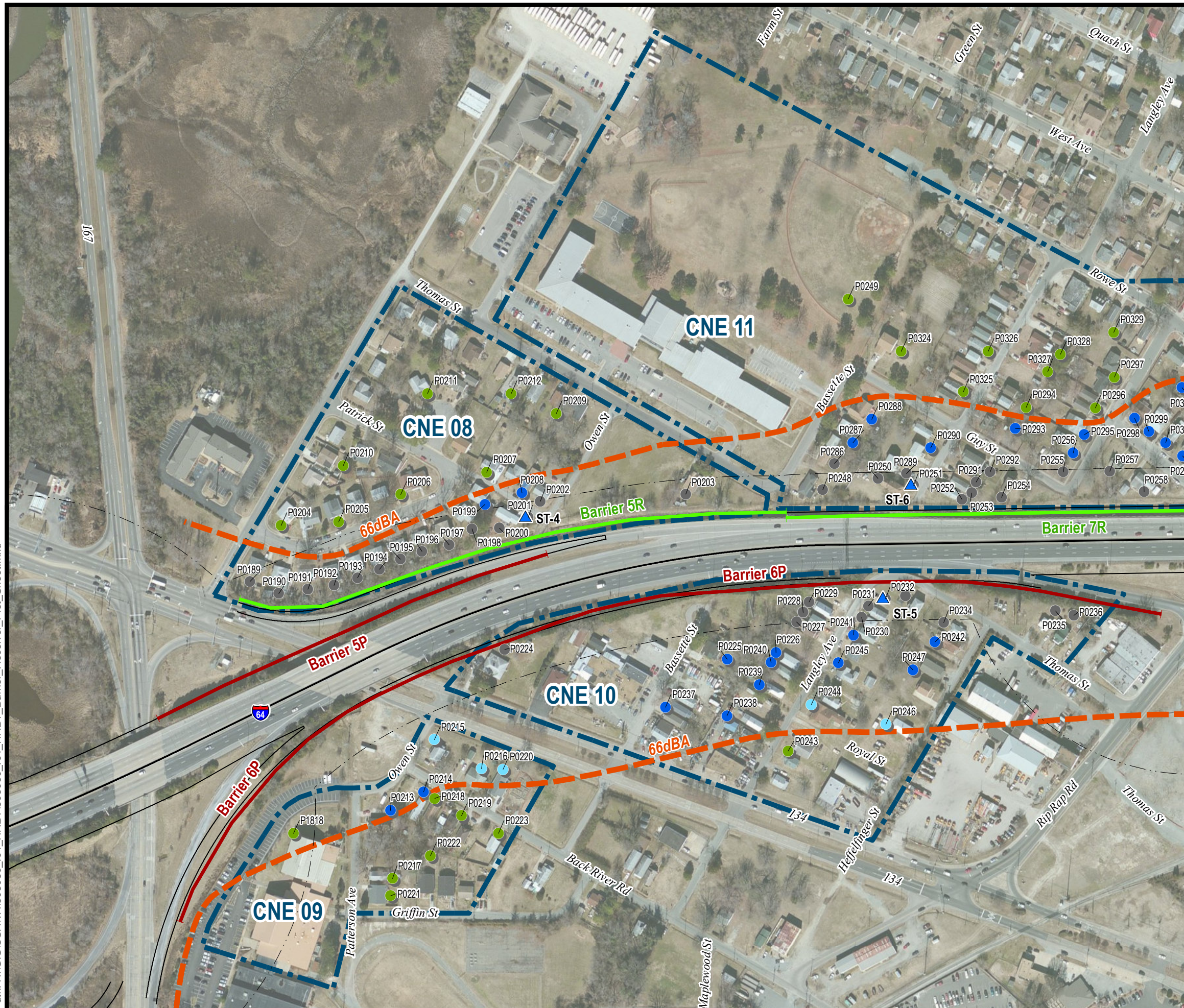


Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
Location Map for
Common Noise Environments, Receptors,
Build 10 Contours and Barriers

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

Receiver Site and Number

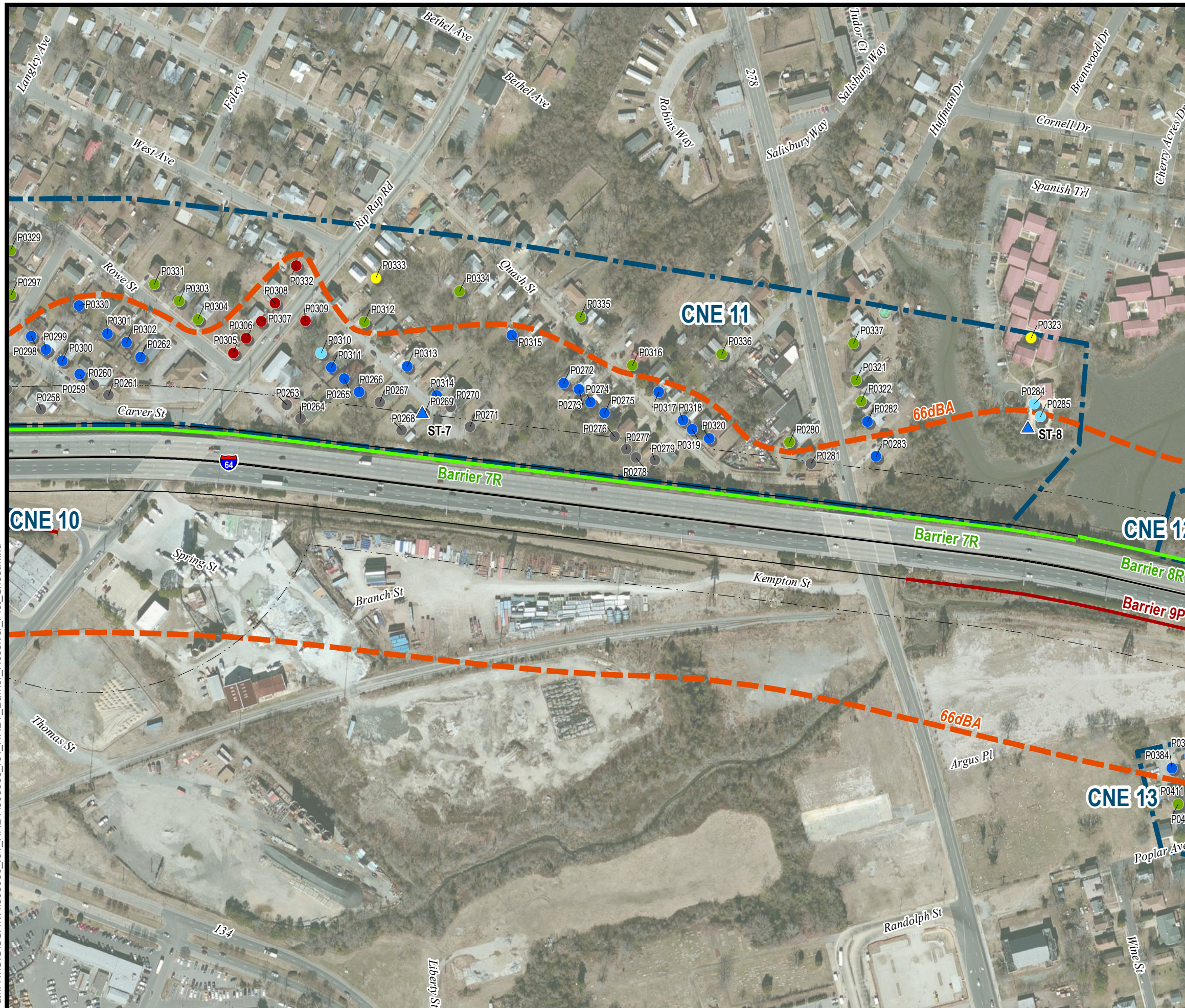
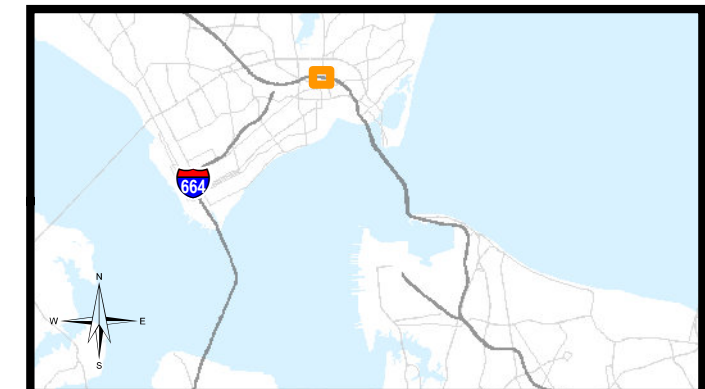
- Impacted and 5 or 6 dBA Insertion Loss
- Impacted and 7 dBA or more Insertion Loss
- Impacted and Not Benefited
- Not Impacted and Benefited
- Not Benefited or Impacted
- Potential Acquisitions

- 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

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Figure 2 I-64 Hampton Roads Bridge Tunnel Project 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

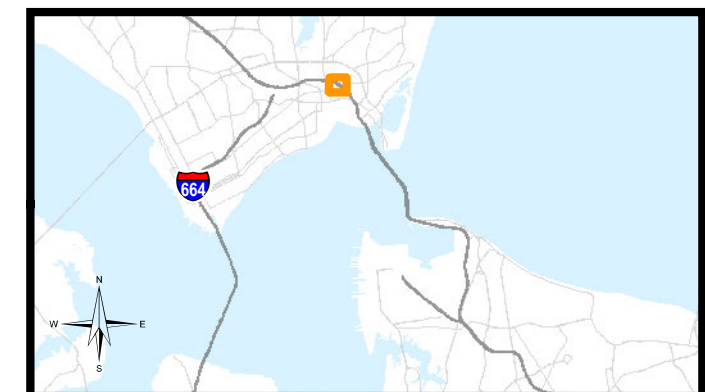
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- Impacted and Not Benefited
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- Top Floor Noise Prediction Result
- Bottom Floor Noise Prediction Result

- ▲ **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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Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
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

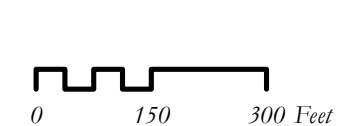
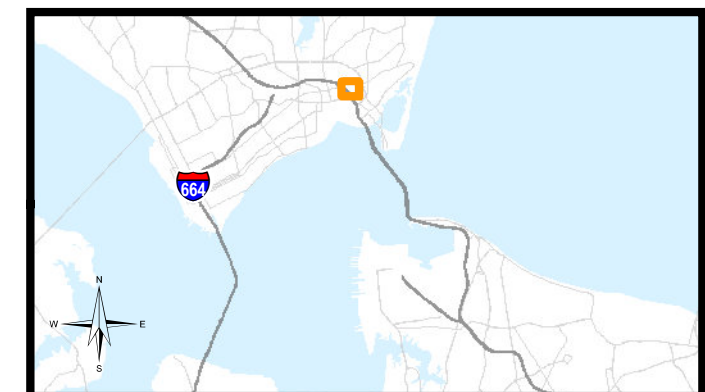
- Impacted and 5 or 6 dBA Insertion Loss
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- Top Floor Noise Prediction Result
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- ▲ **LT#** Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

- 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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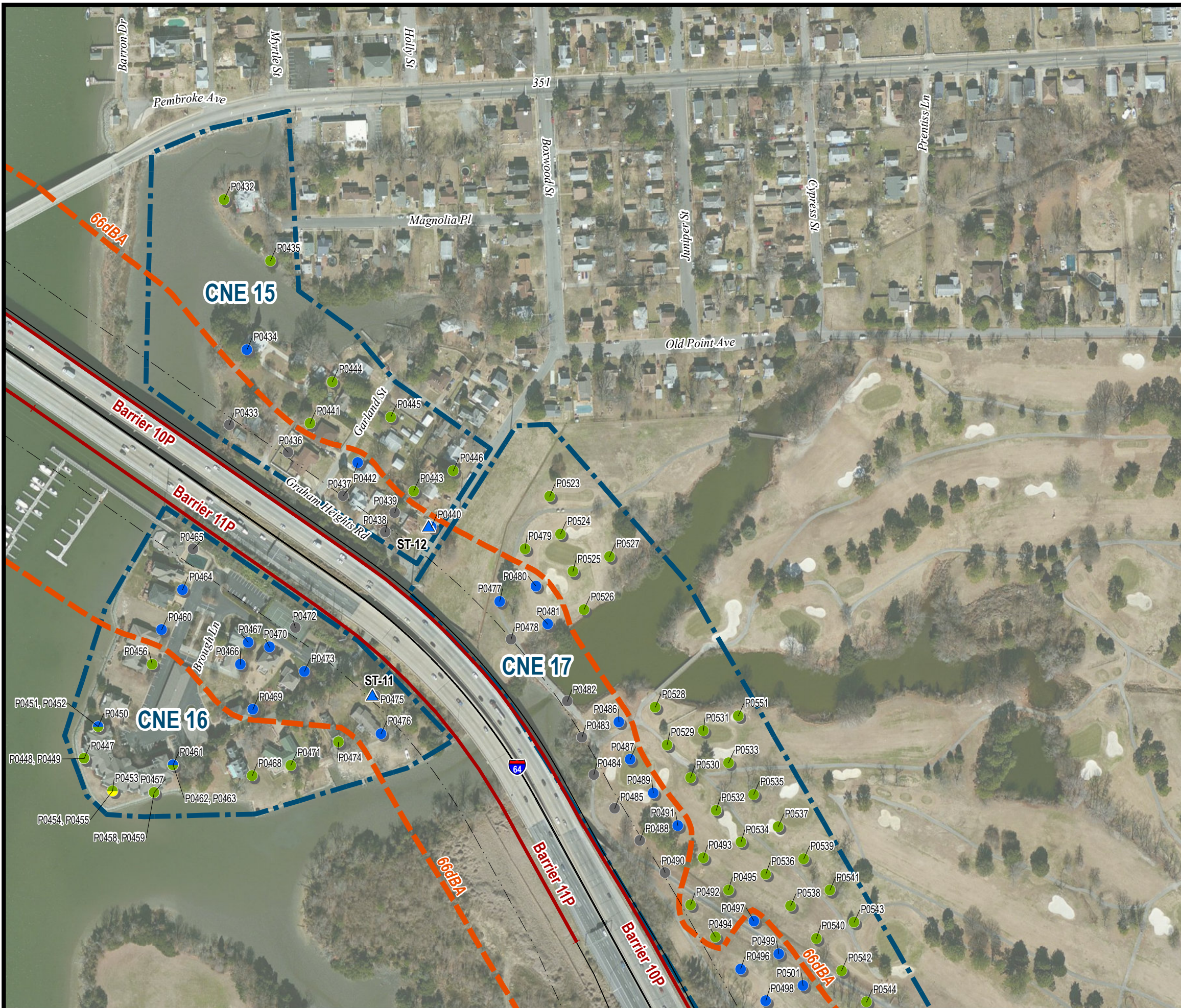


Figure 2 I-64 Hampton Roads Bridge Tunnel Project Location Map for Common Noise Environments, Receptors, Build 10 Contours and Barriers

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

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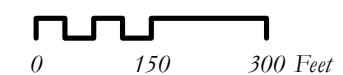
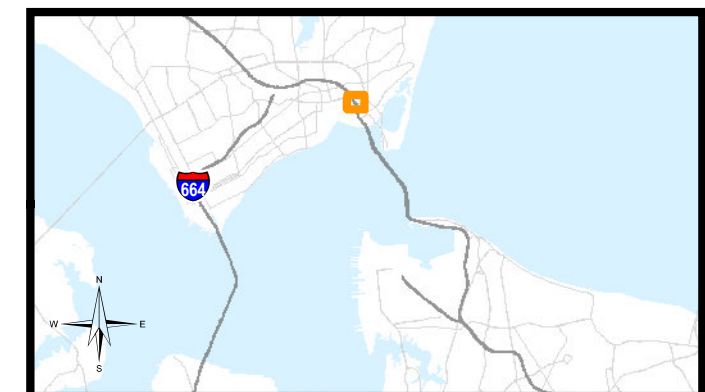
- Top Floor Noise Prediction Result
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- ▲ LT# Long-Term Measurement Site
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Noise Barriers

- Potential Barrier
- Replacement Barrier
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- Common Noise Environment (CNE) Areas

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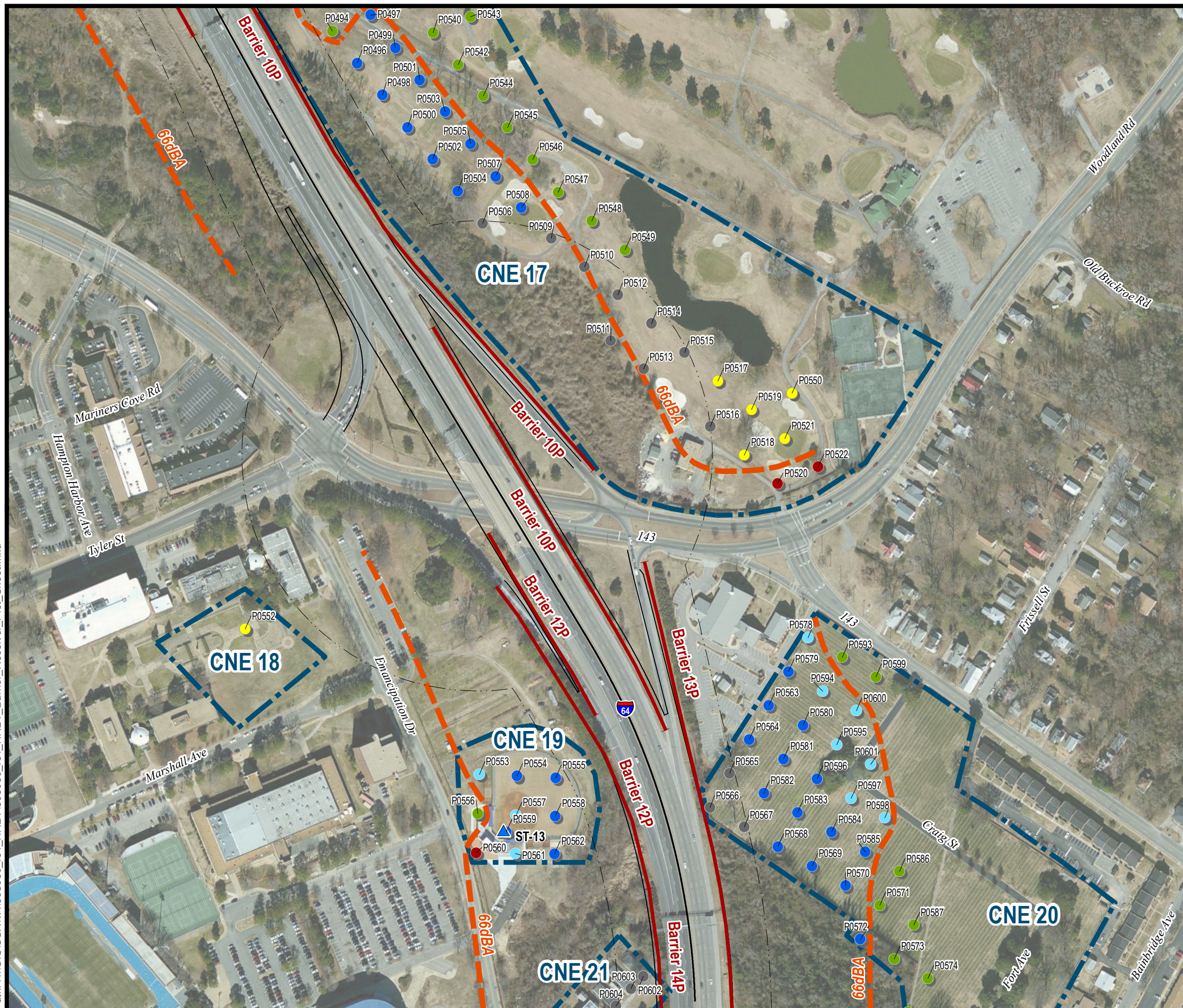


Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
Location Map for
Common Noise Environments, Receptors,
Build 10 Contours and Barriers

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

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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

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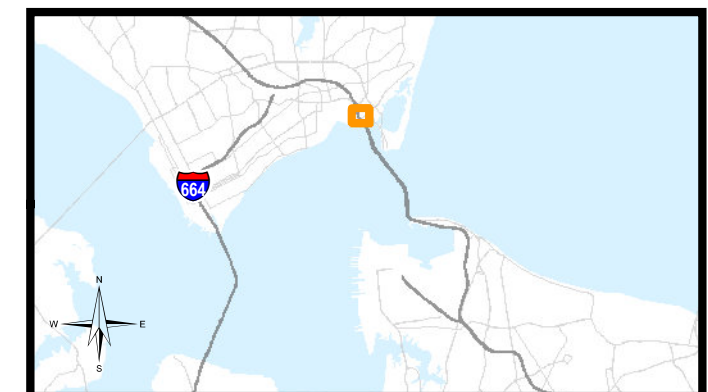


Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
Location Map for
Common Noise Environments, Receptors,
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Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037
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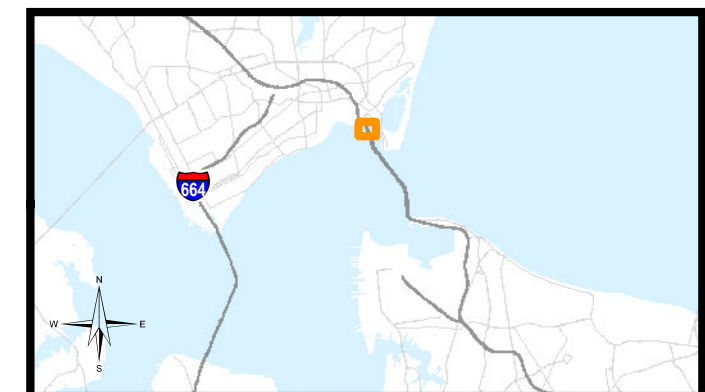
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Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
Location Map for
Common Noise Environments, Receptors,
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Hampton and Norfolk, Virginia

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

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 - Common Noise Environment (CNE) Areas

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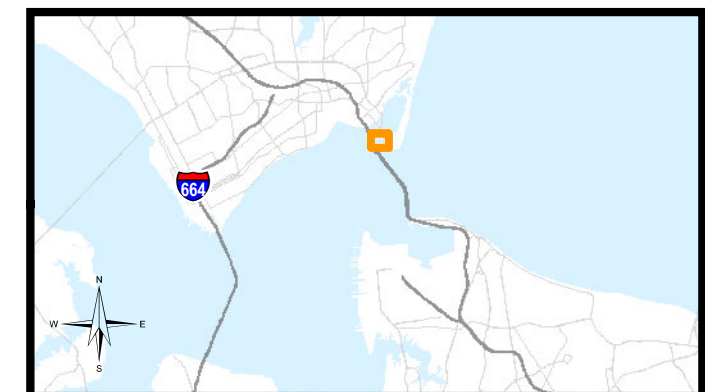


Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
Location Map for
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Hampton and Norfolk, Virginia

Project No. 0064-965-004, P101; UPC No. 99037
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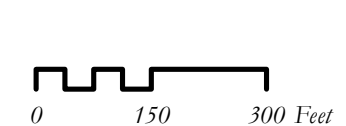
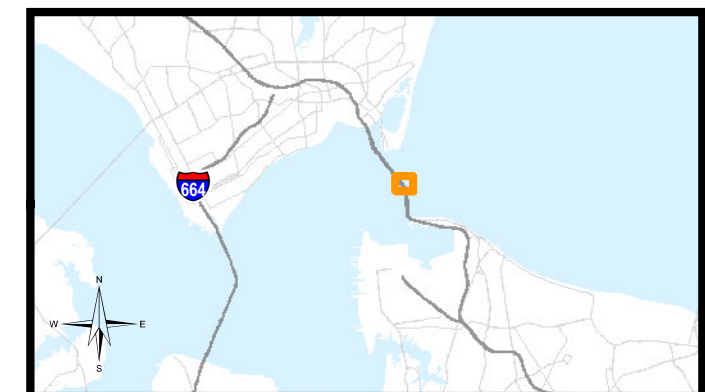
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 - Common Noise Environment (CNE) Areas

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Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
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

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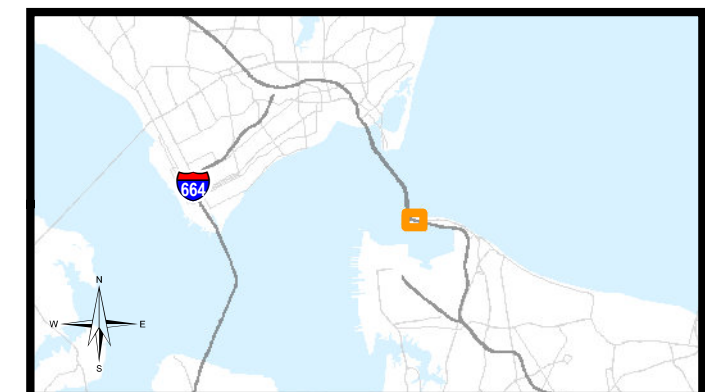
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Noise Barriers

- Potential Barrier
- Replacement Barrier
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- Common Noise Environment (CNE) Areas

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Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
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

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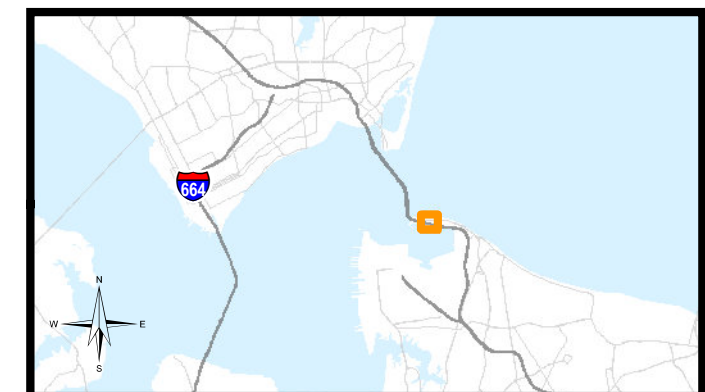
- Top Floor Noise Prediction Result
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Noise Barriers

- Potential Barrier
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- Common Noise Environment (CNE) Areas

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Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
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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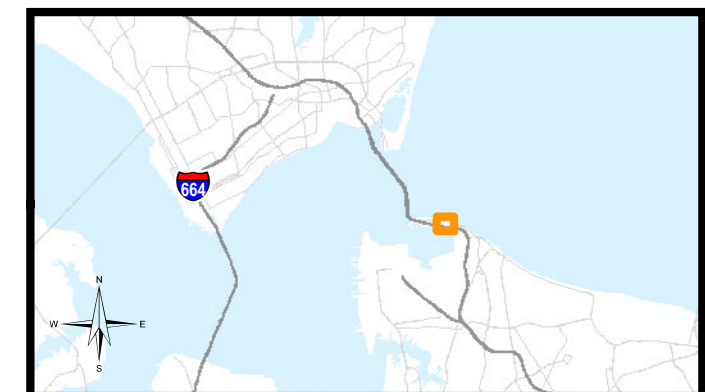
- Top Floor Noise Prediction Result
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- ▲ LT# Long-Term Measurement Site
- ▲ ST# Short-Term Measurement Site

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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Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
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

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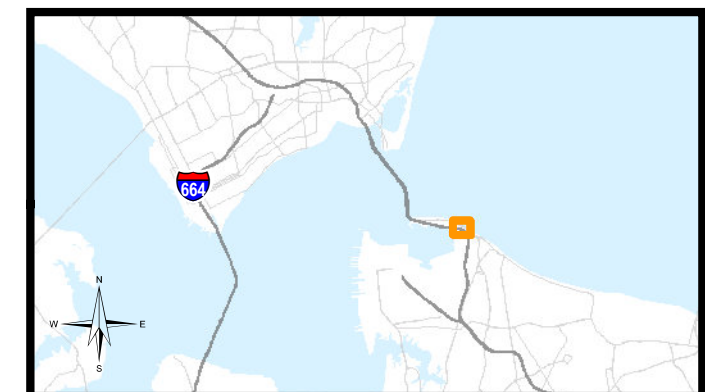
- Top Floor Noise Prediction Result
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- ▲ **LT#** Long-Term Measurement Site
- ▲ **ST#** Short-Term Measurement Site

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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Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
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

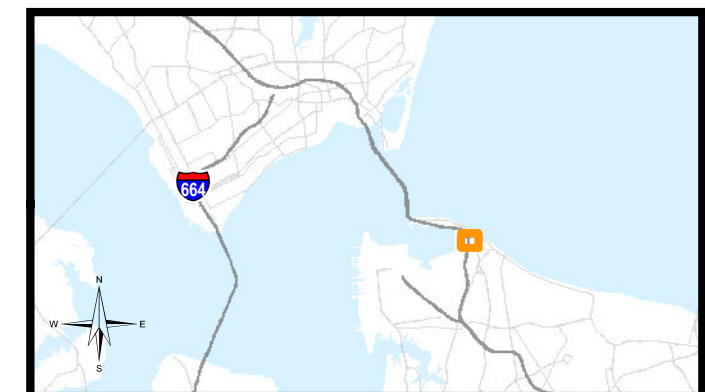
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- Bottom Floor Noise Prediction Result

- 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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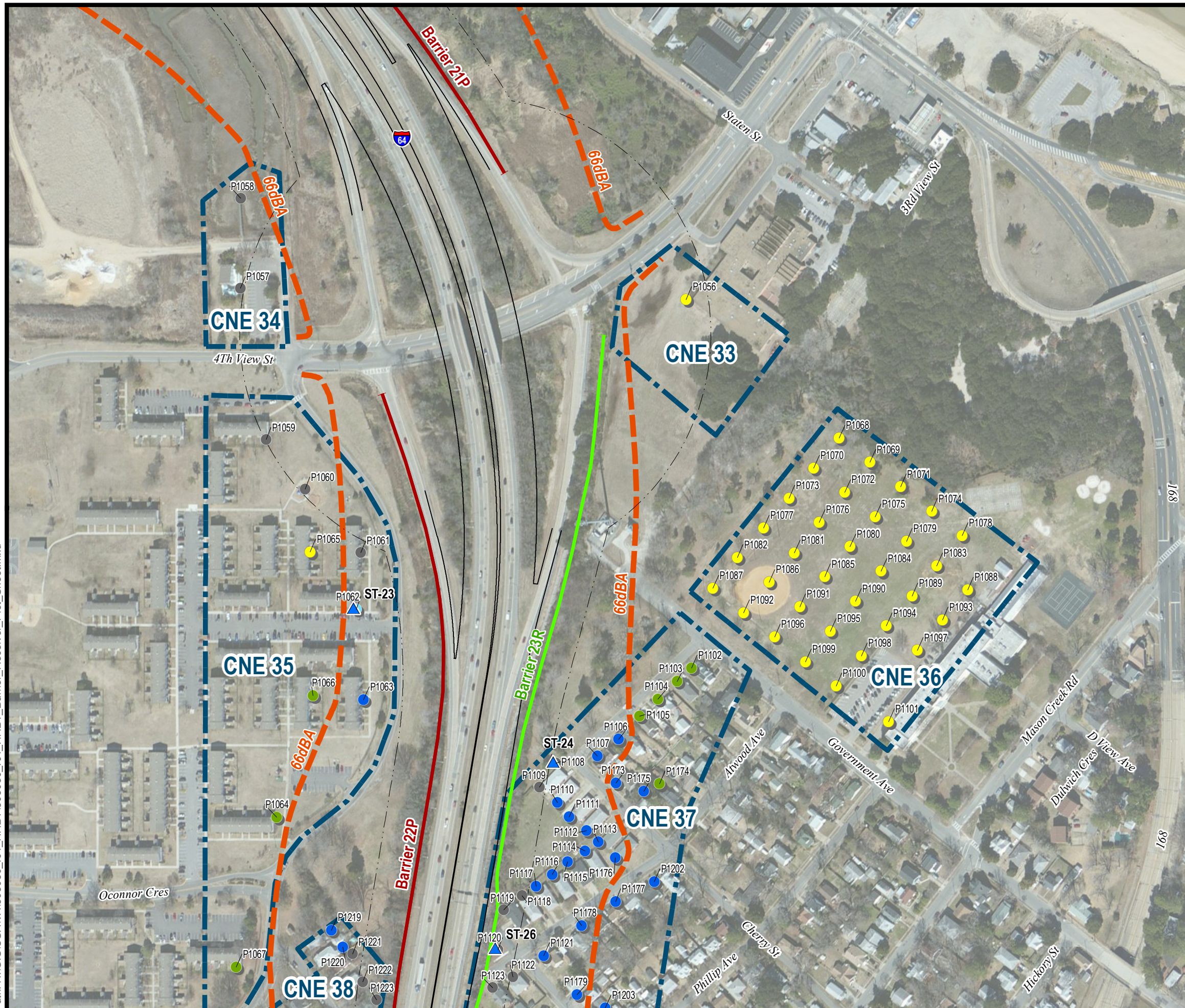


Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
Location Map for
Common Noise Environments, Receptors,
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Hampton and Norfolk, Virginia

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

Receiver Site and Number

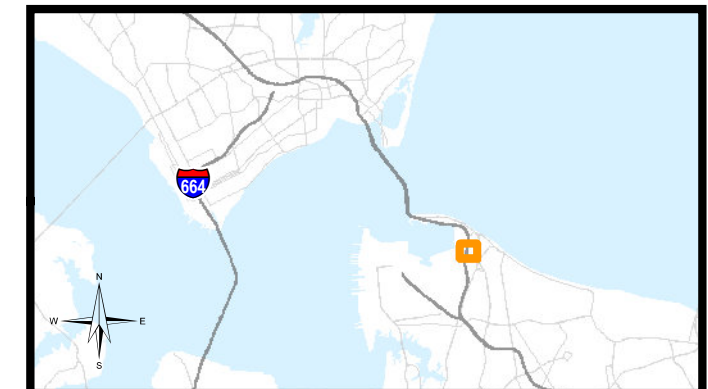
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- LT# Long-Term Measurement Site
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- Noise Barriers
- Potential Barrier
 - Replacement Barrier
 - 66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas
 - Common Noise Environment (CNE) Areas

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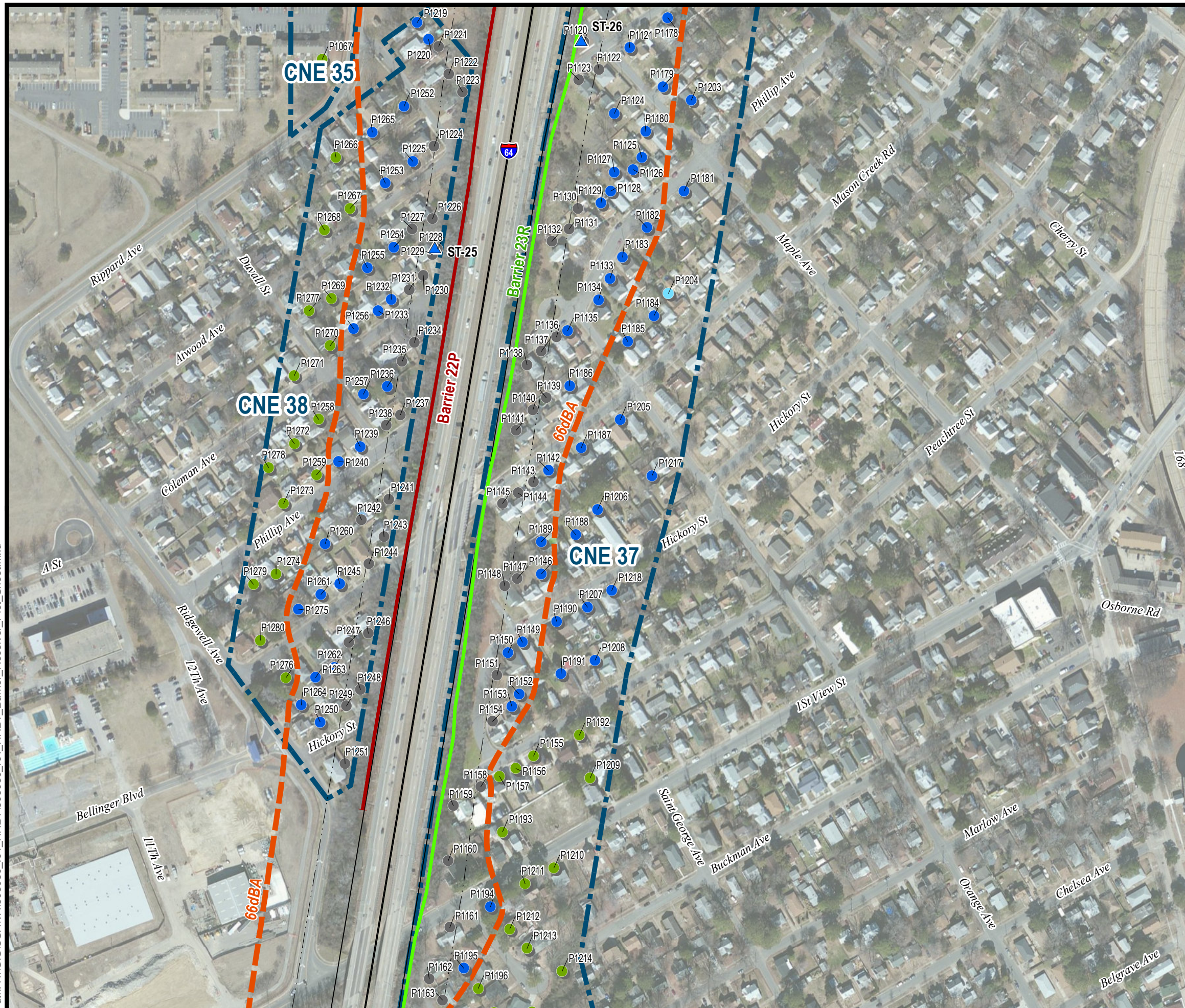


Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
Location Map for
Common Noise Environments, Receptors,
Build 10 Contours and Barriers

Hampton and Norfolk, Virginia

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

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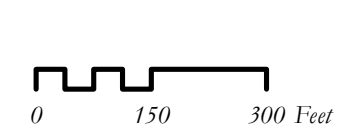
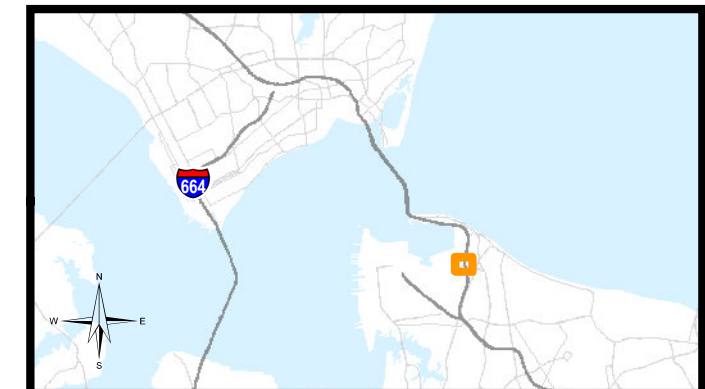
- Top Floor Noise Prediction Result
- Bottom Floor Noise Prediction Result

- ▲ **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

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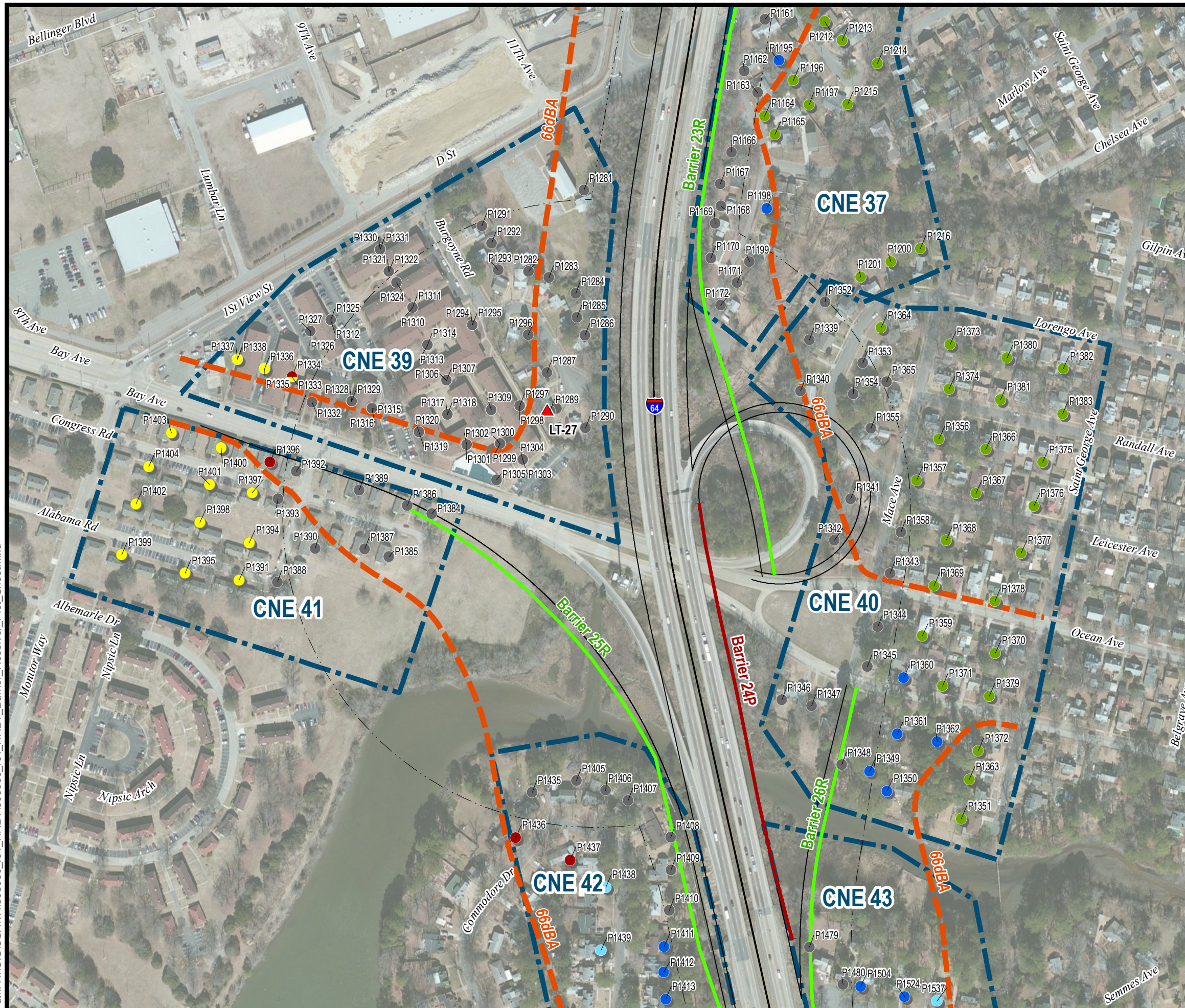


Figure 2 I-64 Hampton Roads Bridge Tunnel Project Location Map for Common Noise Environments, Receptors, Build 10 Contours and Barriers

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

Receiver Site and Number

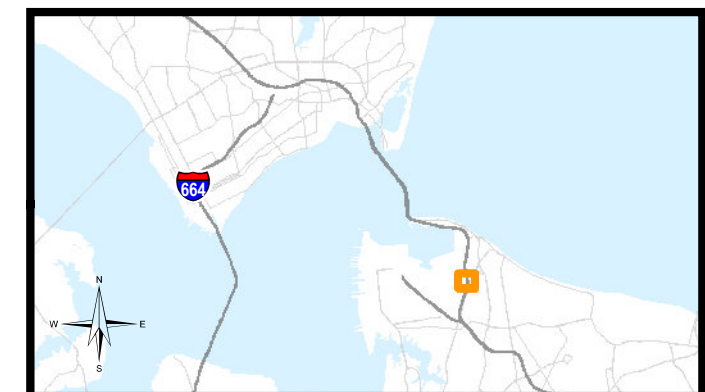
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- ### Noise Barriers
- Potential Barrier
 - Replacement Barrier
 - 66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas
 - Common Noise Environment (CNE) Areas

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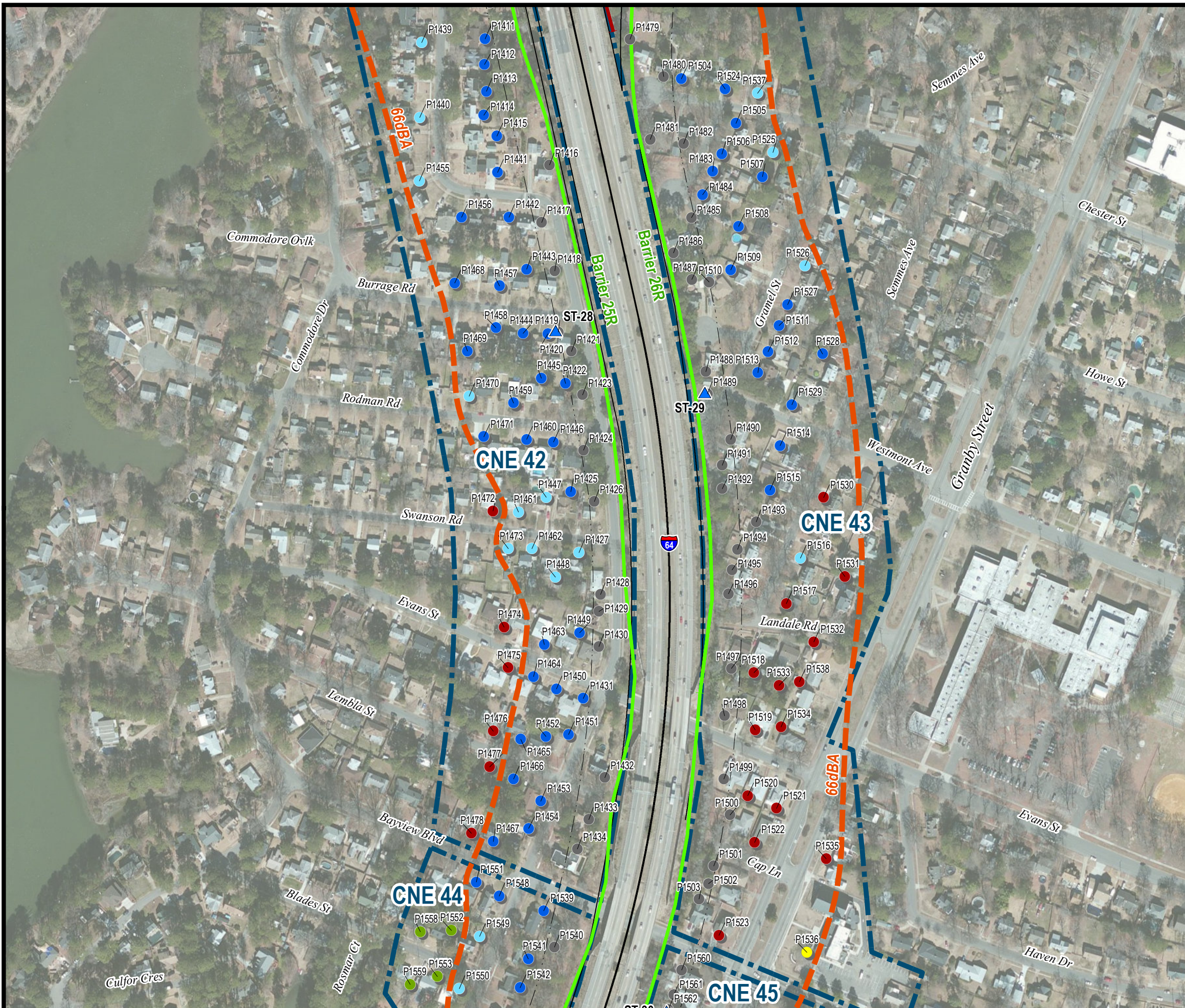


