

# Traffic Noise Assessment

Brent Spence Bridge Corridor Project  
Kentucky Southern Section  
Kenton County  
KYTC Item No. 6-17.00

BRENT SPENCE  
BRIDGE CORRIDOR



August 2023



### Abstract

The Brent Spence Bridge Corridor Project is intended to improve the operational characteristics within the I-71/I-75 corridor for both local and through traffic. In the Greater Cincinnati/Northern Kentucky region, the I-71/I-75 corridor suffers from congestion and safety-related issues as a result of inadequate capacity to accommodate current traffic demand.

The objectives of this project are to:

- improve traffic flow and level of service,
- improve safety,
- correct geometric deficiencies, and
- maintain connections to key regional and national transportation corridors.

Concept I-W is a value engineering refinement to Alternative I from the 2012 EA/FONSI. It matches Alternative I for the I-71/I-75 alignment from Dixie Highway north to West 12th Street in Kentucky and north of Freeman Avenue in Ohio. It also includes the local C-D along both sides of I-75 in Ohio. Concept I-W also modifies the 5th Street intersection with Central Avenue in Ohio to include an additional eastbound through lane.

Concept I-W builds a new double decker companion bridge (with a width of 107 feet) just west of the existing BSB with all I-71 and I-75 traffic routed onto the new bridge and all local C-D traffic routed to the existing BSB. The new companion bridge carries five lanes of southbound I-71 and I-75 traffic on the lower deck and five lanes of northbound I-71 and I-75 traffic on the upper deck. The rehabilitated existing BSB carries three lanes of northbound local traffic on the lower deck and three lanes of southbound local traffic on the upper deck, as part of the C-D roadway system.

Existing noise levels were monitored at 16 field sites labeled M30-31 and M35-48 between June 23rd and July 12th of 2022. Readings were taken during AM and PM peak traffic periods (Appendix A). Road conditions at the time of the field readings were always clear and dry. The duration of measurements exceeded 15 minutes and were recorded at or near existing areas of human use.

Noise levels were determined at 343 locations (Exhibits 2A through 2H). Table 5 presents Concept I-W predicted noise levels by receiver. Table 6 presents a summary of Concept I-W impacts by activity category. TNM files are provided in Appendix C. The largest number of impacts by activity category is for Activity Category C school uses where four receivers representing 154 equivalent receptors exceed impact thresholds during the PM peak period. A close second, is Category B residential uses where 129 receivers representing 145 receptors. The 145 equivalent receptor impacts represent a 37 percent increase over comparable existing (2022) conditions (106 equivalent residences).

Eight potential noise barriers at six locations were identified and evaluated for feasibility and reasonableness. Summaries of those findings are contained in Table 7 and Illustrations depicting the location of each analyzed noise barrier are shown on Exhibits 3 through 10. Results of traffic noise modelling for each proposed noise wall are contained in Appendix F.

The analysis concludes that five proposed noise barriers would satisfy the KYTC noise abatement feasibility and reasonableness requirements. The five recommended noise barriers provide abatement for four residential communities and two schools. The five recommended noise barriers consist of a total of 16,017 linear feet of barrier

wall ranging in height from 12 to 24 feet under Concept I-W. The recommended noise barriers are located between the following major road crossings or interchanges:

- I-71/75 northbound between Beechwood Road and Dixie Highway (Exhibit 7),
- I-71/75 northbound between Dixie Highway and Kyles Lane (see Exhibit 8),
- I-71/75 northbound between Kyle's Lane and West 12th Street (See Exhibit 9)
- I-71/75 southbound between West 12th Street and Kyles Lane (see Exhibit 10), and
- I-71/75 southbound between Kyle's Lane and Dixie Highway (See Exhibits 3 & 4)

The recommended barriers for Concept I-W would provide acoustic effectiveness for 504 noise receptors at a cost of approximately \$10 million dollars. The final decision on the installation of any abatement measure will be determined in coordination with local officials and residents of the impacted properties during the public involvement process.

Table 8 presents design year sound levels for areas along I-75 where vacant and possibly developable lands exist. Noise predictions were made at intervals of 25 feet extending to 575 feet from the proposed edge of pavement for the 2049 Build condition. As indicated, sound levels of I-75 would exceed the NAC of 67 dB(A) for land use Categories B and C within 475 feet of edge of pavement (EOP). Sound levels exceed the NAC of 72 dB(A) for land use Category E up to 200 feet from EOP.

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## 1.0 INTRODUCTION

The analysis of the highway-generated noise impact of this project has been prepared in accordance with FHWA's Governing Document 23 Code of Federal Regulations (CFR) Part 772 Procedures for Abatement of Traffic Noise and Construction Noise, and the Kentucky Transportation Cabinet's *Noise Analysis and Abatement Policy*, August 1, 2022 (KYTC Noise Policy). The noise analysis involved:

- Determining noise-sensitive areas and representative receptors along the project;
- Measuring existing noise levels;
- Checking for validation of FHWA Traffic Noise Model (TNM2.5<sup>®</sup>) with measured traffic noise levels;
- Utilizing TNM2.5<sup>®</sup> to predict design year noise levels;
- Comparing predicted noise levels with noise level guidelines to determine impacts;
- Evaluating, where necessary, the feasibility and reasonableness of noise abatement options.

## 2.0 DEFINITIONS

**Benefited Receptor** - KYTC defines a benefited receptor as the recipient of an abatement measure that receives a noise reduction at or above the minimum threshold of 5 dB(A).

**Common Noise Environment** - A group of receptors within the same Activity Category that are exposed to similar noise sources and levels; traffic volumes, traffic mix, and speed; and topographic features.

**dB(A)** - Frequencies to which the human ear does not respond are filtered out when measuring and predicting highway noise levels resulting in the A-weighted scale.

**Impacted Receptor** - A receptor that has a traffic noise impact.

**L<sub>Aeq1h</sub>** - The A-weighted equivalent steady state sound level which in one hour contains the same acoustic energy as the time varying sound level during one hour, shortened here to L<sub>eq</sub>.

**Noise Abatement Criteria (NAC)** - Sound pressure levels established by the FHWA that act as a standard for noise abatement measures giving consideration to specific land uses.

**Substantial Noise Increase** - A 10 dB(A) or greater increase in noise levels in the design year compared to the existing noise level.

**Traffic Noise Impacts** - 23 CFR Part 772 defines traffic noise impacts as impacts which occur when the predicted traffic noise levels approach or exceed the Noise Abatement Criteria (NAC) or when the predicted traffic noise levels substantially exceed the existing noise levels.

### Type 1 Project –

- A. The construction of a highway on new location; or,
- B. The physical alteration of an existing highway where there is either:
  1. Substantial Horizontal Alteration. A project that halves the distance between the traffic noise source and the closest receptor between the existing condition to the future build condition; or,

2. Substantial Vertical Alteration. A project that removes shielding, therefore, exposing the line-of-sight between the receptor and the traffic noise source. This is done by either altering the vertical alignment of the highway or by altering the topography between the highway traffic noise source and the receptor; or,
  - C. the addition of a through-traffic lane(s). This includes the addition of a through-traffic lane that functions as a HOV lane, High-Occupancy Toll (HOT) lane, bus lane, or truck climbing lane; or,
  - D. The addition of an auxiliary lane, except for when the auxiliary lane is a turn lane; or,
  - E. The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange; or,
  - F. Restriping existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane; or,
  - G. The addition of a new or substantial alteration of a weigh station, rest stop, rideshare lot, or toll plaza.
  - H. If a project is determined to be a Type I project under this definition, then the entire project area as defined in the environmental document is a Type I project.

### **3.0 PROJECT DESCRIPTION**

#### **3.1 PURPOSE OF THE PROJECT**

The Brent Spence Bridge Corridor Project is intended to improve the operational characteristics within the I-71/I-75 corridor for both local and through traffic. In the Greater Cincinnati/Northern Kentucky region, the I-71/I-75 corridor suffers from congestion and safety-related issues as a result of inadequate capacity to accommodate current traffic demand.

The objectives of this project are to:

- improve traffic flow and level of service,
- improve safety,
- correct geometric deficiencies, and
- maintain connections to key regional and national transportation corridors.

#### **3.2 STUDY CORRIDOR**

The overall project corridor is located along a 7.8-mile segment of I-75 within the Commonwealth of Kentucky (state line mile 186.7) and the State of Ohio (state line mile 2.7). The southern limit of the project is 5,000 feet south of the midpoint of the Dixie Highway Interchange on I-71/I-75 in Fort Wright, south of Covington, Kentucky. The northern limit of the project is 1,500 feet north of the midpoint of the Western Hills Viaduct Interchange on I-75 in Cincinnati, Ohio. The eastern and western limits of the study area generally follow the existing alignment of I-75.

The Kentucky portion of the noise analysis was split into two sections, North and South with Palmer Engineering assessing the southern section and HMB Professional Engineers (HMB) assessing the northern section. To avoid overlap in the analyses, the southern section only includes assessment of areas west of the corridor between Kyle's Lane and 12<sup>th</sup> street near MP 189.2 while the northern section includes analysis of the areas east of the corridor. A depiction of the project study area is provided in Exhibit 1. The results of the analysis of traffic noise and abatement measures in the southern section are presented in this report.

#### **3.3 BUILD ALTERNATIVE**

The Brent Spence Bridge corridor consists of 7.8 total miles of I-71 and I-75 located within portions of Ohio and Kentucky. This corridor is located within the Greater Cincinnati/Northern Kentucky region and is a major route for local and regional mobility. Locally, it connects to I-74, I-275, and US 50. The Brent Spence Bridge (BSB) provides an interstate connection over the Ohio River and carries both I-71 and I-75 traffic. The bridge also facilitates local travel by providing access to downtown Cincinnati, Hamilton County, Ohio and Covington, Kenton County, Kentucky. This corridor is also one of the busiest trucking routes in the US, connecting Michigan to Florida via I-75.

The BSB opened in 1963 and was originally designed to carry 80,000 vehicles per day (VPD). Current traffic volumes on the BSB are 160,000 VPD. The BSB corridor exhibits congestion and safety-related issues due to inadequate capacity to accommodate current traffic demand, which are further exacerbated by design deficiencies along the corridor. The BSB project will improve the operational characteristics within the BSB corridor for both local and through traffic by improving traffic flow and level of service, improving safety, correcting geometric deficiencies, and maintaining connections to key regional and national transportation corridors.



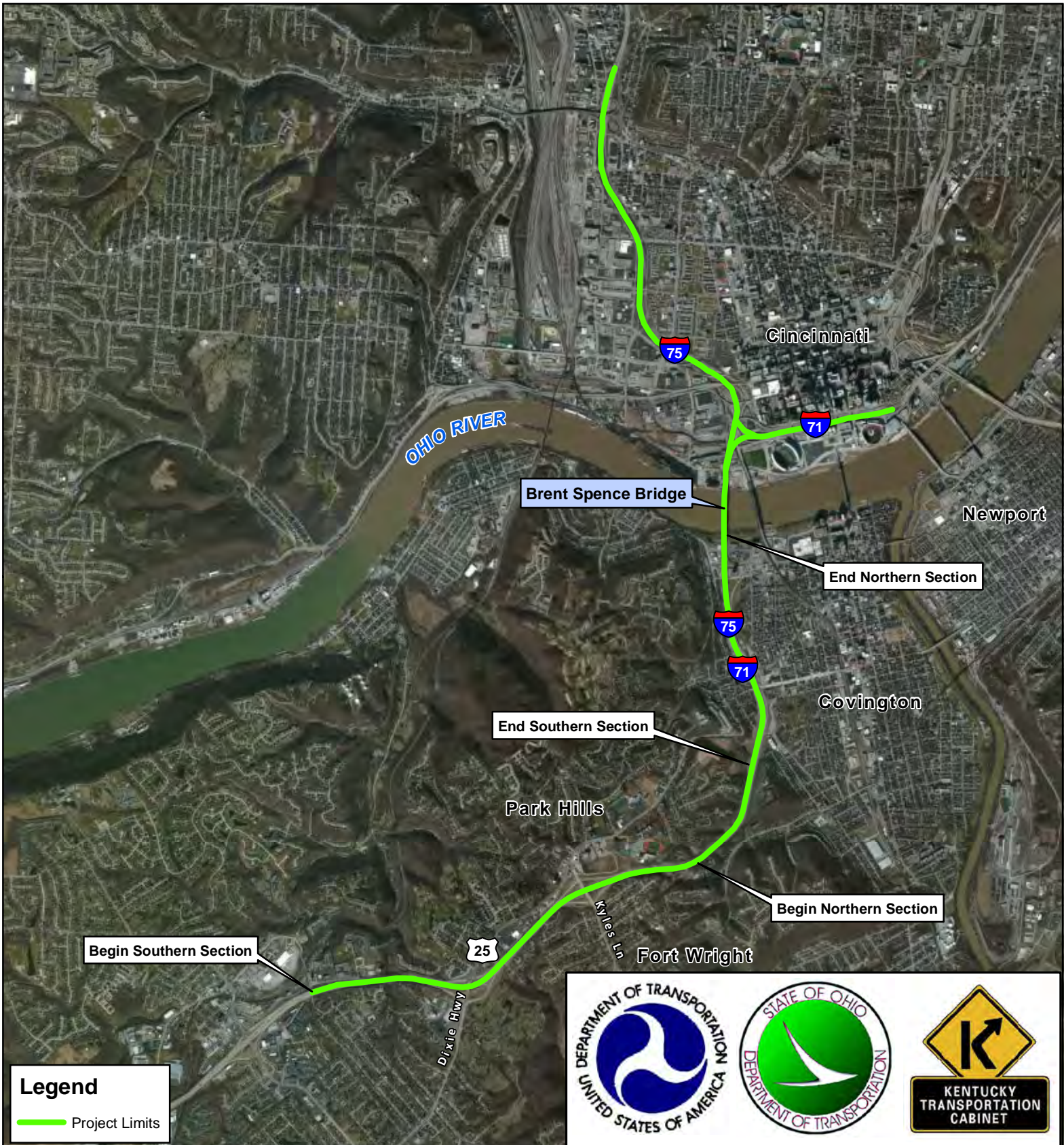
The Kentucky Transportation Cabinet (KYTC) and the Ohio Department of Transportation (ODOT) developed a range of alternatives for improving the I-71/I-75 corridor in Kentucky and Ohio through a series of preliminary engineering and planning studies coupled with extensive public and stakeholder involvement. These activities were documented in the project's Environmental Assessment (March 2012). On August 9, 2012, the Federal Highway Administration (FHWA) issued a Finding of No Significant Impact (FONSI) identifying Alternative I as the preferred alternative for the BSB project.

