APPENDIX K:
NOISE

Appendix K.1
Noise Monitoring Sheets

NOISE MONITORING SHEETS

■ List of Monitoring Sites

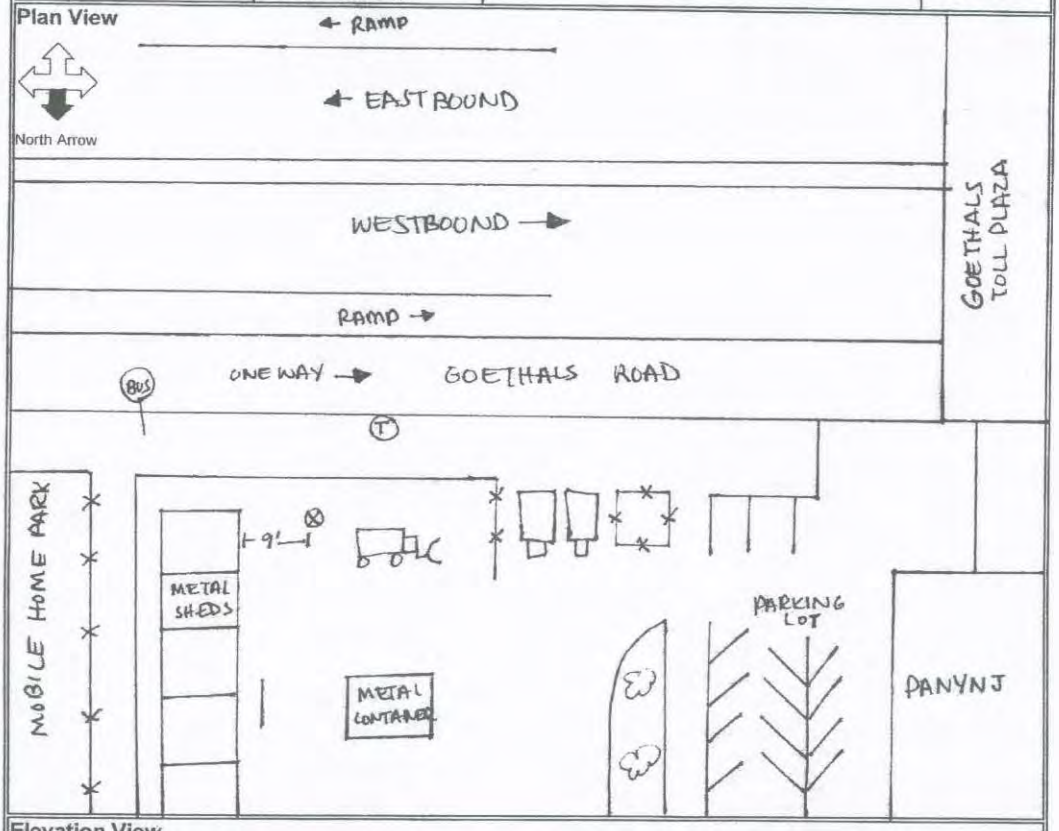
Site ID#	Address	Site Description	Measurements		
			AM PEAK	MIDDAY	PM PEAK
1	2777 Goethals Road	PANYNJ property adjacent to Goethals Garden Homes residential community.	24 HOURS		
2	134 Krakow Street	Frontside of Hill Contractor's property.	AM	MD	PM
3	729 McKinley Street	Property of Argello & Ana Pedrayes.	AM	MD	PM
4	447 Richmond St	PS 22, William F. Halloran Elementary School.	AM	MD	PM

Field Noise Monitoring Data Sheet

The Louis Berger Group, Inc.

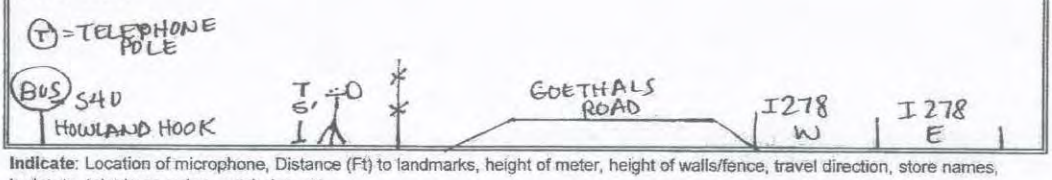
Location #	Date	Address	Observer
1	3/30/2005	2777 GOETHALS ROAD -N	L.C.
Lane Direction	**Site Surface**	**Nearby Landmark**	
I278 W & E	PARKING LOT	FENCE & METAL SHED	
Grade	**Pavement Type**	**Distance to Landmark**	
AT -GRADE	ASPHALT	1ft & 9ft	
Temperature	**Wind Speed**	**Equipment B&K Check List**	**Model #**
50	MILD 0-5MPH	Mike, Calibrator, Windscreen, Tripod	NL-22

Plan View



Elevation View

** Not to scale.*



Indicate: Location of microphone, Distance (Ft) to landmarks, height of meter, height of walls/fence, travel direction, store names, hydrants, telephone poles, manholes, etc.

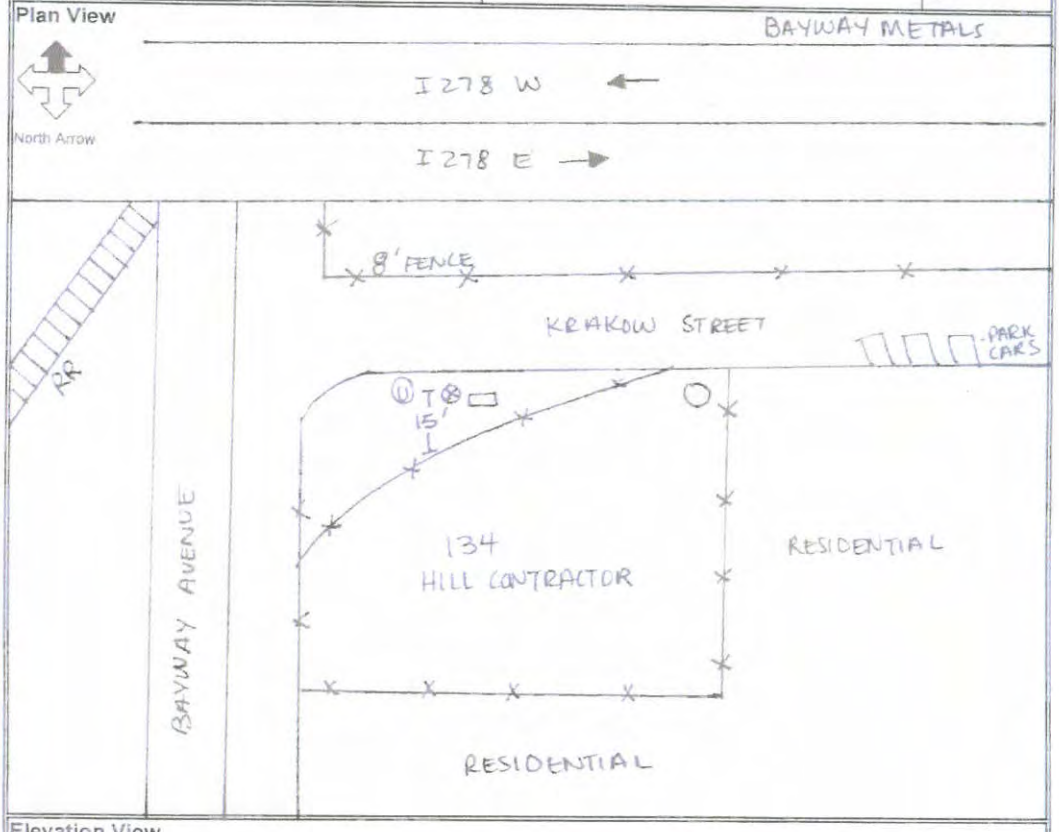
Site 1 – 24-Hour Meter facing the roadway.

Site 1 – Goethals Toll Plaza.

Field Noise Monitoring Data Sheet
The Louis Berger Group, Inc.

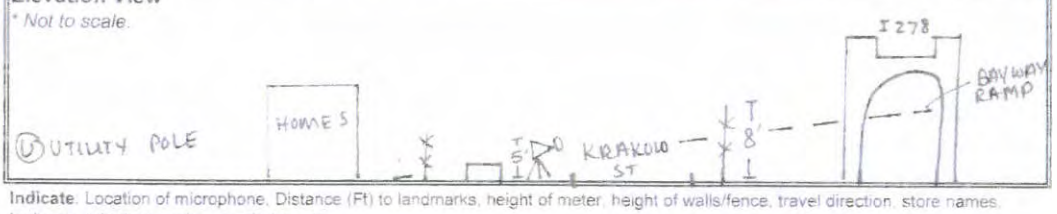
Location #	Date	Address	Observer
2	4/05/2005	HILL CONTRACTORS 134 KRAKOW STREET	L.C.
Lane Direction	**Site Surface**	**Nearby Landmark**	
I278 - E	UNPAVED ROAD	WIRE FENCE	
Grade	**Pavement Type**	**Distance to Landmark**	
AT-GRADE	GRAVEL	15'	
Temperature	**Wind Speed**	**Equipment B&K Check List**	**Model #**
46	MILD 0-5MPH	Mike, Calibrator, Windscreen, Tripod	NL-22

Plan View



Elevation View

* Not to scale.



Indicate: Location of microphone, Distance (Ft) to landmarks, height of meter, height of walls/fence, travel direction, store names, hydrants, telephone poles, manholes, etc.

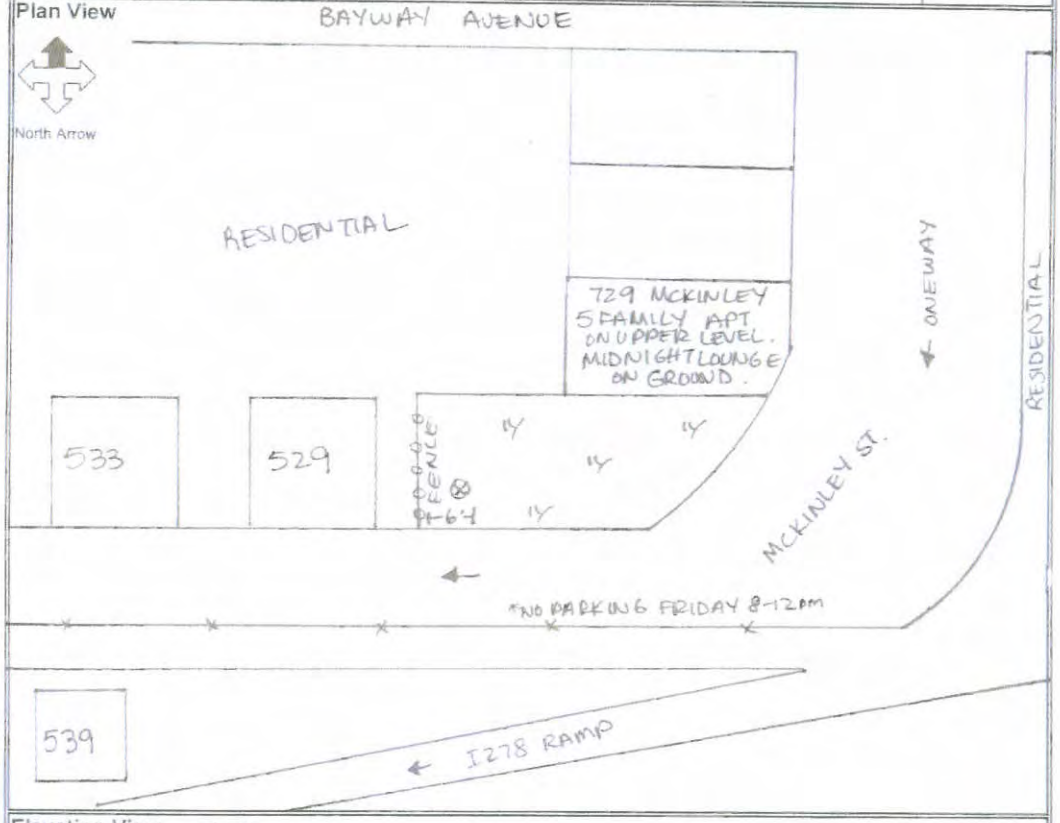
Site 2 – Noise meter facing the elevated I-278.

Site 2 – In front of Hill Contractors on 134 Krakow Street.

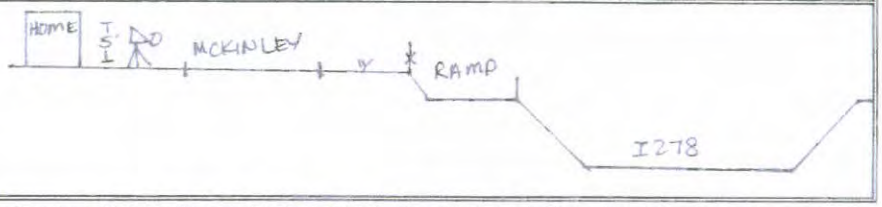
Field Noise Monitoring Data Sheet
The Louis Berger Group, Inc.

Location #	Date	Address	Observer
3	4/05/2005	NEXT TO 529 MCKINLEY ST.	L.C.
Lane Direction	**Site Surface**	**Nearby Landmark**	
I278 - W	LAWN	FENCE LINE	
Grade	**Pavement Type**	**Distance to Landmark**	
HIGHER	GRASS	6 FEET	
Temperature	**Wind Speed**	**Equipment B&K Check List**	**Model #**
47	MILD 0-5MPH	Mike, Calibrator, Windscreen, Tripod	NL-22

Plan View



Elevation View
* Not to scale.



Indicate Location of microphone. Distance (Ft) to landmarks, height of meter, height of walls/fence, travel direction, store names, hydrants, telephone poles, manholes, etc.

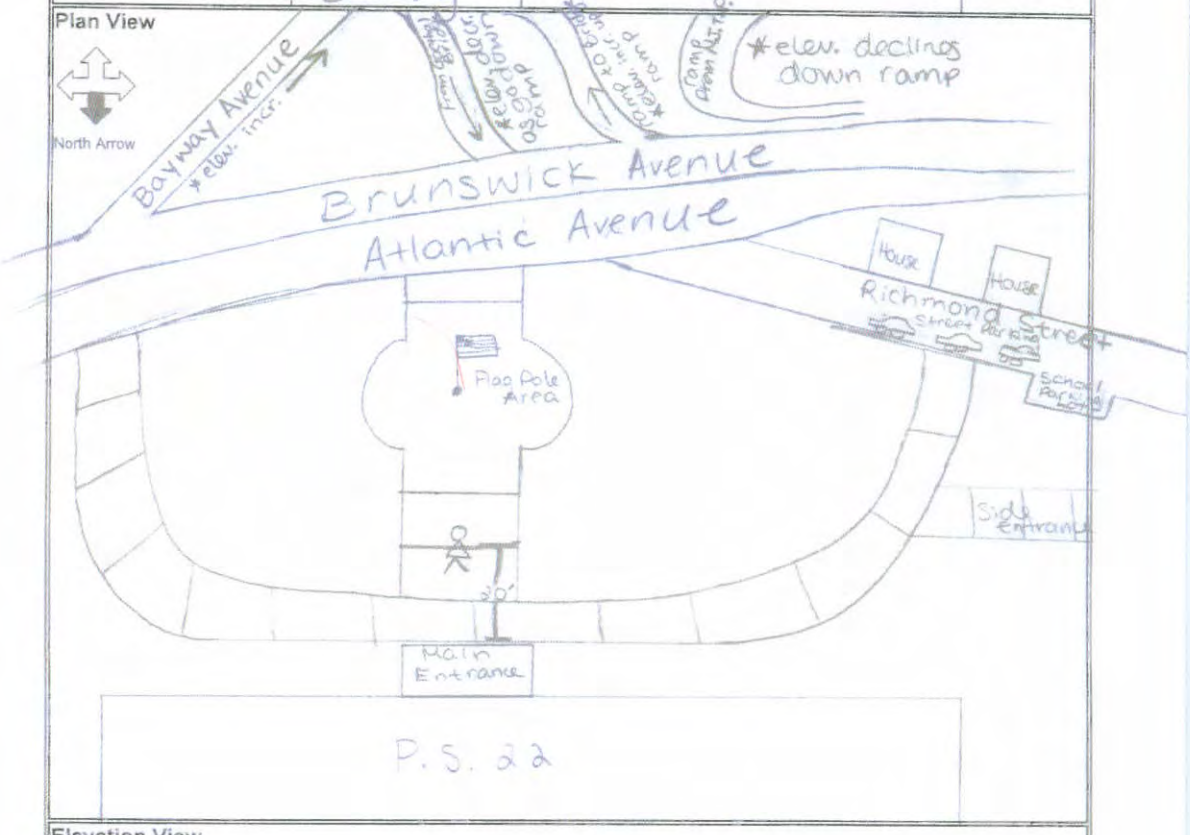
Site 3 – Noise meter on grass lot of 729 McKinley Street.

Site 3 – Noise meter facing McKinley Street and I-278.

Field Noise Monitoring Data Sheet
The Louis Berger Group, Inc.

Location #	Date	Address	Observer
4	4/5/05	P.S. 22	D.S.
Lane Direction	**Site Surface**	**Nearby Landmark**	
Atlantic / Bayview	walkway	P.S. 22 School	
Grade	**Pavement Type**	**Distance to Landmark**	
At-Grade	Concrete	20 ft.	
Temperature	**Wind Speed**	**Equipment B&K Check List**	**Model #**
50	Breezy	Mike, Calibrator, Windscreen, Tripod	NL22

Plan View



Elevation View

* Not to scale.

(see notes written next to ramps above)

* School parking lot is on side of school bldg.
* People also park along Richmond St. during school hrs.*

Indicate Location of microphone, Distance (Ft) to landmarks, height of meter, height of walls/fence, travel direction, store names, hydrants, telephone poles, manholes, etc

Site 4 – Noise meter facing Atlantic and Bayway Avenue.

Site 4 – P.S. 22 William F. Halloran Elementary School.

Appendix K.2
Technical Report for GBR Construction Phase Noise Impact Analysis (February 2010)

TECHNICAL REPORT

Goethals Bridge Replacement
Final Environmental Impact Statement

Construction-Phase Noise Impact Analysis

Prepared for the City of New York

February 2010

GBR FEIS - CONSTRUCTION-PHASE NOISE IMPACT ANALYSIS

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APPENDICES

A. INTRODUCTION

The proposed Goethals Bridge Replacement (GBR) Project, sponsored by the Port Authority of New York and New Jersey (Port Authority), would replace the existing Goethals Bridge, which spans the Arthur Kill between Staten Island, New York, and Elizabeth, New Jersey. As the project requires a United States Coast Guard (USCG) Bridge Permit for its construction over the Arthur Kill, a navigable water of the United States, such action constitutes a major federal action triggering compliance with the requirements of the National Environmental Policy Act (NEPA). The GBR Draft Environmental Impact Statement (DEIS) was issued by the U.S. Coast Guard (USCG), the lead federal agency, in May 2009. The GBR DEIS was prepared to also satisfy New York State Environmental Quality Act (SEQRA) and City of New York City Environmental Quality Review (CEQR) requirements.

Subsequent to early project coordination efforts and a CEQR workshop in April 2008 with the Mayor's Office of Environmental Coordination (OEC), the New York City Department of Environmental Protection (NYCDEP), and the New York City Department of Transportation, it was agreed that the GBR Final EIS (FEIS) will include documentation of a quantitative construction-phase noise analysis of the Port Authority's Preferred Alternative.[1] On the basis of the GBR DEIS, which then included four bridge alignment alternatives, and consideration of agency and public comments received during the DEIS formal public meetings and comment period, the Port Authority has since identified the New Alignment South (NAS) as its preferred bridge alignment alternative.[2]

The New Alignment South proposes replacement of the Goethals Bridge with a new six-lane structure directly and entirely south of the existing bridge's alignment. The new bridge crossing would be constructed first, with traffic maintained across the existing Goethals Bridge, after which the existing crossing would be demolished. Upon selection of its preferred bridge alignment alternative, the Port Authority's design team developed a comprehensive construction report, entitled "*Goethals Bridge Replacement Construction Data – October 2009*", which presents conceptual design details such as a construction schedule, a description of the construction phases, displays the construction areas of disturbance, equipment lists, man hour/crew lists, and construction truck/crew vehicle activities for the anticipated construction of the New Alignment South between New Jersey and New York. According to the document, the proposed bridge construction would be phased out into five GBR Construction Phases (Phase I through Phase V) over approximately 4.5 years from March 2011 to October 2015.

Upon further coordination with OEC and the New York City Economic Development Corporation (NYCEDC), it was determined that the construction period for another nearby Port Authority project, the New York Container Terminal (NYCT) Berth 4 Expansion Project (Berth 4), would be concurrent to the GBR Project. Therefore, in early November 2009, the NYCT and NYCEDC were consulted to obtain relevant Berth 4 construction information. [3] Given the GBR and Berth 4 Projects' geographic proximity and anticipated concurrent construction, the construction-phase noise analysis also considered the potential cumulative noise impact of the two projects' construction activities.

Following the receipt of construction information for the GBR Project and Berth 4 Project, a GBR Construction-Phase Noise Protocol was developed (See Appendix A). The protocol documents the methodology to be used for conducting the noise impacts analysis for both stationary and mobile construction sources, including general assumptions and criteria for identifying impacts as well as data to be used for the analysis. The protocol also identifies the method to be used for assessing cumulative noise

[1] The US Environmental Protection Agency (USEPA) was also consulted at that time and only requested that a quantitative construction-phase analysis be done for air quality and not noise.

[2] The Environmentally-Preferable Alternative will be identified at a later time by the USCG upon findings and review of the GBR FEIS and upon release of the Record of Decision (ROD).

[3] According to NYCEDC, it is assumed that the NYCT Berth 4 would be constructed between 2011 and 2014.

impacts during the construction of the GBR Project and the Berth 4 Project. The protocol was submitted in December 2009 to NYCDEP for review; and NYCDEP's approval was received in January 2010. Subsequently, a construction-phase noise analysis, specific to the New Alignment South bridge alignment alternative, was conducted for the New York portion of the GBR Project pursuant to the CEQR requirements and its technical guidance.[4]

B. GUIDING REGULATIONS AND CEQR CONSTRUCTION NOISE CRITERIA

A construction noise assessment was performed in accordance with the *CEQR Technical Manual* Guidelines to evaluate the potential noise consequences from on-site (stationary sources) and off-site (mobile sources) construction-related activities at sensitive receptor locations surrounding the project site. To that effect, the predicted noise levels were evaluated against construction noise criteria limits found in the *CEQR Technical Manual*. These criteria dictate that to avoid "significant adverse impact," the hourly Leq[5] noise level at a receptor location should not increase by more than 3 decibels above the existing (baseline) noise levels if the work is occurring at night (10 PM to 7 AM). During the daytime (7 AM to 10 PM) the noise criteria limits vary based on the prevailing existing background noise level such that a 5 decibel increase is significant when the background is less than 60 dBA, a 4 decibel increase is significant when the background is 61 dBA, and a 3 decibel increase is significant when the background noise levels are greater than or equal to 62 dBA.

While such quantitative construction-phase noise analysis for the GBR FEIS will be based on the above criteria from the *CEQR Technical Manual*, it should also be noted that every construction site where construction activities take place shall have, conspicuously posted, a complete and accurate Construction Noise Mitigation Plan, in accordance with Section 24-220 of the New York City Administrative Code. Therefore, the GBR construction contractor will have to abide by Section 24 of the New York City Administrative Code, and respectively Title 15 - Chapter 28 (Citywide Construction Noise Mitigation) of the Rules of the City of New York, which became effective on July 1, 2007 following the New York City Noise Control Code Local Law 113 of 2005. Most notably and relevant to the GBR Project, the noise code establishes requirements for construction activity, including limiting the hours of construction activities to weekdays between 7:00 AM and 6:00 PM, unless the responsible party obtains after-hours work authorization.[6] The noise code also requires mufflers for exhausts and prohibits the creation of "unreasonable noise" from construction defined by prohibited noise levels at specified distances from the noise source.[7]

C. ON-SITE (STATIONARY SOURCE) CONSTRUCTION-PHASE IMPACTS

The GBR Project would include heavy construction in the northwest corner of Staten Island, New York, and thus require the evaluation of potential on-site (stationary) construction-phase noise impacts. While the surrounding land uses of the GBR Project are predominantly composed of undeveloped, vacant industrial, transportation-oriented, utility, and commercial parcels, the residential community of the

[4] City of New York, *City Environmental Quality Review (CEQR) Technical Manual*, 2001.

[5] The Leq is an energy-averaged sound level equivalent to the fluctuating sound level over the measurement period (1 hour in this case). Per the CEQR *Technical Manual* (Chapter 3R-Noise, §123.4), the only noise descriptor that can be used reliably with construction sources is the Leq.

[6] Per the New York City Noise Control Code Local Law 113 of 2005 Section 24-223, *After hours work authorization*, agencies authorized to issue permits for construction work may issue a permit authorizing work before 7:00 AM or after 6:00 PM on weekdays and/or work on Saturdays and/or Sundays subject to restrictions within Section 24-223.

[7] While Section 24-228 of the NYC Noise Control Code Local Law 113 provides more detailed definitions, such "unreasonable noise" can be generally defined as:

- greater than 85 dBA for non-impulsive noise at 50 feet or greater from source; and
- 15 dBA greater than ambient noise at 15 feet or greater from source for impulse noise.

Goethals Garden Homes (located on Goethals Road North or less than 350 feet from the GBR construction area) contains the only sensitive receptors within the reach of the GBR construction activities that meet the CEQR criteria for a noise-sensitive receptor.[8] In addition, the on-site construction-phase noise impact analysis for the GBR Project did not consider the cumulative effects of the on-site construction activities associated with Berth 4 since this site is located approximately 4,000 feet from the Goethals Garden Homes and is therefore beyond the CEQR distance threshold for a noise-sensitive receptor.

Assumptions and Methodology

For the purpose of this analysis and given the anticipated areas of disturbance, the stationary noise study area was actually defined to include all areas on which the GBR construction activities would occur within approximately 1,800 feet of the noise-sensitive receptors (i.e., the Goethals Garden Homes as defined above). Indeed, this 1,800 feet distance marks the westernmost construction limits of the New York Abutment's area of disturbance, which otherwise extends east into the 1,500-feet CEQR distance threshold. As such, it was determined that this on-site construction-phase noise impact analysis needs to evaluate all construction activities for the New York Abutment as well as all other areas of disturbance east of it. Upon review of the design team's GBR Construction Data Report, the specific areas of disturbance are depicted on Figure 1 and further described below:

- New York Abutment: this area of disturbance includes all construction activities associated with the demolition of the existing abutment and the phased construction of a new one. This area is the westernmost one from the Goethals Garden Homes, and it runs about 250 feet long.

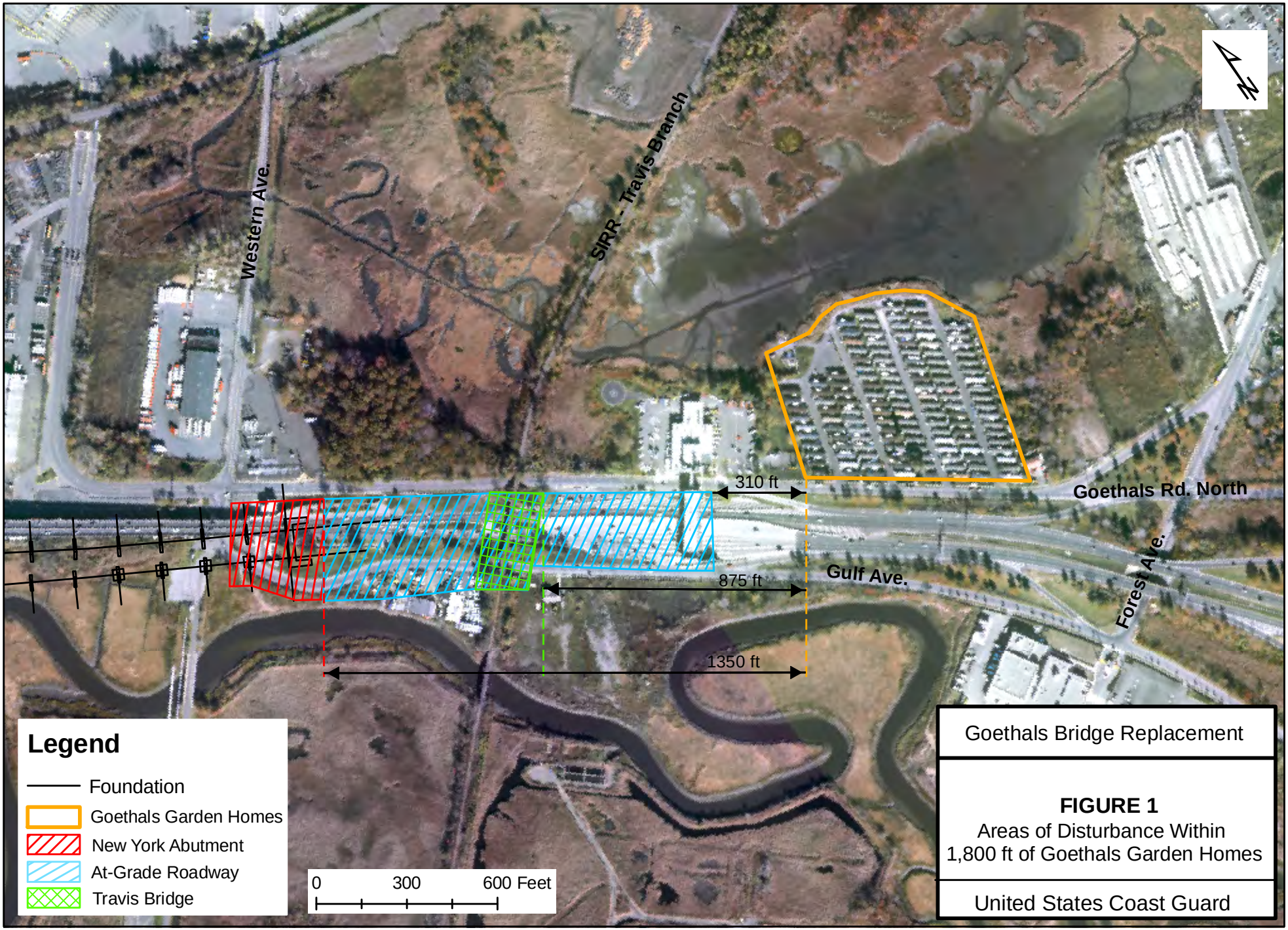
- At-Grade Roadway: this area of disturbance includes all construction activities associated with the at-grade roadway widening that will take place east of the New York Abutment. This area extends approximately 1,300 feet long running east underneath the Travis Bridge and then up to the Goethals Bridge Toll Plaza. It should be noted that current plans for work within the Toll Plaza only include roadway widening and paving activities.

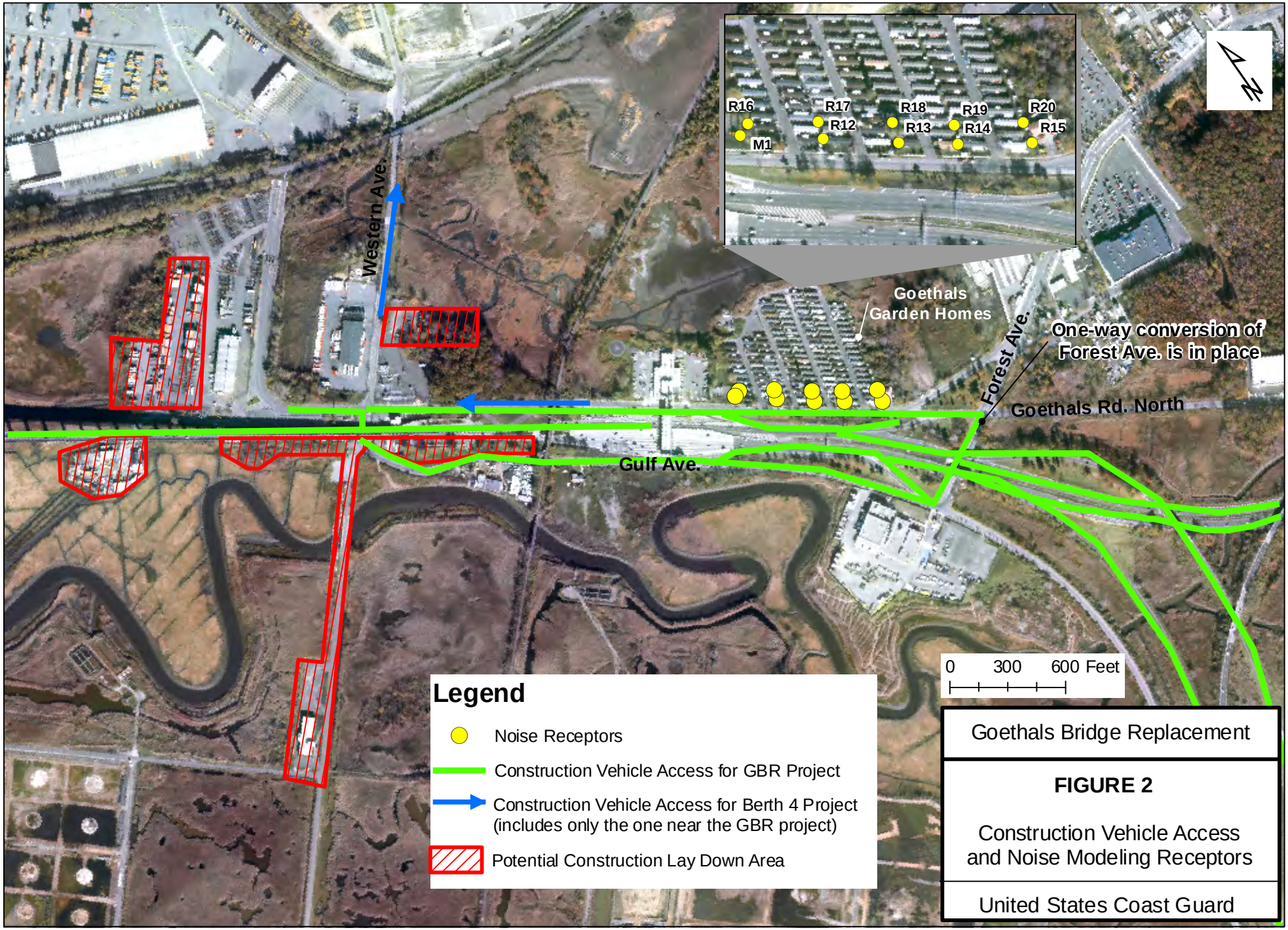
- Travis Bridge: this area of disturbance includes all construction activities associated with the replacement of the Travis Branch Railroad Overpass (a.k.a., "Travis Bridge") over I-278 and city streets (i.e., Gulf Avenue and Goethals Road North). This bridge carries the Travis Branch Railroad, also part of the larger Staten Island Railroad (SIRR) network that was reactivated in 2006 for heavy freight. This area extends approximately 85 feet east and west from the tracks and overlaps the above area of disturbance for the At-Grade Roadway.

During the GBR construction period, the following points were also assumed for this analysis:

- As a total of 5 acres of staging area would be required on either side of the Arthur Kill, several potential construction lay down areas have been preliminarily identified in Staten Island (as depicted in Figure 2). However, such staging areas would only be used for storage and/or office uses and not for major construction activities (e.g., cement trucks would go directly to the actual construction sites without stopping in the staging areas). Therefore, such lay down areas were not evaluated as potential stationary noise sources since they are not considered to be significant noise-generating sources.

[8] According to the *CEQR Technical Manual* (Chapter 3R-Noise, §230 and §323), it is unusual for construction sources to have significant (i.e., perceivable) adverse impacts at distances beyond 1,500 feet from the noise source.


Western Ave.
SIRR - Travis Branch
Goethals Rd. North
Gulf Ave.
Forest Ave.
310 ft
875 ft
1350 ft
N
Legend
Foundation
Goethals Garden Homes
New York Abutment
At-Grade Roadway
Travis Bridge
0
300
600 Feet
Goethals Bridge Replacement
FIGURE 1
Areas of Disturbance Within
1,800 ft of Goethals Garden Homes
United States Coast Guard


R16
R17
R18
R19
R20
M1
R12
R13
R14
R15
Western Ave.
Goethals
Garden Homes
Forest Ave.
One-way conversion of
Forest Ave. is in place
Goethals Rd. North
Gulf Ave.
N
0 300 600 Feet
Legend
Noise Receptors
Construction Vehicle Access for GBR Project
Construction Vehicle Access for Berth 4 Project
(includes only the one near the GBR project)
Potential Construction Lay Down Area
Goethals Bridge Replacement
FIGURE 2
Construction Vehicle Access
and Noise Modeling Receptors
United States Coast Guard

Potential construction noise impacts associated within the different areas of disturbance (as described above) were evaluated using the Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM) 1.1. The RCNM model calculates noise levels based on the noise prediction calculations and extensive equipment database used in the Central Artery/Tunnel project in Boston, Massachusetts. As stated in the *CEQR Technical Manual* (see Chapter 3R-Noise, §335), the use of RCNM's noise analysis modeling methodologies shall satisfy CEQR requirements.