Figure 2 I-64 Hampton Roads Bridge Tunnel Project Location Map for Common Noise Environments, Receptors, Build 10 Contours and Barriers

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

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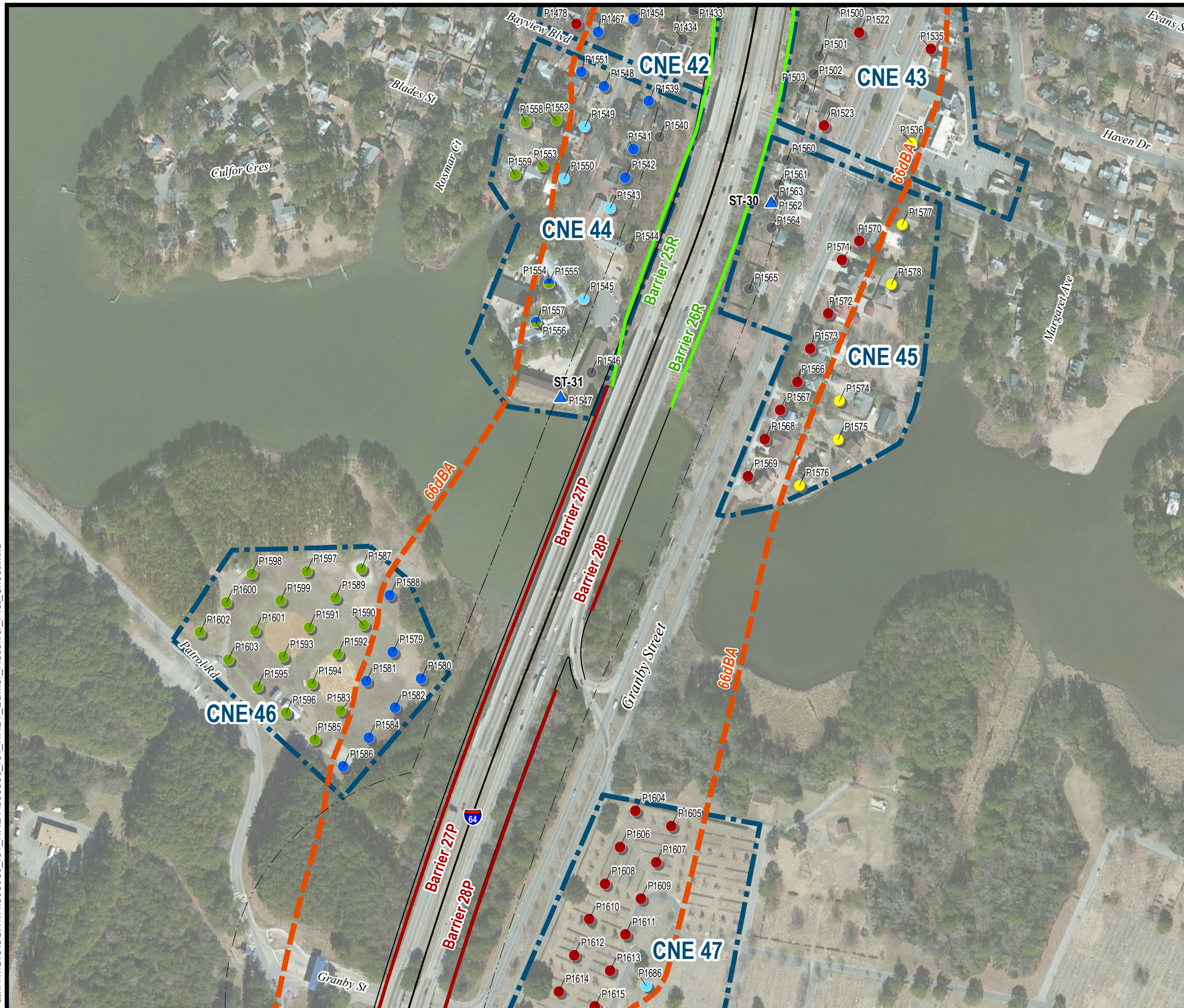
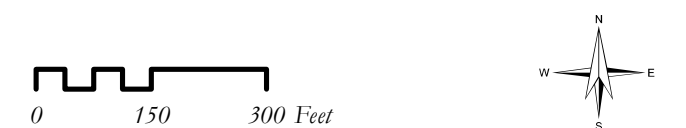
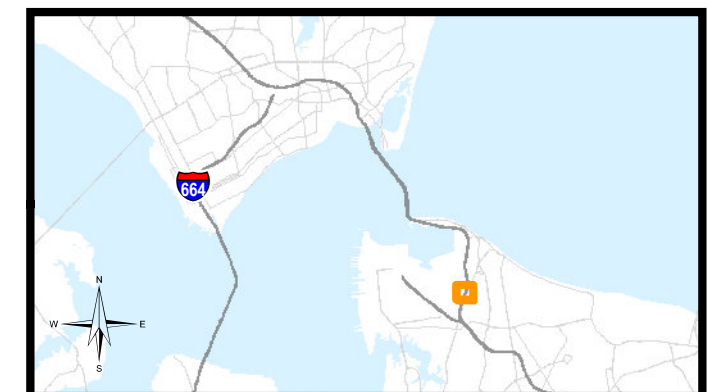
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 - Common Noise Environment (CNE) Areas

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Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
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

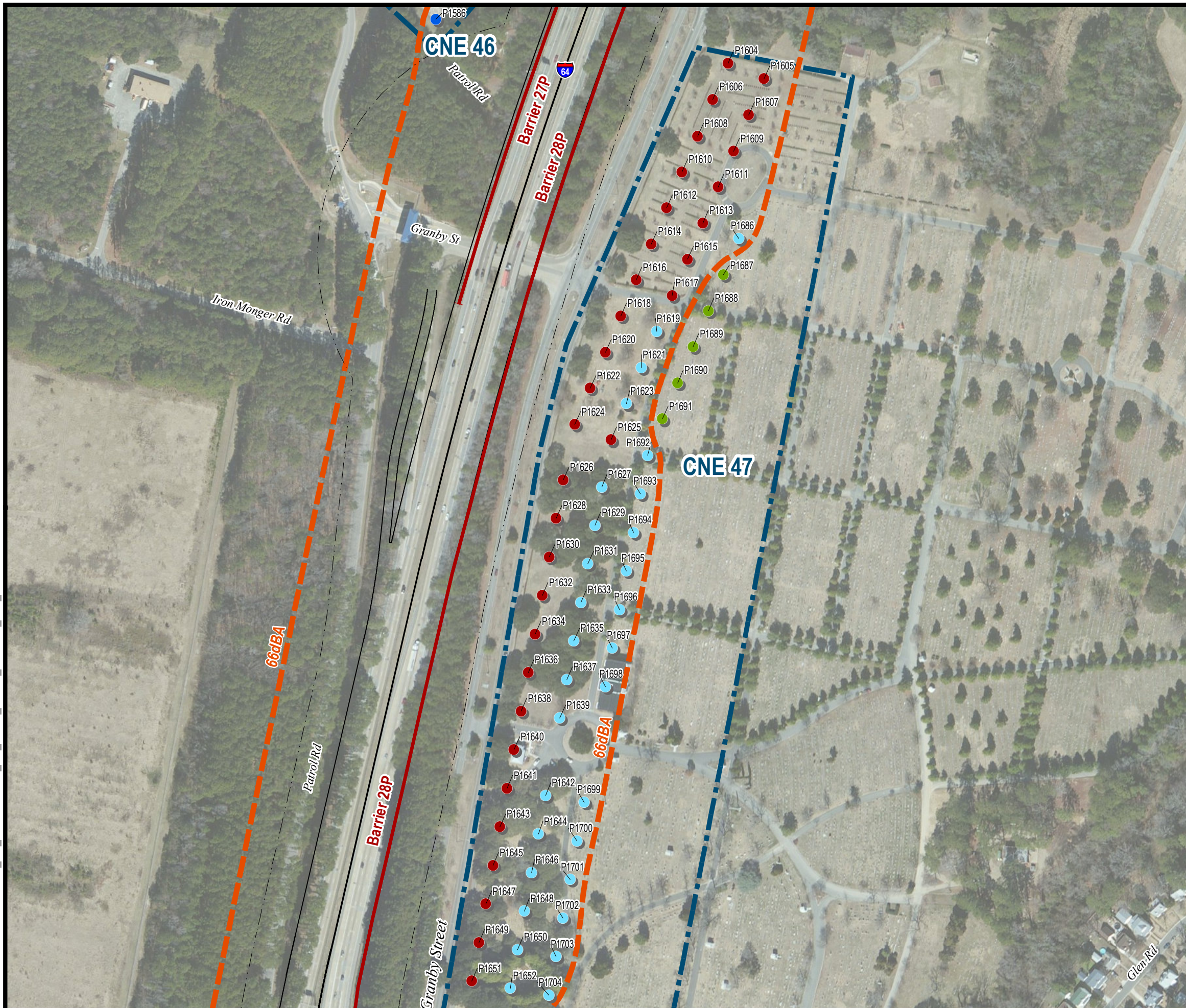
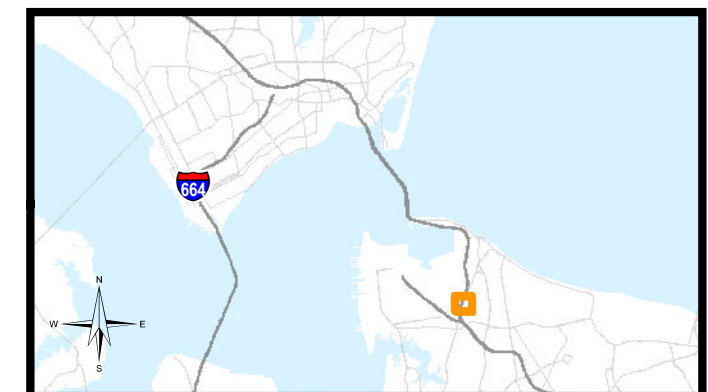
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- Impacted and 7 dBA or more Insertion Loss
- Impacted and Not Benefited
- Not Impacted and Benefited
- Not Benefited or Impacted
- Potential Acquisitions

- 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

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Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
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
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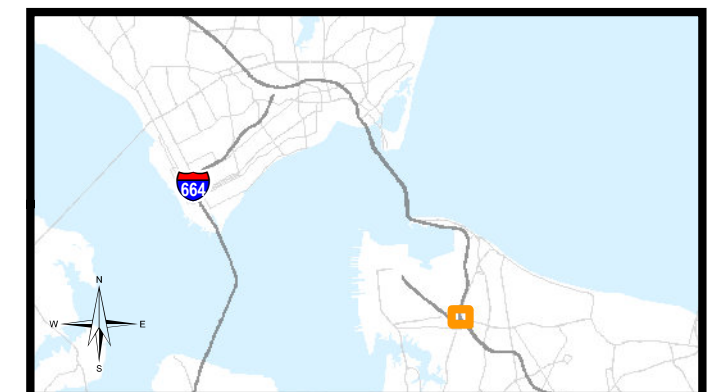
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Sheet 24 of 25



Path: H:\GIS\USA\VA\305080_164_HRBT_Barrier_Receiver_Plot_Sheet.mxd

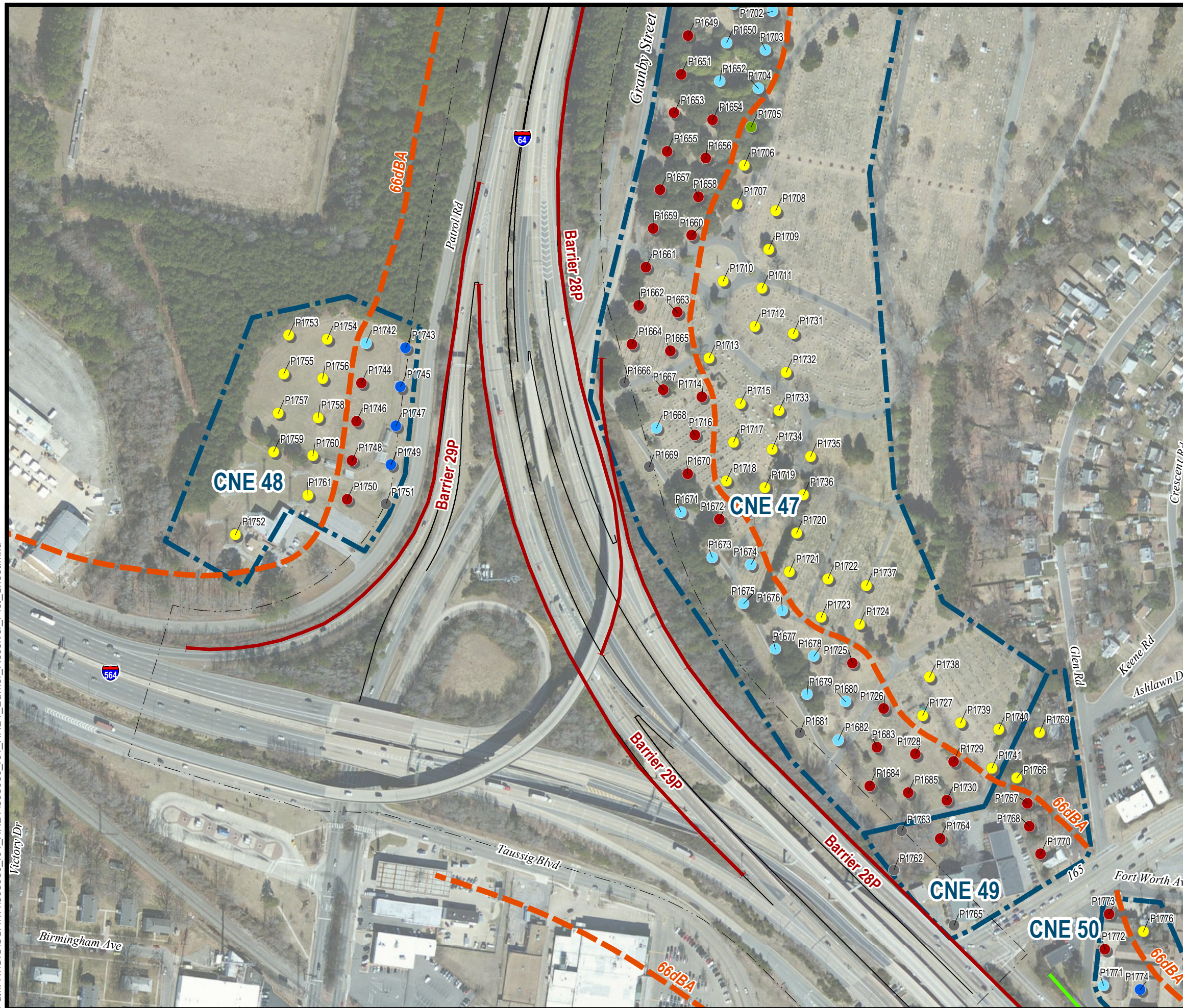


Figure 2
I-64 Hampton Roads
Bridge Tunnel Project
Location Map for
Common Noise Environments, Receptors,
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Hampton and Norfolk, Virginia
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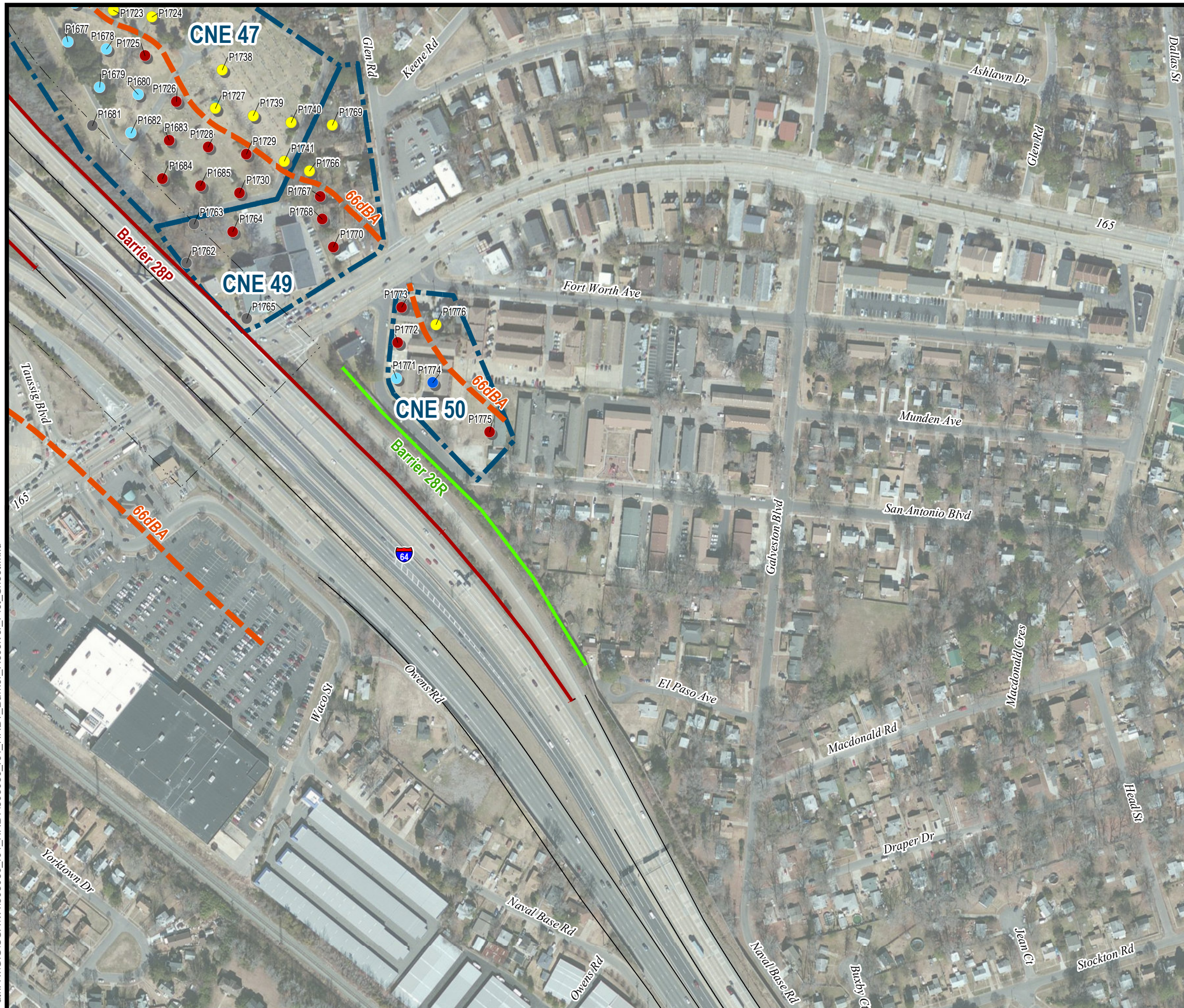
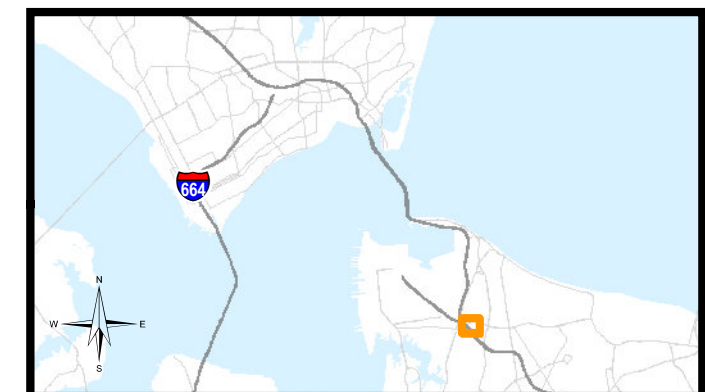
- Impacted and 5 or 6 dBA Insertion Loss
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- Impacted and Not Benefited
- Not Impacted and Benefited
- Not Benefited or Impacted
- Potential Acquisitions

- Top Floor Noise Prediction Result
- Bottom Floor Noise Prediction Result

- ▲ LT# Long-Term Measurement Site
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- Potential Barrier
 - Replacement Barrier
 - 66 dBA Leq Ground Floor Noise Contour without Potential Barriers in Residential and Recreational Areas
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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_{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_{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_{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

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

* 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 ID	Area Land Use and Description	Dwelling or Recreational Units Impacted by Noise			
		Existing	No-Build	Build-8	Build-10
HAMPTON					
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 ID	Area Land Use and Description	Dwelling or Recreational Units Impacted by Noise			
		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
NORFOLK					
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 ID	Area Land Use and Description	Dwelling or Recreational Units Impacted by Noise			
		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
Hampton Totals		158	212	291	319
Norfolk Totals		519	605	728	698
Grand Totals		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

Barrier No. & Type (R/P)*	CNE	Build Alt.	Barrier Data				Total Number of Impacted Receptors	Impacted and Benefited Receptors	Non-Impacted and Benefited Receptors	Total Benefited Receptors	Surface Area of Barrier per Benefited Receptor (SF/BR)*	
			Noise Reduction Range (dBA)	Length (ft)	Height Range (ft)	Surface Area* (sq ft)						Cost at \$37/sq ft
HAMPTON												
1P	1,2	8	5-12	1,914	15	28,704	\$1,062,048	19	19	18	37	776
		10	5-12	1,916	15	28,741	\$1,063,417	20	20	15	35	821
2P	3	8	5-7	2,545	15-30	39,982	\$1,479,334	37	36	14	50	800
		10	5-7	2,545	15-30	39,982	\$1,479,334	36	36	7	43	930
3P	4	8	5-10	1,709	15-30	31,429	\$1,162,873	5	5	67	72	437
		10	5-10	1,709	15-30	31,429	\$1,162,873	3	3	69	72	437
4P	6	8	5-7	1,931	15	28,970	\$1,071,890	14	14	3	17	1701*
		10	5-7	1,694	15	25,406	\$940,022	15	15	1	16	1588
5R/P	8	8	5-8	1,788	15	26,839 T 17,136 N	\$993,043	3	3	22	25	1074 T 685 N
		10	5-10	2,116	15-30	34,547 T 24,844 N	\$1,278,239	2	2	22	24	1439 T 1035 N
6P	9,10	8	5-11	2,747	15	41,198	\$1,524,326	19	18	14	32	1287
		10	5-12	2,837	15	42,550	\$1,574,350	23	23	9	32	1330
7R	11	8	5-12	3,563	15	53,514 T 43,811 N	\$1,980,018	59	54	50	104	515 T 421 N
		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

Barrier No. & Type (R/P)*	CNE	Build Alt.	Barrier Data					Total Number of Impacted Receptors	Impacted and Benefited Receptors	Non-Impacted and Benefited Receptors	Total Benefited Receptors	Surface Area of Barrier per Benefited Receptor (SF/BR)*
			Noise Reduction Range (dBA)	Length (ft)	Height Range (ft)	Surface Area* (sq ft)	Cost at \$37/sq ft					
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
9P	13	8	6-11	3,004	15	45,058	\$1,667,146	22	22	26	48	939
		10	6-12	2,999	15	45,005	\$1,665,185	29	29	18	47	958
10P	15,17	8	5-9	4,941	15	74,059	\$2,740,183	24	22	47	69	1073
		10	5-10	4,708	15	70,595	\$2,612,015	23	21	45	66	1070
11P	16	8	5-10	1,980	15	29,684	\$1,098,308	13	13	25	38	781
		10	5-10	1,977	15	29,682	\$1,098,234	17	17	27	44	675
12P	19	8	5-9	1,174	15	17,606	\$651,422	7	7	1	8	2201*
		10	5-9	1,174	15	17,606	\$651,422	7	7	1	8	2201*
13P	20	8	5-11	1,837	15	27,546	\$1,019,202	22	22	14	36	765
		10	5-11	1,837	15	27,546	\$1,019,202	22	22	14	36	765
14P	21	8	10-12	785	15	11,766	\$435,342	2	2	0	2	5883*
		10	10	785	15	11,766	\$435,342	1	1	0	1	11,766*
15P	22	8	5-11	2,128	15	31,896	\$1,180,152	4	4	22	26	1227
		10	5-11	2,128	15	31,896	\$1,180,152	4	4	22	26	1227
16R/P	25	8	5-14	3,550	15	53,267 T 35,268 N	\$1,970,879	25	25	31	56	951 T 630 N
		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 No. & Type (R/P)*	CNE	Build Alt.	Barrier Data				Total Number of Impacted Receptors	Impacted and Benefited Receptors	Non-Impacted and Benefited Receptors	Total Benefited Receptors	Surface Area of Barrier per Benefited Receptor (SF/BR)*	
			Noise Reduction Range (dBA)	Length (ft)	Height Range (ft)	Surface Area* (sq ft)						Cost at \$37/sq ft
17P	26,27	8	5-13	4,636	15	69,516	\$2,572,092	57	57	50	107	650
		10	6-12	4,454	15	66,786	\$2,471,082	50	50	62	112	596
18P	28	8	5-12	1,871	15	28,055	\$1,038,035	97	97	91	188	149
		10	5-12	1,870	15	28,043	\$1,037,591	69	69	92	161	174
19P	29	8	6-10	1,809	15	27,117	\$1,003,329	23	23	0	23	1179
		10	6-12	1,626	15	24,344	\$900,728	23	23	1	24	1014
20P	30,31	8	6-12	4,518	15	67,762	\$2,507,194	92	92	169	261	260
		10	7-13	4,336	15	65,025	\$2,405,925	79	79	167	246	264
21P	32	8	6-11	3,336	15	50,029	\$1,851,073	25	25	129	154	325
		10	6-11	3,339	15	50,073	\$1,852,701	25	25	129	154	325
22P	35,38	8	7-11	3,431	15	51,491	\$1,905,167	41	41	52	93	592
		10	5-11	3,429	15	51,452	\$1,903,724	37	37	43	80	643
23R	37	8	5-11	5,340	15	80,116 T 28,835 N	\$2,946,292	81	81	44	125	641 T 231 N
		10	5-10	5,338	15	80,053 T 28,772 N	\$2,961,961	91	91	32	123	651 T 234 N
24P	40	8	8-11	1,264	15	18,965	\$701,705	3	3	61	64	296
		10	8-10	1,137	15	17,061	\$631,257	6	6	58	64	267
25R	42,44	8	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

Barrier No. & Type (R/P)*	CNE	Build Alt.	Barrier Data					Total Number of Impacted Receptors	Impacted and Benefited Receptors	Non-Impacted and Benefited Receptors	Total Benefited Receptors	Surface Area of Barrier per Benefited Receptor (SF/BR)*
			Noise Reduction Range (dBA)	Length (ft)	Height Range (ft)	Surface Area* (sq ft)	Cost at \$37/sq ft					
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
26R	43	8	5-12	3,357	15-22	66,583 T 15,501 N	\$2,463,571	51	37	0	38	1752 T 408 N
		10	5-11	3,173	15-22	63,837 T 12,755 N	\$2,361,969	49	27	0	28	2280 T 456 N
27P	46	8 & 10	6-8	1,808	15	27,121	\$1,003,477	7	7	18	25	1085
28R/P	47,49, 50	8	5-9	7,908	15-25	126,072 T 98,881 N	\$4,664,664	139	80	26	106	1189 T 933 N
		10	5-7	7,998	15-25	134,800 T 107,609 N	\$4,987,600	138	65	9	74	1822 T* 1454 N*
29P	48	8	5-10	3,314	15	49,716	\$1,839,492	7	7	11	18	2762*
		10	5-7	3,314	15	49,716	\$1,839,492	9	5	0	5	9943*

* Notes:

- 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 noise-sensitive 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.

Barrier 12P 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 22 homes 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 15th 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 15th View Street and 13th 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 13th 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.

Barrier 21P is a Potential barrier for CNE 32, representing residences between the end of Little Bay Avenue and 4th 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.

Barrier 22P 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.

Barrier 26R 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 to 89 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_approach/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

Roadway Name and Location	Vehicle Volume in Loudest Hour (vph)			Speed (mph)
	Autos	Medium Trucks	Heavy Trucks	
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

Roadway Name and Location	Vehicle Volume in Loudest Hour (vph)			Speed (mph)
	Autos	Medium Trucks	Heavy Trucks	
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

Roadway Name and Location	Vehicle Volume in Loudest Hour (vph)			Speed (mph)
	Autos	Medium Trucks	Heavy Trucks	
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

Source: Rummel, Klepper & Kahl, LLP, 2012

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

Roadway Name and Location	Vehicle Volume in Loudest Hour (vph)			Speed (mph)
	Autos	Medium Trucks	Heavy Trucks	
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

Roadway Name and Location	Vehicle Volume in Loudest Hour (vph)			Speed (mph)
	Autos	Medium Trucks	Heavy Trucks	
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

Roadway Name and Location	Vehicle Volume in Loudest Hour (vph)			Speed (mph)
	Autos	Medium Trucks	Heavy Trucks	
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

Source: Rummel, Klepper & Kahl, LLP, 2012

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

Roadway Name and Location	Vehicle Volume in Loudest Hour (vph)			Speed (mph)
	Autos	Medium Trucks	Heavy Trucks	
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
I-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

Roadway Name and Location	Vehicle Volume in Loudest Hour (vph)			Speed (mph)
	Autos	Medium Trucks	Heavy Trucks	
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

Roadway Name and Location	Vehicle Volume in Loudest Hour (vph)			Speed (mph)
	Autos	Medium Trucks	Heavy Trucks	
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

Source: Rummel, Klepper & Kahl, LLP, 2012

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

Roadway Name and Location	Vehicle Volume in Loudest Hour (vph)			Speed (mph)
	Autos	Medium Trucks	Heavy Trucks	
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

Roadway Name and Location	Vehicle Volume in Loudest Hour (vph)			Speed (mph)
	Autos	Medium Trucks	Heavy Trucks	
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

Roadway Name and Location	Vehicle Volume in Loudest Hour (vph)			Speed (mph)
	Autos	Medium Trucks	Heavy Trucks	
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

Source: Rummel, Klepper & Kahl, LLP, 2012

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0001	48 Pine Chapel Rd Hampton Row 1 Flr1.5	SF	1	66	61	62	62	56	7	58	5
P0002	50 Pine Chapel Rd Hampton Row 1 Flr1.5	SF	1	66	62	63	63	56	8	58	6
P0072	Waterside Dr Hampton Row 1 Flr2	MF	7	66	65	66	67	62	5	62	6
P0073	Waterside Dr Hampton Row 1 Flr2	MF	5	66	66	68	69	63	6	63	7
P0074	Waterside Dr Hampton Row 1 Flr2	MF	5	66	68	69	PA	PA	0	PA	0
P0075	Waterside Dr Hampton Row 1 Flr2	MF	7	66	63	64	67	61	6	61	7
P0076	Waterside Dr Hampton Row 1 Flr2	MF	5	66	67	68	69	63	7	63	7
P0077	Waterside Dr Hampton Row 1 Flr2	MF	5	66	65	65	67	61	6	61	6
P0078	Waterside Dr Hampton Row 1 Flr2	MF	7	66	65	66	67	61	6	60	6
P0079	1 Greenhill Ln Hampton Row 1 Flr2	SF	1	66	69	70	PA	PA	0	PA	0
P0080	1 Greenhill Ln Hampton Row 1 Flr2	SF	1	66	65	65	66	62	4	63	2
P0081	Waterside Dr Hampton Row 2 Flr2	MF	7	66	60	61	61	57	4	57	5
P0082	Waterside Dr Hampton Row 2 Flr2	MF	7	66	60	61	62	58	3	58	4
P0083	Waterside Dr Hampton Row 2 Flr2	MF	7	66	60	61	62	57	5	57	4
P0084	Waterside Dr Hampton Row 2 Flr2	MF	7	66	64	64	65	59	6	59	4
P0085	1446 W Queen St Hampton Row 1 Flr1	MF	0	66	61	63	61	55	6	54	6
P0086	1446 W Queen St Hampton Row 1 Flr1	MF	1	66	64	66	64	57	7	56	6
P0087	1446 W Queen St Hampton Row 1 Flr2	MF	1	66	68	70	67	67	0	58	8
P0088	1446 W Queen St Hampton Row 1 Flr3	MF	1	66	69	70	70	70	0	59	9
P0089	1446 W Queen St Hampton Row 1 Flr1	MF	1	66	66	68	66	59	7	59	6
P0090	1446 W Queen St Hampton Row 1 Flr2	MF	1	66	70	71	70	70	0	60	10
P0091	1446 W Queen St Hampton Row 1 Flr3	MF	1	66	70	71	71	71	0	60	9
P0092	W Queen St Hampton Row 1 Flr1	SF	1	66	64	65	64	61	3	61	3
P0093	W Queen St Hampton Row 1 Flr1	SF	1	66	70	71	PA	PA	0	PA	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0094	1446 W Queen St Hampton Row 2 Flr1	MF	4	66	53	54	53	50	3	51	2
P0095	1446 W Queen St Hampton Row 2 Flr2	MF	4	66	53	54	54	54	0	51	2
P0096	1446 W Queen St Hampton Row 2 Flr3	MF	4	66	57	58	58	58	0	52	4
P0097	1446 W Queen St Hampton Row 2 Flr1	MF	9	66	52	53	53	49	3	47	4
P0098	1446 W Queen St Hampton Row 2 Flr2	MF	9	66	54	55	55	55	0	48	4
P0099	1446 W Queen St Hampton Row 2 Flr3	MF	9	66	58	59	59	59	0	51	5
P0100	1446 W Queen St Hampton Row 2 Flr1	MF	9	66	54	55	55	51	3	53	2
P0101	1446 W Queen St Hampton Row 2 Flr2	MF	9	66	54	55	55	55	0	53	2
P0102	1446 W Queen St Hampton Row 2 Flr3	MF	9	66	57	58	58	58	0	54	3
P0103	1446 W Queen St Hampton Row 2 Flr1	MF	0	66	52	53	53	49	4	47	4
P0104	1446 W Queen St Hampton Row 2 Flr1	MF	0	66	53	54	54	50	4	47	5
P0105	1446 W Queen St Hampton Row 2 Flr1	MF	0	66	52	53	53	49	4	47	5
P0106	1446 W Queen St Hampton Row 2 Flr1	MF	9	66	51	52	52	47	5	46	4
P0107	1446 W Queen St Hampton Row 2 Flr2	MF	9	66	52	53	53	53	0	47	5
P0108	1446 W Queen St Hampton Row 2 Flr3	MF	9	66	57	58	58	58	0	51	6
P0109	1446 W Queen St Hampton Row 2 Flr1	MF	9	66	52	53	53	47	6	47	5
P0110	1446 W Queen St Hampton Row 2 Flr2	MF	9	66	52	53	53	53	0	47	5
P0111	1446 W Queen St Hampton Row 2 Flr3	MF	9	66	57	58	57	57	0	51	5
P0112	1446 W Queen St Hampton Row 2 Flr1	MF	4	66	51	52	51	45	6	44	6
P0113	1446 W Queen St Hampton Row 2 Flr2	MF	4	66	52	53	53	53	0	47	5
P0114	1446 W Queen St Hampton Row 2 Flr3	MF	4	66	57	58	57	57	0	50	6
P0115	1446 W Queen St Hampton Row 3 Flr1	MF	1	66	56	57	57	55	1	56	1
P0116	1446 W Queen St Hampton Row 3 Flr2	MF	1	66	60	61	60	60	0	57	2
P0117	1446 W Queen St Hampton Row 3 Flr3	MF	1	66	61	62	62	62	0	58	3

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels				
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**	
P0118	1446 W Queen St Hampton Row 3 Flr1	MF	1	66	60	61	59	60	57	2	58	2
P0119	1446 W Queen St Hampton Row 3 Flr2	MF	1	66	62	63	62	63	62	0	59	3
P0120	1446 W Queen St Hampton Row 3 Flr3	MF	1	66	63	64	63	63	63	0	59	3
P0121	62 Allison Sutton Dr Hampton Row 1 Flr1	SF	1	66	63	64	63	61	63	0	61	0
P0122	60 Allison Sutton Dr Hampton Row 1 Flr1	SF	1	66	63	64	62	61	62	0	61	0
P0123	58 Allison Sutton Dr Hampton Row 1 Flr1	SF	1	66	63	64	62	60	62	0	60	0
P0124	56 Allison Sutton Dr Hampton Row 1 Flr1	SF	1	66	63	64	62	60	62	0	60	0
P0125	54 Allison Sutton Dr Hampton Row 1 Flr1	SF	1	66	63	64	62	60	62	0	60	0
P0126	52 Allison Sutton Dr Hampton Row 1 Flr1	SF	1	66	63	64	62	60	62	0	60	0
P0127	50 Allison Sutton Dr Hampton Row 1 Flr1	SF	1	66	63	64	62	60	62	0	60	0
P0128	48 Allison Sutton Dr Hampton Row 1 Flr1	SF	1	66	63	64	62	60	62	0	60	0
P0129	46 Allison Sutton Dr Hampton Row 1 Flr1	SF	1	66	63	64	62	60	62	0	60	0
P0130	44 Allison Sutton Dr Hampton Row 1 Flr1	SF	1	66	63	64	62	61	62	0	61	0
P0131	42 Allison Sutton Dr Hampton Row 1 Flr1	SF	1	66	63	64	62	60	62	0	60	0
P0132	40 Allison Sutton Dr Hampton Row 1 Flr1	SF	1	66	62	63	62	60	62	0	60	0
P0133	32 Allison Sutton Dr Hampton Row 1 Flr1	SF	1	66	58	59	59	57	59	0	57	0
P0134	36 Allison Sutton Dr Hampton Row 1 Flr1	SF	1	66	60	61	61	59	61	0	59	0
P0135	38 Allison Sutton Dr Hampton Row 1 Flr1	SF	1	66	61	62	61	60	61	0	60	0
P0136	34 Allison Sutton Dr Hampton Row 1 Flr1	SF	1	66	60	61	60	59	60	0	59	0
P0137	3 Robert Connor Dr Hampton Row 1 Flr1	SF	1	66	59	59	59	58	59	0	58	0
P0138	5 Robert Connor Dr Hampton Row 1 Flr1	SF	1	66	58	59	60	58	60	0	58	0
P0139	7 Robert Connor Dr Hampton Row 1 Flr1	SF	1	66	57	58	59	57	59	0	57	0
P0140	9 Robert Connor Dr Hampton Row 1 Flr1	SF	1	66	58	58	59	58	59	0	58	0
P0141	11 Robert Connor Dr Hampton Row 1 Flr1	SF	1	66	58	58	59	58	59	0	58	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0142	14 Robert Connor Dr Hampton Row 1 Flr1	SF	1	66	56	57	58	57	58	0	57	0
P0143	2 Harlequin Dr Hampton Row 2 Flr1	SF	1	66	60	61	60	59	60	0	59	0
P0144	1 Harlequin Dr Hampton Row 2 Flr1	SF	1	66	61	62	60	59	60	0	59	0
P0145	39 Allison Sutton Dr Hampton Row 2 Flr1	SF	1	66	61	62	60	59	60	0	59	0
P0146	37 Allison Sutton Dr Hampton Row 2 Flr1	SF	1	66	61	62	60	59	60	0	59	0
P0147	35 Allison Sutton Dr Hampton Row 2 Flr1	SF	1	66	61	62	60	59	60	0	59	0
P0148	33 Allison Sutton Dr Hampton Row 2 Flr1	SF	1	66	61	62	60	59	60	0	59	0
P0149	31 Allison Sutton Dr Hampton Row 2 Flr1	SF	1	66	61	62	60	59	60	0	59	0
P0150	29 Allison Sutton Dr Hampton Row 2 Flr1	SF	1	66	61	62	60	59	60	0	59	0
P0151	27 Allison Sutton Dr Hampton Row 2 Flr1	SF	1	66	61	61	60	59	60	0	59	0
P0152	25 Allison Sutton Dr Hampton Row 2 Flr1	SF	1	66	59	60	58	57	58	0	57	0
P0153	4 Harlequin Dr Hampton Row 3 Flr1	SF	1	66	59	60	59	58	59	0	58	0
P0154	3 Harlequin Dr Hampton Row 3 Flr1	SF	1	66	58	59	58	57	58	0	57	0
P0155	6 Harlequin Dr Hampton Row 4 Flr1	SF	1	66	57	58	58	57	58	0	57	0
P0156	5 Harlequin Dr Hampton Row 4 Flr1	SF	1	66	57	58	57	56	57	0	56	0
P0157	72 Red Robin Turn Hampton Row 1 Flr1	SF	1	66	61	62	63	64	59	4	60	4
P0158	70 Red Robin Turn Hampton Row 1 Flr1	SF	1	66	62	63	64	65	59	5	61	4
P0159	68 Red Robin Turn Hampton Row 1 Flr2	SF	1	66	63	63	64	65	59	5	61	5
P0160	66 Red Robin Turn Hampton Row 1 Flr1	SF	1	66	63	64	65	66	60	6	61	5
P0161	64 Red Robin Turn Hampton Row 1 Flr1	SF	1	66	64	64	66	67	60	6	61	6
P0162	62 Red Robin Turn Hampton Row 1 Flr2	SF	1	66	64	65	66	67	60	6	61	6
P0163	60 Red Robin Turn Hampton Row 1 Flr2	SF	1	66	64	65	66	67	60	6	61	6
P0164	58 Red Robin Turn Hampton Row 1 Flr2	SF	1	66	65	65	66	68	60	6	61	6
P0165	56 Red Robin Turn Hampton Row 1 Flr2	SF	1	66	65	65	67	68	60	7	61	7

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0166	54 Red Robin Turn Hampton Row 1 Fir1	SF	1	66	65	66	67	68	7	61	7
P0167	52 Red Robin Turn Hampton Row 1 Fir2	SF	1	66	66	66	68	69	7	62	7
P0168	50 Red Robin Turn Hampton Row 1 Fir1	SF	1	66	66	67	68	69	7	62	7
P0169	48 Red Robin Turn Hampton Row 1 Fir2	SF	1	66	66	67	68	69	7	62	7
P0170	ST-1, 48 Red Robin Turn Hampton Row 1 Fir1	Monit.	0	66	60	61	62	63	4	59	4
P0171	46 Red Robin Turn Hampton Row 1 Fir2	SF	1	66	66	67	68	69	7	62	7
P0172	44 Red Robin Turn Hampton Row 1 Fir2	SF	1	66	66	67	68	69	7	63	7
P0173	42 Red Robin Turn Hampton Row 1 Fir2	SF	1	66	67	67	68	70	6	63	6
P0174	40 Red Robin Turn Hampton Row 1 Fir2	SF	1	66	66	67	68	69	5	63	6
P0175	38 Red Robin Turn Hampton Row 1 Fir2	SF	1	66	65	66	67	68	5	63	5
P0176	36 Red Robin Turn Hampton Row 1 Fir1	SF	1	66	62	63	64	65	4	62	3
P0178	Horizon Plaza	MF	8	66	67	68	PA	PA	0	PA	0
P0179	ST-2, 607 Michigan Dr Hampton Row 1 Fir1	Monit.	0	66	66	66	PA	PA	0	PA	0
P0185	607 Michigan Dr Hampton Row 2 Fir1	MF	40	66	60	61	62	63	0	63	0
P0186	607 Michigan Dr Hampton Row 2 Fir1	MF	48	66	60	60	62	63	0	63	0
P0189	1321 Willnew Dr Hampton Row 1 Fir1	SF	1	66	65	66	PA	PA	0	PA	0
P0190	1319 Willnew Dr Hampton Row 1 Fir1	SF	1	66	66	66	PA	PA	0	PA	0
P0191	1317 Willnew Dr Hampton Row 1 Fir1	SF	1	66	66	67	PA	PA	0	PA	0
P0192	1315 Willnew Dr Hampton Row 1 Fir1	SF	1	66	66	67	PA	PA	0	PA	0
P0193	1313 Willnew Dr Hampton Row 1 Fir1	SF	1	66	65	66	PA	PA	0	PA	0
P0194	1311 Willnew Dr Hampton Row 1 Fir1	SF	1	66	63	64	PA	PA	0	PA	0
P0195	1309 Willnew Dr Hampton Row 1 Fir1	SF	1	66	62	63	PA	PA	0	PA	0
P0196	1307 Willnew Dr Hampton Row 1 Fir1	SF	1	66	61	62	PA	PA	0	PA	0
P0197	1305 Willnew Dr Hampton Row 1 Fir1.5	SF	1	66	60	61	PA	PA	0	PA	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0198	1303 Willnew Dr Hampton Row 1 Fir1	SF	1	66	61	62	PA	PA	PA	0	PA	0
P0199	1301 Willnew Dr Hampton Row 1 Fir1	SF	1	66	60	61	66	66	66	7	56	10
P0200	1303 Patrick Ct Hampton Row 1 Fir1	SF	1	66	59	60	PA	PA	PA	0	PA	0
P0201	ST-4, 1303 Patrick Ct Hampton Row 1 Fir1	Monit.	0	66	59	60	PA	PA	PA	0	PA	0
P0202	1300 Patrick St Hampton Row 1 Fir1	SF	1	66	60	61	68	68	68	8	PA	0
P0203	1213 Thomas St Hampton Row 1 Fir1.5	SF	1	66	61	62	PA	PA	PA	0	PA	0
P0204	1318 Willnew Dr Hampton Row 2 Fir1	SF	1	66	63	63	65	65	65	5	59	6
P0205	1314 Willnew Dr Hampton Row 2 Fir1	SF	3	66	63	64	65	65	65	6	58	7
P0206	1308 Willnew Dr Hampton Row 2 Fir1	SF	2	66	62	63	65	65	65	6	58	7
P0207	1306 Patrick St Hampton Row 2 Fir1	SF	3	66	60	61	64	65	65	6	58	7
P0208	1302 Patrick St Hampton Row 2 Fir1	SF	1	66	60	61	66	67	67	7	58	9
P0209	1301 Thomas St Hampton Row 2 Fir1	SF	2	66	58	59	63	64	64	5	59	5
P0210	1335 Thomas St Hampton Row 3 Fir1	SF	5	66	60	61	63	63	63	6	58	6
P0211	502 Patrick Ct Hampton Row 3 Fir1	SF	3	66	58	59	62	62	62	5	57	5
P0212	1309 Thomas St Hampton Row 3 Fir1.5	SF	3	66	57	58	62	62	62	5	58	5
P0213	N Back River Rd Hampton Row 1 Fir1	SF	1	66	64	65	65	66	66	7	58	8
P0214	747 N Back River Rd Hampton Row 1 Fir1	SF	1	66	64	65	65	66	66	7	58	7
P0215	527 Owens St Hampton Row 1 Fir1	SF	1	66	67	68	68	68	68	5	63	5
P0216	742 N Back River Rd Hampton Row 1 Fir1	SF	1	66	65	66	67	67	67	5	62	6
P0217	504 Patterson Ave Hampton Row 2 Fir1	SF	1	66	61	62	63	64	64	6	57	7
P0218	745 N Back River Rd Hampton Row 2 Fir1	SF	1	66	64	64	65	65	65	7	58	7
P0219	741 N Back River Rd Hampton Row 2 Fir1	SF	2	66	62	63	64	64	64	7	57	7
P0220	740 N Back River Rd Hampton Row 2 Fir1	SF	1	66	65	66	67	67	67	4	62	5
P0221	500 Patterson Ave Hampton Row 3 Fir1	SF	1	66	60	61	63	64	64	6	57	6