Since the approval of the FONSI, KYTC and ODOT completed additional studies to update the preferred alternative to reflect current design standards, traffic counts, and traffic operations. KYTC and ODOT also conducted a value engineering analysis of the preferred alternative. These efforts resulted in refinements to Preferred Alternative I, which have been designated as Concept I-W.

Concept I-W is a value engineering refinement to Alternative I from the 2012 EA/FONSI. It matches Alternative I for the I-71/I-75 alignment from Dixie Highway north to West 12th Street in Kentucky and north of Freeman Avenue in Ohio. It also includes the local Collector-Distributor (C-D) along both sides of I-75 in Ohio. Concept I-W also modifies the 5th Street intersection with Central Avenue in Ohio to include an additional eastbound through lane.

Concept I-W builds a new double decker companion bridge (with a width of 107 feet) just west of the existing BSB with all I-71 and I-75 traffic routed onto the new bridge and all local C-D traffic routed to the existing BSB. The new companion bridge carries five lanes of southbound I-71 and I-75 traffic on the lower deck and five lanes of northbound I-71 and I-75 traffic on the upper deck. The rehabilitated existing BSB carries three lanes of northbound local traffic on the lower deck and three lanes of southbound local traffic on the upper deck, as part of the C-D roadway system.

KYTC and ODOT are currently developing a Supplemental Environmental Assessment to document any changes in impacts or effects that would result from the refined Preferred Alternative I (Concept I-W). These efforts also involve updating resource-specific studies to reflect any changes in conditions that have occurred since they were prepared for the 2012 Environmental Assessment.



**Legend**

Project Limits



**Location Map**

Brent Spence Bridge Corridor Project  
 Noise Study: Kentucky - Southern Section  
 Kenton County, KY  
 KYTC Item No. 6-17  
**Exhibit 1**

Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet

N

0      3,000      6,000

Feet

#### **4.0 NOISE**

Noise is unwanted sound that causes annoyance to listeners. On a physical molecular level, sound is the vibration of air molecules that propagate as waves through the air, which results in the stimulation of the nerve endings in the human ear creating the sensation of hearing. Sounds occur in the human and natural environment at all times. Some sounds are necessary or desirable for communication or pleasure, while other sounds are unwanted causing disturbance to the people living or working nearby. Noise varies from place to place and also in intensity as the cycle of human activity changes over the course of the day.

##### **4.1 THE A-WEIGHTED NOISE LEVEL**

While a variety of methods can be used to describe and quantify noise conditions, sound levels in decibels (dB) are presented in this report. Decibels are a unit of measure on a logarithmic scale used to quantify the amount of sound pressure at a given location from the general outdoor environment or specific sources. The most commonly used measure of noise level is the A-weighted sound level (dB(A)). From many experiments with human listeners, scientists have found that, unlike animals, the human ear is more sensitive to midrange frequencies than it is to either low or very high frequencies. At the same sound level, midrange frequencies are therefore heard as louder than other low or very high frequencies. These physical characteristics of the human ear are taken into account by adjusting or weighting the octave band spectrum of the measured or predicted sound for the sensitivity of human hearing range. The A-weighted sound scale is a measure of sound that corresponds well to human subjective response to noise. The A-weighted sound level is widely accepted by the Federal Highway Administration (FHWA) and Kentucky Transportation Cabinet (KYTC) as the preferred sound weighting method for assessing human exposure and annoyance from traffic noise. An understanding of the following relationships is helpful in providing a subjective impression of the human response to changes in the A-weighted sound level:

- an increase of only 1 dB(A) cannot be perceived,
- a 3 dB(A) increase is considered just at the threshold of a noticeable difference,
- a 5 dB(A) increase is considered readily perceived change in noise level, and
- a 10 dB(A) increase or decrease is subjectively heard as approximately a doubling (or halving) in loudness, independent of the existing noise level.

##### **4.2 TRAFFIC NOISE DESCRIPTORS**

Because environmental noise fluctuations vary from moment to moment, it is common practice to condense all of the information into a single number, called the “equivalent” sound level. Traffic noise levels applicable to transportation projects are often expressed in terms of an hourly equivalent noise level or Leq (1-hr) dB(A). The Leq is a measure of the average sound energy during a specified period of time (typically 1-hour duration) and is defined as the steady state sound level that typically, in a 1-hour period, contains the logarithmic sum of the acoustic energy generated by the time-varying sound during that hour. Studies have shown that the Leq (1-hr) descriptor correlates well with human response and annoyance to changes in noise levels. The Leq during the noisiest traffic hour, expressed as Leq (1-hr), is used by FHWA and KYTC as a descriptor for estimating traffic noise exposure.

#### **5.0 FHWA NOISE IMPACT AND ABATEMENT CRITERIA**

The National Environmental Policy Act (NEPA) of 1969 provides broad authority and responsibility for evaluating and mitigating adverse environmental effects including highway traffic noise. The NEPA directs federal agencies to use all practical means and measures to promote the general welfare and foster a healthy environment. The Federal-Aid

Highway Act of 1970 specifically mandates the Federal Highway Administration (FHWA) to develop noise standards for mitigating highway traffic noise.

In addition, Congress enacted standards and procedures for assessing the impact and abatement of highway traffic noise. These noise exposure standards and abatement procedures for establishing mitigation feasibility are covered under the United States Code of Federal Regulations Part 772 (23 CFR 772) *Procedures for Abatement of Highway Traffic Noise and Construction Noise*. The 23 CFR 772 regulations were updated in July 2011 in accordance with the FHWA 772 Final Rule and are described in detail in the document entitled *Highway Traffic Noise: Analysis and Abatement Guideline* (revised January 2011). The regulations establish traffic noise-level criteria for various land use activities and further provide that FHWA not approve plans and specifications for a federal-aid highway project unless adequate highway traffic noise abatement measures to implement the appropriate noise level standards are addressed.

The regulations contain noise abatement criteria, which represent the upper limit of acceptable highway traffic noise exposure levels for different types of land uses and human activities. The regulations do not require that the abatement criteria be met in every instance. Rather, they require that every reasonable and practicable effort be made to provide noise mitigation when the criteria are approached or exceeded. The FHWA guidelines apply to freeways and major arterial roads where traffic flows relatively freely. The regulations require the following during the planning and design of a highway project:

- Identification of traffic noise impacts.
- Examination and evaluation of potential mitigation measures.
- Incorporation of all identified reasonable and feasible noise mitigation measures into the highway project.
- Coordination with local officials and the affected residences to provide helpful information on compatible future land use planning, noise control, and the recommended noise abatement measures identified in this study.

For FHWA Type I improvements, such as the Brent Spence Bridge Corridor Project, substantial proposed changes to both the vertical and horizontal alignment require an analysis of traffic noise impacts and consideration of noise abatement, where appropriate, and in consideration of approved state DOT policies. Detailed noise modeling is required to a distance of 500 feet from the proposed project edge of pavement for noise sensitive land uses. At a minimum, noise modeling must be completed at a distance that covers the extent of noise impacts identified from the proposed roadway improvements for each land use category.

To determine if noise levels near highways are compatible with various land uses, FHWA has developed noise abatement criteria (NAC) and procedures to be used in the planning and design of highways. The basic goals of the criteria, as they apply to highway projects, are to minimize potential adverse noise impacts on communities and, where necessary and appropriate, to provide feasible and reasonable abatement measures to either reduce or eliminate future noise impacts of proposed build alternatives.

The Kentucky Transportation Cabinet (KYTC) has developed procedures for assessing traffic noise impact and abatement feasibility and reasonableness, which comply with the FHWA requirements. These procedures are described in detail in the KYTC Noise Policy. A summary of the FHWA NAC for various land uses is presented in Table 1. These NAC levels represent the upper acceptable limit of traffic noise levels for exterior land uses and activities, and also for certain indoor activities. KYTC defines approach noise levels as being 1 decibel in A-weighted noise level

(dB(A)) less than the NAC levels shown in Table 1. For example, an “approach” exterior noise level threshold of 66 dB(A) Leq (1-hr) has been established as NAC for FHWA Category B and Category C sites.

**Table 1: Activity Categories and Noise Abatement Criteria (NAC)**

Activity Category	Description of Activity Category (Land Use)	Activity Criteria Leq(H)	Evaluation Location
A	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue its intended purpose.	57	Exterior
B**	Residential	67	Exterior
C**	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.	67	Exterior
D	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.	52	Interior
E**	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.	72	Exterior
F	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.	-----	-----
G	Undeveloped lands that are not permitted.	-----	-----

\* The Leq(h) Activity Criteria values are for impact determination only and are not design standards for noise abatement measures.

\*\* Includes undeveloped lands permitted for this activity category

Independent of the impact thresholds shown in Table 1, KYTC also considers a noise impact to occur when a substantial increase in noise level is predicted. Current KYTC traffic noise policy guidelines define a substantial noise level change as an increase of 10 dB(A) or more in future build noise level over comparable existing noise levels. Predicted noise levels that either approach the NAC or are defined as a substantial noise increase constitute a noise impact.

## 5.1 DESCRIPTION OF EACH ACTIVITY CATEGORY

A description of each of the FHWA NAC activity categories is provided below.

**Activity Category A:** Includes lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. Some examples of lands that have been analyzed as Activity Category A include the Tomb of the Unknown Soldier, a monastery, an outdoor prayer area of a facility for nuns, and an amphitheater. KYTC will consider Category A sites on a case-by-case basis, as these land uses are not typically encountered. Documentation of the land use shall be submitted to the KYTC Noise Specialist, who will contact the FHWA to seek concurrence with the Category A designation.

**Activity Category B:** Includes exterior areas for residential use. Noise measurements are taken in exterior areas of frequent human use where traffic noise would interfere with normal conversation such as on balconies, patios or in the backyard of the residence. In the case of multifamily buildings balconies that have potential outdoor use should be modeled as frequent human receptor points and assessed for impact. In addition other receptor locations which should be modeled include shared common outdoor areas such as patios, club houses, and pools. For these shared uses the equivalent number of residences should be used to determine the total number of equivalent residences for each multifamily building. KYTC has a defined methodology to determine the equivalent number of receptors for these common shared outdoor areas based on usage factors and capacity limits for each type of activity area. The methodology used to estimate equivalent residences is described in Section 5.2.

**Activity Category C:** Includes exterior areas of non-residential lands as listed in Table 1 under Activity Category C such as schools, parks, cemeteries, etc. These land uses are analyzed for traffic noise impacts by taking exterior readings in areas of frequent human use such as in school playgrounds, sports fields and similar areas. KYTC has developed a standard method to establish the number of equivalent receptors for these non-residential land uses. The methodology used to estimate equivalent residences is described in Section 5.2.

**Activity Category D:** Includes certain land use facilities listed in Activity Category C that may have noise sensitivity to the interior spaces of these uses. These land uses shall be analyzed for traffic noise impacts per procedures found in FHWA's *Noise Measurement Handbook* (2018). Each structure is generally considered one receptor site for areas of frequent human use such as libraries, hospitals and public meeting rooms. Interior noise abatement measures are considered only after exhausting all outdoor mitigation options. Determining the interior noise level for Activity Category D land uses, can be achieved by subtracting the noise reduction factors contained in Table 2 from the predicted TNM2.5<sup>®</sup> exterior levels. In accordance with the KYTC Noise Policy, for buildings with windows that are fixed closed, interior noise readings are not required unless the predicted exterior noise levels exceed the interior NAC by more than 20 dB(A). Interior readings are also not required if exterior readings approach or exceed the NAC and thus abatement measures are already under consideration. The procedures to follow when collecting interior noise measurements are contained in the FHWA's *Noise Measurement Handbook* (2018).

**Table 2: Building Noise Reduction Factors**

Building Type	Window Condition *	Noise Reduction Due to Exterior of the Structure
All	Open	10 dB
Light Frame	Ordinary Sash (closed)	20 dB
	Storm Windows	25 dB
Masonry	Single Glazed	25 dB
	Double Glazed	35 dB

**Source:** *Highway Traffic Noise: Analysis and Abatement Guidance*, Revised January 2011

\* The windows shall be considered open unless there is firm knowledge that the windows are in fact kept closed almost every day of the year.

**Activity Category E:** Includes exterior areas of developed lands that are less sensitive to highway noise. These land uses include motels, hotels, offices and other developed lands not included in Activity Categories A-D or F. In the case of motels and hotels, outdoor pool areas or courtyards are considered shared exterior areas of frequent human use. The number of equivalent residences for Activity Category E land uses should be determined in a similar manner as that used for multi-family buildings. For example, balconies, outdoor pools or other areas of exterior frequent human use of motels and hotels should be identified, and usage factors or capacity limits for each activity should be calculated to estimate equivalent residential units. The methodology used to estimate equivalent residences is described in Section 5.2.

**Activity Category F:** Includes a number of land uses that are not sensitive to noise. No noise analysis is required for these locations.

**Activity Category G:** Includes undeveloped lands. Although consideration of mitigation is not required under 23 CFR 772, noise levels under the future build condition must be determined and documented. Furthermore, noise levels on undeveloped lands are to be made available to potential future land developers and local officials. Depending on the size of the undeveloped land, and if the vacant property has been issued permits, the minimum information to be provided under future build conditions consists of either the distance to the impact threshold of each land use category or noise level estimates at discrete receptor points on the vacant parcels.

For undeveloped lands without a permit, the FHWA TNM2.5<sup>®</sup> modeling should be completed for vacant parcels at 50 feet from the edge of pavement or the right-of-way line at 100 feet and at every additional 100 feet (not to exceed 800 feet) until an impact zone is established that would identify potential impact for all potential future development. If non-permitted vacant land is not permitted by the date of public knowledge, the noise level information will be provided to the appropriate local government office for planning purposes in accordance with 23 CFR 772.17(a).