Construction information provided by the Port Authority's design team was used to develop input for the RCNM model. Such information included: phase locations and limits of disturbance; main tasks and activities to be conducted during each phase; descriptions of phases; a detailed schedule depicting start and end dates of main tasks and associated activities; and equipment types for each activity. In turn, such information was then assimilated to make the following determinations:

- The design information on phase locations and limits of disturbance was used to develop the areas of disturbance within 1,800 feet of the Goethals Garden Homes. Respectively, the minimum source-to-receptor distances for each area of disturbance (thereby representing a worst-case condition) were then measured, as depicted in Figure 1.

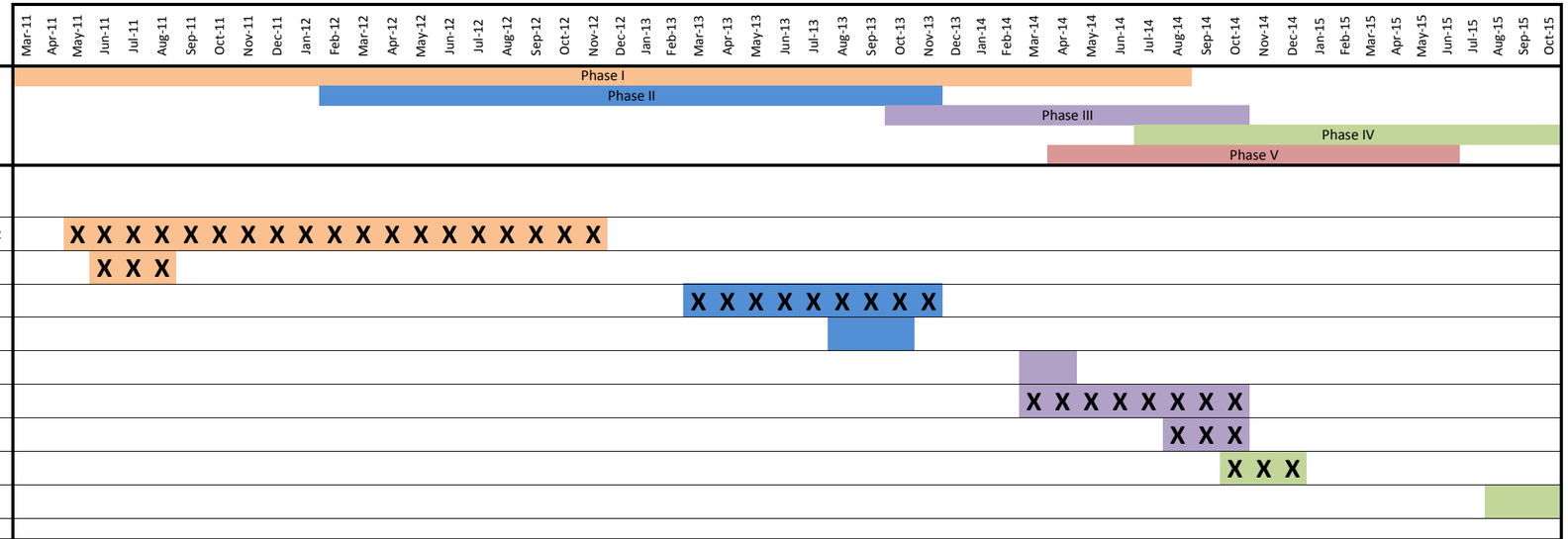
- The design information on the overall construction schedule and description of phases was used to identify periods of overlap during which, one or more main tasks or activities would be concurrent. To that effect, a timeline of the main construction tasks (including those tasks that would not generate significant levels of noise) and areas of disturbance located within 1,800 feet of the Goethals Garden Homes (the sole area of noise-sensitive receptors in Staten Island) are depicted in Table 1 in relationship to the overall five GBR Construction Phases.

- Upon review of above, Appendix B was subsequently compiled to provide a detailed schedule for all noise-emitting activities evaluated in this analysis (i.e., within 1,800 feet of the Goethals Garden Homes), organized by main construction tasks and respective areas of disturbance. Review of such appendix also allowed for the identification of any overlapping noise-emitting main tasks or activities.

  In cases where main tasks or activities would be concurrent, professional judgment was used when combining equipment (e.g., if concurrent tasks or activities are located within the same area and both necessitate the use of pieces of identical equipment, the identical pieces were incorporated only once, assuming equipment would be shared). Further, regarding the equipment type, such details as engine type, the number of pieces of equipment to be used, and utilization and load factors were provided. The utilization factor (identified as the percentage of the work day during which the machine would be in use) and the load factor (the percentage of the work day during which the machine would be operating at full power) were used to compute the acoustic usage factor for use in RCNM. The *acoustic usage factor* is described as the percentage of time in which a piece of equipment operates at full power during the period in which the equipment is in operation (i.e., the utilization factor multiplied by the load factor). When equipment identified by the design team was not included in the RCNM equipment database, professional judgment was used to equate such equipment to the types provided in RCNM. Appendix C provides the RCNM outputs and respective equipment lists for each model run.

Table 1- GBR Main Construction Tasks within 1,800 feet of Noise-Sensitive Receptors (i.e., Goethals Garden Homes)

Areas of Disturbance	Main Construction Tasks w/n 1,800 ft of Goethals Garden Homes	Date Ranges
OVERALL GBR CONSTRUCTION PHASES (All Five Phases) ------>>>		
C	*Travis Bridge Replacement (New + Demo)*	16-May-11 TO 28-Nov-12
A	*Partial Construction of NY Abutment for Southern Structure (EB Portion)*	28-Jun-11 TO 27-Aug-11
B	*At-Grade Roadway Construction for Southern Structure (EB Portion)*	12-Mar-13 TO 15-Nov-13
A & B	*Completion of NY Tie-in for Southern Structure (EB Portion)*	08-Aug-13 TO 16-Oct-13
A & B	*Switch Traffic (2-way) to the Southern Structure & Permanently Close the Existing Goethals Bridge (once new bridge has been completed)*	12-Mar-14 TO 07-Apr-14
B	*At-Grade Roadway Construction for Northern Structure (WB Portion)*	01-Mar-14 TO 11-Oct-14
A	*Demolition of Existing NY Abutment*	12-Aug-14 TO 11-Oct-14
A	*Remaining Construction of NY Abutment for Northern Structure (WB Portion)*	13-Oct-14 TO 17-Dec-14
A & B	*Completion of NY Tie-in Work (for Northern Structure - WB Portion) & Place Traffic into its Final Configuration*	19-Aug-15 TO 15-Oct-15



Notes:

A = NY Abutment
B = At-Grade Roadway
C = Travis Bridge

X = Construction periods that necessitate the use of heavy construction equipment; thus likely to generate significant levels of noise. **Only those periods, and respective Main Construction Tasks were then evaluated for potential construction-noise impacts**. All other periods are considered minor construction activities (such as traffic maintenance/protection/switch/tie-in) that neither necessitate the use of heavy construction equipment nor generate significant levels of noise.

- Some degree of noise shielding exists between the Goethals Garden Homes and the areas of construction disturbance (i.e., a row of trees situated between the residences and GBR Project, the toll plaza buildings, the elevated berm that supports the Travis Branch Railroad line and the trees located on either side of the tracks). However, in order to evaluate a possible worst-case condition, noise modeling runs did not consider any attenuating effects of these features.

- The noise metric used in the modeling runs was set to Leq. The RCNM predicted Leq noise levels were then combined with the 2012 No-Build noise level of 71.7 dBA that was predicted using TNM[9] to represent a total noise level at the Goethals Garden Homes. The total noise levels were then compared to the predicted 2012 No-Build noise level to determine if significant impacts would occur based on CEQR noise criteria.

Results

As mentioned above, three areas of disturbance were delineated within the 1,800-feet-length (east-west) study area. Prior to presenting the results below on the predicted noise levels at the Goethals Garden Homes emitted from each area of disturbance, more detailed descriptions of these areas are also presented and include: 1) the construction disturbance area boundaries; 2) general activities to be conducted within the boundaries; and 3) equipment used for those activities.

New York Abutment

This area of disturbance refers to that portion of the roadway where the road surface is elevated above the surrounding grade, supported by an earthen berm. This area extends from the eastern edge of Western Avenue to a line perpendicular to the roadway approximately 250 feet east of Western Avenue. This area is bounded on the north by Goethals Road North and bounded on the south by Gulf Avenue. The closest edge of the New York Abutment area of construction disturbance is approximately 1,350 feet from the closest edge of the Goethals Garden Homes.

As noted in Table 1, work in this area of disturbance would be performed in three of the five GBR Construction Phases. Such phased approach is necessary to allow for the maintenance and protection of traffic and respective traffic switch between the existing and new bridge without any traffic interruption. To that effect, a partial portion of the future New York Abutment would first be constructed during Phase I (June 2011 to August 2011) at a location just south of the existing one. Such partial construction allows for the following steps to take place during Phase II (March 2014 to April 2014) while maintaining traffic; including: (i) the completion of the new Southern Structure (Eastbound Portion), (ii) the temporary two-way traffic switch onto the completed Southern Structure, and (iii) the permanent close of the existing Goethals Bridge. After such time, the existing abutment would be demolished during Phase III (August 2014 to October 2014) in order to allow for the remaining construction of the future New York Abutment during Phase IV (October 2014 to December 2014) for the future Northern Structure (Westbound Portion) within the same footprint. The New York Tie-in work would then be completed during Phase IV (August 2015 to October 2015) before placing the traffic into its final configuration.[10] As noted in Table 1, all activities related to the maintenance and protection of traffic (e.g., traffic tie-in and switch work) are considered minor construction activities that neither necessitate the use of heavy construction equipment nor generate significant levels of noise.

[9] TNM = Traffic Noise Model. See Section D of this report to see how the No-Build noise level was predicted using TNM.
[10] Once the traffic is in its final configuration at the end of Phase IV, the remaining demolition of the existing Goethals Bridge and site restoration can take place in Phase V.

Construction activities in this area would involve the installation of sheet piles, excavation for footings, installation of foundation piles, installation of concrete forms and reinforcement, concrete pours and the demolition of the substructure. Equipment specific to this work includes: excavator, crane, impact and vibratory pile drivers, hydraulic hammer, bulldozer, compressor, generator, concrete saw, dewatering pump, welder, concrete pump and concrete mixer truck and dump trucks. The number of pieces of each type of equipment to be used is dependent upon the specific activity for which the piece of equipment is required. In general, one piece of each type of equipment is needed, except for pumps, concrete mixer trucks and dump trucks (between two and four are typically on site at any given time). Appendix B provides the detailed schedule for each construction main task and the respective construction activities that would occur within this area of disturbance.

As shown in Table 2, noise levels produced by construction of the New York Abutment would not result in a perceivable change in noise levels at the Goethals Garden Homes. The greatest increase in noise levels (2.0 dBA) would only occur during the short-term periods of June 2011, August 2011, October 2011, and December 2014 when the temporary sheet piles for construction would either be installed or removed, but they would not be significantly adverse.

At-Grade Roadway

This area of disturbance refers to that portion of the at-grade roadway that extends approximately 1,300 feet from the New York Abutment (western end) to about 40 feet east of the Goethals Bridge Toll Plaza (eastern end), while going underneath the Travis Branch Railroad Overpass (or Travis Bridge area of disturbance). It is bounded on the north by Goethals Road North and on the south by Gulf Avenue. The closest edge of the At-Grade Roadway area of construction disturbance is approximately 310 feet from the closest edge of the Goethals Garden Homes.

As noted in Table 1, work in this area of disturbance would be performed in two of the five GBR Construction Phases. Such phased approach is necessary in order to allow for the maintenance and protection of traffic (as already detailed above for the New York Abutment). To that effect, work would first be done during Phase II (March 2013 to November 2013) for the Southern Structure (Eastbound Portion). Upon the temporary two-way traffic switch onto the completed Southern Structure, the remaining work on the At-Grade Roadway would take place during Phase III (March 2014 to October 2014) for the Northern Structure (Westbound Portion). The New York Tie-in work and placement of traffic into its final configuration would then be undertaken. As noted in Table 1, it should be noted that all activities related to the maintenance and protection of traffic (e.g., traffic tie-in and switch work) are considered minor construction activities that neither necessitate the use of heavy construction equipment nor generate significant levels of noise.

Construction activities in this area would involve widening and paving the existing roadway of I-278 between the New York Abutment and the Goethals Bridge Toll Plaza. Equipment specific to this area of construction disturbance includes: grader, bulldozer, backhoe/loader, vibratory roller, dump truck, concrete paver, grout mixer, self-propelled road widener, hydraulic hammer, self-propelled asphalt transfer and double-barrel asphalt compactor. One piece of each of the equipment, except for dump trucks, is necessary. Two dump trucks are anticipated to be on site at any given time for work conducted in this area. Appendix B provides the detailed schedule for each construction main task and the respective construction activities that would occur within this area of disturbance.

Table 2 - Stationary Source Predicted Noise Levels - New York Abutment

Month/ Year	Start	Finish	Main Task	Activity	Total Noise Level Leq (dBA)	Incremental Change	CEQR Adverse Impact (3 dBA increase)
June 2011	*28-Jun-11*	*30-Jun-11*	Partial Construction for Southern Structure (EB Portion)	Install Sheet Piles	73.7	2.0	No
July 2011	*1-Jul-11*	*5-Jul-11*		Excavate Footings	71.9	0.2	No
July 2011	*6-Jul-11*	*13-Jul-11*		Drive Foundation Piles	72.7	1.0	No
July 2011	*14-Jul-11*	*20-Jul-11*		Form/Rebar/Strip Footings	71.9	0.2	No
July 2011	*20-Jul-11*	*26-Jul-11*		Form/Rebar/Strip Footings; Pour Footing Concrete	72.0	0.3	No
July 2011	*26-Jul-11*	*27-Jul-11*		Pour Footing Concrete; Form/Rebar/Strip/Pour Abutment Walls	72.0	0.3	No
July - August 2011	*27-Jul-11*	*24-Aug-11*		Form/Rebar/Strip/Pour Abutment Walls	71.9	0.2	No
August 2011	*25-Aug-11*	*27-Aug-11*		Remove Sheet Piles	73.7	2.0	No
August - October 2014	*12-Aug-14*	*11-Oct-14*	Demolition of Existing Abutment	Demolish Substructure	72.6	0.9	No
October 2014	*13-Oct-14*	*15-Oct-14*	Remaining Construction for Northern Structure (WB Portion)	Install Sheet Piles	73.7	2.0	No
October 2014	*16-Oct-14*	*18-Oct-14*		Excavate Footings	71.9	0.2	No
October 2014	*20-Oct-14*	*28-Oct-14*		Drive Foundation Piles	72.7	1.0	No
October 2014	*29-Oct-14*	*31-Oct-14*		Drive Foundation Piles; Form/Rebar Strip Footings	72.7	1.0	No
November 2014	*1-Nov-14*	*7-Nov-14*		Form/Rebar/Strip Footings; Pour Footing Concrete	72.0	0.3	No
November 2014	*8-Nov-14*	*8-Nov-14*		Pour Footing Concrete; Form/Rebar/Strip/Pour Abutment Walls	72.0	0.3	No
November - December 2014	*9-Nov-14*	*13-Dec-14*		Form/Rebar/Strip/Pour Abutment Walls	71.9	0.2	No
December 2014	*14-Dec-14*	*17-Dec-14*		Remove Sheet Piles	73.7	2.0	No

Notes:
1. 'Total Noise Level' represents a combination of RCNM predicted noise level with 2012 No-Build noise level of 71.7 dBA.
2. 'Incremental Change' represents the increase over the 'Total Noise Level' relative to the No-Build noise level of 71.7 dBA.

As depicted in Table 3, noise levels experienced at the Goethals Garden Homes from construction work conducted for the At-Grade Roadway would be 75.3 dBA. Compared to the No-Build noise level of 71.7 dBA, construction work for the At-Grade Roadway would result in a significant adverse increase of greater than 3 dBA. However, this adverse impact would only occur under the unlikely worst-case scenario where all construction equipment would be operating concurrently at the eastern end of this area of disturbance (i.e., east of the Goethals Bridge Toll Plaza) at about 310 feet west from the Goethals Garden Homes. Given the extensive 1,300-feet length (east-to-west) of such area of disturbance, it is more likely that the construction equipment would be scattered around. To that effect, and still assuming such worst-case scenario (see Table 4), it was also determined that the predicted noise levels at the Goethals Garden Homes would fall below the 3-dBA threshold once the source-to-receptor distance would exceed 360 feet from the Goethals Garden Homes. Therefore, although the potential exists for a period of time when the activities associated with the At-Grade Roadway construction could increase noise levels at the Goethals Garden Homes by at least 3 dBA above the ambient noise level, it is expected that this impact would be short-lived. Further, for this specific area of disturbance, the methodology applied for the analysis (which was to assume a minimum source-to-receptor distance) is less realistic than for other areas of disturbance due to the longer east-to-west size of the At-Grade Roadway area.

Travis Bridge

This area of disturbance refers to the replacement of Travis Branch Railroad Overpass (a.k.a., "Travis Bridge") over I-278 and city streets (i.e., Gulf Avenue and Goethals Road North). This bridge carries the Travis Branch Railroad, also part of the larger Staten Island Railroad (SIRR) network that was reactivated in 2006 for heavy freight. Therefore, this area consists of a rectangle centered on the railroad alignment that extends approximately 85 feet east and west from the tracks and overlaps the above area of disturbance for the At-Grade Roadway. The closest edge of the Travis Bridge area of construction disturbance is approximately 875 feet from the closest edge of the Goethals Garden Homes.

As noted in Table 1, work in this area of disturbance would be performed in one of the five overall GBR Construction Phases. Such work needs to be completed in advance of the I-278 widening work of the At-Grade Roadway that goes underneath the railroad bridge. Therefore, work will be entirely and independently conducted during Phase I (May 2011 to November 2012) in a single stage.

Construction activities in this area would involve the installation of sheet piles and temporary piles, underpinning of the existing railroad bridge, excavation of the existing berm, installation of temporary bridge seats, installation of infrastructure for new bridge supports and installation of the new bridge, and removal of temporary piles, sheeting and supports. Equipment specific to this area of construction disturbance includes: crawler crane, hydraulic hammer, vibratory pile driver, welder, girder delivery truck, air compressor, excavator, loader, dewatering pump, concrete pump and mixer tucks, dump trucks, generator, core drill, foundation drill, hydraulic shears and concrete saw. The number of pieces of each type of equipment to be used is dependent upon the specific activity for which the piece of equipment is required. Appendix B provides the detailed schedule for each construction main task and the respective construction activities that would occur within this area of disturbance. As noted in Appendix B, any minor construction activities (such as mobilization and workzone/field preparation, including developing the maintenance and protection of traffic) are not expected to necessitate the use of heavy construction equipment or generate significant levels of noise; thus they were not evaluated.[11] As a result, heavy construction work associated with the Travis Bridge would only commence in September 2011 and last until November 2012. While the construction activities of the Travis Bridge are broken down into five main tasks (see Appendix B), it should be noted that between November 2011 and January 2012, several construction activities for either the South Pier (Gulf Avenue) or the North Abutment (near Goethals

[11] This assumption was confirmed by the design team since no construction equipment was listed for these minor activities.

Table 3 - Stationary Source Predicted Noise Levels - At-Grade Roadway

Month/Year	Start	Finish	Main Task	Activity	Total Noise Level Leq (dBA)	Incremental Change	CEQR Adverse Impact (3 dBA increase)
March - November 2013	*13-Mar-13*	*15-Nov-13*	Construction for Southern Structure (EB Portion)	Partial At-Grade Roadway Widening During Phase II	75.3	**3.6**	**Yes**
March - October 2014	*1-Mar-14*	*11-Oct-14*	Construction for Northern Structure (WB Portion)	Remaining At-Grade Roadway Widening During Phase III	75.3	**3.6**	**Yes**

Notes:
1. 'Total Noise Level' represents a combination of RCNM predicted noise level with 2012 No-Build noise level of 71.7 dBA.
2. 'Incremental Change' represents the increase over the 'Total Noise Level' relative to the No-Build noise level of 71.7 dBA.

Table 4 - Stationary Source Predicted Noise Levels - At-Grade Roadway at more than 360 feet from Goethals Garden Homes

Month/Year	Start	Finish	Main Task	Activity	Total Noise Level Leq (dBA)	Incremental Change	CEQR Adverse Impact (3 dBA increase)
March - November 2013	*13-Mar-13*	*15-Nov-13*	Construction for Southern Structure (EB Portion)	Partial At-Grade Roadway Widening During Phase II	74.6	2.9	No
March - October 2014	*1-Mar-14*	*11-Oct-14*	Construction for Northern Structure (WB Portion)	Remaining At-Grade Roadway Widening During Phase III	74.6	2.9	No

Notes:
1. 'Total Noise Level' represents a combination of RCNM predicted noise level with 2012 No-Build noise level of 71.7 dBA.
2. 'Incremental Change' represents the increase over the 'Total Noise Level' relative to the No-Build noise level of 71.7 dBA.

Road North) would occur at the same time, thus requiring those activities to be evaluated in a cumulative fashion.

As shown in Table 5, the greatest increase above the existing ambient noise level was predicted to be 3.9 dBA, which would equate to a perceivable change in the ambient environment at the Goethals Garden Homes (*CEQR Technical Manual* Chapter 3R-Noise, §122). Such an increase would occur at several occasions as a result of the work associated with driving sheets and piles (which would occur at the South Pier in September-October 2011 and again at the North Abutment from November to December 2011). While other concurrent activities might occur at the same time, it was determined that the equipment used during this activity (i.e., driving sheets and piles) would be the dominating noise-source since its sole operation in September 2011 would result in a noise level of 75.6 dBA at the Goethals Garden Homes. During the month of November through December 2011 and when other activities would occur at the South Pier concurrent with driving sheets and temporary piles for the North Abutment, noise levels would not be any louder than those described above for driving sheets and piles.

Similarly, in December 2011, removal of the temporary Gulf Avenue underpinning would be concurrent with driving sheets and piles; however, the underpinning removal work would produce noise levels much less than driving sheets and piles. Furthermore, the underpinning removal would only last for approximately two days. Also in December 2011, there would be an approximate four-day overlap between installation of the rolling pier/frame and driving sheets and piles for the North Abutment. During this short overlap, residents at the Goethals Garden Homes would experience a noise level of 75.5 dBA. Although the sheeting and piles work would be louder than installation of the rolling pier/frame, both activities would contribute notably to the overall sound level.

Therefore and despite the 875-feet source-to-receptor distance, it was determined that the replacement of Travis Bridge would result in a significant adverse noise impact to the Goethals Garden Homes by a maximum of 3.9 dBA (i.e., within the perceivable range); this impact would occur only for four months out of its total twelve month construction period.

Cumulative Effects of Simultaneous Stationary Sources

In addition to separately analyzing the stationary construction activities conducted within each of the areas of disturbance identified above, the schedule (see Table 1 and Appendix B) was reviewed to determine if activities occurring in one area would be concurrent with those in another area. As a result, it was determined that during Phase III (specifically from August through October 2014) the I-278 roadway widening work within the At-Grade Roadway area would occur concurrent with demolition work of the existing abutment within the New York Abutment area. In order to develop a worst-case scenario, once again it was assumed that all equipment required for the roadway widening work would be located, at a minimum, within 310 feet of the Goethals Garden Homes. However, as stated previously for the At-Grade Roadway analysis, this is indicative of an absolute worst-case condition, consistent with the described methodology for this analysis, and may be unrealistic due to the long east-to-west area within which roadway widening would occur. Further, as the conceptual design information does not yet include a detailed schedule describing when each aspect of the at-grade roadway widening would occur within the defined timeline, it also may be unlikely that the demolition of the abutment would occur concurrently with the roadway widening activities at the closest point to the Goethals Garden Homes. However, following the methodology developed for this analysis and assuming an absolute worst-case condition, during the period of overlap, the noise level experienced at the Goethals Garden Homes would be 75.7 dBA from the combined effects of at-grade roadway widening work and demolition of the abutment. Therefore, noise levels are predicted to increase by more than 3 dBA during this time (see Table 6).

Table 5 - Stationary Source Predicted Noise Levels - Travis Bridge

Month/Year	Start	Finish	Main Task	Activity	Total Noise Level Leq (dBA)	Incremental Change	CEQR Adverse Impact (3 dBA increase)
September - October 2011	*6-Sep-11*	*6-Oct-11*	Construct South Pier (Gulf Ave)	Drive Sheeting and Temporary Piles	75.6	**3.9**	**Yes**
October 2011	*7-Oct-11*	*12-Oct-11*		Temporary Gulf Avenue Underpinning	72.2	0.5	No
October 2011	*13-Oct-11*	*31-Oct-11*		Excavate/Temporary Bridge Seats	72.3	0.6	No
November 2011	*1-Nov-11*	*7-Nov-11*		Install Drilled Shafts	72.3	0.6	No
November 2011	*8-Nov-11*	*16-Nov-11*		Form/Rebar/Strip Columns; Pour Column Concrete	72.3	0.6	No
November 2011	*17-Nov-11*	*21-Nov-11*	Construct South Pier (Gulf Ave); Construct North Abutment	Form/Rebar/Strip Columns; Pour Column Concrete; Drive Sheeting and Temporary Piles (North Abutment)	75.6	**3.9**	**Yes**
November - December 2011	*22-Nov-11*	*20-Dec-11*		Form/Rebar/Strip Caps; Pour Cap Concrete; Drive Sheeting and Temporary Piles (North Abutment)	75.6	**3.9**	**Yes**
December 2011	*21-Dec-11*	*23-Dec-11*		Remove Temporary Underpinning; Drive Sheeting and Temporary Piles (North Abutment)	75.6	**3.9**	**Yes**
December 2011	*24-Dec-11*	*28-Dec-11*		Install Temporary Rolling Pier/Frame; Drive Sheeting and Temporary Piles (North Abutment)	75.5	**3.8**	**Yes**
December - January 2012	*29-Dec-11*	*13-Jan-12*		Install Temporary Rolling Pier/Frame; Excavate/Temporary Bridge Seats (North Abutment)	74.4	2.7	No
January 2012	*14-Jan-12*	*19-Jan-12*	Construct North Abutment	Excavate/Temporary Bridge Seats	72.3	0.6	No
January 2012	*20-Jan-12*	*26-Jan-12*		Excavate Footings	72.3	0.6	No
January - February 2012	*28-Jan-12*	*25-Feb-12*		Install Drilled Shafts; Install Steel Pipe Piles	73.8	2.1	No
February - March 2012	*27-Feb-12*	*17-Mar-12*		Form/Rebar/Strip Footings; Pour Footing Concrete	72.3	0.6	No
March - April 2012	*19-Mar-12*	*14-Apr-12*		Form/Rebar/Strip/Pour Abutment Walls	72.2	0.5	No
April - May 2012	*16-Apr-12*	*4-May-12*		Install Temporary Rolling Pier/Frame	74.3	2.6	No
May 2012	*12-May-12*	*17-May-12*	Construct North Pier	Demolish Storage Walls	73.8	2.1	No
May 2012	*18-May-12*	*23-May-12*		Install Drilled Shafts	72.3	0.6	No
May - June 2012	*25-May-12*	*6-Jun-12*		Form/Rebar/Strip Columns; Pour Column Concrete	72.3	0.6	No
June - July 2012	*8-Jun-12*	*2-Jul-12*		Form/Rebar/Strip Caps; Pour Cap Concrete	72.3	0.6	No
July - August 2012	*3-Jul-12*	*10-Aug-12*		Install Remaining Temporary Pier/Frame	74.3	2.6	No
August 2012	*11-Aug-12*	*16-Aug-12*	Install Roll-In Structure	Erect Structural Steel	72.3	0.6	No
August - September 2012	*17-Aug-12*	*5-Sep-12*		Install Floorbeams, Kneebracing and Decking	72.2	0.5	No
September 2012	*7-Sep-12*	*18-Sep-12*		Install Ballast, Ties and Track	72.2	0.5	No
September - October 2012	*19-Sep-12*	*5-Oct-12*		Rill-In/Roll-Out Existing and New Structure	72.2	0.5	No
October 2012	*6-Oct-12*	*11-Oct-12*	Demolish Existing Travis Bridge	Remove Track, Tie and Ballast	72.2	0.5	No
October 2012	*12-Oct-12*	*17-Oct-12*		Remove Bridge Sections	72.3	0.6	No
October - November 2012	*18-Oct-12*	*28-Nov-12*		Remove Temporary Rolling Pier/Frame/Sheeting and Piles	74.3	2.6	No

Notes:
1. 'Total Noise Level' represents a combination of RCNM predicted noise level with 2012 No-Build noise level of 71.7 dBA.
2. 'Incremental Change' represents the increase over the 'Total Noise Level' relative to the No-Build noise level of 71.7 dBA.

Table 6 - Stationary Source Predicted Noise Levels - At-Grade Roadway & Demolition NY Abutment

Month/Year	Start	Finish	Main Task	Activity	Total Noise Level Leq (dBA)	Incremental Change	CEQR Adverse Impact (3 dBA increase)
August - October 2014	*12-Aug-14*	*11-Oct-14*	Construction for Northern Structure (WB Portion); Demolition of Existing Abutment	Remaining At-Grade Roadway Widening during Phase III; Demolish Substructure	75.7	**4.0**	**Yes**

Notes:
1. 'Total Noise Level' represents a combination of RCNM predicted noise level with 2012 No-Build noise level of 71.7 dBA.
2. 'Incremental Change' represents the increase over the 'Total Noise Level' relative to the No-Build noise level of 71.7 dBA.
3. An RCNM model run was created to develop the cumulative noise level of work conducted simultaneously within the At-Grade Roadway area of disturbance (analysis assumes a worst-case condition and therefore assumes equipment would be located at the closest point within this area during simultaneous NY Abutment demolition) and the NY Abutment area of disturbance. The specific equipment noise level (70.4 dBA) for the simultaneous work may be found in Appendix C and should then be logarithmically added to the general equipment noise levels for both At-Grade Roadway work and NY Abutment work (70.5 dBA). This combined noise level of 73.5 dBA should then be logarithmically added to the 2012 No Build noise level of 71.7 DBA for a total cumulative noise level of 75.7 dBA, as shown in herein table. Logarithmically adding the total noise level produced by the demolition of the NY Abutment presented in Table 2 to the total noise level produced by the At-Grade Roadway presented in Table 3 creates an erroneously high noise level that considers the 2012 No Build noise level twice.

D. OFF-SITE (MOBILE SOURCE) CONSTRUCTION-PHASE IMPACTS

The additional truck and automobile (employee) trips generated by the GBR construction activities could affect traffic conditions along heavily traveled roadways and congested intersections near noise sensitive land uses, namely the Goethals Garden Homes situated along Goethals Road North. Although the NYCT Berth 4 Project will be located approximately 4,000 feet from the Goethals Garden Homes, based on data received from NYCT's consultants, approximately 90% of construction trucks would access the NYCT Berth 4 site via Goethals Road North and then Western Avenue. Therefore, the vehicles associated with Berth 4 construction activities were included into the future No-Build traffic volumes so that the off-site analysis considered the cumulative effect of traffic generated by the GBR and Berth 4 Projects.

Assumptions and Methodology

According to the *CEQR Technical Manual*, the study area for construction sources of noise is based on the proximity of a noise-sensitive receptor to the construction site and the route of construction traffic traveling to and from the site. Noise sensitive receptors are generally chosen along the "feeder" streets that lead to the project site. Construction-specific feeder streets were determined based on proposed construction access routes provided by the project's design team. Proposed construction access routes include a western approach, assuming deliveries from New Jersey and/or Pennsylvania, along I-278 eastbound, Gulf Avenue, Forest Avenue and Goethals Road North, as well as an eastern approach from Staten Island along I-278 westbound and the West Shore Expressway (refer to Figure 2 for proposed construction access routes in Staten Island). As the Goethals Garden Homes community is the only noise-sensitive land use along these construction access routes, it was the only area of noise-sensitive receptors considered for the mobile source construction-phase noise analysis (refer to Figure 2 for the location of the Goethals Garden Homes).

Potential construction-phase noise impacts associated with mobile sources were estimated using the Federal Highway Administration's (FHWA) Traffic Noise Model (TNM) 2.5. Specific roadway geometric data utilized as inputs for the noise model included: roadway centerline and width; receptor locations; elevation data for all roadway, receptor, and barrier points; and traffic data variables such as volume and speed. Appendix E provides the TNM outputs for each model run.

Based on coordination with the project's design team, it was assumed that the majority of construction equipment and materials would be hauled on-site by vehicles/trucks rather than by rail and/or barge. As such, potential construction-phase noise impacts were predicted for the peak construction traffic year for AM and PM peak construction traffic hours. As shown in the GBR Truck Trips Table in Appendix D, construction in the year 2012 would generate the highest volume of truck trips compared to the other construction years and was therefore deemed the peak construction year. Additionally, it was assumed that the interim improvements at Forest Avenue (i.e., I-278's EB off-ramp modification, one-way conversion of Forest Avenue between Gulf Avenue & Goethals Road North, and signal timing adjustments) under the NYCT's Howland Hook Interim Access Project[12] will be in place at the time of the GBR Construction. Based on these assumptions, year 2012 baseline volumes along the Goethals Transportation Model (GTM) network were developed through application of a growth factor to the existing traffic volumes collected for the GBR DEIS. Subsequently, existing vehicle classification percentages from the traffic counts conducted for the GBR DEIS were also applied to the 2012 baseline volumes to develop 3-way classified vehicles (automobiles, medium trucks and heavy trucks). To develop the 2012 No-Build traffic volumes, Berth 4 construction-generated worker trips were added to the automobiles while construction-generated truck trips were added to the heavy truck total. Similarly, to

[12] Agency partners include PANYNJ for Design/RFP; NYCDOT for Review/Approval; and NYCEDC for Construction Contract. Additional information regarding NYCT's Howland Hook Interim Access project may be found at; http://www.nyc.gov/html/gmtf/pdf/20090616_task_force_presentation.pdf.

develop the 2012 Build traffic volumes, GBR construction-generated worker trips were added to the 2012 No-Build automobiles while the construction-generated truck trips were added to the 2012 No-Build heavy trucks. Based on the available truck trip data, construction-generated trucks were assumed to all be heavy trucks rather than medium trucks. Additionally, to reflect the worst-case condition for noise emissions, posted speed limits along local roadways and I-278 were used. On local roadways in which speeds are unknown or not posted, a speed limit of 30 mph was applied.[13]

Results

Truck and automobile traffic generated by the construction of the proposed GBR project in proximity to the Goethals Garden Homes would result in a negligible addition to the vehicle mix during the AM and PM peak hour, and as such, would result in an imperceptible change in noise levels relative to the 2012 No-Build conditions (see Table 7 for predicted noise levels and Figure 2 for receptor locations).

Under the 2012 No-Build conditions, noise levels are predicted to range between 67.8 and 72.5 dBA during the AM peak hour and 67.1 and 72.2 dBA during the PM peak hour among the different receptors within the Goethals Garden Homes (see Table 7). Under the 2012 Build conditions, noise levels would range between 68.0 and 72.8 dBA during the AM peak hour, with a maximum predicted increase of 0.4 dBA. Similarly, during the PM peak hour, noise levels would range between 67.4 and 72.4 dBA, with a maximum predicted increase of 0.3 dBA. Since noise levels are not predicted to increase by 3 dBA or more, construction-generated traffic from the proposed GBR project would not result in significant adverse impacts among the Goethals Garden Homes. In addition and as the Berth 4 vehicular traffic is already built into the TNM-predicted No-Build and Build noise levels for mobile sources, it is also expected that the GBR Project would continue to have no significant adverse impacts even if the Berth 4 Project was to be built another time.

[13] The New York City Department of Transportation (NYCDOT) website states that speeds along local roadways in New York City are 30 mph unless otherwise posted.