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0222	818 Griffin St Hampton Row 3 Flr1	SF	1	66	61	62	63	56	7	56	7
P0223	737 N Back River Rd Hampton Row 3 Flr1	SF	1	66	62	63	63	57	6	57	7
P0224	916 N Armistead Ave Hampton Row 1 Flr1	SF	1	66	70	71	PA	PA	0	PA	0
P0225	424 Bassette St Hampton Row 1 Flr2	SF	1	66	69	70	71	61	11	61	11
P0226	920 Langley Ave Hampton Row 1 Flr1	SF	1	66	69	70	71	61	11	61	11
P0227	912 Langley Ave Hampton Row 1 Flr2	SF	1	66	71	72	PA	PA	0	PA	0
P0228	910 Langley Ave Hampton Row 1 Flr2	SF	1	66	72	73	PA	PA	0	PA	0
P0229	908 Langley Ave Hampton Row 1 Flr1	SF	1	66	73	74	PA	PA	0	PA	0
P0230	907 Langley Ave Hampton Row 1 Flr1	SF	1	66	70	71	PA	PA	0	PA	0
P0231	905 Langley Ave Hampton Row 1 Flr1	SF	1	66	70	71	PA	PA	0	PA	0
P0232	ST-5, 903 Langley Ave Hampton Row 1 Flr1	Monit.	0	66	69	70	PA	PA	0	PA	0
P0233	1105 Thomas St Hampton Row 1 Flr2	MF	2	66	69	70	PA	PA	0	PA	0
P0234	1103 Thomas St Hampton Row 1 Flr1	SF	1	66	70	71	74	62	11	PA	0
P0235	1016 Thomas St Hampton Row 1 Flr1	SF	1	66	72	73	PA	PA	0	PA	0
P0236	1014 Thomas St Hampton Row 1 Flr1	SF	1	66	71	72	PA	PA	0	PA	0
P0237	506 Bassette St Hampton Row 2 Flr1	SF	2	66	64	65	68	60	8	60	9
P0238	932 Langley Ave Hampton Row 2 Flr1	SF	2	66	64	65	67	59	7	60	8
P0239	924 Langley Ave Hampton Row 2 Flr1	SF	2	66	66	67	68	60	9	60	9
P0240	922 Langley Ave Hampton Row 2 Flr1	SF	1	66	68	69	70	60	10	61	11
P0241	915 Langley Ave Hampton Row 2 Flr1	SF	2	66	68	69	73	61	11	64	9
P0242	402 Heffelfinger Ave Hampton Row 2 Flr1	SF	1	66	68	69	72	62	10	62	11
P0243	931 Langley Ave Hampton Row 3 Flr1	SF	2	66	61	62	64	59	5	59	6
P0244	925 Langley Ave Hampton Row 3 Flr1	SF	2	66	63	64	65	59	6	61	5
P0245	917 Langley Ave Hampton Row 3 Flr1	SF	1	66	66	67	69	60	9	61	9

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels				
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**	
P0246	414 Heffelfinger Ave Hampton Row 3 Flr1	SF	1	66	62	63	65	66	58	7	61	5
P0247	406 Heffelfinger Ave Hampton Row 3 Flr1	MF	2	66	65	66	69	70	61	8	61	9
P0248	321 Bassette St Hampton Row 1 Flr1	SF	1	66	64	65	PA	PA	PA	0	PA	0
P0249	YH Thomas Park	Rec.	1	66	53	54	59	61	53	6	53	7
P0250	810 Langley Ave Hampton Row 1 Flr2	SF	1	66	63	64	PA	PA	PA	0	PA	0
P0251	ST-6, 871 Langley Ave Hampton Row 1 Flr1	Monit.	0	66	64	65	PA	PA	PA	0	PA	0
P0252	809 Langley Ave Hampton Row 1 Flr1	SF	1	66	66	67	PA	PA	PA	0	PA	0
P0253	807 Langley Ave Hampton Row 1 Flr1	SF	1	66	65	66	PA	PA	PA	0	PA	0
P0254	1104 Guy St Hampton Row 1 Flr2	SF	1	66	64	65	PA	PA	PA	0	PA	0
P0255	220 Albert E Simpso* Hampton Row 1 Flr1	SF	1	66	63	64	PA	PA	PA	0	PA	0
P0256	218 Albert E Simpso* Hampton Row 1 Flr2	SF	1	66	61	62	68	68	59	9	59	9
P0257	1011 Carver St Hampton Row 1 Flr1	SF	1	66	62	63	PA	PA	PA	0	PA	0
P0258	1009 Carver St Hampton Row 1 Flr1	SF	1	66	62	63	PA	PA	PA	0	PA	0
P0259	1006 Carver St Hampton Row 1 Flr1	SF	1	66	61	62	67	67	59	8	59	8
P0260	1004 Carver St Hampton Row 1 Flr1	SF	1	66	61	62	PA	PA	PA	0	PA	0
P0261	1002 Carver St Hampton Row 1 Flr1	SF	1	66	62	63	PA	PA	PA	0	PA	0
P0262	1003 Rowe St Hampton Row 1 Flr1	SF	1	66	62	63	66	66	59	7	59	7
P0263	938 Spring St Hampton Row 1 Flr1	SF	1	66	67	68	PA	PA	PA	0	PA	0
P0264	940 Spring St Hampton Row 1 Flr1	SF	1	66	67	68	PA	PA	PA	0	PA	0
P0265	937 Mason St Hampton Row 1 Flr1	SF	1	66	65	66	68	68	59	8	60	8
P0266	935 Mason St Hampton Row 1 Flr1	SF	1	66	66	67	69	69	60	9	60	9
P0267	933 Mason St Hampton Row 1 Flr1	SF	1	66	68	69	70	PA	60	10	PA	0
P0268	931 Mason St Hampton Row 1 Flr1	SF	1	66	71	72	PA	PA	PA	0	PA	0
P0269	ST-7, 931 Mason St Hampton Row 1 Flr1	Monit.	0	66	69	69	PA	PA	PA	0	PA	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels				
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**	
P0270	924 Mason St Hampton Row 1 Flr2	SF	1	66	69	70	72	PA	60	12	PA	0
P0271	920 Mason St Hampton Row 1 Flr1	SF	1	66	70	71	PA	PA	PA	0	PA	0
P0272	921 Quash St Hampton Row 1 Flr1	SF	1	66	63	64	68	69	57	11	58	11
P0273	917 Quash St Hampton Row 1 Flr2	SF	1	66	64	65	68	70	58	11	58	11
P0274	915 Quash St Hampton Row 1 Flr1	SF	1	66	65	66	70	71	58	12	59	11
P0275	913 Quash St Hampton Row 1 Flr2	SF	1	66	64	65	70	71	59	11	59	11
P0276	907 Quash St Hampton Row 1 Flr2	SF	1	66	66	67	PA	PA	PA	0	PA	0
P0277	905 Quash St Hampton Row 1 Flr2	SF	1	66	67	68	PA	PA	PA	0	PA	0
P0278	903 Quash St Hampton Row 1 Flr2	SF	1	66	67	68	PA	PA	PA	0	PA	0
P0279	843 Quash St Hampton Row 1 Flr1	SF	1	66	67	67	PA	PA	PA	0	PA	0
P0280	Hampton Rds Realty	Retail	1	71	65	66	66	66	58	8	58	8
P0281	811 N King St Hampton Row 1 Flr2	SF	1	66	66	67	PA	PA	PA	0	PA	0
P0282	812 N King St Hampton Row 1 Flr2	SF	1	66	64	65	66	66	58	8	58	8
P0283	804 N King St Hampton Row 1 Flr2	SF	1	66	66	67	67	67	59	8	59	8
P0284	100 Spanish Tr Hampton Row 1 Flr3	MF	15	66	63	64	66	67	61	5	62	5
P0285	ST-8, 100 Spanish Tr Hampton Row 1 Flr1	Monit.	0	66	63	64	67	67	62	4	62	5
P0286	325 Bassette St Hampton Row 2 Flr1	SF	1	66	62	63	72	PA	61	12	PA	0
P0287	329 Bassette St Hampton Row 2 Flr1	SF	2	66	60	61	70	71	59	11	60	11
P0288	335 Bassette St Hampton Row 2 Flr1	SF	1	66	58	59	67	69	58	9	58	11
P0289	806 Langley Ave Hampton Row 2 Flr2	SF	1	66	63	64	PA	PA	PA	0	PA	0
P0290	802 Langley Ave Hampton Row 2 Flr2	SF	2	66	60	61	70	71	59	11	60	12
P0291	805 Langley Ave Hampton Row 2 Flr1	SF	1	66	64	65	PA	PA	PA	0	PA	0
P0292	801 Langley Ave Hampton Row 2 Flr1	SF	1	66	63	64	PA	PA	PA	0	PA	0
P0293	719 Langley Ave Hampton Row 2 Flr1	SF	2	66	60	61	66	67	58	8	58	9

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L_{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L_{eq}	Build-8 IL**	Build-10 L_{eq}	Build-10 IL**
P0294	717 Langley Ave Hampton Row 2 Flr1	SF	2	66	59	60	64	65	56	8	57	8
P0295	216 Albert E Simpso* Hampton Row 2 Flr1	SF	1	66	60	61	66	66	58	8	58	8
P0296	214 Albert E Simpso* Hampton Row 2 Flr1	SF	2	66	59	60	64	64	57	8	57	8
P0297	208 Albert E Simpso* Hampton Row 2 Flr1	SF	2	66	58	59	63	63	55	7	56	7
P0298	1012 Carver St Hampton Row 2 Flr1	SF	1	66	59	60	66	66	58	8	58	8
P0299	1010 Carver St Hampton Row 2 Flr1	SF	1	66	60	61	66	67	58	8	58	8
P0300	1008 Carver St Hampton Row 2 Flr2	SF	1	66	60	61	67	67	58	9	58	8
P0301	1007 Rowe St Hampton Row 2 Flr1	SF	1	66	61	62	66	66	58	8	58	8
P0302	1005 Rowe St Hampton Row 2 Flr1	SF	1	66	61	62	66	66	58	8	58	8
P0303	1004 Rowe St Hampton Row 2 Flr1	SF	1	66	60	61	64	64	56	8	56	7
P0304	1002 Rowe St Hampton Row 2 Flr1	SF	1	66	61	62	65	65	57	7	58	7
P0305	232 Rip Rap Rd Hampton Row 2 Flr1	SF	1	66	66	67	67	68	64	4	63	4
P0306	230 Rip Rap Rd Hampton Row 2 Flr1	SF	1	66	66	66	67	67	63	4	64	4
P0307	228 Rip Rap Rd Hampton Row 2 Flr1	SF	1	66	66	66	67	67	63	4	64	3
P0308	226 Rip Rap Rd Hampton Row 2 Flr1	SF	1	66	65	66	66	67	63	4	64	3
P0309	947 Mason St Hampton Row 2 Flr1	SF	1	66	67	67	67	68	64	3	65	2
P0310	941 Mason St Hampton Row 2 Flr2	SF	1	66	64	65	67	67	60	7	61	6
P0311	939 Mason St Hampton Row 2 Flr1	SF	1	66	65	65	67	68	60	8	60	8
P0312	940 Mason St Hampton Row 2 Flr1	SF	3	66	61	62	64	65	57	7	58	7
P0313	930 Mason St Hampton Row 2 Flr1	SF	3	66	64	65	67	68	58	9	58	10
P0314	926 Mason St Hampton Row 2 Flr1	SF	1	66	68	69	70	71	59	11	60	11
P0315	935 Quash St Hampton Row 2 Flr1	SF	4	66	60	61	65	67	56	10	57	10
P0316	914 Quash St Hampton Row 2 Flr1	SF	1	66	61	62	64	65	56	8	56	9
P0317	904 Quash St Hampton Row 2 Flr1	SF	3	66	62	63	67	67	57	9	58	10

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0318	842 Quash St Hampton Row 2 Flr2	SF	1	66	63	64	67	58	9	58	9
P0319	840 Quash St Hampton Row 2 Flr1	SF	1	66	64	65	67	58	9	59	9
P0320	Quash St Hampton Row 2 Flr1	SF	1	66	65	66	67	59	9	59	8
P0321	832 N King St Hampton Row 2 Flr1	SF	1	66	62	63	65	58	7	58	7
P0322	814 N King St Hampton Row 2 Flr1.5	SF	1	66	63	64	65	58	8	58	7
P0323	100 Spanish Tr Hampton Row 2 Flr1	MF	14	66	44	45	47	43	4	44	4
P0324	1215 Guy St Hampton Row 3 Flr2	SF	1	66	56	57	62	55	7	56	8
P0325	724 Langley Ave Hampton Row 3 Flr1	SF	3	66	57	58	64	55	8	56	9
P0326	716 Langley Ave Hampton Row 3 Flr1	SF	5	66	56	56	61	54	7	55	9
P0327	Langley Ave Hampton Row 3 Flr1	SF	1	66	57	58	62	55	8	55	8
P0328	707 Langley Ave Hampton Row 3 Flr1	SF	1	66	57	58	62	54	8	55	9
P0329	1125 Rowe St Hampton Row 3 Flr1	SF	5	66	55	56	60	53	7	53	8
P0330	1011 Rowe St Hampton Row 3 Flr1	SF	3	66	60	61	65	57	9	57	9
P0331	1008 Rowe St Hampton Row 3 Flr2	SF	2	66	58	59	63	55	8	55	8
P0332	Humble Beginnings	Church	1	66	64	64	65	61	4	62	3
P0333	213 Rip Rap Rd Hampton Row 3 Flr1	SF	2	66	61	61	62	58	4	59	4
P0334	941 Quash St Hampton Row 3 Flr2	SF	2	66	58	59	63	54	9	55	9
P0335	926 Quash St Hampton Row 3 Flr2	SF	3	66	59	60	63	55	8	56	9
P0336	13 Kempton St Hampton Row 3 Flr2	SF	3	66	61	62	64	56	8	56	8
P0337	834 N King St Hampton Row 3 Flr1	SF	1	66	61	62	63	57	6	58	6
P0338	295 Creek Ave Hampton Row 1 Flr1	SF	1	66	63	64	PA	PA	0	PA	0
P0339	297 Creek Ave Hampton Row 1 Flr2	SF	1	66	62	63	72	60	12	PA	0
P0340	200 Cooper St Hampton Row 1 Flr2	SF	1	66	64	65	PA	PA	0	PA	0
P0341	202 Cooper St Hampton Row 1 Flr2	SF	1	66	64	65	PA	PA	0	PA	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0342	304 Creek Ave Hampton Row 1 Flr1.5	SF	1	66	63	64	PA	PA	0	PA	0
P0343	305 Cooper St Hampton Row 1 Flr1	SF	1	66	63	64	PA	PA	0	PA	0
P0344	307 Cooper St Hampton Row 1 Flr1	SF	1	66	63	64	PA	PA	0	PA	0
P0345	309 Cooper St Hampton Row 1 Flr1.5	SF	1	66	62	63	PA	PA	0	PA	0
P0346	311 Cooper St Hampton Row 1 Flr1	SF	1	66	61	62	72	PA	12	PA	0
P0347	310 Cooper St Hampton Row 1 Flr1	SF	1	66	64	65	PA	PA	0	PA	0
P0348	312 Cooper St Hampton Row 1 Flr1	SF	1	66	63	64	PA	PA	0	PA	0
P0349	314 Cooper St Hampton Row 1 Flr1	SF	1	66	63	64	PA	PA	0	PA	0
P0350	316 Cooper St Hampton Row 1 Flr1	SF	1	66	63	64	PA	PA	0	PA	0
P0351	718 Marshall St Hampton Row 1 Flr1	SF	1	66	61	62	69	PA	9	PA	0
P0352	LT-9, 415 Colbert Ave Hampton Row 1 Flr1	Monit.	0	66	62	63	PA	PA	0	PA	0
P0353	415 Colbert Ave Hampton Row 1 Flr2	SF	1	66	61	62	PA	PA	0	PA	0
P0354	421 Colbert Ave Hampton Row 1 Flr2	SF	1	66	61	62	PA	PA	0	PA	0
P0355	423 Colbert Ave Hampton Row 1 Flr1	SF	1	66	61	62	PA	PA	0	PA	0
P0356	425 Colbert Ave Hampton Row 1 Flr1	SF	1	66	60	61	66	PA	8	PA	0
P0357	424 Colbert Ave Hampton Row 1 Flr2	SF	1	66	61	62	PA	PA	0	PA	0
P0358	623 River St Hampton Row 1 Flr2	SF	1	66	60	61	PA	PA	0	PA	0
P0359	544 River St Hampton Row 1 Flr1	SF	1	66	59	60	66	PA	8	PA	0
P0360	542 River St Hampton Row 1 Flr2	SF	1	66	58	59	PA	PA	0	PA	0
P0361	540 River St Hampton Row 1 Flr1	SF	1	66	57	58	PA	PA	0	PA	0
P0362	538 River St Hampton Row 1 Flr2	SF	1	66	56	57	PA	PA	0	PA	0
P0363	299 Creek Ave Hampton Row 2 Flr1	SF	1	66	61	62	71	72	12	60	12
P0364	301 Creek Ave Hampton Row 2 Flr2	SF	1	66	60	61	71	72	12	60	12
P0365	305 Creek Ave Hampton Row 2 Flr1	SF	2	66	60	61	69	70	10	59	11

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0366	308 Creek Ave Hampton Row 2 Flr2	SF	1	66	60	61	72	60	12	60	12
P0367	312 Creek Ave Hampton Row 2 Flr2	SF	2	66	58	59	68	58	11	59	11
P0368	313 Cooper St Hampton Row 2 Flr1	SF	1	66	61	61	71	59	12	60	12
P0369	807 Marshall St Hampton Row 2 Flr1	SF	1	66	60	61	69	59	11	59	11
P0370	808 Marshall St Hampton Row 2 Flr2	SF	1	66	58	59	66	57	9	58	9
P0371	429 Cooper St Hampton Row 2 Flr2	SF	1	66	58	59	65	56	9	57	9
P0372	422 Cooper St Hampton Row 2 Flr1	SF	2	66	59	60	66	58	8	58	8
P0373	719 River St Hampton Row 2 Flr1	SF	2	66	58	59	65	57	8	57	8
P0374	437 Colbert Ave Hampton Row 2 Flr1	SF	1	66	59	60	66	58	8	58	8
P0375	628 River St Hampton Row 2 Flr2	SF	2	66	59	60	65	58	7	57	8
P0376	716 River St Hampton Row 2 Flr2	SF	1	66	58	59	64	58	6	57	7
P0377	341 Creek Ave Hampton Row 3 Flr2	SF	5	66	57	58	65	56	9	56	9
P0378	811 Marshall St Hampton Row 3 Flr1	SF	2	66	57	58	65	56	9	57	10
P0379	403 Creek Ave Hampton Row 3 Flr1.5	SF	2	66	55	56	62	55	8	55	8
P0380	812 Marshall St Hampton Row 3 Flr2	SF	1	66	56	57	64	55	8	56	8
P0381	434 Creek Ave Hampton Row 3 Flr1	SF	1	66	55	56	63	55	7	55	8
P0382	438 Creek Ave Hampton Row 3 Flr1	SF	4	66	56	57	63	56	6	56	7
P0383	720 River St Hampton Row 3 Flr2	SF	2	66	57	58	63	57	6	56	7
P0384	112 Colbert Ave Hampton Row 1 Flr2	SF	1	66	62	63	66	56	9	57	10
P0385	108 Colbert Ave Hampton Row 1 Flr1	SF	1	66	63	64	66	57	9	57	10
P0386	617 Eaton St Hampton Row 1 Flr1	SF	1	66	63	64	66	57	9	57	10
P0387	125 Poplar Ave Hampton Row 1 Flr1	SF	1	66	60	61	63	54	9	55	10
P0388	613 Eaton St Hampton Row 1 Flr1	SF	1	66	61	62	65	55	10	56	10
P0389	607 Washington St Hampton Row 1 Flr2	SF	1	66	63	64	65	55	10	56	11

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels				
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**	
P0390	605 Washington St Hampton Row 1 Fir1	SF	1	66	63	64	65	67	56	10	56	11
P0391	603 Washington St Hampton Row 1 Fir2	SF	1	66	62	63	65	66	55	10	56	10
P0392	606 Washington St Hampton Row 1 Fir2	SF	1	66	67	68	70	71	59	11	59	12
P0393	602 Washington St Hampton Row 1 Fir2	SF	1	66	66	67	68	70	58	11	59	11
P0394	304 Poplar Ave Hampton Row 1 Fir2	MF	2	66	63	64	66	67	56	10	57	10
P0395	314 Poplar Ave Hampton Row 1 Fir2	SF	1	66	64	65	67	68	57	10	58	11
P0396	324 Poplar Ave Hampton Row 1 Fir2	SF	1	66	66	67	68	69	58	10	59	11
P0397	326 Poplar Ave Hampton Row 1 Fir1	SF	1	66	67	68	68	70	58	10	59	11
P0398	ST-10, 326 Poplar Ave Hampton Row 1 Fir1	Monit.	0	66	67	68	68	69	58	10	59	10
P0399	509 Marshall St Hampton Row 1 Fir2	MF	2	66	64	65	66	67	57	9	58	9
P0400	511 Marshall St Hampton Row 1 Fir1	SF	1	66	66	67	67	68	58	9	59	9
P0401	501 Marshall St Hampton Row 1 Fir2	MF	2	66	65	66	66	67	58	9	58	9
P0402	502 Marshall St Hampton Row 1 Fir2	SF	1	66	67	68	68	68	59	9	59	9
P0403	415 E Pembroke Ave Hampton Row 1 Fir2	SF	1	66	66	67	66	67	58	9	58	9
P0404	421 E Pembroke Ave Hampton Row 1 Fir2	SF	1	66	67	68	67	67	58	9	59	9
P0405	316 Marshall St Hampton Row 1 Fir1	SF	1	66	63	64	65	65	59	6	58	7
P0406	314 Marshall St Hampton Row 1 Fir1.5	SF	1	66	62	63	64	65	59	6	58	6
P0407	433 E Pembroke Ave Hampton Row 1 Fir2	SF	1	66	67	68	67	PA	59	8	PA	0
P0408	440 E Pembroke Ave Hampton Row 1 Fir2	SF	1	66	65	66	66	66	59	7	59	8
P0409	442 E Pembroke Ave Hampton Row 1 Fir2	SF	1	66	67	68	67	68	60	7	59	8
P0410	113 Poplar Ave Hampton Row 2 Fir1	SF	1	66	59	60	62	63	55	7	55	8
P0411	115 Poplar Ave Hampton Row 2 Fir1	SF	1	66	57	58	60	61	54	6	54	7
P0412	524 Eaton St Hampton Row 2 Fir1	SF	1	66	59	60	62	63	54	8	54	9
P0413	525 Washington St Hampton Row 2 Fir1	SF	2	66	61	62	64	65	55	9	56	9

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels				
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**	
P0414	303 Elm Ave Hampton Row 2 Flr2	SF	2	66	60	61	63	64	55	8	55	9
P0415	317 Elm Ave Hampton Row 2 Flr2	SF	2	66	61	62	64	65	55	8	56	9
P0416	325 Elm Ave Hampton Row 2 Flr2	SF	3	66	63	64	64	66	56	9	56	9
P0417	326 Elm Ave Hampton Row 2 Flr2	SF	1	66	61	62	62	64	55	8	55	9
P0418	349 E Pembroke Ave Hampton Row 2 Flr1	SF	2	66	63	64	64	65	56	8	56	9
P0419	418 Marshall St Hampton Row 2 Flr2.5	SF	1	66	65	66	66	67	58	8	58	8
P0420	403 E Pembroke Ave Hampton Row 2 Flr2	SF	1	66	65	66	65	66	57	8	57	9
P0421	410 E Pembroke Ave Hampton Row 2 Flr2	SF	1	66	63	64	65	65	58	7	57	8
P0422	520 Eaton St Hampton Row 3 Flr1	SF	1	66	59	60	62	63	54	8	54	8
P0423	509 Washington St Hampton Row 3 Flr1	SF	1	66	60	61	63	64	55	8	55	9
P0424	River Street Park	Rec.	1	66	63	63	PA	PA	PA	0	PA	0
P0425	River St Hampton Row 1 Flr1	Rec.	1	66	68	69	PA	PA	PA	0	PA	0
P0426	River Street Park	Rec.	1	66	53	54	PA	PA	PA	0	PA	0
P0427	River Street Park	Rec.	1	66	63	64	PA	PA	PA	0	PA	0
P0428	534 River St Hampton Row 1 Flr1	Rec.	1	66	68	69	PA	PA	PA	0	PA	0
P0429	River St Hampton Row 1 Flr1	Rec.	1	66	58	59	PA	PA	PA	0	PA	0
P0430	441 E Pembroke Ave Hampton Row 1 Flr1	Rec.	1	66	54	55	PA	PA	PA	0	PA	0
P0431	534 River St Hampton Row 2 Flr1	Rec.	1	66	68	69	PA	PA	PA	0	PA	0
P0432	25 Magnolia Pl Hampton Row 1 Flr2	SF	1	66	61	62	62	62	57	5	57	5
P0433	8 Graham Heights Rd Hampton Row 1 Flr1	SF	1	66	67	68	PA	PA	PA	0	PA	0
P0434	10 Graham Heights Rd Hampton Row 1 Flr2	SF	1	66	65	66	66	66	58	8	59	7
P0435	24 Magnolia Pl Hampton Row 1 Flr1	SF	1	66	62	63	63	63	57	6	57	6
P0436	3 Garland St Hampton Row 1 Flr1	SF	1	66	67	68	PA	PA	PA	0	PA	0
P0437	2 Graham Heights Rd Hampton Row 1 Flr1.5	SF	1	66	66	67	PA	PA	PA	0	PA	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0438	74 S Boxwood St Hampton Row 1 Flr1	SF	1	66	67	68	PA	PA	0	PA	0
P0439	72 S Boxwood St Hampton Row 1 Flr1.75	SF	1	66	66	67	PA	PA	9	PA	0
P0440	ST-12, 72 S Boxwood St Hampton Row 1 Flr1	Monit.	0	66	66	67	66	66	9	58	9
P0441	7 Garland St Hampton Row 2 Flr1	SF	1	66	65	66	66	65	9	57	8
P0442	6 Garland St Hampton Row 2 Flr1	SF	1	66	65	66	66	66	9	57	9
P0443	70 S Boxwood St Hampton Row 2 Flr1	SF	2	66	64	65	65	65	9	56	9
P0444	9 Garland St Hampton Row 3 Flr1	SF	2	66	63	64	64	64	8	57	7
P0445	12 Garland St Hampton Row 3 Flr1	SF	3	66	62	63	64	64	9	56	8
P0446	66 S Boxwood St Hampton Row 3 Flr1.5	SF	2	66	63	64	64	63	9	55	9
P0447	Brough Ln Hampton Row 1 Flr1	MF	2	66	57	58	60	60	3	55	5
P0448	Brough Ln Hampton Row 1 Flr2	MF	2	66	58	59	60	60	4	55	5
P0449	Brough Ln Hampton Row 1 Flr3	MF	2	66	59	60	62	62	5	57	6
P0450	Brough Ln Hampton Row 1 Flr1	MF	3	66	61	62	63	63	6	56	7
P0451	Brough Ln Hampton Row 1 Flr2	MF	3	66	63	63	65	65	7	57	9
P0452	Brough Ln Hampton Row 1 Flr3	MF	3	66	64	65	67	67	8	58	9
P0453	Brough Ln Hampton Row 1 Flr1	MF	2	66	56	57	58	58	3	54	4
P0454	Brough Ln Hampton Row 1 Flr2	MF	2	66	58	59	59	59	3	55	4
P0455	Brough Ln Hampton Row 1 Flr3	MF	2	66	60	61	61	61	4	56	5
P0456	22 Brough Ln Hampton Row 1 Flr2	SF	1	66	63	64	65	65	8	57	8
P0457	Brough Ln Hampton Row 1 Flr1	MF	2	66	59	59	59	60	6	54	6
P0458	Brough Ln Hampton Row 1 Flr2	MF	2	66	60	61	61	61	6	55	6
P0459	Brough Ln Hampton Row 1 Flr3	MF	2	66	61	62	63	63	7	57	7
P0460	20 Brough Ln Hampton Row 1 Flr1	SF	1	66	65	65	67	67	8	58	9
P0461	Brough Ln Hampton Row 1 Flr1	MF	3	66	61	62	63	64	6	57	7

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0462	Brough Ln Hampton Row 1 Flr2	MF	3	66	63	64	65	66	58	7	58	8
P0463	Brough Ln Hampton Row 1 Flr3	MF	3	66	65	66	67	68	59	8	60	8
P0464	16 Brough Ln Hampton Row 1 Flr2	SF	1	66	66	67	68	69	59	10	59	10
P0465	Brough Ln Hampton Row 1 Flr1	MF	1	66	68	69	PA	PA	PA	0	PA	0
P0466	17 Brough Ln Hampton Row 1 Flr2	SF	1	66	64	65	65	66	56	9	57	9
P0467	15 Brough Ln Hampton Row 1 Flr2.5	SF	1	66	66	67	67	67	58	9	58	9
P0468	107 S Boxwood St Hampton Row 1 Flr2.5	SF	1	66	62	63	62	63	55	7	55	8
P0469	21 Brough Ln Hampton Row 1 Flr2	SF	1	66	65	65	66	66	57	8	57	9
P0470	13 Brough Ln Hampton Row 1 Flr2	SF	1	66	67	68	68	68	59	9	59	9
P0471	105 S Boxwood St Hampton Row 1 Flr1	SF	1	66	63	64	63	64	56	8	56	8
P0472	Brough Ln Hampton Row 1 Flr1	MF	1	66	68	69	PA	PA	PA	0	PA	0
P0473	11 Brough Ln Hampton Row 1 Flr2	SF	1	66	67	68	67	67	58	9	59	9
P0474	103 S Boxwood St Hampton Row 1 Flr1	SF	1	66	65	66	64	65	56	8	56	9
P0475	ST-11, 101 S Boxwood St Hampton Row 1 Flr1	Monit.	0	66	68	69	PA	PA	PA	0	PA	0
P0476	101 S Boxwood St Hampton Row 1 Flr1	SF	1	66	67	68	67	68	58	9	58	10
P0477	Woodlands Golf Course	Rec.	1	66	67	68	67	67	59	8	58	9
P0478	Woodlands Golf Course	Rec.	1	66	67	68	PA	PA	PA	0	PA	0
P0479	Woodlands Golf Course	Rec.	1	66	65	66	65	65	58	7	56	9
P0480	Woodlands Golf Course	Rec.	1	66	66	67	66	66	58	8	57	9
P0481	Woodlands Golf Course	Rec.	1	66	66	67	66	66	58	8	57	9
P0482	Woodlands Golf Course	Rec.	1	66	66	67	66	PA	58	9	PA	0
P0483	Woodlands Golf Course	Rec.	1	66	66	67	PA	PA	PA	0	PA	0
P0484	Woodlands Golf Course	Rec.	1	66	66	66	PA	PA	PA	0	PA	0
P0485	Woodlands Golf Course	Rec.	1	66	66	67	PA	PA	PA	0	PA	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0486	Woodlands Golf Course	Rec.	1	66	65	66	66	57	9	57	8
P0487	Woodlands Golf Course	Rec.	1	66	66	66	66	57	9	58	8
P0488	Woodlands Golf Course	Rec.	1	66	64	65	PA	PA	0	PA	0
P0489	Woodlands Golf Course	Rec.	1	66	65	66	66	57	8	58	9
P0490	Woodlands Golf Course	Rec.	1	66	65	66	65	59	7	PA	0
P0491	Woodlands Golf Course	Rec.	1	66	64	65	65	57.10	7.60	57.50	8.00
P0492	Woodlands Golf Course	Rec.	1	66	65	66	65	58	7	59	6
P0493	Woodlands Golf Course	Rec.	1	66	64	65	65	57	8	58	8
P0494	Woodlands Golf Course	Rec.	1	66	65	66	66	58	8	59	7
P0495	Woodlands Golf Course	Rec.	1	66	63	64	65	57	7	58	8
P0496	Woodlands Golf Course	Rec.	1	66	66	67	67	59	8	59	9
P0497	Woodlands Golf Course	Rec.	1	66	63	64	66	58	8	58	8
P0498	Woodlands Golf Course	Rec.	1	66	68	69	68	59	9	59	9
P0499	Woodlands Golf Course	Rec.	1	66	65	66	65	58	7	58	8
P0500	Woodlands Golf Course	Rec.	1	66	67	68	68	59	9	60	10
P0501	Woodlands Golf Course	Rec.	1	66	64	65	65	58	7	58	8
P0502	Woodlands Golf Course	Rec.	1	66	66	67	68	59	9	59	9
P0503	Woodlands Golf Course	Rec.	1	66	64	65	66	58	8	58	8
P0504	Woodlands Golf Course	Rec.	1	66	66	67	68	59	9	59	9
P0505	Woodlands Golf Course	Rec.	1	66	63	64	66	58	8	58	8
P0506	Woodlands Golf Course	Rec.	1	66	67	67	PA	PA	0	PA	0
P0507	Woodlands Golf Course	Rec.	1	66	65	66	67	58	9	58	9
P0508	Woodlands Golf Course	Rec.	1	66	65	66	67	58	9	58	9
P0509	Woodlands Golf Course	Rec.	1	66	64	65	PA	PA	0	PA	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels				
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**	
P0510	Woodlands Golf Course	Rec.	1	66	63	64	PA	PA	0	PA	0	
P0511	Woodlands Golf Course	Rec.	1	66	64	65	PA	PA	0	PA	0	
P0512	Woodlands Golf Course	Rec.	1	66	63	63	PA	PA	0	PA	0	
P0513	Woodlands Golf Course	Rec.	1	66	64	64	PA	PA	0	PA	0	
P0514	Woodlands Golf Course	Rec.	1	66	62	63	PA	PA	0	PA	0	
P0515	Woodlands Golf Course	Rec.	1	66	62	63	PA	PA	0	PA	0	
P0516	Woodlands Golf Course	Rec.	1	66	63	63	PA	PA	0	PA	0	
P0517	Woodlands Golf Course	Rec.	1	66	61	62	63	64	59	4	60	4
P0518	Woodlands Golf Course	Rec.	1	66	62	63	65	65	61	3	62	3
P0519	Woodlands Golf Course	Rec.	1	66	61	61	63	64	60	4	60	4
P0520	Woodlands Golf Course	Rec.	1	66	65	65	66	67	65	2	65	2
P0521	Woodlands Golf Course	Rec.	1	66	61	62	64	64	61	3	61	3
P0522	Woodlands Golf Course	Rec.	1	66	64	65	66	66	64	1	65	1
P0523	Woodlands Golf Course	Rec.	1	66	63	64	64	64	57	8	55	9
P0524	Woodlands Golf Course	Rec.	1	66	64	65	65	65	57	8	55	9
P0525	Woodlands Golf Course	Rec.	1	66	65	66	65	65	57	8	56	9
P0526	Woodlands Golf Course	Rec.	1	66	64	65	65	65	57	8	57	8
P0527	Woodlands Golf Course	Rec.	1	66	63	64	64	64	56	8	55	9
P0528	Woodlands Golf Course	Rec.	1	66	64	65	65	65	57	8	56	8
P0529	Woodlands Golf Course	Rec.	1	66	64	65	65	65	57	8	57	8
P0530	Woodlands Golf Course	Rec.	1	66	64	65	65	65	57	8	57	8
P0531	Woodlands Golf Course	Rec.	1	66	63	64	64	64	57	8	56	8
P0532	Woodlands Golf Course	Rec.	1	66	63	64	65	65	57	8	57	8
P0533	Woodlands Golf Course	Rec.	1	66	62	63	64	64	56	8	56	8

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0534	Woodlands Golf Course	Rec.	1	66	63	64	64	64	56	8	57	8
P0535	Woodlands Golf Course	Rec.	1	66	62	63	63	63	56	7	56	7
P0536	Woodlands Golf Course	Rec.	1	66	62	63	64	65	57	7	57	8
P0537	Woodlands Golf Course	Rec.	1	66	62	63	63	64	56	7	56	7
P0538	Woodlands Golf Course	Rec.	1	66	62	63	64	65	57	7	57	8
P0539	Woodlands Golf Course	Rec.	1	66	61	62	63	63	56	7	56	7
P0540	Woodlands Golf Course	Rec.	1	66	62	63	64	65	57	7	57	7
P0541	Woodlands Golf Course	Rec.	1	66	61	62	62	63	56	7	56	7
P0542	Woodlands Golf Course	Rec.	1	66	62	63	64	65	57	7	57	7
P0543	Woodlands Golf Course	Rec.	1	66	61	62	63	63	56	7	56	7
P0544	Woodlands Golf Course	Rec.	1	66	62	63	64	65	57	7	57	7
P0545	Woodlands Golf Course	Rec.	1	66	62	63	64	65	57	7	57	8
P0546	Woodlands Golf Course	Rec.	1	66	62	63	64	65	57	7	57	8
P0547	Woodlands Golf Course	Rec.	1	66	62	63	64	64	57	7	57	7
P0548	Woodlands Golf Course	Rec.	1	66	62	63	64	64	57	7	57	7
P0549	Woodlands Golf Course	Rec.	1	66	62	62	63	64	57	6	57	6
P0550	Woodlands Golf Course	Rec.	1	66	60	60	62	63	59	4	59	3
P0551	Woodlands Golf Course	Rec.	1	66	62	63	63	63	56	7	55	7
P0552	W Tyler St Hampton Row 2 Flr1	Inst.	6	66	56	57	62	63	62	0	63	0
P0553	Hampton Institute	Educ.	1	66	64	65	67	68	61	6	61	6
P0554	Hampton Institute	Educ.	1	66	66	67	69	70	62	7	62	7
P0555	Hampton Institute	Educ.	1	66	69	70	72	73	63	9	63	9
P0556	Hampton Institute	Educ.	1	66	60	61	63	64	58	5	58	5
P0557	Hampton Institute	Educ.	1	66	66	66	69	70	62	6	62	6

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0558	Hampton Institute	Educ.	1	66	68	69	72	63	8	63	8
P0559	ST-13, W Tyler St Hampton Row 1 Flr1	Monit.	0	66	64	64	67	59	7	59	7
P0560	Hampton Institute	Educ.	1	66	62	62	65	61	3	61	3
P0561	Hampton Institute	Educ.	1	66	65	65	67	61	6	61	6
P0562	Hampton Institute	Educ.	1	66	68	68	71	63	8	63	8
P0563	Hampton National Cemetery	Rec.	1	66	67	67	69	61	8	61	8
P0564	Hampton National Cemetery	Rec.	1	66	69	69	71	61	10	61	10
P0565	Hampton National Cemetery	Rec.	1	66	72	72	PA	PA	0	PA	0
P0566	Hampton National Cemetery	Rec.	1	66	75	75	PA	PA	0	PA	0
P0567	Hampton National Cemetery	Rec.	1	66	72	72	PA	PA	0	PA	0
P0568	Hampton National Cemetery	Rec.	1	66	69	69	71	61	11	61	11
P0569	Hampton National Cemetery	Rec.	1	66	66	67	69	60	9	60	9
P0570	Hampton National Cemetery	Rec.	1	66	64	64	66	59	7	59	7
P0571	Hampton National Cemetery	Rec.	1	66	62	62	65	58	7	58	7
P0572	Hampton National Cemetery	Rec.	1	66	63	63	66	58	7	58	7
P0573	Hampton National Cemetery	Rec.	1	66	61	62	63	57	6	57	6
P0574	Hampton National Cemetery	Rec.	1	66	60	60	62	56	6	56	6
P0575	Hampton National Cemetery	Rec.	1	66	60	61	63	57	6	57	6
P0576	Hampton National Cemetery	Rec.	1	66	59	60	62	57	5	57	5
P0577	Hampton National Cemetery	Rec.	1	66	60	61	63	57	6	57	6
P0578	Hampton National Cemetery	Rec.	1	66	62	63	66	61	5	61	5
P0579	Hampton National Cemetery	Rec.	1	66	65	65	67	61	7	61	7
P0580	Hampton National Cemetery	Rec.	1	66	65	66	68	61	7	61	7
P0581	Hampton National Cemetery	Rec.	1	66	67	68	70	61	9	61	9

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0582	Hampton National Cemetery	Rec.	1	66	69	70	72	72	62	10	62	10
P0583	Hampton National Cemetery	Rec.	1	66	67	67	70	70	61	9	61	9
P0584	Hampton National Cemetery	Rec.	1	66	65	65	67	68	60	8	60	8
P0585	Hampton National Cemetery	Rec.	1	66	63	63	66	66	59	7	59	7
P0586	Hampton National Cemetery	Rec.	1	66	61	61	64	65	58	6	58	6
P0587	Hampton National Cemetery	Rec.	1	66	60	61	63	64	57	6	57	6
P0588	Hampton National Cemetery	Rec.	1	66	61	62	64	65	58	6	58	6
P0589	Hampton National Cemetery	Rec.	1	66	60	60	63	64	58	5	58	5
P0590	Hampton National Cemetery	Rec.	1	66	62	62	65	66	58	7	58	7
P0591	Hampton National Cemetery	Rec.	1	66	60	60	62	63	57	6	57	6
P0592	Hampton National Cemetery	Rec.	1	66	58	59	61	62	56	5	56	5
P0593	Hampton National Cemetery	Rec.	1	66	62	62	65	65	60	5	60	5
P0594	Hampton National Cemetery	Rec.	1	66	63	64	66	67	60	6	60	6
P0595	Hampton National Cemetery	Rec.	1	66	63	64	67	67	60	6	60	6
P0596	Hampton National Cemetery	Rec.	1	66	65	66	68	69	61	7	61	7
P0597	Hampton National Cemetery	Rec.	1	66	64	64	66	67	60	6	60	6
P0598	Hampton National Cemetery	Rec.	1	66	62	62	65	66	59	6	59	6
P0599	Hampton National Cemetery	Rec.	1	66	61	61	64	65	59	5	59	5
P0600	Hampton National Cemetery	Rec.	1	66	62	63	65	66	60	6	60	6
P0601	Hampton National Cemetery	Rec.	1	66	62	62	65	66	60	6	60	6
P0602	W Tyler St Hampton Row 1 Flr1	SF	1	66	74	74	PA	PA	PA	0	PA	0
P0603	W Tyler St Hampton Row 1 Flr1	SF	1	66	73	73	PA	PA	PA	0	PA	0
P0604	W Tyler St Hampton Row 1 Flr1	SF	1	66	71	72	74	PA	63	12	PA	0
P0605	W Tyler St Hampton Row 1 Flr1	SF	1	66	70	70	73	73	63	10	63	10