For undeveloped lands with a permit the area should be analyzed for traffic noise impacts by collecting sound measurements and conducting modeling, as described in the previous section, using the activity category that best describes the future intended land use. Noise impacts and abatement consideration should be completed consistent with the permitted future intended land use for that particular activity category. In cases where the land is not permitted prior to the date of public knowledge, noise abatement is not required nor is abatement eligible for federal aid at a future date. The date of public knowledge is the date the NEPA document is approved.

## 5.2 ESTABLISHING EXTERIOR AREAS OF FREQUENT HUMAN USE AND DETERMINATION OF EQUIVALENT RECEPTORS

A noise receiver location is an area where noise is measured and/or determined. The receiver locations are normally restricted to “exterior areas of frequent human use.” Exterior receivers are typically:

- at or near the highway right-of-way line,
- at or near a building in residential or commercial areas,
- at an area between the right-of-way line and a building where ground level frequent human activity occurs, such as a patio, pool or play area in the yard of a single family home,
- at public community facilities such as playgrounds, pools, parks, campgrounds, trails, picnic areas, active recreation areas such as basketball courts, baseball, and football fields,
- at multi-story multi-family apartment or condominium building’s exterior balconies or decks, which are considered suitable elevated receiver locations of frequent human use. In addition ground floor exterior areas shared by residents of a multi-family building are also suitable modeling receiver locations, and
- at schools, day-care facilities, retirement homes, churches, cemeteries, hospitals and other types of medical facilities.

For areas other than single-family residences, an equivalent number of receptors is calculated based on the use of the area in question. The KYTC has developed a set of guidelines and procedures for determining the number of equivalent residences for various land uses. Determining the equivalent number of residences is necessary in establishing the feasibility and reasonableness of proposed noise abatement. The following formula is used in determining the equivalent number of residences:

$$\text{Equivalent Residences} = (\# \text{ of Persons} / 2.5 \text{ Persons Per Average Household}) \times (\text{Usage Factor})$$

Where:

$$\text{Usage Factor} = (\text{Average Daily Hours of Use} / 24 \text{ hours per Day})$$

Or

$$\text{Usage Factor} = (\text{Average Weekly Hours of Use} / 168 \text{ hours per Week})$$

“**# of Persons**” are those people who use the facility within 500 feet of the proposed edge of pavement. The numbers of persons is established through consultation with the school, church, daycare, etc. and based upon the greater quantity of either the number enrolled or capacity of the facility. Where use involves a park, trail, or other exterior activity, the facility official is consulted to determine the use that occurs within 500 feet of the proposed edge of pavement for the Build Alternatives, and the extent of that use.

“**Average Daily Hours of Use**” or “**Average Weekly Hours of Use**” is the average number of hours during which the “**# Persons**” use the facility located within 500 feet of the proposed Build Alternative. The average should account for time that the facility is not in use such as nights and weekends.

## 6.0 TRAFFIC NOISE MODEL

Traffic conditions were obtained from the forecasted 2049 Concept I-W Build Condition volumes provided by KYTC in May 2023. According to the KYTC Noise Policy, analysis of Level of Service C (LOS C) conditions are required



because increased congestion results in lower speeds, and lower speeds result in a quieter condition. Therefore, LOS C conditions represent the highest amount and loudest traffic that is closest to free-flow speeds.

The forecast volumes were given in 15-minute intervals which were used to calculate hourly volumes. Density for each 15-minute interval was provided. LOS is based on density for freeways, so it was used to find the noisiest hour for the combination of northbound and southbound traffic. Mainline I-75 was used to determine the noisiest conditions since it carries the most significant amount of traffic. The average density for the northbound and southbound I-75 segments was calculated, and the 2:30 PM to 3:30 PM hour was selected for the noise analysis. This hour's average density fell the closest to LOS C conditions for all mainline segments in the study limits on the Kentucky portion. Density for LOS C ranges from 19 – 26 pcphpl (Passenger Cars Per Hour Per Lane), and this hour's density was 22.60 pcphpl, which is 0.10 above the midpoint of the LOS C range. It was also selected because it contained no LOS F intervals and only one LOS E interval while staying above the LOS C midrange point.

Existing and Build condition truck percentages and annual average daily traffic (AADTs) were not available. The forecast utilized the most recent KYTC traffic count data. Therefore, the most recent KYTC count data was utilized to determine existing and Build AADTs, design hour volumes (DHVs), and truck percentages. Historic traffic data from the mainline I-75 traffic count stations was used to forecast a linear growth rate of 0.50%, which was used to grow all existing counts to 2022.

## **6.1 EXISTING NOISE LEVELS**

Existing noise levels were monitored at 16 field sites labeled M30-31 and M35-48 between June 23rd and July 12th of 2022. Readings were taken during AM and PM peak traffic periods (Appendix A). Road conditions at the time of the field readings were always clear and dry. The duration of measurements exceeded 15 minutes and were recorded at or near existing areas of human use. Typically, study sites are located in exterior areas of activity on the side of a building that faces the roadway being studied. To provide continuity with the 2011 Brent Spence Bridge Noise report, the naming convention of each receptor was maintained. In addition to the 2011 receptor locations, new receptors were added to provide adequate geographic coverage of the study area. A summary of the measured peak hour noise levels (Leq[1hr])dB(A) is provided in Table 3.

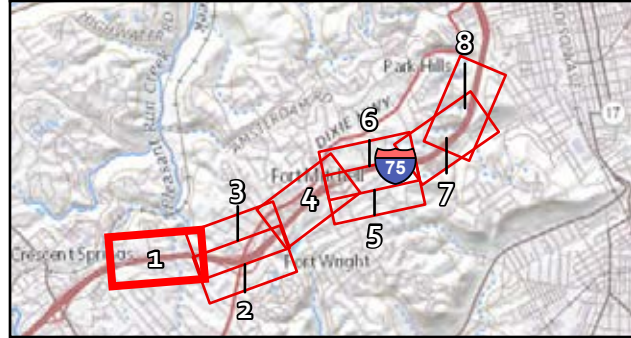
Equipment used for the existing sound level readings included:

- Larson Davis Model 831 Type 1 Precision Integrating Sound Level Meter S. N. 2413
- Larson Davis Model 377C20 Precision Random High Incidence High Sensitivity Microphone S. N. 123355
- Larson Davis CA250 Precision Acoustic Calibrator S. N. 2742


Certificates of calibration for July 2021 are provided in Appendix B.

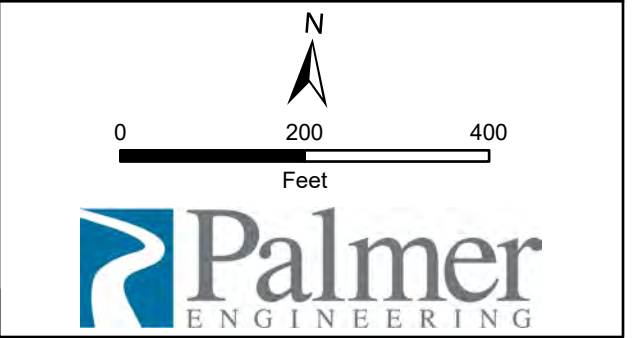
Traffic counts were conducted and existing sound level measurements were collected for use in the TNM2.5® to validate the model. The model results were considered for three scenarios:

- Validation using field observed traffic (2022)
- Existing conditions using 2022 traffic.
- Build future conditions using 2049 predicted traffic.

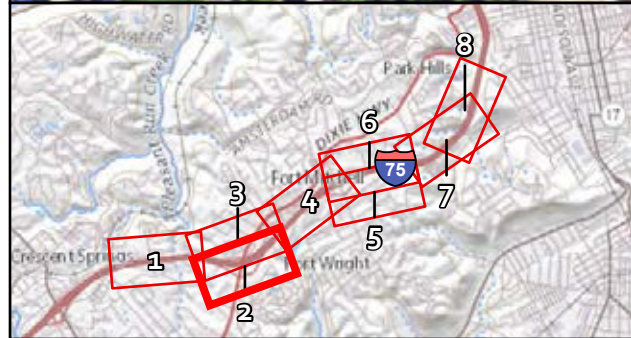


- Legend**
- Receptor #
  - 2049 Build
  - Not Impacted
  - Impacted
  - Noise Measurement Site
  - ▭ 500' Noise Buffer (Southern Study Area)
  - ▭ 500' Noise Buffer (Northern Study Area)


  
**Brent Spence Bridge Corridor Project**  
**Noise Study: Kentucky - Southern Section**  
**KYTC Item No. 6-17**  
**Noise Measurement and Prediction Sites**  
**2049 Build Noise Levels (dBA)**  
**Exhibit 2A**



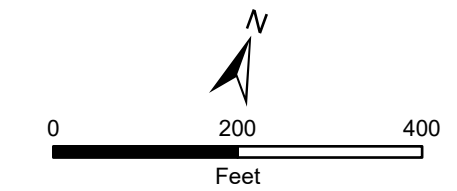
Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet



- Legend**
- Receptor #
  - 2049 Build
  - Not Impacted
  - Impacted
  - Noise Measurement Site
  - ▭ 500' Noise Buffer (Southern Study Area)
  - ▭ 500' Noise Buffer (Northern Study Area)



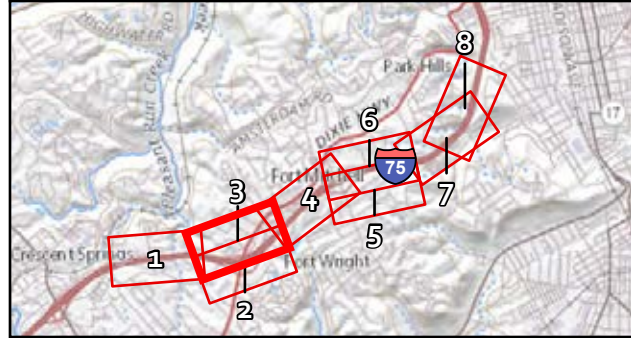
**Brent Spence Bridge Corridor Project**  
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**KYTC Item No. 6-17**  
**Noise Measurement and Prediction Sites**  
**2049 Build Noise Levels (dBA)**  
**Exhibit 2B**



Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet



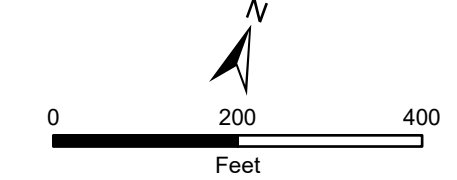
Note: Existing barrier in place. To aid in comparing with existing conditions noise levels, a similarly sized barrier is assumed present when calculating 2049 Build Noise Levels.



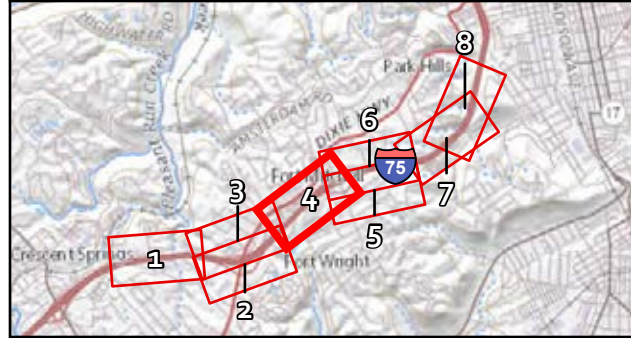
- Legend**
- Receptor #
  - 2049 Build
  - Not Impacted
  - Impacted
  - Noise Measurement Site
  - ▭ 500' Noise Buffer (Southern Study Area)
  - ▭ 500' Noise Buffer (Northern Study Area)



**Brent Spence Bridge Corridor Project**  
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**2049 Build Noise Levels (dBA)**  
**Exhibit 2C**



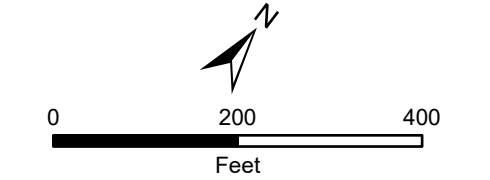
Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet



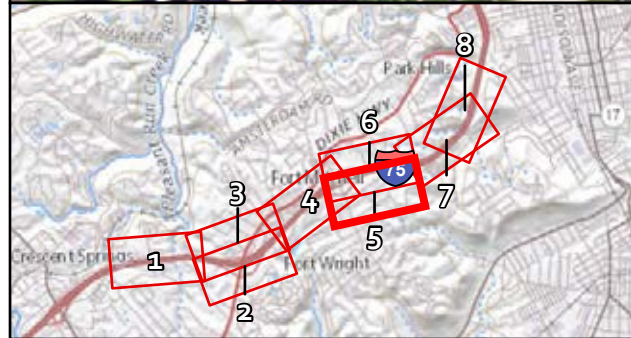
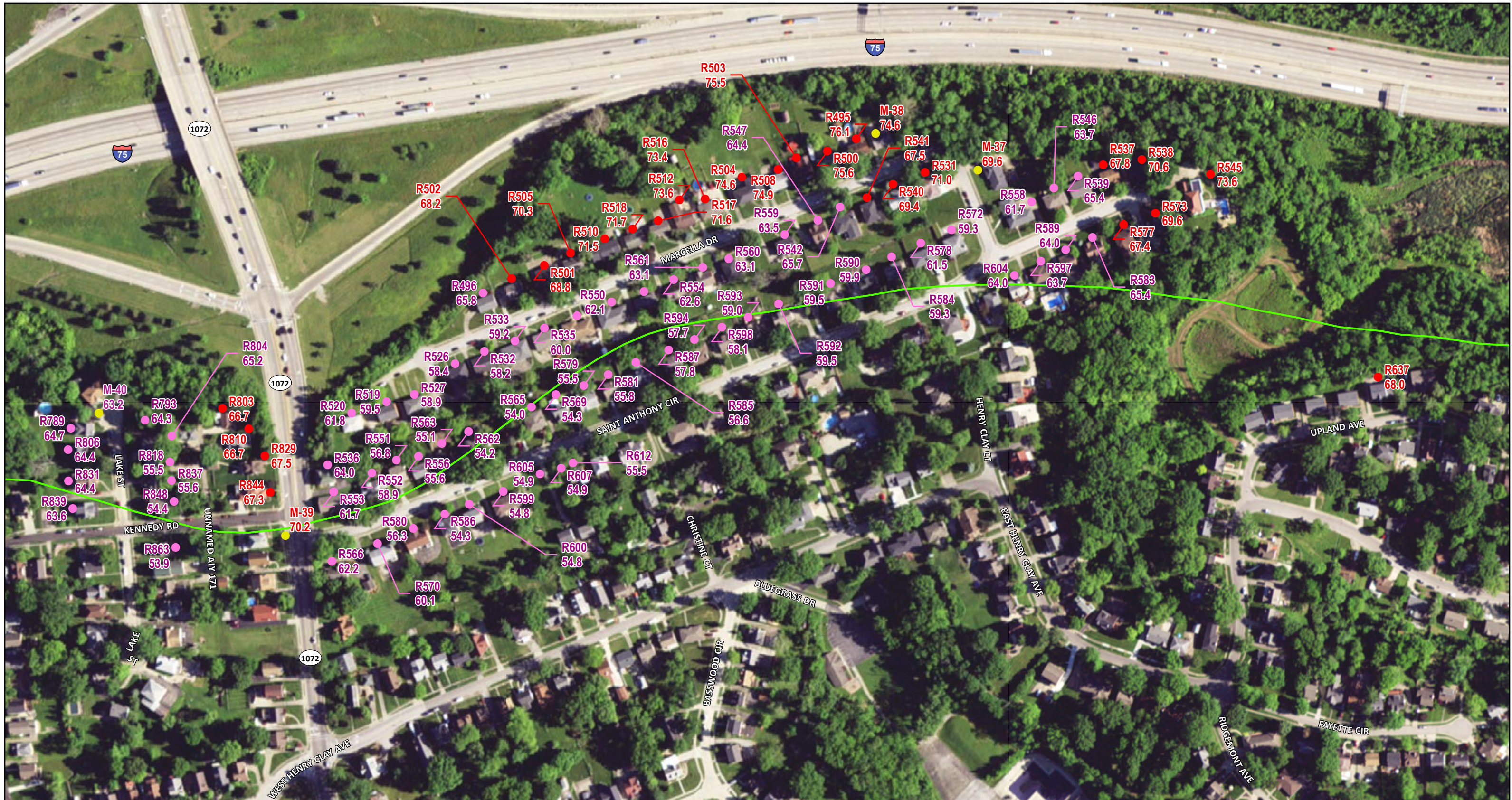
- Legend**
- Receptor #
  - 2049 Build
  - Not Impacted
  - Impacted
  - Noise Measurement Site
  - ▭ 500' Noise Buffer (Southern Study Area)
  - ▭ 500' Noise Buffer (Northern Study Area)