Table 7 - Mobile Source Predicted Noise Levels

Receptor	Time	2012 No-Build Modeled Noise Levels (dBA)	2012 Build Modeled Noise Levels (dBA)	Incremental Change	CEQR Adverse Impact (3 dBA increase)
M1	AM	71.7	71.9	0.2	No
	PM	71.5	71.7	0.2	
R12	AM	72.5	72.8	0.3	No
	PM	72.2	72.4	0.2	
R13	AM	72.1	72.3	0.2	No
	PM	71.4	71.7	0.3	
R14	AM	70.6	70.9	0.3	No
	PM	70.0	70.3	0.3	
R15	AM	69.6	70.0	0.4	No
	PM	69.2	69.5	0.3	
R16	AM	70.2	70.5	0.3	No
	PM	70.0	70.3	0.3	
R17	AM	70.5	70.8	0.3	No
	PM	70.1	70.4	0.3	
R18	AM	70.4	70.6	0.2	No
	PM	69.7	70.0	0.3	
R19	AM	69.0	69.3	0.3	No
	PM	68.4	68.6	0.2	
R20	AM	67.8	68.0	0.2	No
	PM	67.1	67.4	0.3	

Notes:

1- Receptors labeled with an 'M' represent both a measurement and modeling location while receptors labeled with an 'R' represent modeling locations only. See Figure 2 for specific locations.

2- For the purposes of the mobile source analysis, multiple modeling locations were established to predict noise levels throughout the Goethals Garden Homes community as the construction access routes pass in front of the entire community and mobile sources are always moving around. Conversely, for the stationary source analysis, construction equipment would be located west of the Goethals Garden Homes. Therefore, impacts were only predicted for the closest receptor from the equipment (i.e. M1, see Figure 2) with the assumption that noise levels would continue to decrease further past the closest receptor.

3- It should be noted that the Berth 4 vehicular traffic is already built into the TNM-predicted No-Build and Build noise levels for Mobile Sources.

E. CUMULATIVE EFFECTS OF OFF-SITE AND ON-SITE CONSTRUCTION-PHASE IMPACTS

During the course of the construction period, truck and automobile trips associated with the GBR Construction would peak during the year 2012 (see Section D). Based on the analysis of stationary sources (see Section C), stationary work that would result in impacts at the Goethals Garden Homes would occur outside such 2012 Construction Peak Year for mobile sources. However, mobile construction activities in 2012 could still cause an increase in noise levels to stationary sources that would already produce an incremental change close to the 3-dBA impact threshold. It should be noted that the cumulative effects of Berth 4 vehicular traffic is already built into the TNM-predicted No-Build and Build noise levels for mobile sources. Therefore, a cumulative analysis of mobile and stationary sources of noise for the 2012 Construction Peak Year was conducted to determine if increased truck traffic coupled with the sounds of heavy construction equipment and activity would result in impacts at the Goethals Garden Homes. Noise levels were predicted for site M1 (see Figure 2), which also represents the minimum distance between the construction site and the receptor. The cumulative noise levels were then compared to the 2012 No-Build noise level at site M1 of 71.7 dBA. Upon review of Appendix B, it was determined that only some of the construction activities for the Travis Bridge replacement would occur in 2012 concurrent with the 2012 Construction Peak Year for mobile sources.

As shown in Table 8 and compared to the predicted No-Build noise level of 71.7 dBA, the largest cumulative incremental change would only be at 2.7 to 2.8 dBA during either the installation or removal of the temporary rolling pier/frame coupled with increased truck and automobile trips in January 2012, April 2012, July 2012, and October 2012. Nonetheless, such combined effects would not result in any adverse noise impacts to the Goethals Garden Homes since the cumulative incremental change would still be just below the 3-dBA threshold. During most of the other months in 2012, the combined effects of traffic and construction equipment would result in less than a 1-dBA increase in the noise level relative to the 2012 No-Build noise level. Therefore, combined effects of mobile and stationary sources of noise would not create impacts at the Goethals Garden Homes.

Outside the 2012 Construction Peak Year and while some stationary sources of noise are predicted to increase ambient noise levels at the Goethals Garden Homes by 3 dBA or greater between the months of September and December 2011 (see Travis Bridge in Section C), a cumulative (mobile + stationary sources) impacts analysis was not conducted for these months for the following reasons: 1) as stationary sources would result in impacts without the consideration of mobile sources, cumulatively both mobile and stationary sources would continue to create an adverse impact at the Goethals Garden Homes; and 2) based on the truck trip data provided by the design team (refer to the Truck Trips Table in Appendix D), noise levels associated with mobile sources of noise would be potentially lower than those in 2012 considering the fewer amount of construction-generated vehicles. Therefore, cumulative noise levels would be similar to the value contributed by stationary sources.

Table 8 - Cumulative Mobile- and Stationary-Source Predicted Noise Levels for 2012 Construction Peak Year

Month/Year	Start	Finish	Main Task	Activity	Cumulative Noise Level Leq (dBA)	Cumulative Incremental Change	CEQR Adverse Impact (3 dBA increase)
December - January 2012	29-Dec-11	13-Jan-12	Construct South Pier (Gulf Ave); Construct North Abutment	Install Temporary Rolling Pier/Frame; Excavate/Temporary Bridge Seats (North Abutment)	74.5	2.8	No
January 2012	14-Jan-12	19-Jan-12	Construct North Abutment	Excavate/Temporary Bridge Seats	72.4	0.7	No
January 2012	20-Jan-12	26-Jan-12		Excavate Footings	72.4	0.7	No
January - February 2012	28-Jan-12	25-Feb-12		Install Drilled Shafts; Install Steel Pipe Piles	73.9	2.2	No
February - March 2012	27-Feb-12	17-Mar-12		Form/Rebar/Strip Footings; Pour Footing Concrete	72.5	0.8	No
March - April 2012	19-Mar-12	14-Apr-12		Form/Rebar/Strip/Pour Abutment Walls	72.4	0.7	No
April - May 2012	16-Apr-12	4-May-12		Install Temporary Rolling Pier/Frame	74.4	2.7	No
May 2012	12-May-12	17-May-12	Construct North Pier	Demolish Storage Walls	73.9	2.2	No
May 2012	18-May-12	23-May-12		Install Drilled Shafts	72.5	0.8	No
May - June 2012	25-May-12	6-Jun-12		Form/Rebar/Strip Columns; Pour Column Concrete	72.5	0.8	No
June - July 2012	8-Jun-12	2-Jul-12		Form/Rebar/Strip Caps; Pour Cap Concrete	72.5	0.8	No
July - August 2012	3-Jul-12	10-Aug-12		Install Remaining Temporary Pier/Frame	74.4	2.7	No
August 2012	11-Aug-12	16-Aug-12	Install Roll-In Structure	Erect Structural Steel	72.4	0.7	No
August - September 2012	17-Aug-12	5-Sep-12		Install Floorbeams, Kneebracing and Decking	72.4	0.7	No
September 2012	7-Sep-12	18-Sep-12		Install Ballast, Ties and Track	72.3	0.6	No
September - October 2012	19-Sep-12	5-Oct-12		Rill-In/Roll-Out Existing and New Structure	72.4	0.7	No
October 2012	6-Oct-12	11-Oct-12	Demolish Existing Travis Bridge	Remove Track, Tie and Ballast	72.4	0.7	No
October 2012	12-Oct-12	17-Oct-12		Remove Bridge Sections	72.4	0.7	No
October - November 2012	18-Oct-12	28-Nov-12		Remove Temporary Rolling Pier/Frame/Sheeting and Piles	74.4	2.7	No

Notes:

1. 'Cumulative Noise Level' represents a combination of the RCNM-predicted noise level for Stationary Sources with the maximum TNM-predicted 2012 Build modeled noise level of 71.9 dBA for Mobile Sources.

   It should be noted that the Berth 4 vehicular traffic is already built into the TNM-predicted No-Build and Build noise levels for Mobile Sources.

2. 'Incremental Change' represents the increase, relative to the No-Build noise level of 71.7 dBA, from cumulative mobile and stationary sources of noise.

F. MITIGATION

Based on the above analyses, some significant adverse impacts are predicted to occur at the Goethals Garden Homes during three distinct periods running between the months of September-December 2011, March-November 2013, as well as March-October 2014 as a result of some stationary (on-site) construction activities. Impacts predicted to occur between March-November 2013 and March-October 2014 are representative of at-grade roadway widening/paving activities as well as their concurrence with demolition of the NY Abutment between August and October 2014. However, as noted above in Section C. *On-Site (Stationary Source) Construction-Phase Impacts*, such impacts would be unrealistic due to the fact that an absolute worst-case condition was evaluated, which assumes that all equipment for the at-grade roadway widening/paving activities would be concentrated within 310 feet of the Goethals Garden Homes. Since the area of disturbance for the at-grade roadway widening is much larger, with its 1,300-feet east-to-west length relative to the other areas of disturbance, it is more likely that equipment would be more spread out within the area of disturbance. However, the construction contractor should conduct an additional noise evaluation of roadway widening/paving activities within 310-360 feet of the Goethals Garden Homes based on known equipment locations to determine if any significant impact would actually result.

Also, regarding the concurrence of activities, specific details of the at-grade roadway widening are not yet available at this time of conceptual design, and therefore it is unknown if demolition of the abutment would definitely be concurrent with the time in which roadway widening/paving is occurring at the closest point to the Goethals Garden Homes. As such, impacts are also less realistic between March and October 2014. Nonetheless, measures to reduce noise levels at the source may be implemented and would only need to provide a maximum attenuation of 3 dBA. This level of attenuation would reduce construction generated noise levels such that when combined with the 2012 predicted ambient level of 71.7 dBA, the total noise level would not increase by 3 dBA or more above the ambient level. As such, a noise mitigation plan in compliance with the New York City Noise Code for construction (as presented below) would be easily achievable and implemented with typical construction measures (e.g., the use of noise walls or enclosures as well as equipment mufflers) in consultation with NYCDEP.

The New York City Local Law 113 of 2005 established the mandate to create a new set of construction noise regulations for inclusion in Section 24, Title 15, of the Rules of the City of New York (i.e., the New York City Noise Code). As a result, a completely new Chapter 28 was developed to specifically address construction noise and to provide requirements for proactive avoidance and options for mitigation. The new construction noise regulations went into effect on July 1, 2007 and apply to any and all work occurring within New York City's five boroughs. In addition to maximum permissible noise levels, the New York City Noise Code includes provisions to be implemented by the contractor executing the work, which are as follows:

- Develop and follow a Noise Mitigation Plan posted conspicuously on the construction site;
- Use equipment whose noise emission levels comply with those found in the FHWA Roadway Construction Noise Model (RCNM);
- All on-site equipment must be equipped with appropriate manufacturer's noise reduction devices;
- Operate construction devices with internal combustion engines at lower engine speeds and use noise-insulating material mounted on engine housing to mitigate noise;
- Portable compressors, generators, pumps should be covered with noise-insulating material;
- Use quieter-type adjustable backup alarms on equipment pre-2008;
- Provide laborer training for quieter work methods;
- Inform the affected public about work schedule and mitigation plans, and
- Use of perimeter noise barriers whenever practicable for all construction projects.

Aside from the required noise mitigation measures listed above for general construction, Chapter 28 also includes requirements for additional mitigation measures when the following five categories of devices are used:

- Impact Equipment: Pile Drivers, Jackhammers, Hoe Rams, Blasting
- Earth Moving Devices: Vacuum Extractors
- Construction Trucks: Dump Trucks
- Stationary Devices: Cranes, Auger Drills, Street Plates Backup Alarms
- Manual Devices: Concrete Saws

Such mitigation measures range from source controls (i.e. quieter models and mufflers) to establishment of noise pathway controls via noise barriers and enclosures.

Per Section 24-228 of the New York City Noise Code, no person shall operate construction devices so as to cause unreasonable noise. Unreasonable noise is defined as noise that exceeds 85 dBA at 50 feet or more from the source at a point outside the property line where the source is located or as measured 50 or more feet from the source on a public right-of-way.

G. CONCLUSION

Construction work associated with the Goethals Bridge Replacement in Staten Island, New York would result in some significant adverse impacts at the Goethals Garden Homes, but only for intermittent occurrences within three distinct periods out of the overall 4.5-year construction period. Specifically, only the on-site (stationary sources) equipment would elevate ambient noise levels by 3 dBA or more during the months of September-December 2011 due to work associated with the replacement of Travis Bridge as well as during the months of March-November 2013 and March-October 2014 due to at-grade roadway widening/paving activities potentially occurring within 310 feet of the Goethals Garden Homes and the combined effects of such work with the demolition of the existing New York Abutment. However, as noted above in Section C. *On-Site (Stationary Source) Construction-Phase Impacts*, such impacts from at-grade roadway work as well as the combined effects of at-grade roadway work with demolition of the abutment would most likely be unrealistic due to the fact that an absolute worst-case condition was evaluated, which assumes that all equipment for the at-grade roadway widening/paving activities would be concentrated within 310 feet of the Goethals Garden Homes. Since the area of disturbance for the at-grade roadway widening is much larger, with its 1,300-feet east-to-west length relative to the other areas of disturbance, it is more likely that equipment would be more spread out within the area of disturbance. Therefore and keeping this in mind, the only adverse operations would realistically occur at the Travis Bridge replacement from its construction activities associated with driving sheets and temporary piles, which in turn would result in a maximum 3.9 dBA increase at the Goethals Garden Homes (i.e., between the months of September-December 2011). However, the construction contractor should conduct an additional noise evaluation of roadway widening/paving activities within 310-360 feet of the Goethals Garden Homes based on known equipment locations to determine if any significant impact would actually result.

When combined with predicted traffic noise levels for 2012, cumulative stationary and mobile source impacts are not predicted to occur. In addition, and as the Berth 4 vehicular traffic is already built into the TNM-predicted No-Build and Build noise levels for mobile sources, it was also concluded that the Berth 4 Project would not have any cumulative adverse impacts to the Goethals Garden Homes. Likewise, the

GBR Project would continue to have no significant adverse impacts even if the Berth 4 Project was to be built at another time.

Although some impacts were predicted to occur during the construction period, the contractor executing the work is required to develop a Construction Noise Mitigation Plan as the New York City Noise Code establishes maximum permissible sound level limits within 50 feet of the construction source. The contractor would then coordinate with NYCDEP to ensure appropriate mitigation measures are being proposed. Typical mitigation measures that could be utilized as part of this plan could range from noise barriers and enclosures to fitting equipment with mufflers.

APPENDIX A
GBR FEIS NOISE PROTOCOL
TO ESTIMATE POTENTIAL CONSTRUCTION-PHASE IMPACTS

GOETHALS BRIDGE REPLACEMENT PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

Noise Protocol to Estimate Potential Construction-Phase Impacts

Prepared for the City of New York

DRAFT

DECEMBER 2009

INTRODUCTION

The proposed Goethals Bridge Replacement (GBR) Project, sponsored by the Port Authority of New York and New Jersey (Port Authority), would replace the existing Goethals Bridge, which spans the Arthur Kill between Staten Island, New York, and Elizabeth, New Jersey. As the project requires a United States Coast Guard (USCG) Bridge Permit for its construction over the Arthur Kill, a navigable water of the United States, such action constitutes a major federal action triggering compliance with the requirements of the National Environmental Policy Act (NEPA). The GBR Draft Environmental Impact Statement (DEIS) was issued by the U.S. Coast Guard (USCG), the lead federal agency, in May 2009. The GBR DEIS was prepared to also satisfy New York State Environmental Quality Act (SEQRA) and City of New York City Environmental Quality Review (CEQR) requirements.

Subsequent to early project coordination efforts and a CEQR workshop in April 2008 with the Mayor's Office of Environmental Coordination (OEC), the New York City Department of Environmental Protection (NYCDEP), and the New York City Department of Transportation, it was agreed that the GBR Final EIS (FEIS), in satisfying the CEQR procedural requests, would include documentation of a quantitative construction-phase noise analysis of the Port Authority's Preferred Alternative. On the basis of the GBR DEIS, which then included four bridge alignment alternatives, and consideration of agency and public comments received during the DEIS formal public meetings and comment period, the Port Authority has since identified the New Alignment South (NAS) as its preferred bridge alignment alternative. This protocol was developed for the New York portion of the GBR Project pursuant to the CEQR requirements and its technical guidance.

Below are the key assumptions that will be made for this quantitative construction-phase noise analysis within the New York portion of the GBR Project:

- As currently anticipated, the proposed GBR Project would be constructed over an approximate 5-year period, which would start in March 2011.

- Regarding the mobile source (off-site) construction noise impact analysis, the GBR FEIS will also account for the construction-generated traffic related to the nearby New York Container Terminal (NYCT) Berth 4 Expansion Project (Berth 4) at Howland Hook, as appropriate. At this time, and upon latest consultation with the New York City Economic Development Corporation (NYCEDC), it is assumed that the NYCT Berth 4 would be constructed between 2011-2014, a period that would generally coincide with construction of the GBR Project. Given the two projects' anticipated concurrent construction schedule, close proximity, and the potential for construction-generated traffic from Berth 4 to utilize Goethals Road North, the construction-phase noise analysis for the GBR FEIS is expected to include an evaluation of the potential cumulative noise impact of these two projects' construction activities for mobile sources of noise.

- Regarding the stationary source (on-site) construction noise impact analysis, the GBR FEIS will not consider the construction activities associated with Berth 4 since the site is located approximately 4,000 feet from the sole noise sensitive land use to be considered for impact evaluation in New York (i.e., the Goethals Garden Homes on Goethals Road North).

- For both the stationary and mobile noise sources, it is assumed that the construction noise impact analyses will only be conducted for a single peak construction year. Such peak construction year will be determined upon review of the PANYNJ's GBR Construction Report. Though unlikely, it is possible that the specific peak (worst-case) years may not exactly coincide between the stationary and the mobile sources analyses.

This memorandum summarizes the proposed methodology for quantitatively estimating the potential cumulative mobile source construction-phase noise impacts of the GBR and Berth 4 projects as well as the stationary source construction-phase impacts associated with the GBR project.

1. GUIDING REGULATIONS AND CONSTRUCTION NOISE CRITERIA

A construction noise assessment will be performed in accordance with the *City Environmental Quality Review* (*CEQR*) Technical Manual Guidelines to evaluate the potential noise consequences from on-site and off-site construction-related activities at sensitive receptor locations surrounding the proposed project site. To that effect, the predicted noise levels will be evaluated against construction noise criteria limits found in the *CEQR* Technical Manual. These criteria dictate that to avoid "significant adverse impact" the hourly Leq noise level at a receptor location should not increase by more than 3 decibels above the existing (baseline) noise levels if the work is occurring at night (10 PM to 7 AM). During the daytime (7 AM to 10 PM) the noise criteria limits vary based on the prevailing existing background noise level such that a 5 decibel increase is significant when the background is less than 60 dBA, a 4 decibel increase is significant when the background is 61 dBA, and a 3 decibel increase is significant when the background noise levels are greater than or equal to 62 dBA.

2. DATA UTILIZED

Potential noise impacts associated with construction will vary dramatically based on the overall construction schedule and work hours, the type of equipment being used for the construction activities and the locations where the work may be occurring. As such, the following data elements will be utilized in the analysis:

- Construction schedule information;
- types of equipment being used;
- acoustic usage factors of equipment;
- information depicting construction phase limits;
- the number of total vehicles (trucks and automobiles) entering and leaving the GBR and Berth 4 construction sites during peak periods along routes which pass by noise sensitive land uses;
- the locations of nearby sensitive land uses; and
- the 2005 ambient noise measurements obtained during the Draft EIS stage for operational noise impact evaluation will be used to establish the baseline noise environment.

3. ON-SITE (STATIONARY SOURCE) CONSTRUCTION-PHASE IMPACTS

The stationary source construction noise analysis will be conducted using the Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM), which calculates noise levels based on the noise prediction calculations and equipment database used in the Central Artery/Tunnel (CA/T) project in Boston, Massachusetts. As stated in the CEQR Technical Manual (see Chapter 3R-Noise, §335-Construction Sources, Page 3R-17), the use of the FHWA RCNM's noise analysis modeling methodologies will satisfy the CEQR requirements.

The following tasks will be conducted to complete the stationary source analysis based on the GBR's peak construction (worst-case) year:

- Evaluate construction phase limits of disturbance to determine which phases will occur within 1,500 feet of noise sensitive land uses;

- Evaluate the activities associated with such phases to determine which activities would create the greatest potential for construction noise impacts based on location of occurrence within the phase limit of disturbance as well as equipment to be used;

- Predict average hourly (Leq) noise levels for the worst-case construction phase and activity within that phase:

  - Input variables will include equipment acoustic usage factors provided by the construction engineers, number of pieces of equipment used concurrently, distances to nearby noise sensitive receptors, shielding factors, where applicable, and equipment noise emission levels from the RCNM database, when available. Research of equipment specifications for equipment not listed in the database will be conducted to formulate reasonable assumptions regarding equipment noise emission level.

- Predicted Leq noise levels will be compared to existing (baseline) ambient noise levels, per *CEQR* requirements, measured for the Draft EIS to determine if significant impacts will occur based on *CEQR* noise criteria.

As the NYCT's Berth 4 project is located approximately 4,000 feet from the Goethals Garden Homes (the sole noise sensitive land use to be considered for the analysis), the stationary source analysis will not consider the construction activities associated with this other project.

4. OFF-SITE (MOBILE SOURCE) CONSTRUCTION-PHASE IMPACTS

The additional truck and automobile (employee) trips generated by the GBR construction activities could affect traffic conditions along heavily traveled roadways and congested intersections near noise sensitive land uses. Although the NYCT Berth 4 project will be located approximately 4,000 feet from the noise sensitive land use considered for the analysis (the Goethals Garden Homes), based on data received from NYCT's consultants, approximately 90% of construction trucks would access the NYCT Berth 4 site via Western Avenue, thereby necessitating the use of Goethals Road North. As Goethals Road North passes in front of the Goethals Garden Homes, the cumulative effects of traffic generated by the GBR and Berth 4 projects will be considered. Due to the nature of the project area and the configuration of the roadway system on which the construction vehicles would travel to, from and within the project area, no other noise sensitive receptors are likely to be impacted.

The following tasks will be conducted to estimate the potential noise impacts of construction-generated trips based on the GBR's peak (worst-case) construction year:

- Traffic data along Goethals Road North, Forest Avenue and the Staten Island Expressway (SIE) associated with the GBR and Berth 4 projects will be used for the mobile source analysis as the Goethals Garden Homes is the only noise sensitive land use that would be affected by the two projects.
- The FHWA's Traffic Noise Model (TNM) version 2.5 will be used to predict no-action and action (construction-generated) noise levels for the GBR's peak (worst-case) construction year in order to determine the noise level increases due to construction-generated traffic relative to the no-action noise levels.

- Input variables will include peak hour three-way classified traffic data (automobiles, medium trucks, and heavy trucks), and vehicle speed. Roadway and receptor geometries, elevation data, and important terrain features previously digitized and used for the evaluation of noise levels in the DEIS will be used. Minor adjustments to the geometry of Forest Avenue may be incorporated into the model to account for the change in traffic patterns along that roadway due to its proposed operation as a one-way roadway.

- Traffic data for the peak traffic period(s) occurring within the peak construction year will be utilized for a worst-case analysis. A review of truck volumes, locations and weights (i.e., loaded or empty) during the AM and PM peak traffic periods will be conducted in order to identify the worst-case period of construction activity upon which the analysis will be prepared. Given the relatively higher speeds that construction trucks will be traveling along Goethals Road North, which is the closest roadway to the Goethals Garden Homes receptors, a free-flow truck traffic condition should provide a worst-case mobile-source construction-phase noise condition than an interrupted flow truck traffic condition would.

5. MITIGATION MEASURES

If construction activities are predicted to result in significant impacts to noise sensitive land uses, mitigation measures will be evaluated using RCNM.

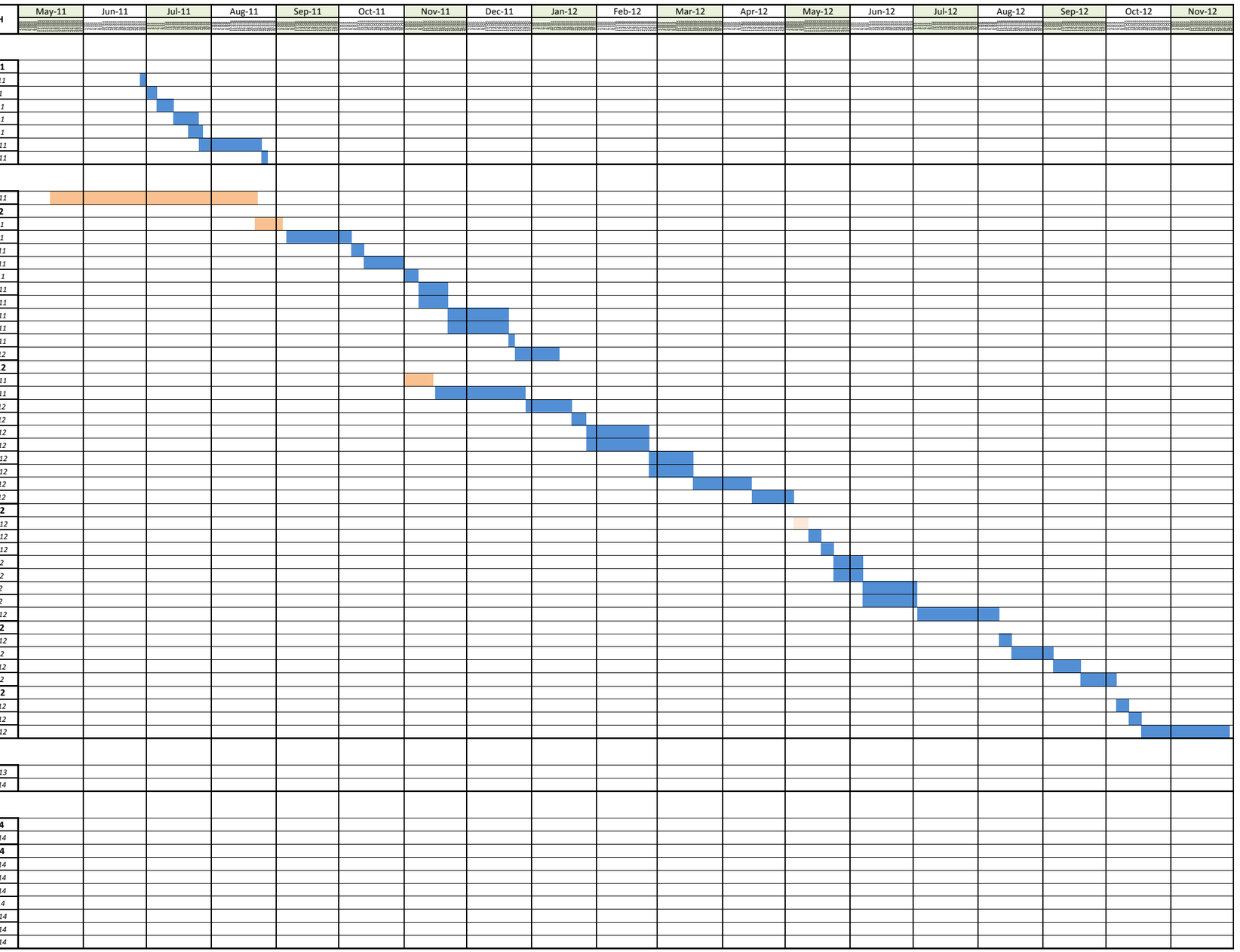
6. DOCUMENTATION

Results of the noise analysis will be included in a Technical Report that can readily be excerpted and incorporated into the GBR FEIS.

APPENDIX B
DETAILED GBR SCHEDULE FOR ALL NOISE-EMITTING CONSTRUCTION ACTIVITIES WITHIN 1,800 FT OF GOETHALS GARDEN HOMES

Appendix B - Detailed GBR Schedule for All Noise-Emitting Construction Activities within 1,800 ft of Goethals Garden Homes.

AREAS OF DISTURBANCE (Phase) / Main Task / *ACTIVITY*	START	FINISH
NY ABUTMENT (Phase I)		
Partial Construction of NY Abutment for Southern Structure (EB Portion)	**Jun-11**	**Aug-11**
INSTALL SHEET PILES	*28-Jun-11*	*30-Jun-11*
EXCAVATE FOR FOOTINGS	*1-Jul-11*	*5-Jul-11*
DRIVE FOUNDATION PILES	*6-Jul-11*	*13-Jul-11*
FORM / REBAR / STRIP FOOTINGS	*14-Jul-11*	*25-Jul-11*
POUR FOOTING CONCRETE	*20-Jul-11*	*27-Jul-11*
FORM / REBAR / STRIP / POUR ABUTMENT WALLS	*26-Jul-11*	*24-Aug-11*
REMOVE SHEET PILES	*25-Aug-11*	*27-Aug-11*
TRAVIS BRIDGE (Phase I)		
MOBILIZATION & WORKZONE PREPARATION	*16-May-11*	*22-Aug-11*
Construct South Pier (Gulf Ave)	**Aug-11**	**Jan-12**
FIELD PREPARATION	*23-Aug-11*	*3-Sep-11*
DRIVE SHEETING AND TEMPORARY PILES	*6-Sep-11*	*6-Oct-11*
TEMPORARY GULF AVENUE UNDERPINNING	*7-Oct-11*	*12-Oct-11*
EXCAVATE/TEMPORARY BRIDGE SEATS	*13-Oct-11*	*31-Oct-11*
INSTALL DRILLED SHAFTS	*1-Nov-11*	*7-Nov-11*
FORM / REBAR / STRIP COLUMNS	*8-Nov-11*	*21-Nov-11*
POUR COLUMN CONCRETE	*8-Nov-11*	*21-Nov-11*
FORM / REBAR / STRIP CAPS	*22-Nov-11*	*20-Dec-11*
POUR CAP CONCRETE	*22-Nov-11*	*20-Dec-11*
REMOVE TEMPORARY UNDERPINNING	*22-Dec-11*	*23-Dec-11*
INSTALL TEMPORARY ROLLING PIER/FRAME	*24-Dec-11*	*13-Jan-12*
Construct North Abutment	**Nov-11**	**May-12**
FIELD PREPARATION	*1-Nov-11*	*14-Nov-11*
DRIVE SHEETING AND TEMPORARY PILES	*16-Nov-11*	*28-Dec-11*
EXCAVATE/TEMPORARY BRIDGE SEATS	*29-Dec-11*	*19-Jan-12*
EXCAVATE FOOTINGS	*20-Jan-12*	*26-Jan-12*
INSTALL DRILLED SHAFTS	*28-Jan-12*	*25-Feb-12*
INSTALL STEEL PIPE PILES	*28-Jan-12*	*25-Feb-12*
FORM / REBAR / STRIP FOOTINGS	*27-Feb-12*	*17-Mar-12*
POUR FOOTING CONCRETE	*27-Feb-12*	*17-Mar-12*
FORM / REBAR / STRIP / POUR ABUTMENT WALLS	*19-Mar-12*	*14-Apr-12*
INSTALL TEMPORARY ROLLING PIER/FRAME	*16-Apr-12*	*4-May-12*
Construct North Pier	**May-12**	**Aug-12**
FIELD PREPARATION	*5-May-12*	*11-May-12*
DEMOLISH STORAGE WALLS	*12-May-12*	*17-May-12*
INSTALL DRILLED SHAFTS	*18-May-12*	*23-May-12*
FORM / REBAR / STRIP COLUMNS	*25-May-12*	*6-Jun-12*
POUR COLUMN CONCRETE	*25-May-12*	*6-Jun-12*
FORM / REBAR / STRIP CAPS	*8-Jun-12*	*2-Jul-12*
POUR CAP CONCRETE	*8-Jun-12*	*2-Jul-12*
INSTALL TEMPORARY ROLLING PIER/FRAME	*3-Jul-12*	*10-Aug-12*
Install Roll-In Structure	**Aug-12**	**Sep-12**
ERECT STRUCTURAL STEEL	*11-Aug-12*	*16-Aug-12*
INSTALL FLOORBEAMS, KNEEBRACING AND DECKING	*17-Aug-12*	*5-Sep-12*
INSTALL BALLAST, TIES, AND TRACK	*7-Sep-12*	*18-Sep-12*
ROLL-IN/ROLL-OUT EXISTING AND NEW STRUCTURE	*19-Sep-12*	*5-Oct-12*
Demolish Existing Travis Bridge	**Oct-12**	**Nov-12**
REMOVE TRACK, TIE AND BALLAST	*6-Oct-12*	*11-Oct-12*
REMOVE BRIDGE SECTIONS	*12-Oct-12*	*17-Oct-12*
REMOVE TEMPORARY ROLLING PIER/FRAME/SHEETING AND PILES	*18-Oct-12*	*28-Nov-12*
AT-GRADE ROADWAY (Phases II & III)		
AT-GRADE ROADWAY CONSTRUCTION FOR SOUTHERN STRUCTURE (EB PORTION) (Phase II)	*13-Mar-13*	*15-Nov-13*
AT-GRADE ROADWAY CONSTRUCTION FOR NORTHERN STRUCTURE (WB PORTION) (Phase III)	*1-Mar-14*	*11-Oct-14*
NY ABUTMENT (Phases III & IV)		
Demolition of Existing NY Abutment (both EB&WB Portions)	**Aug-14**	**Oct-14**
DEMOLISH SUBSTRUCTURE	*12-Aug-14*	*11-Oct-14*
Remaining Construction of NY Abutment for Northern Structure (WB Portion)	**Oct-14**	**Dec-14**
INSTALL SHEET PILES	*13-Oct-14*	*15-Oct-14*
EXCAVATE FOR FOOTINGS	*16-Oct-14*	*18-Oct-14*
DRIVE FOUNDATION PILES	*20-Oct-14*	*31-Oct-14*
FORM / REBAR / STRIP FOOTINGS	*28-Oct-14*	*7-Nov-14*
POUR FOOTING CONCRETE	*1-Nov-14*	*10-Nov-14*
FORM / REBAR / STRIP / POUR ABUTMENT WALLS	*8-Nov-14*	*13-Dec-14*
REMOVE SHEET PILES	*14-Dec-14*	*17-Dec-14*



Notes:

Minor Construction Activities (such as mobilization and workzone/field preparation, including developing the maintenance and protection of traffic) were not evaluated since they neither necessitate the use of heavy construction equipment nor generate significant levels of noise.

Major Construction Activities were evaluated since they necessitate the use of heavy construction equipment that likely generate significant levels of noise.**Only those periods were then evaluated for potential construction-noise impacts.**

Appendix B - Detailed GBR Schedule for All Noise-Emitting Construction Activities within 1,800 ft of Goethals Garden Homes.