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0606	112 Cameron St Hampton Row 1 Flr2	MF	2	66	65	66	68	57	11	57	11
P0607	ST-14, 112 Cameron St Hampton Row 1 Flr1	Monit.	0	66	64	65	67	56	11	56	11
P0608	112 Cameron St Hampton Row 1 Flr2	MF	2	66	63	63	66	56	10	56	10
P0609	112 Cameron St Hampton Row 1 Flr2	MF	2	66	61	62	65	55	9	55	9
P0610	112 Cameron St Hampton Row 1 Flr2	MF	2	66	60	61	64	55	9	55	9
P0611	112 Cameron St Hampton Row 1 Flr2	MF	2	66	58	59	62	56	6	56	6
P0612	112 Cameron St Hampton Row 1 Flr2	MF	2	66	57	57	61	56	5	56	5
P0613	112 Cameron St Hampton Row 1 Flr2	MF	2	66	56	57	61	56	5	56	5
P0614	112 Cameron St Hampton Row 2 Flr2	MF	4	66	62	62	65	56	8	56	8
P0615	112 Cameron St Hampton Row 2 Flr2	MF	4	66	59	60	62	56	6	56	6
P0616	112 Cameron St Hampton Row 2 Flr2	MF	2	66	58	59	61	56	6	56	6
P0617	112 Cameron St Hampton Row 2 Flr2	MF	2	66	57	58	61	56	5	56	5
P0618	112 Cameron St Hampton Row 2 Flr2	MF	2	66	56	56	60	56	3	56	3
P0619	McClellan Ave Hampton Row 1 Flr1	School	24	66	60	60	63	63	0	64	0
P0620	236 S Mallory St Hampton Row 2 Flr1	Comm.	8	71	62	63	PA	PA	0	PA	0
P0621	3 Home Pl Hampton Row 1 Flr2	SF	1	66	60	61	PA	PA	0	PA	0
P0622	Home Pl Hampton Row 1 Flr1	SF	1	66	60	61	PA	PA	0	PA	0
P0623	9 Home Pl Hampton Row 1 Flr2	SF	1	66	60	60	PA	PA	0	PA	0
P0624	ST-15, 9 Home Pl Hampton Row 1 Flr1	Monit.	0	66	60	61	PA	PA	0	PA	0
P0625	22 Segar St Hampton Row 1 Flr1	SF	1	66	60	60	PA	PA	0	PA	0
P0626	404 S Hope St Hampton Row 1 Flr2	SF	1	66	58	59	PA	PA	0	PA	0
P0627	406 S Hope St Hampton Row 1 Flr1	SF	1	66	59	59	PA	PA	0	PA	0
P0628	408 S Hope St Hampton Row 1 Flr1	SF	1	66	60	61	PA	PA	0	PA	0
P0629	112 Segar St Hampton Row 1 Flr2	SF	1	66	60	61	PA	PA	0	PA	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0630	114 Segar St Hampton Row 1 Flr1.5	SF	1	66	60	61	PA	PA	0	PA	0
P0631	413 S Hope St Hampton Row 1 Flr2	SF	1	66	61	61	PA	PA	0	PA	0
P0632	116 Segar St Hampton Row 1 Flr1	SF	1	66	60	61	PA	PA	0	PA	0
P0633	118 Segar St Hampton Row 1 Flr1	SF	1	66	60	61	PA	PA	0	PA	0
P0634	404 S Curry St Hampton Row 1 Flr1	SF	1	66	59	60	73	PA	14	PA	0
P0635	406 S Curry St Hampton Row 1 Flr2	SF	1	66	60	61	PA	PA	0	PA	0
P0636	401 S Curry St Hampton Row 1 Flr2	SF	1	66	58	59	71	71	12	59	12
P0637	206 Segar St Hampton Row 1 Flr1	SF	1	66	58	58	71	71	12	60	12
P0638	207 National Ave Hampton Row 1 Flr1	SF	1	66	59	60	PA	PA	0	PA	0
P0639	211 National Ave Hampton Row 1 Flr2	SF	1	66	60	61	PA	PA	0	PA	0
P0640	215 National Ave Hampton Row 1 Flr2	SF	1	66	60	60	PA	PA	0	PA	0
P0641	220 Segar St Hampton Row 1 Flr3	SF	1	66	60	61	69	PA	11	PA	0
P0642	325 S Willard Ave Hampton Row 1 Flr1	SF	1	66	66	67	68	68	0	59	9
P0643	323 S Willard Ave Hampton Row 1 Flr2	SF	1	66	64	65	66	66	0	58	8
P0644	ST-16, 325 S Willard Ave Hampton Row 1 Flr1	Monit.	0	66	65	66	66	66	0	58	8
P0645	225 S Mallory St Hampton Row 2 Flr1	SF	1	66	60	61	PA	PA	0	PA	0
P0646	6 Segar St Hampton Row 2 Flr1	SF	1	66	59	61	PA	PA	0	PA	0
P0647	16 Segar St Hampton Row 2 Flr2	SF	1	66	57	58	PA	PA	0	PA	0
P0648	23 Segar St Hampton Row 2 Flr1	SF	1	66	56	57	PA	PA	0	PA	0
P0649	322 S Hope St Hampton Row 2 Flr2	SF	1	66	56	57	PA	PA	0	PA	0
P0650	321 S Hope St Hampton Row 2 Flr2	SF	1	66	54	55	PA	PA	0	PA	0
P0651	323 S Hope St Hampton Row 2 Flr2	SF	1	66	57	58	PA	PA	0	PA	0
P0652	111 Segar St Hampton Row 2 Flr2	SF	1	66	57	58	PA	PA	0	PA	0
P0653	113 Segar St Hampton Row 2 Flr2	SF	1	66	57	58	PA	PA	0	PA	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0654	119 Segar St Hampton Row 2 Flr1	SF	4	66	57	58	69	57	11	58	12
P0655	328 S Curry St Hampton Row 2 Flr1	MF	2	66	58	58	69	57	12	58	12
P0656	325 S Curry St Hampton Row 2 Flr2	SF	2	66	58	58	68	56	11	57	12
P0657	211 Segar St Hampton Row 2 Flr2	SF	1	66	58	59	67	56	11	57	11
P0658	217 Segar St Hampton Row 2 Flr2	SF	3	66	57	58	63	56	7	57	8
P0659	322 S Willard Ave Hampton Row 2 Flr1	SF	1	66	55	55	59	53	6	54	6
P0660	326 S Willard Ave Hampton Row 2 Flr2	SF	1	66	58	59	63	56	7	57	7
P0661	321 S Willard Ave Hampton Row 2 Flr2	SF	1	66	60	61	62	62	0	56	6
P0662	248 Bickford St Hampton Row 3 Flr1.5	SF	1	66	59	61	PA	PA	0	PA	0
P0663	316 S Hope St Hampton Row 3 Flr1	SF	2	66	55	56	PA	PA	0	PA	0
P0664	318 S Hope St Hampton Row 3 Flr1	SF	1	66	56	57	PA	PA	0	PA	0
P0665	313 S Hope St Hampton Row 3 Flr1	SF	1	66	53	54	PA	PA	0	PA	0
P0666	314 S Curry St Hampton Row 3 Flr1	SF	2	66	53	54	64	54	10	54	10
P0667	320 S Curry St Hampton Row 3 Flr1	SF	1	66	53	54	63	54	8	55	9
P0668	322 S Curry St Hampton Row 3 Flr1	SF	1	66	53	54	63	54	9	55	9
P0669	321 S Curry St Hampton Row 3 Flr2	SF	3	66	53	54	63	53	10	54	10
P0670	313 S Curry St Hampton Row 3 Flr2	SF	1	66	57	58	65	55	10	55	11
P0671	320 S Willard Ave Hampton Row 3 Flr2	SF	1	66	54	54	60	53	7	54	7
P0672	310 S Hope St Hampton Row 4 Flr1	SF	4	66	54	55	PA	PA	0	PA	0
P0673	101 Downes St Hampton Row 4 Flr1	SF	1	66	53	53	60	53	6	54	6
P0674	107 Downes St Hampton Row 4 Flr1	SF	3	66	52	52	58	52	6	53	6
P0675	115 Downes St Hampton Row 4 Flr1	SF	3	66	51	52	58	52	6	52	6
P0676	311 S Hope St Hampton Row 4 Flr1	SF	2	66	53	54	PA	PA	0	PA	0
P0677	121 Downes St Hampton Row 4 Flr1	SF	2	66	53	53	59	52	7	52	7

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels				
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**	
P0678	120 Downes St Hampton Row 4 Flr1	SF	3	66	52	53	61	62	52	9	53	9
P0679	212 S Hope St Hampton Row 5 Flr1	SF	3	66	53	54	59	59	53	5	54	5
P0680	218 S Hope St Hampton Row 5 Flr1	SF	2	66	53	54	59	59	53	5	54	5
P0681	213 S Hope St Hampton Row 5 Flr1	SF	3	66	53	53	59	59	53	6	54	5
P0682	219 S Hope St Hampton Row 5 Flr1	SF	3	66	53	53	59	59	53	6	54	6
P0683	22 Downes St Hampton Row 5 Flr1	SF	2	66	54	55	PA	PA	PA	0	PA	0
P0684	306 S Hope St Hampton Row 5 Flr1	SF	2	66	54	55	PA	PA	PA	0	PA	0
P0685	102 Downes St Hampton Row 5 Flr1	SF	2	66	52	53	63	63	54	9	55	9
P0686	114 Downes St Hampton Row 5 Flr1	SF	3	66	53	53	63	64	53	10	54	9
P0687	8 Williams St Hampton Row 6 Flr1	SF	1	66	57	58	61	62	58	3	59	2
P0688	228 S Hope St Hampton Row 6 Flr1	SF	3	66	54	55	61	62	55	6	56	6
P1777	Fort Wool	Rec.	1	66	55	56	57	57	57	0	57	0
P1778	Fort Wool	Rec.	1	66	55	56	57	57	57	0	57	0
P1779	Fort Monroe	Hist.	1	66	56	57	58	58	58	0	58	0
P1780	Fort Monroe	Rec.	1	66	55	55	57	57	57	0	57	0
P1781	Old Point Comfort	Marina	1	66	57	57	59	59	59	0	59	0
P1782	Hampton Coliseum	Aud.	1	51	41	43	44	44	44	0	44	0
P1783	60 Pine Chapel Rd Hampton Row 1 Flr 1	Rec.	1	66	71	72	72	73	61	12	64	9
P1784	60 Pine Chapel Rd Hampton Row 1 Flr 1	Rec.	1	66	72	73	73	73	61	12	63	11
P1785	60 Pine Chapel Rd Hampton Row 2 Flr 1	Rec.	1	66	68	70	69	70	61	12	63	11
P1786	60 Pine Chapel Rd Hampton Row 1 Flr 1	Rec.	1	66	72	73	73	73	61	12	62	12
P1787	60 Pine Chapel Rd Hampton Row 2 Flr 1	Rec.	1	66	66	67	67	67	61	12	62	12
P1788	60 Pine Chapel Rd Hampton Row 2 Flr 1	Rec.	1	66	69	70	70	70	61	12	62	12
P1789	60 Pine Chapel Rd Hampton Row 2 Flr 1	Rec.	1	66	66	67	67	67	61	12	62	12

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1790	60 Pine Chapel Rd Hampton Row 2 Flr 1	Rec.	1	66	66	67	68	61	12	62	12
P1791	60 Pine Chapel Rd Hampton Row 2 Flr 1	Rec.	1	66	66	68	68	60	10	61	10
P1792	60 Pine Chapel Rd Hampton Row 2 Flr 1	Rec.	1	66	69	70	71	60	10	61	10
P1793	60 Pine Chapel Rd Hampton Row 1 Flr 1	Rec.	1	66	72	73	74	60	11	62	9
P1794	60 Pine Chapel Rd Hampton Row 1 Flr 1	Rec.	1	66	72	73	74	59	11	62	9
P1795	60 Pine Chapel Rd Hampton Row 1 Flr 1	Rec.	1	66	72	73	74	59	10	61	9
P1796	60 Pine Chapel Rd Hampton Row 1 Flr 1	Rec.	1	66	72	73	73	58	10	59	9
P1797	60 Pine Chapel Rd Hampton Row 1 Flr 1	Rec.	1	66	72	73	73	58	10	59	9
P1798	60 Pine Chapel Rd Hampton Row 2 Flr 1	Rec.	1	66	66	67	68	58	10	59	8
P1799	60 Pine Chapel Rd Hampton Row 2 Flr 1	Rec.	1	66	69	70	71	58	10	59	8
P1800	60 Pine Chapel Rd Hampton Row 3 Flr 1	Rec.	1	66	64	65	66	58	10	60	8
P1801	60 Pine Chapel Rd Hampton Row 3 Flr 1	Rec.	1	66	64	65	66	57	9	58	8
P1802	60 Pine Chapel Rd Hampton Row 3 Flr 1	Rec.	1	66	62	63	64	57	9	57	8
P1803	60 Pine Chapel Rd Hampton Row 3 Flr 1	Rec.	1	66	63	64	64	56	8	57	7
P1804	60 Pine Chapel Rd Hampton Row 3 Flr 1	Rec.	1	66	63	64	65	56	8	57	7
P1805	60 Pine Chapel Rd Hampton Row 3 Flr 1	Rec.	1	66	62	63	65	55	7	57	6
P1806	60 Pine Chapel Rd Hampton Row 2 Flr 1	Rec.	1	66	69	70	71	57	8	58	7
P1807	60 Pine Chapel Rd Hampton Row 3 Flr 1	Rec.	1	66	62	63	65	55	7	56	6
P1808	60 Pine Chapel Rd Hampton Row 3 Flr 1	Rec.	1	66	62	63	65	55	7	56	6
P1809	60 Pine Chapel Rd Hampton Row 3 Flr 1	Rec.	1	66	62	63	65	55	6	56	6
P1810	60 Pine Chapel Rd Hampton Row 4 Flr 1	Rec.	1	66	61	62	63	57	7	58	7
P1811	60 Pine Chapel Rd Hampton Row 4 Flr 1	Rec.	1	66	59	61	62	57	7	58	7
P1812	60 Pine Chapel Rd Hampton Row 4 Flr 1	Rec.	1	66	59	61	62	55	6	56	5
P1813	60 Pine Chapel Rd Hampton Row 4 Flr 1	Rec.	1	66	59	60	62	55	5	57	5

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels				
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**	
P1814	60 Pine Chapel Rd Hampton Row 4 Flr 1	Rec.	1	66	59	60	61	62	55	5	57	5
P1815	60 Pine Chapel Rd Hampton Row 4 Flr 1	Rec.	1	66	61	62	62	63	56	6	58	6
P1816	60 Pine Chapel Rd Hampton Row 4 Flr 1	Rec.	1	66	60	62	62	63	57	7	58	7
P1817	60 Pine Chapel Rd Hampton Row 4 Flr 1	Rec.	1	66	60	61	62	62	57	7	58	7
P1818	Perfecting Saints Church	Church	1	51	39	40	40	41	33	7	33	8

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

** 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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0689	Beach Norfolk Row 1 Fir1	Rec.	1	66	70	70	PA	PA	PA	0	PA	0
P0690	Beach Norfolk Row 1 Fir1	Rec.	1	66	67	68	67	67	67	8	59	7
P0691	Beach Norfolk Row 2 Fir1	Rec.	1	66	66	67	67	66	66	7	59	7
P0692	Beach Norfolk Row 2 Fir1	Rec.	1	66	65	66	66	66	66	7	59	7
P0693	Beach Norfolk Row 2 Fir1	Rec.	1	66	66	66	66	66	66	7	59	7
P0694	Beach Norfolk Row 3 Fir1	Rec.	1	66	66	66	66	66	66	7	58	7
P0695	Beach Norfolk Row 3 Fir1	Rec.	1	66	65	66	65	65	65	7	58	7
P0696	1525 Bayville Street Norfolk Row 1 Fir1	Marina	1	66	64	65	PA	PA	PA	0	PA	0
P0697	1525 Bayville Street Norfolk Row 1 Fir1	Marina	1	66	65	66	PA	PA	PA	0	PA	0
P0698	1525 Bayville Street Norfolk Row 1 Fir1	Marina	1	66	64	65	PA	PA	PA	0	PA	0
P0699	1525 Bayville Street Norfolk Row 1 Fir1	Marina	1	66	66	66	PA	PA	PA	0	PA	0
P0700	1525 Bayville Street Norfolk Row 1 Fir1	Marina	1	66	65	65	PA	PA	PA	0	PA	0
P0701	1525 Bayville Street Norfolk Row 1 Fir1	Marina	1	66	66	66	PA	PA	PA	0	PA	0
P0702	1525 Bayville Street Norfolk Row 1 Fir1	Marina	1	66	65	66	PA	PA	PA	0	PA	0
P0703	1525 Bayville Street Norfolk Row 1 Fir1	Marina	1	66	65	65	PA	PA	PA	0	PA	0
P0704	1525 Bayville Street Norfolk Row 1 Fir1	Marina	1	66	63	64	PA	PA	PA	0	PA	0
P0705	1525 Bayville Street Norfolk Row 1 Fir1	Marina	1	66	65	65	PA	PA	PA	0	PA	0
P0706	1525 Bayville Street Norfolk Row 1 Fir1	Marina	1	66	63	64	PA	PA	PA	0	PA	0
P0707	1525 Bayville Street Norfolk Row 1 Fir1	Marina	1	66	65	66	PA	PA	PA	0	PA	0
P0708	1525 Bayville Street Norfolk Row 1 Fir1	Marina	1	66	63	64	PA	PA	PA	0	PA	0
P0709	1525 Bayville Street Norfolk Row 1 Fir1	Marina	1	66	66	66	PA	PA	PA	0	PA	0
P0710	1525 Bayville Street Norfolk Row 1 Fir1	Marina	1	66	64	64	PA	PA	PA	0	PA	0
P0711	1525 Bayville Street Norfolk Row 1 Fir1	Marina	1	66	67	67	PA	PA	PA	0	PA	0
P0712	1525 Bayville Street Norfolk Row 1 Fir1	Marina	1	66	64	65	PA	PA	PA	0	PA	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0713	1525 Bayville Street Norfolk Row 1 Fir1	Marina	1	66	68	68	PA	PA	0	PA	0
P0714	1525 Bayville Street Norfolk Row 1 Fir1	Marina	1	66	65	65	PA	PA	0	PA	0
P0715	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	63	63	PA	PA	0	PA	0
P0716	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	62	62	PA	PA	0	PA	0
P0717	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	63	64	PA	PA	0	PA	0
P0718	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	62	62	PA	PA	0	PA	0
P0719	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	63	64	PA	PA	0	PA	0
P0720	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	62	63	PA	PA	0	PA	0
P0721	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	64	64	PA	PA	0	PA	0
P0722	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	63	63	PA	PA	0	PA	0
P0723	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	62	62	PA	PA	0	PA	0
P0724	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	60	61	PA	PA	0	PA	0
P0725	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	62	63	PA	PA	0	PA	0
P0726	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	61	61	PA	PA	0	PA	0
P0727	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	62	63	PA	PA	0	PA	0
P0728	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	61	61	PA	PA	0	PA	0
P0729	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	62	63	PA	PA	0	PA	0
P0730	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	61	62	PA	PA	0	PA	0
P0731	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	62	63	PA	PA	0	PA	0
P0732	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	61	62	PA	PA	0	PA	0
P0733	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	63	63	PA	PA	0	PA	0
P0734	1525 Bayville Street Norfolk Row 2 Fir1	Marina	1	66	61	62	PA	PA	0	PA	0
P0735	1525 Bayville Street Norfolk Row 3 Fir1	Marina	1	66	61	62	PA	PA	0	PA	0
P0736	1525 Bayville Street Norfolk Row 3 Fir1	Marina	1	66	60	61	PA	PA	0	PA	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0737	1525 Bayville Street Norfolk Row 3 Fir1	Marina	1	66	61	62	PA	PA	PA	0	PA	0
P0738	1525 Bayville Street Norfolk Row 3 Fir1	Marina	1	66	60	61	PA	PA	PA	0	PA	0
P0739	1525 Bayville Street Norfolk Row 3 Fir1	Marina	1	66	60	60	PA	PA	PA	0	PA	0
P0740	1525 Bayville Street Norfolk Row 3 Fir1	Marina	1	66	60	60	PA	PA	PA	0	PA	0
P0741	1525 Bayville Street Norfolk Row 3 Fir1	Marina	1	66	59	59	PA	PA	PA	0	PA	0
P0742	1525 Bayville Street Norfolk Row 3 Fir1	Marina	1	66	60	60	PA	PA	PA	0	PA	0
P0743	1525 Bayville Street Norfolk Row 3 Fir1	Marina	1	66	59	60	PA	PA	PA	0	PA	0
P0744	1525 Bayville Street Norfolk Row 3 Fir1	Marina	1	66	60	61	PA	PA	PA	0	PA	0
P0745	1525 Bayville Street Norfolk Row 3 Fir1	Marina	1	66	59	60	PA	PA	PA	0	PA	0
P0746	1525 Bayville Street Norfolk Row 3 Fir1	Marina	1	66	60	61	PA	PA	PA	0	PA	0
P0747	1525 Bayville Street Norfolk Row 3 Fir1	Marina	1	66	59	60	PA	PA	PA	0	PA	0
P0748	1525 Bayville Street Norfolk Row 3 Fir1	Marina	1	66	60	61	PA	PA	PA	0	PA	0
P0749	1525 Bayville Street Norfolk Row 3 Fir1	Marina	1	66	59	60	PA	PA	PA	0	PA	0
P0750	1525 Bayville Street Norfolk Row 4 Fir1	Marina	1	66	59	60	PA	PA	PA	0	PA	0
P0751	1525 Bayville Street Norfolk Row 4 Fir1	Marina	1	66	59	60	PA	PA	PA	0	PA	0
P0752	1525 Bayville Street Norfolk Row 4 Fir1	Marina	1	66	58	59	PA	PA	PA	0	PA	0
P0753	1525 Bayville Street Norfolk Row 4 Fir1	Marina	1	66	58	58	PA	PA	PA	0	PA	0
P0754	1525 Bayville Street Norfolk Row 4 Fir1	Marina	1	66	58	59	PA	PA	PA	0	PA	0
P0755	1525 Bayville Street Norfolk Row 4 Fir1	Marina	1	66	58	58	PA	PA	PA	0	PA	0
P0756	1525 Bayville Street Norfolk Row 4 Fir1	Marina	1	66	58	59	PA	PA	PA	0	PA	0
P0757	1525 Bayville Street Norfolk Row 4 Fir1	Marina	1	66	58	58	PA	PA	PA	0	PA	0
P0758	1525 Bayville Street Norfolk Row 4 Fir1	Marina	1	66	58	59	PA	PA	PA	0	PA	0
P0759	1525 Bayville Street Norfolk Row 4 Fir1	Marina	1	66	58	58	PA	PA	PA	0	PA	0
P0760	1596 Lea View Ave Norfolk Row 1 Fir1	MF	4	66	66	67	66	66	58	8	58	7

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0761	1564 Chela Av Norfolk Row 1 Fir1	MF	4	66	66	67	66	59	7	59	7
P0762	ST-17, 1560 Chela Ave Norfolk Row 1 Fir1	SF	0	66	68	69	67	59	8	59	8
P0763	1549 Chela Av Norfolk Row 1 Fir1	SF	1	66	69	70	69	60	10	PA	0
P0764	1547 Chela Av Norfolk Row 1 Fir1	SF	1	66	69	70	69	59	10	59	8
P0765	1545 Chela Av Norfolk Row 1 Fir1	MF	2	66	68	69	68	59	9	58	8
P0766	1541 Chela Av Norfolk Row 1 Fir1	SF	1	66	68	69	68	59	9	58	8
P0767	1525 Chela Av Norfolk Row 1 Fir1	MF	2	66	68	69	67	58	9	58	9
P0768	1522 W Ocean View Av Norfolk Row 1 Fir1	SF	1	66	70	70	68	59	10	58	9
P0769	1518 W Ocean View Av Norfolk Row 1 Fir1	SF	1	66	69	70	68	59	9	58	9
P0770	1514 W Ocean View Av Norfolk Row 1 Fir1	MF	4	66	68	69	67	58	9	57	8
P0771	1508 W Ocean View Av Norfolk Row 1 Fir1	MF	4	66	67	68	67	58	9	57	8
P0772	1504 W Ocean View Av Norfolk Row 1 Fir1	MF	2	66	67	67	66	66	0	57	7
P0773	1500 W Ocean View Av Norfolk Row 1 Fir1	MF	3	66	66	67	66	66	0	58	6
P0774	1560 Chela Av Norfolk Row 2 Fir1	SF	1	66	69	70	68	60	8	59	8
P0775	1552 Chela Av Norfolk Row 2 Fir1	SF	2	66	64	65	64	57	8	57	7
P0776	1540 Chela Av A1 Norfolk Row 2 Fir1	MF	5	66	63	63	63	56	7	56	7
P0777	1530 Chela Av Norfolk Row 2 Fir1	SF	1	66	62	63	63	56	7	55	7
P0778	1526 Chela Av Norfolk Row 2 Fir1	SF	1	66	62	63	63	56	8	55	7
P0779	1518 Chela Av A1 Norfolk Row 2 Fir1	MF	12	66	62	63	63	56	7	55	7
P0780	1518 Chela Av A1 Norfolk Row 2 Fir2	MF	12	66	68	68	70	57	13	57	12
P0781	1518 Chela Av A1 Norfolk Row 2 Fir3	MF	12	66	68	69	70	59	11	59	10
P0782	N S Chela Av Norfolk Row 2 Fir1	MF	6	66	62	62	63	56	7	55	6
P0783	1500 Chela Av Norfolk Row 2 Fir1	SF	1	66	61	62	63	56	7	56	6
P0784	1561 Lea View Av Norfolk Row 3 Fir1	SF	2	66	65	66	66	55	10	55	10

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0785	1551 Lea View Av Norfolk Row 3 Flr1	SF	2	66	63	64	64	55	9	55	9
P0786	1541 Lea View Av Norfolk Row 3 Flr1	MF	5	66	61	62	61	54	8	54	7
P0787	1527 Lea View Av Norfolk Row 3 Flr1	SF	1	66	60	61	60	53	7	53	7
P0788	1521 Lea View Av Norfolk Row 3 Flr1	MF	7	66	59	60	60	53	7	53	7
P0789	1507 Lea View Av Norfolk Row 3 Flr1	MF	2	66	58	59	59	53	6	53	6
P0790	1560 Lea View Av Norfolk Row 4 Flr1	MF	3	66	62	63	63	56	6	56	6
P0791	1542 Lea View Av Norfolk Row 4 Flr1	SF	1	66	62	63	64	56	8	56	7
P0792	9724 15th View St Norfolk Row 1 Flr1	MF	6	66	62	63	64	58	6	58	6
P0793	1452 W Ocean View Av Norfolk Row 1 Flr1	MF	5	66	64	65	65	59	6	58	6
P0794	1451 W Ocean View Av Norfolk Row 1 Flr1	MF	2	66	69	69	68	59	9	58	9
P0795	1447 W Ocean View Av Norfolk Row 1 Flr1	MF	4	66	68	69	68	59	9	PA	0
P0796	1443 W Ocean View Av Norfolk Row 1 Flr1	MF	4	66	68	68	68	59	8	58	9
P0797	1439 W Ocean View Av Norfolk Row 1 Flr1	MF	4	66	66	66	67	59	8	58	8
P0798	9663 Rallston St Norfolk Row 1 Flr1	MF	11	66	70	71	PA	PA	0	PA	0
P0799	9663 Rallston St Norfolk Row 1 Flr2	MF	11	66	75	76	PA	PA	0	PA	0
P0800	9663 Rallston St Norfolk Row 1 Flr3	MF	11	66	75	76	PA	PA	0	PA	0
P0801	1427 W Ocean View Av Norfolk Row 1 Flr1	MF	4	66	68	69	68	61	7	58	9
P0802	1423 W Ocean View Av Norfolk Row 1 Flr1	MF	4	66	68	69	68	58	9	58	9
P0803	1411 W Ocean View Av Norfolk Row 1 Flr1	MF	14	66	68	69	68	59	8	59	8
P0804	1407 W Ocean View Av Norfolk Row 1 Flr1	MF	5	66	66	67	66	58	8	58	7
P0805	9655 14th View St Norfolk Row 1 Flr1	SF	1	66	67	67	67	59	8	58	8
P0806	9659 14th View St Norfolk Row 1 Flr1	SF	1	66	66	67	66	58	8	57	7
P0807	1410 Little Bay Av Norfolk Row 1 Flr1	MF	2	66	69	70	PA	PA	0	PA	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels				
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**	
P0808	ST-19, Inter Of 14th View And Little Bay Ave Norfolk Row 1 Fir1	Monit.	0	66	68	69	68	PA	60	8	PA	0
P0809	1352 Little Bay Av Norfolk Row 1 Fir1	MF	4	66	68	68	68	PA	60	8	PA	0
P0810	1346 Little Bay Av Norfolk Row 1 Fir1	MF	4	66	67	68	68	67	60	8	59	8
P0811	1342 Little Bay Av A Norfolk Row 1 Fir1	MF	1	66	65	66	66	66	58	8	58	7
P0812	1342 Little Bay Av A Norfolk Row 1 Fir2	MF	1	66	70	71	72	72	60	12	60	12
P0813	1336 Little Bay Av Norfolk Row 1 Fir1	MF	4	66	66	67	67	66	59	8	58	8
P0814	1330 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	66	67	67	66	59	8	58	8
P0815	1324 Little Bay Av Norfolk Row 1 Fir1	MF	4	66	65	65	66	66	58	8	58	8
P0816	1315 Little Bay Av Norfolk Row 1 Fir1	MF	12	66	66	67	67	PA	59	8	PA	0
P0817	1305 Little Bay Av Norfolk Row 1 Fir1	MF	2	66	67	67	67	PA	59	8	PA	0
P0818	1301 Little Bay Av Norfolk Row 1 Fir1	MF	2	66	67	67	67	66	59	8	58	8
P0819	1442 W Ocean View Av Norfolk Row 2 Fir1	SF	3	66	62	63	64	63	57	6	57	6
P0820	1432 W Ocean View Av Norfolk Row 2 Fir1	SF	1	66	61	62	63	63	57	6	57	6
P0821	1426 W Ocean View Av Norfolk Row 2 Fir1	MF	12	66	60	61	63	62	56	7	56	6
P0822	1426 W Ocean View Av Norfolk Row 2 Fir2	MF	12	66	66	67	69	68	58	11	58	10
P0823	1420 W Ocean View Av Norfolk Row 2 Fir1	SF	2	66	60	61	62	61	56	6	56	5
P0824	1406 W Ocean View Av Norfolk Row 2 Fir1	SF	2	66	60	60	62	61	56	6	55	5
P0825	1401 W Ocean View Av Norfolk Row 2 Fir1	SF	1	66	63	64	64	63	57	7	56	6
P0826	9654 14th View St Norfolk Row 2 Fir1	SF	1	66	67	67	66	66	58	8	58	7
P0827	1381 W Ocean View Av Norfolk Row 2 Fir1	MF	6	66	61	61	62	61	55	6	55	6
P0828	1371 W Ocean View Av Norfolk Row 2 Fir1	MF	6	66	60	61	62	62	55	7	56	7
P0829	9657 Richview St Norfolk Row 2 Fir1	SF	1	66	60	60	61	61	55	6	55	6
P0830	9656 Richview St Norfolk Row 2 Fir1	MF	5	66	59	59	61	60	54	6	54	6

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0831	1318 Little Bay Av Norfolk Row 2 Flr1	MF	12	66	63	64	64	57	7	57	7
P0832	1306 Little Bay Av Norfolk Row 2 Flr1	MF	2	66	62	63	63	57	6	57	7
P0833	1416 W Ocean View Av Norfolk Row 3 Flr1	SF	2	66	58	58	60	55	5	55	5
P0834	1412 W Ocean View Av Norfolk Row 3 Flr1	SF	1	66	58	58	59	55	5	54	4
P0835	1384 W Ocean View Av Norfolk Row 3 Flr1	SF	1	66	59	59	61	55	5	55	5
P0836	1372 W Ocean View Av Norfolk Row 3 Flr1	MF	6	66	58	59	60	55	5	55	5
P0837	1372 W Ocean View Av Norfolk Row 3 Flr2	MF	6	66	63	64	66	57	9	57	9
P0838	1353 W Ocean View Av Norfolk Row 3 Flr1	SF	1	66	59	60	61	55	6	55	6
P0839	9659 Richview St Norfolk Row 3 Flr1	SF	5	66	58	59	59	54	5	54	5
P0840	1323 W Ocean View Av Norfolk Row 3 Flr1	MF	4	66	58	58	60	55	5	55	4
P0841	1311 W Ocean View Av Norfolk Row 3 Flr1	MF	5	66	59	59	61	55	6	55	5
P0842	9673 13th View St Norfolk Row 3 Flr1	SF	1	66	59	60	61	55	6	54	6
P0843	1303 W Ocean View Av Norfolk Row 4 Flr1	SF	1	66	59	60	61	55	6	54	6
P0844	1501 Bayville St Norfolk Row 1 Flr1	SF	1	66	71	72	PA	PA	0	PA	0
P0845	1459 Bayville St Norfolk Row 1 Flr1	MF	1	66	71	71	PA	PA	0	PA	0
P0846	1455 Bayville St Norfolk Row 1 Flr1	SF	1	66	69	70	PA	PA	0	PA	0
P0847	1449 Bayville St Norfolk Row 1 Flr1	SF	1	66	69	70	PA	PA	0	PA	0
P0848	1445 Bayville St Norfolk Row 1 Flr1	SF	1	66	71	72	PA	PA	0	PA	0
P0849	1441 Bayville St Norfolk Row 1 Flr1	SF	2	66	72	73	PA	PA	0	PA	0
P0850	1439 Bayville St Norfolk Row 1 Flr1	SF	1	66	73	73	PA	PA	0	PA	0
P0851	1435 Bayville St Norfolk Row 1 Flr1	MF	1	66	72	73	PA	PA	0	PA	0
P0852	1416 Bayville Ct Norfolk Row 1 Flr1	SF	1	66	71	71	PA	PA	0	PA	0
P0853	1407 Bayville St Norfolk Row 1 Flr1	MF	5	66	70	71	PA	PA	0	PA	0
P0854	9629 14th View St Norfolk Row 1 Flr1	SF	1	66	69	70	PA	PA	0	PA	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0855	1403 Bayville Ct Norfolk Row 1 Flr1	MF	1	66	64	65	68	69	59	9	58	11
P0856	1403 Bayville Ct Norfolk Row 1 Flr1	MF	3	66	68	68	71	73	61	10	61	12
P0857	ST-18, 1353 Bayville Court Norfolk Row1 Flr1	Monit.	0	66	65	66	67	68	60	8	60	8
P0858	1349 Bayville St Norfolk Row 1 Flr1	MF	3	66	69	69	PA	PA	PA	0	PA	0
P0859	1349 Bayville St Norfolk Row 1 Flr2	MF	3	66	70	71	PA	PA	PA	0	PA	0
P0860	1349 Bayville St Norfolk Row 1 Flr3	MF	3	66	70	71	PA	PA	PA	0	PA	0
P0861	1349 Bayville St Norfolk Row 1 Flr1	MF	2	66	68	69	PA	PA	PA	0	PA	0
P0862	1349 Bayville St Norfolk Row 1 Flr2	MF	2	66	70	71	PA	PA	PA	0	PA	0
P0863	1349 Bayville St Norfolk Row 1 Flr3	MF	2	66	70	71	PA	PA	PA	0	PA	0
P0864	1347 Bayville Ct Norfolk Row 1 Flr1	SF	1	66	66	67	PA	PA	PA	0	PA	0
P0865	1345 Bayville Ct Norfolk Row 1 Flr1	MF	2	66	66	67	PA	PA	PA	0	PA	0
P0866	1343 Bayville St Norfolk Row 1 Flr1	SF	1	66	66	67	PA	PA	PA	0	PA	0
P0867	1337 Bayville St Norfolk Row 1 Flr1	SF	1	66	66	66	PA	PA	PA	0	PA	0
P0868	1333 Bayville St Norfolk Row 1 Flr1	SF	1	66	64	65	PA	PA	PA	0	PA	0
P0869	1331 Bayville St Norfolk Row 1 Flr1	MF	1	66	66	67	PA	PA	PA	0	PA	0
P0870	1325 Bayville St Norfolk Row 1 Flr1	SF	1	66	66	66	PA	PA	PA	0	PA	0
P0871	1321 Bayville St Norfolk Row 1 Flr1	SF	1	66	65	66	PA	PA	PA	0	PA	0
P0872	1311 Bayville St Norfolk Row 1 Flr1	Rec.	1	66	66	67	PA	PA	PA	0	PA	0
P0873	9604 13th View St Norfolk Row 1 Flr1	Rec.	1	66	68	68	PA	PA	PA	0	PA	0
P0874	1405 Bayville Ct Norfolk Row 2 Flr1	SF	1	66	60	61	63	65	59	4	58	6
P0875	1407 Bayville Ct Norfolk Row 2 Flr1	SF	1	66	63	63	67	68	60	7	60	8
P0876	1461 Bayville Ct Norfolk Row 2 Flr1	SF	1	66	63	64	67	68	60	8	60	8
P0877	1403 Bayville Ct Norfolk Row 2 Flr2	MF	1	66	66	67	69	71	61	8	61	10

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0878	1403 Bayville Ct Norfolk Row 2 Fir3	MF	1	66	68	69	71	62	9	63	9
P0879	1349 Bayville St Norfolk Row 2 Fir1	MF	12	66	62	62	66	59	7	58	8
P0880	1341 Bayville St Norfolk Row 2 Fir1	SF	1	66	62	62	66	60	6	58	8
P0881	1339 Bayville St Norfolk Row 2 Fir1	SF	1	66	63	63	66	60	7	59	8
P0882	1335 Bayville St Norfolk Row 2 Fir1	SF	1	66	63	64	67	60	7	59	8
P0883	9630 13th View St Norfolk Row 1 Fir1	SF	1	66	67	68	68	58	10	PA	0
P0884	9634 13th View St Norfolk Row 1 Fir1	SF	1	66	66	66	67	58	9	57	9
P0885	1283 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	66	66	66	57	9	57	9
P0886	1281 Little Bay Av Norfolk Row 1 Fir1	MF	12	66	67	68	68	57	10	PA	0
P0887	1275 Little Bay Av Norfolk Row 1 Fir1	MF	1	66	66	66	66	57	9	57	9
P0888	1275 Little Bay Av Norfolk Row 1 Fir1	MF	1	66	68	69	69	58	11	PA	0
P0889	1273 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	66	66	66	57	9	57	9
P0890	1263 Little Bay Av Norfolk Row 1 Fir1	MF	2	66	66	67	66	57	9	57	9
P0891	1269 Little Bay Av Norfolk Row 1 Fir1	MF	2	66	66	66	66	57	9	57	9
P0892	1256 Bayville St Norfolk Row 1 Fir1	SF	1	66	68	69	68	58	10	58	10
P0893	1254 Willoughby Bay Av Norfolk R w1 Fir1	SF	1	66	70	71	69	58	11	PA	0
P0894	1250 Willoughby Bay Av Norfolk R w1 Fir1	SF	1	66	69	70	69	58	11	58	11
P0895	1241 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	67	68	67	58	9	57	9
P0896	1237 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	67	68	67	58	9	57	9
P0897	1233 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	67	68	67	58	9	57	9
P0898	1227 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	67	68	67	58	9	57	9
P0899	1223 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	67	68	67	58	9	57	9
P0900	1217 Little Bay Av Norfolk Row 1 Fir1	MF	2	66	64	64	65	56	9	56	9
P0901	1215 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	64	65	65	56	9	56	9

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0902	1209 Little Bay Av Norfolk Row 1 Fir1	MF	2	66	66	66	66	66	57	9	57	9
P0903	1205 Little Bay Av Norfolk Row 1 Fir1	MF	2	66	65	66	66	66	57	9	57	9
P0904	1201 Little Bay Av Norfolk Row 1 Fir1	MF	2	66	65	66	66	66	57	9	56	9
P0905	1163 Little Bay Av Norfolk Row 1 Fir1	MF	2	66	65	65	66	66	57	9	56	9
P0906	1158 Willoughby Bay Av Norfolk Row 1 Fir1	MF	2	66	65	65	66	66	56	9	56	9
P0907	1155 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	65	65	65	65	56	9	56	9
P0908	1151 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	59	60	59	59	53	7	52	7
P0909	1147 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	65	65	65	65	56	9	56	9
P0910	1143 Little Bay Av Norfolk Row 1 Fir1	MF	2	66	64	65	65	65	56	9	56	9
P0911	1139 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	64	65	65	65	56	9	56	9
P0912	1135 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	64	65	65	65	56	9	56	9
P0913	1129 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	64	65	65	65	56	9	56	9
P0914	1125 Little Bay Av Norfolk Row 1 Fir1	MF	5	66	64	65	65	65	56	9	56	9
P0915	1123 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	64	65	65	65	56	9	56	9
P0916	1119 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	64	65	65	65	56	9	56	9
P0917	1115 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	64	65	65	65	56	9	56	9
P0918	1109 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	64	64	65	65	56	9	56	9
P0919	1107 Little Bay Av Norfolk Row 1 Fir1	MF	3	66	64	65	65	65	56	9	56	9
P0920	1100 Willoughby Bay Av Norfolk Row 1 Fir1	SF	1	66	64	65	65	65	56	9	56	9
P0921	1064 Willoughby Bay Av Norfolk Row 1 Fir1	SF	1	66	64	65	65	65	56	9	56	9
P0922	1063 Willoughby Bay Av Norfolk Row 1 Fir1	SF	1	66	64	65	65	65	56	9	56	9
P0923	Willoughby Bay Av Norfolk Row 1 Fir1	MF	6	66	64	65	66	66	56	9	56	9
P0924	Little Bay Av Norfolk Row 1 Fir1	MF	1	66	67	67	67	67	57	10	56	10
P0925	Little Bay Av Norfolk Row 1 Fir2	MF	1	66	67	68	69	69	57	12	57	12

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0926	1055 Little Bay Av A Norfolk Row 1 Fir1	MF	2	66	67	67	67	57	11	57	11
P0927	1055 Little Bay Av A Norfolk Row 1 Fir2	MF	2	66	67	68	69	57	12	57	12
P0928	1051 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	65	66	65	56	9	55	9
P0929	1045 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	66	66	65	56	9	56	9
P0930	1043 Little Bay Av Norfolk Row 1 Fir1	MF	2	66	66	66	66	56	9	56	9
P0931	1039 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	64	65	66	56	10	56	10
P0932	1033 Little Bay Av Norfolk Row 1 Fir1	MF	5	66	66	66	65	56	9	56	9
P0933	1027 Little Bay Av Norfolk Row 1 Fir1	MF	2	66	66	67	66	56	9	56	9
P0934	1023 Little Bay Av Norfolk Row 1 Fir1	MF	5	66	66	66	65	56	9	56	9
P0935	1021 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	66	67	66	56	10	56	10
P0936	1019 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	66	66	65	56	9	56	9
P0937	1019 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	65	66	65	56	9	56	9
P0938	1001 Little Bay Av Norfolk Row 1 Fir1	MF	5	66	65	66	64	55	9	56	8
P0939	955 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	66	67	65	56	9	56	9
P0940	951 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	66	67	65	56	9	56	9
P0941	947 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	66	67	65	56	9	56	9
P0942	937 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	66	66	64	55	9	55	9
P0943	933 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	66	66	65	56	8	57	8
P0944	931 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	66	67	65	56	9	56	9
P0945	925 Little Bay Av Norfolk Row 1 Fir1	MF	5	66	66	66	64	55	9	55	9
P0946	921 Little Bay Av Norfolk Row 1 Fir1	SF	1	66	66	67	65	56	9	56	9
P0947	905 Little Bay Av Norfolk Row 1 Fir1	MF	12	66	66	66	65	55	10	55	10
P0948	9605 9th View St Norfolk Row 1 Fir1	MF	1	66	67	68	68	57	11	57	11
P0949	9605 9th View St Norfolk Row 1 Fir2	MF	1	66	68	69	70	57	12	57	12

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0950	9605 9th View St Norfolk Row 1 Flr3	MF	1	66	68	69	70	58	11	58	11
P0951	9605 9th View St Norfolk Row 1 Flr1	MF	5	66	65	66	67	57	10	57	10
P0952	9605 9th View St Norfolk Row 1 Flr1	MF	1	66	65	66	65	55	11	55	11
P0953	9605 9th View St Norfolk Row 1 Flr2	MF	1	66	66	66	67	55	12	55	12
P0954	ST-20, Near Pier @ Willoughby Boat Club Norfolk Row 1 Flr1	Monit.	0	66	66	67	67	58	9	58	10
P0955	863 Little Bay Av 1 Norfolk Row 1 Flr1	MF	2	66	67	68	67	56	11	56	11
P0956	863 Little Bay Av 1 Norfolk Row 1 Flr1	MF	4	66	64	65	64	53	11	53	11
P0957	861 Little Bay Av Norfolk Row 1 Flr1	MF	2	66	61	61	63	53	10	53	10
P0958	833 Little Bay Av #17 Norfolk Row 1 Flr1	MF	3	66	72	73	PA	PA	0	PA	0
P0959	833 Little Bay Av #17 Norfolk Row 1 Flr2	MF	3	66	72	73	PA	PA	0	PA	0
P0960	833 Little Bay Av #17 Norfolk Row 1 Flr1	MF	1	66	61	62	67	58	10	58	10
P0961	833 Little Bay Av #17 Norfolk Row 1 Flr1	MF	6	66	66	67	65	55	10	55	10
P0962	833 Little Bay Av #17 Norfolk Row 1 Flr2	MF	6	66	69	70	70	57	12	57	12
P0963	833 Little Bay Av #17 Norfolk Row 1 Flr2	MF	3	66	71	72	PA	PA	0	PA	0
P0964	833 Little Bay Av #17 Norfolk Row 1 Flr1	MF	3	66	70	71	PA	PA	0	PA	0
P0965	833 Little Bay Av #17 Norfolk Row 1 Flr2	MF	6	66	69	69	70	58	13	58	13
P0966	833 Little Bay Av #17 Norfolk Row 1 Flr1	MF	6	66	66	67	66	54	12	54	12
P0967	9640 13th View St A Norfolk Row 2 Flr1	MF	4	66	62	63	63	56	7	56	8
P0968	1274 Little Bay Av Norfolk Row 2 Flr1	SF	1	66	62	63	63	55	8	55	8
P0969	1268 Little Bay Av 1 Norfolk Row 2 Flr1	MF	3	66	64	65	65	56	9	55	10
P0970	1268 Little Bay Av 1 Norfolk Row 2 Flr1	MF	3	66	64	64	65	56	9	55	10
P0971	1260 Little Bay Av Norfolk Row 2 Flr1	SF	1	66	62	63	63	55	8	54	8
P0972	1259 Little Bay Av Norfolk Row 2 Flr1	MF	2	66	65	66	65	56	9	57	9