**Brent Spence Bridge Corridor Project**  
**Noise Study: Kentucky - Southern Section**  
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**Noise Measurement and Prediction Sites**  
**2049 Build Noise Levels (dBA)**  
**Exhibit 2D**



Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet



- Legend**
- Receptor #
  - 2049 Build
  - Not Impacted
  - Impacted
  - Noise Measurement Site
  - ▭ 500' Noise Buffer (Southern Study Area)
  - ▭ 500' Noise Buffer (Northern Study Area)

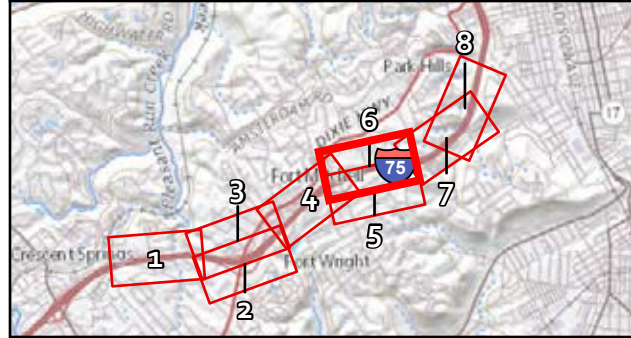
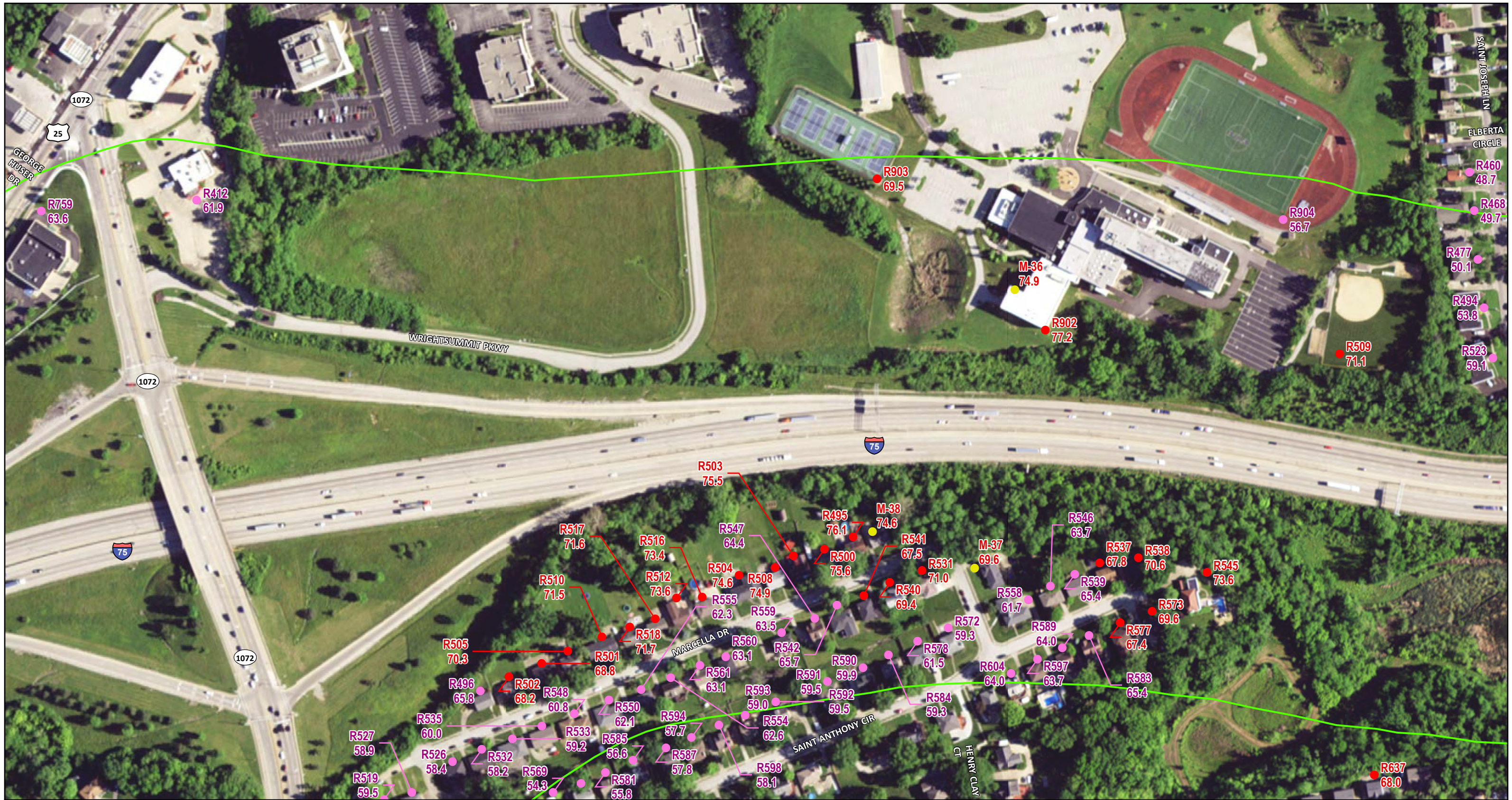


**Brent Spence Bridge Corridor Project**  
**Noise Study: Kentucky - Southern Section**  
**KYTC Item No. 6-17**  
**Noise Measurement and Prediction Sites**  
**2049 Build Noise Levels (dBA)**  
**Exhibit 2E**



0 200 400  
 Feet

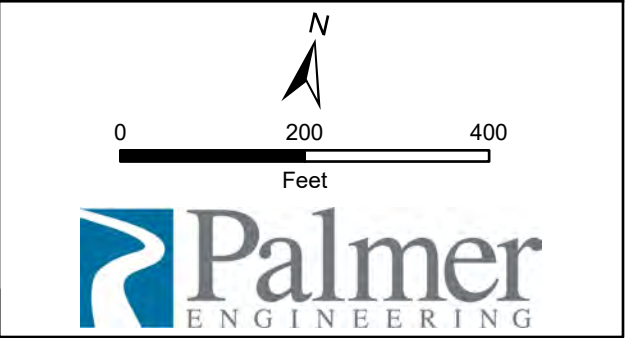
Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet



- Legend**
- Receptor #
  - 2049 Build
  - Not Impacted
  - Impacted
  - Noise Measurement Site
  - ▭ 500' Noise Buffer (Southern Study Area)
  - ▭ 500' Noise Buffer (Northern Study Area)



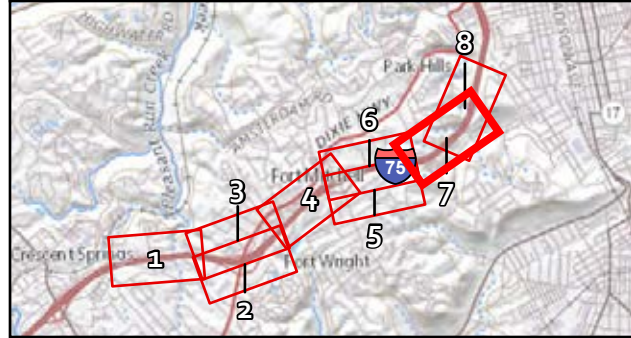
**Brent Spence Bridge Corridor Project**  
**Noise Study: Kentucky - Southern Section**  
**KYTC Item No. 6-17**  
**Noise Measurement and Prediction Sites**  
**2049 Build Noise Levels (dBA)**  
**Exhibit 2F**



Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet




See Brent Spence Bridge Corridor Project  
 Noise Study: Kentucky - Northern Section  
 for Assessment South of the 12th Street  
 Interchange to Ohio River.





**Legend**

- Receptor #
- 2049 Build
- Not Impacted
- Impacted
- Noise Measurement Site
- ▭ 500' Noise Buffer (Southern Study Area)
- ▭ 500' Noise Buffer (Northern Study Area)



**Brent Spence Bridge Corridor Project**  
**Noise Study: Kentucky - Southern Section**  
 KYTC Item No. 6-17  
**Noise Measurement and Prediction Sites**  
**2049 Build Noise Levels (dBA)**  
**Exhibit 2G**

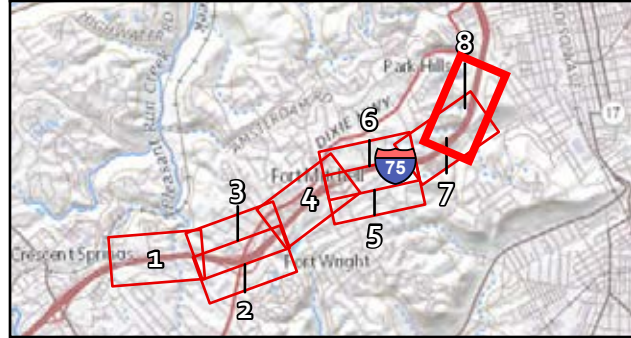


Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet






**See Brent Spence Bridge Corridor Project  
Noise Study: Kentucky - Northern Section**  
for Assessment South of the 12th Street  
Interchange to Ohio River.





**Legend**

- Receptor #
- 2049 Build
- Not Impacted
- Impacted
- Noise Measurement Site
- ▭ 500' Noise Buffer (Southern Study Area)
- ▭ 500' Noise Buffer (Northern Study Area)


  
**Brent Spence Bridge Corridor Project**  
**Noise Study: Kentucky - Southern Section**  
 KYTC Item No. 6-17  
**Noise Measurement and Prediction Sites**  
**2049 Build Noise Levels (dBA)**  
**Exhibit 2H**


  
**TEAM KENTUCKY**  
 TRANSPORTATION CABINET

  
 0 200 400  
 Feet  


Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet

**Table 3: Summary of Measured Peak Hour Noise Levels (Leq[1hr])dB(A)**

Site Number	Address of Measurement Site	Land Use	NAC Category	AM	PM
				Leq (1hr) dB(A)	Leq (1hr) dB(A)
M-30	506 Scenic Drive, Park Hills	Residential	Category B	62.8	59.4
M-31	1132 Cedar Ridge Lane, Park Hills	Residential	Category B	59.6	59.1
M-35	502 St Joseph Lane, Park Hills	Residential	Category B	63.2	61.7
M-36	Notre Dame Academy, 1699 Hilton Drive, Park Hills	School	Category D	69.7	59.4
M-37	1565 Saint Anthony Street, Fort Wright	Residential	Category B	65.8	62.9
M-38	1586 Marcella Drive, Fort Wright	Residential	Category B	72	73.6
M-39	101 Kyles Lane, Fort Wright	Residential	Category B	66.8	67.2
M-40	1 Lake Street, Fort Wright	Residential	Category B	58.4	59
M-41	15 Highview Drive, Fort Wright	Residential	Category B	69.4	68.7
M-42	1 Highview Drive, Fort Wright	Residential	Category B	70.9	71.1
M-43	Infiniti Dealership, 1945 Dixie Highway, Fort Wright	Commercial	Category E	67.7	68.6
M-44	1971 Pieck Drive, Fort Mitchell	Residential	Category B	68.2	66.7
M-45	Central Church of Nazarene, 2006 Pieck Drive, Fort Wright	Church	Category D	67.2	70.4
M-46	15 Leslie Avenue, Fort Mitchell	Residential	Category B	64.8	63.2
M-47	Beechwood Elementary and High schools, 54 Beechwood Road, Fort Mitchell	School	Category C	65.7	57.4
M-48	102 West Maple Avenue, Fort Mitchell	Residential	Category B	65.1	65.7

## 6.2 TNM2.5® MODEL VALIDATION

Field-measured Leq values were compared to model-generated Leq noise values to validate the model. For validation, the difference between measured noise levels and the modeled levels is within  $\pm 3$  dB(A) Leq. The measured noise levels and the model-predicted noise levels are shown in Table 4. The modeled levels were within  $\pm 3$  dB(A) Leq of the measured AM and PM levels at all three validation sites, therefore, validating the model.