AREAS OF DISTURBANCE (Phase) / Main Task / *ACTIVITY*	START	FINISH	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13
NY ABUTMENT (Phase I)															
Partial Construction of NY Abutment for Southern Structure (EB Portion)	**Jun-11**	**Aug-11**													
INSTALL SHEET PILES	*28-Jun-11*	*30-Jun-11*													
EXCAVATE FOR FOOTINGS	*1-Jul-11*	*5-Jul-11*													
DRIVE FOUNDATION PILES	*6-Jul-11*	*13-Jul-11*													
FORM / REBAR / STRIP FOOTINGS	*14-Jul-11*	*25-Jul-11*													
POUR FOOTING CONCRETE	*20-Jul-11*	*27-Jul-11*													
FORM / REBAR / STRIP / POUR ABUTMENT WALLS	*26-Jul-11*	*24-Aug-11*													
REMOVE SHEET PILES	*25-Aug-11*	*27-Aug-11*													
TRAVIS BRIDGE (Phase I)															
MOBILIZATION & WORKZONE PREPARATION	*16-May-11*	*22-Aug-11*													
Construct South Pier (Gulf Ave)	**Aug-11**	**Jan-12**													
FIELD PREPARATION	*23-Aug-11*	*3-Sep-11*													
DRIVE SHEETING AND TEMPORARY PILES	*6-Sep-11*	*6-Oct-11*													
TEMPORARY GULF AVENUE UNDERPINNING	*7-Oct-11*	*12-Oct-11*													
EXCAVATE/TEMPORARY BRIDGE SEATS	*13-Oct-11*	*31-Oct-11*													
INSTALL DRILLED SHAFTS	*1-Nov-11*	*7-Nov-11*													
FORM / REBAR / STRIP COLUMNS	*8-Nov-11*	*21-Nov-11*													
POUR COLUMN CONCRETE	*8-Nov-11*	*21-Nov-11*													
FORM / REBAR / STRIP CAPS	*22-Nov-11*	*20-Dec-11*													
POUR CAP CONCRETE	*22-Nov-11*	*20-Dec-11*													
REMOVE TEMPORARY UNDERPINNING	*22-Dec-11*	*23-Dec-11*													
INSTALL TEMPORARY ROLLING PIER/FRAME	*24-Dec-11*	*13-Jan-12*													
Construct North Abutment	**Nov-11**	**May-12**													
FIELD PREPARATION	*1-Nov-11*	*14-Nov-11*													
DRIVE SHEETING AND TEMPORARY PILES	*16-Nov-11*	*28-Dec-11*													
EXCAVATE/TEMPORARY BRIDGE SEATS	*29-Dec-11*	*19-Jan-12*													
EXCAVATE FOOTINGS	*20-Jan-12*	*26-Jan-12*													
INSTALL DRILLED SHAFTS	*28-Jan-12*	*25-Feb-12*													
INSTALL STEEL PIPE PILES	*28-Jan-12*	*25-Feb-12*													
FORM / REBAR / STRIP FOOTINGS	*27-Feb-12*	*17-Mar-12*													
POUR FOOTING CONCRETE	*27-Feb-12*	*17-Mar-12*													
FORM / REBAR / STRIP / POUR ABUTMENT WALLS	*19-Mar-12*	*14-Apr-12*													
INSTALL TEMPORARY ROLLING PIER/FRAME	*16-Apr-12*	*4-May-12*													
Construct North Pier	**May-12**	**Aug-12**													
FIELD PREPARATION	*5-May-12*	*11-May-12*													
DEMOLISH STORAGE WALLS	*12-May-12*	*17-May-12*													
INSTALL DRILLED SHAFTS	*18-May-12*	*23-May-12*													
FORM / REBAR / STRIP COLUMNS	*25-May-12*	*6-Jun-12*													
POUR COLUMN CONCRETE	*25-May-12*	*6-Jun-12*													
FORM / REBAR / STRIP CAPS	*8-Jun-12*	*2-Jul-12*													
POUR CAP CONCRETE	*8-Jun-12*	*2-Jul-12*													
INSTALL TEMPORARY ROLLING PIER/FRAME	*3-Jul-12*	*10-Aug-12*													
Install Roll-In Structure	**Aug-12**	**Sep-12**													
ERECT STRUCTURAL STEEL	*11-Aug-12*	*16-Aug-12*													
INSTALL FLOORBEAMS, KNEEBRACING AND DECKING	*17-Aug-12*	*5-Sep-12*													
INSTALL BALLAST, TIES, AND TRACK	*7-Sep-12*	*18-Sep-12*													
ROLL-IN/ROLL-OUT EXISTING AND NEW STRUCTURE	*19-Sep-12*	*5-Oct-12*													
Demolish Existing Travis Bridge	**Oct-12**	**Nov-12**													
REMOVE TRACK, TIE AND BALLAST	*6-Oct-12*	*11-Oct-12*													
REMOVE BRIDGE SECTIONS	*12-Oct-12*	*17-Oct-12*													
REMOVE TEMPORARY ROLLING PIER/FRAME/SHEETING AND PILES	*18-Oct-12*	*28-Nov-12*													
AT-GRADE ROADWAY (Phases II & III)															
AT-GRADE ROADWAY CONSTRUCTION FOR SOUTHERN STRUCTURE (EB PORTION) (Phase II)	*13-Mar-13*	*15-Nov-13*													
AT-GRADE ROADWAY CONSTRUCTION FOR NORTHERN STRUCTURE (WB PORTION) (Phase III)	*1-Mar-14*	*11-Oct-14*													
NY ABUTMENT (Phases III & IV)															
Demolition of Existing NY Abutment (both EB&WB Portions)	**Aug-14**	**Oct-14**													
DEMOLISH SUBSTRUCTURE	*12-Aug-14*	*11-Oct-14*													
Remaining Construction of NY Abutment for Northern Structure (WB Portion)	**Oct-14**	**Dec-14**													
INSTALL SHEET PILES	*13-Oct-14*	*15-Oct-14*													
EXCAVATE FOR FOOTINGS	*16-Oct-14*	*18-Oct-14*													
DRIVE FOUNDATION PILES	*20-Oct-14*	*31-Oct-14*													
FORM / REBAR / STRIP FOOTINGS	*28-Oct-14*	*7-Nov-14*													
POUR FOOTING CONCRETE	*1-Nov-14*	*10-Nov-14*													
FORM / REBAR / STRIP / POUR ABUTMENT WALLS	*8-Nov-14*	*13-Dec-14*													
REMOVE SHEET PILES	*14-Dec-14*	*17-Dec-14*													

Notes:

Minor Construction Activities (such as mobilization and workzone/field preparation, including developing the maintenance and protection of tra

Major Construction Activities were evaluated since they necessitate the use of heavy construction equipment that likely generate significant lev

Appendix B - Detailed GBR Schedule for All Noise-Emitting Construction Activities within 1,800 ft of Goethals Garden Homes.

AREAS OF DISTURBANCE (Phase) / Main Task / *ACTIVITY*	START	FINISH	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
NY ABUTMENT (Phase I)														
Partial Construction of NY Abutment for Southern Structure (EB Portion)	**Jun-11**	**Aug-11**												
INSTALL SHEET PILES	*28-Jun-11*	*30-Jun-11*												
EXCAVATE FOR FOOTINGS	*1-Jul-11*	*5-Jul-11*												
DRIVE FOUNDATION PILES	*6-Jul-11*	*13-Jul-11*												
FORM / REBAR / STRIP FOOTINGS	*14-Jul-11*	*25-Jul-11*												
POUR FOOTING CONCRETE	*20-Jul-11*	*27-Jul-11*												
FORM / REBAR / STRIP / POUR ABUTMENT WALLS	*26-Jul-11*	*24-Aug-11*												
REMOVE SHEET PILES	*25-Aug-11*	*27-Aug-11*												
TRAVIS BRIDGE (Phase I)														
MOBILIZATION & WORKZONE PREPARATION	*16-May-11*	*22-Aug-11*												
Construct South Pier (Gulf Ave)	**Aug-11**	**Jan-12**												
FIELD PREPARATION	*23-Aug-11*	*3-Sep-11*												
DRIVE SHEETING AND TEMPORARY PILES	*6-Sep-11*	*6-Oct-11*												
TEMPORARY GULF AVENUE UNDERPINNING	*7-Oct-11*	*12-Oct-11*												
EXCAVATE/TEMPORARY BRIDGE SEATS	*13-Oct-11*	*31-Oct-11*												
INSTALL DRILLED SHAFTS	*1-Nov-11*	*7-Nov-11*												
FORM / REBAR / STRIP COLUMNS	*8-Nov-11*	*21-Nov-11*												
POUR COLUMN CONCRETE	*8-Nov-11*	*21-Nov-11*												
FORM / REBAR / STRIP CAPS	*22-Nov-11*	*20-Dec-11*												
POUR CAP CONCRETE	*22-Nov-11*	*20-Dec-11*												
REMOVE TEMPORARY UNDERPINNING	*22-Dec-11*	*23-Dec-11*												
INSTALL TEMPORARY ROLLING PIER/FRAME	*24-Dec-11*	*13-Jan-12*												
Construct North Abutment	**Nov-11**	**May-12**												
FIELD PREPARATION	*1-Nov-11*	*14-Nov-11*												
DRIVE SHEETING AND TEMPORARY PILES	*16-Nov-11*	*28-Dec-11*												
EXCAVATE/TEMPORARY BRIDGE SEATS	*29-Dec-11*	*19-Jan-12*												
EXCAVATE FOOTINGS	*20-Jan-12*	*26-Jan-12*												
INSTALL DRILLED SHAFTS	*28-Jan-12*	*25-Feb-12*												
INSTALL STEEL PIPE PILES	*28-Jan-12*	*25-Feb-12*												
FORM / REBAR / STRIP FOOTINGS	*27-Feb-12*	*17-Mar-12*												
POUR FOOTING CONCRETE	*27-Feb-12*	*17-Mar-12*												
FORM / REBAR / STRIP / POUR ABUTMENT WALLS	*19-Mar-12*	*14-Apr-12*												
INSTALL TEMPORARY ROLLING PIER/FRAME	*16-Apr-12*	*4-May-12*												
Construct North Pier	**May-12**	**Aug-12**												
FIELD PREPARATION	*5-May-12*	*11-May-12*												
DEMOLISH STORAGE WALLS	*12-May-12*	*17-May-12*												
INSTALL DRILLED SHAFTS	*18-May-12*	*23-May-12*												
FORM / REBAR / STRIP COLUMNS	*25-May-12*	*6-Jun-12*												
POUR COLUMN CONCRETE	*25-May-12*	*6-Jun-12*												
FORM / REBAR / STRIP CAPS	*8-Jun-12*	*2-Jul-12*												
POUR CAP CONCRETE	*8-Jun-12*	*2-Jul-12*												
INSTALL TEMPORARY ROLLING PIER/FRAME	*3-Jul-12*	*10-Aug-12*												
Install Roll-In Structure	**Aug-12**	**Sep-12**												
ERECT STRUCTURAL STEEL	*11-Aug-12*	*16-Aug-12*												
INSTALL FLOORBEAMS, KNEEBRACING AND DECKING	*17-Aug-12*	*5-Sep-12*												
INSTALL BALLAST, TIES, AND TRACK	*7-Sep-12*	*18-Sep-12*												
ROLL-IN/ROLL-OUT EXISTING AND NEW STRUCTURE	*19-Sep-12*	*5-Oct-12*												
Demolish Existing Travis Bridge	**Oct-12**	**Nov-12**												
REMOVE TRACK, TIE AND BALLAST	*6-Oct-12*	*11-Oct-12*												
REMOVE BRIDGE SECTIONS	*12-Oct-12*	*17-Oct-12*												
REMOVE TEMPORARY ROLLING PIER/FRAME/SHEETING AND PILES	*18-Oct-12*	*28-Nov-12*												
AT-GRADE ROADWAY (Phases II & III)														
AT-GRADE ROADWAY CONSTRUCTION FOR SOUTHERN STRUCTURE (EB PORTION) (Phase II)	*13-Mar-13*	*15-Nov-13*												
AT-GRADE ROADWAY CONSTRUCTION FOR NORTHERN STRUCTURE (WB PORTION) (Phase III)	*1-Mar-14*	*11-Oct-14*												
NY ABUTMENT (Phases III & IV)														
Demolition of Existing NY Abutment (both EB&WB Portions)	**Aug-14**	**Oct-14**												
DEMOLISH SUBSTRUCTURE	*12-Aug-14*	*11-Oct-14*												
Remaining Construction of NY Abutment for Northern Structure (WB Portion)	**Oct-14**	**Dec-14**												
INSTALL SHEET PILES	*13-Oct-14*	*15-Oct-14*												
EXCAVATE FOR FOOTINGS	*16-Oct-14*	*18-Oct-14*												
DRIVE FOUNDATION PILES	*20-Oct-14*	*31-Oct-14*												
FORM / REBAR / STRIP FOOTINGS	*28-Oct-14*	*7-Nov-14*												
POUR FOOTING CONCRETE	*1-Nov-14*	*10-Nov-14*												
FORM / REBAR / STRIP / POUR ABUTMENT WALLS	*8-Nov-14*	*13-Dec-14*												
REMOVE SHEET PILES	*14-Dec-14*	*17-Dec-14*												

Notes:

Minor Construction Activities (such as mobilization and workzone/field preparation, including developing the maintenance and protection of tra

Major Construction Activities were evaluated since they necessitate the use of heavy construction equipment that likely generate significant lev

APPENDIX C
RCNM OUTPUT FILES FOR ON-SITE (STATIONARY SOURCES)
CONSTRUCTION IMPACT ANALYSES

Stationary Sources Noise Level Calculation Methodology

- Maximum number of equipment entries in RCNM is 20, therefore separate “general equipment” and “specific equipment” RCN files were created
- “General Equipment” files represent noise emissions from equipment to be used for all construction tasks
- “Specific Equipment” files represent noise emissions from task-specific equipment
- Noise emissions from “general equipment” and “specific equipment” were added logarithmically to obtain a total noise level from all construction equipment using the following equation:

  $$10*\text{Log}(10^{(x/10)}+ 10^{(y/10)})$$

  where x=specific equipment Leq and y=general equipment Leq
- Total Noise level at the Goethals Garden Homes was then logarithmically added to the 2012 No Build noise level of 71.7 at Site M1 using the same equation as above

NY ABUTMENT

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: General Equipment - NY Abutment

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
grader 14'		No	30	85		1350	0
compressor		No	30		77.7	1350	0
generator		No	30		80.6	1350	0
diesel forklift		No	30		79.1	1350	0
lube truck 30		No	30		74.3	1350	0
fuel truck		No	30		74.3	1350	0
mechanical truck		No	30		74.3	1350	0
pick up truck (1) 30		No	30		75	1350	0
flat bed truck		No	30		74.3	1350	0
tractor 30		No	30	84		1350	0
water truck		No	30		74.3	1350	0
product delivery truck (2) 30		No	30		79.5	1350	0
tow light 30		No	30		72.8	1350	0
tow light 30		No	30		72.8	1350	0
tow light 30		No	30		72.8	1350	0
tow light 30		No	30		72.8	1350	0
pick up truck (2) 30		No	30		78	1350	0
pick up truck (2) 30		No	30		78	1350	0
pick up truck (2) 30		No	30		78	1350	0
flat bed truck		No	30		74.3	1350	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
grader 14'		56.4	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor		49.1	43.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
generator		52	46.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
diesel forklift		50.5	45.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
lube truck 30		45.7	40.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
fuel truck		45.7	40.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
mechanical truck		45.7	40.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pick up truck (1) 30		46.4	41.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
flat bed truck		45.7	40.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 30		55.4	50.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
water truck		45.7	40.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
product delivery truck (2) 30		50.9	45.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tow light 30		44.2	38.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tow light 30		44.2	38.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tow light 30		44.2	38.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tow light 30		44.2	38.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pick up truck (2) 30		49.4	44.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pick up truck (2) 30		49.4	44.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pick up truck (2) 30		49.4	44.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
flat bed truck		45.7	40.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	56.4	57.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/4/2010
Case Description: NY Abutment Task 1 - Install/Remove Sheet Piles (where needed)

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane 39		No	39		80.6	1350	0
pile hammer		Yes	12		101.3	1350	0
vibratory driver 35		No	35		100.8	1350	0
welder 6		No	6		74	1350	0
Hairpin Hammer 6		No	6	90		1350	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane 39		52	47.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pile hammer		72.7	63.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
vibratory driver 35		72.2	67.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		45.4	33.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hairpin Hammer 6		61.4	49.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	72.7	69.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: NY Abutment - Excavate for Footings

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
excavator		No	53		80.7	1350	0
dozer 12		No	12		81.7	1350	0
dump truck 15		No	15		76.5	1350	0
dump truck 15		No	15		76.5	1350	0
dump truck 15		No	15		76.5	1350	0
pumps 47		No	47		80.9	1350	0
pumps 47		No	47		80.9	1350	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
excavator		52.1	49.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dozer 12		53.1	43.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck 15		47.9	39.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck 15		47.9	39.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck 15		47.9	39.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps 47		52.3	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps 47		52.3	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	53.1	54.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: NY Abutment Task 3 - Drive Foundation Piles

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	1350	0
compressor 47		No	47		77.7	1350	0
DSL Hammer 30		No	30	90		1350	0
pile hammer		Yes	12		101.3	1350	0
Pile Cutter w/ Power Pack		No	6		90	1350	0
welder 30		No	30		74	1350	0
pumps		No	53		80.9	1350	0
pumps		No	53		80.9	1350	0
pumps		No	53		80.9	1350	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		52	47.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 47		49.1	45.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DSL Hammer 30		61.4	56.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pile hammer		72.7	63.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pile Cutter w/ Power Pack		61.4	49.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 30		45.4	40.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps		52.3	49.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps		52.3	49.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps		52.3	49.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	72.7	64.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: NY Abutment - Form/Rebar/Strip Footings

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	1350	0
4 KW generator 30		No	30		72.8	1350	0
compressor 30		No	30		77.7	1350	0
welder 30		No	30		74	1350	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		52	47.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 KW generator 30		44.2	38.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 30		49.1	43.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 30		45.4	40.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	52	49.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: NY Abutment - Form/Rebar/Strip Footings; Pour Footing Concrete

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	1350	0
4 KW generator 30		No	30		72.8	1350	0
compressor 30		No	30		77.7	1350	0
Concrete Pump Truck		No	59		81.4	1350	0
Concrete Mixing Truck		No	59		78.8	1350	0
Concrete Mixing Truck		No	59		78.8	1350	0
Concrete Mixing Truck		No	59		78.8	1350	0
Concrete Mixing Truck		No	59		78.8	1350	0
welder 30		No	30		74	1350	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		52	47.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 KW generator 30		44.2	38.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 30		49.1	43.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck		52.8	50.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixing Truck		50.2	47.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixing Truck		50.2	47.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixing Truck		50.2	47.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixing Truck		50.2	47.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 30		45.4	40.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	52.8	56.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: NY Abutment - Pour Footing Concrete; Form/Rebar/Strip/Pour Abutment Walls

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	1350	0
compressor 47		No	47		77.7	1350	0
concrete mix truck 47		No	47		78.8	1350	0
concrete pump truck 47		No	47		81.4	1350	0
4 KW generator 30		No	30		72.8	1350	0
compressor 30		No	30		77.7	1350	0
Concrete Pump Truck		No	59		81.4	1350	0
Concrete Mixing Truck		No	59		78.8	1350	0
Concrete Mixing Truck		No	59		78.8	1350	0
Concrete Mixing Truck		No	59		78.8	1350	0
Concrete Mixing Truck		No	59		78.8	1350	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		52	47.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 47		49.1	45.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete mix truck 47		50.2	46.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete pump truck 47		52.8	49.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 KW generator 30		44.2	38.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 30		49.1	43.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck		52.8	50.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixing Truck		50.2	47.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixing Truck		50.2	47.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixing Truck		50.2	47.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixing Truck		50.2	47.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	52.8	57.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: NY Abutment - Form/Rebar/Strip/Pour Abutment Walls

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	1350	0
compressor 47		No	47		77.7	1350	0
concrete mix truck 47		No	47		78.8	1350	0
concrete pump truck 47		No	47		81.4	1350	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		52	47.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 47		49.1	45.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete mix truck 47		50.2	46.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete pump truck 47		52.8	49.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	52.8	53.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: Ny Abutment - Demolish Substructure

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	1350	0
excavator 47		No	47		80.7	1350	0
hydraulic sheers 47		No	47		96	1350	0
wire saw 6		No	6		90	1350	0
dump truck6		No	6		76.5	1350	0
dump truck6		No	6		76.5	1350	0
dump truck6		No	6		76.5	1350	0
dump truck6		No	6		76.5	1350	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		52	47.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
excavator 47		52.1	48.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
hydraulic sheers 47		67.4	64.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
wire saw 6		61.4	49.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck6		47.9	35.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck6		47.9	35.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck6		47.9	35.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck6		47.9	35.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	67.4	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: NY Abutment Task 3,4 - Drive Foundation Piles; Form/Rebar/Strip Footings

				---- Receptor #1 ----			
		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	1350	0
compressor 47		No	47		77.7	1350	0
DSL Hammer 30		No	30	90		1350	0
pile hammer		Yes	12		101.3	1350	0
Pile Cutter w/ Power Pack		No	6		90	1350	0
welder 30		No	30		74	1350	0
pumps		No	53		80.9	1350	0
pumps		No	53		80.9	1350	0
pumps		No	53		80.9	1350	0
crane		No	34		80.6	1350	0
4 KW generator 30		No	30		72.8	1350	0
compressor 30		No	30		77.7	1350	0
welder 30		No	30		74	1350	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		52	47.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 47		49.1	45.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DSL Hammer 30		61.4	56.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pile hammer		72.7	63.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pile Cutter w/ Power Pack		61.4	49.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 30		45.4	40.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps		52.3	49.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps		52.3	49.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps		52.3	49.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
crane		52	47.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 KW generator 30		44.2	38.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 30		49.1	43.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 30		45.4	40.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	72.7	65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

AT-GRADE ROADWAY

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: General Equipment - At-Grade Roadway (Min Distance)

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
grader 14'		No	30	85		310	0
compressor		No	30		77.7	310	0
generator		No	30		80.6	310	0
diesel forklift		No	30		79.1	310	0
lube truck 30		No	30		74.3	310	0
fuel truck		No	30		74.3	310	0
mechanical truck		No	30		74.3	310	0
pick up truck (1) 30		No	30		75	310	0
flat bed truck		No	30		74.3	310	0
tractor 30		No	30	84		310	0
water truck		No	30		74.3	310	0
product delivery truck (2) 30		No	30		79.5	310	0
tow light 30		No	30		72.8	310	0
tow light 30		No	30		72.8	310	0
tow light 30		No	30		72.8	310	0
tow light 30		No	30		72.8	310	0
pick up truck (2) 30		No	30		78	310	0
pick up truck (2) 30		No	30		78	310	0
pick up truck (2) 30		No	30		78	310	0
flat bed truck		No	30		74.3	310	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
grader 14'		69.2	63.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor		61.9	56.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
generator		64.8	59.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
diesel forklift		63.3	58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
lube truck 30		58.5	53.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
fuel truck		58.5	53.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
mechanical truck		58.5	53.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pick up truck (1) 30		59.2	53.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
flat bed truck		58.5	53.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 30		68.2	62.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
water truck		58.5	53.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
product delivery truck (2) 30		63.7	58.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tow light 30		57	51.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tow light 30		57	51.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tow light 30		57	51.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tow light 30		57	51.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pick up truck (2) 30		62.2	56.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pick up truck (2) 30		62.2	56.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pick up truck (2) 30		62.2	56.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
flat bed truck		58.5	53.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	69.2	70.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: Specific Equipment - At-Grade Roadway (Min Distance)

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
grader 14'		No	30	85		310	0
dozer		No	30		81.7	310	0
backhoe9		No	9		77.6	310	0
roller15		No	15		80	310	0
dump truck6		No	6		76.5	310	0
paver12		No	12		77.2	310	0
drum mixer		No	9		80	310	0
Road Widener 15		No	15	85		310	0
Hydraulic Hammer		Yes	6		90	310	0
paver15		No	15		77.2	310	0
compactor15		No	15		80	310	0
dump truck6		No	6		76.5	310	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
grader 14'		69.2	63.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dozer		65.9	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
backhoe9		61.8	51.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
roller15		64.2	55.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck6		60.7	48.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
paver12		61.4	52.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
drum mixer		64.2	53.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Road Widener 15		69.2	60.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydraulic Hammer		74.2	61.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
paver15		61.4	53.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compactor15		64.2	55.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck6		60.7	48.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	74.2	69.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

AT-GRADE ROADWAY (>360 FEET)

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/9/2010
Case Description: General Equipment - At Grade Roadway (360 ft)

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
grader 14'		No	30	85		360	0
compressor		No	30		77.7	360	0
generator		No	30		80.6	360	0
diesel forklift		No	30		79.1	360	0
lube truck 30		No	30		74.3	360	0
fuel truck		No	30		74.3	360	0
mechanical truck		No	30		74.3	360	0
pick up truck (1) 30		No	30		75	360	0
flat bed truck		No	30		74.3	360	0
tractor 30		No	30	84		360	0
water truck		No	30		74.3	360	0
product delivery truck (2) 30		No	30		79.5	360	0
tow light 30		No	30		72.8	360	0
tow light 30		No	30		72.8	360	0
tow light 30		No	30		72.8	360	0
tow light 30		No	30		72.8	360	0
pick up truck (2) 30		No	30		78	360	0
pick up truck (2) 30		No	30		78	360	0
pick up truck (2) 30		No	30		78	360	0
flat bed truck		No	30		74.3	360	0

Results

		Calculated (dBA)			Noise Limits (dBA)					Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
grader 14'		67.9	62.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor		60.6	55.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
generator		63.5	58.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
diesel forklift		62	56.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
lube truck 30		57.2	51.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
fuel truck		57.2	51.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
mechanical truck		57.2	51.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pick up truck (1) 30		57.9	52.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
flat bed truck		57.2	51.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 30		66.9	61.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
water truck		57.2	51.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
product delivery truck (2) 30		62.4	57.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tow light 30		55.7	50.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tow light 30		55.7	50.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tow light 30		55.7	50.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tow light 30		55.7	50.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pick up truck (2) 30		60.9	55.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pick up truck (2) 30		60.9	55.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pick up truck (2) 30		60.9	55.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
flat bed truck		57.2	51.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	67.9	69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/9/2010
Case Description: Specific Equipment - At-Grade Roadway (360 ft)

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
grader 14'		No	30	85		360	0
dozer		No	30		81.7	360	0
backhoe9		No	9		77.6	360	0
roller15		No	15		80	360	0
dump truck6		No	6		76.5	360	0
paver12		No	12		77.2	360	0
drum mixer		No	9		80	360	0
Road Widener 15		No	15	85		360	0
Hydraulic Hammer		Yes	6		90	360	0
paver15		No	15		77.2	360	0
compactor15		No	15		80	360	0
dump truck6		No	6		76.5	360	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
grader 14'		67.9	62.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dozer		64.6	59.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
backhoe9		60.5	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
roller15		62.9	54.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck6		59.4	47.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
paver12		60.1	50.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
drum mixer		62.9	52.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Road Widener 15		67.9	59.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydraulic Hammer		72.9	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
paver15		60.1	51.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compactor15		62.9	54.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck6		59.4	47.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	72.9	67.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

TRAVIS BRIDGE

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: General Equipment - Travis Bridge

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
grader 14'		No	30	85		875	0
compressor		No	30		77.7	875	0
generator		No	30		80.6	875	0
diesel forklift		No	30		79.1	875	0
lube truck 30		No	30		74.3	875	0
fuel truck		No	30		74.3	875	0
mechanical truck		No	30		74.3	875	0
pick up truck (1) 30		No	30		75	875	0
flat bed truck		No	30		74.3	875	0
tractor 30		No	30	84		875	0
water truck		No	30		74.3	875	0
product delivery truck (2) 30		No	30		79.5	875	0
tow light 30		No	30		72.8	875	0
tow light 30		No	30		72.8	875	0
tow light 30		No	30		72.8	875	0
tow light 30		No	30		72.8	875	0
pick up truck (2) 30		No	30		78	875	0
pick up truck (2) 30		No	30		78	875	0
pick up truck (2) 30		No	30		78	875	0
flat bed truck		No	30		74.3	875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
grader 14'		60.1	54.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor		52.8	47.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
generator		55.7	50.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
diesel forklift		54.2	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
lube truck 30		49.4	44.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
fuel truck		49.4	44.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
mechanical truck		49.4	44.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pick up truck (1) 30		50.1	44.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
flat bed truck		49.4	44.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 30		59.1	53.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
water truck		49.4	44.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
product delivery truck (2) 30		54.6	49.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tow light 30		47.9	42.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tow light 30		47.9	42.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tow light 30		47.9	42.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tow light 30		47.9	42.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pick up truck (2) 30		53.1	47.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pick up truck (2) 30		53.1	47.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pick up truck (2) 30		53.1	47.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
flat bed truck		49.4	44.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	60.1	61.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 9-11 Travis Bridge Specific Equ - Drive Sheeting and Temporary Piles

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane 39		No	39		80.6	875	0
pile hammer		Yes	12		101.3	875	0
vibratory driver 35		No	35		100.8	875	0
welder 6		No	6		74	875	0
Hairpin Hammer 6		Yes	6	95		875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night		
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	
crane 39		55.7	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
pile hammer		76.4	67.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
vibratory driver 35		75.9	71.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Hairpin Hammer 6		70.1	57.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Total	76.4	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 10-11 Travis Bridge Specific Equ - Gulf Ave Underpinning

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	875	0
welder 6		No	6		74	875	0
welder 6		No	6		74	875	0
tractor 21		No	21		84	875	0
tractor 21		No	21		84	875	0
compressor 12		No	12		77.7	875	0
compressor 12		No	12		77.7	875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		55.7	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 21		59.1	52.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 21		59.1	52.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 12		52.8	43.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 12		52.8	43.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	59.1	57.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 10-11 Travis Bridge Specific Equ - Excavate Bridge Seats

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
excavator		No	53		80.7	875	0
track-type loader 6		No	6		80.7	875	0
crane 4		No	4		80.6	875	0
dump truck 15		No	15		76.5	875	0
dump truck 15		No	15		76.5	875	0
dump truck 15		No	15		76.5	875	0
pumps 47		No	47		80.9	875	0
pumps 47		No	47		80.9	875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
excavator		55.8	53.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
track-type loader 6		55.8	43.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
crane 4		55.7	41.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck 15		51.6	43.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck 15		51.6	43.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck 15		51.6	43.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps 47		56	52.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps 47		56	52.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	56	58.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 11-11 Travis Bridge - Install Drilled Shafts

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Foundation Drill Rig		No	39		79.1	875	0
track-type loader 15		No	15		80.7	875	0
dump truck		No	47		76.5	875	0
dump truck		No	47		76.5	875	0
compressor 6		No	6		77.7	875	0
welder 6		No	6		74	875	0
pumps 47		No	47		80.9	875	0
pumps 47		No	47		80.9	875	0
pumps 47		No	47		80.9	875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Foundation Drill Rig		54.2	50.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
track-type loader 15		55.8	47.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck		51.6	48.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck		51.6	48.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 6		52.8	40.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps 47		56	52.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps 47		56	52.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps 47		56	52.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	56	59.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 11-11 Travis Bridge - Construct Column

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane 39		No	39		80.6	875	0
4 KW generator 47		No	47		72.8	875	0
compressor 59		No	59		77.7	875	0
welder 6		No	6		74	875	0
concrtete pump truck		No	59		81.4	875	0
concrete mix truck		No	59		78.8	875	0
concrete mix truck		No	59		78.8	875	0
concrete mix truck		No	59		78.8	875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night		
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	
crane 39		55.7	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
4 KW generator 47		47.9	44.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
compressor 59		52.8	50.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
concrtete pump truck		56.5	54.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
concrete mix truck		53.9	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
concrete mix truck		53.9	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
concrete mix truck		53.9	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Total	56.5	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 11-11 Travis Bridge - Construct Column; Drive Sheeting and Temporary Piles (North Abutment)

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane 39		No	39		80.6	875	0
4 KW generator 47		No	47		72.8	875	0
compressor 59		No	59		77.7	875	0
welder 6		No	6		74	875	0
concrtete pump truck		No	59		81.4	875	0
concrete mix truck		No	59		78.8	875	0
concrete mix truck		No	59		78.8	875	0
concrete mix truck		No	59		78.8	875	0
pile hammer		Yes	12		101.3	875	0
vibratory driver 35		No	35		100.8	875	0
welder 6		No	6		74	875	0
Hairpin Hammer 6		No	6		0	875	0
crane 39		No	39		80.6	875	0

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane 39		55.7	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 KW generator 47		47.9	44.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 59		52.8	50.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrtete pump truck		56.5	54.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete mix truck		53.9	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete mix truck		53.9	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete mix truck		53.9	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pile hammer		76.4	67.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
vibratory driver 35		75.9	71.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hairpin Hammer 6		-24.9	-37.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
crane 39		55.7	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	76.4	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 11-11 Travis Bridge - Construct Cap; Drive Sheeting and Temporary Piles (for north abutment)

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane 39		No	39		80.6	875	0
4 KW generator 47		No	47		72.8	875	0
compressor 30		No	30		77.7	875	0
welder 6		No	6		74	875	0
concrtete pump truck		No	59		81.4	875	0
concrete mix truck		No	59		78.8	875	0
concrete mix truck		No	59		78.8	875	0
concrete mix truck		No	59		78.8	875	0
pile hammer		Yes	12		101.3	875	0
vibratory driver 35		No	35		100.8	875	0
welder 6		No	6		74	875	0
Hairpin Hammer 6		No	6		0	875	0
crane 39		No	39		80.6	875	0

Results

		Calculated (dBA)		Noise Limits (dBA)							Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane 39		55.7	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 KW generator 47		47.9	44.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 30		52.8	47.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrtete pump truck		56.5	54.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete mix truck		53.9	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete mix truck		53.9	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete mix truck		53.9	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pile hammer		76.4	67.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
vibratory driver 35		75.9	71.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hairpin Hammer 6		-24.9	-37.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
crane 39		55.7	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	76.4	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 12-11 Travis Bridge - Remove Temporary Underpinning; Drive Sheeting and Temporary Piles (for north abutment)

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	875	0
crane		No	34		80.6	875	0
welder 6		No	6		74	875	0
welder 6		No	6		74	875	0
tractor 21		No	21		84	875	0
tractor 21		No	21		84	875	0
compressor 6		No	6		77.7	875	0
compressor 6		No	6		77.7	875	0
crane 39		No	39		80.6	875	0
pile hammer		Yes	12		101.3	875	0
vibratory driver 35		No	35		100.8	875	0
welder 6		No	6		74	875	0
Hairpin Hammer 6		No	6	90		875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		55.7	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
crane		55.7	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 21		59.1	52.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 21		59.1	52.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 6		52.8	40.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 6		52.8	40.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
crane 39		55.7	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pile hammer		76.4	67.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
vibratory driver 35		75.9	71.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hairpin Hammer 6		65.1	52.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	76.4	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 12-11 Install Temp Rolling Pier and Drive Sheeting and temp Piles

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane 39		No	39		80.6	875	0
pile hammer		Yes	12		101.3	875	0
vibratory driver 35		No	35		100.8	875	0
welder 12		No	12		74	875	0
Hairpin Hammer 6		No	6	90		875	0
tractor 12		No	12		84	875	0
tractor 12		No	12		84	875	0
compressor 15		No	15		77.7	875	0
compressor 15		No	15		77.7	875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane 39		55.7	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pile hammer		76.4	67.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
vibratory driver 35		75.9	71.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 12		49.1	39.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hairpin Hammer 6		65.1	52.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 12		59.1	49.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 12		59.1	49.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 15		52.8	44.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 15		52.8	44.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	76.4	72.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 12-11 Install Temp Rolling Pier and Excavate Temp Bridge Seats

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	875	0
pile hammer		Yes	12		101.3	875	0
vib pile hammer 12		No	12		100.8	875	0
welder 12		No	12		74	875	0
Hairpin Hammer 6		No	6	90		875	0
tractor 12		No	12		84	875	0
tractor 12		No	12		84	875	0
compressor 15		No	15		77.7	875	0
compressor 15		No	15		77.7	875	0
excavator		No	53		80.7	875	0
crane 4		No	4		80.6	875	0
track-type loader 12		No	12		80.7	875	0
dump truck 15		No	15		76.5	875	0
dump truck 15		No	15		76.5	875	0
dump truck 15		No	15		76.5	875	0
pumps 47		No	47		80.9	875	0
pumps 47		No	47		80.9	875	0

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		55.7	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pile hammer		76.4	67.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
vib pile hammer 12		75.9	66.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 12		49.1	39.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hairpin Hammer 6		65.1	52.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 12		59.1	49.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 12		59.1	49.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 15		52.8	44.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 15		52.8	44.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
excavator		55.8	53.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
crane 4		55.7	41.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
track-type loader 12		55.8	46.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck 15		51.6	43.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck 15		51.6	43.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck 15		51.6	43.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps 47		56	52.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps 47		56	52.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	76.4	70.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 1-12 Travis Bridge Specific Equ - Excavate Bridge Seats

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
excavator		No	53		80.7	875	0
crane 4		No	4		80.6	875	0
track-type loader 12		No	12		80.7	875	0
dump truck 15		No	15		76.5	875	0
dump truck 15		No	15		76.5	875	0
dump truck 15		No	15		76.5	875	0
pumps 47		No	47		80.9	875	0
pumps 47		No	47		80.9	875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
excavator		55.8	53.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
crane 4		55.7	41.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
track-type loader 12		55.8	46.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck 15		51.6	43.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck 15		51.6	43.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck 15		51.6	43.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps 47		56	52.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps 47		56	52.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	56	58.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/4/2010
Case Description: 1-12 Travis Bridge - Excavate Footings

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
excavator		No	53		80.7	875	0
track-type loader 6		No	6		80.7	875	0
dump truck 15		No	15		76.5	875	0
dump truck 15		No	15		76.5	875	0
dump truck 15		No	15		76.5	875	0
pumps 47		No	47		80.9	875	0
pumps 47		No	47		80.9	875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
excavator		55.8	53.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
track-type loader 6		55.8	43.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck 15		51.6	43.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck 15		51.6	43.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck 15		51.6	43.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps 47		56	52.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps 47		56	52.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	56	58.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 2-12 Travis Bridge - Install Shafts and Pipe Piles