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0973	1255 Little Bay Av Norfolk Row 2 Flr1	SF	1	66	63	64	64	56	8	57	9
P0974	1226 Little Bay Av Norfolk Row 2 Flr1	MF	5	66	62	63	63	54	9	54	9
P0975	1216 Little Bay Av Norfolk Row 2 Flr1	MF	5	66	62	62	63	54	9	53	10
P0976	1105 Little Bay Av Norfolk Row 2 Flr1	MF	6	66	61	62	61	53	8	53	8
P0977	1067 Little Bay Av Norfolk Row 2 Flr1	SF	1	66	64	64	62	54	8	54	9
P0978	1079 Little Bay Av Norfolk Row 2 Flr1	MF	6	66	62	63	62	54	8	54	8
P0979	1015 Little Bay Av Norfolk Row 2 Flr1	MF	10	66	65	66	64	55	9	55	9
P0980	949 Little Bay Av Norfolk Row 2 Flr1	SF	2	66	63	63	62	53	9	53	9
P0981	927 Little Bay Av Norfolk Row 2 Flr1	MF	2	66	61	62	60	52	8	52	9
P0982	847 Little Bay Av Norfolk Row 2 Flr1	MF	2	66	62	62	63	54	9	54	9
P0983	843 Little Bay Av Norfolk Row 2 Flr1	SF	1	66	61	62	62	54	8	54	9
P0984	9648 13th View St Norfolk Row 3 Flr1	SF	1	66	61	62	62	55	7	55	7
P0985	9652 13th View St Norfolk Row 3 Flr1	SF	1	66	60	61	62	55	7	54	7
P0986	1250 Little Bay Av Norfolk Row 3 Flr1	MF	5	66	61	62	62	54	8	54	8
P0987	1251 Little Bay Av Norfolk Row 3 Flr1	SF	3	66	61	61	62	54	7	54	7
P0988	1240 Little Bay Av Norfolk Row 3 Flr1	SF	2	66	62	62	63	54	8	54	9
P0989	9656 13th View St Norfolk Row 4 Flr1	MF	2	66	60	60	61	54	7	54	7
P0990	1287 W Ocean View Av Norfolk Row 4 Flr1	MF	8	66	60	60	61	54	7	53	7
P0991	1273 W Ocean View Av Norfolk Row 4 Flr1	SF	3	66	59	60	60	53	7	52	8
P0992	9627 Leclair St Norfolk Row 4 Flr1	MF	5	66	56	57	58	52	6	50	7
P0993	800 Little Bay Av Norfolk Row 1 Flr1	Rec.	1	66	69	70	PA	PA	0	PA	0
P0994	800 Little Bay Av Norfolk Row 1 Flr1	Rec.	1	66	69	69	PA	PA	0	PA	0
P0995	800 Little Bay Av Norfolk Row 1 Flr1	Rec.	1	66	66	67	67	58	9	58	10
P0996	800 Little Bay Av Norfolk Row 1 Flr1	Rec.	1	66	66	67	67	58	10	58	9

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P0997	800 Little Bay Av Norfolk Row 2 Fir1	Rec.	1	66	64	65	66	66	56	10	56	10
P0998	800 Little Bay Av Norfolk Row 2 Fir1	Rec.	1	66	65	65	64	65	55	9	55	10
P0999	800 Little Bay Av Norfolk Row 2 Fir1	Rec.	0	66	64	65	66	66	56	10	56	10
P1000	ST-21, Playground @ Captains Qtrs Waterfront Pa* Norfolk Row 2 Fir1	Monit.	0	66	64	65	65	65	56	9	56	9
P1001	800 Little Bay Av Norfolk Row 2 Fir1	Rec.	1	66	65	65	66	66	56	9	56	9
P1002	800 Little Bay Av Norfolk Row 2 Fir1	Rec.	1	66	65	65	65	65	56	9	56	9
P1003	799 W Ocean View Av Norfolk Row 1 Fir1	MF	5	66	63	64	63	63	55	8	55	8
P1004	793 W Ocean View Av Norfolk Row 1 Fir1	SF	1	66	63	64	63	63	55	8	55	9
P1005	783 W Ocean View Av Norfolk Row 1 Fir1	SF	1	66	64	64	63	63	55	8	55	8
P1006	775 W Ocean View Av Norfolk Row 1 Fir1	SF	1	66	65	66	65	65	57	8	57	8
P1007	765 W Ocean View Av Norfolk Row 1 Fir1	SF	1	66	65	66	65	65	57	8	58	8
P1008	759 W Ocean View Av Norfolk Row 1 Fir1	SF	1	66	63	64	64	64	57	7	57	7
P1009	755 W Ocean View Av Norfolk Row 1 Fir1	MF	2	66	64	65	65	65	57	8	58	7
P1010	751 W Ocean View Av Norfolk Row 1 Fir1	MF	2	66	64	64	65	65	57	7	57	7
P1011	747 Willoughby Bay Av A Norfolk Row 1 Fir1	MF	4	66	63	64	64	64	57	7	57	7
P1012	743 W Ocean View Av Norfolk Row 1 Fir1	MF	2	66	63	64	64	64	57	7	57	7
P1013	739 W Ocean View Av Norfolk Row 1 Fir1	MF	2	66	63	64	64	64	57	7	57	7
P1014	735 W Ocean View Av Norfolk Row 1 Fir1	SF	1	66	64	64	65	64	57	7	57	7
P1015	727 W Ocean View Av Norfolk Row 1 Fir1	SF	1	66	64	64	64	64	56	8	56	8
P1016	717 W Ocean View Av Norfolk Row 1 Fir1	MF	16	66	63	64	65	65	57	8	57	8
P1017	709 W Ocean View Av Norfolk Row 1 Fir1	SF	1	66	63	63	65	65	57	8	57	8
P1018	707 W Ocean View Av Norfolk Row 1 Fir1	SF	1	66	63	64	65	65	57	9	57	9

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1019	705 W Ocean View Av Norfolk Row 1 Flr1	SF	1	66	63	63	65	65	57	8	57	8
P1020	649 W Ocean View Av Norfolk Row 1 Flr1	SF	1	66	62	63	65	64	56	8	56	8
P1021	639 W Ocean View Av Norfolk Row 1 Flr1	MF	1	66	62	62	65	64	56	9	56	8
P1022	631 W Ocean View Av Norfolk Row 1 Flr1	MF	1	66	62	63	65	65	56	9	56	8
P1023	627 W Ocean View Av Norfolk Row 1 Flr1	MF	2	66	62	63	65	65	56	9	56	9
P1024	615 W Ocean View Av Norfolk Row 1 Flr1	MF	4	66	64	64	66	66	57	9	57	9
P1025	605 W Ocean View Av Norfolk Row 1 Flr1	MF	12	66	63	64	66	66	56	9	57	9
P1026	9605 6th View St Norfolk Row 1 Flr1	SF	1	66	63	64	66	66	56	9	57	9
P1027	ST-22, 9605 6th View Street Norfolk Row1	Monit.	0	66	63	64	65	66	56	9	57	9
P1028	583 W Ocean View Av A Norfolk Row 1 Flr1	MF	4	66	64	64	66	66	57	9	57	9
P1029	583 W Ocean View Av A Norfolk Row 1 Flr2	MF	4	66	65	66	69	69	58	11	59	11
P1030	581 W Ocean View Av Norfolk Row 1 Flr1	MF	2	66	62	63	65	65	56	9	57	9
P1031	573 W Ocean View Av Norfolk Row 1 Flr1	MF	2	66	62	63	65	65	56	9	57	9
P1032	569 W Ocean View Av Norfolk Row 1 Flr1	MF	2	66	61	62	65	65	56	9	57	9
P1033	565 W Ocean View Av Norfolk Row 1 Flr1	SF	1	66	61	62	64	65	56	9	57	8
P1034	541 W Ocean View Av Norfolk Row 1 Flr1	MF	1	66	60	61	64	64	55	8	56	8
P1035	533 W Ocean View Av Norfolk Row 1 Flr1	MF	12	66	60	61	64	64	55	8	56	8
P1036	529 W Ocean View Av Norfolk Row 1 Flr1	MF	4	66	60	60	63	64	55	8	56	8
P1037	517 W Ocean View Av A Norfolk Row 1 Flr1	MF	9	66	59	60	63	64	54	9	55	9
P1038	517 W Ocean View Av A Norfolk Row 1 Flr1	MF	7	66	59	60	63	63	54	9	55	9
P1039	509 W Ocean View Av Norfolk Row 1 Flr1	MF	5	66	57	57	60	61	53	7	54	7
P1040	507 W Ocean View Av Norfolk Row 1 Flr1	SF	1	66	56	57	59	60	53	7	53	7
P1041	791 W Ocean View Av Norfolk Row 2 Flr1	SF	2	66	57	58	57	57	50	7	50	7
P1042	777 W Ocean View Av Norfolk Row 2 Flr1	Church	1	66	57	58	58	58	51	7	51	7

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1043	769 W Ocean View Av Norfolk Row 2 Fir1	SF	2	66	57	58	57	51	6	51	6
P1044	757 W Ocean View Av Norfolk Row 2 Fir1	SF	4	66	57	58	58	51	6	51	6
P1045	749 W Ocean View Av Norfolk Row 2 Fir1	MF	4	66	57	58	58	52	6	52	6
P1046	731 W Ocean View Av Norfolk Row 2 Fir1	SF	4	66	61	61	62	55	7	55	7
P1047	625 W Ocean View Av Norfolk Row 2 Fir1	SF	1	66	59	60	63	54	9	55	8
P1048	613 W Ocean View Av Norfolk Row 2 Fir1	MF	4	66	58	59	61	53	7	53	7
P1049	9609 6th View St Norfolk Row 2 Fir1	SF	1	66	57	58	61	54	7	55	6
P1050	595 W Ocean View Av Norfolk Row 2 Fir1	MF	4	66	60	61	64	55	9	55	9
P1051	585 W Ocean View Av Norfolk Row 2 Fir1	MF	1	66	59	59	62	54	8	54	8
P1052	571 W Ocean View Av Norfolk Row 2 Fir1	SF	2	66	58	58	61	53	8	54	8
P1053	551 W Ocean View Av Norfolk Row 2 Fir1	MF	2	66	57	58	61	53	8	53	8
P1054	539 W Ocean View Av Norfolk Row 2 Fir1	SF	2	66	58	58	61	53	8	54	8
P1055	603 W Ocean View Av Norfolk Row 3 Fir1	SF	1	66	57	58	61	54	8	54	8
P1056	9500 4th View St Norfolk Row 1 Fir1	School-Interior	1	51	36	37	38	38	0	38	0
P1057	197 OConner Crescent Norfolk Row 1 Fir1	MF	1	66	63	64	PA	PA	0	PA	0
P1058	197 OConner Crescent Norfolk Row 1 Fir1	MF	1	66	63	64	PA	PA	0	PA	0
P1059	Court K Norfolk Row 1 Fir1	MF	6	66	62	63	PA	PA	0	PA	0
P1060	Playground @ OConner Crescent Norfolk Row 1 Fir1	Rec.	0	66	62	62	PA	PA	0	PA	0
P1061	8692 Court J Norfolk Row 1 Fir1	MF	6	66	64	64	PA	PA	0	PA	0
P1062	ST-23, 8667 O'Conner Crescent Norfolk Row 1 Fir1	Monit.	0	66	64	64	65	61	5	61	5
P1063	Court J Norfolk Row 1 Fir1	MF	6	66	65	66	68	61	7	61	7

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1064	Court J Norfolk Row 1 Flr1	MF	6	66	61	61	65	65	58	7	58	7
P1065	Court J Norfolk Row 2 Flr1	MF	6	66	59	60	63	64	61	2	61	2
P1066	Court J Norfolk Row 2 Flr1	MF	6	66	58	58	62	62	57	5	57	5
P1067	Court J Norfolk Row 2 Flr1	MF	6	66	60	60	63	64	56	7	56	7
P1068	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	57	58	59	59	59	0	59	0
P1069	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	56	57	58	58	58	0	58	0
P1070	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	57	58	59	59	59	0	59	0
P1071	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	55	56	57	57	57	0	57	0
P1072	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	56	57	58	58	58	0	58	0
P1073	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	57	58	59	60	59	0	60	0
P1074	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	54	55	56	57	56	0	57	0
P1075	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	56	56	58	58	58	0	58	0
P1076	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	56	57	59	59	59	0	59	0
P1077	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	57	58	60	60	60	0	60	0
P1078	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	53	54	55	56	55	0	56	0
P1079	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	55	55	57	57	57	0	57	0
P1080	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	55	56	58	58	58	0	58	0
P1081	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	56	57	59	60	59	0	60	0
P1082	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	58	58	61	61	61	0	61	0
P1083	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	54	54	56	56	56	0	56	0
P1084	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	55	55	57	58	57	0	58	0
P1085	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	55	56	58	59	58	0	59	0
P1086	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	57	57	60	60	60	0	60	0
P1087	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	58	58	61	62	61	0	62	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1088	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	53	53	55	55	55	0	55	0
P1089	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	54	55	56	57	56	0	57	0
P1090	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	55	55	58	58	58	0	58	0
P1091	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	55	56	59	59	59	0	59	0
P1092	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	57	57	61	61	61	0	61	0
P1093	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	53	54	55	56	55	0	56	0
P1094	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	54	55	57	57	57	0	57	0
P1095	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	54	55	58	59	58	0	59	0
P1096	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	55	56	60	60	60	0	60	0
P1097	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	53	54	56	56	56	0	56	0
P1098	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	54	54	57	58	57	0	58	0
P1099	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	54	55	59	59	59	0	59	0
P1100	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	53	54	58	58	58	0	58	0
P1101	9501 Mason Creek Rd Norfolk Row 1 Flr1	Rec.	1	66	52	53	56	57	56	0	57	0
P1102	365 W Government Av Norfolk Row 1 Flr1	MF	2	66	57	57	62	63	56	5	57	5
P1103	9466 Garrett Av Norfolk Row 1 Flr1	SF	1	66	57	57	62	63	57	5	58	5
P1104	9460 Garrett Av Norfolk Row 1 Flr1	SF	1	66	57	58	63	64	58	6	58	6
P1105	9456 Garrett Av Norfolk Row 1 Flr1	SF	1	66	57	58	64	65	58	6	59	6
P1106	9450 Garrett Av Norfolk Row 1 Flr1	SF	1	66	57	57	65	67	59	6	60	7
P1107	9442 Garrett Av Norfolk Row 1 Flr1	MF	2	66	57	58	67	68	60	7	60	8
P1108	ST-24, 381 Cherry Street Norfolk Row 1 Flr1	Monit.	0	66	58	59	71	PA	61	9	PA	0
P1109	381 Cherry St Norfolk Row 1 Flr1	MF	2	66	59	59	PA	PA	PA	0	PA	0
P1110	379 Cherry St Norfolk Row 1 Flr1	MF	2	66	58	59	71	71	61	10	61	10

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1111	365 Cherry St Norfolk Row 1 Fir1	MF	2	66	57	58	70	61	9	61	9
P1112	363 Cherry St Norfolk Row 1 Fir1	MF	2	66	56	57	68	59	9	60	9
P1113	361 Cherry St Norfolk Row 1 Fir1	MF	2	66	56	56	67	59	8	59	9
P1114	9421 Atwood Av Norfolk Row 1 Fir1	MF	2	66	56	57	68	59	8	60	9
P1115	9417 Atwood Av Norfolk Row 1 Fir1	MF	2	66	57	58	69	60	9	61	9
P1116	9413 Atwood Av Norfolk Row 1 Fir1	MF	2	66	57	58	70	61	10	61	10
P1117	9409 Atwood Av Norfolk Row 1 Fir1	MF	2	66	58	59	72	61	10	62	10
P1118	9405 Atwood Av Norfolk Row 1 Fir1	MF	2	66	59	59	PA	PA	0	PA	0
P1119	9401 Atwood Av Norfolk Row 1 Fir1	SF	1	66	59	60	PA	PA	0	PA	0
P1120	ST-26, Corner Of Duvall And Hickory Street Norfolk Row 1 Fir1	Monit.	0	66	59	60	PA	PA	0	PA	0
P1121	348 Maple Av Norfolk Row 1 Fir1	SF	1	66	57	58	70	60	10	61	10
P1122	9326 Atwood Av Norfolk Row 1 Fir1	SF	1	66	58	59	72	62	11	PA	0
P1123	9324 Atwood Av Norfolk Row 1 Fir1	SF	1	66	59	59	PA	PA	0	PA	0
P1124	343 Maple Av Norfolk Row 1 Fir1	SF	1	66	57	57	70	60	10	61	10
P1125	9329 Phillip Av Norfolk Row 1 Fir1	SF	1	66	56	56	68	59	9	60	9
P1126	9325 Phillip Av Norfolk Row 1 Fir1	SF	1	66	56	56	68	59	9	60	9
P1127	9323 Phillip Av Norfolk Row 1 Fir1	SF	1	66	56	57	70	60	10	60	10
P1128	9319 Phillip Av Norfolk Row 1 Fir1	SF	1	66	56	57	69	60	10	60	9
P1129	9315 Phillip Av Norfolk Row 1 Fir1	SF	1	66	56	57	70	60	10	60	10
P1130	9311 Phillip Av Norfolk Row 1 Fir1	SF	1	66	58	58	PA	PA	0	PA	0
P1131	9301 Phillip Av Norfolk Row 1 Fir1	MF	4	66	58	58	PA	PA	0	PA	0
P1132	9301 Phillip Av Norfolk Row 1 Fir1	MF	4	66	58	59	PA	PA	0	PA	0
P1133	9308 Phillip Av Norfolk Row 1 Fir1	SF	1	66	55	56	68	59	9	60	8

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1134	9302 Phillip Av Norfolk Row 1 Fir1	MF	2	66	55	56	68	59	9	60	8
P1135	9294 Phillip Av Norfolk Row 1 Fir1	SF	1	66	56	57	68	60	8	61	8
P1136	9290 Phillip Av Norfolk Row 1 Fir1	SF	1	66	57	58	68	PA	8	PA	0
P1137	9286 Phillip Av Norfolk Row 1 Fir1	SF	1	66	58	58	PA	PA	0	PA	0
P1138	9284 Phillip Av Norfolk Row 1 Fir1	SF	1	66	58	58	PA	PA	0	PA	0
P1139	9281 Mason Creek Rd Norfolk Row 1 Fir1	SF	1	66	57	57	67	60	8	PA	0
P1140	9277 Mason Creek Rd Norfolk Row 1 Fir1	SF	1	66	57	58	PA	PA	0	PA	0
P1141	9273 Mason Creek Rd Norfolk Row 1 Fir1	SF	1	66	57	58	PA	PA	0	PA	0
P1142	9272 Mason Creek Rd Norfolk Row 1 Fir1	SF	1	66	55	56	66	58	8	59	7
P1143	9268 Mason Creek Rd Norfolk Row 1 Fir1	SF	1	66	56	57	67	59	9	PA	0
P1144	9264 Mason Creek Rd Norfolk Row 1 Fir1	SF	1	66	57	57	PA	PA	0	PA	0
P1145	9260 Mason Creek Rd Norfolk Row 1 Fir1	SF	1	66	57	58	PA	PA	0	PA	0
P1146	9261 Hickory St Norfolk Row 1 Fir1	SF	1	66	55	56	66	58	9	58	8
P1147	9255 Hickory St Norfolk Row 1 Fir1	SF	1	66	57	57	67	59	8	PA	0
P1148	9251 Hickory St Norfolk Row 1 Fir1	SF	1	66	57	58	PA	PA	0	PA	0
P1149	9250 Hickory St Norfolk Row 1 Fir1	MF	2	66	56	56	66	58	8	58	7
P1150	9246 Hickory St Norfolk Row 1 Fir1	SF	1	66	57	57	66	59	7	59	7
P1151	9242 Hickory St Norfolk Row 1 Fir1	MF	2	66	57	58	66	59	7	PA	0
P1152	9243 Peachtree St Norfolk Row 1 Fir1	MF	2	66	55	56	65	57	7	59	7
P1153	9239 Peachtree St Norfolk Row 1 Fir1	SF	1	66	54	55	64	57	7	59	7
P1154	9235 Peachtree St Norfolk Row 1 Fir1	SF	1	66	57	58	66	59	7	PA	0
P1155	9238 Peachtree St Norfolk Row 1 Fir1	SF	1	66	56	56	64	57	7	58	7
P1156	9234 Peachtree St Norfolk Row 1 Fir1	SF	1	66	57	57	65	58	7	58	7
P1157	9230 Peachtree St Norfolk Row 1 Fir1	SF	1	66	57	57	65	59	6	59	6

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels				
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**	
P1158	9226 Peachtree St Norfolk Row 1 Flr1	SF	1	66	57	58	65	PA	59	6	PA	0
P1159	9220 Peachtree St Norfolk Row 1 Flr1	SF	1	66	58	58	PA	PA	PA	0	PA	0
P1160	9209 1st View St Norfolk Row 1 Flr1	SF	1	66	61	61	PA	PA	PA	0	PA	0
P1161	9200 1st View St Norfolk Row 1 Flr1	SF	1	66	66	66	PA	PA	PA	0	PA	0
P1162	202 Ridgewell Cir Norfolk Row 1 Flr1	SF	1	66	67	68	PA	PA	PA	0	PA	0
P1163	204 Ridgewell Cir Norfolk Row 1 Flr1	SF	1	66	66	67	PA	PA	PA	0	PA	0
P1164	206 Ridgewell Cir Norfolk Row 1 Flr1	SF	1	66	65	66	65	65	60	5	58	7
P1165	208 Ridgewell Cir Norfolk Row 1 Flr1	SF	1	66	65	65	65	65	59	6	57	8
P1166	209 Ridgewell Cir Norfolk Row 1 Flr1	SF	1	66	67	67	PA	PA	PA	0	PA	0
P1167	211 Ridgewell Cir Norfolk Row 1 Flr1	SF	1	66	67	68	PA	PA	PA	0	PA	0
P1168	215 Ridgewell Cir Norfolk Row 1 Flr1	SF	1	66	67	68	PA	PA	PA	0	PA	0
P1169	217 Ridgewell Cir Norfolk Row 1 Flr1	SF	1	66	68	68	PA	PA	PA	0	PA	0
P1170	219 Ridgewell Cir Norfolk Row 1 Flr1	SF	1	66	68	69	PA	PA	PA	0	PA	0
P1171	220 Ridgewell Cir Norfolk Row 1 Flr1	SF	1	66	67	68	PA	PA	PA	0	PA	0
P1172	222 Ridgewell Cir Norfolk Row 1 Flr1	SF	1	66	68	69	PA	PA	PA	0	PA	0
P1173	362 Cherry St Norfolk Row 2 Flr1	SF	1	66	54	55	64	65	57	6	58	7
P1174	9447 Atwood Av Norfolk Row 2 Flr1	SF	1	66	54	55	60	61	55	6	56	6
P1175	358 Cherry St Norfolk Row 2 Flr1	SF	1	66	53	54	62	63	56	6	56	7
P1176	359 Cherry St Norfolk Row 2 Flr1	MF	2	66	55	56	66	67	58	8	59	8
P1177	9418 Atwood Av Norfolk Row 2 Flr1	SF	2	66	54	55	64	65	57	7	57	7
P1178	9410 Atwood Av Norfolk Row 2 Flr1	SF	2	66	55	56	66	67	58	8	59	9
P1179	342 Maple Av Norfolk Row 2 Flr1	SF	2	66	55	56	64	67	57	7	59	9
P1180	9331 Phillip Av Norfolk Row 2 Flr1	SF	1	66	56	56	68	69	59	9	60	9
P1181	319 Maple Av Norfolk Row 2 Flr1	MF	2	66	52	53	61	64	56	6	57	7

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1182	9322 Phillip Av Norfolk Row 2 Flr1	MF	2	66	54	54	64	57	7	58	8
P1183	9312 Phillip Av Norfolk Row 2 Flr1	SF	1	66	55	55	67	59	9	59	9
P1184	9309 Mason Creek Rd Norfolk Row 2 Flr1	SF	2	66	53	53	63	57	7	57	7
P1185	9301 Mason Creek Rd Norfolk Row 2 Flr1	SF	2	66	54	54	64	58	7	58	7
P1186	9285 Mason Creek Rd Norfolk Row 2 Flr1	SF	2	66	55	56	67	59	8	60	7
P1187	9276 Mason Creek Rd Norfolk Row 2 Flr1	SF	3	66	54	54	65	57	8	58	7
P1188	9269 Hickory St Norfolk Row 2 Flr1	SF	2	66	54	55	65	56	9	57	8
P1189	9265 Hickory St Norfolk Row 2 Flr1	SF	1	66	56	56	66	58	9	58	8
P1190	9256 Hickory St Norfolk Row 2 Flr1	SF	2	66	54	55	65	57	8	57	8
P1191	9253 Peachtree St Norfolk Row 2 Flr1	SF	1	66	54	55	65	57	8	57	8
P1192	9246 Peachtree St Norfolk Row 2 Flr1	MF	3	66	54	55	63	56	7	56	7
P1193	9219 1st View St Norfolk Row 2 Flr1	SF	3	66	58	59	65	59	6	59	7
P1194	9208 1st View St Norfolk Row 2 Flr1	SF	1	66	62	63	65	61	4	58	7
P1195	189 Bearden Rd Norfolk Row 2 Flr1	SF	1	66	64	64	65	61	4	58	7
P1196	185 Bearden Rd Norfolk Row 2 Flr1	SF	2	66	63	64	64	60	4	57	8
P1197	177 Bearden Rd Norfolk Row 2 Flr1	SF	1	66	63	63	63	58	5	56	8
P1198	214 Ridgewell Cir Norfolk Row 2 Flr1	SF	3	66	66	66	65	57	8	57	9
P1199	218 Ridgewell Cir Norfolk Row 2 Flr1	SF	1	66	66	67	PA	PA	0	PA	0
P1200	9131 Mace Arch Norfolk Row 2 Flr1	SF	1	66	61	61	61	55	6	54	8
P1201	9127 Mace Arch Norfolk Row 2 Flr1	SF	1	66	62	63	62	55	7	54	8
P1202	349 Cherry St Norfolk Row 3 Flr1	MF	2	66	54	55	64	57	7	57	7
P1203	9401 Phillip Av Norfolk Row 3 Flr1	SF	3	66	53	54	62	55	7	56	8
P1204	9317 Mason Creek Rd Norfolk Row 3 Flr1	SF	1	66	52	53	62	56	7	56	6
P1205	9284 Mason Creek Rd Norfolk Row 3 Flr1	SF	2	66	53	54	64	56	8	57	7

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1206	9275 Hickory St Norfolk Row 3 Flr1	MF	2	66	54	54	64	56	8	57	8
P1207	9270 Hickory St Norfolk Row 3 Flr1	SF	2	66	53	54	64	55	8	56	8
P1208	9257 Peachtree St Norfolk Row 3 Flr1	SF	2	66	54	54	63	56	7	56	7
P1209	9241 1st View St Norfolk Row 3 Flr1	SF	2	66	55	55	60	56	5	55	6
P1210	9228 1st View St Norfolk Row 3 Flr1	MF	2	66	57	58	62	57	5	56	7
P1211	9226 1st View St Norfolk Row 3 Flr1	SF	1	66	59	60	64	59	5	57	7
P1212	188 Bearden Rd Norfolk Row 3 Flr1	SF	1	66	61	62	64	60	5	57	8
P1213	184 Bearden Rd Norfolk Row 3 Flr1	SF	1	66	61	61	63	59	4	56	7
P1214	E S Bearden Rd Norfolk Row 3 Flr1	SF	1	66	59	59	61	56	4	55	7
P1215	W S Bearden Rd Norfolk Row 3 Flr1	SF	1	66	59	60	61	57	4	55	6
P1216	9135 Mace Arch Norfolk Row 3 Flr1	SF	1	66	59	60	61	54	6	53	7
P1217	251 Orange Av Norfolk Row 4 Flr1	SF	1	66	52	53	62	55	8	55	8
P1218	9266 Hickory St Norfolk Row 4 Flr1	MF	2	66	53	53	63	55	8	55	8
P1219	384 Orange Av Norfolk Row 1 Flr1	SF	1	66	66	67	70	60	10	60	11
P1220	382 Orange Av Norfolk Row 1 Flr1	SF	1	66	68	69	71	60	11	60	11
P1221	378 Orange Av Norfolk Row 1 Flr1	SF	1	66	69	70	72	61	11	PA	0
P1222	374 Orange Av Norfolk Row 1 Flr1	MF	2	66	71	71	PA	PA	0	PA	0
P1223	370 Orange Av Norfolk Row 1 Flr1	MF	2	66	73	73	PA	PA	0	PA	0
P1224	9291 Atwood Av Norfolk Row 1 Flr1	SF	1	66	70	71	70	60	10	PA	0
P1225	9289 Atwood Av Norfolk Row 1 Flr1	MF	1	66	68	69	69	59	10	60	10
P1226	9284 Atwood Av Norfolk Row 1 Flr1	SF	1	66	70	70	PA	PA	0	PA	0
P1227	9280 Atwood Av Norfolk Row 1 Flr1	SF	1	66	68	68	68	59	9	PA	0
P1228	ST-25, 9279 Coleman Ave. Norfolk Row1 Fl1	Monit.	0	66	69	70	PA	PA	0	PA	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1229	9279 Coleman Av Norfolk Row 1 Flr1	MF	2	66	67	68	PA	PA	0	PA	0
P1230	9275 Coleman Av Norfolk Row 1 Flr1	SF	1	66	68	69	PA	PA	0	PA	0
P1231	9271 Coleman Av Norfolk Row 1 Flr1	SF	1	66	67	68	68	PA	9	PA	0
P1232	9269 Coleman Av Norfolk Row 1 Flr1	MF	2	66	66	67	67	68	9	59	9
P1233	9263 Coleman Av Norfolk Row 1 Flr1	SF	1	66	65	66	66	67	9	58	9
P1234	9264 Coleman Av Norfolk Row 1 Flr1	SF	1	66	67	68	PA	PA	0	PA	0
P1235	9260 Coleman Av Norfolk Row 1 Flr1	MF	2	66	67	68	PA	PA	0	PA	0
P1236	9257 Phillip Av Norfolk Row 1 Flr1	SF	1	66	65	66	67	68	9	59	9
P1237	9257 Phillip Av Norfolk Row 1 Flr1	SF	1	66	67	67	PA	PA	0	PA	0
P1238	9253 Phillip Av Norfolk Row 1 Flr1	SF	1	66	66	66	67	PA	9	PA	0
P1239	9245 Phillip Av Norfolk Row 1 Flr1	SF	1	66	64	65	66	67	9	58	9
P1240	9241 Phillip Av Norfolk Row 1 Flr1	MF	2	66	63	64	66	66	10	57	9
P1241	9242 Phillip Av Norfolk Row 1 Flr1	MF	1	66	68	68	PA	PA	0	PA	0
P1242	9238 Phillip Av Norfolk Row 1 Flr1	SF	1	66	65	65	67	PA	9	PA	0
P1243	9239 Mason Creek Rd Norfolk Row 1 Flr1	SF	1	66	67	68	PA	PA	0	PA	0
P1244	9235 Mason Creek Rd Norfolk Row 1 Flr1	MF	2	66	66	67	PA	PA	0	PA	0
P1245	9227 Mason Creek Rd Norfolk Row 1 Flr1	SF	1	66	65	65	67	67	9	58	9
P1246	9226 Mason Creek Rd Norfolk Row 1 Flr1	SF	1	66	68	68	PA	PA	0	PA	0
P1247	9218 Mason Creek Rd Norfolk Row 1 Flr1	SF	1	66	66	67	68	PA	9	PA	0
P1248	9215 Hickory St Norfolk Row 1 Flr1	SF	1	66	67	67	PA	PA	0	PA	0
P1249	9213 Hickory St Norfolk Row 1 Flr1	SF	1	66	66	66	PA	PA	0	PA	0
P1250	240 Ridgewell Av Norfolk Row 1 Flr1	SF	1	66	65	65	67	66	9	58	8
P1251	9200 Hickory St Norfolk Row 1 Flr1	MF	2	66	66	67	PA	PA	0	PA	0
P1252	373 Orange Av Norfolk Row 2 Flr1	SF	1	66	67	67	69	69	10	59	10

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1253	9283 Atwood Av Norfolk Row 2 Fir1	MF	2	66	65	65	67	57	10	58	10
P1254	9276 Atwood Av Norfolk Row 2 Fir1	SF	1	66	66	67	67	58	9	59	9
P1255	9266 Atwood Av Norfolk Row 2 Fir1	SF	1	66	64	65	65	56	8	57	9
P1256	9259 Coleman Av Norfolk Row 2 Fir1	SF	1	66	63	64	65	56	9	57	9
P1257	9250 Coleman Av Norfolk Row 2 Fir1	SF	1	66	63	64	66	57	9	58	9
P1258	9246 Coleman Av Norfolk Row 2 Fir1	SF	2	66	61	62	63	54	9	55	9
P1259	9237 Phillip Av Norfolk Row 2 Fir1	SF	1	66	62	63	65	55	10	56	10
P1260	9226 Phillip Av Norfolk Row 2 Fir1	SF	4	66	63	63	66	56	10	57	9
P1261	9223 Mason Creek Rd Norfolk Row 2 Fir1	SF	1	66	64	64	66	57	9	57	9
P1262	9214 Mason Creek Rd Norfolk Row 2 Fir1	MF	2	66	65	66	67	58	9	58	8
P1263	9210 Mason Creek Rd Norfolk Row 2 Fir1	SF	1	66	64	64	67	57	9	58	8
P1264	246 Ridgewell Av Norfolk Row 2 Fir1	SF	1	66	63	63	66	57	9	57	9
P1265	9284 Rippard Av Norfolk Row 3 Fir1	SF	2	66	64	64	66	57	10	57	9
P1266	9274 Rippard Av Norfolk Row 3 Fir1	SF	3	66	62	62	64	55	9	56	8
P1267	9271 Atwood Av Norfolk Row 3 Fir1	SF	2	66	63	63	64	55	9	56	9
P1268	9263 Atwood Av Norfolk Row 3 Fir1	SF	2	66	61	62	62	54	8	55	9
P1269	9258 Atwood Av Norfolk Row 3 Fir1	MF	2	66	62	62	62	54	8	55	8
P1270	9251 Coleman Av Norfolk Row 3 Fir1	SF	1	66	62	63	64	55	9	56	9
P1271	9247 Coleman Av Norfolk Row 3 Fir1	SF	2	66	60	61	62	53	9	54	9
P1272	9236 Coleman Av Norfolk Row 3 Fir1	SF	1	66	60	61	63	54	9	54	9
P1273	9225 Phillip Av Norfolk Row 3 Fir1	MF	2	66	61	61	63	54	9	54	10
P1274	9214 Phillip Av Norfolk Row 3 Fir1	SF	2	66	60	61	63	54	9	54	10
P1275	9217 Mason Creek Rd Norfolk Row 3 Fir1	SF	1	66	63	63	65	55	10	56	10
P1276	9200 Mason Creek Rd Norfolk Row 3 Fir1	MF	1	66	59	59	61	53	8	53	9

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1277	9250 Atwood Av Norfolk Row 4 Flr1	SF	1	66	61	61	62	62	54	8	54	8
P1278	9230 Coleman Av Norfolk Row 4 Flr1	SF	1	66	59	60	61	62	53	8	53	9
P1279	9210 Phillip Av Norfolk Row 4 Flr1	SF	1	66	60	60	62	63	54	9	54	9
P1280	300 Ridgewell Av Norfolk Row 4 Flr1	SF	1	66	61	62	64	65	55	9	55	10
P1281	9124 1st View St Norfolk Row 1 Flr1	Church-Interior	1	51	44	45	PA	PA	PA	0	PA	0
P1282	256 Burgoyne Rd Norfolk Row 1 Flr1	SF	1	66	64	65	PA	PA	PA	0	PA	0
P1283	252 Burgoyne Rd Norfolk Row 1 Flr1	SF	1	66	65	66	PA	PA	PA	0	PA	0
P1284	248 Burgoyne Rd Norfolk Row 1 Flr1	SF	1	66	67	67	PA	PA	PA	0	PA	0
P1285	244 Burgoyne Rd Norfolk Row 1 Flr1	SF	1	66	67	68	PA	PA	PA	0	PA	0
P1286	240 Burgoyne Rd Norfolk Row 1 Flr1	SF	1	66	68	68	PA	PA	PA	0	PA	0
P1287	239 Burgoyne Rd Norfolk Row 1 Flr1	SF	1	66	66	67	PA	PA	PA	0	PA	0
P1288	235 Burgoyne Rd Norfolk Row 1 Flr1	SF	1	66	67	67	PA	PA	PA	0	PA	0
P1289	LT-27, 235 Burgoyne Road Norfolk Row1 Fl1	Monit.	0	66	64	65	PA	PA	PA	0	PA	0
P1290	231 Burgoyne Rd Norfolk Row 1 Flr1	SF	1	66	68	68	PA	PA	PA	0	PA	0
P1291	268 Burgoyne Rd Norfolk Row 2 Flr1	SF	1	66	62	63	PA	PA	PA	0	PA	0
P1292	264 Burgoyne Rd Norfolk Row 2 Flr1	SF	1	66	63	63	PA	PA	PA	0	PA	0
P1293	260 Burgoyne Rd Norfolk Row 2 Flr1	SF	1	66	63	64	PA	PA	PA	0	PA	0
P1294	254 W Bay Av Norfolk Row 2 Flr1	MF	6	66	62	63	PA	PA	PA	0	PA	0
P1295	254 W Bay Av Norfolk Row 2 Flr2	MF	6	66	66	67	PA	PA	PA	0	PA	0
P1296	247 Burgoyne Rd Norfolk Row 2 Flr1	SF	2	66	65	66	PA	PA	PA	0	PA	0
P1297	254 W Bay Av Norfolk Row 2 Flr2	MF	6	66	68	68	PA	PA	PA	0	PA	0
P1298	254 W Bay Av Norfolk Row 2 Flr1	MF	6	66	63	64	PA	PA	PA	0	PA	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1299	254 W Bay Av Norfolk Row 2 Fir1	MF	2	66	59	59	PA	PA	0	PA	0
P1300	254 W Bay Av Norfolk Row 2 Fir2	MF	2	66	62	62	PA	PA	0	PA	0
P1301	254 W Bay Av Norfolk Row 2 Fir1	MF	4	66	61	61	PA	PA	0	PA	0
P1302	254 W Bay Av Norfolk Row 2 Fir2	MF	4	66	64	65	PA	PA	0	PA	0
P1303	254 W Bay Av Norfolk Row 2 Fir1	MF	6	66	65	66	PA	PA	0	PA	0
P1304	254 W Bay Av Norfolk Row 2 Fir2	MF	6	66	68	69	PA	PA	0	PA	0
P1305	254 W Bay Av Norfolk Row 2 Fir1	MF	1	66	65	66	PA	PA	0	PA	0
P1306	254 W Bay Av Norfolk Row 3 Fir1	MF	4	66	57	58	PA	PA	0	PA	0
P1307	254 W Bay Av Norfolk Row 3 Fir2	MF	4	66	63	63	PA	PA	0	PA	0
P1308	254 W Bay Av Norfolk Row 3 Fir1	MF	6	66	57	58	PA	PA	0	PA	0
P1309	254 W Bay Av Norfolk Row 3 Fir2	MF	6	66	61	62	PA	PA	0	PA	0
P1310	254 W Bay Av Norfolk Row 4 Fir1	MF	8	66	57	57	PA	PA	0	PA	0
P1311	254 W Bay Av Norfolk Row 4 Fir2	MF	8	66	63	63	PA	PA	0	PA	0
P1312	254 W Bay Av Norfolk Row 4 Fir1	MF	4	66	56	56	PA	PA	0	PA	0
P1313	254 W Bay Av Norfolk Row 4 Fir1	MF	10	66	56	57	PA	PA	0	PA	0
P1314	254 W Bay Av Norfolk Row 4 Fir2	MF	10	66	63	64	PA	PA	0	PA	0
P1315	254 W Bay Av Norfolk Row 4 Fir1	MF	2	66	59	59	PA	PA	0	PA	0
P1316	254 W Bay Av Norfolk Row 4 Fir2	MF	2	66	62	63	PA	PA	0	PA	0
P1317	254 W Bay Av Norfolk Row 4 Fir1	MF	4	66	55	56	PA	PA	0	PA	0
P1318	254 W Bay Av Norfolk Row 4 Fir2	MF	4	66	59	59	PA	PA	0	PA	0
P1319	254 W Bay Av Norfolk Row 4 Fir1	MF	2	66	60	60	PA	PA	0	PA	0
P1320	254 W Bay Av Norfolk Row 4 Fir2	MF	2	66	62	62	PA	PA	0	PA	0
P1321	254 W Bay Av Norfolk Row 5 Fir1	MF	4	66	57	57	PA	PA	0	PA	0
P1322	254 W Bay Av Norfolk Row 5 Fir2	MF	4	66	62	62	PA	PA	0	PA	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1323	254 W Bay Av Norfolk Row 5 Fir1	MF	4	66	56	56	PA	PA	0	PA	0
P1324	254 W Bay Av Norfolk Row 5 Fir2	MF	4	66	62	62	PA	PA	0	PA	0
P1325	254 W Bay Av Norfolk Row 5 Fir2	MF	4	66	60	61	PA	PA	0	PA	0
P1326	254 W Bay Av Norfolk Row 5 Fir1	MF	4	66	52	53	PA	PA	0	PA	0
P1327	254 W Bay Av Norfolk Row 5 Fir2	MF	4	66	59	59	PA	PA	0	PA	0
P1328	254 W Bay Av Norfolk Row 5 Fir1	MF	2	66	56	57	PA	PA	0	PA	0
P1329	254 W Bay Av Norfolk Row 5 Fir2	MF	2	66	61	62	PA	PA	0	PA	0
P1330	254 W Bay Av Norfolk Row 6 Fir1	MF	4	66	55	56	PA	PA	0	PA	0
P1331	254 W Bay Av Norfolk Row 6 Fir2	MF	4	66	61	62	PA	PA	0	PA	0
P1332	254 W Bay Av Norfolk Row 6 Fir1	MF	0	66	58	58	PA	PA	0	PA	0
P1333	254 W Bay Av Norfolk Row 7 Fir1	MF	4	66	56	56	62	63	0	63	0
P1334	254 W Bay Av Norfolk Row 7 Fir2	MF	4	66	59	60	65	66	0	66	0
P1335	254 W Bay Av Norfolk Row 8 Fir1	MF	8	66	55	55	59	60	0	60	0
P1336	254 W Bay Av Norfolk Row 8 Fir2	MF	8	66	58	59	64	65	0	65	0
P1337	254 W Bay Av Norfolk Row 9 Fir1	MF	4	66	56	56	59	60	0	60	0
P1338	254 W Bay Av Norfolk Row 9 Fir2	MF	4	66	58	59	63	64	0	64	0
P1339	9121 Mace Arch Norfolk Row 1 Fir1	SF	1	66	65	65	PA	PA	0	PA	0
P1340	9115 Mace Arch Norfolk Row 1 Fir1	SF	1	66	65	66	PA	PA	0	PA	0
P1341	9101 Mace Arch Norfolk Row 1 Fir1	SF	1	66	63	63	PA	PA	0	PA	0
P1342	200 W Ocean Av Norfolk Row 1 Fir1	SF	1	66	64	65	PA	PA	0	PA	0
P1343	194 W Ocean Av Norfolk Row 1 Fir1	SF	1	66	62	63	PA	PA	0	PA	0
P1344	195 W Ocean Av Norfolk Row 1 Fir1	SF	2	66	64	64	PA	PA	0	PA	0
P1345	194 W Bay Av Norfolk Row 1 Fir1	SF	2	66	65	65	PA	PA	0	PA	0
P1346	203 W Bay Av Norfolk Row 1 Fir1	SF	1	66	70	71	PA	PA	0	PA	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels		
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}
P1347	201 W Bay Av Norfolk Row 1 Flr1	SF	1	66	69	PA	PA	0	PA	0
P1348	193 W Bay Av Norfolk Row 1 Flr1	SF	1	66	68	PA	PA	0	PA	0
P1349	189 W Bay Av Norfolk Row 1 Flr1	SF	1	66	66	68	68	11	59	9
P1350	179 W Bay Av Norfolk Row 1 Flr1	SF	1	66	65	68	68	11	59	9
P1351	8957 Saint George Av Norfolk Row 1 Flr1	SF	2	66	58	59	62	9	55	8
P1352	9123 Mace Arch Norfolk Row 2 Flr1	SF	1	66	63	PA	PA	0	PA	0
P1353	9108 Mace Arch Norfolk Row 2 Flr1	SF	1	66	62	PA	PA	0	PA	0
P1354	9104 Mace Arch Norfolk Row 2 Flr1	SF	1	66	62	PA	PA	0	PA	0
P1355	9100 Mace Arch Norfolk Row 2 Flr1	SF	1	66	62	PA	PA	0	PA	0
P1356	191 W Randall Av Norfolk Row 2 Flr1	SF	2	66	58	59	61	9	53	8
P1357	194 W Leicester Av Norfolk Row 2 Flr1	SF	1	66	60	61	62	8	55	8
P1358	195 W Leicester Av Norfolk Row 2 Flr1	SF	1	66	60	61	PA	0	PA	0
P1359	187 W Ocean Av Norfolk Row 2 Flr1	MF	2	66	60	61	63	9	56	8
P1360	184 W Bay Av Norfolk Row 2 Flr1	SF	2	66	62	63	65	9	58	8
P1361	183 W Bay Av Norfolk Row 2 Flr1	SF	1	66	64	64	66	11	58	9
P1362	177 W Bay Av Norfolk Row 2 Flr1	SF	1	66	61	62	65	11	56	10
P1363	8965 Saint George Av Norfolk Row 2 Flr1	SF	2	66	60	61	65	11	55	10
P1364	9108 Mace Arch Norfolk Row 3 Flr1	SF	1	66	60	61	62	9	55	8
P1365	9119 Mace Av Norfolk Row 3 Flr1	SF	3	66	60	61	PA	0	PA	0
P1366	183 W Randall Av Norfolk Row 3 Flr1	SF	3	66	55	56	59	9	51	9
P1367	182 W Leicester Av Norfolk Row 3 Flr1	SF	3	66	57	57	59	9	51	8
P1368	185 W Leicester Av Norfolk Row 3 Flr1	SF	2	66	57	58	60	8	53	8
P1369	186 W Ocean Av Norfolk Row 3 Flr1	SF	3	66	59	59	61	9	55	8
P1370	169 W Ocean Av Norfolk Row 3 Flr1	SF	4	66	57	57	60	9	53	8