**Table 4: TNM Validation: Summary of Ambient Noise Measurements and TNM Predicted Existing Noise Levels**

Site Number	Address of Measurement Site	Land Use	NAC Category	Date of Noise Reading	Noise Measurement Leq (1-hr) dB(A)	TNM Model Leq (1-hr) dB(A)	Delta Leq (1-hr) dB(A)
M-38	1586 Marcella Drive, Fort Wright	Residential	Category B	7/5/2022 AM	72	71.5	0.5
				7/7/2022 PM	73.6	72.3	1.3
M-40	1 Lake Street, Fort Wright	Residential	Category B	7/8/2022 AM	58.4	61.1	-2.7
				7/11/2022 PM	59	61.9	-2.9
M-45	Central Church of Nazarene, 2006 Pieck Drive, Fort Wright	Church	Category D	7/6/2022 AM	67.2	69.6	-2.4
				7/7/2022 PM	70.4	70	0.4

### 6.3 ANTICIPATED NOISE LEVELS FOR THE DESIGN YEAR (2049)

Noise levels were determined at 343 locations (Exhibits 2A through 2H). Table 5 presents Concept I-W predicted noise levels for each receiver. Table 6 presents a summary of Concept I-W impacts by activity category. TNM2.5® files are provided in Appendix C.

Under Concept I-W, the number of impacted receptors in the 2049 PM peak hour increase by approximately 35 percent (141 versus 104 impacts) when compared to the existing (2022) noise levels. When considering equivalent residential unit impacts, there is a 12 percent increase (385 versus 345) compared to the existing (2022) conditions. The largest number of impacts by activity category is for Activity Category C/D (schools, parks, etc.), where four receivers representing 154 equivalent residential units exceed impact thresholds during the PM peak period. In the Activity Category B (residential), 129 receivers representing 145 equivalent residential units, exceed impact thresholds during the PM peak period. The 145 equivalent receptor impacts represent a 37 percent increase over comparable existing (2022) conditions (106 equivalent residences).

**Table 5: Concept I-W Noise Levels**

Receptor Number	Land Use	PM Peak Hour			2022 Approach/ Exceed NAC (Yes/No)	2049 Approach/ Exceed NAC (Yes/No)	Activity Category
		2022 Existing Leq (1-Hr) dB(A)	2049 Build Leq (1-Hr) dB(A)	Build Minus Existing (dB(A))			
M-30	Single-Family	66.9	68.4	1.5	Yes	Yes	B
M-31	Multi-Family	70.0	69.7	-0.3	Yes	Yes	B
M-35	Multi-Family	70.8	70.9	0.1	Yes	Yes	B
M-36	School	70.8	74.9	4.1	Yes	Yes	D
M-37	Single-Family	66.4	69.6	3.2	Yes	Yes	B
M-38	Single-Family	71.9	74.6	2.7	Yes	Yes	B
M-39	Multi-Family	71.2	70.2	-1.0	Yes	Yes	B
M-40	Single-Family	61.9	63.2	1.3	No	No	B
M-41	Single-Family	69.9	75.7	5.8	Yes	Yes	B
M-42	Single-Family	63.9	69.5	5.6	No	Yes	B
M-43	Car Dealership	75.7	78.7	3.0	Yes	Yes	E
M-44	Multi-Family	70.7	73.6	2.9	Yes	Yes	B
M-44a	Multi-Family	72.5	74.3	1.8	Yes	Yes	B
M-45	Church	72.3	76.0	3.7	Yes	Yes	D
M-46	Single-Family	65.0	67.2	2.2	No	Yes	B
M-47	School	60.0	63.0	3.0	No	No	C
M-48	Single-Family	60.9	63.2	2.3	No	No	B
R412	Restaurant/Bar	60.9	61.9	1.0	No	No	F
R460	Single-Family	47.0	48.7	1.7	No	No	B
R465	Multi-Family	40.5	41.9	1.4	No	No	B
R468	Multi-Family	49.1	49.7	0.6	No	No	B
R469	Vacant	56.0	58.4	2.4	No	No	B
R473	Multi-Family	48.7	47.3	-1.4	No	No	B
R474	Vacant	57.2	59.7	2.5	No	No	B
R476	Multi-Family	48.7	50.1	1.4	No	No	B
R477	Multi-Family	49.1	50.1	1.0	No	No	B
R479	Office	67.7	65.9	-1.8	No	No	E
R481	Multi-Family	54.4	54.5	0.1	No	No	B
R483	Single-Family	48.1	50.6	2.5	No	No	B
R484	Office	42.6	43.3	0.7	No	No	C
R486	Multi-Family	47.7	48.6	0.9	No	No	B
R487	Multi-Family	54.4	51.8	-2.6	No	No	B
R490	Single-Family	45.1	47.1	2.0	No	No	B
R491	Single-Family	34.1	37.2	3.1	No	No	B
R492	Single-Family	45.1	46.3	1.2	No	No	B
R493	Multi-Family	53.2	53.3	0.1	No	No	B
R494	Multi-Family	53.5	53.8	0.3	No	No	B
R495	Single-Family	73.3	76.1	2.8	Yes	Yes	B
R496	Single-Family	62.4	65.8	3.4	No	No	B
R499	Single-Family	44.8	46.1	1.3	No	No	B
R500	Single-Family	72.4	75.6	3.2	Yes	Yes	B
R501	Single-Family	64.7	68.8	4.1	No	Yes	B
R502	Single-Family	64.0	68.2	4.2	No	Yes	B
R503	Single-Family	72.1	75.5	3.4	Yes	Yes	B
R504	Single-Family	71.2	74.6	3.4	Yes	Yes	B

Traffic Noise Impact Analysis: Kentucky – Southern Section  
 Brent Spence Bridge Corridor Project, Kenton County KY; KYTC Item No. 6-17.00

Receptor Number	Land Use	PM Peak Hour			2022 Approach/ Exceed NAC (Yes/No)	2049 Approach/ Exceed NAC (Yes/No)	Activity Category
		2022 Existing Leq (1-Hr) dB(A)	2049 Build Leq (1-Hr) dB(A)	Build Minus Existing (dB(A))			
R505	Single-Family	66.1	70.3	4.2	Yes	Yes	B
R507	Multi-Family	63.0	62.2	-0.8	No	No	B
R508	Single-Family	71.5	74.9	3.4	Yes	Yes	B
R509	School	69.4	71.1	1.7	Yes	Yes	C
R510	Multi-Family	67.2	71.5	4.3	Yes	Yes	B
R512	Single-Family	69.7	73.6	3.9	Yes	Yes	B
R514	Single-Family	47.4	48.3	0.9	No	No	B
R515	Multi-Family	65.1	64.3	-0.8	No	No	B
R516	Single-Family	69.7	73.4	3.7	Yes	Yes	B
R517	Single-Family	67.5	71.6	4.1	Yes	Yes	B
R518	Single-Family	67.6	71.7	4.1	Yes	Yes	B
R519	Multi-Family	58.9	59.5	0.6	No	No	B
R520	Multi-Family	61.9	61.8	-0.1	No	No	B
R523	Multi-Family	59.7	59.1	-0.6	No	No	B
R525	Multi-Family	70.3	70.2	-0.1	Yes	Yes	B
R526	Multi-Family	56.7	58.4	1.7	No	No	B
R527	Multi-Family	57.5	58.9	1.4	No	No	B
R530	Single-Family	52.9	54.1	1.2	No	No	B
R531	Single-Family	67.6	71.0	3.4	Yes	Yes	B
R532	Multi-Family	56.2	58.2	2.0	No	No	B
R533	Multi-Family	56.8	59.2	2.4	No	No	B
R535	Multi-Family	56.5	60.0	3.5	No	No	B
R536	Multi-Family	64.1	64.0	-0.1	No	No	B
R537	Single-Family	66.3	67.8	1.5	Yes	Yes	B
R538	Single-Family	69.4	70.6	1.2	Yes	Yes	B
R539	Single-Family	63.8	65.4	1.6	No	No	B
R540	Single-Family	66.2	69.4	3.2	Yes	Yes	B
R541	Single-Family	64.2	67.5	3.3	No	Yes	B
R542	Single-Family	62.1	65.7	3.6	No	No	B
R545	Single-Family	72.1	73.6	1.5	Yes	Yes	B
R546	Single-Family	61.1	63.7	2.6	No	No	B
R547	Single-Family	60.7	64.4	3.7	No	No	B
R548	Multi-Family	57.1	60.8	3.7	No	No	B
R550	Multi-Family	58.4	62.1	3.7	No	No	B
R551	Single-Family	56.0	56.8	0.8	No	No	B
R552	Single-Family	58.4	58.9	0.5	No	No	B
R553	Single Family	61.2	61.7	0.5	No	No	B
R554	Single-Family	59.0	62.6	3.6	No	No	B
R555	Single Family	58.8	62.3	3.5	No	No	B
R556	Single-Family	54.3	55.6	1.3	No	No	B
R558	Single-Family	58.5	61.7	3.2	No	No	B
R559	Single-Family	59.6	63.5	3.9	No	No	B
R560	Single-Family	59.2	63.1	3.9	No	No	B
R561	Single-Family	59.4	63.1	3.7	No	No	B
R562	Single-Family	52.2	54.2	2.0	No	No	B
R563	Single-Family	53	55.1	2.1	No	No	B
R565	Single-Family	52.4	54.0	1.6	No	No	B

Traffic Noise Impact Analysis: Kentucky – Southern Section  
 Brent Spence Bridge Corridor Project, Kenton County KY; KYTC Item No. 6-17.00

Receptor Number	Land Use	PM Peak Hour			2022 Approach/ Exceed NAC (Yes/No)	2049 Approach/ Exceed NAC (Yes/No)	Activity Category
		2022 Existing Leq (1-Hr) dB(A)	2049 Build Leq (1-Hr) dB(A)	Build Minus Existing (dB(A))			
R566	Single-Family	64.7	62.2	-2.5	No	No	B
R569	Single-Family	52.7	54.3	1.6	No	No	B
R570	Multi-Family	60.0	60.1	0.1	No	No	B
R572	Single-Family	55.5	59.3	3.8	No	No	B
R573	Single-Family	68.0	69.6	1.6	Yes	Yes	B
R577	Single-Family	65.5	67.4	1.9	No	Yes	B
R578	Single-Family	58.4	61.5	3.1	No	No	B
R579	Single-Family	53.3	55.5	2.2	No	No	B
R580	Multi-Family	55.1	56.3	1.2	No	No	B
R581	Single-Family	53.1	55.8	2.7	No	No	B
R583	Single-Family	63.3	65.4	2.1	No	No	B
R584	Single-Family	56.4	59.3	2.9	No	No	B
R585	Single-Family	53.6	56.6	3.0	No	No	B
R586	Multi-Family	53.1	54.3	1.2	No	No	B
R587	Single-Family	54.2	57.8	3.6	No	No	B
R589	Single-Family	61.9	64.0	2.1	No	No	B
R590	Single-Family	56.3	59.9	3.6	No	No	B
R591	Single-Family	55.9	59.5	3.6	No	No	B
R592	Single-Family	56.1	59.5	3.4	No	No	B
R593	Single-Family	55.4	59.0	3.6	No	No	B
R594	Single-Family	54.2	57.7	3.5	No	No	B
R597	Single-Family	61.4	63.7	2.3	No	No	B
R598	Single-Family	54.4	58.1	3.7	No	No	B
R599	Multi-Family	53.3	54.8	1.5	No	No	B
R600	Multi-Family	53.3	54.8	1.5	No	No	B
R604	Single-Family	61.6	64.0	2.4	No	No	B
R605	Multi-Family	53.5	54.9	1.4	No	No	B
R607	Multi-Family	53.5	54.9	1.4	No	No	B
R612	Single-Family	54.1	55.5	1.4	No	No	B
R637	Single-Family	67.0	68.0	1.0	Yes	Yes	B
R672	School	68.9	70.5	1.6	Yes	Yes	C
R702	Single-Family	62.0	63.9	1.9	No	No	B
R703	Single-Family	61.4	63.4	2.0	No	No	B
R704	Single-Family	62.3	64.1	1.8	No	No	B
R705	Single-Family	62.2	64.0	1.8	No	No	B
R706	Single-Family	61.8	63.7	1.9	No	No	B
R707	Single-Family	62.7	64.9	2.2	No	No	B
R708	Single-Family	62.6	64.4	1.8	No	No	B
R709	Multi-Family	63.5	65.5	2.0	No	No	B
R710	Single-Family	61.7	64.2	2.5	No	No	B
R711	Single-Family	63.9	66.5	2.6	No	Yes	B
R712	Single-Family	65.7	68.7	3.0	No	Yes	B
R713	Office	71.8	74.0	2.2	No	No	F
R714	Multi-Family	68.9	71.7	2.8	Yes	Yes	B
R715	Single Family	65.8	69.0	3.2	No	Yes	B
R716	Single-Family	65.6	68.7	3.1	No	Yes	B
R717	Office	72.9	74.9	2.0	No	No	F