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Foundation Drill Rig		No	39		79.1	875	0
track-type loader 15		No	15		80.7	875	0
dump truck		No	47		76.5	875	0
dump truck		No	47		76.5	875	0
compressor 6		No	6		77.7	875	0
welder 30		No	30		74	875	0
pumps 47		No	47		80.9	875	0
pumps 47		No	47		80.9	875	0
pumps 47		No	47		80.9	875	0
crane 39		No	39		80.6	875	0
compressor 47		No	47		77.7	875	0
DSL Hammer 30		No	30	90		875	0
Fixed Leads w/ Spotter		Yes	12		101.3	875	0
Pile Cutter w/ Power Pack		No	6		90	875	0

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Foundation Drill Rig		54.2	50.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
track-type loader 15		55.8	47.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck		51.6	48.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck		51.6	48.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 6		52.8	40.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 30		49.1	43.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps 47		56	52.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps 47		56	52.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pumps 47		56	52.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
crane 39		55.7	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 47		52.8	49.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DSL Hammer 30		65.1	59.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fixed Leads w/ Spotter		76.4	67.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pile Cutter w/ Power Pack		65.1	52.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	76.4	68.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 3-12 Travis Bridge - Construct Footings (Abutment & Wingwalls)

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	875	0
4 KW generator 47		No	47		72.8	875	0
compressor 30		No	30		77.7	875	0
welder 30		No	30		74	875	0
concrete pump truck 47		No	47		81.4	875	0
concrete mix truck 47		No	47		78.8	875	0
concrete mix truck 47		No	47		78.8	875	0
concrete mix truck 47		No	47		78.8	875	0
concrete mix truck 47		No	47		78.8	875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		55.7	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 KW generator 47		47.9	44.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 30		52.8	47.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 30		49.1	43.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete pump truck 47		56.5	53.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete mix truck 47		53.9	50.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete mix truck 47		53.9	50.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete mix truck 47		53.9	50.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete mix truck 47		53.9	50.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	56.5	59.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 3-12 Travis Bridge - Construct Abutment & Wingwalls

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	67	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	875	0
4 KW generator 47		No	47		72.8	875	0
compressor 47		No	47		77.7	875	0
welder 47		No	47		74	875	0
concrete mix truck 47		No	47		78.8	875	0
concrete pump truck 47		No	47		81.4	875	0

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		55.7	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 KW generator 47		47.9	44.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 47		52.8	49.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 47		49.1	45.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete mix truck 47		53.9	50.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete pump truck 47		56.5	53.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	56.5	57.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 12-11 Travis Bridge - Install Temp Rolling Pier/Frame

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	875	0
pile hammer		Yes	12		101.3	875	0
vib pile hammer 12		No	12		100.8	875	0
welder 12		No	12		74	875	0
Hairpin Hammer 6		Yes	6	95		875	0
tractor 12		No	12		84	875	0
tractor 12		No	12		84	875	0
compressor 15		No	15		77.7	875	0
compressor 15		No	15		77.7	875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night		
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	
crane		55.7	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
pile hammer		76.4	67.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
vib pile hammer 12		75.9	66.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
welder 12		49.1	39.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Hairpin Hammer 6		70.1	57.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
tractor 12		59.1	49.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
tractor 12		59.1	49.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
compressor 15		52.8	44.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
compressor 15		52.8	44.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Total	76.4	70.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 5-12 Travis Bridge - Demolish Storage Walls

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	875	0
excavator 47		No	47		80.7	875	0
4 KW generator 47		No	47		72.8	875	0
hydraulic sheers 47		No	47		96	875	0
concrete saw 30		No	30		90	875	0
Core Drill		No	30		85.2	875	0
compressor 47		No	47		77.7	875	0
compressor 47		No	47		77.7	875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		55.7	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
excavator 47		55.8	52.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 KW generator 47		47.9	44.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
hydraulic sheers 47		71.1	67.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete saw 30		65.1	59.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Core Drill		60.3	55.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 47		52.8	49.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 47		52.8	49.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	71.1	69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 11-11 Travis Bridge - Construct Cap

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane 39		No	39		80.6	875	0
4 KW generator 47		No	47		72.8	875	0
compressor 30		No	30		77.7	875	0
welder 6		No	6		74	875	0
concrtete pump truck		No	59		81.4	875	0
concrete mix truck		No	59		78.8	875	0
concrete mix truck		No	59		78.8	875	0
concrete mix truck		No	59		78.8	875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane 39		55.7	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 KW generator 47		47.9	44.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 30		52.8	47.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrtete pump truck		56.5	54.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete mix truck		53.9	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete mix truck		53.9	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
concrete mix truck		53.9	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	56.5	59.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 7-12 Travis Bridge - Install Remaining Temp Rolling Pier/Frame

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	875	0
pile hammer		Yes	12		101.3	875	0
vib pile hammer 12		No	12		100.8	875	0
4 KW generator 35		No	35		72.8	875	0
Hairpin Hammer 6		Yes	6	95		875	0
welder 6		No	6		74	875	0
welder 6		No	6		74	875	0
tractor 12		No	12		84	875	0
tractor 12		No	12		84	875	0
compressor 15		No	15		77.7	875	0
compressor 15		No	15		77.7	875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		55.7	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pile hammer		76.4	67.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
vib pile hammer 12		75.9	66.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 KW generator 35		47.9	43.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hairpin Hammer 6		70.1	57.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 12		59.1	49.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 12		59.1	49.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 15		52.8	44.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 15		52.8	44.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	76.4	70.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 8-12 Travis Bridge Specific Equ - Erect Structural Steel

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	875	0
welder 6		No	6		74	875	0
welder 6		No	6		74	875	0
tractor 21		No	21		84	875	0
tractor 21		No	21		84	875	0
compressor 6		No	6		77.7	875	0
compressor 6		No	6		77.7	875	0
crane		No	34		80.6	875	0
4 KW generator 35		No	35		72.8	875	0

Results

		Calculated (dBA)		Day	Noise Limits (dBA)	Evening		Night		Day	Noise Limit Exceedance (dBA)	Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		55.7	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 21		59.1	52.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 21		59.1	52.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 6		52.8	40.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 6		52.8	40.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
crane		55.7	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 KW generator 35		47.9	43.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	59.1	58.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 8-12 Travis Bridge Specific Equ - Install Floorbeams, Kneebracing and Decking

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	875	0
welder 9		No	9		74	875	0
welder 9		No	9		74	875	0
tractor 21		No	21		84	875	0
tractor 21		No	21		84	875	0
compressor 6		No	6		77.7	875	0
compressor 6		No	6		77.7	875	0
crane		No	34		80.6	875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		55.7	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 9		49.1	38.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 9		49.1	38.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 21		59.1	52.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 21		59.1	52.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 6		52.8	40.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 6		52.8	40.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
crane		55.7	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	59.1	58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 9-12 Travis Bridge Specific Equ - Install Ballast, Ties and Track

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	875	0
backhoe 47		No	47		77.6	875	0
welder 6		No	6		74	875	0
compressor 6		No	6		77.7	875	0
4 KW generator 47		No	47		72.8	875	0
4 KW generator 47		No	47		72.8	875	0
4 KW generator 47		No	47		72.8	875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		55.7	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
backhoe 47		52.7	49.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 6		52.8	40.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 KW generator 47		47.9	44.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 KW generator 47		47.9	44.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 KW generator 47		47.9	44.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	55.7	55.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 10-12 Travis Bridge - Roll-In/Roll-Out Existing and New Structure

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane 9		No	9		80.6	875	0
crane 9		No	9		80.6	875	0
welder 6		No	6		74	875	0
welder 6		No	6		74	875	0
4 KW generator 30		No	30		72.8	875	0
backhoe 47		No	47		77.6	875	0
compressor 30		No	30		77.7	875	0
compressor 30		No	30		77.7	875	0
Winch		No	15		77.3	875	0
Winch		No	15		77.3	875	0
Winch		No	15		77.3	875	0
Winch		No	15		77.3	875	0

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane 9		55.7	45.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
crane 9		55.7	45.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 KW generator 30		47.9	42.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
backhoe 47		52.7	49.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 30		52.8	47.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 30		52.8	47.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Winch		52.4	44.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Winch		52.4	44.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Winch		52.4	44.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Winch		52.4	44.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	55.7	56.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 10-12 Travis Bridge - Remove Track, Tie and Ballast

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	875	0
backhoe 47		No	47		77.6	875	0
4 KW generator 47		No	47		72.8	875	0
4 KW generator 47		No	47		72.8	875	0
4 KW generator 47		No	47		72.8	875	0
welder 6		No	6		74	875	0
compressor 24		No	24		77.7	875	0
tractor 12		No	12		84	875	0
tractor 12		No	12		84	875	0
dump truck 24		No	24		76.5	875	0
dump truck 24		No	24		76.5	875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		55.7	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
backhoe 47		52.7	49.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 KW generator 47		47.9	44.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 KW generator 47		47.9	44.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 KW generator 47		47.9	44.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 24		52.8	46.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 12		59.1	49.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 12		59.1	49.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck 24		51.6	45.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck 24		51.6	45.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	59.1	57.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 10-12 Travis Bridge Specific Equ - Remove Bridge Sections

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	875	0
crane		No	34		80.6	875	0
compressor 24		No	24		77.7	875	0
compressor 24		No	24		77.7	875	0
welder 6		No	6		74	875	0
tractor 15		No	15		84	875	0
tractor 15		No	15		84	875	0
tractor 15		No	15		84	875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		55.7	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
crane		55.7	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 24		52.8	46.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 24		52.8	46.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 6		49.1	36.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 15		59.1	50.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 15		59.1	50.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 15		59.1	50.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	59.1	58.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: 10-12 Travis Bridge - Remove Temporary Rolling Pier/Frame/Sheeting and Piles

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
crane		No	34		80.6	875	0
crane 17		No	17		80.6	875	0
pile hammer 6		Yes	6		101.3	875	0
vib pile hammer 18		No	18		100.8	875	0
welder 15		No	15		74	875	0
Hairpin Hammer 3		No	3	90		875	0
welder 15		No	15		74	875	0
tractor 24		No	24		84	875	0
tractor 24		No	24		84	875	0
tractor 24		No	24		84	875	0
compressor 12		No	12		77.7	875	0
compressor 12		No	12		77.7	875	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
crane		55.7	51.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
crane 17		55.7	48	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pile hammer 6		76.4	64.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
vib pile hammer 18		75.9	68.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 15		49.1	40.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hairpin Hammer 3		65.1	49.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
welder 15		49.1	40.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 24		59.1	52.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 24		59.1	52.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tractor 24		59.1	52.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 12		52.8	43.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compressor 12		52.8	43.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	76.4	70.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

CUMULATIVE STATIONARY SOURCES

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/29/2010
Case Description: Toll Plaza, Demo NY Abutment

---- Receptor #1 ----

		Baselines (dBA)					
Description	Land Use	Daytime	Evening	Night			
Goethals Garden Homes	Residential	69	68	61			
				Equipment			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
grader 14'		No	30	85		310	0
dozer		No	30		81.7	310	0
backhoe9		No	9		77.6	310	0
roller15		No	15		80	310	0
dump truck6		No	6		76.5	310	0
paver12		No	12		77.2	310	0
drum mixer		No	9		80	310	0
Road Widener - Self Propelled		No	15	85		310	0
Hydraulic Hammer 6		No	6	90		310	0
paver15		No	15		77.2	310	0
compactor15		No	15		80	310	0
dump truck6		No	6		76.5	310	0
crane		No	34		80.6	1350	0
excavator 47		No	47		80.7	1350	0
hydraulic sheers 47		No	47		96	1350	0
wire saw 6		No	6		90	1350	0
dump truck6		No	6		76.5	1350	0
dump truck6		No	6		76.5	1350	0
dump truck6		No	6		76.5	1350	0
dump truck6		No	6		76.5	1350	0

Results

		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
grader 14'		69.2	63.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dozer		65.9	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
backhoe9		61.8	51.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
roller15		64.2	55.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck6		60.7	48.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
paver12		61.4	52.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
drum mixer		64.2	53.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Road Widener - Self Propelled		69.2	60.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydraulic Hammer 6		74.2	61.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
paver15		61.4	53.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
compactor15		64.2	55.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck6		60.7	48.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
crane		52	47.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
excavator 47		52.1	48.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
hydraulic sheers 47		67.4	64.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
wire saw 6		61.4	49.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck6		47.9	35.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck6		47.9	35.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck6		47.9	35.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dump truck6		47.9	35.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	74.2	70.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

APPENDIX D
GBR TRUCK TRIPS TABLE

GOETHALS BRIDGE REPLACEMENT NUMBER OF TRUCK TRIPS

	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	TOTAL
DUMP TRUCK (TANDEM)																																																								
NJTP Approach Structures				235	235	235	235	235	235									65	65	65																								58	58													1721
NJ Approach						114	114	114	114										172	172																				113																	913
NJ Main Span					263																															29	29	11																	332
NY Main Span									263																											29	29	11																	332
NY Approaches				2	2	105	105	105	103	103	103	103	103										123	123	123	123																105	105	105												1641
Travis Bridge							90	100	50	50	50								150	10																																				500
NY Toll Plaza Area																											64		64		64							64		64		64															384
CONCRETE TRUCK																																																								
NJTP Approach Structures												13	13	13		13	13	13		54	109	109	109	109	109	109	109	109	55									13	13	13		13	13	107	94	94	94	94	94	94	94	94	94	94				2171
NJ Approach							1128	1128	1128	1128	1128	1128	1128	1128	1128	1128	1128	1128	404	808	808	808	808	808	808	808	808	808	808	808	808	404							374	374	374	374	499	125	125		187	312	125	125						27034
NJ Main Span						1578	1578	1578	1578	54	54	54	54	54	54		54	54	54	54	54	54												27	27				68	67	68		67	68	67													7419
NY Main Span											1578	1578	1578	1578	54	54	54	54	54			54	54	54	54	54							27	27				67	68	67		68	67	68															7365
NY Approaches							1392	1392	1392	1392	1392	1392	1392	1392	1392	1392	1392	1392	1392	1392	1392	1392		1099	1099	1099	1099	1099	1099	1099	1099	1099	1099	1099	1099		550	1099	549				165	449	283	449	333	333	449	449	449		333	333			42782
Travis Bridge								10	19				15	25	10	19																																								98
NY Toll Plaza Area																											64		64		64							64		64		64													384
PRODUCT DELIVERY TRUCK																																																						
GIRDER DELIVERY TRUCK																																																						
NJ Approach & Main Span										10	10	10	10	10	10	10	10	10					14	14	14	14	14															15	15													190
NY Approach and Main Span											10	10	10	10	10	10	10	10	10	10	10	10							13	13	13	13	13	13	13															10	10	10					241
Travis Bridge						1			1				2		2		6										2			2									2			2															20
REBAR DELIVERY TRUCK (FLATBED)																																																						
NJ Approach & Main Span							170	174	174	171	167	208	208	208	208	43	43	43	66	267	268	218	217	217	334	143	26	1											2	193	1	18	5	14	15	2		16	16						3856
NY Approach and Main Span					22	3	187	186	185	184	184	245	247	248	243	63	63	63	62	62	62	62	62	236	237	176	176	175	172	225	225	225	54	54	54	54	53	53	53				19	22	3	31	32	29	1	1	13	12	12				4830
Travis Bridge									2			2		1																																									5
PIPE PILE DELIVERY TRUCK (FLATBED)																																																						
NJ Approach & Main Span						14	14	14	14										20	20																				16																	112
NY Approach and Main Span							12	12	12	12	12												15	15	15																				8	8	8											129
Travis Bridge							2		2								2																																							6
DEMO TRUCK FOR STEEL																																																						
NJTP Approach Structures														8	8	8																								8	8	8															48
NJ Approach																																													59	118	118	59										354
NJ Main Span																																									48	48	48													144
NY Main Span																																									48	48	48													144
NY Approaches																																												64	129	129	65										387
Travis Bridge																				11																																						11
TOTAL APPROX. TRUCK TRIPS/MONTH	0	0	0	237	522	2050	5027	5048	5272	3104	4688	4743	4760	4675	3119	2740	2775	2832	2449	2925	2703	2707	1279	2675	2793	2526	2411	2320	2147	2275	2145	1869	1166	1220	1220	1153	111	674	1324	833	744	814	619	961	1324	690	1008	716	890	1006	695	691	106	439	333	0	0	
Average Total Trucks Trips/Day (**NJ**)[1]				11	23	88	147	147	147	62	62	64	64	65	64	55	57	60	36	65	56	54	52	52	58	49	44	42	39	37	37	18	0	1	1	0	1	2	4	4	29	29	23	26	31	13	16	10	18	22	11	10	4	4	0	0	0	
Average Total Trucks Trips/Day (**NY**)[1]				0	1	5	81	82	92	79	151	151	152	148	78	70	69	69	76	68	67	69	6	69	69	66	66	58	58	61	61	61	53	54	54	52	4	29	56	28	5	2	5	11	29	18	30	23	22	24	21	21	1	16	15	0	0	
Average Total Trucks Trips/Day[1]	**0**	**0**	**0**	**11**	**24**	**93**	**229**	**229**	**240**	**141**	**213**	**216**	**216**	**213**	**142**	**125**	**126**	**129**	**111**	**133**	**123**	**123**	**58**	**122**	**127**	**115**	**110**	**105**	**98**	**103**	**98**	**85**	**53**	**55**	**55**	**52**	**5**	**31**	**60**	**38**	**34**	**37**	**28**	**44**	**60**	**31**	**46**	**33**	**40**	**46**	**32**	**31**	**5**	**20**	**15**	**0**	**0**	

[1]Assume 22/day per month

NOTES:

TRAVIS BRIDGE- HNTB recommends that the Travis Bridge be replaced early in the Goethals Project or prior to the Goethals Project. Replacement of the Travis Bridge is required to provide adequate I-278 roadway width in this location and will facilitate construction traffic staging. As a result, the Travis Bridge construction activities are early schedule action items and should be completed prior to the traffic switch to the new bridge.

Y TOLL PLAZA REGION- Toll Plaza studies for the GBR were halted due to the PA AET initiatives. Therefore, at this time, the modifications and respective construction staging is not known in detail. As a result, the construction start and end dates, as well as equipment, trucks, etc. are gross approximations. It is assumed at this time that most work can be completed during regular construction shifts. Night work may be required when Toll Plaza needs are further defined.

APPENDIX E
TNM INPUT + OUTPUT FILES FOR OFF-SITE (MOBILE SOURCES)
CONSTRUCTION IMPACT ANALYSES

NO BUILD

INPUT FILES

ROADWAYS

TRAFFIC FOR TNM VEHICLES - AM

TRAFFIC FOR TNM VEHICLES - PM

RECEIVERS

BARRIERS

TERRAIN LINES

The Louis Berger Group, Inc. 29-Jan-10
DS TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: JA2500
RUN: GBR Constr. Phase 2012 No-Build - AM

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway			Points									
Name	Width		Name	No.	Coordinates (pavement)			Flow Control			Segment	
					X	Y	Z	Control	Speed	Percent	Pvmt	On
								Device	Constraint	Vehicles	Type	Struct?
										Affected		
	ft				ft	ft	ft		mph	%		
LE5-I278E (START OF BRIDGE)	26		LE5.1	94	44,903.50	6,402.00	60				Average	Y
			LE5.2	95	44,737.20	6,524.90	67.3				Average	Y
			LE5.3	96	44,639.00	6,602.50	71.2				Average	Y
			LE5.4	97	44,337.40	6,872.80	86.1				Average	Y
			LE5.5	98	44,044.20	7,143.10	101				Average	Y
			LE5.6	99	43,749.40	7,408.40	115				Average	Y
			LE5.7	100	43,590.30	7,535.70	123				Average	Y
			LE5.8	101	43,331.60	7,717.00	134.2				Average	Y
			LE5.9	102	43,202.80	7,807.50	140				Average	Y
			LE5.10	103	43,032.60	7,927.80	147				Average	Y
			LE5.11	104	42,859.40	8,047.60	150				Average	Y
			LE5.12	105	42,688.50	8,166.00	149				Average	Y
			LE5.13	106	42,553.70	8,264.00	142.5				Average	Y
			LE5.14	107	42,389.70	8,378.40	134				Average	Y
			LE5.15	108	42,204.40	8,507.60	125.4				Average	Y
			LE5.16	109	41,837.10	8,763.10	107.5				Average	Y
			LE5.17	110	41,469.60	9,017.90	90				Average	Y
			LE5.18	111	41,168.50	9,229.30	76.4				Average	Y
			LE5.19	112	40,849.60	9,451.60	64.8				Average	Y
			LE5.20	113	40,597.70	9,627.70	55.5				Average	Y
			LE5.21	114	40,360.90	9,791.80	46.7				Average	Y
			LE5.22	115	40,164.20	9,929.30	39.5				Average	Y
			LE5.23	116	39,967.90	10,066.60	32.5				Average	Y
			LE5.24	117	39,773.80	10,201.90	25.4				Average	
			LE5.25	118	39,512.30	10,392.70	18.4				Average	
			LE5.26	119	39,271.20	10,572.10	13.5				Average	
			LE5.27	120	38,949.00	10,810.80	11.5					
LW4-I278W (START OF BRIDGE)	26		LW4.1	221	38,033.80	11,404.30	15.2				Average	
			LW4.2	220	38,106.00	11,350.10	13				Average	
			LW4.3	219	38,265.10	11,225.00	10.6				Average	
			LW4.4	218	38,423.90	11,102.90	11.1				Average	
			LW4.5	217	38,739.80	10,859.60	11.4				Average	
			LW4.6	216	38,988.00	10,689.50	11.5				Average	
			LW4.7	215	39,240.30	10,527.20	13.5				Average	
			LW4.8	214	39,490.50	10,363.30	18.3				Average	
			LW4.9	213	39,760.40	10,182.70	25.4				Average	Y
			LW4.10	212	39,954.80	10,049.10	32.5				Average	Y
			LW4.11	211	40,151.20	9,912.20	39.5				Average	Y
			LW4.12	210	40,348.50	9,775.70	46.7				Average	Y
			LW4.13	209	40,585.10	9,610.60	55.5				Average	Y
			LW4.14	208	40,836.80	9,433.10	64.8				Average	Y
			LW4.15	207	41,154.70	9,211.10	76.4				Average	Y
			LW4.16	206	41,458.30	8,999.50	90				Average	Y
			LW4.17	205	41,824.80	8,744.70	107.5				Average	Y
			LW4.18	204	42,191.20	8,488.90	125.3				Average	Y
			LW4.19	203	42,377.50	8,358.90	134				Average	Y
			LW4.20	202	42,541.30	8,246.30	142.5				Average	Y
			LW4.21	201	42,676.30	8,147.30	149				Average	Y
			LW4.22	200	42,847.50	8,028.50	150				Average	Y
			LW4.23	199	43,020.00	7,908.10	147				Average	Y
			LW4.24	198	43,191.50	7,790.00	140				Average	Y
			LW4.25	197	43,321.00	7,699.50	134.2				Average	Y
			LW4.26	196	43,577.70	7,518.90	122.9				Average	Y
			LW4.27	195	43,734.20	7,393.80	115				Average	Y
			LW4.28	194	44,028.40	7,125.80	101				Average	Y
			LW4.29	193	44,323.10	6,857.10	86				Average	Y
			LW4.30	192	44,624.30	6,586.10	71.2				Average	Y
			LW5.1	191	44,925.40	6,326.60	57.1					
WAN-WESTERN AVE NORTH	12		WAN1	392	39,764.20	9,983.40	9.3				Average	

			WAN2	393	39,564.50	9,754.70	11					
WAS-WESTERN AVE SOUTH	12		WAS1	394	39,582.70	9,743.30	11				Average	
			WAS2	395	39,775.60	9,974.70	9.3					
GA1-GULF AVE BEFORE ENT RMP	35		GA1.1	396	39,831.40	10,028.60	8.8				Average	
			GA1.2	397	39,925.50	10,148.10	8.2				Average	
			GA1.3	398	39,935.70	10,169.00	8.2				Average	
			GA1.4	399	39,784.70	10,425.70	10.5				Average	
			GA1.5	400	39,699.80	10,476.30	11.2				Average	
			GA1.6	401	39,543.50	10,520.60	12.5				Average	
			GA1.7	402	39,422.30	10,595.10	13.8				Average	
			GA1.8	403	39,099.60	10,832.90	11.2				Average	
			GA2.1	404	38,782.30	11,072.50	11					
GA2-GULF AVE BWTN ENT AND EX	40		GA2.1	405	38,782.30	11,072.50	11				Average	
			GA2.2	406	38,624.50	11,192.30	11.9				Average	
			GA2.3	407	38,304.80	11,434.80	14.1				Average	
			GA2.4	408	38,082.10	11,636.20	13.9				Average	
			GA2.5	409	37,880.30	11,861.30	12.1				Average	
			GA3.1	410	37,707.00	12,107.00	10.6					
GR5-GOETHALS RD. AFTER ENT AI	30		GR5.1	416	38,526.40	10,901.30	12.3				Average	
			GR5.2	417	38,764.60	10,721.30	12.2				Average	
			GR5.3	418	39,090.50	10,494.60	13.7				Average	
			GR5.4	419	39,425.30	10,275.60	14.3				Average	
			GR5.5	420	39,770.20	10,033.40	9.5				Average	
			GR5.6	421	40,097.60	9,804.50	10				Average	
			GR5.7	422	40,168.30	9,740.30	10.5				Average	
			GR5.8	423	40,187.00	9,697.00	10.7				Average	
			GR5.9	424	40,192.80	9,650.30	11				Average	
			GR5.10	425	40,185.80	9,603.70	11.1				Average	
			GR5.11	426	40,167.00	9,559.30	11.3				Average	
			GR5.12	427	40,047.70	9,419.20	12					
HH-HOWLAND HOOK ENTRANCE	25		HH4	431	40,219.10	9,703.80	10.7				Average	
			HH3	430	40,191.30	9,751.30	10.5				Average	
			HH2	429	40,121.00	9,818.50	9.9				Average	
			HH1	428	39,873.80	9,988.30	8.4					
LE6-I278E BTWN GULF AVE RMPS	40		LE6.1	432	38,144.00	11,419.30	12.9				Average	
			LE7.1	433	37,988.10	11,541.30	16.8					
LE7-I278E AFTER GULF AVE EX RM	40		LE7.1	434	37,988.10	11,541.30	16.8				Average	
			LE7.2	435	37,837.80	11,674.40	21.3				Average	
			LE7.3	436	37,693.60	11,814.70	26.2				Average	
			LE8.1	437	37,566.30	11,969.50	29.8					
LE8-I278E AFTER WEST SHORE EX	30		LE8.1	438	37,566.30	11,969.50	29.8				Average	Y
			LE8.2	439	37,464.90	12,081.50	30.2				Average	
			LE8.3	440	37,217.80	12,390.50	25.5				Average	
			LE8.4	441	37,027.50	12,622.90	21.7				Average	
			LE8.5	442	36,891.00	12,768.90	19.1				Average	
			LE8.6	443	36,660.00	12,964.40	15				Average	
			LE8.7	444	36,492.10	13,071.70	14				Average	
			LE8.8	445	36,312.70	13,165.30	16.3					
WSES-I278E EX RMP TO WEST SH	24		WSES1	446	37,566.30	11,969.50	29.8				Average	Y
			WSES2	447	37,481.00	12,090.00	30.2				Average	
			WSES3	448	37,363.70	12,251.10	28.3				Average	
			WSES4	449	37,263.70	12,428.00	24				Average	
			WSES5	450	37,206.90	12,570.50	19.6				Average	
			WSES6	451	37,167.70	12,713.80	15.3				Average	
			WSES7	452	37,134.40	12,911.20	11.8				Average	
			WSES8	453	37,118.90	13,110.40	12.6				Average	
			WSES9	454	37,127.40	13,309.80	14.8				Average	
			WSES10	455	37,155.90	13,508.50	16.7					
WSEN-WEST SHORE EXPWY NORT	24		WSEN1	456	36,764.60	13,360.00	23.5				Average	
			WSEN2	457	36,750.20	13,161.50	30.5				Average	
			WSEN3	458	36,748.10	12,971.00	35.1				Average	Y
			WSEN4	459	36,757.60	12,842.30	36.4				Average	Y
			WSEN5	460	36,781.80	12,698.00	35.4				Average	
			WSEN6	461	36,819.00	12,582.20	33				Average	
			WSEN7	462	36,860.20	12,491.70	31				Average	
			WSEN8	463	36,978.60	12,325.50	26.8				Average	
			WSEN9	464	37,052.80	12,254.80	26				Average	
			WSEN10	465	37,136.20	12,195.70	26.8				Average	
			WSEN11	466	37,301.70	12,088.60	29.5				Average	
			WSEN12	467	37,380.70	12,031.10	30				Average	Y
			WSEN13	468	37,497.70	11,927.00	30.2					
GA3-GULF AVE AFTER ENT AND EX	40		GA3.1	469	37,707.00	12,107.00	10.6				Average	
			GA3.2	470	37,565.50	12,369.40	12				Average	
			GA3.3	471	37,447.30	12,646.90	13.3				Average	

			GA3.4	472	37,376.20	12,939.90	14.6				Average	
			GA3.5	473	37,351.10	13,237.40	15.4				Average	
			GA3.6	474	37,371.00	13,491.40	14.4					
FAN1-FOREST AVE NORTH (SOUTH	30		FAN1.1	488	37,652.10	12,126.50	10.6				Average	
			FAN1.2	489	37,396.40	11,973.10	11.9				Average	
			FAN1.3	490	37,251.70	11,885.90	12.9					
FAN2-FOREST AVE NORTH (NORTI	30		FAN2.1	491	37,189.70	11,852.20	13				Average	
			FAN2.2	492	36,981.40	11,725.00	11.5					
FAS1-FORES AVE SOUTH (NORTH	30		FAS1.1	493	36,993.70	11,705.30	11.5				Average	
			FAS1.2	494	37,212.30	11,836.10	13.1					
FAS2-FOREST AVE SOUTH (SOUTH	30		FAS2.3	497	37,667.10	12,107.50	10.6				Average	
			FAS2.2	496	37,409.50	11,954.70	11.9				Average	
			FAS2.1	495	37,266.50	11,869.90	13					
GR1-GOETHALS RD. EAST OF FORI	30		GR1.1	498	35,805.60	12,759.40	12.6				Average	
			GR1.2	499	36,151.60	12,555.70	11.3				Average	
			GR1.3	500	36,490.10	12,346.90	11.7				Average	
			GR1.4	501	36,826.40	12,130.00	11.8				Average	
			GR2.1	502	37,158.50	11,906.80	12					
GR2-GOETHALS RD. WEST OF FOR	40		GR2.1	503	37,158.50	11,906.80	12				Average	
			GR3.1	504	37,372.20	11,758.10	15					
GR3-GOETHALS RD. AFTER ENT TO	30		GR3.1	505	37,372.20	11,758.10	15				Average	
			GR3.2	506	37,483.60	11,680.40	15.7				Average	
			GR4.1	507	37,634.10	11,567.30	14.1					
GR4-GOETHALS RD. BWTN ENT AI	30		GR4.1	508	37,634.10	11,567.30	14.1				Average	
			GR4.2	509	37,805.10	11,441.60	12.3				Average	
			GR4.3	510	38,121.70	11,204.10	12.5				Average	
			GR4.4	511	38,442.80	10,963.90	13				Average	
			GR5.1	512	38,526.40	10,901.30	12.3					
M-MORROW STREET	48		M1	513	36,944.60	11,651.50	11				Average	
			M2	514	37,521.60	11,618.20	14.3				Average	
			GR4.1	515	37,634.10	11,567.30	14.1					
GM-GOETHALS RD. TO MORROW	15		GR2.1	516	37,158.50	11,906.80	12				Average	
			GM1	517	37,155.00	11,884.20	12				Average	
			GM2	518	37,155.80	11,849.70	12					
LW3-I278W BWTN GOETHALS RD	40		LW3.1	520	37,972.90	11,450.90	17.5				Average	
			LW4.1	519	38,033.80	11,404.30	15.2					
LW2-I278W AFTER WEST SHORE E	40		LW2.1	525	37,497.70	11,927.00	30.2				Average	
			LW2.2	524	37,629.10	11,771.50	28.2				Average	
			LW2.3	523	37,769.20	11,627.10	24.2				Average	
			LW2.4	522	37,892.80	11,514.00	20.3				Average	
			LW3.1	521	37,972.90	11,450.90	17.5					
LW1-I278W EAST OF WEST SHORE	40		LW1.1	533	36,275.40	13,105.00	13.2				Average	
			LW1.2	532	36,513.40	12,979.30	11.4				Average	
			LW1.3	531	36,678.10	12,862.90	13.3				Average	
			LW1.4	530	36,829.30	12,734.10	16.3				Average	
			LW1.5	529	36,966.80	12,586.80	19.7				Average	
			LW1.6	528	37,157.10	12,353.90	25.4				Average	
			LW1.7	527	37,405.50	12,044.80	30.4				Average	Y
			LW2.1	526	37,497.70	11,927.00	30.2					
LE5-I278E (START OF BRIDGE)-2	130		LE5.27	11	38,949.00	10,810.80	11.5				Average	
			LE5.28	121	38,668.30	11,014.20	12.7				Average	
			LE5.29	122	38,628.90	11,042.10	12.7				Average	
			LE5.30	123	38,370.10	11,238.60	10.4					
LE5-I278E (START OF BRIDGE)-2-2	50		LE5.30	12	38,370.10	11,238.60	10.4				Average	
			LE6.1	124	38,144.00	11,419.30	12.9					
GENR2-GULF AVE TO I278E-GENR	20		GENR1	411	38,782.30	11,072.50	11				Average	
			GENR2	412	38,621.10	11,164.20	11.5				Average	
			GENR3	413	38,442.20	11,260.70	10				Average	
			GENR4	414	38,353.60	11,308.60	10				Average	
			GTH1	478	38,262.40	11,364.50	10.6				Average	
			LE6.1	479	38,144.00	11,419.30	12.9					
GEXR2-I278E TO GULF AVE -GEXR	20		LE7.1	480	37,988.10	11,541.30	16.8				Average	
			GEXR1	482	37,937.40	11,613.80	17.7				Average	
			GEXR2	483	37,871.50	11,690.20	19.5				Average	
			GEXR3	484	37,822.00	11,774.80	19.8				Average	
			GEXR4	485	37,759.30	11,964.60	11.3				Average	
			GEXR5	486	37,732.40	12,049.50	10.5				Average	
			GA3.1	487	37,707.00	12,107.00	10.6					
GENR4-GOETHALS RD TO I278W-(	20		GR3.1	543	37,372.20	11,758.10	15				Average	
			GENR2	544	37,432.80	11,741.40	15				Average	
			GENR3	545	37,661.60	11,651.40	23.5				Average	
			GENR4	546	37,744.80	11,601.90	24.2				Average	
			GENR5	547	37,824.70	11,542.00	22.5				Average	
			GENR6	549	37,927.90	11,460.20	19				Average	

			LW3.1	550	37,972.90	11,450.90	17.5					
GEXR3-I278W TO GOETHALS RD-C	20		LW4.1	534	38,033.80	11,404.30	15.2				Average	
			GEXR4.1	536	38,050.50	11,361.90	14				Average	
			GEXR4.2	537	38,146.20	11,287.40	11				Average	
			GEXR4.3	538	38,222.20	11,223.30	10				Average	
			GEXR4.4	539	38,292.70	11,146.70	10				Average	
			GEXR4.5	540	38,389.90	11,034.80	12				Average	
			GEXR4.6	541	38,451.30	10,975.80	12				Average	
			GR5.1	542	38,526.40	10,901.30	12.3					

The Louis Berger Group, Inc. 29-Jan-10
DS TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: JA2500
RUN: GBR Constr. Phase 2012 No-Build - AM