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels				
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**	
P1371	176 W Bay Av Norfolk Row 3 Flr1	SF	2	66	60	61	63	64	54	10	55	8
P1372	8973 Saint George Av Norfolk Row 3 Flr1	SF	2	66	60	60	64	65	54	10	55	10
P1373	195 W Lorengo Av Norfolk Row 4 Flr1	SF	1	66	57	58	60	61	52	8	53	8
P1374	190 W Randall Av Norfolk Row 4 Flr1	SF	2	66	56	57	60	60	51	9	52	8
P1375	171 W Randall Av Norfolk Row 4 Flr1	SF	3	66	53	54	57	58	48	9	49	9
P1376	168 W Leicester Av Norfolk Row 4 Flr1	SF	3	66	54	55	58	59	49	9	50	9
P1377	171 W Leicester Av Norfolk Row 4 Flr1	SF	3	66	55	55	58	58	49	9	50	8
P1378	172 W Ocean Av Norfolk Row 4 Flr1	SF	3	66	57	57	59	60	51	9	52	8
P1379	168 W Bay Av Norfolk Row 4 Flr1	SF	2	66	58	59	61	62	52	9	54	8
P1380	183 W Lorengo Av Norfolk Row 5 Flr1	SF	3	66	54	55	58	58	49	9	50	8
P1381	182 W Randall Av Norfolk Row 5 Flr1	SF	3	66	54	55	58	58	49	9	50	9
P1382	171 W Lorengo Av Norfolk Row 6 Flr1	SF	3	66	53	53	56	57	48	8	49	8
P1383	170 W Randall Av Norfolk Row 6 Flr1	SF	2	66	53	53	56	57	48	9	49	9
P1384	199 W Bay Av Norfolk Row 1 Flr1	MF	2	66	64	64	PA	PA	PA	0	PA	0
P1385	199 W Bay Av Norfolk Row 1 Flr1	MF	2	66	60	60	PA	PA	PA	0	PA	0
P1386	199 W Bay Av Norfolk Row 2 Flr1	MF	4	66	63	63	PA	PA	PA	0	PA	0
P1387	199 W Bay Av Norfolk Row 2 Flr1	MF	4	66	59	59	PA	PA	PA	0	PA	0
P1388	199 W Bay Av Norfolk Row 2 Flr1	MF	2	66	52	52	PA	PA	PA	0	PA	0
P1389	199 W Bay Av Norfolk Row 3 Flr1	MF	4	66	62	62	PA	PA	PA	0	PA	0
P1390	199 W Bay Av Norfolk Row 3 Flr1	MF	6	66	56	56	PA	PA	PA	0	PA	0
P1391	199 W Bay Av Norfolk Row 3 Flr1	MF	4	66	53	54	60	61	60	0	61	0
P1392	199 W Bay Av Norfolk Row 4 Flr1	MF	2	66	61	62	PA	PA	PA	0	PA	0
P1393	199 W Bay Av Norfolk Row 4 Flr1	MF	2	66	57	57	PA	PA	PA	0	PA	0
P1394	199 W Bay Av Norfolk Row 4 Flr1	MF	4	66	54	54	61	62	61	0	62	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1395	199 W Bay Av Norfolk Row 4 Fir1	MF	4	66	51	52	59	59	0	59	0
P1396	199 W Bay Av Norfolk Row 5 Fir1	MF	4	66	61	61	65	65	0	66	0
P1397	199 W Bay Av Norfolk Row 5 Fir1	MF	2	66	56	56	62	62	0	63	0
P1398	199 W Bay Av Norfolk Row 5 Fir1	MF	4	66	52	53	60	60	0	60	0
P1399	199 W Bay Av Norfolk Row 5 Fir1	MF	6	66	50	50	57	57	0	58	0
P1400	199 W Bay Av Norfolk Row 6 Fir1	MF	4	66	61	61	64	64	0	65	0
P1401	199 W Bay Av Norfolk Row 6 Fir1	MF	4	66	55	55	60	60	0	61	0
P1402	199 W Bay Av Norfolk Row 6 Fir1	MF	6	66	51	52	58	58	0	59	0
P1403	199 W Bay Av Norfolk Row 7 Fir1	MF	4	66	60	60	64	64	0	65	0
P1404	199 W Bay Av Norfolk Row 7 Fir1	MF	6	66	54	55	59	59	0	60	0
P1405	198 Commodore Dr Norfolk Row 1 Fir1	SF	1	66	66	66	PA	PA	0	PA	0
P1406	194 Commodore Dr Norfolk Row 1 Fir1	SF	1	66	66	67	PA	PA	0	PA	0
P1407	192 Commodore Dr Norfolk Row 1 Fir1	SF	1	66	66	67	PA	PA	0	PA	0
P1408	190 Commodore Dr Norfolk Row 1 Fir1	SF	1	66	55	56	PA	PA	0	PA	0
P1409	186 Commodore Dr Norfolk Row 1 Fir1	SF	1	66	56	56	PA	PA	0	PA	0
P1410	184 Commodore Dr Norfolk Row 1 Fir1	SF	1	66	56	56	75	PA	10	PA	0
P1411	180 Commodore Dr Norfolk Row 1 Fir1	SF	1	66	57	57	74	64	10	65	9
P1412	178 Commodore Dr Norfolk Row 1 Fir1	SF	1	66	57	57	73	63	10	64	10
P1413	176 Commodore Dr Norfolk Row 1 Fir1	SF	1	66	56	57	73	63	10	63	10
P1414	174 Commodore Dr Norfolk Row 1 Fir1	SF	1	66	57	57	72	63	9	64	9
P1415	172 Commodore Dr Norfolk Row 1 Fir1	SF	1	66	55	55	72	62	10	62	10
P1416	160 Commodore Dr Norfolk Row 1 Fir1	SF	1	66	57	58	PA	PA	0	PA	0
P1417	165 Commodore Dr Norfolk Row 1 Fir1	SF	1	66	57	58	75	PA	12	PA	0
P1418	158 Burrage Rd Norfolk Row 1 Fir1	SF	1	66	58	58	PA	PA	0	PA	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1419	ST-28, 157 Burrage Road Norfolk Row 1 Fir1	Monit.	0	66	57	57	PA	PA	0	PA	0
P1420	159 Burrage Rd Norfolk Row 1 Fir1	SF	1	66	56	56	73	73	11	63	11
P1421	157 Burrage Rd Norfolk Row 1 Fir1	SF	1	66	57	57	PA	PA	0	PA	0
P1422	154 Rodman Rd Norfolk Row 1 Fir1	SF	1	66	56	57	73	74	11	63	11
P1423	152 Rodman Rd Norfolk Row 1 Fir1	SF	1	66	58	58	PA	PA	0	PA	0
P1424	153 Rodman Rd Norfolk Row 1 Fir1	SF	1	66	58	58	72	PA	9	PA	0
P1425	150 Swanson Rd Norfolk Row 1 Fir1	SF	1	66	56	57	71	71	8	65	7
P1426	148 Swanson Rd Norfolk Row 1 Fir1	SF	1	66	58	59	PA	PA	0	PA	0
P1427	149 Swanson Rd Norfolk Row 1 Fir1	SF	1	66	56	57	70	70	6	65	5
P1428	8709 Executive Dr Norfolk Row 1 Fir1	SF	1	66	58	58	PA	PA	0	PA	0
P1429	8707 Executive Dr Norfolk Row 1 Fir1	SF	1	66	58	58	PA	PA	0	PA	0
P1430	140 W Evans St Norfolk Row 1 Fir1	SF	1	66	57	58	PA	PA	0	PA	0
P1431	141 W Evans St Norfolk Row 1 Fir1	SF	1	66	57	57	69	69	8	61	8
P1432	N S Lembla St Norfolk Row 1 Fir1	SF	1	66	59	59	PA	PA	0	PA	0
P1433	137 Lembla St Norfolk Row 1 Fir1	SF	1	66	59	60	PA	PA	0	PA	0
P1434	134 W Bayview Blvd Norfolk Row 1 Fir1	SF	1	66	59	60	PA	PA	0	PA	0
P1435	8831 Commodore Dr Norfolk Row 2 Fir1	SF	1	66	64	64	PA	PA	0	PA	0
P1436	8829 Commodore Dr Norfolk Row 2 Fir1	SF	1	66	60	60	67	67	7	64	3
P1437	193 Commodore Dr Norfolk Row 2 Fir1	SF	2	66	61	61	69	69	8	66	3
P1438	189 Commodore Dr Norfolk Row 2 Fir1	SF	2	66	60	60	70	71	7	66	5
P1439	185 Commodore Dr Norfolk Row 2 Fir1	SF	3	66	58	58	67	69	6	64	5
P1440	179 Commodore Dr Norfolk Row 2 Fir1	SF	3	66	56	56	66	67	6	62	5
P1441	170 Commodore Dr Norfolk Row 2 Fir1	SF	1	66	55	56	72	73	10	63	10

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L_{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L_{eq}	Build-8 IL**	Build-10 L_{eq}	Build-10 IL**
P1442	167 Commodore Dr Norfolk Row 2 Fir1	SF	1	66	55	55	72	61	11	62	11
P1443	160 Burrage Rd Norfolk Row 2 Fir1	SF	1	66	55	56	72	62	11	62	11
P1444	161 Burrage Rd Norfolk Row 2 Fir1	SF	1	66	54	55	71	60	11	61	10
P1445	156 Rodman Rd Norfolk Row 2 Fir1	SF	1	66	55	55	71	61	10	62	10
P1446	155 Rodman Rd Norfolk Row 2 Fir1	SF	1	66	55	56	70	62	9	63	8
P1447	152 Swanson Rd Norfolk Row 2 Fir1	SF	1	66	54	55	69	62	7	63	6
P1448	151 Swanson Rd Norfolk Row 2 Fir1	SF	1	66	55	55	67	62	5	63	5
P1449	144 W Evans St Norfolk Row 2 Fir1	SF	1	66	56	56	69	62	7	62	7
P1450	145 W Evans St Norfolk Row 2 Fir1	SF	1	66	55	55	67	60	7	61	7
P1451	8621 Executive Dr Norfolk Row 2 Fir1	SF	1	66	57	57	68	60	8	61	8
P1452	144 Lembla St Norfolk Row 2 Fir1	SF	1	66	54	55	67	59	8	59	8
P1453	8609 Executive Dr Norfolk Row 2 Fir1	MF	2	66	56	56	67	60	7	61	7
P1454	140 W Bayview Blvd Norfolk Row 2 Fir1	SF	1	66	56	56	67	60	7	61	7
P1455	173 Commodore Dr Norfolk Row 3 Fir1	SF	2	66	54	55	66	59	7	61	6
P1456	169 Commodore Dr Norfolk Row 3 Fir1	SF	2	66	54	54	68	60	8	60	9
P1457	164 Burrage Rd Norfolk Row 3 Fir1	SF	1	66	53	53	68	59	9	60	9
P1458	163 Burrage Rd Norfolk Row 3 Fir1	SF	2	66	53	54	68	59	9	60	10
P1459	158 Rodman Rd Norfolk Row 3 Fir1	SF	1	66	53	54	67	60	7	61	7
P1460	157 Rodman Rd Norfolk Row 3 Fir1	SF	1	66	54	54	68	60	8	61	7
P1461	154 Swanson Rd Norfolk Row 3 Fir1	SF	1	66	53	54	66	61	5	61	5
P1462	153 Swanson Rd Norfolk Row 3 Fir1	SF	1	66	54	54	67	62	5	62	5
P1463	148 W Evans St Norfolk Row 3 Fir1	SF	1	66	54	54	65	58	7	59	7
P1464	149 W Evans St Norfolk Row 3 Fir1	SF	1	66	54	54	66	59	7	59	7
P1465	148 Lembla St Norfolk Row 3 Fir1	SF	1	66	54	55	65	58	7	59	7

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1466	147 Lembla St Norfolk Row 3 Fir1	SF	1	66	54	54	65	59	7	59	7
P1467	144 W Bayview Blvd Norfolk Row 3 Fir1	SF	1	66	55	55	65	58	7	59	7
P1468	164 Burrage Rd Norfolk Row 4 Fir1	SF	2	66	54	54	65	59	6	58	8
P1469	165 Burrage Rd Norfolk Row 4 Fir1	SF	1	66	52	53	65	58	7	59	7
P1470	160 Rodman Rd Norfolk Row 4 Fir1	SF	2	66	52	53	65	59	6	60	6
P1471	159 Rodman Rd Norfolk Row 4 Fir1	SF	2	66	52	53	65	59	6	59	7
P1472	156 Swanson Rd Norfolk Row 4 Fir1	SF	1	66	53	53	64	60	5	60	5
P1473	155 Swanson Rd Norfolk Row 4 Fir1	SF	1	66	53	53	65	61	5	61	5
P1474	152 W Evans St Norfolk Row 4 Fir1	SF	2	66	53	53	64	57	6	58	6
P1475	153 W Evans St Norfolk Row 4 Fir1	SF	1	66	53	53	65	59	6	59	6
P1476	150 Lembla St Norfolk Row 4 Fir1	SF	1	66	53	54	64	58	6	59	6
P1477	151 Lembla St Norfolk Row 4 Fir1	SF	1	66	53	53	64	58	7	58	7
P1478	148 W Bayview Blvd Norfolk Row 4 Fir1	SF	1	66	55	55	64	57	6	58	6
P1479	158 W Chester St Norfolk Row 1 Fir1	SF	1	66	63	64	PA	PA	0	PA	0
P1480	156 W Chester St Norfolk Row 1 Fir1	SF	1	66	60	61	PA	PA	0	PA	0
P1481	155 W Chester St Norfolk Row 1 Fir1	SF	1	66	58	59	PA	PA	0	PA	0
P1482	153 W Chester St Norfolk Row 1 Fir1	SF	1	66	58	58	74	63	11	PA	0
P1483	147 Commodore Pl Norfolk Row 1 Fir1	SF	1	66	58	59	72	61	11	63	10
P1484	149 Commodore Pl Norfolk Row 1 Fir1	SF	1	66	58	59	73	62	11	63	11
P1485	151 Commodore Pl Norfolk Row 1 Fir1	SF	1	66	58	59	74	63	12	PA	0
P1486	153 Commodore Pl Norfolk Row 1 Fir1	SF	1	66	58	59	PA	PA	0	PA	0
P1487	146 Burrage Rd Norfolk Row 1 Fir1	SF	1	66	58	58	PA	PA	0	PA	0
P1488	145 Burrage Rd Norfolk Row 1 Fir1	SF	1	66	58	59	PA	PA	0	PA	0

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels				
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**	
P1489	ST-29, Behind 145 Burrage Road Norfolk Row 1 Fir1	Monit.	0	66	59	59	PA	PA	PA	0	0	PA	0
P1490	8724 Gramel St Norfolk Row 1 Fir1	SF	1	66	57	58	PA	PA	PA	0	0	PA	0
P1491	8722 Gramel St Norfolk Row 1 Fir1	SF	1	66	57	58	PA	PA	PA	0	0	PA	0
P1492	8720 Gramel St Norfolk Row 1 Fir1	SF	1	66	57	58	PA	PA	PA	0	0	PA	0
P1493	8717 Semmes Av Norfolk Row 1 Fir1	SF	1	66	56	57	70	PA	PA	64	6	PA	0
P1494	8715 Semmes Av Norfolk Row 1 Fir1	SF	1	66	57	57	PA	PA	PA	PA	0	PA	0
P1495	8713 Semmes Av Norfolk Row 1 Fir1	SF	1	66	57	57	PA	PA	PA	PA	0	PA	0
P1496	8711 Semmes Av Norfolk Row 1 Fir1	SF	1	66	57	58	PA	PA	PA	PA	0	PA	0
P1497	119 Landale Rd Norfolk Row 1 Fir1	SF	1	66	57	59	PA	PA	PA	PA	0	PA	0
P1498	116 W Evans St Norfolk Row 1 Fir1	SF	1	66	57	59	PA	PA	PA	PA	0	PA	0
P1499	111 W Evans St Norfolk Row 1 Fir1	SF	1	66	59	60	PA	PA	PA	PA	0	PA	0
P1500	N S Cap La Norfolk Row 1 Fir1	SF	1	66	61	62	67	PA	PA	62	5	PA	0
P1501	101 Cap La Norfolk Row 1 Fir1	SF	1	66	62	63	PA	PA	PA	PA	0	PA	0
P1502	8611 Granby St Norfolk Row 1 Fir1	SF	1	66	63	64	PA	PA	PA	PA	0	PA	0
P1503	104 W Bayview Blvd Norfolk Row 1 Fir1	SF	1	66	64	65	PA	PA	PA	PA	0	PA	0
P1504	154 W Chester St Norfolk Row 2 Fir1	SF	1	66	60	61	73	74	74	61	12	64	9
P1505	143 Commodore Pl Norfolk Row 2 Fir1	SF	1	66	59	60	69	70	70	60	9	63	7
P1506	145 Commodore Pl Norfolk Row 2 Fir1	SF	1	66	59	60	71	72	72	61	10	62	9
P1507	8817 Gramel St Norfolk Row 2 Fir1	SF	2	66	55	56	66	67	67	59	7	60	7
P1508	8809 Gramel St Norfolk Row 2 Fir1	SF	2	66	56	57	70	71	71	61	9	62	9
P1509	8805 Gramel St Norfolk Row 2 Fir1	SF	1	66	56	57	71	73	73	61	11	62	10
P1510	8801 Gramel St Norfolk Row 2 Fir1	SF	1	66	57	57	74	74	PA	62	12	PA	0
P1511	8804 Gramel St Norfolk Row 2 Fir1	SF	1	66	55	56	68	70	70	61	8	62	8

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1512	8802 Gramel St Norfolk Row 2 Fir1	SF	1	66	56	56	70	71	62	8	62	9
P1513	8800 Gramel St Norfolk Row 2 Fir1	SF	1	66	56	57	71	72	62	8	63	9
P1514	8723 Semmes Av Norfolk Row 2 Fir1	SF	1	66	56	57	69	70	62	7	63	7
P1515	8719 Semmes Av Norfolk Row 2 Fir1	SF	2	66	56	57	70	70	63	7	64	7
P1516	8718 Semmes Av Norfolk Row 2 Fir1	SF	2	66	55	57	67	68	61	5	63	5
P1517	8714 Semmes Av Norfolk Row 2 Fir1	SF	1	66	56	57	67	68	62	6	63	4
P1518	115 Landale Rd Norfolk Row 2 Fir1	SF	1	66	57	59	68	68	61	6	64	3
P1519	112 W Evans St Norfolk Row 2 Fir1	SF	1	66	59	60	68	68	62	6	66	2
P1520	107 W Evans St Norfolk Row 2 Fir1	SF	1	66	61	62	68	68	63	5	66	3
P1521	8629 Granby St Norfolk Row 2 Fir1	SF	1	66	66	68	70	70	68	2	69	1
P1522	8621 Granby St Norfolk Row 2 Fir1	SF	1	66	65	66	68	70	66	2	68	2
P1523	100 W Bayview Blvd Norfolk Row 2 Fir1	SF	1	66	67	69	70	70	68	2	70	1
P1524	150 W Chester St Norfolk Row 3 Fir1	SF	2	66	59	59	69	70	60	9	63	7
P1525	8819 Gramel St Norfolk Row 3 Fir1	SF	1	66	57	58	66	67	59	7	61	5
P1526	8808 Gramel St Norfolk Row 3 Fir1	SF	2	66	55	56	65	67	59	6	60	6
P1527	8806 Gramel St Norfolk Row 3 Fir1	SF	1	66	55	56	67	69	60	7	61	8
P1528	8803 Semmes Av Norfolk Row 3 Fir1	SF	2	66	55	56	66	68	60	6	61	7
P1529	N S Semmes Av Norfolk Row 3 Fir1	SF	1	66	56	57	68	69	62	6	62	7
P1530	8722 Semmes Av Norfolk Row 3 Fir1	SF	3	66	57	58	65	66	61	4	62	4
P1531	8715 Granby St Norfolk Row 3 Fir1	SF	2	66	62	64	67	67	64	2	65	2
P1532	8711 Granby St Norfolk Row 3 Fir1	SF	1	66	60	62	66	66	63	3	64	2
P1533	111 Landale Rd Norfolk Row 3 Fir1	SF	1	66	59	61	67	68	62	5	65	2
P1534	8701 Granby St Norfolk Row 3 Fir1	SF	2	66	62	64	68	69	64	4	67	2
P1535	8650 Granby St Norfolk Row 3 Fir1	SF	2	66	67	69	70	71	69	1	70	1

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels				
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**	
P1536	8606 Granby St Norfolk Row 3 Flr1	Church-Interior	1	51	41	42	44	44	42	2	43	1
P1537	148 W Chester St Norfolk Row 4 Flr1	SF	1	66	58	59	67	69	60	8	63	5
P1538	8707 Granby St Norfolk Row 4 Flr1	SF	2	66	62	63	67	68	64	3	66	2
P1539	8598 Executive Dr Norfolk Row 1 Flr1	SF	1	66	59	59	69	69	61	8	61	8
P1540	133 W Bayview Blvd Norfolk Row 1 Flr1	SF	1	66	60	61	PA	PA	PA	0	PA	0
P1541	8594 Executive Dr Norfolk Row 1 Flr1	SF	1	66	58	59	68	69	61	7	62	7
P1542	8586 Executive Dr Norfolk Row 1 Flr1	MF	2	66	58	58	69	69	62	7	62	7
P1543	8580 Executive Dr Norfolk Row 1 Flr1	SF	1	66	56	57	69	69	62	6	63	6
P1544	8576 Executive Dr Norfolk Row 1 Flr1	MF	5	66	62	63	PA	PA	PA	0	PA	0
P1545	8562 Executive Dr Norfolk Row 1 Flr1	MF	8	66	64	64	69	70	62	7	65	5
P1546	8554 Executive Dr Norfolk Row 1 Flr1	MF	20	66	70	71	PA	PA	PA	0	PA	0
P1547	ST-31, Executive Manor Apartments Norfolk Row 1 Flr1	Monit.	0	66	68	69	PA	PA	PA	0	PA	0
P1548	143 W Bayview Blvd Norfolk Row 2 Flr1	SF	1	66	57	57	67	67	60	7	60	7
P1549	140 Blades St Norfolk Row 2 Flr1	SF	1	66	58	58	66	67	60	6	61	6
P1550	141 Blades St Norfolk Row 2 Flr1	SF	1	66	58	59	66	66	60	6	60	6
P1551	147 W Bayview Blvd Norfolk Row 3 Flr1	SF	1	66	56	56	65	66	58	7	59	7
P1552	142 Blades St Norfolk Row 3 Flr1	SF	1	66	57	58	64	64	58	6	58	6
P1553	147 Blades St Norfolk Row 3 Flr1	SF	1	66	58	58	64	64	58	5	59	5
P1554	8562 Executive Dr Norfolk Row 3 Flr1	MF	4	66	59	60	65	65	59	5	60	5
P1555	8562 Executive Dr Norfolk Row 3 Flr2	MF	4	66	66	66	70	71	63	7	64	7
P1556	8562 Executive Dr Norfolk Row 3 Flr1	MF	4	66	59	59	65	65	60	5	60	5
P1557	8562 Executive Dr Norfolk Row 3 Flr2	MF	4	66	66	67	70	71	62	8	63	8

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1558	146 Blades St Norfolk Row 4 Flr1	SF	1	66	58	58	64	64	58	6	58	6
P1559	151 Blades St Norfolk Row 4 Flr1	SF	1	66	58	59	64	65	59	5	60	5
P1560	101 W Bayview Blvd Norfolk Row 1 Flr1	SF	1	66	67	68	PA	PA	PA	0	PA	0
P1561	8591 Granby St Norfolk Row 1 Flr1	SF	1	66	67	68	PA	PA	PA	0	PA	0
P1562	8587 Granby St Norfolk Row 1 Flr1	SF	1	66	67	68	PA	PA	PA	0	PA	0
P1563	ST-30, 8587 Granby Street Norfolk Row 1 Fl1	Monit.	0	66	67	68	PA	PA	PA	0	PA	0
P1564	8585 Granby St Norfolk Row 1 Flr1	SF	1	66	67	68	PA	PA	PA	0	PA	0
P1565	8577 Granby St Norfolk Row 1 Flr1	SF	1	66	68	69	PA	PA	PA	0	PA	0
P1566	8562 Granby St Norfolk Row 1 Flr1	SF	1	66	68	69	70	70	68	2	70	0
P1567	8552 Granby St Norfolk Row 1 Flr1	SF	1	66	69	70	71	71	69	1	71	0
P1568	8548 Granby St Norfolk Row 1 Flr1	SF	1	66	69	71	71	72	70	1	72	0
P1569	8540 Granby St Norfolk Row 1 Flr1	SF	1	66	69	71	72	72	70	1	72	0
P1570	8592 Granby St Norfolk Row 2 Flr1	SF	1	66	67	69	69	69	67	2	69	0
P1571	8580 Granby St Norfolk Row 2 Flr1	SF	1	66	68	70	71	71	69	1	71	0
P1572	8576 Granby St Norfolk Row 2 Flr1	SF	1	66	67	69	70	70	68	2	70	0
P1573	8568 Granby St Norfolk Row 2 Flr1	SF	1	66	68	69	70	70	68	2	70	0
P1574	8562 Granby St Norfolk Row 2 Flr1	SF	1	66	61	62	64	64	60	4	64	0
P1575	8556 Granby St Norfolk Row 2 Flr1	SF	1	66	62	63	65	65	60	5	65	0
P1576	8544 Granby St Norfolk Row 2 Flr1	SF	1	66	62	64	65	65	61	4	65	0
P1577	109 E Bayview Blvd Norfolk Row 3 Flr1	SF	1	66	62	63	65	65	62	3	65	0
P1578	8584 Granby St Norfolk Row 3 Flr1	SF	1	66	60	61	63	63	59	4	63	0
P1579	Baseball Field Norfolk Row 1 Flr1	Parks	1	66	64	65	67	67	59	8	59	8
P1580	Baseball Field Norfolk Row 1 Flr1	Parks	1	66	65	66	68	68	60	8	60	8

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1581	Baseball Field Norfolk Row 1 Fir1	Parks	1	66	63	64	66	66	59	7	59	7
P1582	Baseball Field Norfolk Row 1 Fir1	Parks	1	66	65	65	67	67	59	8	59	8
P1583	Baseball Field Norfolk Row 1 Fir1	Parks	1	66	62	63	65	65	58	7	58	7
P1584	Baseball Field Norfolk Row 1 Fir1	Parks	1	66	64	64	66	66	59	8	59	8
P1585	Baseball Field Norfolk Row 1 Fir1	Parks	1	66	62	62	65	65	58	7	58	7
P1586	Baseball Field Norfolk Row 1 Fir1	Parks	1	66	63	64	66	66	59	8	59	8
P1587	Baseball Field Norfolk Row 2 Fir1	Parks	1	66	62	63	65	65	58	7	58	7
P1588	Baseball Field Norfolk Row 2 Fir1	Parks	1	66	64	64	66	66	59	8	59	8
P1589	Baseball Field Norfolk Row 2 Fir1	Parks	1	66	61	62	64	64	58	7	58	7
P1590	Baseball Field Norfolk Row 2 Fir1	Parks	1	66	63	63	65	65	58	7	58	7
P1591	Baseball Field Norfolk Row 2 Fir1	Parks	1	66	61	61	64	64	57	7	57	7
P1592	Baseball Field Norfolk Row 2 Fir1	Parks	1	66	62	63	65	65	58	7	58	7
P1593	Baseball Field Norfolk Row 2 Fir1	Parks	1	66	60	61	63	64	57	6	57	6
P1594	Baseball Field Norfolk Row 2 Fir1	Parks	1	66	61	62	64	64	57	7	57	7
P1595	Baseball Field Norfolk Row 2 Fir1	Parks	1	66	60	60	63	63	57	6	57	6
P1596	Baseball Field Norfolk Row 2 Fir1	Parks	1	66	61	61	64	64	57	7	57	7
P1597	Baseball Field Norfolk Row 3 Fir1	Parks	1	66	60	61	63	63	57	6	57	6
P1598	Baseball Field Norfolk Row 3 Fir1	Parks	1	66	59	60	62	63	56	6	56	6
P1599	Baseball Field Norfolk Row 3 Fir1	Parks	1	66	60	60	62	63	56	6	56	6
P1600	Baseball Field Norfolk Row 3 Fir1	Parks	1	66	59	60	61	62	56	6	56	6
P1601	Baseball Field Norfolk Row 3 Fir1	Parks	1	66	59	60	62	63	56	6	56	6
P1602	Baseball Field Norfolk Row 3 Fir1	Parks	1	66	59	59	61	62	56	6	56	6
P1603	Baseball Field Norfolk Row 3 Fir1	Parks	1	66	59	60	62	63	56	6	56	6
P1604	8100 Granby St Norfolk Row 1 Fir1	Cem.	1	66	66	68	69	70	67	2	68	2

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1605	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	65	66	68	68	65	3	65	3
P1606	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	66	68	69	70	67	2	68	2
P1607	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	65	66	67	68	64	3	64	3
P1608	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	66	68	69	69	67	2	67	2
P1609	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	67	67	63	3	64	3
P1610	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	66	68	69	69	66	2	67	2
P1611	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	67	67	63	4	63	4
P1612	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	66	68	69	69	66	3	67	2
P1613	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	66	66	62	4	63	4
P1614	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	66	68	69	69	66	3	67	2
P1615	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	66	66	62	4	62	4
P1616	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	66	68	69	69	66	3	67	3
P1617	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	66	66	62	5	62	4
P1618	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	66	68	69	69	66	3	67	2
P1619	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	67	66	62	5	62	5
P1620	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	67	68	69	69	66	3	67	3
P1621	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	67	67	62	5	62	5
P1622	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	67	68	69	70	67	3	67	2
P1623	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	67	67	62	5	62	5
P1624	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	68	69	70	70	68	2	68	2
P1625	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	65	66	67	67	62	5	63	4
P1626	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	68	69	70	71	68	3	68	2
P1627	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	65	66	67	67	62	5	63	5
P1628	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	68	69	70	71	68	3	68	3

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1629	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	67	68	62	5	63	5
P1630	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	68	69	71	71	68	3	68	3
P1631	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	67	68	62	5	63	5
P1632	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	68	70	71	72	68	4	68	4
P1633	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	68	68	62	6	63	5
P1634	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	68	69	71	72	68	4	68	4
P1635	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	68	68	62	5	63	6
P1636	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	68	69	71	72	68	4	68	4
P1637	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	68	68	62	6	63	6
P1638	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	68	69	71	72	68	4	68	4
P1639	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	68	68	62	5	63	5
P1640	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	68	69	71	72	68	4	68	4
P1641	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	68	69	71	72	67	4	68	4
P1642	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	68	69	62	6	63	6
P1643	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	68	69	71	72	68	4	68	4
P1644	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	68	68	62	6	63	5
P1645	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	68	69	71	72	68	4	68	4
P1646	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	68	68	62	5	63	5
P1647	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	68	69	71	72	67	4	68	4
P1648	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	68	68	62	5	63	5
P1649	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	68	69	70	71	67	3	68	3
P1650	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	68	68	62	5	63	5
P1651	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	67	69	70	70	67	3	68	3
P1652	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	67	68	62	5	63	5

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1653	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	67	69	70	70	67	2	68	2
P1654	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	67	67	62	4	63	4
P1655	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	67	69	69	70	67	2	68	2
P1656	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	63	65	66	67	63	3	64	3
P1657	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	67	69	69	69	67	1	68	1
P1658	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	63	65	66	66	63	3	64	2
P1659	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	67	68	69	69	67	1	68	1
P1660	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	63	65	65	66	63	2	64	2
P1661	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	66	68	68	69	67	1	68	1
P1662	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	66	68	68	69	67	1	68	1
P1663	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	63	65	66	66	63	3	64	2
P1664	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	66	68	69	69	66	2	67	2
P1665	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	63	65	66	67	63	3	64	3
P1666	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	66	68	69	PA	62	6	63	6
P1667	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	67	67	63	4	63	4
P1668	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	66	67	67	62	5	63	5
P1669	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	66	67	PA	61	6	62	6
P1670	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	63	65	66	66	62	4	62	4
P1671	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	67	67	61	6	61	6
P1672	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	63	64	66	66	61	5	62	4
P1673	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	63	65	66	67	60	6	61	6
P1674	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	63	64	66	66	61	5	61	5
P1675	E S Granby St Norfolk Row 1 Flr1	Cem.	1	66	63	65	66	66	60	6	61	5
P1676	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	63	64	66	66	61	5	62	5

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1677	E S Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	67	60	7	61	6
P1678	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	63	64	66	61	6	62	5
P1679	E S Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	66	67	60	7	62	6
P1680	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	64	65	67	60	6	62	5
P1681	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	66	67	68	60	9	61	7
P1682	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	65	66	67	60	8	62	5
P1683	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	65	66	67	60	7	64	4
P1684	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	66	67	68	60	8	65	4
P1685	8100 Granby St Norfolk Row 1 Flr1	Cem.	1	66	65	66	68	60	7	66	2
P1686	8100 Granby St Norfolk Row 2 Flr1	Cem.	1	66	63	64	66	61	5	61	5
P1687	8100 Granby St Norfolk Row 2 Flr1	Cem.	1	66	63	64	65	61	5	61	5
P1688	8100 Granby St Norfolk Row 2 Flr1	Cem.	1	66	63	63	65	60	5	61	5
P1689	8100 Granby St Norfolk Row 2 Flr1	Cem.	1	66	63	63	65	60	5	60	5
P1690	8100 Granby St Norfolk Row 2 Flr1	Cem.	1	66	63	63	65	60	6	60	5
P1691	8100 Granby St Norfolk Row 2 Flr1	Cem.	1	66	63	64	65	60	5	60	5
P1692	8100 Granby St Norfolk Row 2 Flr1	Cem.	1	66	63	64	65	60	6	60	5
P1693	8100 Granby St Norfolk Row 2 Flr1	Cem.	1	66	63	64	65	60	6	60	6
P1694	8100 Granby St Norfolk Row 2 Flr1	Cem.	1	66	63	63	65	60	6	60	6
P1695	8100 Granby St Norfolk Row 2 Flr1	Cem.	1	66	63	63	65	60	6	60	6
P1696	8100 Granby St Norfolk Row 2 Flr1	Cem.	1	66	62	63	66	60	6	60	6
P1697	8100 Granby St Norfolk Row 2 Flr1	Cem.	1	66	62	63	66	60	6	60	6
P1698	8100 Granby St Norfolk Row 2 Flr1	Cem.	1	66	62	63	66	60	6	60	6
P1699	8100 Granby St Norfolk Row 2 Flr1	Cem.	1	66	62	63	66	60	6	60	6
P1700	8100 Granby St Norfolk Row 2 Flr1	Cem.	1	66	62	63	66	60	6	60	6

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels				
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**	
P1701	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	62	63	65	66	60	6	60	6
P1702	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	62	63	65	66	60	6	60	6
P1703	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	62	63	65	66	60	6	60	5
P1704	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	62	63	65	66	60	5	61	5
P1705	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	62	63	65	65	60	5	61	5
P1706	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	61	63	64	65	60	4	61	4
P1707	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	61	63	64	65	61	4	62	3
P1708	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	60	62	63	64	59	4	60	3
P1709	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	60	62	63	64	60	3	61	3
P1710	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	62	63	64	65	61	3	63	2
P1711	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	60	62	63	63	60	3	61	2
P1712	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	61	62	63	64	61	3	62	2
P1713	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	62	63	65	65	62	3	63	2
P1714	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	62	64	65	66	62	3	63	3
P1715	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	61	63	64	65	61	3	62	3
P1716	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	63	64	66	66	62	4	63	3
P1717	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	62	63	65	65	62	3	62	3
P1718	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	62	64	65	65	61	4	62	3
P1719	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	61	63	64	64	61	3	62	3
P1720	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	61	62	64	64	60	4	61	3
P1721	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	62	63	65	65	61	5	62	4
P1722	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	61	62	64	64	60	4	61	3
P1723	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	62	63	65	65	60	5	62	4
P1724	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	61	63	64	65	60	4	61	3

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)				With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-10	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1725	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	63	64	65	66	60	5	62	4
P1726	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	63	64	66	66	60	6	62	3
P1727	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	62	63	65	65	60	5	63	3
P1728	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	64	65	66	67	60	6	64	3
P1729	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	63	64	66	66	60	6	64	2
P1730	8100 Granby St Norfolk Row 2 Fir1	Cem.	1	66	64	65	67	67	61	7	65	2
P1731	8100 Granby St Norfolk Row 3 Fir1	Cem.	1	66	60	61	62	63	60	3	61	2
P1732	8100 Granby St Norfolk Row 3 Fir1	Cem.	1	66	60	61	63	63	60	3	61	2
P1733	8100 Granby St Norfolk Row 3 Fir1	Cem.	1	66	60	62	63	63	60	3	61	2
P1734	8100 Granby St Norfolk Row 3 Fir1	Cem.	1	66	61	62	63	64	61	3	62	2
P1735	8100 Granby St Norfolk Row 3 Fir1	Cem.	1	66	60	61	62	63	60	3	61	2
P1736	8100 Granby St Norfolk Row 3 Fir1	Cem.	1	66	60	62	63	63	60	3	61	2
P1737	8100 Granby St Norfolk Row 3 Fir1	Cem.	1	66	60	61	63	63	60	4	61	3
P1738	8100 Granby St Norfolk Row 3 Fir1	Cem.	1	66	61	62	64	64	59	5	62	2
P1739	8100 Granby St Norfolk Row 3 Fir1	Cem.	1	66	61	62	65	65	59	5	63	2
P1740	8100 Granby St Norfolk Row 3 Fir1	Cem.	1	66	61	62	64	64	59	5	62	2
P1741	8100 Granby St Norfolk Row 3 Fir1	Cem.	1	66	62	63	65	65	60	5	64	2
P1742	Baseball Field Norfolk Row 1 Fir1	Parks	1	66	63	63	65	66	60	5	61	5
P1743	Baseball Field Norfolk Row 1 Fir1	Parks	1	66	65	66	67	68	60	7	61	7
P1744	Baseball Field Norfolk Row 1 Fir1	Parks	1	66	63	64	65	66	59	6	61	4
P1745	Baseball Field Norfolk Row 1 Fir1	Parks	1	66	65	65	67	68	59	8	60	8
P1746	Baseball Field Norfolk Row 1 Fir1	Parks	1	66	63	64	65	66	60	6	62	4
P1747	Baseball Field Norfolk Row 1 Fir1	Parks	1	66	65	65	67	68	59	8	60	7
P1748	Baseball Field Norfolk Row 1 Fir1	Parks	1	66	63	64	66	66	59	6	62	4

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1749	Baseball Field Norfolk Row 1 Fir1	Parks	1	66	65	66	68	59	9	61	7
P1750	Baseball Field Norfolk Row 1 Fir1	Parks	1	66	64	64	66	59	7	62	4
P1751	Baseball Field Norfolk Row 1 Fir1	Parks	1	66	66	66	68	59	10	PA	0
P1752	Baseball Field Norfolk Row 1 Fir1	Parks	1	66	63	63	64	58	6	60	4
P1753	Baseball Field Norfolk Row 2 Fir1	Parks	1	66	60	60	62	59	4	60	3
P1754	Baseball Field Norfolk Row 2 Fir1	Parks	1	66	61	62	64	59	5	61	3
P1755	Baseball Field Norfolk Row 2 Fir1	Parks	1	66	60	61	62	58	4	60	3
P1756	Baseball Field Norfolk Row 2 Fir1	Parks	1	66	61	62	64	59	5	61	3
P1757	Baseball Field Norfolk Row 2 Fir1	Parks	1	66	61	61	63	58	5	60	3
P1758	Baseball Field Norfolk Row 2 Fir1	Parks	1	66	62	62	64	59	5	61	3
P1759	Baseball Field Norfolk Row 2 Fir1	Parks	1	66	61	62	63	58	5	60	3
P1760	Baseball Field Norfolk Row 2 Fir1	Parks	1	66	62	63	64	59	6	61	3
P1761	Baseball Field Norfolk Row 2 Fir1	Parks	1	66	63	63	64	58	6	61	3
P1762	8100 Granby St Norfolk Row 1 Fir1	Cem.	1	66	69	70	PA	PA	0	PA	0
P1763	8100 Granby St Norfolk Row 1 Fir1	Cem.	1	66	67	68	69	61	8	PA	0
P1764	8100 Granby St Norfolk Row 1 Fir1	Cem.	1	66	66	67	69	62	7	68	1
P1765	274 E Little Creek Rd Norfolk Row 1 Fir1	Church-Interior	1	51	46	47	PA	PA	0	PA	0
P1766	7907 West Glen Rd Norfolk Row 2 Fir1	SF	1	66	61	62	65	60	5	64	2
P1767	7905 West Glen Rd Norfolk Row 2 Fir1	SF	1	66	62	63	66	62	4	65	2
P1768	7903 West Glen Rd Norfolk Row 2 Fir1	SF	1	66	62	63	67	63	4	66	1
P1769	7911 West Glen Rd Norfolk Row 2 Fir1	SF	3	66	60	61	63	59	5	62	2
P1770	292 E Little Creek Rd Norfolk Row 2 Fir1	Day Care	1	66	64	66	69	67	2	69	1
P1771	7816 San Antonio Blvd Norfolk Row 1 Fir1	MF	12	66	61	62	68	61	7	63	5

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

Site No.	Receiver Site Name	Land Use*	Recp Units	NAC Imp. Crit.	Loudest-Hour L _{eq} (dBA)			With-Barrier Levels			
					Exist.	No-Build	Build-8	Build-8 L _{eq}	Build-8 IL**	Build-10 L _{eq}	Build-10 IL**
P1772	7820 San Antonio Blvd Norfolk Row 1 Flr1	MF	5	66	63	64	68	64	4	65	3
P1773	305 Fort Worth Av Norfolk Row 1 Flr1	MF	5	66	65	66	69	67	2	68	1
P1774	7816 San Antonio Blvd Norfolk Row 1 Flr1	MF	12	66	61	61	66	57	9	59	7
P1775	324 San Antonio Blvd Norfolk Row 1 Flr1	MF	8	66	60	60	67	57	10	67	0
P1776	309 Fort Worth Av Norfolk Row 2 Flr1	MF	2	66	61	62	64	60	4	62	2

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

** 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.



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

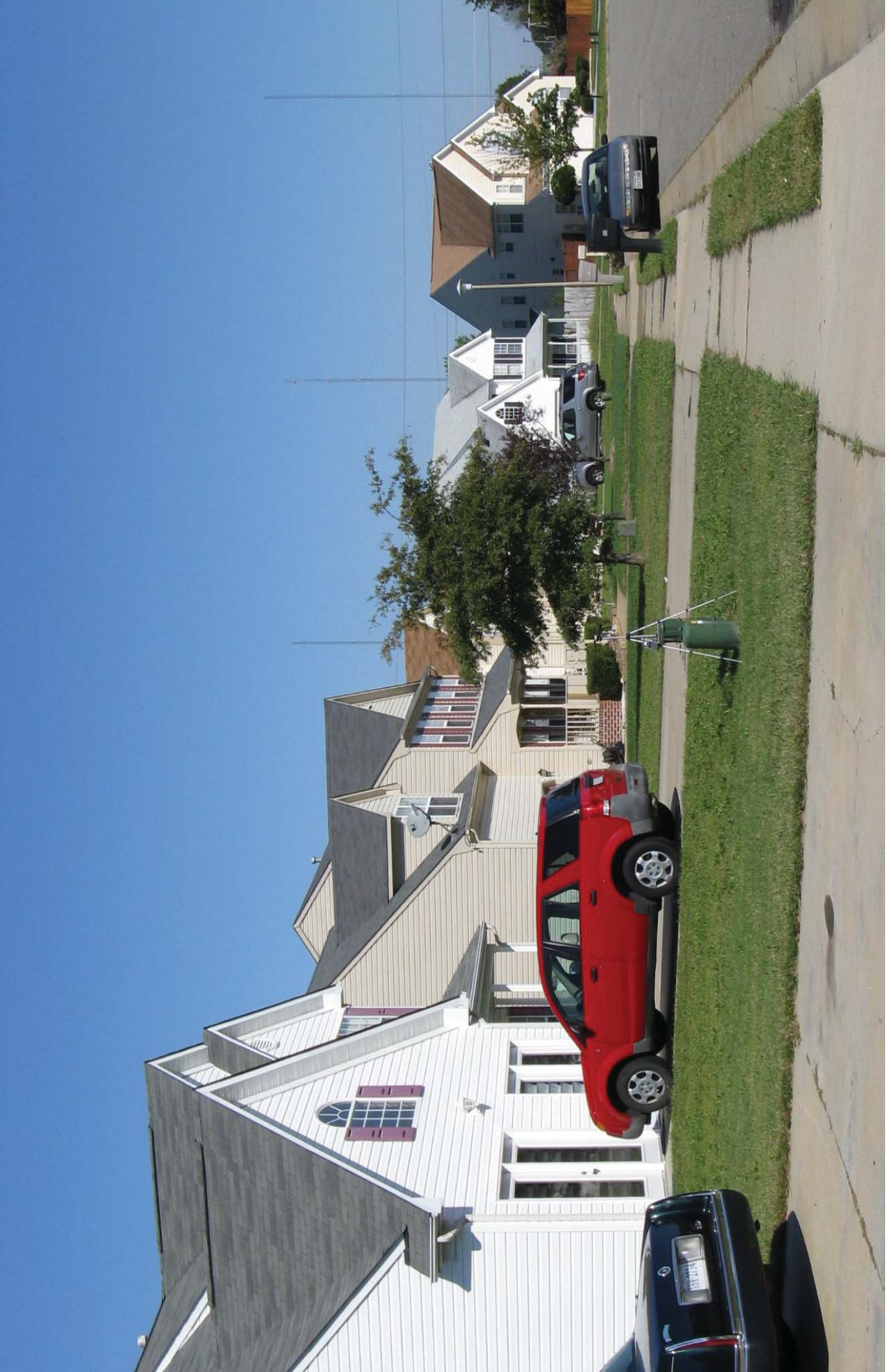
JOB NO.: _____

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: ~~1~~ | _____ MEASUREMENT SITE NO.: ~~1~~ | _____
ADDRESS: 48 RED ROBIN TRAIL
OWNER: EDUARDO + TINA FUTCH
DESCRIPTION: SFH
NOISE SOURCES: I-64
NOISE MONITOR: 2032 ← Pics #1-4 → S/N: METROSONICS 3080 ^{dB}
MICROPHONE: 1/4" METROSONICS S/N: 12025
CALIBRATOR: METROSONICS CL 304 S/N: 2465
TEMP. RANGE (°F): 83° 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.