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Receptor Number	Land Use	PM Peak Hour			2022	2049	Activity Category
		2022 Existing Leq (1-Hr) dB(A)	2049 Build Leq (1-Hr) dB(A)	Build Minus Existing (dB(A))	Approach/ Exceed NAC (Yes/No)	Approach/ Exceed NAC (Yes/No)	
R718	Single-Family	64.1	66.9	2.8	No	Yes	B
R719	Single-Family	60.9	63.0	2.1	No	No	B
R720	Office	72.2	74.1	1.9	No	No	F
R721	Retail	58.6	62.1	3.5	No	No	F
R722	Office	58.3	61.1	2.8	No	No	F
R723	Medical Facility	58.4	61.1	2.7	No	No	C
R724	Single-Family	53.9	56.4	2.5	No	No	B
R726	Single-Family	67.6	70.7	3.1	Yes	Yes	B
R727	Office	71.9	73.8	1.9	Yes	Yes	E
R728	Single-Family	58.2	60.6	2.4	No	No	B
R729	Single-Family	58.1	60.8	2.7	No	No	B
R730	Office	69.8	70.6	0.8	No	No	F
R731	Single-Family	58.2	61.1	2.9	No	No	B
R732	Single-Family	58.9	61.5	2.6	No	No	B
R733	Hotel / Pool	71.1	75.2	4.1	Yes	Yes	E
R734	Multi-Family	72.0	74.8	2.8	Yes	Yes	B
R735	Hotel	65.9	70.4	4.5	No	No	E
R736	Office	75.2	75.8	0.6	Yes	Yes	E
R737	Office	73.5	77.2	3.7	No	No	F
R738	Single-Family	60.6	63.3	2.7	No	No	B
R739	Single-Family	58.7	61.1	2.4	No	No	B
R740	Single-Family	60.6	63.0	2.4	No	No	B
R741	Office	67.8	66.3	-1.5	No	No	F
R742	Office	58.7	61.3	2.6	No	No	F
R743	Single-Family	55.9	58.3	2.4	No	No	B
R744	Single-Family	70.0	72.9	2.9	Yes	Yes	B
R745	Single-Family	55.2	58.5	3.3	No	No	B
R746	Single-Family	63.1	65.3	2.2	No	No	B
R747	Single-Family	53.9	57.2	3.3	No	No	B
R748	Single-Family	78.0	79.2	1.2	Yes	Yes	B
R749	Single-Family	77.4	78.7	1.3	Yes	Yes	B
R750	Single-Family	60.0	62.2	2.2	No	No	B
R751	Single-Family	61.4	63.5	2.1	No	No	B
R752	Single-Family	60.6	62.4	1.8	No	No	B
R753	Restaurant/Bar	62.7	65.1	2.4	No	No	E
R754	Single-Family	56.2	59.4	3.2	No	No	B
R755	Single-Family	69.6	72.6	3.0	Yes	Yes	B
R756	Single-Family	77.1	78.3	1.2	Yes	Yes	B
R757	Single-Family	74.7	76.2	1.5	Yes	Yes	B
R758	Single-Family	61.7	64.9	3.2	No	No	B
R759	Commercial	63.1	63.6	0.5	No	No	F
R760	Single-Family	61.7	63.3	1.6	No	No	B
R761	Single-Family	57.3	60.3	3.0	No	No	B
R762	Single-Family	63.2	64.4	1.2	No	No	B
R763	Single-Family	58.6	61.6	3.0	No	No	B
R764	Single-Family	74.5	75.6	1.1	Yes	Yes	B
R765	Single-Family	63.2	65.0	1.8	No	No	B

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Receptor Number	Land Use	PM Peak Hour			2022	2049	Activity Category
		2022 Existing Leq (1-Hr) dB(A)	2049 Build Leq (1-Hr) dB(A)	Build Minus Existing (dB(A))	Approach/ Exceed NAC (Yes/No)	Approach/ Exceed NAC (Yes/No)	
R766	Single-Family	75.2	77.0	1.8	Yes	Yes	B
R767	Single-Family	54.6	58.4	3.8	No	No	B
R768	Single-Family	61.5	63.4	1.9	No	No	B
R769	Single-Family	72.8	74.4	1.6	Yes	Yes	B
R770	Single-Family	59.9	62.4	2.5	No	No	B
R771	Single-Family	69.6	71.0	1.4	Yes	Yes	B
R772	Single-Family	73.5	75.1	1.6	Yes	Yes	B
R773	Vacant	62.7	65.0	2.3	No	No	B
R774	Single-Family	70.7	72.8	2.1	Yes	Yes	B
R775	Single-Family	55.7	59.6	3.9	No	No	B
R776	Single-Family	72.0	74.1	2.1	Yes	Yes	B
R777	Single-Family	71.0	72.5	1.5	Yes	Yes	B
R778	Single-Family	71.9	73.3	1.4	Yes	Yes	B
R779	Single-Family	69.2	72.2	3.0	Yes	Yes	B
R780	Single-Family	71.1	73.0	1.9	Yes	Yes	B
R781	Single-Family	62.5	64.3	1.8	No	No	B
R782	Single Family	62.6	65.1	2.5	No	No	B
R783	Single-Family	70.8	73.0	2.2	Yes	Yes	B
R784	Single-Family	69.1	71.8	2.7	Yes	Yes	B
R785	Single-Family	76.4	78.6	2.2	Yes	Yes	B
R786	Single Family	59.0	62.0	3.0	No	No	B
R787	Single-Family	69.7	71.6	1.9	Yes	Yes	B
R788	Single-Family	70.0	72.2	2.2	Yes	Yes	B
R789	Single-Family	63.7	64.7	1.0	No	No	B
R790	Single-Family	70.6	74.2	3.6	Yes	Yes	B
R791	Single-Family	69.1	71.6	2.5	Yes	Yes	B
R792	Single-Family	73.9	77.3	3.4	Yes	Yes	B
R793	Vacant	62.4	64.3	1.9	No	No	B
R794	Vacant	65.9	71.2	5.3	No	Yes	B
R795	Single Family	69.0	70.5	1.5	Yes	Yes	B
R796	Single-Family	70.6	74.9	4.3	Yes	Yes	B
R797	Single-Family	69.8	71.7	1.9	Yes	Yes	B
R798	Single-Family	61.9	63.8	1.9	No	No	B
R799	Single-Family	67.5	70.2	2.7	Yes	Yes	B
R800	Single-Family	72.5	75.4	2.9	Yes	Yes	B
R801	Single-Family	67.1	69.9	2.8	Yes	Yes	B
R802	Single-Family	68.2	73.1	4.9	Yes	Yes	B
R803	Single-Family	65.7	66.7	1.0	No	Yes	B
R804	Single-Family	63.5	65.2	1.7	No	No	B
R805	Single-Family	69.5	73.8	4.3	Yes	Yes	B
R806	Single-Family	63.6	64.4	0.8	No	No	B
R807	Single-Family	68.4	73.1	4.7	Yes	Yes	B
R808	Single-Family	65.4	67.2	1.8	No	Yes	B
R809	Multi-Family	65.9	68.1	2.2	No	Yes	B
R810	Single-Family	67.1	66.7	-0.4	Yes	Yes	B
R811	Single-Family	67.4	70.3	2.9	Yes	Yes	B
R812	Single-Family	63.1	66.4	3.3	No	Yes	B



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		2022 Existing Leq (1-Hr) dB(A)	2049 Build Leq (1-Hr) dB(A)	Build Minus Existing (dB(A))			
R813	Single-Family	67.3	69.0	1.7	Yes	Yes	B
R814	Single-Family	67.3	69.3	2.0	Yes	Yes	B
R815	Multi-Family	64.1	66.4	2.3	No	Yes	B
R816	Single-Family	61.0	64.9	3.9	No	No	B
R817	Single-Family	67.3	70.1	2.8	Yes	Yes	B
R818	Multi-Family	55.4	55.5	0.1	No	No	B
R819	Single-Family	72.5	75.2	2.7	Yes	Yes	B
R820	Single-Family	67.5	69.4	1.9	Yes	Yes	B
R821	Single-Family	63.9	65.7	1.8	No	No	B
R822	Single-Family	65.4	67.9	2.5	No	Yes	B
R823	Single-Family	66.2	68.3	2.1	Yes	Yes	B
R824	Single-Family	65.1	68.1	3.0	No	Yes	B
R825	Single-Family	66.9	68.6	1.7	Yes	Yes	B
R826	Single-Family	66.8	68.8	2.0	Yes	Yes	B
R827	Single-Family	66.6	68.3	1.7	Yes	Yes	B
R828	Single-Family	66.4	68.5	2.1	Yes	Yes	B
R829	Single-Family	68.3	67.5	-0.8	Yes	Yes	B
R830	Multi-Family	65.7	68.3	2.6	No	Yes	B
R831	Single-Family	63.2	64.4	1.2	No	No	B
R832	Single-Family	59.2	62.1	2.9	No	No	B
R833	Single-Family	60.4	63.8	3.4	No	No	B
R834	Single-Family	65.9	68.5	2.6	No	Yes	B
R835	Single-Family	68.1	71.6	3.5	Yes	Yes	B
R836	Multi-Family	65.3	68.0	2.7	No	Yes	B
R837	Single-Family	55.4	55.6	0.2	No	No	B
R838	Single-Family	65.2	66.8	1.6	No	Yes	B
R839	Single-Family	61.9	63.6	1.7	No	No	B
R840	Single-Family	62.2	63.8	1.6	No	No	B
R841	Single-Family	63.9	65.4	1.5	No	No	B
R842	Day Care	57.3	61.5	4.2	No	No	C
R843	Single-Family	62.8	65.3	2.5	No	No	B
R844	Single-Family	68.2	67.3	-0.9	Yes	Yes	B
R845	Single-Family	63.7	66.6	2.9	No	Yes	B
R846	Single-Family	60.1	63.3	3.2	No	No	B
R847	Single-Family	61.7	64.5	2.8	No	No	B
R848	Multi-Family	54.8	54.4	-0.4	No	No	B
R849	Single-Family	58.6	62.0	3.4	No	No	B
R850	Single-Family	64.8	66.0	1.2	No	Yes	B
R851	Single-Family	72.0	74.8	2.8	Yes	Yes	B
R852	Single-Family	61.7	62.9	1.2	No	No	B
R853	Car Dealership	60.5	63.4	2.9	No	No	E
R854	Single-Family	62.7	65.3	2.6	No	No	B
R855	Single-Family	57.7	61.7	4.0	No	No	B
R856	Single-Family	58.2	61.2	3.0	No	No	B
R857	Single-Family	69.6	72.8	3.2	Yes	Yes	B
R858	Single-Family	56.9	60.5	3.6	No	No	B
R859	Single-Family	56.1	59.9	3.8	No	No	B

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Receptor Number	Land Use	PM Peak Hour			2022 Approach/ Exceed NAC (Yes/No)	2049 Approach/ Exceed NAC (Yes/No)	Activity Category
		2022 Existing Leq (1-Hr) dB(A)	2049 Build Leq (1-Hr) dB(A)	Build Minus Existing (dB(A))			
R860	Single-Family	71.6	74.4	2.8	Yes	Yes	B
R861	Single-Family	55.4	58.7	3.3	No	No	B
R862	Single-Family	63.8	66.0	2.2	No	Yes	B
R863	Single-Family	54.2	53.9	-0.3	No	No	B
R864	Single-Family	62.4	65.2	2.8	No	No	B
R865	Commercial	68.8	71.5	2.7	No	No	F
R866	Car Dealership	64.3	68.1	3.8	No	No	E
R867	Single-Family	67.0	70.6	3.6	Yes	Yes	B
R869	Single Family	61.8	65.2	3.4	No	No	B
R870	Single-Family	70.6	73.4	2.8	Yes	Yes	B
R871	Single-Family	61.4	64.1	2.7	No	No	B
R872	Vacant	61.8	63.9	2.1	No	No	B
R873	Single-Family	70.3	73.1	2.8	Yes	Yes	B
R874	Single-Family	51.7	54.9	3.2	No	No	B
R875	Single-Family	64.9	69.0	4.1	No	Yes	B
R876	Single-Family	61.0	63.5	2.5	No	No	B
R877	Single-Family	61.5	64.9	3.4	No	No	B
R878	Sport Complex	73.9	76.6	2.7	Yes	Yes	E
R879	Single-Family	69.9	72.8	2.9	Yes	Yes	B
R880	Single-Family	61.3	65.3	4.0	No	No	B
R881	Single-Family	60.8	63.0	2.2	No	No	B
R882	Single-Family	69.2	71.9	2.7	Yes	Yes	B
R883	Single-Family	63.0	67.5	4.5	No	Yes	B
R884	Single-Family	65.6	69.9	4.3	No	Yes	B
R885	Single-Family	69.8	72.5	2.7	Yes	Yes	B
R886	Single-Family	61.6	65.4	3.8	No	No	B
R887	Single-Family	60.4	62.7	2.3	No	No	B
R888	Single-Family	63.9	68.2	4.3	No	Yes	B
R889	Single-Family	61.9	66.3	4.4	No	Yes	B
R890	Single-Family	69.2	72.1	2.9	Yes	Yes	B
R891	Single-Family	59.9	62.1	2.2	No	No	B
R892	Single-Family	62.1	65.7	3.6	No	No	B
R893	Single-Family	62.1	66.2	4.1	No	Yes	B
R894	Single-Family	68.7	71.6	2.9	Yes	Yes	B
R895	Single-Family	55.8	59.8	4.0	No	No	B
R896	Single-Family	59.6	61.7	2.1	No	No	B
R897	Single-Family	68.2	71.1	2.9	Yes	Yes	B
R898	Single-Family	61.2	65.4	4.2	No	No	B
R899	Single-Family	61.2	65.2	4.0	No	No	B
R900	Single-Family	56.9	60.7	3.8	No	No	B
R901	Cemetery	60.8	64.4	3.6	No	No	C
R902	School Auditorium	74.5	77.2	2.7	Yes	Yes	D
R903	Tennis Courts	65.1	69.5	4.4	No	Yes	C
R904	Track/Soccer Field	54.4	56.7	2.3	No	No	C

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Receptor Number	Land Use	PM Peak Hour			2022	2049	Activity Category
		2022 Existing Leq (1-Hr) dB(A)	2049 Build Leq (1-Hr) dB(A)	Build Minus Existing (dB(A))	Approach/ Exceed NAC (Yes/No)	Approach/ Exceed NAC (Yes/No)	
R905	Day Care	69.7	72.5	2.8	Yes	Yes	C
R1000	Single Family	60.0	62.8	2.8	No	No	B
R1001	Single Family	61.1	64.0	2.9	No	No	B
R1002	Single Family	61.1	64.1	3.0	No	No	B
R1003	Single Family	60.5	63.4	2.9	No	No	B
R1004	Multi-Family	61.3	64.3	3.0	No	No	B
R1005	Multi-Family	60.9	64.0	3.1	No	No	B
R1006	Multi-Family	59.4	62.2	2.8	No	No	B
R1007	Multi-Family	59.2	62.2	3.0	No	No	B
R1008	Single Family	59.6	62.5	2.9	No	No	B
R1009	Single Family	61.0	63.8	2.8	No	No	B
R1010	Single Family	63.0	65.8	2.8	No	No	B
R1011	Single Family	63.8	66.9	3.1	No	Yes	B
R1012	Single Family	64.6	66.5	1.9	No	Yes	B
R1013	Single Family	66.5	69.4	2.9	Yes	Yes	B
R1014	Single Family	64.2	67.2	3.0	No	Yes	B
R1015	Single Family	63.3	66.2	2.9	No	Yes	B
R1016	Single Family	62.3	64.3	2.0	No	No	B
R1017	Single Family	63.5	65.8	2.3	No	No	B

**Table 6: Summary of Impacts by FHWA Activity Category**

Alternative	NAC A	NAC B	NAC C	NAC D	NAC E	NAC G	Totals
2022 Existing	0	93 (106)	3 (153)	3 (81)	5 (5)	0	104 (345)
2049 I-W Build	0	129 (145)	4 (154)	3 (81)	5 (5)	0	141 (385)

Numbers not in parentheses represent the total number of receivers with impacts for each FHWA Activity Category evaluated for each scenario.