Roadway		Points							
Name		Name	No.	Segment					
				Autos		MTrucks		HTrucks	
				V	S	V	S	V	S
				veh/hr	mph	veh/hr	mph	veh/hr	mph
LE5-I278E (START OF BRIDGE)		LE5.1	94	1609	55	187	55	191	55
		LE5.2	95	1609	55	187	55	191	55
		LE5.3	96	1609	55	187	55	191	55
		LE5.4	97	1609	55	187	55	191	55
		LE5.5	98	1609	55	187	55	191	55
		LE5.6	99	1609	55	187	55	191	55
		LE5.7	100	1609	55	187	55	191	55
		LE5.8	101	1609	55	187	55	191	55
		LE5.9	102	1609	55	187	55	191	55
		LE5.10	103	1609	55	187	55	191	55
		LE5.11	104	1609	55	187	55	191	55
		LE5.12	105	1609	55	187	55	191	55
		LE5.13	106	1609	55	187	55	191	55
		LE5.14	107	1609	55	187	55	191	55
		LE5.15	108	1609	55	187	55	191	55
		LE5.16	109	1609	55	187	55	191	55
		LE5.17	110	1609	55	187	55	191	55
		LE5.18	111	1609	55	187	55	191	55
		LE5.19	112	1609	55	187	55	191	55
		LE5.20	113	1609	55	187	55	191	55
		LE5.21	114	1609	55	187	55	191	55
		LE5.22	115	1609	55	187	55	191	55
		LE5.23	116	1609	55	187	55	191	55
		LE5.24	117	1609	55	187	55	191	55
		LE5.25	118	1609	55	187	55	191	55
		LE5.26	119	1609	55	187	55	191	55
		LE5.27	120						
LW4-I278W (START OF BRIDGE)		LW4.1	221	2777	55	172	55	176	55
		LW4.2	220	2777	55	172	55	176	55
		LW4.3	219	2777	55	172	55	176	55
		LW4.4	218	2777	55	172	55	176	55
		LW4.5	217	2777	55	172	55	176	55
		LW4.6	216	2777	55	172	55	176	55
		LW4.7	215	2777	55	172	55	176	55
		LW4.8	214	2777	55	172	55	176	55
		LW4.9	213	2777	55	172	55	176	55
		LW4.10	212	2777	55	172	55	176	55
		LW4.11	211	2777	55	172	55	176	55
		LW4.12	210	2777	55	172	55	176	55
		LW4.13	209	2777	55	172	55	176	55
		LW4.14	208	2777	55	172	55	176	55
		LW4.15	207	2777	55	172	55	176	55
		LW4.16	206	2777	55	172	55	176	55
		LW4.17	205	2777	55	172	55	176	55
		LW4.18	204	2777	55	172	55	176	55
		LW4.19	203	2777	55	172	55	176	55
		LW4.20	202	2777	55	172	55	176	55
		LW4.21	201	2777	55	172	55	176	55
		LW4.22	200	2777	55	172	55	176	55
		LW4.23	199	2777	55	172	55	176	55

		LW4.24	198	2777	55	172	55	176	55
		LW4.25	197	2777	55	172	55	176	55
		LW4.26	196	2777	55	172	55	176	55
		LW4.27	195	2777	55	172	55	176	55
		LW4.28	194	2777	55	172	55	176	55
		LW4.29	193	2777	55	172	55	176	55
		LW4.30	192	2777	55	172	55	176	55
		LW5.1	191						
WAN-WESTERN AVE NORTH		WAN1	392	0	0	0	0	0	0
		WAN2	393						
WAS-WESTERN AVE SOUTH		WAS1	394	0	0	0	0	0	0
		WAS2	395						
GA1-GULF AVE BEFORE ENT RMP TO I278E		GA1.1	396	205	30	58	30	63	30
		GA1.2	397	205	30	58	30	63	30
		GA1.3	398	205	30	58	30	63	30
		GA1.4	399	205	30	58	30	63	30
		GA1.5	400	205	30	58	30	63	30
		GA1.6	401	205	30	58	30	63	30
		GA1.7	402	205	30	58	30	63	30
		GA1.8	403	205	30	58	30	63	30
		GA2.1	404						
GA2-GULF AVE BWTN ENT AND EX RAMPS		GA2.1	405	157	30	44	30	48	30
		GA2.2	406	157	30	44	30	48	30
		GA2.3	407	157	30	44	30	48	30
		GA2.4	408	157	30	44	30	48	30
		GA2.5	409	157	30	44	30	48	30
		GA3.1	410						
GR5-GOETHALS RD. AFTER ENT AND EX RMPS		GR5.1	416	335	30	88	30	93	30
		GR5.2	417	335	30	88	30	93	30
		GR5.3	418	335	30	88	30	93	30
		GR5.4	419	335	30	88	30	93	30
		GR5.5	420	335	30	88	30	93	30
		GR5.6	421	335	30	88	30	93	30
		GR5.7	422	335	30	88	30	93	30
		GR5.8	423	335	30	88	30	93	30
		GR5.9	424	335	30	88	30	93	30
		GR5.10	425	335	30	88	30	93	30
		GR5.11	426	335	30	88	30	93	30
		GR5.12	427						
HH-HOWLAND HOOK ENTRANCE		HH4	431	0	0	0	0	0	0
		HH3	430	0	0	0	0	0	0
		HH2	429	0	0	0	0	0	0
		HH1	428						
LE6-I278E BTWN GULF AVE RMPS		LE6.1	432	1669	55	194	55	199	55
		LE7.1	433						
LE7-I278E AFTER GULF AVE EX RMP		LE7.1	434	1283	55	214	55	215	55
		LE7.2	435	1283	55	214	55	215	55
		LE7.3	436	1283	55	214	55	215	55
		LE8.1	437						
LE8-I278E AFTER WEST SHORE EX RMP		LE8.1	438	1114	55	186	55	187	55
		LE8.2	439	1114	55	186	55	187	55
		LE8.3	440	1114	55	186	55	187	55
		LE8.4	441	1114	55	186	55	187	55
		LE8.5	442	1114	55	186	55	187	55
		LE8.6	443	1114	55	186	55	187	55
		LE8.7	444	1114	55	186	55	187	55
		LE8.8	445						
WSES-I278E EX RMP TO WEST SHORE EXPWY SO		WSES1	446	169	25	28	25	28	25
		WSES2	447	169	25	28	25	28	25
		WSES3	448	169	25	28	25	28	25
		WSES4	449	169	25	28	25	28	25
		WSES5	450	169	25	28	25	28	25
		WSES6	451	169	25	28	25	28	25
		WSES7	452	169	25	28	25	28	25

		WSES8	453	169	25	28	25	28	25
		WSES9	454	169	25	28	25	28	25
		WSES10	455						
WSEN-WEST SHORE EXPWY NORTH TO I278W		WSEN1	456	668	25	73	25	73	25
		WSEN2	457	668	25	73	25	73	25
		WSEN3	458	668	25	73	25	73	25
		WSEN4	459	668	25	73	25	73	25
		WSEN5	460	668	25	73	25	73	25
		WSEN6	461	668	25	73	25	73	25
		WSEN7	462	668	25	73	25	73	25
		WSEN8	463	668	25	73	25	73	25
		WSEN9	464	668	25	73	25	73	25
		WSEN10	465	668	25	73	25	73	25
		WSEN11	466	668	25	73	25	73	25
		WSEN12	467	668	25	73	25	73	25
		WSEN13	468						
GA3-GULF AVE AFTER ENT AND EX RMPS		GA3.1	469	67	30	4	30	4	30
		GA3.2	470	67	30	4	30	4	30
		GA3.3	471	67	30	4	30	4	30
		GA3.4	472	67	30	4	30	4	30
		GA3.5	473	67	30	4	30	4	30
		GA3.6	474						
FAN1-FOREST AVE NORTH (SOUTH OF GOETH RI		FAN1.1	488	270	30	20	30	20	30
		FAN1.2	489	270	30	20	30	20	30
		FAN1.3	490						
FAN2-FOREST AVE NORTH (NORTH OF GOETH RI		FAN2.1	491	377	30	24	30	24	30
		FAN2.2	492						
FAS1-FORES AVE SOUTH (NORTH OF GOETH RD.		FAS1.1	493	139	30	10	30	10	30
		FAS1.2	494						
FAS2-FOREST AVE SOUTH (SOUTH OF GOETH RD		FAS2.3	497	74	30	67	30	75	30
		FAS2.2	496	74	30	67	30	75	30
		FAS2.1	495						
GR1-GOETHALS RD. EAST OF FOREST AVE		GR1.1	498	268	30	11	30	11	30
		GR1.2	499	268	30	11	30	11	30
		GR1.3	500	268	30	11	30	11	30
		GR1.4	501	268	30	11	30	11	30
		GR2.1	502						
GR2-GOETHALS RD. WEST OF FOREST AVE		GR2.1	503	353	30	95	30	103	30
		GR3.1	504						
GR3-GOETHALS RD. AFTER ENT TO 1278W		GR3.1	505	113	30	27	30	31	30
		GR3.2	506	113	30	27	30	31	30
		GR4.1	507						
GR4-GOETHALS RD. BWTN ENT AND EX RMPS		GR4.1	508	164	30	41	30	45	30
		GR4.2	509	164	30	41	30	45	30
		GR4.3	510	164	30	41	30	45	30
		GR4.4	511	164	30	41	30	45	30
		GR5.1	512						
M-MORROW STREET		M1	513	70	25	5	25	5	25
		M2	514	70	25	5	25	5	25
		GR4.1	515						
GM-GOETHALS RD. TO MORROW ST.		GR2.1	516	107	25	4	25	4	25
		GM1	517	107	25	4	25	4	25
		GM2	518						
LW3-I278W BWTN GOETHALS RD RMPS		LW3.1	520	2167	55	608	55	613	55
		LW4.1	519						
LW2-I278W AFTER WEST SHORE EXPWY		LW2.1	525	2588	55	210	55	211	55
		LW2.2	524	2588	55	210	55	211	55
		LW2.3	523	2588	55	210	55	211	55
		LW2.4	522	2588	55	210	55	211	55
		LW3.1	521						
LW1-I278W EAST OF WEST SHORE EXPWY		LW1.1	533	1953	55	120	55	121	55
		LW1.2	532	1953	55	120	55	121	55
		LW1.3	531	1953	55	120	55	121	55
		LW1.4	530	1953	55	120	55	121	55

		LW1.5	529	1953	55	120	55	121	55
		LW1.6	528	1953	55	120	55	121	55
		LW1.7	527	1953	55	120	55	121	55
		LW2.1	526						
LE5-I278E (START OF BRIDGE)-2		LE5.27	11	1609	55	187	55	191	55
		LE5.28	121	1609	55	187	55	191	55
		LE5.29	122	1609	55	187	55	191	55
		LE5.30	123						
LE5-I278E (START OF BRIDGE)-2-2		LE5.30	12	1609	55	187	55	191	55
		LE6.1	124						
GENR2-GULF AVE TO I278E-GENR1-GULF AVE EN		GENR1	411	61	25	7	25	8	25
		GENR2	412	61	25	7	25	8	25
		GENR3	413	61	25	7	25	8	25
		GENR4	414	61	25	7	25	8	25
		GTH1	478	61	25	7	25	8	25
		LE6.1	479						
GEXR2-I278E TO GULF AVE -GEXR1-I278E TO GU		LE7.1	480	228	25	59	25	63	25
		GEXR1	482	228	25	59	25	63	25
		GEXR2	483	228	25	59	25	63	25
		GEXR3	484	228	25	59	25	63	25
		GEXR4	485	228	25	59	25	63	25
		GEXR5	486	228	25	59	25	63	25
		GA3.1	487						
GENR4-GOETHALS RD TO I278W-GENR3-GOETH		GR3.1	543	240	25	68	25	72	25
		GENR2	544	240	25	68	25	72	25
		GENR3	545	240	25	68	25	72	25
		GENR4	546	240	25	68	25	72	25
		GENR5	547	240	25	68	25	72	25
		GENR6	549	240	25	68	25	72	25
		LW3.1	550						
GEXR3-I278W TO GOETHALS RD-GEXR4-I278W T		LW4.1	534	170	25	47	25	48	25
		GEXR4.1	536	170	25	47	25	48	25
		GEXR4.2	537	170	25	47	25	48	25
		GEXR4.3	538	170	25	47	25	48	25
		GEXR4.4	539	170	25	47	25	48	25
		GEXR4.5	540	170	25	47	25	48	25
		GEXR4.6	541	170	25	47	25	48	25
		GR5.1	542						

The Louis Berger Group, Inc. 29-Jan-10
DS TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: JA2500
RUN: GBR Constr. Phase 2012 No-Build - PM

Roadway		Points							
Name		Name	No.	Segment					
				Autos		MTrucks		HTrucks	
				V	S	V	S	V	S
				veh/hr	mph	veh/hr	mph	veh/hr	mph
LE5-I278E (START OF BRIDGE)		LE5.1	94	3036	55	132	55	136	55
		LE5.2	95	3036	55	132	55	136	55
		LE5.3	96	3036	55	132	55	136	55
		LE5.4	97	3036	55	132	55	136	55
		LE5.5	98	3036	55	132	55	136	55
		LE5.6	99	3036	55	132	55	136	55
		LE5.7	100	3036	55	132	55	136	55
		LE5.8	101	3036	55	132	55	136	55
		LE5.9	102	3036	55	132	55	136	55
		LE5.10	103	3036	55	132	55	136	55
		LE5.11	104	3036	55	132	55	136	55
		LE5.12	105	3036	55	132	55	136	55
		LE5.13	106	3036	55	132	55	136	55
		LE5.14	107	3036	55	132	55	136	55
		LE5.15	108	3036	55	132	55	136	55
		LE5.16	109	3036	55	132	55	136	55
		LE5.17	110	3036	55	132	55	136	55
		LE5.18	111	3036	55	132	55	136	55
		LE5.19	112	3036	55	132	55	136	55
		LE5.20	113	3036	55	132	55	136	55
		LE5.21	114	3036	55	132	55	136	55
		LE5.22	115	3036	55	132	55	136	55
		LE5.23	116	3036	55	132	55	136	55
		LE5.24	117	3036	55	132	55	136	55
		LE5.25	118	3036	55	132	55	136	55
		LE5.26	119	3036	55	132	55	136	55
		LE5.27	120						
LW4-I278W (START OF BRIDGE)		LW4.1	221	1997	55	135	55	139	55
		LW4.2	220	1997	55	135	55	139	55
		LW4.3	219	1997	55	135	55	139	55
		LW4.4	218	1997	55	135	55	139	55
		LW4.5	217	1997	55	135	55	139	55
		LW4.6	216	1997	55	135	55	139	55
		LW4.7	215	1997	55	135	55	139	55
		LW4.8	214	1997	55	135	55	139	55
		LW4.9	213	1997	55	135	55	139	55
		LW4.10	212	1997	55	135	55	139	55
		LW4.11	211	1997	55	135	55	139	55
		LW4.12	210	1997	55	135	55	139	55
		LW4.13	209	1997	55	135	55	139	55
		LW4.14	208	1997	55	135	55	139	55
		LW4.15	207	1997	55	135	55	139	55
		LW4.16	206	1997	55	135	55	139	55
		LW4.17	205	1997	55	135	55	139	55
		LW4.18	204	1997	55	135	55	139	55
		LW4.19	203	1997	55	135	55	139	55
		LW4.20	202	1997	55	135	55	139	55
		LW4.21	201	1997	55	135	55	139	55
		LW4.22	200	1997	55	135	55	139	55
		LW4.23	199	1997	55	135	55	139	55
		LW4.24	198	1997	55	135	55	139	55

		LW4.25	197	1997	55	135	55	139	55
		LW4.26	196	1997	55	135	55	139	55
		LW4.27	195	1997	55	135	55	139	55
		LW4.28	194	1997	55	135	55	139	55
		LW4.29	193	1997	55	135	55	139	55
		LW4.30	192	1997	55	135	55	139	55
		LW5.1	191						
WAN-WESTERN AVE NORTH		WAN1	392	0	0	0	0	0	0
		WAN2	393						
WAS-WESTERN AVE SOUTH		WAS1	394	0	0	0	0	0	0
		WAS2	395						
GA1-GULF AVE BEFORE ENT RMP TO I278E		GA1.1	396	349	30	74	30	79	30
		GA1.2	397	349	30	74	30	79	30
		GA1.3	398	349	30	74	30	79	30
		GA1.4	399	349	30	74	30	79	30
		GA1.5	400	349	30	74	30	79	30
		GA1.6	401	349	30	74	30	79	30
		GA1.7	402	349	30	74	30	79	30
		GA1.8	403	349	30	74	30	79	30
		GA2.1	404						
GA2-GULF AVE BWTN ENT AND EX RAMPS		GA2.1	405	255	30	53	30	57	30
		GA2.2	406	255	30	53	30	57	30
		GA2.3	407	255	30	53	30	57	30
		GA2.4	408	255	30	53	30	57	30
		GA2.5	409	255	30	53	30	57	30
		GA3.1	410						
GR5-GOETHALS RD. AFTER ENT AND EX RMPS		GR5.1	416	380	30	85	30	90	30
		GR5.2	417	380	30	85	30	90	30
		GR5.3	418	380	30	85	30	90	30
		GR5.4	419	380	30	85	30	90	30
		GR5.5	420	380	30	85	30	90	30
		GR5.6	421	380	30	85	30	90	30
		GR5.7	422	380	30	85	30	90	30
		GR5.8	423	380	30	85	30	90	30
		GR5.9	424	380	30	85	30	90	30
		GR5.10	425	380	30	85	30	90	30
		GR5.11	426	380	30	85	30	90	30
		GR5.12	427						
HH-HOWLAND HOOK ENTRANCE		HH4	431	0	0	0	0	0	0
		HH3	430	0	0	0	0	0	0
		HH2	429	0	0	0	0	0	0
		HH1	428						
LE6-I278E BTWN GULF AVE RMPS		LE6.1	432	3160	55	137	55	142	55
		LE7.1	433						
LE7-I278E AFTER GULF AVE EX RMP		LE7.1	434	2675	55	182	55	183	55
		LE7.2	435	2675	55	182	55	183	55
		LE7.3	436	2675	55	182	55	183	55
		LE8.1	437						
LE8-I278E AFTER WEST SHORE EX RMP		LE8.1	438	2261	55	154	55	155	55
		LE8.2	439	2261	55	154	55	155	55
		LE8.3	440	2261	55	154	55	155	55
		LE8.4	441	2261	55	154	55	155	55
		LE8.5	442	2261	55	154	55	155	55
		LE8.6	443	2261	55	154	55	155	55
		LE8.7	444	2261	55	154	55	155	55
		LE8.8	445						
WSES-I278E EX RMP TO WEST SHORE EXPWY SO		WSES1	446	414	25	28	25	28	25
		WSES2	447	414	25	28	25	28	25
		WSES3	448	414	25	28	25	28	25
		WSES4	449	414	25	28	25	28	25
		WSES5	450	414	25	28	25	28	25
		WSES6	451	414	25	28	25	28	25
		WSES7	452	414	25	28	25	28	25
		WSES8	453	414	25	28	25	28	25
		WSES9	454	414	25	28	25	28	25

		WSES10	455						
WSEN-WEST SHORE EXPWY NORTH TO I278W		WSEN1	456	236	25	15	25	15	25
		WSEN2	457	236	25	15	25	15	25
		WSEN3	458	236	25	15	25	15	25
		WSEN4	459	236	25	15	25	15	25
		WSEN5	460	236	25	15	25	15	25
		WSEN6	461	236	25	15	25	15	25
		WSEN7	462	236	25	15	25	15	25
		WSEN8	463	236	25	15	25	15	25
		WSEN9	464	236	25	15	25	15	25
		WSEN10	465	236	25	15	25	15	25
		WSEN11	466	236	25	15	25	15	25
		WSEN12	467	236	25	15	25	15	25
		WSEN13	468						
GA3-GULF AVE AFTER ENT AND EX RMPS		GA3.1	469	280	30	0	0	0	0
		GA3.2	470	280	30	0	0	0	0
		GA3.3	471	280	30	0	0	0	0
		GA3.4	472	280	30	0	0	0	0
		GA3.5	473	280	30	0	0	0	0
		GA3.6	474						
FAN1-FOREST AVE NORTH (SOUTH OF GOETH RI		FAN1.1	488	312	30	12	30	12	30
		FAN1.2	489	312	30	12	30	12	30
		FAN1.3	490						
FAN2-FOREST AVE NORTH (NORTH OF GOETH RI		FAN2.1	491	464	30	14	30	14	30
		FAN2.2	492						
FAS1-FORES AVE SOUTH (NORTH OF GOETH RD.		FAS1.1	493	95	30	3	30	3	30
		FAS1.2	494						
FAS2-FOREST AVE SOUTH (SOUTH OF GOETH RD		FAS2.3	497	116	30	48	30	56	30
		FAS2.2	496	116	30	48	30	56	30
		FAS2.1	495						
GR1-GOETHALS RD. EAST OF FOREST AVE		GR1.1	498	293	30	12	30	12	30
		GR1.2	499	293	30	12	30	12	30
		GR1.3	500	293	30	12	30	12	30
		GR1.4	501	293	30	12	30	12	30
		GR2.1	502						
GR2-GOETHALS RD. WEST OF FOREST AVE		GR2.1	503	331	30	71	30	79	30
		GR3.1	504						
GR3-GOETHALS RD. AFTER ENT TO 1278W		GR3.1	505	159	30	36	30	40	30
		GR3.2	506	159	30	36	30	40	30
		GR4.1	507						
GR4-GOETHALS RD. BWTN ENT AND EX RMPS		GR4.1	508	235	30	53	30	57	30
		GR4.2	509	235	30	53	30	57	30
		GR4.3	510	235	30	53	30	57	30
		GR4.4	511	235	30	53	30	57	30
		GR5.1	512						
M-MORROW STREET		M1	513	105	30	3	30	3	30
		M2	514	105	30	3	30	3	30
		GR4.1	515						
GM-GOETHALS RD. TO MORROW ST.		GR2.1	516	152	25	2	25	2	25
		GM1	517	152	25	2	25	2	25
		GM2	518						
LW3-I278W BWTN GOETHALS RD RMPS		LW3.1	520	1714	55	381	55	386	55
		LW4.1	519						
LW2-I278W AFTER WEST SHORE EXPWY		LW2.1	525	1967	55	134	55	135	55
		LW2.2	524	1967	55	134	55	135	55
		LW2.3	523	1967	55	134	55	135	55
		LW2.4	522	1967	55	134	55	135	55
		LW3.1	521						
LW1-I278W EAST OF WEST SHORE EXPWY		LW1.1	533	1734	55	118	55	119	55
		LW1.2	532	1734	55	118	55	119	55
		LW1.3	531	1734	55	118	55	119	55
		LW1.4	530	1734	55	118	55	119	55
		LW1.5	529	1734	55	118	55	119	55
		LW1.6	528	1734	55	118	55	119	55
		LW1.7	527	1734	55	118	55	119	55

		LW2.1	526						
LE5-I278E (START OF BRIDGE)-2		LE5.27	11	3036	55	132	55	136	55
		LE5.28	121	3036	55	132	55	136	55
		LE5.29	122	3036	55	132	55	136	55
		LE5.30	123						
LE5-I278E (START OF BRIDGE)-2-2		LE5.30	12	3036	55	132	55	136	55
		LE6.1	124						
GENR2-GULF AVE TO I278E-GENR1-GULF AVE EN		GENR1	411	124	25	5	25	6	25
		GENR2	412	124	25	5	25	6	25
		GENR3	413	124	25	5	25	6	25
		GENR4	414	124	25	5	25	6	25
		GTH1	478	124	25	5	25	6	25
		LE6.1	479						
GEXR2-I278E TO GULF AVE -GEXR1-I278E TO GU		LE7.1	480	273	25	61	25	65	25
		GEXR1	482	273	25	61	25	65	25
		GEXR2	483	273	25	61	25	65	25
		GEXR3	484	273	25	61	25	65	25
		GEXR4	485	273	25	61	25	65	25
		GEXR5	486	273	25	61	25	65	25
		GA3.1	487						
GENR4-GOETHALS RD TO I278W-GENR3-GOETH		GR3.1	543	172	25	35	25	39	25
		GENR2	544	172	25	35	25	39	25
		GENR3	545	172	25	35	25	39	25
		GENR4	546	172	25	35	25	39	25
		GENR5	547	172	25	35	25	39	25
		GENR6	549	172	25	35	25	39	25
		LW3.1	550						
GEXR3-I278W TO GOETHALS RD-GEXR4-I278W T		LW4.1	534	145	25	33	25	34	25
		GEXR4.1	536	145	25	33	25	34	25
		GEXR4.2	537	145	25	33	25	34	25
		GEXR4.3	538	145	25	33	25	34	25
		GEXR4.4	539	145	25	33	25	34	25
		GEXR4.5	540	145	25	33	25	34	25
		GEXR4.6	541	145	25	33	25	34	25
		GR5.1	542						

The Louis Berger Group, Inc. 29-Jan-10
DS TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: JA2500
RUN: GBR Constr. Phase 2012 No-Build - AM

Receiver											
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active
			X	Y	Z	above	Existing	Impact Criteria		NR	in
						Ground	LAeq1h	LAeq1h	Sub'l	Goal	Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
M1	16	1.00	38,223.50	11,051.70	11.7	5	0	66	10	8	Y
R12	17	1.00	38,056.00	11,190.20	12	5	0	66	10	8	Y
R13	18	1.00	37,909.20	11,292.90	12	5	0	66	10	8	Y
R14	19	1.00	37,771.50	11,399.80	11.5	5	0	66	10	8	Y
R15	20	1.00	37,632.70	11,515.80	13	5	0	66	10	8	Y
R16	21	1.00	38,190.00	11,033.60	11	5	0	66	10	8	Y
R17	22	1.00	38,043.60	11,143.30	11	5	0	66	10	8	Y
R18	23	1.00	37,900.50	11,251.10	11	5	0	66	10	8	Y
R19	24	1.00	37,760.90	11,353.30	11.3	5	0	66	10	8	Y
R20	25	1.00	37,619.10	11,454.60	11	5	0	66	10	8	Y

The Louis Berger Group, Inc. 29-Jan-10
DS TNM 2.5

INPUT: BARRIERS
PROJECT/CONTRACT: JA2500
RUN: GBR Constr. Phase 2012 No-Build - AM

Barrier										Points										
Name	Type	Height		If Wall	If Berm			Add'tnl		Name	No.	Coordinates (bottom)			Height	Segment				
		Min	Max	$ per	$ per	Top	Run:Rise	$ per				X	Y	Z	at	Seg Ht Perturbs			On	Important
				Unit	Unit	Width		Unit							Point	Incre-	#Up	#Dn	Struct?	Reflec-
				Area	Vol.			Length								ment				tions?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft				ft	ft	ft	ft	ft				
BE-BARRIER ALONG I278E (BRIDGE)	W	0	99	0				0		BE1	12.00	45,062.70	6,301.80	53	3	0	0	0	Y	
										BE2	13.00	44,907.30	6,417.30	60	3	0	0	0	Y	
										BE3	14.00	44,747.50	6,536.80	67	3	0	0	0	Y	
										BE4	15.00	44,668.30	6,596.60	70	3	0	0	0	Y	
										BE5	16.00	44,590.80	6,659.80	74.5	3	0	0	0	Y	
										BE6	17.00	44,443.70	6,796.20	82	3	0	0	0	Y	
										BE7	18.00	44,296.10	6,932.50	89	3	0	0	0	Y	
										BE8	19.00	44,150.10	7,064.70	95.5	3	0	0	0	Y	
										BE9	20.00	43,998.60	7,201.40	103.5	3	0	0	0	Y	
										BE10	21.00	43,853.10	7,334.50	110.5	3	0	0	0	Y	
										BE11	22.00	43,740.50	7,432.20	116	3	0	0	0	Y	
										BE12	23.00	43,597.30	7,547.60	122	3					
JB-MEDIAN JERSEY BARRIER ALONG BRIDGE	W	0	99	0				0		JB1	30.00	44,712.70	6,523.90	68	3	0	0	0	Y	
										JB2	31.00	44,629.40	6,594.10	71.2	3	0	0	0	Y	
										JB3	32.00	44,332.50	6,867.50	86.1	3	0	0	0	Y	
										JB4	33.00	44,036.40	7,135.90	101	3	0	0	0	Y	
										JB5	34.00	43,742.20	7,401.40	115	3	0	0	0	Y	
										JB6	35.00	43,582.80	7,528.20	123	3	0	0	0	Y	
										JB7	36.00	43,326.10	7,710.30	134.2	3	0	0	0	Y	
										JB8	37	43,197.00	7,799.80	140	3	0	0	0	Y	
										JB9	38	43,025.30	7,919.20	147	3	0	0	0	Y	
										JB10	39	42,853.50	8,038.30	150	3	0	0	0	Y	
										JB11	40	42,682.60	8,157.30	149	3					
BA-BARRIER AROUND TRAILOR ROW A	W	0	99	0				0		BA1	50	38,189.50	11,005.00	10	0	0	0	0		
										BA2	51	38,212.60	11,106.10	13	0	0	0	0		
										BA3	52	38,146.10	11,158.40	12.5	0	0	0	0		
										BA4	53	38,138.60	11,137.40	12.2	0					
BB-BARRIER AROUND TRAILOR ROW B	W	0	99	0				0		BB1	54	38,116.90	11,159.80	12	0	0	0	0		
										BB2	55	38,122.70	11,174.30	12	0	0	0	0		
										BB3	56	38,004.80	11,259.70	11.5	0	0	0	0		
										BB4	57	37,998.10	11,242.50	11.3	0					
BD-BARRIER AROUND TRAILOR ROW D	W	0	99	0				0		BD1	58	37,978.60	11,265.60	11.3	0	0	0	0		
										BD2	59	37,983.30	11,280.40	11.5	0	0	0	0		
										BD3	60	37,864.60	11,367.30	11.5	0	0	0	0		
										BD4	61	37,856.80	11,347.20	11.2	0					
BF-BARRIER AROUND TRAILOR ROW F	W	0	99	0				0		BF1	62	37,836.20	11,371.40	12	0	0	0	0		
										BF2	63	37,840.10	11,383.50	12	0	0	0	0		
										BF3	64	37,724.70	11,470.20	12	0	0	0	0		
										BF4	65	37,718.80	11,457.50	12	0					
BG-BARRIER AROUND TRAILOR ROW G	W	0	99	0				0		BG1	66	37,698.00	11,472.90	12	0	0	0	0		
										BG2	67	37,704.60	11,484.10	12	0	0	0	0		
										BG3	68	37,622.20	11,545.90	12	0					

The Louis Berger Group, Inc. 29-Jan-10
DS TNM 2.5

INPUT: TERRAIN LINES
PROJECT/CONTRACT: JA2500
RUN: GBR Constr. Phase 2012 No-Build - AM

Terrain Line		Points			
Name		No.	Coordinates (ground)		
			X	Y	Z
			ft	ft	ft
Terrain Line B		8.00	38,329.10	11,081.00	13
		9.00	38,257.60	11,147.50	10
		10.00	38,137.70	11,246.00	7.5
		11.00	38,016.20	11,331.30	9.3
		12.00	37,944.40	11,380.30	10.3
		13.00	37,932.60	11,413.80	15
		14.00	37,888.80	11,462.50	20
		15.00	37,714.00	11,598.00	20
		16.00	37,596.00	11,660.60	20

NO BUILD

OUTPUT FILES

SOUND LEVELS - AM

SOUND LEVELS - PM

The Louis Berger Group, Inc. 29-Jan-10
DS TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: JA2500
RUN: GBR Constr. Phase 2012 No-Build - AM
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
M1	16	1	0	71.7	66	71.7	10	Snd Lvl	71.7	0	8	-8
R12	17	1	0	72.5	66	72.5	10	Snd Lvl	72.5	0	8	-8
R13	18	1	0	72.1	66	72.1	10	Snd Lvl	72.1	0	8	-8
R14	19	1	0	70.6	66	70.6	10	Snd Lvl	70.6	0	8	-8
R15	20	1	0	69.6	66	69.6	10	Snd Lvl	69.6	0	8	-8
R16	21	1	0	70.2	66	70.2	10	Snd Lvl	70.2	0	8	-8
R17	22	1	0	70.5	66	70.5	10	Snd Lvl	70.5	0	8	-8
R18	23	1	0	70.4	66	70.4	10	Snd Lvl	70.4	0	8	-8
R19	24	1	0	69	66	69	10	Snd Lvl	69	0	8	-8
R20	25	1	0	67.8	66	67.8	10	Snd Lvl	67.8	0	8	-8

The Louis Berger Group, Inc. 29-Jan-10
DS TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: JA2500
RUN: GBR Constr. Phase 2012 No-Build - PM
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
M1	16	1	0	71.5	66	71.5	10	Snd Lvl	71.5	0	8	-8
R12	17	1	0	72.2	66	72.2	10	Snd Lvl	72.2	0	8	-8
R13	18	1	0	71.4	66	71.4	10	Snd Lvl	71.4	0	8	-8
R14	19	1	0	70	66	70	10	Snd Lvl	70	0	8	-8
R15	20	1	0	69.2	66	69.2	10	Snd Lvl	69.2	0	8	-8
R16	21	1	0	70	66	70	10	Snd Lvl	70	0	8	-8
R17	22	1	0	70.1	66	70.1	10	Snd Lvl	70.1	0	8	-8
R18	23	1	0	69.7	66	69.7	10	Snd Lvl	69.7	0	8	-8
R19	24	1	0	68.4	66	68.4	10	Snd Lvl	68.4	0	8	-8
R20	25	1	0	67.1	66	67.1	10	Snd Lvl	67.1	0	8	-8

BUILD - NEW ALIGNMENT SOUTH

INPUT FILES

ROADWAYS

TRAFFIC FOR TNM VEHICLES - AM

TRAFFIC FOR TNM VEHICLES - PM

RECEIVERS

BARRIERS

TERRAIN LINES

The Louis Berger Group, Inc. 29-Jan-10
DS TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: JA2500 Goethals Bridge EIS
RUN: GBR Constr. Phase 2012 Build - AM

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway			Points									
Name	Width		Name	No.	Coordinates (pavement)			Flow Control			Segment	
					X	Y	Z	Control	Speed	Percent	Pvmt	On
								Device	Constraint	Vehicles	Type	Struct?
										Affected		
	ft				ft	ft	ft		mph	%		
LW4-I278W (START OF BRIDGE)	26		LW4.1	221.00	38,033.80	11,404.30	15.2				Average	
			LW4.2	220.00	38,106.00	11,350.10	13				Average	
			LW4.3	219.00	38,265.10	11,225.00	10.6				Average	
			LW4.4	218.00	38,423.90	11,102.90	11.1				Average	
			LW4.5	217.00	38,739.80	10,859.60	11.4				Average	
			LW4.6	216.00	38,988.00	10,689.50	11.5				Average	
			LW4.7	215.00	39,240.30	10,527.20	13.5					
WAN-WESTERN AVE NORTH	12		WAN1	392.00	39,764.20	9,983.40	9.3				Average	
			WAN2	393.00	39,564.50	9,754.70	11					
WAS-WESTERN AVE SOUTH	12		WAS1	394.00	39,582.70	9,743.30	11				Average	
			WAS2	395.00	39,775.60	9,974.70	9.3					
GA1-GULF AVE BEFORE ENT RMP TO I27	35		GA1.1	396.00	39,831.40	10,028.60	8.8				Average	
			GA1.2	397.00	39,925.50	10,148.10	8.2				Average	
			GA1.3	398.00	39,935.70	10,169.00	8.2				Average	
			GA1.4	399.00	39,784.70	10,425.70	10.5				Average	
			GA1.5	400.00	39,699.80	10,476.30	11.2				Average	
			GA1.6	401.00	39,543.50	10,520.60	12.5				Average	
			GA1.7	402.00	39,422.30	10,595.10	13.8				Average	
			GA1.8	403.00	39,099.60	10,832.90	11.2				Average	
			GA2.1	404.00	38,782.30	11,072.50	11					
GA2-GULF AVE BWTN ENT AND EX RAM	40		GA2.1	405.00	38,782.30	11,072.50	11				Average	
			GA2.2	406.00	38,624.50	11,192.30	11.9				Average	
			GA2.3	407.00	38,304.80	11,434.80	14.1				Average	
			GA2.4	408.00	38,082.10	11,636.20	13.9				Average	
			GA2.5	409.00	37,880.30	11,861.30	12.1				Average	
			GA3.1	410.00	37,707.00	12,107.00	10.6					
GR5-GOETHALS RD. AFTER ENT AND EX	30		GR5.1	416.00	38,526.40	10,901.30	12.3				Average	
			GR5.2	417.00	38,764.60	10,721.30	12.2				Average	
			GR5.3	418.00	39,090.50	10,494.60	13.7				Average	
			GR5.4	419.00	39,425.30	10,275.60	14.3				Average	
			GR5.5	420.00	39,770.20	10,033.40	9.5				Average	
			GR5.6	421.00	40,099.50	9,801.10	10				Average	
			GR5.7	422.00	40,168.30	9,740.30	10.5				Average	
			GR5.8	423.00	40,187.00	9,697.00	10.7				Average	
			GR5.9	424.00	40,192.80	9,650.30	11				Average	
			GR5.10	425.00	40,185.80	9,603.70	11.1				Average	
			GR5.11	426.00	40,167.00	9,559.30	11.3				Average	
			GR5.12	427.00	40,047.70	9,419.20	12					
HH-HOWLAND HOOK ENTRANCE	25		HH4	431.00	40,219.10	9,703.80	10.7				Average	
			HH3	430.00	40,191.30	9,751.30	10.5				Average	
			HH2	429.00	40,121.00	9,818.50	9.9				Average	
			HH1	428.00	39,873.80	9,988.30	8.4					
LE6-I278E BTWN GULF AVE RMPS	40		LE6.1	432.00	38,144.00	11,419.30	12.9				Average	
			LE7.1	433.00	37,988.10	11,541.30	16.8					
LE7-I278E AFTER GULF AVE EX RMP	40		LE7.1	434.00	37,988.10	11,541.30	16.8				Average	
			LE7.2	435.00	37,837.80	11,674.40	21.3				Average	
			LE7.3	436.00	37,693.60	11,814.70	26.2				Average	
			LE8.1	437.00	37,566.30	11,969.50	29.8					
LE8-I278E AFTER WEST SHORE EX RMP	30		LE8.1	438.00	37,566.30	11,969.50	29.8				Average	Y
			LE8.2	439.00	37,464.90	12,081.50	30.2				Average	
			LE8.3	440.00	37,217.80	12,390.50	25.5				Average	
			LE8.4	441.00	37,027.50	12,622.90	21.7				Average	
			LE8.5	442.00	36,891.00	12,768.90	19.1				Average	
			LE8.6	443.00	36,660.00	12,964.40	15				Average	
			LE8.7	444.00	36,492.10	13,071.70	14				Average	
			LE8.8	445.00	36,312.70	13,165.30	16.3					
WSES-I278E EX RMP TO WEST SHORE EX	24		WSES1	446.00	37,566.30	11,969.50	29.8				Average	Y
			WSES2	447.00	37,481.00	12,090.00	30.2				Average	
			WSES3	448.00	37,363.70	12,251.10	28.3				Average	
			WSES4	449.00	37,263.70	12,428.00	24				Average	
			WSES5	450.00	37,206.90	12,570.50	19.6				Average	
			WSES6	451.00	37,167.70	12,713.80	15.3				Average	
			WSES7	452.00	37,134.40	12,911.20	11.8				Average	
			WSES8	453.00	37,118.90	13,110.40	12.6				Average	
			WSES9	454.00	37,127.40	13,309.80	14.8				Average	