Site 1

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: ~~4~~ 1 MEASUREMENT SITE NO.: 2
 ADDRESS: MICHIGAN DRIVE
 OWNER: HORIZON PLAZA APTS
 DESCRIPTION: PLAYGROUND
 NOISE SOURCES: I-64
 NOISE MONITOR: RION #3 (NL-06) S/N: 00380352
 MICROPHONE: File 00.AU2 S/N: ~~03506~~ 58522
 CALIBRATOR: RION NC-73 S/N: 10417650
 TEMP. RANGE (°F): 83° WEATHER CONDITIONS: SUNNY, CALM

font
3:25

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 2

PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.: _____

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA: 1 START TIME: 3:25 PM
 MEASUREMENT SITE NO.: 1,2 END TIME: 3:45 PM
 ADDRESS/DESCRIPTION: FROM RAMP ON DATE: Oct 18 2011
I-64 SB TO PERSONNEL: GWT/CS
LYSALLE AVE. SB

Roadway: I-64 DIRECTION 1: SB DIRECTION 2: NB
 First Sample (5 minutes) _____
 Start Time: 3:25 _____
SB 64
 Automobiles 292 _____
 Medium Trucks (6 Tires) 6 _____
 Heavy Trucks (>6 Tires) 5 _____

Roadway: I-64 DIRECTION 1: SB DIRECTION 2: NB
 Second Sample (5 minutes) _____
 Start Time: 3:30 _____
NB 64
 Automobiles 280 _____
 Medium Trucks (6 Tires) 13 _____
 Heavy Trucks (>6 Tires) 4 _____

Roadway: I-64 DIRECTION 1: SB DIRECTION 2: NB
 Third Sample (5 minutes) _____
 Start Time: 3:35 _____
SB 64
 Automobiles 338 _____
 Medium Trucks (6 Tires) 11 _____
 Heavy Trucks (>6 Tires) 6 _____ OK

Roadway: I-64 DIRECTION 1: SB DIRECTION 2: NB
 Fourth Sample (5 minutes) _____
 Start Time: 3:40 _____
NB 64
 Automobiles 344 _____
 Medium Trucks (6 Tires) 5 _____
 Heavy Trucks (>6 Tires) 5 _____

Notes: _____

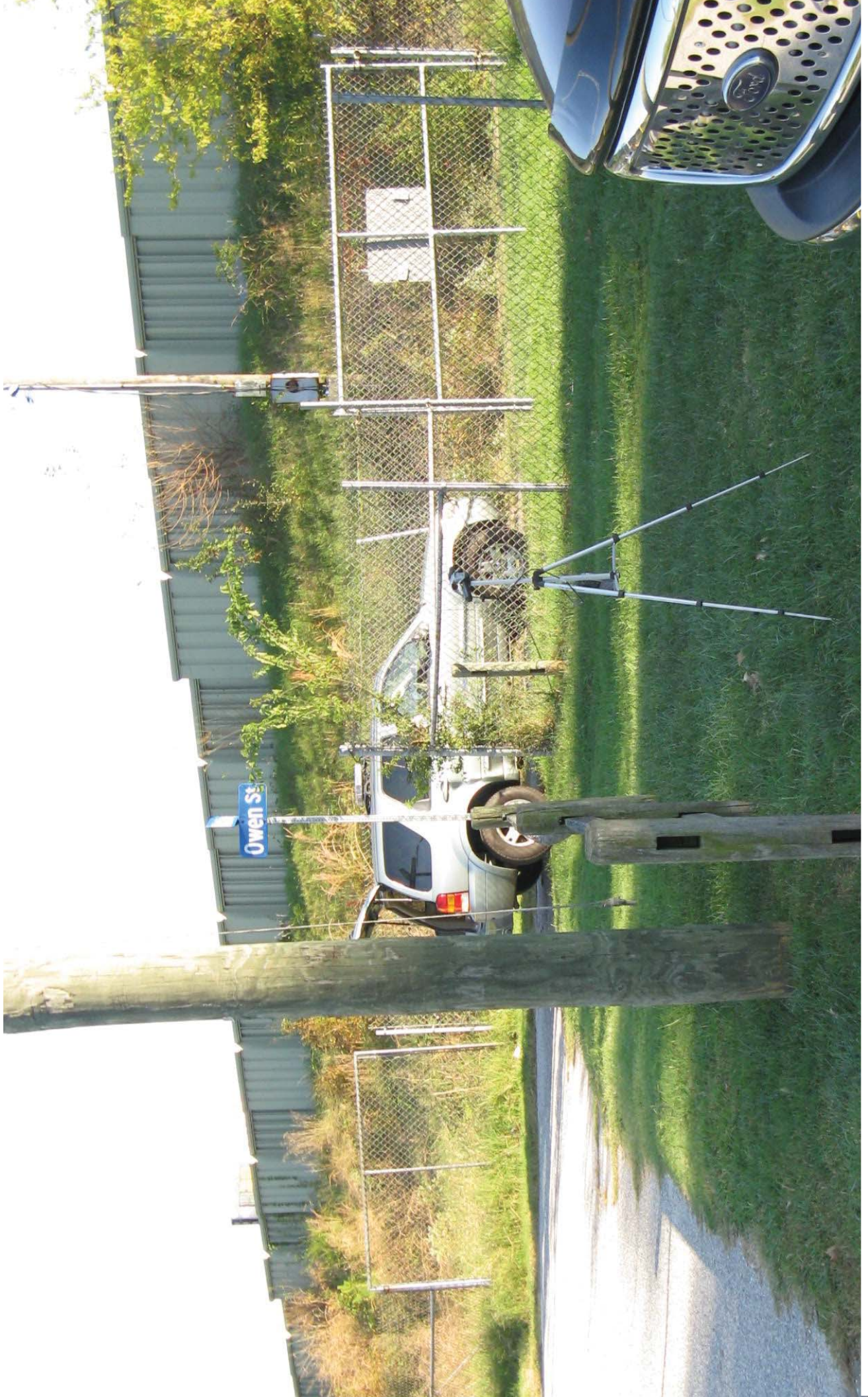
SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: ~~Area 2~~ 2 MEASUREMENT SITE NO.: 4
 ADDRESS: 1303 PATRICK CT.
 OWNER: CHARLES REYNOLDS
 DESCRIPTION: SFIT
 NOISE SOURCES: I-64
 NOISE MONITOR: 2032 ← Pic 13-16 S/N: METROSOMCS 3050 ^{dB}
 MICROPHONE: 1/4" METROSOMCS S/N: 12075
 CALIBRATOR: METROSOMCS CL 304 S/N: 2465
 TEMP. RANGE (°F): 79-81° 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.

NOTE: 7' FROM EDGE OF CONCRETE PAD, ALONG LINE WHERE CONCRETE MEETS GRAVEL





Site 4



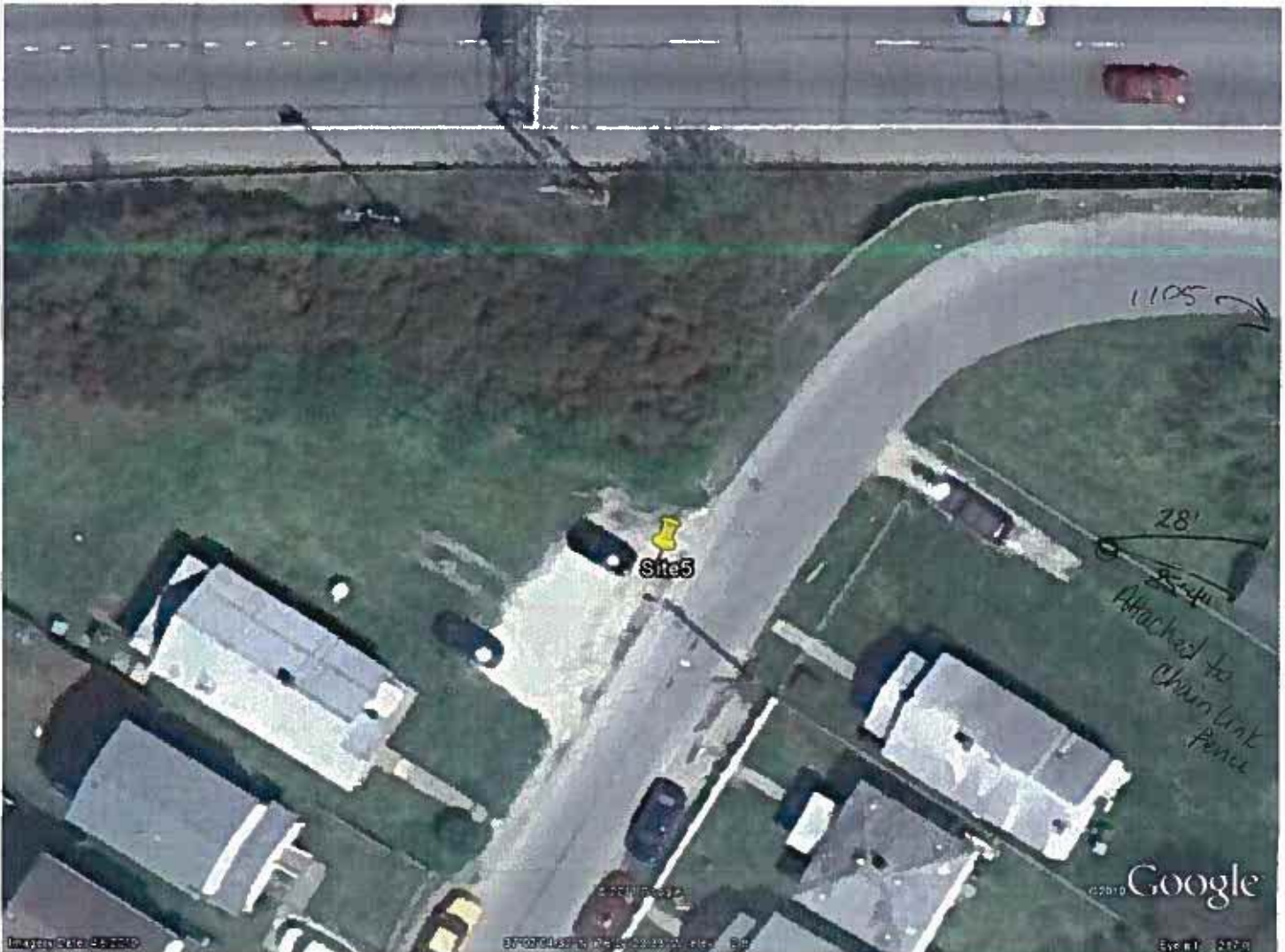
PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.:

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: ~~Site 2~~ 2 MEASUREMENT SITE NO.: 5
ADDRESS: 1105 THOMAS ST.
OWNER: THOMAS STREET LLC
DESCRIPTION: DUPLEX
NOISE SOURCES: I-64
NOISE MONITOR: RION 3 (NL-06) Pic # 9-12 S/N: 00380352
MICROPHONE: VC-52 NPL-19 RION S/N: 03506 58522
CALIBRATOR: RION NC-73 File 01.AU2 S/N: 10417650
TEMP. RANGE (°F): 79-81° 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.





Site 5

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: ~~Site 10~~ 2 MEASUREMENT SITE NO.: 6
ADDRESS: (808) 808 LANGLEY AVE
OWNER: DEBRA COBBIN
DESCRIPTION: SFH
NOISE SOURCES: I-64
NOISE MONITOR: 2033 ← Pic 17-20 S/N: METROSONICS 3080 dB
MICROPHONE: 12052 ← → S/N: METROSONICS 1/4"
CALIBRATOR: METROSONICS CL304 S/N: 2465
TEMP. RANGE (°F): 79-81° 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.





Site 6

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: ~~Site 2~~ 2 MEASUREMENT SITE NO.: 7
 ADDRESS: 931 MASON ST.
 OWNER: SOLOMON JONES + CRESTINE MONROE
 DESCRIPTION: SFH
 NOISE SOURCES: I-G 4
 NOISE MONITOR: ~~478~~ 2342 Pic 21-24 S/N: METROSOMICS dB 308
 MICROPHONE: (INTEGRAL) S/N: N/A
 CALIBRATOR: METROSOMICS CL-304 S/N: 2465
 TEMP. RANGE (°F): 79-81° 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.

NOTE: 15' FROM CORNER OF HOUSE, ALONG STRAIGHT LINE FROM HOUSE SIDE.





Site 7



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.: _____

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA: ~~2~~ 2 START TIME: 5:10-r
 MEASUREMENT SITE NO.: 4, 5, 6, 7 END TIME: 5:30
 ADDRESS/DESCRIPTION: FROM BREAK IN FENCE DATE: Oct 18 2011
AT LANGLEY AVE. PERSONNEL: GWT/CS
AND THOMAS ST.

Roadway:	Time	DIRECTION 1	DIRECTION 2
Roadway: <u>I-64</u> First Sample (<u>5</u> minutes) Start Time: <u>5:10</u> EB 64 (SB)	<u>5:10-5:15</u>	<u>SB</u>	<u>NB</u>
Automobiles	<u>338</u>		
Medium Trucks (6 Tires)	<u>3</u>		
Heavy Trucks (>6 Tires)	<u>5</u>		
Roadway: <u>I-64</u> Second Sample (<u>5</u> minutes) Start Time: <u>5:15</u> WB 64 (NB)	<u>5:15-5:20</u>		
Automobiles	<u>329</u>		
Medium Trucks (6 Tires)	<u>3</u>		
Heavy Trucks (>6 Tires)	<u>5</u>		
Roadway: <u>I-64</u> Third Sample (<u>5</u> minutes) Start Time: <u>5:20</u> EB 64 (SB)	<u>5:20-5:25</u>		
Automobiles	<u>334</u>		
Medium Trucks (6 Tires)	<u>1</u>		
Heavy Trucks (>6 Tires)	<u>0</u>		
Roadway: <u>I-64</u> Fourth Sample (<u>5</u> minutes) Start Time: <u>5:25</u> WB 64 (NB)	<u>5:25-5:30</u>		
Automobiles	<u>296</u>		
Medium Trucks (6 Tires)	<u>2</u>		
Heavy Trucks (>6 Tires)	<u>4</u>		

Notes:

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 3 MEASUREMENT SITE NO.: 8

ADDRESS: ~~415 FOLEY BLVD~~ CORPORA APTS. POOL

OWNER: 100 SPANISH TRAIL

DESCRIPTION: POOL AREA

NOISE SOURCES:

NOISE MONITOR: (NL-06) ~~PLON 7~~ PLON 3 (NL-06) PL 5-8 S/N: 00380352

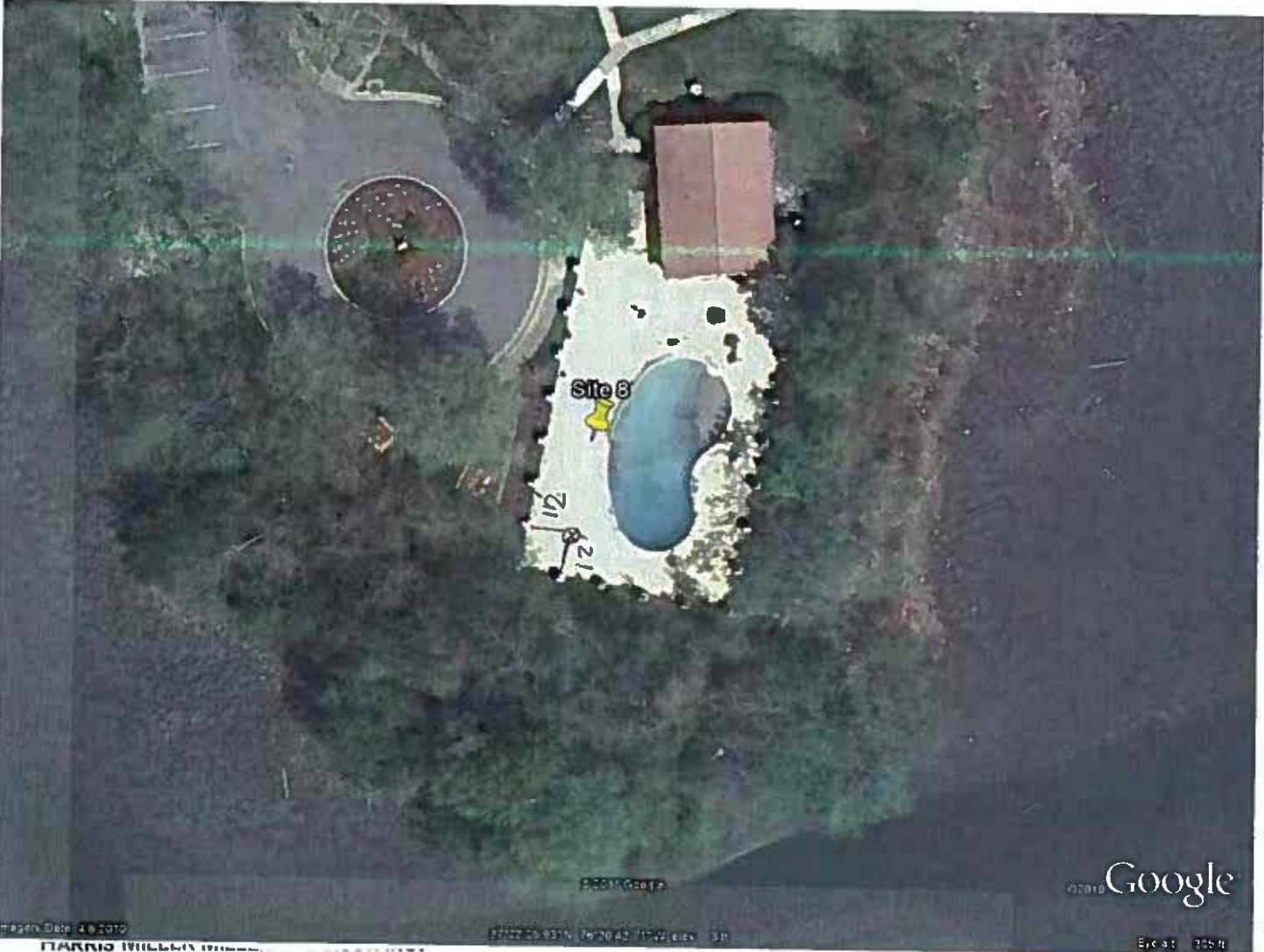
MICROPHONE: UC-52 S/N: ~~01270249~~ 7963158522

CALIBRATOR: PLON NC-73 FILE 00 S/N: 10417650

TEMP. RANGE (°F): 63-69°F WEATHER CONDITIONS: SUNNY, CALM

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & NNW
WINDS 5-10 MPH

NOTE: 12' PERPENDICULAR TO PILLARS





Site 8

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 2 MEASUREMENT SITE NO.: 9

ADDRESS: 415 COMBOUT

OWNER: _____

DESCRIPTION: _____

NOISE SOURCES: _____

NOISE MONITOR: PLON 2 (NO06) PICS # 1-4 S/N: 01270249

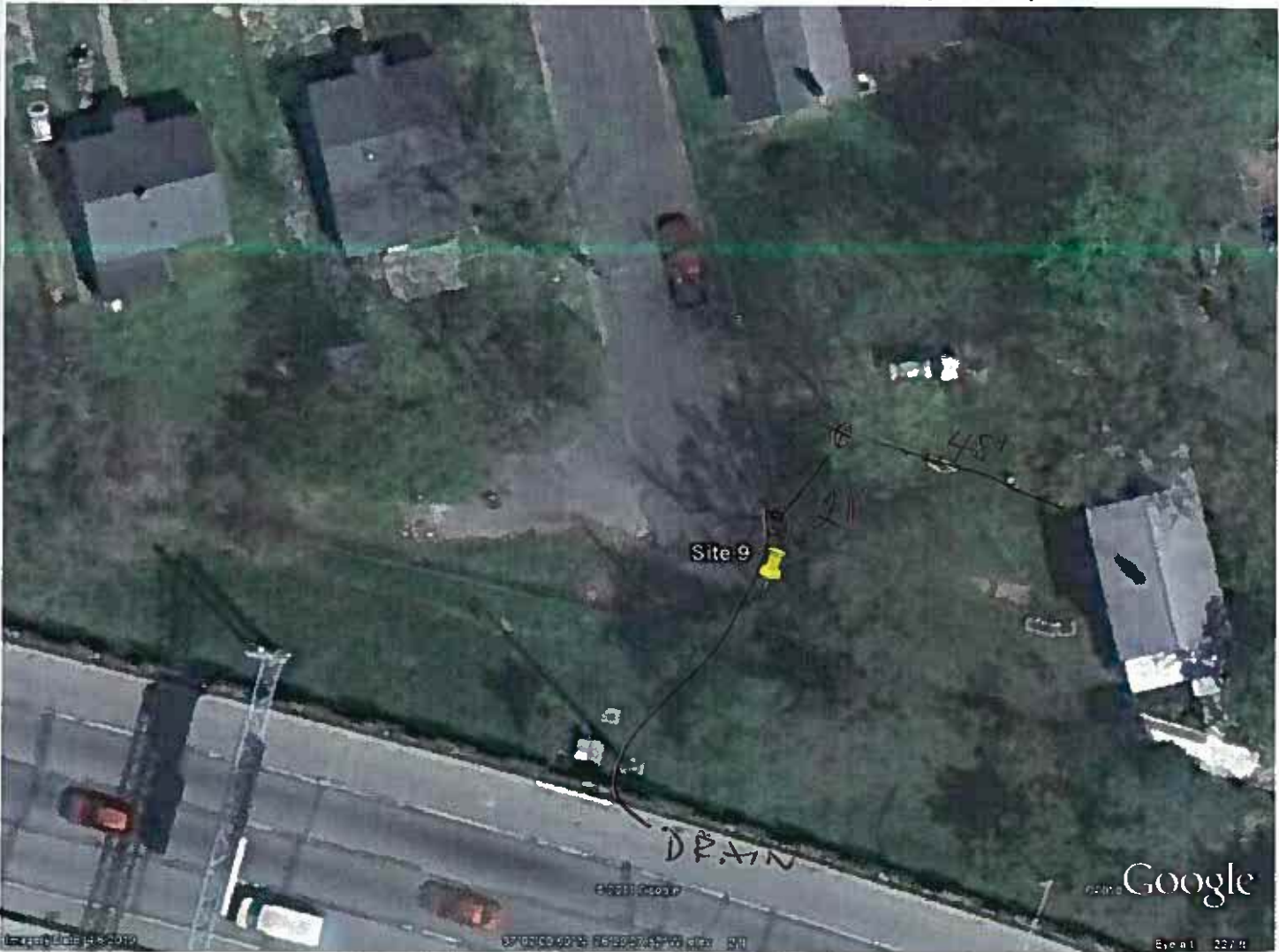
MICROPHONE: UC-52 S/N: 79631

CALIBRATOR: PLON NC-73 S/N: 10417650

TEMP. RANGE (°F): 63-64° F WEATHER CONDITIONS: SUNNY, 5-10mph wind
49-62 (LT) (ST)

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. NNW

24-HR? (Y) 10:15^{am} → 10:15^{am}



Site Number	LT-9
Location:	Marshall St - Cul-De-Sac, Hampton VA
Date:	10/25-26/2011
Start Time:	10:10
Duration (Hour):	24

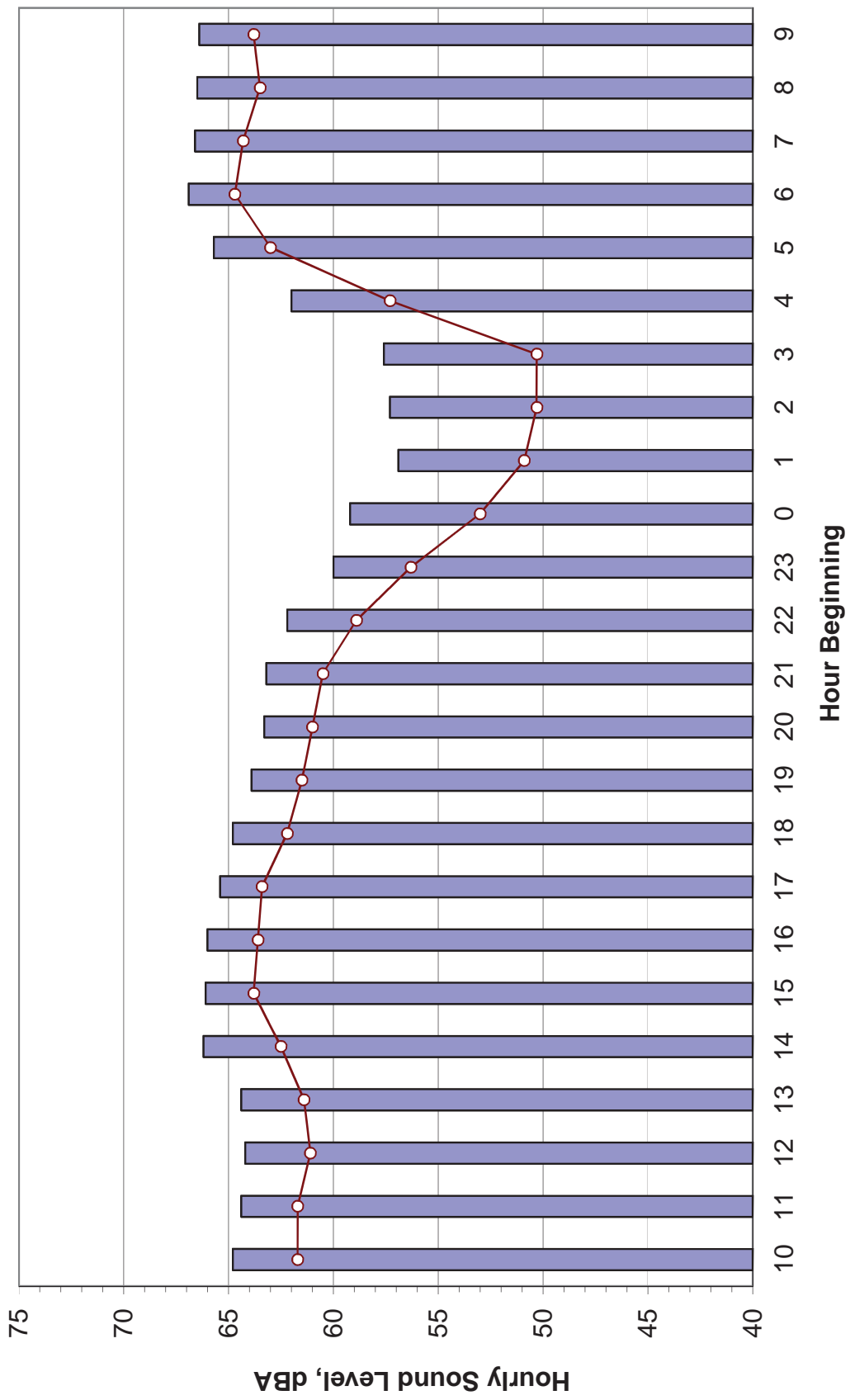
VALIDATION SOUND LEVEL

Time	Leq	Enter Y for Yes	
		Non-Traffic	Exclude
10:10	64.8		
11:10	64.4		
12:10	64.2		
13:10	64.4		
14:10	66.2		
15:10	66.1		
16:10	66		
17:10	65.4		
18:10	64.8		
19:10	63.9		
20:10	63.3		
21:10	63.2		
22:10	62.2		
23:10	60		
0:10	59.2		
1:10	56.9		
2:10	57.3		
3:10	57.6		
4:10	62		
5:10	65.7		
6:10	66.9		
7:10	66.6		
8:10	66.5		
9:10	66.4		

For Validation

Energy	Traffic-only	Overall
3019951.72	3019951.72	3019952
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

LT09 Hourly Sound Levels





Site 9



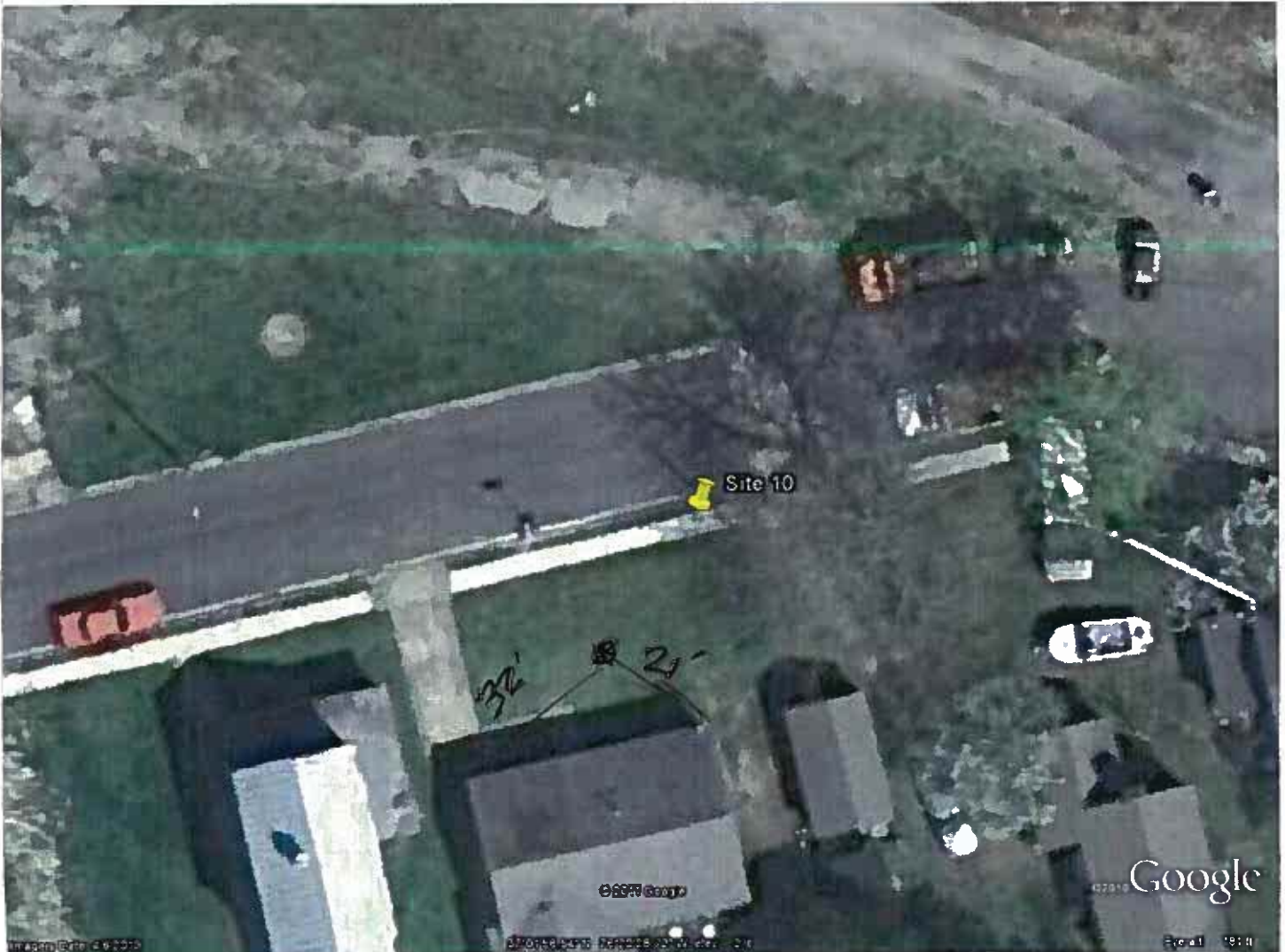
PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.: _____

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 3 MEASUREMENT SITE NO.: 10
ADDRESS: 326 POPLAR
OWNER: _____
DESCRIPTION: _____
NOISE SOURCES: _____
NOISE MONITOR: 2082 ← PICS# 9-12 S/N: METRO 3080
MICROPHONE: METRO 140 S/N: 12075
CALIBRATOR: METRO CL-30Y S/N: 2465
TEMP. RANGE (°F): 63-64°F WEATHER CONDITIONS: SUNNY, 5-10 mph WIND

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.





Site 10

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 3 MEASUREMENT SITE NO.: 11

ADDRESS: 101 Brough Lane

OWNER: _____

DESCRIPTION: _____

NOISE SOURCES: _____

NOISE MONITOR: METRO 68708 Pics # 17-21 S/N: 2342

MICROPHONE: INTEGRAL 1/2" S/N: N/A

CALIBRATOR: METRO CL-30Y S/N: 2465

TEMP. RANGE (°F): 63-64°F WEATHER CONDITIONS: SUNNY, 5-10 mph W in 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.

11-ALT





Site 11



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis
JOB NO.: _____

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 3 MEASUREMENT SITE NO.: 12

ADDRESS: 72 Bot wood

OWNER: _____

DESCRIPTION: _____

NOISE SOURCES: _____

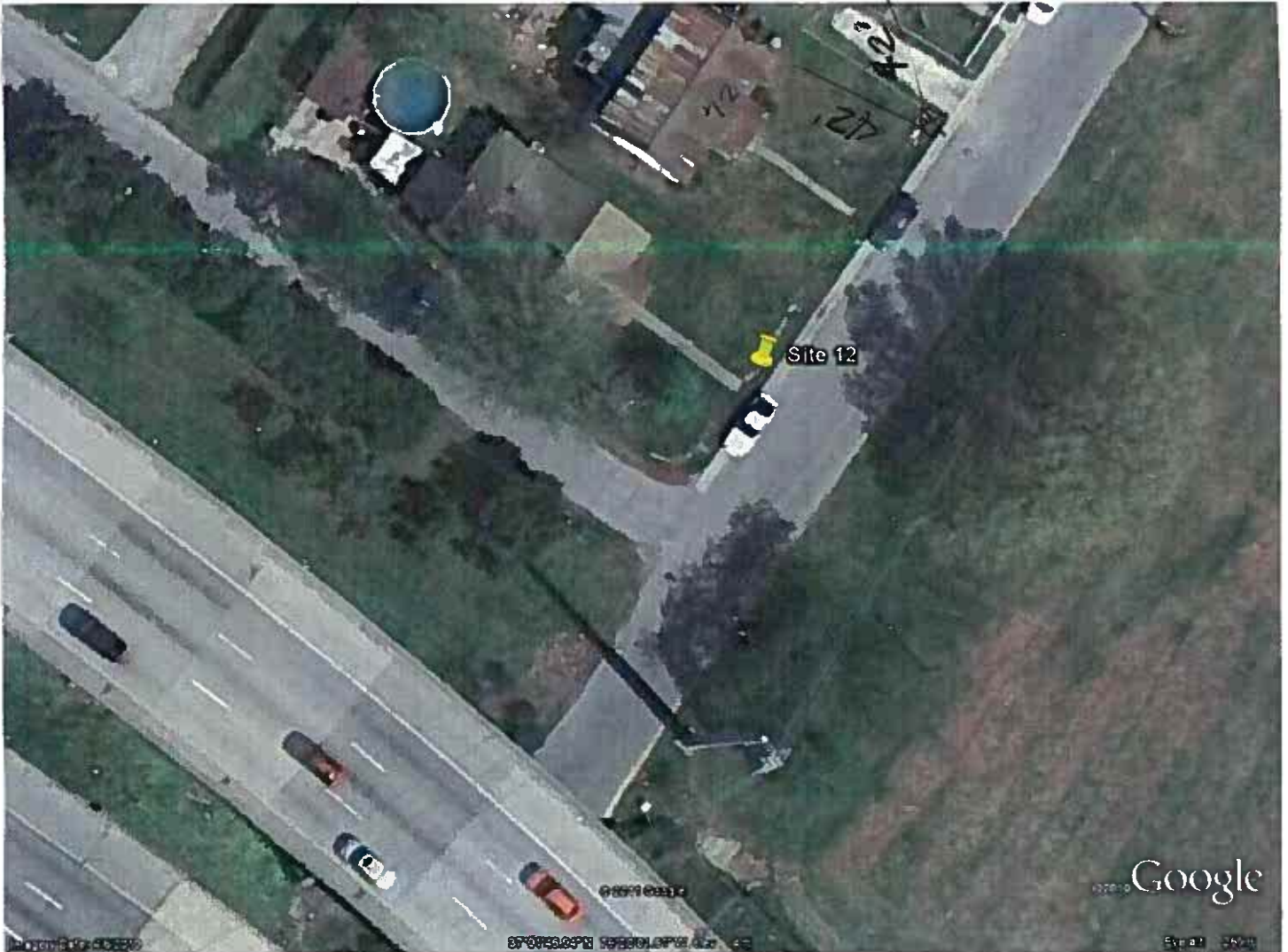
NOISE MONITOR: 2033 ← Pics # 13-16 S/N: Metro dB 3080

MICROPHONE: Metro 1/4" S/N: 12052

CALIBRATOR: Metro CL-304 S/N: 2465

TEMP. RANGE (°F): 63-64°F WEATHER CONDITIONS: SUNNY, 5-10 mph WIND
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.





Site 12

PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.: _____

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA: 3 START TIME: _____
 MEASUREMENT SITE NO.: 8 TO 12 END TIME: _____
 ADDRESS/DESCRIPTION: _____ DATE: Oct 25 2011
 _____ PERSONNEL: GWT/CS alg

Roadway: Rt 2, 64 DIRECTION 1 WEST DIRECTION 2 EAST
 First Sample (5 minutes) _____
 Start Time: 11:50 A _____
 Automobiles 187 None
 Medium Trucks (6 Tires) 7 4
 Heavy Trucks (>6 Tires) 10 12

Roadway: Rt 2, 64
 Second Sample (5 minutes) _____
 Start Time: 12:50 P _____
11:55 _____
 Automobiles _____ 166
 Medium Trucks (6 Tires) _____ 4
 Heavy Trucks (>6 Tires) _____ 12

Roadway: Rt 2, 64
 Third Sample (5 minutes) _____
 Start Time: 12:05 _____
12:00 _____
 Automobiles 121 _____
 Medium Trucks (6 Tires) 8 _____
 Heavy Trucks (>6 Tires) 5 _____

Roadway: Rt 2, 64
 Fourth Sample (5 minutes) _____
 Start Time: 12:05 _____
 Automobiles _____ 171
 Medium Trucks (6 Tires) _____ 48
 Heavy Trucks (>6 Tires) _____ 9

Notes: _____



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis
JOB NO.: _____

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 4 MEASUREMENT SITE NO.: 13

ADDRESS: HAMPTON UNIV, SOFTBALL STADIUM

OWNER: _____

DESCRIPTION: _____

NOISE SOURCES: _____

NOISE MONITOR: METRO dB308 21 - 24 SIN: 2342

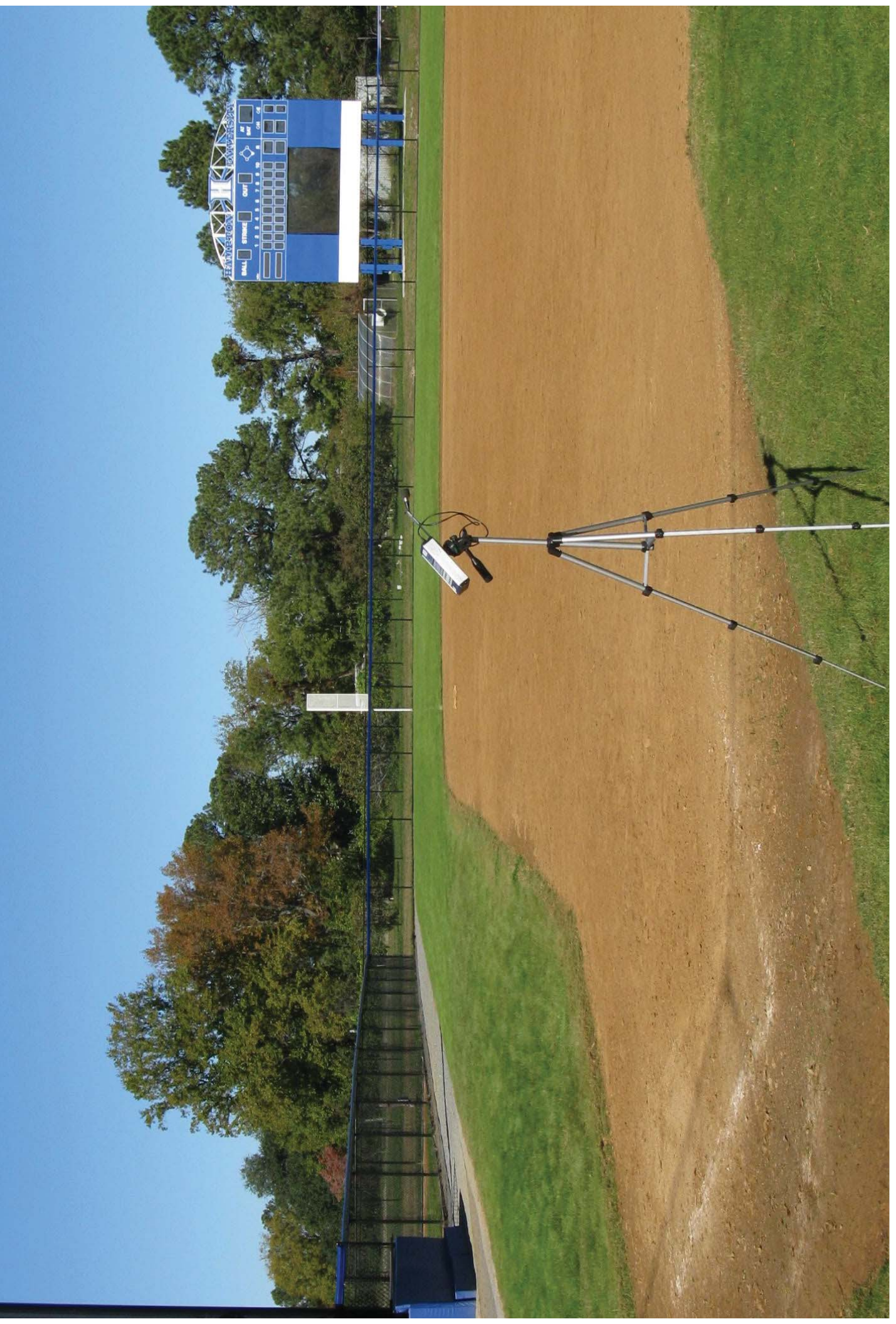
MICROPHONE: INTEGRAL 1/2" SIN: N/A

CALIBRATOR: METRO CL-304 SIN: 2465

TEMP. RANGE (°F): 67-68 WEATHER CONDITIONS: SUNNY, 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.



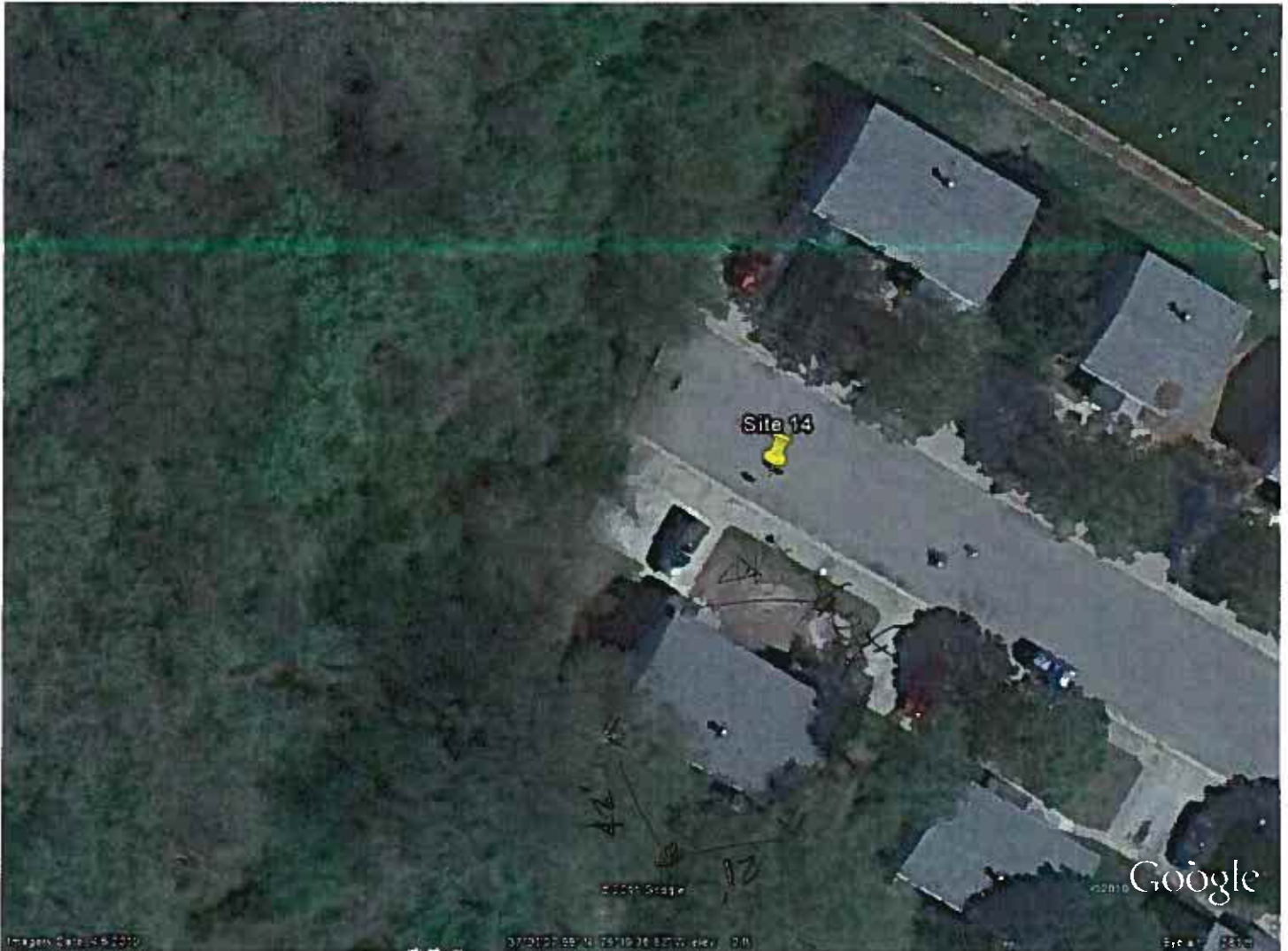


Site 13

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 4 MEASUREMENT SITE NO.: 14
 ADDRESS: 114 Cameron
 OWNER: _____
 DESCRIPTION: _____
 NOISE SOURCES: _____
 NOISE MONITOR: 2032 ← pics #29-32 S/N: METROSONES dB 3080
 MICROPHONE: METRO 1/4" S/N: 12052
 CALIBRATOR: METRO CL-304 S/N: 2465
 TEMP. RANGE (°F): 67-68 WEATHER CONDITIONS: SUNNY, 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.





Site 14



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis
 JOB NO.: _____

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 4 MEASUREMENT SITE NO.: 15
 ADDRESS: 9 Home Place
 OWNER: _____
 DESCRIPTION: _____
 NOISE SOURCES: _____
 NOISE MONITOR: 2032 Acc # 33-34 S/N: METRO dB3080
 MICROPHONE: METRO 1/4" S/N: 12075
 CALIBRATOR: METRO CL-304 S/N: 2465
 TEMP. RANGE (°F): 67-68 WEATHER CONDITIONS: SUNNY, 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.