Numbers shown in parentheses represent the total impacted number of equivalent receptors for each FHWA Activity Category for each scenario evaluated. The last column on the extreme right provides a summary of the total corridor-wide impacts.

**7.0 NOISE ABATEMENT**

The Kentucky Transportation Cabinet (KYTC) requires that noise abatement measures be considered where traffic related noise impacts are predicted. Federal funds may be used for noise abatement measures when:

- traffic noise impacts have been identified, and
- abatement measures have been determined to be feasible and reasonable pursuant to Section 772.13(d) and KYTC policy.

In conformance with these requirements, abatement measures were evaluated in terms of their effectiveness to substantially reduce predicted design year noise levels at locations where impacts occur. Potential abatement measures include:

- Traffic management measures.
- Alteration of roadway horizontal or vertical alignments.
- Acquisition of real property or land to serve as a buffer zone to preempt development that would be adversely impacted from traffic noise.
- Noise insulation of Activity Category D land use facilities listed in Table 1.
- Construction of noise barriers, including acquisition of property rights, either within or outside the highway right of way (ROW).

Traffic management measures involve restrictions on the speed and type of vehicles permitted to use a particular roadway. Traffic management measures such as placing restrictions on heavy truck movements and lowering operating speeds are not compatible with the purpose of interstate roadways. Alteration of horizontal and vertical alignments beyond what is presently proposed for Concept I-W is constrained by existing terrain, location of the existing transportation facilities and land uses, underlying geology, and other considerations. Due to the densely developed urban environment of the study area, acquisition of land to serve as a noise buffer zone is not a practical option. The insulation of Category D facilities has been considered in accordance with KYTC's Noise Policy where interior noise impacts are predicted to approach or exceed the NAC. At any such locations, noise barriers are being recommended and further consideration of interior insulation is not required. Therefore, the only remaining potentially effective abatement measure is noise barriers.

#### **7.1 KYTC NOISE BARRIER FEASIBILITY AND REASONABLENESS FACTORS**

Noise barriers reduce noise by blocking the path of sound between the source of the noise and the receiver. To be effective, a noise barrier should be located adjacent to either the source or the receiver. The noise wall must also be long, continuous, and break the line-of-sight from the highway to the receiver. When determining the acoustic feasibility of a proposed abatement measure, the KYTC Noise Policy requires that abatement measures provide a substantial noise reduction (>5 dB(A)) for a reasonable percentage of impacted receptors. A proposed barrier will not be considered acoustically feasible if it does not provide a minimum 5 dB(A) reduction for three or more impacted receptors.

Engineering or constructability issues may render an abatement measure infeasible. In determining if site characteristics are suitable for noise barrier construction, KYTC considers numerous factors including safety, maintenance, drainage, and access. Engineering judgment may dictate that a barrier is not feasible if the barrier would pose overriding safety (visibility issues) or maintenance (drainage and right of way access) problems as is dictated by the current versions of KYTC's *Highway Design Guidance Manual*, the American Association of State Highway Transportation Officials' (AASHTO) *A Policy on Geometric Design of Highways and Streets* (the Green Book), AASHTO's *Roadside Design Guide* or FHWA's *Manual of Uniform Traffic Control Devices* (MUTCD).

The determination of reasonableness of a proposed abatement measure is based upon three primary factors: cost effectiveness, the noise reduction design goal, and the desires of the benefited receptors. The noise barrier determination of reasonableness is defined as follows:

To be cost effective, the KYTC Noise Policy has established \$40,000 as a reasonable maximum threshold for the Cost per Benefited Receptor (CBR). The CBR is defined as follows:

$$\text{CBR} = (\text{Cost of Noise Barrier } (\$) / \text{Number of Benefited Receptors})$$

Where:

1. Cost of noise barrier is the total anticipated cost of the noise barrier including design, ROW, utilities, and construction. For this analysis, an average cost of \$32 per square foot of barrier wall is assumed.
2. The number of benefited receptors is the total number of receptors receiving a noise reduction of at least 5 dB(A).

The proposed barrier must also meet the Design Goal criterion. The proposed abatement must achieve the noise reduction design goal of 7 dB(A) for a minimum of 50 percent of front row benefited receptors.

Once a proposed noise barrier has been determined to satisfy the feasibility and reasonableness requirements described above, the solicitation of views of the affected property owners (benefited receptors) is the final step in determining if a proposed noise barrier will be constructed. The final decision on the installation of any abatement measure is determined in coordination with residents and owners of the impacted properties during the public involvement process. When the majority of benefited receptors and property owners are opposed to construction of a noise barrier, KYTC will give great deference to these opinions in making a final determination regarding the reasonableness of the measure. Similarly, where the majority of the benefited receptors and property owners are in support of noise barrier construction, and the proposal satisfies all other criteria for consideration outlined in the KYTC Noise Policy, KYTC will incorporate the abatement measures into the project.

## **7.2 NOISE BARRIER ANALYSIS FINDINGS**

A noise barrier analysis was completed utilizing the TNM2.5<sup>®</sup> for adjacent residential communities and other noise sensitive areas where noise impacts are predicted to occur should Concept I-W be constructed. Eight noise barrier configurations at six locations were identified and evaluated for feasibility and reasonableness. Summaries of those findings are contained in Table 7. Illustrations depicting the location of each proposed noise barrier are shown on Exhibits 3 through 10. The abatement analysis concludes that five of the six noise walls considered satisfy KYTC feasibility and reasonableness requirements for the Build Alternative. Walls in similar locations to the previous 2011 report kept the same naming convention. Barrier B20/NSA D is a variation of an earlier design (B20) that extends the previously analyzed barrier approximately 3,265 feet northward to near the 12<sup>th</sup> Street interchange. Barrier B23 is an additional location and, therefore, has been designated with the next available ascending number.

The recommended noise barriers for the Concept I-W are illustrated on Exhibits 4, 7, 8, 9, and 10. The optimized barrier heights at B16B is 12'-22', B18 is 16'-24', B19 is consistent throughout the length of the barrier at 20', and B23 has barrier heights that vary from 18'-22'. All recommended noise barriers achieve a 5 dB(A) or greater noise reduction for at least 50 percent of the impacted receptors. In addition, each recommended barrier satisfies the 7 dB(A) minimum noise reduction goal for 50 percent or more of the front row benefited receptors.

**B16A&B:** This wall was broken down into two design configurations.

B16A: During public outreach many residents of Summit Lane, a residential street in this study area, expressed the desire to have a barrier analyzed to reduce the noise in their back yards. This wall was designed to extend 3,790 feet, nearly the entire distance between Dixie Highway and Kyle's Lane. To benefit those residences that are affected on Summit Lane, the barrier needs to exceed 20' in height for much of the length. This increases the CBR to \$78,515, which is well above the limit established by the KYTC Noise Policy.

**Statement of Likelihood Barrier B16A:** Based on the current project design and traffic projections, a structural noise barrier is feasible, but not reasonable in accordance with KYTC's noise policy and is not considered likely for this location.

B16B: This barrier is configured similarly to the existing barrier in this section, with the exception of the south end being extended 400' to provide mitigation for the Youthland Academy as well as greater mitigation for other receptors near the southern end. This wall extends 1,308 feet, with heights varying from 12'-22' and produces a CBR of \$38,091.

**Statement of Likelihood Barrier B16B:** Based on the current project design and traffic projections, a structural noise barrier is feasible and reasonable in accordance with KYTC's noise policy and is considered likely for this location.

**B17A&B:** This wall was broken down into two design analyses. Both have the same general footprint, but were optimized with different wall heights to provide benefit for the most number of receptors at the lowest possible CBR.

B17A and B17B benefit 16 and 13 receptors, respectively. Neither barrier is recommended as they both result in a CBR above the \$40,000 KYTC Noise Policy threshold.

**Statement of Likelihood Barrier B17A & B17B:** Based on the current project design and traffic projections, a structural noise barrier is feasible, but not reasonable in accordance with KYTC's noise policy and is not considered likely for this location.

**B18:** This design has a height varying from 16 to 24 feet spanning 4,487'. Though it is the longest proposed wall and the most costly at nearly \$2.8 million, it has the lowest CBR among those considered (\$13,104) due to the high number of benefitted receptors.

**Statement of Likelihood Barrier B18:** Based on the current project design and traffic projections, a structural noise barrier is feasible and reasonable in accordance with KYTC's noise policy and is considered likely for this location.

**B19:** This design has a constant height of 20 feet spanning 2,617'. The estimated cost for this wall is \$1.67 million, but due to the relatively large number of benefitted receptors (59), it has an acceptable CBR of \$28,315.

**Statement of Likelihood Barrier B19:** Based on the current project design and traffic projections, a structural noise barrier is feasible and reasonable in accordance with KYTC's noise policy and is considered likely for this location.

**B20/NSA D** The area southeast of the Kyles Lane interchange was previously evaluated as Barrier B20 but was not recommended for inclusion in the project. The barrier was reanalyzed in light of updates to the KYTC Noise Policy and was again found not to meet KYTC's feasibility criteria. However, when extended northward and combined with the proposed barrier west of the 12<sup>th</sup> Street interchange (see barrier NSA D of the *Traffic Noise Impact Analysis: Kentucky – Northern Section (2023)*), this barrier system meets the feasibility criteria.

The combined barrier system, totaling 5,255 feet in length and ranging in height from 12-24 feet, is predicted to benefit 132 receptors and achieve a 5 dB(A) reduction for at least 50% of those properties, meeting KYTC's feasibility criteria. The cost of the barrier system is estimated to be \$3,149,580 resulting in a CBR of \$23,860 per benefited receptor. This value is below KYTC's cost-effectiveness criterion of \$40,000 per benefited receptor; therefore, the modeled barriers – combined in a barrier system - meets KYTC's reasonableness threshold. The barriers would provide 7 dB(A) of attenuation for 31 of the 51 front-row receptors (58.8 percent). This is greater than the 50 percent design goal established in the KYTC Noise Policy; therefore, the barriers would meet this reasonableness criterion.

**Statement of Likelihood Barrier B20/NSA D:** Based on the current project design and traffic projections, a structural noise barrier is feasible and reasonable in accordance with KYTC's noise policy and is considered likely for this location.

**B23:** This design was developed primarily to address the noise levels at the Notre Dame Academy, both for interior levels in its auditorium and classrooms as well as exterior levels at its sports complexes. There are also five full-time residents on-site. The wall was extended eastward to also address several noise impacted apartment buildings at the end of St. Joseph Lane. By extending the wall to shield these properties, the three apartment buildings closest to the interstate become benefited receptors. Even with the extended length of the wall, the CBR is well within the KYTC Noise Policy limit at \$18,078.

One thing to note regarding the design of this wall is its location. There are two retaining walls north of the corridor in this area. The proposed barrier was analyzed to be just on the backside (north) of these retaining walls. Additional geotechnical studies or considerations may be appropriate to account for the additional loads of these noise barriers atop or immediately behind the retaining walls. With the relatively low CBR calculated for the barrier, it is not expected that any associated additional costs would affect the conclusions that this barrier meets cost effectiveness criteria.

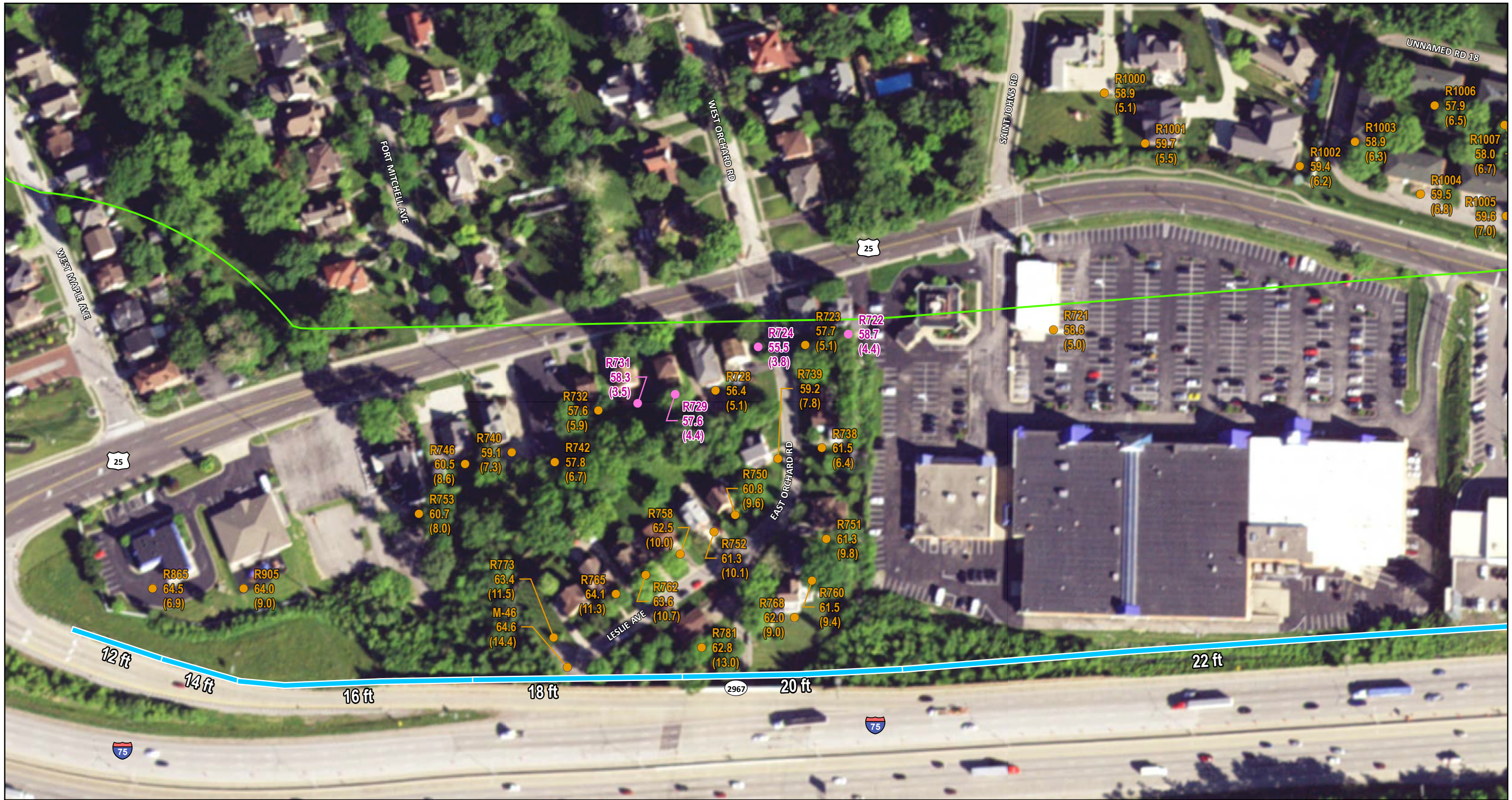
**Statement of Likelihood Barrier B23:** Based on the current project design and traffic projections, a structural noise barrier is feasible and reasonable in accordance with KYTC's noise policy and is considered likely for this location.