			WSES10	455.00	37,155.90	13,508.50	16.7						
WSEN-WEST SHORE EXPWY NORTH TO	24		WSEN1	456.00	36,764.60	13,360.00	23.5				Average		
			WSEN2	457.00	36,750.20	13,161.50	30.5				Average		
			WSEN3	458.00	36,748.10	12,971.00	35.1				Average	Y	
			WSEN4	459.00	36,757.60	12,842.30	36.4				Average	Y	
			WSEN5	460.00	36,781.80	12,698.00	35.4				Average		
			WSEN6	461.00	36,819.00	12,582.20	33				Average		
			WSEN7	462.00	36,860.20	12,491.70	31				Average		
			WSEN8	463.00	36,978.60	12,325.50	26.8				Average		
			WSEN9	464.00	37,052.80	12,254.80	26				Average		
			WSEN10	465.00	37,136.20	12,195.70	26.8				Average		
			WSEN11	466.00	37,301.70	12,088.60	29.5				Average		
			WSEN12	467.00	37,380.70	12,031.10	30				Average	Y	
			WSEN13	468.00	37,497.70	11,927.00	30.2						
GA3-GULF AVE AFTER ENT AND EX RMP	40		GA3.1	469.00	37,707.00	12,107.00	10.6				Average		
			GA3.2	470.00	37,565.50	12,369.40	12				Average		
			GA3.3	471.00	37,447.30	12,646.90	13.3				Average		
			GA3.4	472.00	37,376.20	12,939.90	14.6				Average		
			GA3.5	473.00	37,351.10	13,237.40	15.4				Average		
			GA3.6	474.00	37,371.00	13,491.40	14.4						
FAN1-FOREST AVE NORTH (SOUTH OF G	30		FAN1.1	488.00	37,652.10	12,126.50	10.6				Average		
			FAN1.2	489.00	37,396.40	11,973.10	11.9				Average		
			FAN1.3	490.00	37,251.70	11,885.90	12.9						
FAN2-FOREST AVE NORTH (NORTH OF G	30		FAN2.1	491.00	37,189.70	11,852.20	13				Average		
			FAN2.2	492.00	36,981.40	11,725.00	11.5						
FAS1-FORES AVE SOUTH (NORTH OF GO	30		FAS1.1	493.00	36,993.70	11,705.30	11.5				Average		
			FAS1.2	494.00	37,212.30	11,836.10	13.1						
FAS2-FOREST AVE SOUTH (SOUTH OF G	30		FAS2.3	497.00	37,667.10	12,107.50	10.6				Average		
			FAS2.2	496.00	37,409.50	11,954.70	11.9				Average		
			FAS2.1	495.00	37,266.50	11,869.90	13						
GR1-GOETHALS RD. EAST OF FOREST AV	30		GR1.1	498.00	35,805.60	12,759.40	12.6				Average		
			GR1.2	499.00	36,151.60	12,555.70	11.3				Average		
			GR1.3	500.00	36,490.10	12,346.90	11.7				Average		
			GR1.4	501.00	36,826.40	12,130.00	11.8				Average		
			GR2.1	502.00	37,158.50	11,906.80	12						
GR2-GOETHALS RD. WEST OF FOREST A	40		GR2.1	503.00	37,158.50	11,906.80	12				Average		
			GR3.1	504.00	37,372.20	11,758.10	15						
GR3-GOETHALS RD. AFTER ENT TO 1278	30		GR3.1	505.00	37,372.20	11,758.10	15				Average		
			GR3.2	506.00	37,483.60	11,680.40	15.7				Average		
			GR4.1	507.00	37,634.10	11,567.30	14.1						
GR4-GOETHALS RD. BWTN ENT AND EX	30		GR4.1	508.00	37,634.10	11,567.30	14.1				Average		
			GR4.2	509.00	37,805.10	11,441.60	12.3				Average		
			GR4.3	510.00	38,121.70	11,204.10	12.5				Average		
			GR4.4	511.00	38,442.80	10,963.90	13				Average		
			GR5.1	512.00	38,526.40	10,901.30	12.3						
M-MORROW STREET	48		M1	513.00	36,944.60	11,651.50	11				Average		
			M2	514.00	37,521.60	11,618.20	14.3				Average		
			GR4.1	515.00	37,634.10	11,567.30	14.1						
GM-GOETHALS RD. TO MORROW ST.	15		GR2.1	516.00	37,158.50	11,906.80	12				Average		
			GM1	517.00	37,155.00	11,884.20	12				Average		
			GM2	518.00	37,155.80	11,849.70	12						
LW3-I278W BWTN GOETHALS RD RMPS	40		LW3.1	520.00	37,972.90	11,450.90	17.5				Average		
			LW4.1	519.00	38,033.80	11,404.30	15.2						
LW2-I278W AFTER WEST SHORE EXPWY	40		LW2.1	525.00	37,497.70	11,927.00	30.2				Average		
			LW2.2	524.00	37,629.10	11,771.50	28.2				Average		
			LW2.3	523.00	37,769.20	11,627.10	24.2				Average		
			LW2.4	522.00	37,892.80	11,514.00	20.3				Average		
			LW3.1	521.00	37,972.90	11,450.90	17.5						
LW1-I278W EAST OF WEST SHORE EXPV	40		LW1.1	533.00	36,275.40	13,105.00	13.2				Average		
			LW1.2	532.00	36,513.40	12,979.30	11.4				Average		
			LW1.3	531.00	36,678.10	12,862.90	13.3				Average		
			LW1.4	530.00	36,829.30	12,734.10	16.3				Average		
			LW1.5	529.00	36,966.80	12,586.80	19.7				Average		
			LW1.6	528.00	37,157.10	12,353.90	25.4				Average		
			LW1.7	527.00	37,405.50	12,044.80	30.4				Average	Y	
			LW2.1	526.00	37,497.70	11,927.00	30.2						
LE5-I278E (START OF BRIDGE)-2	130		LE5.27	11.00	38,949.00	10,810.80	11.5				Average		
			LE5.28	121.00	38,668.30	11,014.20	12.7				Average		
			LE5.29	122.00	38,628.90	11,042.10	12.7				Average		
			LE5.30	123.00	38,370.10	11,238.60	10.4						
LE5-I278E (START OF BRIDGE)-2-2	50		LE5.30	12.00	38,370.10	11,238.60	10.4				Average		
			LE6.1	124.00	38,144.00	11,419.30	12.9						
GENR2-GULF AVE TO I278E-GENR1-GUL	20		GENR1	411.00	38,782.30	11,072.50	11				Average		
			GENR2	412.00	38,621.10	11,164.20	11.5				Average		
			GENR3	413.00	38,442.20	11,260.70	10				Average		
			GENR4	414.00	38,353.60	11,308.60	10				Average		
			GTH1	478.00	38,262.40	11,364.50	10.6				Average		
			LE6.1	479.00	38,144.00	11,419.30	12.9						
GEXR2-I278E TO GULF AVE -GEXR1-I278	20		LE7.1	480.00	37,988.10	11,541.30	16.8				Average		
			GEXR1	482.00	37,937.40	11,613.80	17.7				Average		

			GEXR2	483.00	37,871.50	11,690.20	19.5				Average	
			GEXR3	484.00	37,822.00	11,774.80	19.8				Average	
			GEXR4	485.00	37,759.30	11,964.60	11.3				Average	
			GEXR5	486.00	37,732.40	12,049.50	10.5				Average	
			GA3.1	487.00	37,707.00	12,107.00	10.6					
GENR4-GOETHALS RD TO I278W-GENR3	20		GR3.1	543.00	37,372.20	11,758.10	15				Average	
			GENR2	544.00	37,432.80	11,741.40	15				Average	
			GENR3	545.00	37,661.60	11,651.40	23.5				Average	
			GENR4	546.00	37,744.80	11,601.90	24.2				Average	
			GENR5	547.00	37,824.70	11,542.00	22.5				Average	
			GENR6	549.00	37,927.90	11,460.20	19				Average	
			LW3.1	550.00	37,972.90	11,450.90	17.5					
GEXR3-I278W TO GOETHALS RD-GEXR4-	20		LW4.1	534.00	38,033.80	11,404.30	15.2				Average	
			GEXR4.1	536.00	38,050.50	11,361.90	14				Average	
			GEXR4.2	537.00	38,146.20	11,287.40	11				Average	
			GEXR4.3	538.00	38,222.20	11,223.30	10				Average	
			GEXR4.4	539.00	38,292.70	11,146.70	10				Average	
			GEXR4.5	540.00	38,389.90	11,034.80	12				Average	
			GEXR4.6	541.00	38,451.30	10,975.80	12				Average	
			GR5.1	542.00	38,526.40	10,901.30	12.3					
BR1- New WB North Alignment Outer	24		BR1.1-N	18.00	39,239.60	10,528.10	13.5				Average	
			BR1.2-N	19.00	39,405.00	10,405.10	17				Average	
			BRW21-N	20.00	39,725.70	10,222.80	30.5				Average	Y
			BRW19-N	140.00	39,970.10	10,082.30	35				Average	Y
			BRW17-N	21.00	40,220.00	9,938.80	42				Average	Y
			BRW15-N	22.00	40,464.90	9,787.90	52				Average	Y
			BRW13-N	23.00	40,708.40	9,630.70	61.3				Average	Y
			BRW11-N	24.00	40,947.50	9,468.80	75				Average	Y
			BRW9-N	25.00	41,169.50	9,314.40	84				Average	Y
			BRW7-N	26.00	41,383.30	9,165.40	93.6				Average	Y
			BRW5-N	27.00	41,653.90	8,978.10	108.6				Average	Y
			BRW3-N	28.00	41,884.10	8,817.10	119.8				Average	Y
			BRW1-N	29.00	42,114.10	8,657.30	131.4				Average	Y
			BRa2-N	30.00	42,483.70	8,400.30	148.6				Average	Y
			BRc1-N	31.00	42,588.50	8,327.40	153.1				Average	Y
			BRc2-N	32.00	43,111.70	7,963.10	153.3				Average	Y
			BRa3-N	33.00	43,223.20	7,886.40	148.6				Average	Y
			BRE1-N	34.00	43,592.30	7,629.00	131.4				Average	Y
			BRE3-N	35.00	43,829.90	7,463.80	121.4				Average	Y
			BRE5-N	36.00	44,035.90	7,311.00	111.1				Average	Y
			BRE7-N	37.00	44,228.20	7,149.20	100.3				Average	Y
			BRE9-N	38.00	44,425.20	6,960.90	88.9				Average	Y
			BRE11-N	39.00	44,614.90	6,757.80	75.2				Average	Y
			BRE13-N	40.00	44,797.40	6,545.70	63.9				Average	Y
			BRE15-N	41.00	44,979.00	6,332.30	52.8				Average	Y
			BRE17-N	42.00	45,123.90	6,172.40	43				Average	Y
			BRE19-N	43.00	45,422.00	5,885.00	35				Average	Y
			BRa4-N	141.00	45,520.40	5,800.10	31				Average	Y
			BR1.3-N	73.00	45,628.40	5,701.80	29.8					
BR2- New WB North Alignment Inner	12		BR1.1-NI	45.00	39,239.70	10,528.10	13.5				Average	
			BR1.2-NI	71.00	39,414.20	10,421.90	17				Average	
			BRa1-NI	46.00	39,734.50	10,238.70	26				Average	Y
			BRW19-NI	139.00	39,977.70	10,099.70	35				Average	Y
			BRW17-NI	47	40,228.50	9,952.40	42				Average	Y
			BRW15-NI	48	40,474.60	9,804.70	52				Average	Y
			BRW13-NI	49	40,718.30	9,645.50	61.3				Average	Y
			BRW11-NI	50	40,956.10	9,483.70	75				Average	Y
			BRW9-NI	51	41,179.30	9,327.90	84				Average	Y
			BRW7-NI	52	41,392.10	9,180.60	93.6				Average	Y
			BRW5-NI	53	41,664.80	8,990.90	108.6				Average	Y
			BRW3-NI	54	41,895.20	8,831.10	119.8				Average	Y
			BRW1-NI	55	42,124.90	8,674.00	131.4				Average	Y
			BRa2-NI	56	42,494.90	8,415.30	148.6				Average	Y
			BRc1-NI	57	42,596.00	8,342.50	153.1				Average	Y
			BRc2-NI	58	43,121.20	7,978.90	153.3				Average	Y
			BRa3-NI	59	43,232.60	7,902.00	148.6				Average	Y
			BRE1-NI	60	43,604.00	7,642.40	131.4				Average	Y
			BRE3-NI	61	43,840.30	7,477.40	121.4				Average	Y
			BRE5-NI	62	44,048.50	7,324.70	111.1				Average	Y
			BRE7-NI	63	44,240.30	7,162.10	100.3				Average	Y
			BRE9-NI	64	44,439.60	6,973.70	88.9				Average	Y
			BRE11-NI	65	44,626.30	6,770.00	75.2				Average	Y
			BRE13-NI	66	44,809.80	6,557.50	63.9				Average	Y
			BRE15-NI	67	44,960.80	6,381.80	52.8				Average	Y
			BRE17-NI	68	45,131.40	6,189.50	43				Average	Y
			BRE19-NI	69	45,429.70	5,900.30	35				Average	Y
			BRa4-NI	142	45,528.80	5,816.30	31				Average	Y
			BR1.3-NI	74	45,650.50	5,730.20	29.8					
BR4- New EB North Alignment Outer	24		BR1.3-S	77	45,888.40	5,695.10	21.5				Average	
			BRa4-S	78	45,581.20	5,920.80	31				Average	Y

			BRE19-S	136	45,480.30	6,001.80	35				Average	Y
			BRE17-S	79	45,212.00	6,252.10	43				Average	Y
			BRE15-S	80	45,181.30	6,283.90	52.8				Average	Y
			BRE13-S	81	45,032.90	6,447.20	63.9				Average	Y
			BRE11-S	82	44,865.70	6,643.00	75.2				Average	Y
			BRE9-S	83	44,698.40	6,846.10	88.9				Average	Y
			BRE7-S	84	44,518.40	7,045.30	100.3				Average	Y
			BRE5-S	85	44,320.30	7,246.40	111.1				Average	Y
			BRE3-S	86	44,122.50	7,418.10	121.4				Average	Y
			BRE1-S	87	43,914.80	7,579.60	131.4				Average	Y
			BRa3-S	88	43,675.00	7,745.90	148.6				Average	Y
			BRc2-S	89	43,305.20	8,003.70	153.3				Average	Y
			BRc1-S	90	43,190.60	8,084.50	153.1				Average	Y
			BRa2-S	91	42,669.60	8,446.80	148.6				Average	Y
			BRW1-S	92	42,565.80	8,516.80	131.4				Average	Y
			BRW3-S	93	42,198.60	8,775.00	119.8				Average	Y
			BRW5-S	94	41,981.90	8,923.10	108.6				Average	Y
			BRW7-S	95	41,768.90	9,072.30	93.6				Average	Y
			BRW9-S	96	41,487.20	9,266.10	84				Average	Y
			BRW11-S	97	41,261.10	9,424.80	75				Average	Y
			BRW13-S	98	41,021.60	9,585.00	61.3				Average	Y
			BRW15-S	99	40,776.70	9,740.80	52				Average	Y
			BRW17-S	100	40,529.50	9,890.40	42				Average	Y
			BRW19-S	101	40,277.60	10,037.30	35				Average	Y
			BRa1-S	137	40,024.10	10,179.70	26				Average	Y
			BR1.2-S	102	39,466.10	10,497.80	17				Average	
			BR1.1-S	104	39,271.40	10,572.20	13.5					
LE5-I278E (START OF BRIDGE)-2	26		LE5.26	119	39,271.20	10,572.10	13.5				Average	
			LE5.27	120	38,949.00	10,810.80	11.5					
BR3- New EB North Alignment Inner	12		BR1.3-SI	107	45,785.40	5,727.30	29.6				Average	
			BRa4-SI	108	45,572.30	5,902.50	31				Average	Y
			BRE19-SI	135	45,473.10	5,985.90	35				Average	Y
			BRE17-SI	109	45,172.30	6,268.50	43				Average	Y
			BRE15-SI	110	45,019.50	6,434.00	52.8				Average	Y
			BRE13-SI	111	44,849.00	6,634.50	63.9				Average	Y
			BRE11-SI	112	44,686.20	6,836.00	75.2				Average	Y
			BRE9-SI	113	44,506.90	7,034.10	88.9				Average	Y
			BRE7-SI	114	44,307.10	7,233.40	100.3				Average	Y
			BRE5-SI	115	44,114.00	7,401.80	111.1				Average	Y
			BRE3-SI	116	43,901.40	7,563.70	121.4				Average	Y
			BRE1-SI	117	43,665.20	7,731.10	131.4				Average	Y
			BRa3-SI	118	43,296.90	7,988.70	148.6				Average	Y
			BRc2-SI	119	43,179.90	8,068.00	153.3				Average	Y
			BRc1-SI	120	42,659.70	8,432.80	153.1				Average	Y
			BRa2-SI	121	42,555.40	8,501.00	148.6				Average	Y
			BRW1-SI	122	42,187.10	8,758.50	131.4				Average	Y
			BRW3-SI	123	41,973.60	8,909.70	119.8				Average	Y
			BRW5-SI	124	41,760.10	9,057.10	108.6				Average	Y
			BRW7-SI	125	41,478.90	9,252.10	93.6				Average	Y
			BRW9-SI	126	41,250.00	9,410.80	84				Average	Y
			BRW11-SI	127	41,014.80	9,568.90	75				Average	Y
			BRW13-SI	128	40,769.10	9,724.00	61.3				Average	Y
			BRW15-SI	129	40,519.40	9,877.40	52				Average	Y
			BRW17-SI	130	40,267.70	10,021.30	42				Average	Y
			BRW19-SI	131	40,015.50	10,163.40	35				Average	Y
			BRa1-SI	138	39,771.40	10,302.80	26				Average	Y
			BR1.2-SI	132	39,456.20	10,484.30	17				Average	
			BR1.1-SI	134	39,271.60	10,571.90	13.5					

The Louis Berger Group, Inc. 29-Jan-10
DS TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volume
PROJECT/CONTRACT: JA2500 Goethals Bridge EIS
RUN: GBR Constr. Phase 2012 Build - AM

Roadway		Points											
Name		Name	No.	Segment									
				Autos		MTrucks		HTrucks		Buses		Motorcycles	
				V	S	V	S	V	S	V	S	V	S
				veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
LW4-I278W (START OF BRIDGE)		LW4.1	221	2808	55	172	55	186	55				
		LW4.2	220	2808	55	172	55	186	55				
		LW4.3	219	2808	55	172	55	186	55				
		LW4.4	218	2808	55	172	55	186	55				
		LW4.5	217	2808	55	172	55	186	55				
		LW4.6	216	2808	55	172	55	186	55				
		LW4.7	215										
WAN-WESTERN AVE NORTH		WAN1	392	0	0	0	0	0	0				
		WAN2	393										
WAS-WESTERN AVE SOUTH		WAS1	394	0	0	0	0	0	0				
		WAS2	395										
GA1-GULF AVE BEFORE ENT RMP TO		GA1.1	396	205	30	58	30	72	30				
		GA1.2	397	205	30	58	30	72	30				
		GA1.3	398	205	30	58	30	72	30				
		GA1.4	399	205	30	58	30	72	30				
		GA1.5	400	205	30	58	30	72	30				
		GA1.6	401	205	30	58	30	72	30				
		GA1.7	402	205	30	58	30	72	30				
		GA1.8	403	205	30	58	30	72	30				
		GA2.1	404										
GA2-GULF AVE BWTN ENT AND EX R		GA2.1	405	157	30	44	30	55	30				
		GA2.2	406	157	30	44	30	55	30				
		GA2.3	407	157	30	44	30	55	30				
		GA2.4	408	157	30	44	30	55	30				
		GA2.5	409	157	30	44	30	55	30				
		GA3.1	410										
GR5-GOETHALS RD. AFTER ENT AND		GR5.1	416	517	30	88	30	102	30				
		GR5.2	417	517	30	88	30	102	30				
		GR5.3	418	517	30	88	30	102	30				
		GR5.4	419	517	30	88	30	102	30				
		GR5.5	420	517	30	88	30	102	30				
		GR5.6	421	517	30	88	30	102	30				
		GR5.7	422	517	30	88	30	102	30				
		GR5.8	423	517	30	88	30	102	30				
		GR5.9	424	517	30	88	30	102	30				
		GR5.10	425	517	30	88	30	102	30				
		GR5.11	426	517	30	88	30	102	30				
		GR5.12	427										
HH-HOWLAND HOOK ENTRANCE		HH4	431	0	0	0	0	0	0				
		HH3	430	0	0	0	0	0	0				
		HH2	429	0	0	0	0	0	0				
		HH1	428										
LE6-I278E BTWN GULF AVE RMPS		LE6.1	432	1815	55	194	55	211	55				
		LE7.1	433										
LE7-I278E AFTER GULF AVE EX RMP		LE7.1	434	1283	55	214	55	220	55				
		LE7.2	435	1283	55	214	55	220	55				
		LE7.3	436	1283	55	214	55	220	55				
		LE8.1	437										
LE8-I278E AFTER WEST SHORE EX RM		LE8.1	438	1114	55	186	55	192	55				
		LE8.2	439	1114	55	186	55	192	55				
		LE8.3	440	1114	55	186	55	192	55				
		LE8.4	441	1114	55	186	55	192	55				
		LE8.5	442	1114	55	186	55	192	55				
		LE8.6	443	1114	55	186	55	192	55				
		LE8.7	444	1114	55	186	55	192	55				
		LE8.8	445										
WSES-I278E EX RMP TO WEST SHOR		WSES1	446	169	25	28	25	28	25				
		WSES2	447	169	25	28	25	28	25				
		WSES3	448	169	25	28	25	28	25				
		WSES4	449	169	25	28	25	28	25				
		WSES5	450	169	25	28	25	28	25				
		WSES6	451	169	25	28	25	28	25				
		WSES7	452	169	25	28	25	28	25				
		WSES8	453	169	25	28	25	28	25				
		WSES9	454	169	25	28	25	28	25				
		WSES10	455										

WSEN-WEST SHORE EXPWY NORTH		WSEN1	456	668	25	73	25	73	25				
		WSEN2	457	668	25	73	25	73	25				
		WSEN3	458	668	25	73	25	73	25				
		WSEN4	459	668	25	73	25	73	25				
		WSEN5	460	668	25	73	25	73	25				
		WSEN6	461	668	25	73	25	73	25				
		WSEN7	462	668	25	73	25	73	25				
		WSEN8	463	668	25	73	25	73	25				
		WSEN9	464	668	25	73	25	73	25				
		WSEN10	465	668	25	73	25	73	25				
		WSEN11	466	668	25	73	25	73	25				
		WSEN12	467	668	25	73	25	73	25				
		WSEN13	468										
GA3-GULF AVE AFTER ENT AND EX R		GA3.1	469	67	30	4	30	4	30				
		GA3.2	470	67	30	4	30	4	30				
		GA3.3	471	67	30	4	30	4	30				
		GA3.4	472	67	30	4	30	4	30				
		GA3.5	473	67	30	4	30	4	30				
		GA3.6	474										
FAN1-FOREST AVE NORTH (SOUTH O		FAN1.1	488	270	30	20	30	20	30				
		FAN1.2	489	270	30	20	30	20	30				
		FAN1.3	490										
FAN2-FOREST AVE NORTH (NORTH O		FAN2.1	491	377	30	24	30	24	30				
		FAN2.2	492										
FAS1-FORES AVE SOUTH (NORTH OF		FAS1.1	493	139	30	10	30	10	30				
		FAS1.2	494										
FAS2-FOREST AVE SOUTH (SOUTH O		FAS2.3	497	220	30	67	30	90	30				
		FAS2.2	496	220	30	67	30	90	30				
		FAS2.1	495										
GR1-GOETHALS RD. EAST OF FOREST		GR1.1	498	268	30	11	30	11	30				
		GR1.2	499	268	30	11	30	11	30				
		GR1.3	500	268	30	11	30	11	30				
		GR1.4	501	268	30	11	30	11	30				
		GR2.1	502										
GR2-GOETHALS RD. WEST OF FORES		GR2.1	503	499	30	95	30	118	30				
		GR3.1	504										
GR3-GOETHALS RD. AFTER ENT TO 1		GR3.1	505	259	30	27	30	38	30				
		GR3.2	506	259	30	27	30	38	30				
		GR4.1	507										
GR4-GOETHALS RD. BWTN ENT AND		GR4.1	508	310	30	41	30	52	30				
		GR4.2	509	310	30	41	30	52	30				
		GR4.3	510	310	30	41	30	52	30				
		GR4.4	511	310	30	41	30	52	30				
		GR5.1	512										
M-MORROW STREET		M1	513	70	30	5	30	5	30				
		M2	514	70	30	5	30	5	30				
		GR4.1	515										
GM-GOETHALS RD. TO MORROW ST		GR2.1	516	107	25	4	25	4	25				
		GM1	517	107	25	4	25	4	25				
		GM2	518										
LW3-I278W BWTN GOETHALS RD RN		LW3.1	520	2234	55	608	55	625	55				
		LW4.1	519										
LW2-I278W AFTER WEST SHORE EXP		LW2.1	525	2655	55	210	55	216	55				
		LW2.2	524	2655	55	210	55	216	55				
		LW2.3	523	2655	55	210	55	216	55				
		LW2.4	522	2655	55	210	55	216	55				
		LW3.1	521										
LW1-I278W EAST OF WEST SHORE E		LW1.1	533	2020	55	120	55	126	55				
		LW1.2	532	2020	55	120	55	126	55				
		LW1.3	531	2020	55	120	55	126	55				
		LW1.4	530	2020	55	120	55	126	55				
		LW1.5	529	2020	55	120	55	126	55				
		LW1.6	528	2020	55	120	55	126	55				
		LW1.7	527	2020	55	120	55	126	55				
		LW2.1	526										
LE5-I278E (START OF BRIDGE)-2		LE5.27	11	1755	55	187	55	201	55				
		LE5.28	121	1755	55	187	55	201	55				
		LE5.29	122	1755	55	187	55	201	55				
		LE5.30	123										
LE5-I278E (START OF BRIDGE)-2-2		LE5.30	12	1755	55	187	55	201	55				
		LE6.1	124										
GENR2-GULF AVE TO I278E-GENR1-C		GENR1	411	61	25	7	25	10	25				
		GENR2	412	61	25	7	25	10	25				
		GENR3	413	61	25	7	25	10	25				
		GENR4	414	61	25	7	25	10	25				
		GTH1	478	61	25	7	25	10	25				
		LE6.1	479										
GEXR2-I278E TO GULF AVE -GEXR1-I		LE7.1	480	374	25	59	25	70	25				
		GEXR1	482	374	25	59	25	70	25				
		GEXR2	483	374	25	59	25	70	25				

		GEXR3	484	374	25	59	25	70	25				
		GEXR4	485	374	25	59	25	70	25				
		GEXR5	486	374	25	59	25	70	25				
		GA3.1	487										
GENR4-GOETHALS RD TO I278W-GEI		GR3.1	543	240	25	68	25	79	25				
		GENR2	544	240	25	68	25	79	25				
		GENR3	545	240	25	68	25	79	25				
		GENR4	546	240	25	68	25	79	25				
		GENR5	547	240	25	68	25	79	25				
		GENR6	549	240	25	68	25	79	25				
		LW3.1	550										
GEXR3-I278W TO GOETHALS RD-GEX		LW4.1	534	206	25	47	25	50	25				
		GEXR4.1	536	206	25	47	25	50	25				
		GEXR4.2	537	206	25	47	25	50	25				
		GEXR4.3	538	206	25	47	25	50	25				
		GEXR4.4	539	206	25	47	25	50	25				
		GEXR4.5	540	206	25	47	25	50	25				
		GEXR4.6	541	206	25	47	25	50	25				
		GR5.1	542										
BR1- New WB North Alignment Oute		BR1.1-N	18	1404	55	86	55	93	55	0	0	0	0
		BR1.2-N	19	1404	55	86	55	93	55	0	0	0	0
		BRW21-N	20	1404	55	86	55	93	55	0	0	0	0
		BRW19-N	140	1404	55	86	55	93	55	0	0	0	0
		BRW17-N	21	1404	55	86	55	93	55	0	0	0	0
		BRW15-N	22	1404	55	86	55	93	55	0	0	0	0
		BRW13-N	23	1404	55	86	55	93	55	0	0	0	0
		BRW11-N	24	1404	55	86	55	93	55	0	0	0	0
		BRW9-N	25	1404	55	86	55	93	55	0	0	0	0
		BRW7-N	26	1404	55	86	55	93	55	0	0	0	0
		BRW5-N	27	1404	55	86	55	93	55	0	0	0	0
		BRW3-N	28	1404	55	86	55	93	55	0	0	0	0
		BRW1-N	29	1404	55	86	55	93	55	0	0	0	0
		BRa2-N	30	1404	55	86	55	93	55	0	0	0	0
		BRc1-N	31	1404	55	86	55	93	55	0	0	0	0
		BRc2-N	32	1404	55	86	55	93	55	0	0	0	0
		BRa3-N	33	1404	55	86	55	93	55	0	0	0	0
		BRE1-N	34	1404	55	86	55	93	55	0	0	0	0
		BRE3-N	35	1404	55	86	55	93	55	0	0	0	0
		BRE5-N	36	1404	55	86	55	93	55	0	0	0	0
		BRE7-N	37	1404	55	86	55	93	55	0	0	0	0
		BRE9-N	38	1404	55	86	55	93	55	0	0	0	0
		BRE11-N	39	1404	55	86	55	93	55	0	0	0	0
		BRE13-N	40	1404	55	86	55	93	55	0	0	0	0
		BRE15-N	41	1404	55	86	55	93	55	0	0	0	0
		BRE17-N	42	1404	55	86	55	93	55	0	0	0	0
		BRE19-N	43	1404	55	86	55	93	55	0	0	0	0
		BRa4-N	141	1404	55	86	55	93	55	0	0	0	0
		BR1.3-N	73										
BR2- New WB North Alignment Inne		BR1.1-NI	45	1404	55	86	55	93	55	0	0	0	0
		BR1.2-NI	71	1404	55	86	55	93	55	0	0	0	0
		BRa1-NI	46	1404	55	86	55	93	55	0	0	0	0
		BRW19-NI	139	1404	55	86	55	93	55	0	0	0	0
		BRW17-NI	47	1404	55	86	55	93	55	0	0	0	0
		BRW15-NI	48	1404	55	86	55	93	55	0	0	0	0
		BRW13-NI	49	1404	55	86	55	93	55	0	0	0	0
		BRW11-NI	50	1404	55	86	55	93	55	0	0	0	0
		BRW9-NI	51	1404	55	86	55	93	55	0	0	0	0
		BRW7-NI	52	1404	55	86	55	93	55	0	0	0	0
		BRW5-NI	53	1404	55	86	55	93	55	0	0	0	0
		BRW3-NI	54	1404	55	86	55	93	55	0	0	0	0
		BRW1-NI	55	1404	55	86	55	93	55	0	0	0	0
		BRa2-NI	56	1404	55	86	55	93	55	0	0	0	0
		BRc1-NI	57	1404	55	86	55	93	55	0	0	0	0
		BRc2-NI	58	1404	55	86	55	93	55	0	0	0	0
		BRa3-NI	59	1404	55	86	55	93	55	0	0	0	0
		BRE1-NI	60	1404	55	86	55	93	55	0	0	0	0
		BRE3-NI	61	1404	55	86	55	93	55	0	0	0	0
		BRE5-NI	62	1404	55	86	55	93	55	0	0	0	0
		BRE7-NI	63	1404	55	86	55	93	55	0	0	0	0
		BRE9-NI	64	1404	55	86	55	93	55	0	0	0	0
		BRE11-NI	65	1404	55	86	55	93	55	0	0	0	0
		BRE13-NI	66	1404	55	86	55	93	55	0	0	0	0
		BRE15-NI	67	1404	55	86	55	93	55	0	0	0	0
		BRE17-NI	68	1404	55	86	55	93	55	0	0	0	0
		BRE19-NI	69	1404	55	86	55	93	55	0	0	0	0
		BRa4-NI	142	1404	55	86	55	93	55	0	0	0	0
		BR1.3-NI	74										
BR4- New EB North Alignment Outer		BR1.3-S	77	877	55	93	55	100	55	0	0	0	0
		BRa4-S	78	877	55	93	55	100	55	0	0	0	0
		BRE19-S	136	877	55	93	55	100	55	0	0	0	0

		BRE17-S	79	877	55	93	55	100	55	0	0	0	0
		BRE15-S	80	877	55	93	55	100	55	0	0	0	0
		BRE13-S	81	877	55	93	55	100	55	0	0	0	0
		BRE11-S	82	877	55	93	55	100	55	0	0	0	0
		BRE9-S	83	877	55	93	55	100	55	0	0	0	0
		BRE7-S	84	877	55	93	55	100	55	0	0	0	0
		BRE5-S	85	877	55	93	55	100	55	0	0	0	0
		BRE3-S	86	877	55	93	55	100	55	0	0	0	0
		BRE1-S	87	877	55	93	55	100	55	0	0	0	0
		BRa3-S	88	877	55	93	55	100	55	0	0	0	0
		BRc2-S	89	877	55	93	55	100	55	0	0	0	0
		BRc1-S	90	877	55	93	55	100	55	0	0	0	0
		BRa2-S	91	877	55	93	55	100	55	0	0	0	0
		BRW1-S	92	877	55	93	55	100	55	0	0	0	0
		BRW3-S	93	877	55	93	55	100	55	0	0	0	0
		BRW5-S	94	877	55	93	55	100	55	0	0	0	0
		BRW7-S	95	877	55	93	55	100	55	0	0	0	0
		BRW9-S	96	877	55	93	55	100	55	0	0	0	0
		BRW11-S	97	877	55	93	55	100	55	0	0	0	0
		BRW13-S	98	877	55	93	55	100	55	0	0	0	0
		BRW15-S	99	877	55	93	55	100	55	0	0	0	0
		BRW17-S	100	877	55	93	55	100	55	0	0	0	0
		BRW19-S	101	877	55	93	55	100	55	0	0	0	0
		BRa1-S	137	877	55	93	55	100	55	0	0	0	0
		BR1.2-S	102	877	55	93	55	100	55	0	0	0	0
		BR1.1-S	104										
LE5-I278E (START OF BRIDGE)-2		LE5.26	119	1755	55	187	55	201	55				
		LE5.27	120										
BR3- New EB North Alignment Inner		BR1.3-SI	107	878	55	94	55	101	55	0	0	0	0
		BRa4-SI	108	878	55	94	55	101	55	0	0	0	0
		BRE19-SI	135	878	55	94	55	101	55	0	0	0	0
		BRE17-SI	109	878	55	94	55	101	55	0	0	0	0
		BRE15-SI	110	878	55	94	55	101	55	0	0	0	0
		BRE13-SI	111	878	55	94	55	101	55	0	0	0	0
		BRE11-SI	112	878	55	94	55	101	55	0	0	0	0
		BRE9-SI	113	878	55	94	55	101	55	0	0	0	0
		BRE7-SI	114	878	55	94	55	101	55	0	0	0	0
		BRE5-SI	115	878	55	94	55	101	55	0	0	0	0
		BRE3-SI	116	878	55	94	55	101	55	0	0	0	0
		BRE1-SI	117	878	55	94	55	101	55	0	0	0	0
		BRa3-SI	118	878	55	94	55	101	55	0	0	0	0
		BRc2-SI	119	878	55	94	55	101	55	0	0	0	0
		BRc1-SI	120	878	55	94	55	101	55	0	0	0	0
		BRa2-SI	121	878	55	94	55	101	55	0	0	0	0
		BRW1-SI	122	878	55	94	55	101	55	0	0	0	0
		BRW3-SI	123	878	55	94	55	101	55	0	0	0	0
		BRW5-SI	124	878	55	94	55	101	55	0	0	0	0
		BRW7-SI	125	878	55	94	55	101	55	0	0	0	0
		BRW9-SI	126	878	55	94	55	101	55	0	0	0	0
		BRW11-SI	127	878	55	94	55	101	55	0	0	0	0
		BRW13-SI	128	878	55	94	55	101	55	0	0	0	0
		BRW15-SI	129	878	55	94	55	101	55	0	0	0	0
		BRW17-SI	130	878	55	94	55	101	55	0	0	0	0
		BRW19-SI	131	878	55	94	55	101	55	0	0	0	0
		BRa1-SI	138	878	55	94	55	101	55	0	0	0	0
		BR1.2-SI	132	878	55	94	55	101	55	0	0	0	0
		BR1.1-SI	134										