NOTE: 27' FROM HOUSE CORNER, 30' FROM FENCE CORNER





Site 15



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis
 JOB NO.: _____

SHORT-TERM NOISE MEASUREMENT SITE LOG

File 001

ASSESSMENT AREA: 4 MEASUREMENT SITE NO.: 16

ADDRESS: 1325

OWNER: _____

DESCRIPTION: _____

NOISE SOURCES: _____

NOISE MONITOR: (NL-06) RION 3 PCS# 37-40 S/N: 60380302

MICROPHONE: UC-52 File 001 S/N: 58522

CALIBRATOR: RION NC-73 S/N: 10417650

TEMP. RANGE (°F): 67-68 WEATHER CONDITIONS: SUNNY, 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.

NOTE: METER PLACED AT END OF BRICK WALKWAY





Site 16



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis
 JOB NO.: _____

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA: 4 START TIME: _____
 MEASUREMENT SITE NO.: 13 to 16 END TIME: _____
 ADDRESS/DESCRIPTION: _____ DATE: Oct 25 2011
 _____ PERSONNEL: GWT/CS Aly

	DIRECTION 1	DIRECTION 2
Roadway: _____	<u>East</u>	<u>West</u>
First Sample (<u>5</u> minutes)		
Start Time: <u>2:50 PM</u>		
Automobiles	<u>✓ 200</u>	
Medium Trucks (6 Tires)	<u>2</u>	
Heavy Trucks (>6 Tires)	<u>11</u>	

Roadway: _____		
Second Sample (<u>5</u> minutes)		
Start Time: <u>2:55</u>		
Automobiles		<u>✓ 242</u>
Medium Trucks (6 Tires)		<u>1</u>
Heavy Trucks (>6 Tires)		<u>6</u>

Roadway: _____		
Third Sample (<u>5</u> minutes)		
Start Time: <u>3:00</u>		
Automobiles	<u>✓ 180</u>	
Medium Trucks (6 Tires)	<u>7</u>	
Heavy Trucks (>6 Tires)	<u>7</u>	

Roadway: _____		
Fourth Sample (_____ minutes)		
Start Time: <u>3:05 P</u>		
Automobiles		<u>✓ 240</u>
Medium Trucks (6 Tires)		<u>5</u>
Heavy Trucks (>6 Tires)		<u>10</u>

Notes:



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis
 JOB NO.: _____

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA: 5 START TIME: 10:05
 MEASUREMENT SITE NO.: 17-19 END TIME: 10:25
 ADDRESS/DESCRIPTION: COUNTED AT DATE: NOV 8 2011
15th VIEW PERSONNEL: GWT/CS

RESIDENT RETURNED HOME AT SOME POINT DURING MEASUREMENT AT SITE 17

	DIRECTION 1 EB	DIRECTION 2 WB
Roadway: _____		
First Sample (<u>5</u> minutes)		
Start Time: <u>10:05</u>		
Automobiles	<u>143</u>	
Medium Trucks (6 Tires)	<u>8</u>	
Heavy Trucks (>6 Tires)	<u>7</u>	

*10:06 backfire
10:07 → hammering ongoing*

Roadway: _____		
Second Sample (<u>5</u> minutes)		
Start Time: <u>10:10</u>		
Automobiles	110	<u>110</u>
Medium Trucks (6 Tires)	3	<u>3</u>
Heavy Trucks (>6 Tires)	3	<u>3</u>

*10:11 helicopter
Random hammering*

Roadway: _____		
Third Sample (<u>5</u> minutes)		
Start Time: <u>10:15</u>		
Automobiles	<u>162</u>	
Medium Trucks (6 Tires)	<u>5</u>	
Heavy Trucks (>6 Tires)	<u>10</u>	

10:18 propeller plane

Roadway: _____		
Fourth Sample (<u>5</u> minutes)		
Start Time: <u>10:20</u>		
Automobiles	110	<u>110</u>
Medium Trucks (6 Tires)		<u>11</u>
Heavy Trucks (>6 Tires)		<u>14</u>

*10:22 plane
10:23 jet (entire minute)*

Notes:



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.: _____

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 5 MEASUREMENT SITE NO.: 17

ADDRESS: 1560 Chela Ave

OWNER: _____

DESCRIPTION: _____

NOISE SOURCES: _____

NOISE MONITOR: db 308 Pics 5-8 S/N: 2342

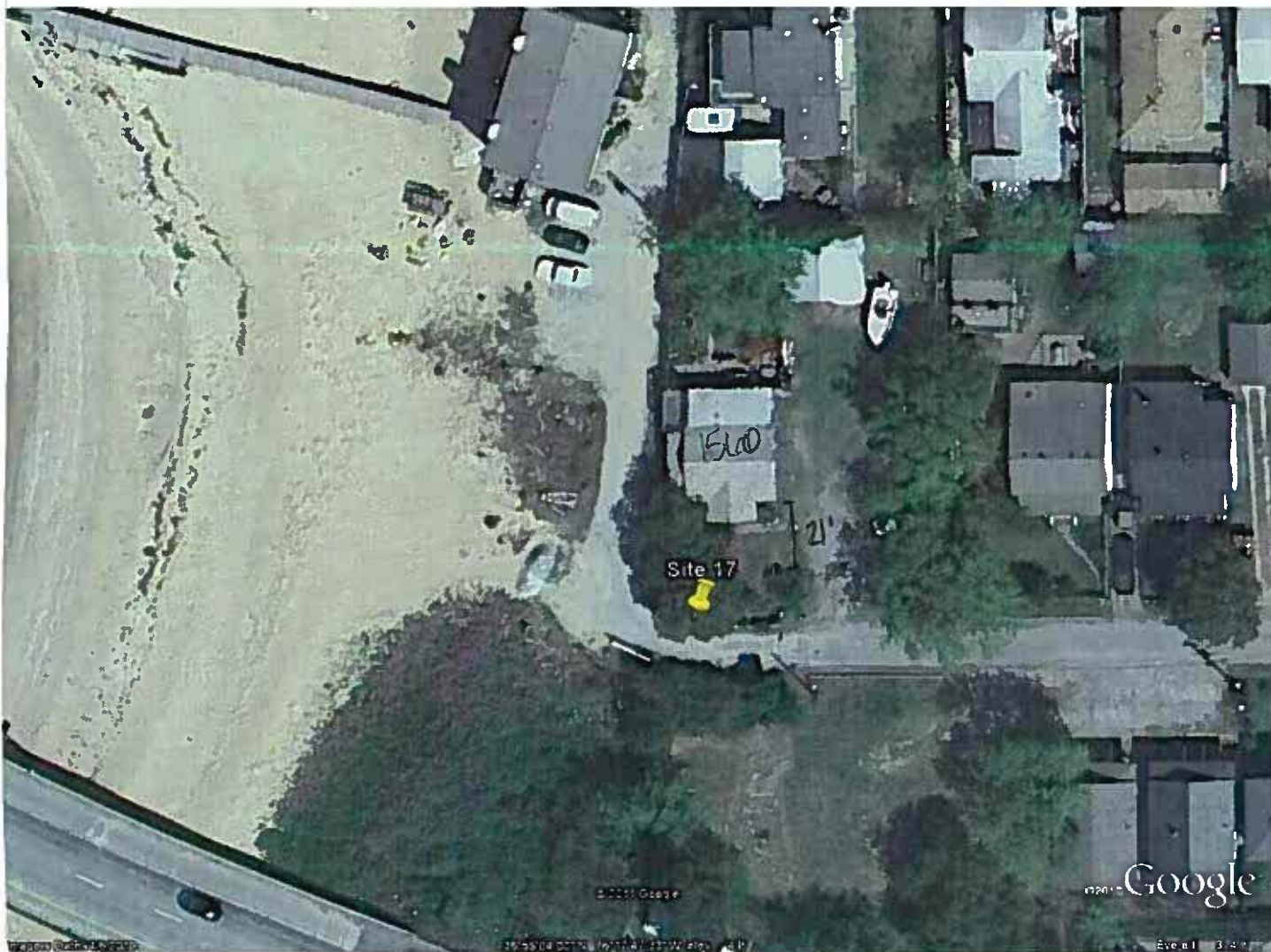
MICROPHONE: INTEGRAL S/N: N/A

CALIBRATOR: METROSONICS CL-30Y S/N: 2465

TEMP. RANGE (°F): 57-58° 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.

Note: At some time during measurement, resident returned home.





Site 17



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.: _____

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 5 MEASUREMENT SITE NO.: 18
ADDRESS: 1753 Bayville Court
OWNER: _____
DESCRIPTION: _____
NOISE SOURCES: _____
NOISE MONITOR: dB 3080 2032 2105 1-4 ~~1-4~~ S/N: 2032
MICROPHONE: 1/4" METRO S/N: 12075
CALIBRATOR: METRO CL-304 S/N: 2465
TEMP. RANGE (°F): 57-58° 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.





Site 18



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.: _____

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 5 MEASUREMENT SITE NO.: 19
ADDRESS: INTERSECTION OF 14TH VIEW + LITTLE BAY AVE.
OWNER: _____
DESCRIPTION: _____
NOISE SOURCES: _____
NOISE MONITOR: dB 3080 PIC #9-12 S/N: 2033
MICROPHONE: 1/4" MEMPHONES S/N: 12052
CALIBRATOR: METRO CL-30P S/N: 2465
TEMP. RANGE (°F): 57-58° 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.





Site 19

PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.: _____

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA: 6 START TIME: 1:45
 MEASUREMENT SITE NO.: 20-22 END TIME: 2:05
 ADDRESS/DESCRIPTION: COUNTED AT SITE 22 DATE: NOV 8 2011
6TH VIEW PERSONNEL: GWT/CS

	DIRECTION 1 <u>EB</u>	DIRECTION 2 <u>WB</u>
Roadway: _____		
First Sample (<u>5</u> minutes)		
Start Time: 1:45 <u>1:45</u>		
<u>1:48 Helicopter → directly over Site 22 lasting ~45 seconds</u>		
Automobiles	<u>133</u>	_____
Medium Trucks (6 Tires)	<u>7</u>	_____
Heavy Trucks (>6 Tires)	<u>20</u>	_____

Roadway: _____		
Second Sample (<u>5</u> minutes)		
Start Time: <u>1:50</u>		
Automobiles		<u>219</u>
Medium Trucks (6 Tires)		<u>4</u>
Heavy Trucks (>6 Tires)		<u>4</u>

Roadway: _____		
Third Sample (<u>5</u> minutes)		
Start Time: <u>1:55</u>		
<u>late in 1:56, early 1:57 helicopter → relevant to sites 20, 21</u>		
Automobiles	<u>123</u>	
Medium Trucks (6 Tires)	<u>4</u>	
Heavy Trucks (>6 Tires)	<u>12</u>	

Roadway: _____		
Fourth Sample (<u>5</u> minutes)		
Start Time: <u>2:00</u>		
Automobiles		<u>199</u>
Medium Trucks (6 Tires)		<u>6</u>
Heavy Trucks (>6 Tires)		<u>10</u>

Notes: _____



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.: _____

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 6 MEASUREMENT SITE NO.: 20

ADDRESS: Pier/Beach/Wiloughby Boat Club

OWNER: _____

DESCRIPTION: _____

NOISE SOURCES: _____

NOISE MONITOR: db3080 Pic # 21-24 S/N: 2033

MICROPHONE: 1/4" METROSONICS S/N: 12052

CALIBRATOR: METRO CL-304 S/N: 2465

TEMP. RANGE (°F): 62° WEATHER CONDITIONS: SUNNY, CALM ~ 5mph 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.





Site 20



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.:

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 6 MEASUREMENT SITE NO.: ~~20~~ 21
ADDRESS: Captains Quarters Waterfront Park
OWNER: _____
DESCRIPTION: _____
NOISE SOURCES: _____
NOISE MONITOR: db30B Pics# 25-32 S/N: 2342
MICROPHONE: INTEGRAL S/N: MA
CALIBRATOR: CL-304 METRO S/N: 2465
TEMP. RANGE (°F): 62° WEATHER CONDITIONS: SUNNY, ~5mph

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 21



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis
JOB NO.: _____

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 6 MEASUREMENT SITE NO.: 22
ADDRESS: 9605 6th View St.
OWNER: _____
DESCRIPTION: _____
NOISE SOURCES: _____
NOISE MONITOR: db 3080 Pic # 17-20 S/N: 2032
MICROPHONE: 1/4" MEMRO S/N: 12075
CALIBRATOR: MEMRO CL-304 S/N: 2465
TEMP. RANGE (°F): 62° WEATHER CONDITIONS: Sunny, ~5mph

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 22



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.: _____

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA: 7
 MEASUREMENT SITE NO.: 23-27
 ADDRESS/DESCRIPTION: COUNTED AT SITE 23
O'CONNOR CRESCENT

START TIME: 3:25
 END TIME: 3:45
 DATE: Nov 8 2011
 PERSONNEL: GWT/CS

all throughout steady traffic on O'Connor Crescent

Roadway:	DIRECTION 1	DIRECTION 2
First Sample (<u>5</u> minutes) Start Time: <u>3:25</u>	<u>WB</u> (right to left)	<u>EB</u> (left to right)
<u>Helicopter - late 3:27, early 3:28 (lasting 20-30 sec) over site 23</u>	<u>214</u>	
Automobiles	<u>7</u>	
Medium Trucks (6 Tires)	<u>0</u>	
Heavy Trucks (>6 Tires)		
3:29 helicopter lasting about 30 sec site 23		
Roadway:		
Second Sample (<u>5</u> minutes) Start Time: <u>3:30</u>		
3:31 plane passing ~15 sec (cont)		<u>196</u>
Automobiles		<u>7</u>
Medium Trucks (6 Tires)		<u>9</u>
Heavy Trucks (>6 Tires)		
3:32:30 helicopter passing lasting ~20-30 sec		
3:34 helicopter in distance		
Roadway:		
Third Sample (<u>5</u> minutes) Start Time: <u>3:35</u>		
3:37:50 car w/ loud music passes	<u>213</u>	
Automobiles	<u>1</u>	
Medium Trucks (6 Tires)	<u>9</u>	
Heavy Trucks (>6 Tires)		
3:39 toward end → heavy truck passes		
Roadway:		
Fourth Sample (<u>5</u> minutes) Start Time: <u>3:40</u>		
3:40:50 helicopter lasting ~1 minute 20 sec		<u>43 *</u>
Automobiles		<u>1</u>
Medium Trucks (6 Tires)		<u>1</u>
Heavy Trucks (>6 Tires)		
3:42:40 helicopter		
3:44:50 plane		

Notes: * For last counting period in EB direction, traffic disappears after 1/2 minute, indicating a disruption in traffic flow prior to assessment area.



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.:

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 7 MEASUREMENT SITE NO.: 23
ADDRESS: 8667 O'Conner Crescent
OWNER: _____
DESCRIPTION: _____
NOISE SOURCES: _____
NOISE MONITOR: db 308 Pic# ~~53-55~~ S/N: 2342
MICROPHONE: INTEGRAL Pic# 49-52 S/N: N/A
CALIBRATOR: Metro CL-30Y S/N: 2465
TEMP. RANGE (°F): 60° WEATHER CONDITIONS: SUNNY, ~6 mph

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: 11' FROM CORNER, ALONG STRAIGHT LINE OF SIDE FRONTING O'CONNOR CRESCENT.





Site 23



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.: _____

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 7 MEASUREMENT SITE NO.: 24
ADDRESS: 381 Cherry St
OWNER: _____
DESCRIPTION: _____
NOISE SOURCES: _____
NOISE MONITOR: db380 Pic#45-48 S/N: 2032
MICROPHONE: 1/4" METROSONICS S/N: 12075
CALIBRATOR: METRO CL-304 S/N: 2465
TEMP. RANGE (°F): 60° WEATHER CONDITIONS: SUNNY, ~6mph

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 24



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.: _____

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 7 MEASUREMENT SITE NO.: 25

ADDRESS: 9279 Coleman Avenue

OWNER: _____

DESCRIPTION: _____

NOISE SOURCES: _____

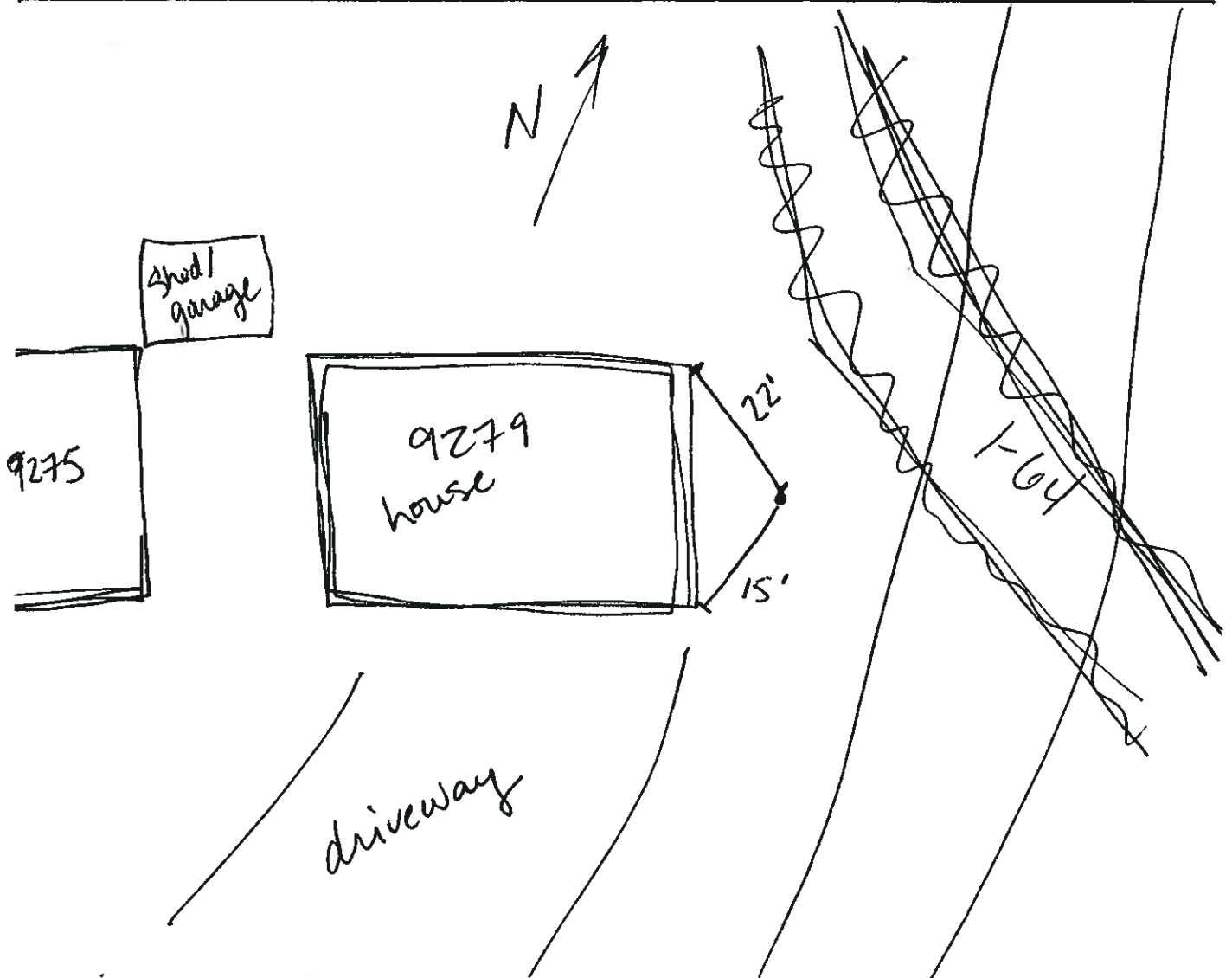
NOISE MONITOR: Bion N106#2 Pic 37-46 S/N: 61270289

MICROPHONE: UC-52 File 00.AU2 S/N: 79631

CALIBRATOR: RCW NC-23 S/N: 10417650

TEMP. RANGE (°F): 60° WEATHER CONDITIONS: SUNNY, ~6 mph

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 25



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.: _____

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 7 MEASUREMENT SITE NO.: 26

ADDRESS: corner Duvall and Hickory

OWNER: _____

DESCRIPTION: _____

NOISE SOURCES: _____

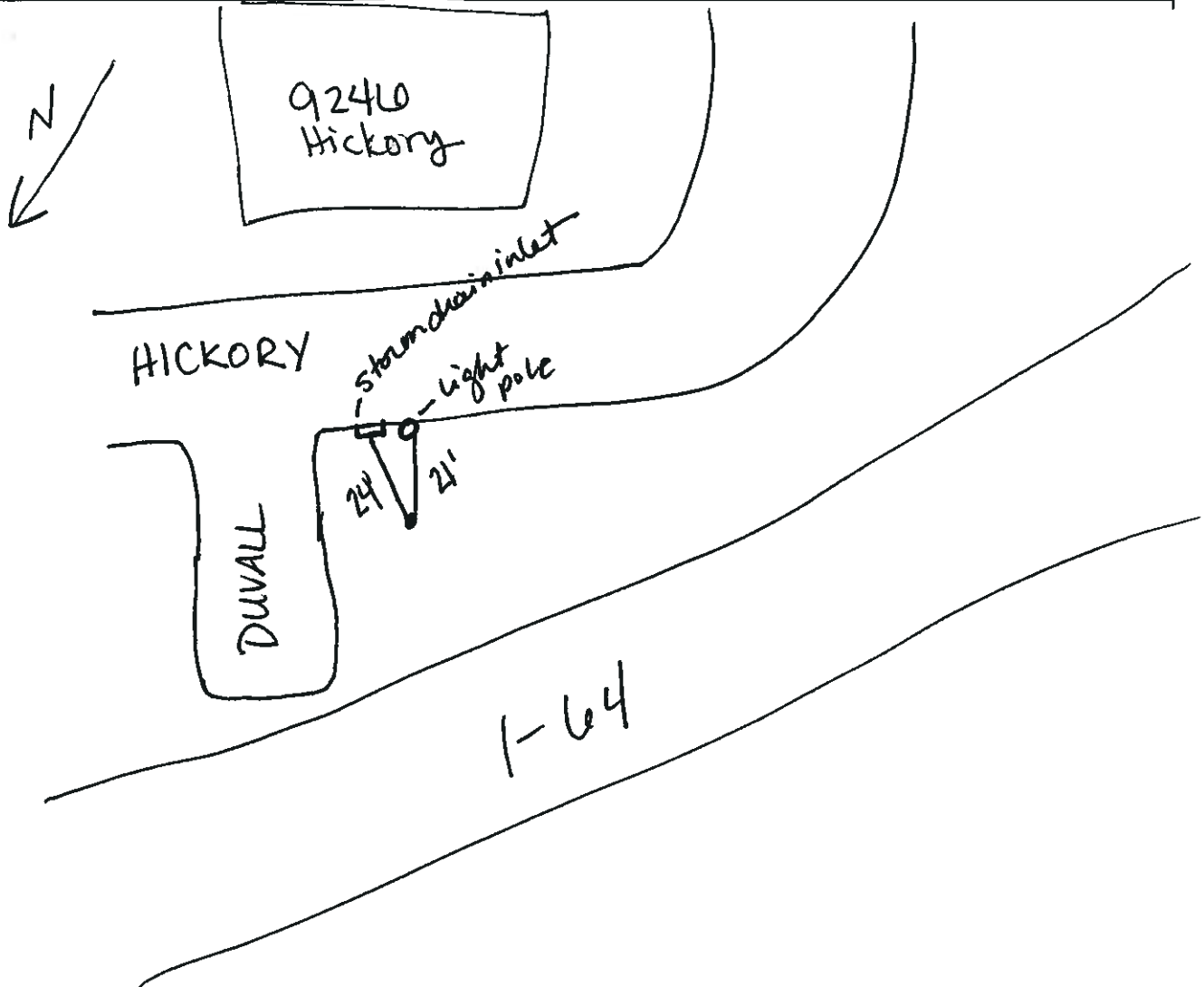
NOISE MONITOR: Db3080 Pic # 41-44 S/N: 2033

MICROPHONE: 1/4" METRO SOURCE S/N: 12052

CALIBRATOR: METRO CL-30P S/N: 2465

TEMP. RANGE (°F): 60° WEATHER CONDITIONS: SUNNY, ~6 mph

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.





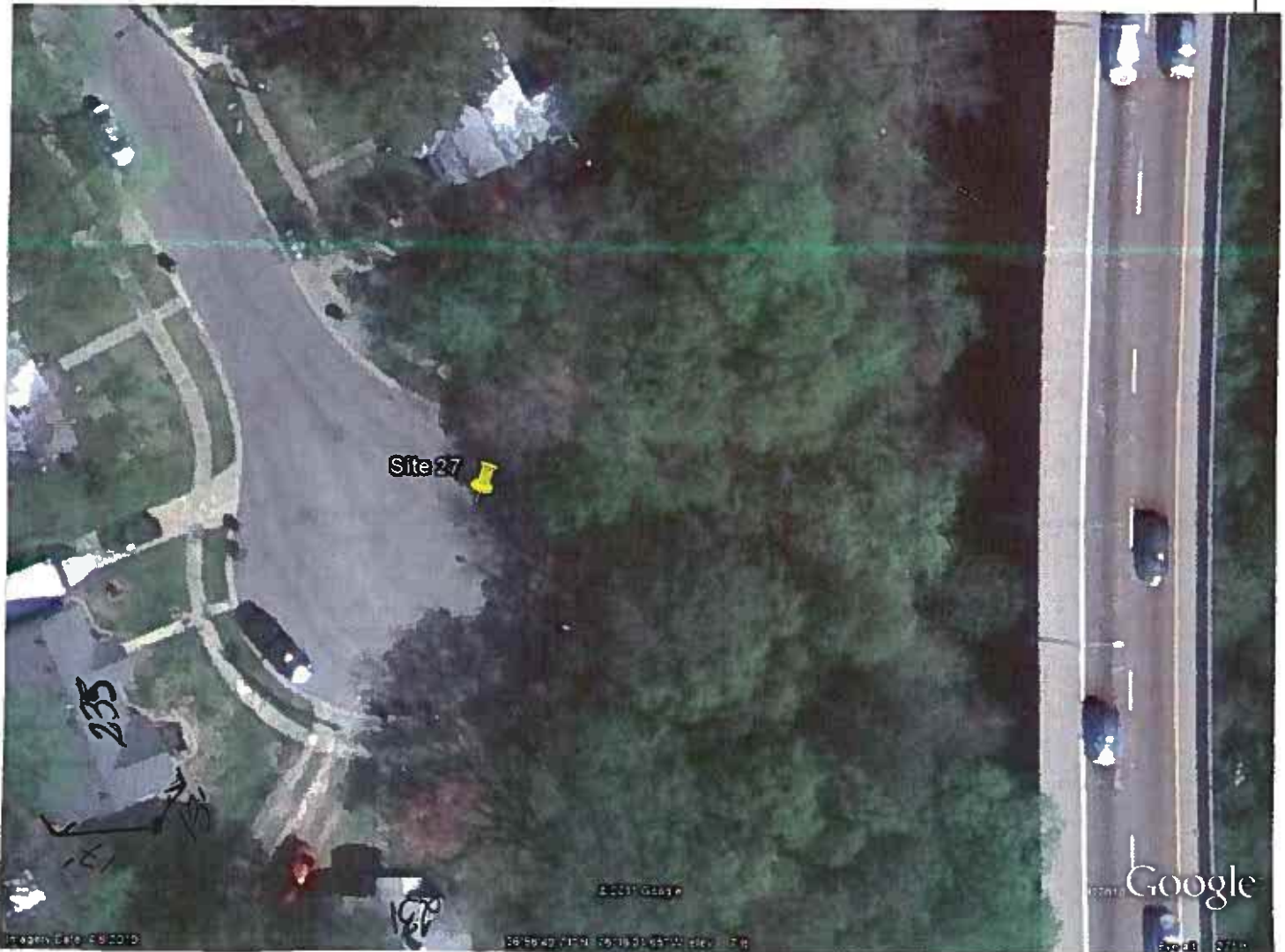
Site 26

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 7* MEASUREMENT SITE NO.: 27
 ADDRESS: 235 Burgoyne Rd *HR 12^{pm}! Should be omitted b/c traffic
 OWNER: _____ Stopped
 DESCRIPTION: Dog barking from 8pm-9pm at 231 Burgoyne
 NOISE SOURCES: _____
 NOISE MONITOR: RION NLO6 #3 Pic 13-10 S/N: 00380352
 MICROPHONE: UC-52 File 00.AU2 S/N: 58522
 CALIBRATOR: RION NC-73 S/N: 10417650
 TEMP. RANGE (°F): _____ 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



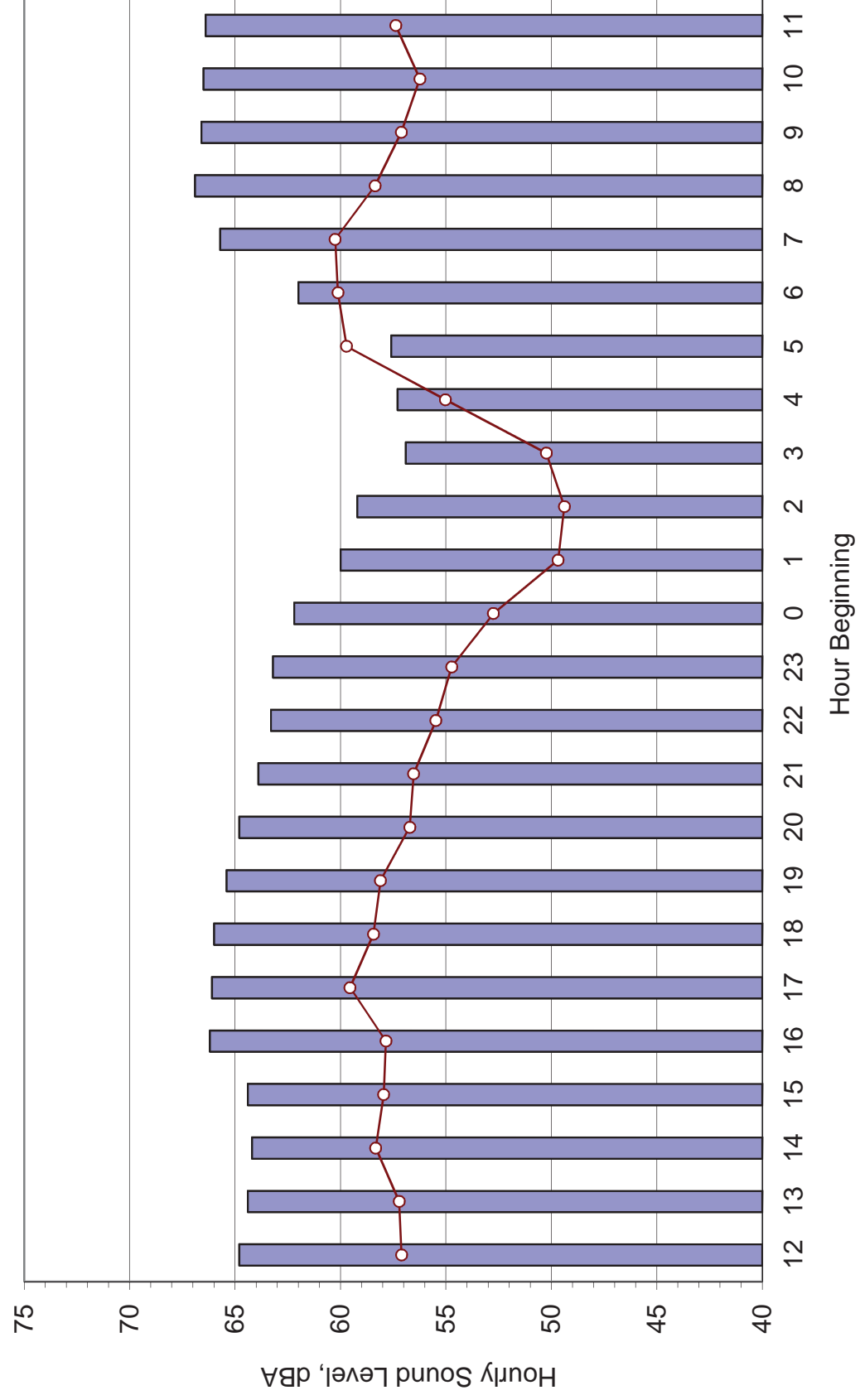
Site Number	LT-27
Location:	235 Burgoyne Road Cul-De-Sac, Hampton VA
Date:	11/8-9/2011
Start Time:	12:00
Duration (5 min):	288

VALIDATION SOUND LEVEL

Time	Leq	Enter Y for Yes	
		Non-Traffic	Exclude
12:00	66.06		
13:00	67.34		
14:00	68.14		
15:00	65.23		
16:00	67.62		
17:00	62.87		
18:00	66.16		
19:00	65.25		
20:00	62.54	Y	Y
21:00	60.38		
22:00	58.87		
23:00	58.74		
0:00	57.55		
1:00	56.54		
2:00	55.96		
3:00	56.84		
4:00	59.54		
5:00	62.71		
6:00	62.81		
7:00	62.58		
8:00	61.44		
9:00	63.52		
10:00	60.28		
11:00	65.00		

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

LT27 Hourly Sound Levels





Site 27

PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.: _____

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA: 8 START TIME: 10:00
 MEASUREMENT SITE NO.: 28031 END TIME: 10:20
 ADDRESS/DESCRIPTION: COUNTED AT SITE 31 DATE: Nov. 2 2011
EXHIBIT DR PERSONNEL: GWT/CS

Roadway:		DIRECTION 1	DIRECTION 2
First Sample (<u>5</u> minutes)		SB (EB)	NB (WB)
Start Time:			
<u>10:00</u>	Automobiles	<u>173</u>	
	Medium Trucks (6 Tires)	<u>3</u>	
	Heavy Trucks (>6 Tires)	<u>13</u>	
Second Sample (<u>5</u> minutes)			
Start Time:			
<u>10:05</u>	Automobiles		<u>134</u>
	Medium Trucks (6 Tires)		<u>2</u>
	Heavy Trucks (>6 Tires)		<u>16</u>
Third Sample (<u>5</u> minutes)			
Start Time:			
<u>10:10</u>	Automobiles	<u>182</u>	
	Medium Trucks (6 Tires)	<u>5</u>	
	Heavy Trucks (>6 Tires)	<u>4</u>	
Fourth Sample (<u>5</u> minutes)			
Start Time:			
<u>10:15</u>	Automobiles		<u>157</u>
	Medium Trucks (6 Tires)		<u>8</u>
	Heavy Trucks (>6 Tires)		<u>7</u>

Notes:



RUMMEL,
KLEPPER
& KAHL, LLP

75 Years "A Tradition Of Excellence"

Subject _____ Page _____ of _____
Cm. No. _____

Prepared By _____ Date _____ Checked By _____ Date _____

11-9-11 Noise Measurements for HRBT

157 Burrage Rd : Site 28

10:00 _____

10:05 _____

10:10 10:10:50 plane

10:15 10:15:30 maybe plane, maybe
just a loud truck

EXECUTIVE MANSION, SITE 31

-NO DISTURBANCES OBSERVED



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.: _____

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 8 MEASUREMENT SITE NO.: 28

ADDRESS: 157 Burrage Road

OWNER: _____

DESCRIPTION: _____

NOISE SOURCES: _____

NOISE MONITOR: db 3080 Pic# 53-56 S/N: 2032

MICROPHONE: 1/4" METRO S/N: 12075

CALIBRATOR: METRO CL-30Y S/N: 2465

TEMP. RANGE (°F): 54° 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.





Site 28



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.: _____

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 9

MEASUREMENT SITE NO.: 29

ADDRESS: behind 145 Burrage, corner of Gramel St and W Westmont Ave.

OWNER: _____

DESCRIPTION: _____

NOISE SOURCES: _____

NOISE MONITOR: db3080

Pic# 61-64

S/N: 2032

MICROPHONE: 1/4" METROSONICS

S/N: 12075

CALIBRATOR: METRO CL-304

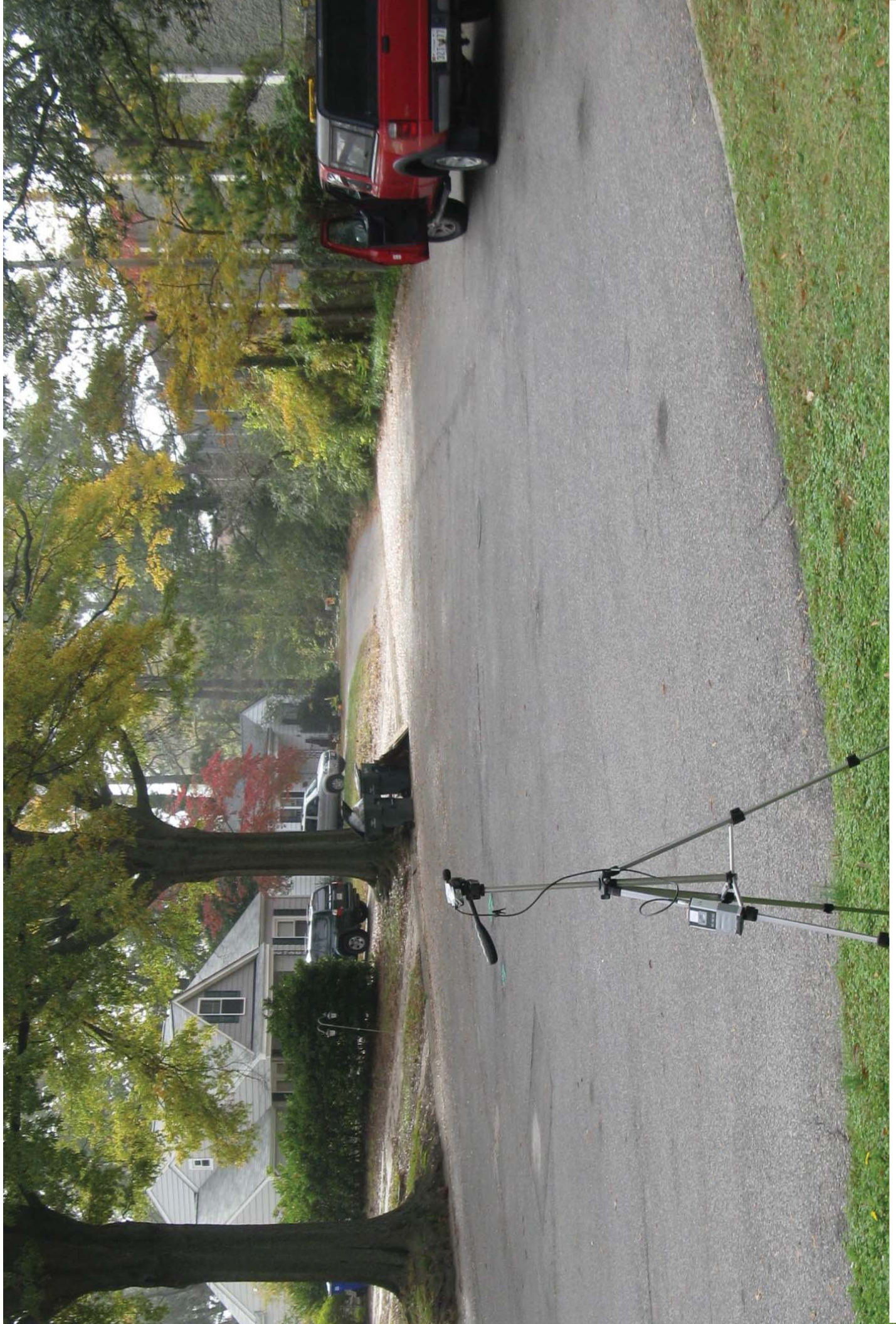
S/N: 2465

TEMP. RANGE (°F): 57°

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.





Site 29



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis
JOB NO.: _____

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 9 MEASUREMENT SITE NO.: 30
ADDRESS: 8587 Cranby Street
OWNER: _____
DESCRIPTION: _____
NOISE SOURCES: _____
NOISE MONITOR: dh3000 Pic# 65-68 S/N: 2033
MICROPHONE: 1/4" METROSONICS S/N: 12052
CALIBRATOR: METRO CL-304 S/N: 2465
TEMP. RANGE (°F): 57° 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.





Site 30



ASSES. # 9

11:00 am

→ 11:20 am

	<u>EB</u>	<u>WB</u>	<u>(START)</u>
CARS	163		(11:00)
M. TRUCKS	8		
H. TRUCKS	19		

- COUNTED AT
EXECUTIVE DR.
(SITE 31)

- SITES 29, 30

"		136	(11:05)
"		6	
"		10	

161

"

8

(11:10)

15

"

146

(11:15)

7

6

- NO DISTURBANCES OBSERVED AT
COUNTING SITE AT EXECUTIVE DR.



RUMMEL,
KLEPPER
& KAHL, LLP

75 Years "A Tradition Of Excellence"

Subject LOGGED ANOMALIES - ASSES. #9 Page _____ of _____
_____ Cm. No. _____

Prepared By _____ Date _____ Checked By _____ Date _____

11-9-11 Noise Measurements HRBT ASSES. #9

Site 30 8587 Granby St.

11:00 —

11:05 11:05:50 plane (lasting = 20-30 seconds)

11:10 —

11:15 —

~~11:15~~



PROJECT: Hampton Roads Bridge Tunnel Noise Analysis

JOB NO.: _____

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: 8 MEASUREMENT SITE NO.: 31
ADDRESS: Executive Manor Apartments
OWNER: _____
DESCRIPTION: _____
NOISE SOURCES: _____
NOISE MONITOR: db3080 Pic# S7-60 S/N: 2033
MICROPHONE: 1/4" METROSONICS S/N: 12052
CALIBRATOR: METRO CL-304 S/N: 2465
TEMP. RANGE (°F): 54° 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.





Site 31

**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.



COMMONWEALTH of VIRGINIA

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 [Chapter VI of Materials Division's Manual of Instruction](#) and [Section 2B-3 Determination of Roadway Design](#) 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.

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.

Comment: Can the project support the use of low noise pavement in lieu of construction of noise walls or sound barriers? (Materials Division to address)

Response: The Virginia Department of Transportation is not authorized by the Federal 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)

Response: Yes. Landscaping could possibly be used as a visual screening in areas where it can be placed outside of the clear zone, where it will not decrease sight distance, and where it won't require additional right of way.

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.

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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

a. 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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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."

Decision

Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	No

Additional Reasons for Decision:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	26,839 SF
b. Surface Area of the existing barrier that will be removed (ft ²)	9,703 SF
c. Additional (Net) Surface Area of the Replacement Barrier (ft ²)	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 ² /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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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

a. 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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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:	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 ²)	53,514 SF
b. Surface Area of the existing barrier that will be removed (ft ²)	9,703 SF
c. Additional (Net) Surface Area of the Replacement Barrier (ft ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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:	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 ²)	33,918 SF
b. Surface Area of the existing barrier that will be removed (ft ²)	20,031 SF
c. Additional (Net) Surface Area of the Replacement Barrier (ft ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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

a. 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 ²)	\$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."

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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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

a. 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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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

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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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

a. 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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	53,267 SF
b. Surface Area of the existing barrier that will be removed (ft ²)	17,999 SF
c. Additional (Net) Surface Area of the Replacement Barrier (ft ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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:	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

Reasonableness

1 Surface Area (Square foot)-Benefit Factors

a. Surface Area (Total square foot) of the proposed noise barrier. (ft ²)	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 ² /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 ²)	\$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."

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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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."

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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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

a. 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 ²)	\$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."

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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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:	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 ²)	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 ² /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

a. 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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	80,116 SF
b. Surface Area of the existing barrier that will be removed (ft ²)	51,281 SF
c. Additional (Net) Surface Area of the Replacement Barrier (ft ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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. (ft ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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:	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 ²)	102,139 SF
b. Surface Area of the existing barrier that will be removed (ft ²)	72,433 SF
c. Additional (Net) Surface Area of the Replacement Barrier (ft ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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:	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

Reasonableness**1 Surface Area (Square foot)-Benefit Factors**

a. Surface Area (Total square foot) of the proposed noise barrier. (ft ²)	66,583 SF
b. Surface Area of the existing barrier that will be removed (ft ²)	51,082 SF
c. Additional (Net) Surface Area of the Replacement Barrier (ft ²)	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 ² /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 ²)	\$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."

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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	126,072 SF
b. Surface Area of the existing barrier that will be removed (ft ²)	27,191 SF
c. Additional (Net) Surface Area of the Replacement Barrier (ft ²)	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 ² /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 ²)	\$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."

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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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

a. 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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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:	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 ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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

a. 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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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."

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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	34,547 SF
b. Surface Area of the existing barrier that will be removed (ft ²)	9,703 SF
c. Additional (Net) Surface Area of the Replacement Barrier (ft ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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

a. 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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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:	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 ²)	53,530 SF
b. Surface Area of the existing barrier that will be removed (ft ²)	9,703 SF
c. Additional (Net) Surface Area of the Replacement Barrier (ft ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	36,735 SF
b. Surface Area of the existing barrier that will be removed (ft ²)	20,031 SF
c. Additional (Net) Surface Area of the Replacement Barrier (ft ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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

a. 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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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

a. 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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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

a. 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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	52,482 SF
b. Surface Area of the existing barrier that will be removed (ft ²)	17,999 SF
c. Additional (Net) Surface Area of the Replacement Barrier (ft ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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."

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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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

a. 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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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)	3,339 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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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

a. 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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	80,053 SF
b. Surface Area of the existing barrier that will be removed (ft ²)	51,281 SF
c. Additional (Net) Surface Area of the Replacement Barrier (ft ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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

a. 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 ²)	\$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."

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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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:	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 ²)	96,265 SF
b. Surface Area of the existing barrier that will be removed (ft ²)	72,433 SF
c. Additional (Net) Surface Area of the Replacement Barrier (ft ²)	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 ² /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 ²)	\$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."

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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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:	49
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	27
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	55%
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 ²)	63,837 SF
b. Surface Area of the existing barrier that will be removed (ft ²)	51,082 SF
c. Additional (Net) Surface Area of the Replacement Barrier (ft ²)	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 ² /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 ²)	\$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."

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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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:	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 ²)	134,800 SF
b. Surface Area of the existing barrier that will be removed (ft ²)	27,191 SF
c. Additional (Net) Surface Area of the Replacement Barrier (ft ²)	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 ² /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 ²)	\$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."

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:

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

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)	B
Design phase:	Preliminary design

Warranted

1	Community Documentation (if applicable)	
a.	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 ²)	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 ² /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 ²)	\$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."

Decision

Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	No

Additional Reasons for Decision:

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.