The Louis Berger Group, Inc. 29-Jan-10
DS TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volume
PROJECT/CONTRACT: JA2500 Goethals Bridge EIS
RUN: GBR Constr. Phase 2012 Build - PM

Roadway		Points											
Name		Name	No.	Segment									
				Autos		MTrucks		HTrucks		Buses		Motorcycles	
				V	S	V	S	V	S	V	S	V	S
				veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
LW4-I278W (START OF BRIDGE)		LW4.1	221	2143	55	135	55	149	55				
		LW4.2	220	2143	55	135	55	149	55				
		LW4.3	219	2143	55	135	55	149	55				
		LW4.4	218	2143	55	135	55	149	55				
		LW4.5	217	2143	55	135	55	149	55				
		LW4.6	216	2143	55	135	55	149	55				
		LW4.7	215										
WAN-WESTERN AVE NORTH		WAN1	392	0	0	0	0	0	0				
		WAN2	393										
WAS-WESTERN AVE SOUTH		WAS1	394	0	0	0	0	0	0				
		WAS2	395										
GA1-GULF AVE BEFORE ENT RMP TO		GA1.1	396	531	30	74	30	88	30				
		GA1.2	397	531	30	74	30	88	30				
		GA1.3	398	531	30	74	30	88	30				
		GA1.4	399	531	30	74	30	88	30				
		GA1.5	400	531	30	74	30	88	30				
		GA1.6	401	531	30	74	30	88	30				
		GA1.7	402	531	30	74	30	88	30				
		GA1.8	403	531	30	74	30	88	30				
		GA2.1	404										
GA2-GULF AVE BWTN ENT AND EX R		GA2.1	405	401	30	53	30	64	30				
		GA2.2	406	401	30	53	30	64	30				
		GA2.3	407	401	30	53	30	64	30				
		GA2.4	408	401	30	53	30	64	30				
		GA2.5	409	401	30	53	30	64	30				
		GA3.1	410										
GR5-GOETHALS RD. AFTER ENT AND		GR5.1	416	380	30	85	30	99	30				
		GR5.2	417	380	30	85	30	99	30				
		GR5.3	418	380	30	85	30	99	30				
		GR5.4	419	380	30	85	30	99	30				
		GR5.5	420	380	30	85	30	99	30				
		GR5.6	421	380	30	85	30	99	30				
		GR5.7	422	380	30	85	30	99	30				
		GR5.8	423	380	30	85	30	99	30				
		GR5.9	424	380	30	85	30	99	30				
		GR5.10	425	380	30	85	30	99	30				
		GR5.11	426	380	30	85	30	99	30				
		GR5.12	427										
HH-HOWLAND HOOK ENTRANCE		HH4	431	0	0	0	0	0	0				
		HH3	430	0	0	0	0	0	0				
		HH2	429	0	0	0	0	0	0				
		HH1	428										
LE6-I278E BTWN GULF AVE RMPS		LE6.1	432	3227	55	137	55	154	55				
		LE7.1	433										
LE7-I278E AFTER GULF AVE EX RMP		LE7.1	434	2742	55	182	55	188	55				
		LE7.2	435	2742	55	182	55	188	55				
		LE7.3	436	2742	55	182	55	188	55				
		LE8.1	437										
LE8-I278E AFTER WEST SHORE EX RM		LE8.1	438	2328	55	154	55	160	55				
		LE8.2	439	2328	55	154	55	160	55				
		LE8.3	440	2328	55	154	55	160	55				
		LE8.4	441	2328	55	154	55	160	55				
		LE8.5	442	2328	55	154	55	160	55				
		LE8.6	443	2328	55	154	55	160	55				
		LE8.7	444	2328	55	154	55	160	55				
		LE8.8	445										
WSES-I278E EX RMP TO WEST SHOR		WSES1	446	414	25	28	25	28	25				
		WSES2	447	414	25	28	25	28	25				
		WSES3	448	414	25	28	25	28	25				
		WSES4	449	414	25	28	25	28	25				
		WSES5	450	414	25	28	25	28	25				
		WSES6	451	414	25	28	25	28	25				
		WSES7	452	414	25	28	25	28	25				
		WSES8	453	414	25	28	25	28	25				
		WSES9	454	414	25	28	25	28	25				
		WSES10	455										
WSEN-WEST SHORE EXPWY NORTH		WSEN1	456	236	25	15	25	15	25				
		WSEN2	457	236	25	15	25	15	25				

		WSEN3	458	236	25	15	25	15	25				
		WSEN4	459	236	25	15	25	15	25				
		WSEN5	460	236	25	15	25	15	25				
		WSEN6	461	236	25	15	25	15	25				
		WSEN7	462	236	25	15	25	15	25				
		WSEN8	463	236	25	15	25	15	25				
		WSEN9	464	236	25	15	25	15	25				
		WSEN10	465	236	25	15	25	15	25				
		WSEN11	466	236	25	15	25	15	25				
		WSEN12	467	236	25	15	25	15	25				
		WSEN13	468										
GA3-GULF AVE AFTER ENT AND EX R		GA3.1	469	280	30	0	0	0	0				
		GA3.2	470	280	30	0	0	0	0				
		GA3.3	471	280	30	0	0	0	0				
		GA3.4	472	280	30	0	0	0	0				
		GA3.5	473	280	30	0	0	0	0				
		GA3.6	474										
FAN1-FOREST AVE NORTH (SOUTH O		FAN1.1	488	312	30	12	30	12	30				
		FAN1.2	489	312	30	12	30	12	30				
		FAN1.3	490										
FAN2-FOREST AVE NORTH (NORTH C		FAN2.1	491	464	30	14	30	14	30				
		FAN2.2	492										
FAS1-FORES AVE SOUTH (NORTH OF		FAS1.1	493	95	30	3	30	3	30				
		FAS1.2	494										
FAS2-FOREST AVE SOUTH (SOUTH OI		FAS2.3	497	262	30	48	30	71	30				
		FAS2.2	496	262	30	48	30	71	30				
		FAS2.1	495										
GR1-GOETHALS RD. EAST OF FOREST		GR1.1	498	293	30	12	30	12	30				
		GR1.2	499	293	30	12	30	12	30				
		GR1.3	500	293	30	12	30	12	30				
		GR1.4	501	293	30	12	30	12	30				
		GR2.1	502										
GR2-GOETHALS RD. WEST OF FORES		GR2.1	503	477	30	71	30	94	30				
		GR3.1	504										
GR3-GOETHALS RD. AFTER ENT TO 1		GR3.1	505	159	30	36	30	47	30				
		GR3.2	506	159	30	36	30	47	30				
		GR4.1	507										
GR4-GOETHALS RD. BWTN ENT AND		GR4.1	508	235	30	53	30	64	30				
		GR4.2	509	235	30	53	30	64	30				
		GR4.3	510	235	30	53	30	64	30				
		GR4.4	511	235	30	53	30	64	30				
		GR5.1	512										
M-MORROW STREET		M1	513	105	30	3	30	3	30				
		M2	514	105	30	3	30	3	30				
		GR4.1	515										
GM-GOETHALS RD. TO MORROW ST		GR2.1	516	152	25	2	25	2	25				
		GM1	517	152	25	2	25	2	25				
		GM2	518										
LW3-I278W BWTN GOETHALS RD RN		LW3.1	520	1860	55	381	55	398	55				
		LW4.1	519										
LW2-I278W AFTER WEST SHORE EXP		LW2.1	525	1967	55	134	55	140	55				
		LW2.2	524	1967	55	134	55	140	55				
		LW2.3	523	1967	55	134	55	140	55				
		LW2.4	522	1967	55	134	55	140	55				
		LW3.1	521										
LW1-I278W EAST OF WEST SHORE EX		LW1.1	533	1734	55	118	55	124	55				
		LW1.2	532	1734	55	118	55	124	55				
		LW1.3	531	1734	55	118	55	124	55				
		LW1.4	530	1734	55	118	55	124	55				
		LW1.5	529	1734	55	118	55	124	55				
		LW1.6	528	1734	55	118	55	124	55				
		LW1.7	527	1734	55	118	55	124	55				
		LW2.1	526										
LE5-I278E (START OF BRIDGE)-2		LE5.27	11	3067	55	132	55	146	55				
		LE5.28	121	3067	55	132	55	146	55				
		LE5.29	122	3067	55	132	55	146	55				
		LE5.30	123										
LE5-I278E (START OF BRIDGE)-2-2		LE5.30	12	3067	55	132	55	146	55				
		LE6.1	124										
GENR2-GULF AVE TO I278E-GENR1-C		GENR1	411	160	25	5	25	8	25				
		GENR2	412	160	25	5	25	8	25				
		GENR3	413	160	25	5	25	8	25				
		GENR4	414	160	25	5	25	8	25				
		GTH1	478	160	25	5	25	8	25				
		LE6.1	479										
GEXR2-I278E TO GULF AVE -GEXR1-I		LE7.1	480	273	25	61	25	72	25				
		GEXR1	482	273	25	61	25	72	25				
		GEXR2	483	273	25	61	25	72	25				
		GEXR3	484	273	25	61	25	72	25				
		GEXR4	485	273	25	61	25	72	25				
		GEXR5	486	273	25	61	25	72	25				
		GA3.1	487										

GENR4-GOETHALS RD TO I278W-GEI		GR3.1	543	318	25	35	25	46	25				
		GENR2	544	318	25	35	25	46	25				
		GENR3	545	318	25	35	25	46	25				
		GENR4	546	318	25	35	25	46	25				
		GENR5	547	318	25	35	25	46	25				
		GENR6	549	318	25	35	25	46	25				
		LW3.1	550										
GEXR3-I278W TO GOETHALS RD-GEX		LW4.1	534	145	25	33	25	36	25				
		GEXR4.1	536	145	25	33	25	36	25				
		GEXR4.2	537	145	25	33	25	36	25				
		GEXR4.3	538	145	25	33	25	36	25				
		GEXR4.4	539	145	25	33	25	36	25				
		GEXR4.5	540	145	25	33	25	36	25				
		GEXR4.6	541	145	25	33	25	36	25				
		GR5.1	542										
BR1- New WB North Alignment Oute		BR1.1-N	18	1072	55	68	55	75	55	0	0	0	0
		BR1.2-N	19	1072	55	68	55	75	55	0	0	0	0
		BRW21-N	20	1072	55	68	55	75	55	0	0	0	0
		BRW19-N	140	1072	55	68	55	75	55	0	0	0	0
		BRW17-N	21	1072	55	68	55	75	55	0	0	0	0
		BRW15-N	22	1072	55	68	55	75	55	0	0	0	0
		BRW13-N	23	1072	55	68	55	75	55	0	0	0	0
		BRW11-N	24	1072	55	68	55	75	55	0	0	0	0
		BRW9-N	25	1072	55	68	55	75	55	0	0	0	0
		BRW7-N	26	1072	55	68	55	75	55	0	0	0	0
		BRW5-N	27	1072	55	68	55	75	55	0	0	0	0
		BRW3-N	28	1072	55	68	55	75	55	0	0	0	0
		BRW1-N	29	1072	55	68	55	75	55	0	0	0	0
		BRa2-N	30	1072	55	68	55	75	55	0	0	0	0
		BRc1-N	31	1072	55	68	55	75	55	0	0	0	0
		BRc2-N	32	1072	55	68	55	75	55	0	0	0	0
		BRa3-N	33	1072	55	68	55	75	55	0	0	0	0
		BRE1-N	34	1072	55	68	55	75	55	0	0	0	0
		BRE3-N	35	1072	55	68	55	75	55	0	0	0	0
		BRE5-N	36	1072	55	68	55	75	55	0	0	0	0
		BRE7-N	37	1072	55	68	55	75	55	0	0	0	0
		BRE9-N	38	1072	55	68	55	75	55	0	0	0	0
		BRE11-N	39	1072	55	68	55	75	55	0	0	0	0
		BRE13-N	40	1072	55	68	55	75	55	0	0	0	0
		BRE15-N	41	1072	55	68	55	75	55	0	0	0	0
		BRE17-N	42	1072	55	68	55	75	55	0	0	0	0
		BRE19-N	43	1072	55	68	55	75	55	0	0	0	0
		BRa4-N	141	1072	55	68	55	75	55	0	0	0	0
		BR1.3-N	73										
BR2- New WB North Alignment Inne		BR1.1-NI	45	1071	55	67	55	74	55	0	0	0	0
		BR1.2-NI	71	1071	55	67	55	74	55	0	0	0	0
		BRa1-NI	46	1071	55	67	55	74	55	0	0	0	0
		BRW19-NI	139	1071	55	67	55	74	55	0	0	0	0
		BRW17-NI	47	1071	55	67	55	74	55	0	0	0	0
		BRW15-NI	48	1071	55	67	55	74	55	0	0	0	0
		BRW13-NI	49	1071	55	67	55	74	55	0	0	0	0
		BRW11-NI	50	1071	55	67	55	74	55	0	0	0	0
		BRW9-NI	51	1071	55	67	55	74	55	0	0	0	0
		BRW7-NI	52	1071	55	67	55	74	55	0	0	0	0
		BRW5-NI	53	1071	55	67	55	74	55	0	0	0	0
		BRW3-NI	54	1071	55	67	55	74	55	0	0	0	0
		BRW1-NI	55	1071	55	67	55	74	55	0	0	0	0
		BRa2-NI	56	1071	55	67	55	74	55	0	0	0	0
		BRc1-NI	57	1071	55	67	55	74	55	0	0	0	0
		BRc2-NI	58	1071	55	67	55	74	55	0	0	0	0
		BRa3-NI	59	1071	55	67	55	74	55	0	0	0	0
		BRE1-NI	60	1071	55	67	55	74	55	0	0	0	0
		BRE3-NI	61	1071	55	67	55	74	55	0	0	0	0
		BRE5-NI	62	1071	55	67	55	74	55	0	0	0	0
		BRE7-NI	63	1071	55	67	55	74	55	0	0	0	0
		BRE9-NI	64	1071	55	67	55	74	55	0	0	0	0
		BRE11-NI	65	1071	55	67	55	74	55	0	0	0	0
		BRE13-NI	66	1071	55	67	55	74	55	0	0	0	0
		BRE15-NI	67	1071	55	67	55	74	55	0	0	0	0
		BRE17-NI	68	1071	55	67	55	74	55	0	0	0	0
		BRE19-NI	69	1071	55	67	55	74	55	0	0	0	0
		BRa4-NI	142	1071	55	67	55	74	55	0	0	0	0
		BR1.3-NI	74										
BR4- New EB North Alignment Outer		BR1.3-S	77	1533	55	66	55	73	55	0	0	0	0
		BRa4-S	78	1533	55	66	55	73	55	0	0	0	0
		BRE19-S	136	1533	55	66	55	73	55	0	0	0	0
		BRE17-S	79	1533	55	66	55	73	55	0	0	0	0
		BRE15-S	80	1533	55	66	55	73	55	0	0	0	0
		BRE13-S	81	1533	55	66	55	73	55	0	0	0	0
		BRE11-S	82	1533	55	66	55	73	55	0	0	0	0
		BRE9-S	83	1533	55	66	55	73	55	0	0	0	0
		BRE7-S	84	1533	55	66	55	73	55	0	0	0	0

		BRE5-S	85	1533	55	66	55	73	55	0	0	0	0
		BRE3-S	86	1533	55	66	55	73	55	0	0	0	0
		BRE1-S	87	1533	55	66	55	73	55	0	0	0	0
		BRa3-S	88	1533	55	66	55	73	55	0	0	0	0
		BRc2-S	89	1533	55	66	55	73	55	0	0	0	0
		BRc1-S	90	1533	55	66	55	73	55	0	0	0	0
		BRa2-S	91	1533	55	66	55	73	55	0	0	0	0
		BRW1-S	92	1533	55	66	55	73	55	0	0	0	0
		BRW3-S	93	1533	55	66	55	73	55	0	0	0	0
		BRW5-S	94	1533	55	66	55	73	55	0	0	0	0
		BRW7-S	95	1533	55	66	55	73	55	0	0	0	0
		BRW9-S	96	1533	55	66	55	73	55	0	0	0	0
		BRW11-S	97	1533	55	66	55	73	55	0	0	0	0
		BRW13-S	98	1533	55	66	55	73	55	0	0	0	0
		BRW15-S	99	1533	55	66	55	73	55	0	0	0	0
		BRW17-S	100	1533	55	66	55	73	55	0	0	0	0
		BRW19-S	101	1533	55	66	55	73	55	0	0	0	0
		BRa1-S	137	1533	55	66	55	73	55	0	0	0	0
		BR1.2-S	102	1533	55	66	55	73	55	0	0	0	0
		BR1.1-S	104										
LE5-I278E (START OF BRIDGE)-2		LE5.26	119	3067	55	132	55	146	55				
		LE5.27	120										
BR3- New EB North Alignment Inner		BR1.3-SI	107	1534	55	66	55	73	55	0	0	0	0
		BRa4-SI	108	1534	55	66	55	73	55	0	0	0	0
		BRE19-SI	135	1534	55	66	55	73	55	0	0	0	0
		BRE17-SI	109	1534	55	66	55	73	55	0	0	0	0
		BRE15-SI	110	1534	55	66	55	73	55	0	0	0	0
		BRE13-SI	111	1534	55	66	55	73	55	0	0	0	0
		BRE11-SI	112	1534	55	66	55	73	55	0	0	0	0
		BRE9-SI	113	1534	55	66	55	73	55	0	0	0	0
		BRE7-SI	114	1534	55	66	55	73	55	0	0	0	0
		BRE5-SI	115	1534	55	66	55	73	55	0	0	0	0
		BRE3-SI	116	1534	55	66	55	73	55	0	0	0	0
		BRE1-SI	117	1534	55	66	55	73	55	0	0	0	0
		BRa3-SI	118	1534	55	66	55	73	55	0	0	0	0
		BRc2-SI	119	1534	55	66	55	73	55	0	0	0	0
		BRc1-SI	120	1534	55	66	55	73	55	0	0	0	0
		BRa2-SI	121	1534	55	66	55	73	55	0	0	0	0
		BRW1-SI	122	1534	55	66	55	73	55	0	0	0	0
		BRW3-SI	123	1534	55	66	55	73	55	0	0	0	0
		BRW5-SI	124	1534	55	66	55	73	55	0	0	0	0
		BRW7-SI	125	1534	55	66	55	73	55	0	0	0	0
		BRW9-SI	126	1534	55	66	55	73	55	0	0	0	0
		BRW11-SI	127	1534	55	66	55	73	55	0	0	0	0
		BRW13-SI	128	1534	55	66	55	73	55	0	0	0	0
		BRW15-SI	129	1534	55	66	55	73	55	0	0	0	0
		BRW17-SI	130	1534	55	66	55	73	55	0	0	0	0
		BRW19-SI	131	1534	55	66	55	73	55	0	0	0	0
		BRa1-SI	138	1534	55	66	55	73	55	0	0	0	0
		BR1.2-SI	132	1534	55	66	55	73	55	0	0	0	0
		BR1.1-SI	134										

The Louis Berger Group, Inc. 29-Jan-10
DS TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: JA2500 Goethals Bridge EIS
RUN: GBR Constr. Phase 2012 Build - AM

Receiver											
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active
			X	Y	Z	above	Existing	Impact Criteria		NR	in
						Ground	LAeq1h	LAeq1h	Sub'l	Goal	Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
M1	16	1.00	38,223.50	11,051.70	11.7	5	0	66	10	8	Y
R12	17	1.00	38,056.00	11,190.20	12	5	0	66	10	8	Y
R13	18	1.00	37,909.20	11,292.90	12	5	0	66	10	8	Y
R14	19	1.00	37,771.50	11,399.80	11.5	5	0	66	10	8	Y
R15	20	1.00	37,632.70	11,515.80	13	5	0	66	10	8	Y
R16	21	1.00	38,190.00	11,033.60	11	5	0	66	10	8	Y
R17	22	1.00	38,043.60	11,143.30	11	5	0	66	10	8	Y
R18	23	1.00	37,900.50	11,251.10	11	5	0	66	10	8	Y
R19	24	1.00	37,760.90	11,353.30	11.3	5	0	66	10	8	Y
R20	25	1.00	37,619.10	11,454.60	11	5	0	66	10	8	Y

The Louis Berger Group, Inc. 29-Jan-10
DS TNM 2.5

INPUT: BARRIERS
PROJECT/CONTRACT: JA2500 Goethals Bridge EIS
RUN: GBR Constr. Phase 2012 Build - AM

Barrier										Points										
Name	Type	Height		If Wall	If Berm			Add'tnl		Name	No.	Coordinates (bottom)			Height	Segment				
		Min	Max	$ per	$ per	Top	Run:Rise	$ per				X	Y	Z	at	Seg Ht Perturbs			On	Important
				Unit	Unit	Width		Unit							Point	Incre-	#Up	#Dn	Struct?	Reflec-
				Area	Vol.			Length								ment				tions?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft				ft	ft	ft	ft	ft				
BA-BARRIER AROUND TRAILOR RO	W	0	99	0				0		BA1	50	38,189.50	11,005.00	10	8	2	6	0		
										BA2	51.00	38,212.60	11,106.10	13	8	2	6	0		
										BA3	52.00	38,146.10	11,158.40	12.5	8	2	6	0		
										BA4	53.00	38,138.60	11,137.40	12.2	8					
BB-BARRIER AROUND TRAILOR RO	W	0	99	0				0		BB1	54.00	38,116.90	11,159.80	12	8	2	6	0		
										BB2	55.00	38,122.70	11,174.30	12	8	2	6	0		
										BB3	56.00	38,004.80	11,259.70	11.5	8	2	6	0		
										BB4	57.00	37,998.10	11,242.50	11.3	8					
BD-BARRIER AROUND TRAILOR RO	W	0	99	0				0		BD1	58.00	37,978.60	11,265.60	11.3	8	2	6	0		
										BD2	59.00	37,983.30	11,280.40	11.5	8	2	6	0		
										BD3	60.00	37,864.60	11,367.30	11.5	8	2	6	0		
										BD4	61.00	37,856.80	11,347.20	11.2	8					
BF-BARRIER AROUND TRAILOR RO	W	0	99	0				0		BF1	62.00	37,836.20	11,371.40	12	8	2	6	0		
										BF2	63.00	37,840.10	11,383.50	12	8	2	6	0		
										BF3	64.00	37,724.70	11,470.20	12	8	2	6	0		
										BF4	65.00	37,718.80	11,457.50	12	8					
BG-BARRIER AROUND TRAILOR RO	W	0	99	0				0		BG1	66.00	37,698.00	11,472.90	12	8	2	6	0		
										BG2	67.00	37,704.60	11,484.10	12	8	2	6	0		
										BG3	68.00	37,622.20	11,545.90	12	8					
NEW ALIGNMENT-NORTH BARRIER	W	0	99.99	0				0		BN1	105.00	39,600.50	10,266.70	22	3	0	0	0	Y	
										BNA1E-N	106.00	39,714.30	10,202.60	26	3	0	0	0	Y	
										BNA-E19	172.00	39,958.50	10,063.60	35	3	0	0	0	Y	
										BNA-E17	107.00	40,207.40	9,913.30	42	3	0	0	0	Y	
										BNA-E15	108.00	40,450.10	9,759.90	52	3	0	0	0	Y	
										BNA-E13	109.00	40,692.30	9,605.50	61.3	3	0	0	0	Y	
										BNA-E11	110.00	40,935.10	9,451.70	75	3	0	0	0	Y	
										BNA-E9	111.00	41,161.20	9,302.00	84	3	0	0	0	Y	
										BNA-E7	112.00	41,374.00	9,151.40	93.6	3	0	0	0	Y	
										BNA-E5	113.00	41,644.00	8,960.00	108.6	3	0	0	0	Y	
										BNA-E3	114.00	41,872.30	8,799.00	119.8	3	0	0	0	Y	
										BN2	115.00	42,050.40	8,672.80	129	3	0	0	0	Y	
										BN3	116.00	42,056.40	8,661.20	129.5	3	0	0	0	Y	
										BNA-E1	117.00	42,097.40	8,632.60	131.4	3	0	0	0	Y	
										BNA2E-N	118.00	42,467.40	8,374.80	148.6	3	0	0	0	Y	
										BN4	134.00	42,574.10	8,301.40	153.1	3	0	0	0	Y	
										BN5	131.00	43,097.70	7,936.70	153.3	3	0	0	0	Y	
										BNA3E-N	132.00	43,207.00	7,861.10	148.6	3	0	0	0	Y	
										BNA-W1	133	43,576.70	7,604.00	131.4	3	0	0	0	Y	
										BN6	135	43,616.20	7,575.90	129.5	3	0	0	0	Y	
										BN7	119	43,628.60	7,573.80	129	3	0	0	0	Y	
										BNA-W3	120	43,816.10	7,444.50	121.4	3	0	0	0	Y	
										BNA-W5	121	44,006.10	7,273.40	111.1	3	0	0	0	Y	
										BNA-W7	122	44,190.40	7,107.70	100.3	3	0	0	0	Y	
										BNA-W9	123	44,389.50	6,928.40	88.9	3	0	0	0	Y	
										BNA-W11	124	44,595.10	6,742.60	75.2	3	0	0	0	Y	
										BNA-W13	125	44,777.60	6,531.20	63.9	3	0	0	0	Y	
										BNA-W15	126	44,933.40	6,356.10	52.8	3	0	0	0	Y	
										BNA-W17	127	45,113.90	6,151.70	43	3	0	0	0	Y	
										BNA-W19	128	45,407.50	5,852.70	34.95	3	0	0	0	Y	
										BNA4E-N	173	45,499.40	5,752.00	31	3	0	0	0	Y	
										BN8	129	45,638.30	5,589.70	20	3					
NEW ALIGNMENT- SOUTH BARRIE	W	0	99.99	0				0		BS9	136	45,923.60	5,732.00	21.5	3	0	0	0	Y	
										BS8	137	45,654.60	5,951.60	31	3	0	0	0	Y	
										BSA-W19	170	45,552.90	6,034.20	34.95	3	0	0	0	Y	
										BSA-W17	138	45,202.40	6,335.30	43	3	0	0	0	Y	
										BSA-W15	139	45,052.60	6,465.20	52.8	3	0	0	0	Y	
										BSA-W13	140	44,881.90	6,661.90	63.9	3	0	0	0	Y	
										BSA-W11	141	44,711.30	6,860.50	75.2	3	0	0	0	Y	
										BSA-W9	142	44,533.50	7,064.30	88.9	3	0	0	0	Y	
										BSA-W7	143	44,333.90	7,263.80	100.3	3	0	0	0	Y	
										BSA-W5	144	44,137.50	7,436.60	111.1	3	0	0	0	Y	
										BSA-W3	145	43,923.10	7,595.80	121.4	3	0	0	0	Y	
										BS7	146	43,734.80	7,728.90	129	3	0	0	0	Y	
										BS6	147	43,729.90	7,739.70	129.5	3	0	0	0	Y	
										BSA-W1	148	43,690.90	7,767.50	131.4	3	0	0	0	Y	
										BSA3E-N	149	43,318.90	8,025.40	148.6	3	0	0	0	Y	
										BS5	150	43,185.80	8,118.20	153.3	3	0	0	0	Y	
										BS4	151	42,678.50	8,471.10	153.1	3	0	0	0	Y	
										BSA2E-N	152	42,580.40	8,539.40	148.6	3	0	0	0	Y	
										BSA-E1	153	42,210.90	8,795.80	131.4	3	0	0	0	Y	
										BS3	154	42,170.70	8,823.20	129.5	3	0	0	0	Y	
										BS2	155	42,155.80	8,826.40	129	3	0	0	0	Y	
										BSA-E3	156	41,992.60	8,938.10	119.8	3	0	0	0	Y	
										BSA-E5	157	41,778.50	9,084.30	108.6	3	0	0	0	Y	
										BSA-E7	158	41,495.80	9,277.00	93.6	3	0	0	0	Y	
										BSA-E9	169	41,265.30	9,434.80	84	3	0	0	0	Y	
										BSA-E11	159	41,029.50	9,594.20	75	3	0	0	0	Y	
										BSA-E13	160	40,784.70	9,748.40	61.3	3	0	0	0	Y	
										BSA-E15	161	40,533.40	9,903.60	52	3	0	0	0	Y	
										BSA-E17	162	40,286.20	10,052.70	42	3	0	0	0	Y	
										BSA-E19	163	40,033.90	10,196.50	35	3	0	0	0	Y	
										BSA1E-N	171	39,790.20	10,334.80	26	3	0	0	0	Y	
										BS1.4	164	39,467.20	10,520.90	17	3	0	0	0	Y	
										BS1.3	165	39,299.20	10,623.60	13.5	3	0	0	0	Y	
										BS1.2	166	38,985.30	10,847.50	11.5	3	0	0	0	Y	
										BS1.1	167	38,707.00	11,068.40	12.7	3					

The Louis Berger Group, Inc. 29-Jan-10
DS TNM 2.5

INPUT: TERRAIN LINES
PROJECT/CONTRACT: JA2500 Goethals Bridge EIS
RUN: GBR Constr. Phase 2012 Build - AM

Terrain Line		Points			
Name		No.	Coordinates (ground)		
			X	Y	Z
			ft	ft	ft
Terrain Line B		8.00	38,329.10	11,081.00	13
		9.00	38,257.60	11,147.50	10
		10.00	38,137.70	11,246.00	7.5
		11.00	38,016.20	11,331.30	9.3
		12.00	37,944.40	11,380.30	10.3
		13.00	37,932.60	11,413.80	15
		14.00	37,888.80	11,462.50	20
		15.00	37,714.00	11,598.00	20
		16.00	37,596.00	11,660.60	20

BUILD - NEW ALIGNMENT SOUTH

OUTPUT FILES

SOUND LEVELS - AM

SOUND LEVELS - PM

The Louis Berger Group, Inc. 29-Jan-10
DS TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: JA2500 Goethals Bridge EIS
RUN: GBR Constr. Phase 2012 Build - AM
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
M1	16	1	0	71.9	66	71.9	10	Snd Lvl	71.1	0.8	8	-7.2
R12	17	1	0	72.8	66	72.8	10	Snd Lvl	65.7	7.1	8	-0.9
R13	18	1	0	72.3	66	72.3	10	Snd Lvl	66.9	5.4	8	-2.6
R14	19	1	0	70.9	66	70.9	10	Snd Lvl	65.3	5.6	8	-2.4
R15	20	1	0	70	66	70	10	Snd Lvl	66.4	3.6	8	-4.4
R16	21	1	0	70.5	66	70.5	10	Snd Lvl	62.6	7.9	8	-0.1
R17	22	1	0	70.8	66	70.8	10	Snd Lvl	65.3	5.5	8	-2.5
R18	23	1	0	70.6	66	70.6	10	Snd Lvl	66.5	4.1	8	-3.9
R19	24	1	0	69.3	66	69.3	10	Snd Lvl	66.3	3	8	-5
R20	25	1	0	68	66	68	10	Snd Lvl	66.2	1.8	8	-6.2

The Louis Berger Group, Inc. 29-Jan-10
DS TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: JA2500 Goethals Bridge EIS
RUN: GBR Constr. Phase 2012 Build - PM
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
M1	16	1	0	71.7	66	71.7	10	Snd Lvl	70.9	0.8	8	-7.2
R12	17	1	0	72.4	66	72.4	10	Snd Lvl	65.4	7	8	-1
R13	18	1	0	71.7	66	71.7	10	Snd Lvl	66.2	5.5	8	-2.5
R14	19	1	0	70.3	66	70.3	10	Snd Lvl	64.9	5.4	8	-2.6
R15	20	1	0	69.5	66	69.5	10	Snd Lvl	65.9	3.6	8	-4.4
R16	21	1	0	70.3	66	70.3	10	Snd Lvl	62.1	8.2	8	0.2
R17	22	1	0	70.4	66	70.4	10	Snd Lvl	64.8	5.6	8	-2.4
R18	23	1	0	70	66	70	10	Snd Lvl	65.8	4.2	8	-3.8
R19	24	1	0	68.6	66	68.6	10	Snd Lvl	65.5	3.1	8	-4.9
R20	25	1	0	67.4	66	67.4	10	Snd Lvl	65.3	2.1	8	-5.9

Appendix K.3
NYCDEP Review of Construction-Phase Noise Analysis (May 14, 2010)

Environmental Protection

Caswell F. Holloway
Commissioner

Carter Strickland
Deputy Commissioner
Carter.Strickland@dep.nyc.gov

59-17 Junction Boulevard
Flushing, NY 11373

(718) 595-4418 tel
(718) 595-4479 fax

May 14, 2010

Robert R. Kulikowski, Ph.D
Director
New York City Office of Environmental Coordination
253 Broadway, 14th Floor
New York NY

RE: Goethals Bridge Replacement
05DEPTECH055R

Dear Mr. Kulikowski:

New York City Environmental Protection (DEP) has reviewed the draft *Final Environmental Impact Statement* and the Technical Reports for the Air Quality and Noise Construction-Phase Analysis dated February and March 2010 along with the backup materials for the above project.

The above project includes both on-site stationary sources (equipment and activities) and off-site mobile sources (employees' cars and construction trucks).

Noise:

Construction work associated with the proposed project would result in some potential adverse impacts at the Goethals Garden Homes, but only for intermittent occurrences within three distinct periods out of the overall 4.5 years of construction period. Specifically, only the on-site equipment would elevate the ambient noise levels by 3 dBA or more during the months of September to December of 2011, March to November 2013, and March to October 2014. These exceedances are considered short term and temporary in nature.

Air Quality:

The cumulative (on-site and off-site) modeling results were compared to the applicable National Ambient Air Quality Standards (NAAQS) for the criteria pollutants, the NYCDEP interim guidance criteria for PM2.5 and the CEQR *de minimis* for CO. The results are depicted in the table below:

Maximum Air Quality Cumulative Impacts from Construction of Goethals Bridge

Pollutant	Time period	Unit	Impact			Background	Total	NAAQS	Interim Criteria
			Stationary	Mobile	Total				
CO	8-hour	ppm	0.15	1.2	1.35	2.3	3.7	9	
NO2	Annual	ug/m^3	0.9		0.9	47	47.9	100	
PM10	24-hour	ug/m^3	1.08	57.8	58.9	55	113.9	150	
PM2.5	24-hour	ug/m^3	0.74	0.51	1.25				2
	Annual	ug/m^3	0.12 (*)						0.3 (*)
	Annual neighborhood	ug/m^3	0.03	0.031	0.061				0.1

Note: (*) 0.3 ug/m^3 threshold is applicable only for stationary sources.

As indicated in the table, there are no exceedances of the applicable air quality standards.

If you have any questions or comments please feel free to contact Mitchell Wimbish at (718) 595-4451.

Sincerely,

Gary C. Heath
Director of Bureau Operations and Environmental Analysis

cc: C. Chan
S. Vafadari
M. Wimbish