Total construction cost of all recommended noise barriers for Concept I-W in the project southern section, including barrier B20/NSA D extending into the northern analysis section, is estimated to be \$9,799,353 providing noise abatement to 504 equivalent benefiting receptors.

**Table 7: Summary of Noise Abatement Findings**

Barrier #	Location	Percentage of FrontRow Benefited Receptors which Receive 7 dB(A) or Greater Noise Reduction (%)	Percentage of Impacted Receptors which Receive 5 dB(A) or Greater Noise Reduction (%)	Barrier Description					Number of Benefited Properties	Estimated Cost Per Benefiting Receptor (CBR) (\$)	Noise Barrier Effectiveness			KYTC Noise Abatement Criteria Satisfied (Yes/No)
				Length (feet)	Beginning Point and Highway Direction	Ending Point and Highway Direction	Noise Barrier Height (ft)	Estimated Cost (\$)			Design Goal Achieved	Acoustic Feasibility Achieved (Yes/No)	Cost Effective Achieved (Yes/No)	
B16A	SB between Kyle's Lane and Dixie Highway	68	67	3,790	SB 436+74	SB 398+95	12-24	\$2,512,485	32	\$78,515	Yes	Yes	No	No
B16B		88	82	1,308	SB 412+25	SB 398+95	12-22	<b>\$723,746</b>	19	\$38,091	Yes	Yes	Yes	Yes
B17A	SB between Dixie Highway and Buttermilk Pike	58	46	1,153	SB 381+55	SB 370+60	18-24	\$759,435	16	\$47,465	Yes	Yes	No	No
B17B		32	25	1,153	SB 381+55	SB 370+60	16-20	\$647,286	13	\$49,791	No	Yes	No	No
B18	NB between Buttermilk Pike and Dixie Highway	94	95	4,487	NB 347+62	NB 391+74	16-24	<b>\$2,791,144</b>	213	\$13,104	Yes	Yes	Yes	Yes
B19	NB between Dixie Highway and Kyle's Lane	84	92	2,617	NB 405+57	NB 431+88	20	<b>\$1,670,599</b>	59	\$28,315	Yes	Yes	Yes	Yes
B20/NSA D	NB between Kyle's Lane and 12 <sup>th</sup> St	59	55	5,255	NB 446+15	NB 496+00	12-24	<b>\$3,149,580</b>	132	\$23,860	Yes	Yes	Yes	Yes
B23	SB between 12 <sup>th</sup> St and Kyle's Lane	84	96	2,350	SB 477+00	SB 453+50	18-22	<b>\$1,464,284</b>	81	\$18,078	Yes	Yes	Yes	Yes
<b>Total Cost and Number of Benefited Properties for Recommended Noise Barriers =</b>								<b>\$9,799,353</b>	<b>504</b>					



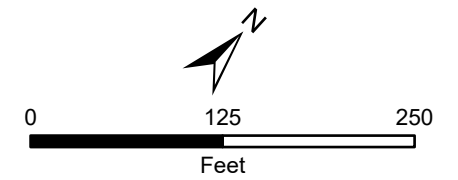


- Legend**
- Receptor #
  - Predicted Abated Noise Level
  - Noise Reduction [dBA]
  - Not Impacted, Not Benefitted
  - Impacted, Not Benefitted
  - Benefitted
  - ▭ 500' Noise Buffer (Southern Study Area)
  - ▬ Analyzed Noise Barrier



**Brent Spence Bridge Corridor Project**  
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**Concept I-W Barrier 16A (12-24 ft)**  
**Exhibit 3A**



Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet

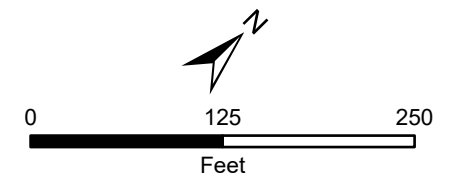


- Legend**
- Receptor #
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  - (Noise Reduction [dBA])
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  - Benefitted
  - ▭ 500' Noise Buffer (Southern Study Area)
  - ▬ Analyzed Noise Barrier

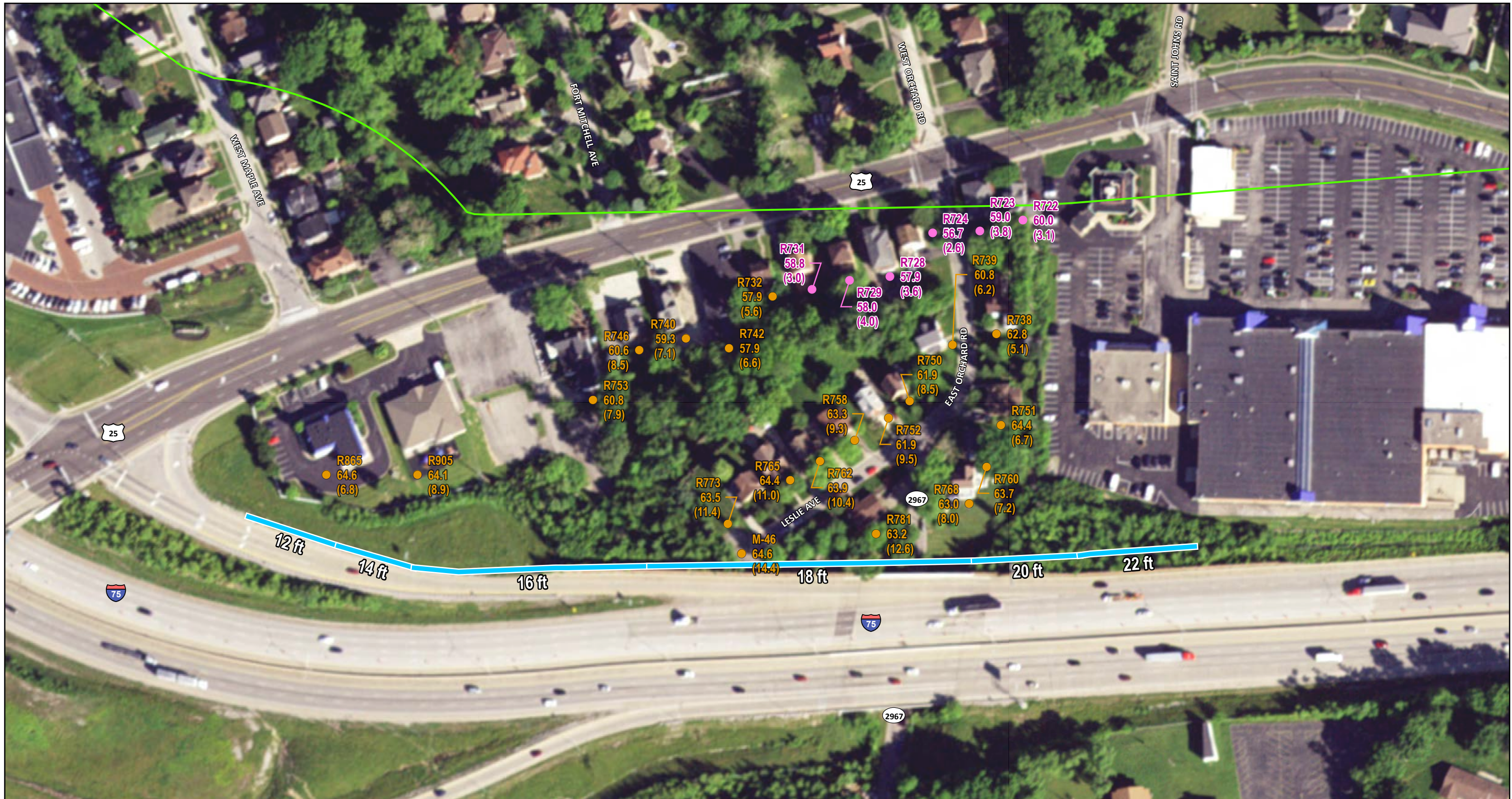


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**Concept I-W Barrier 16A (12-24 ft)  
Exhibit 3B**



Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet

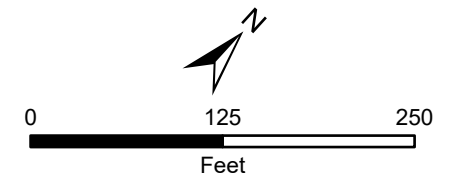


- Legend**
- Receptor #
  - Predicted Abated Noise Level
  - Noise Reduction [dBA]
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  - Impacted, Not Benefitted
  - Benefitted
  - ▭ 500' Noise Buffer (Southern Study Area)
  - ▬ Analyzed Noise Barrier

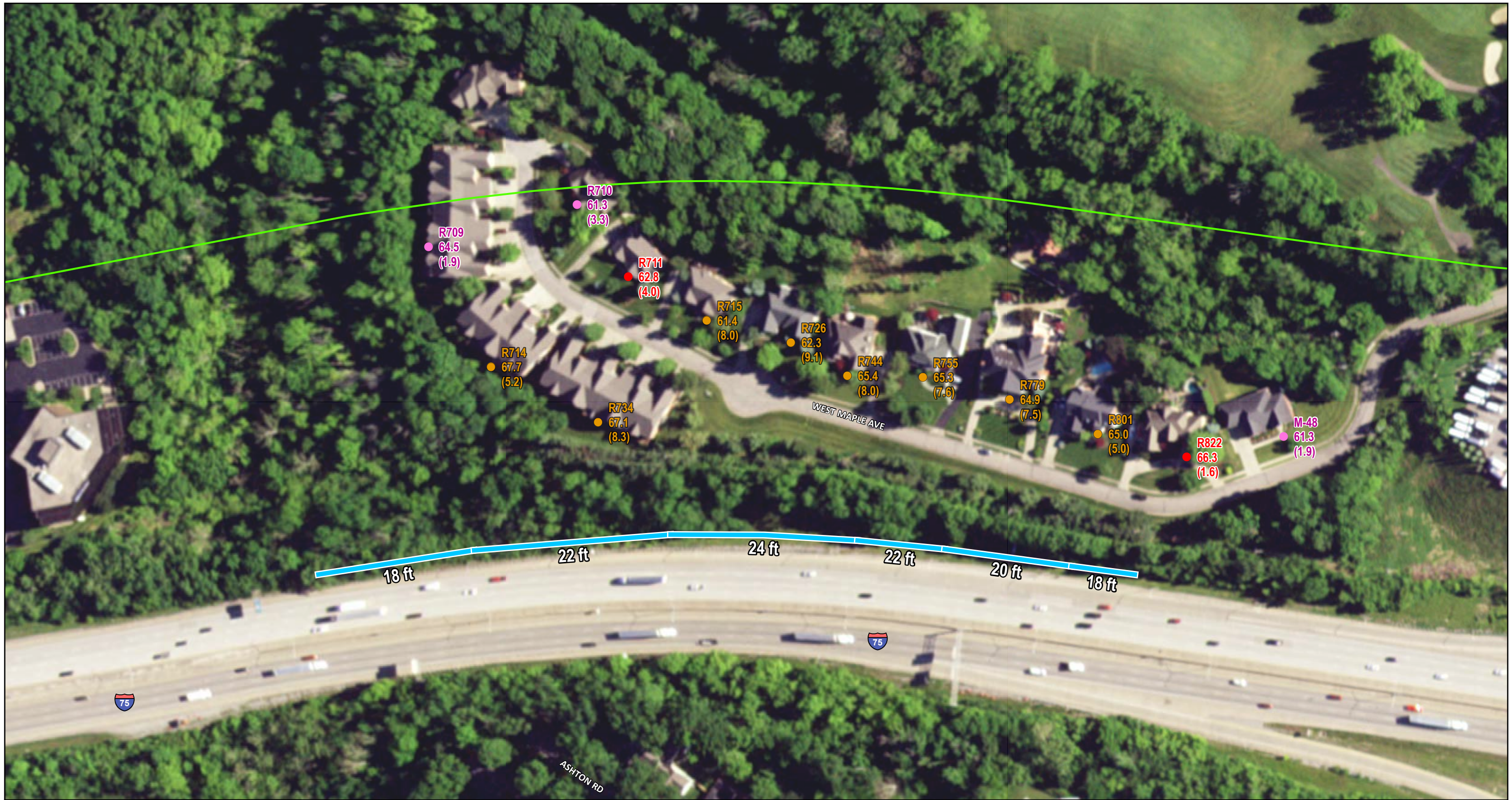


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**Concept I-W Barrier B16B (12-22 ft)  
Exhibit 4**



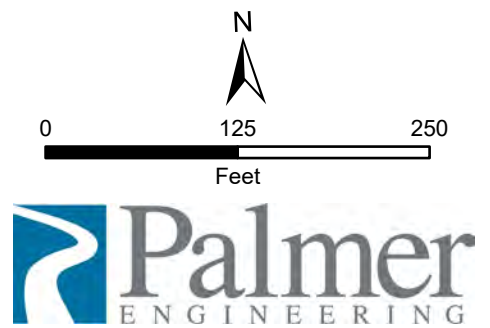
Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet



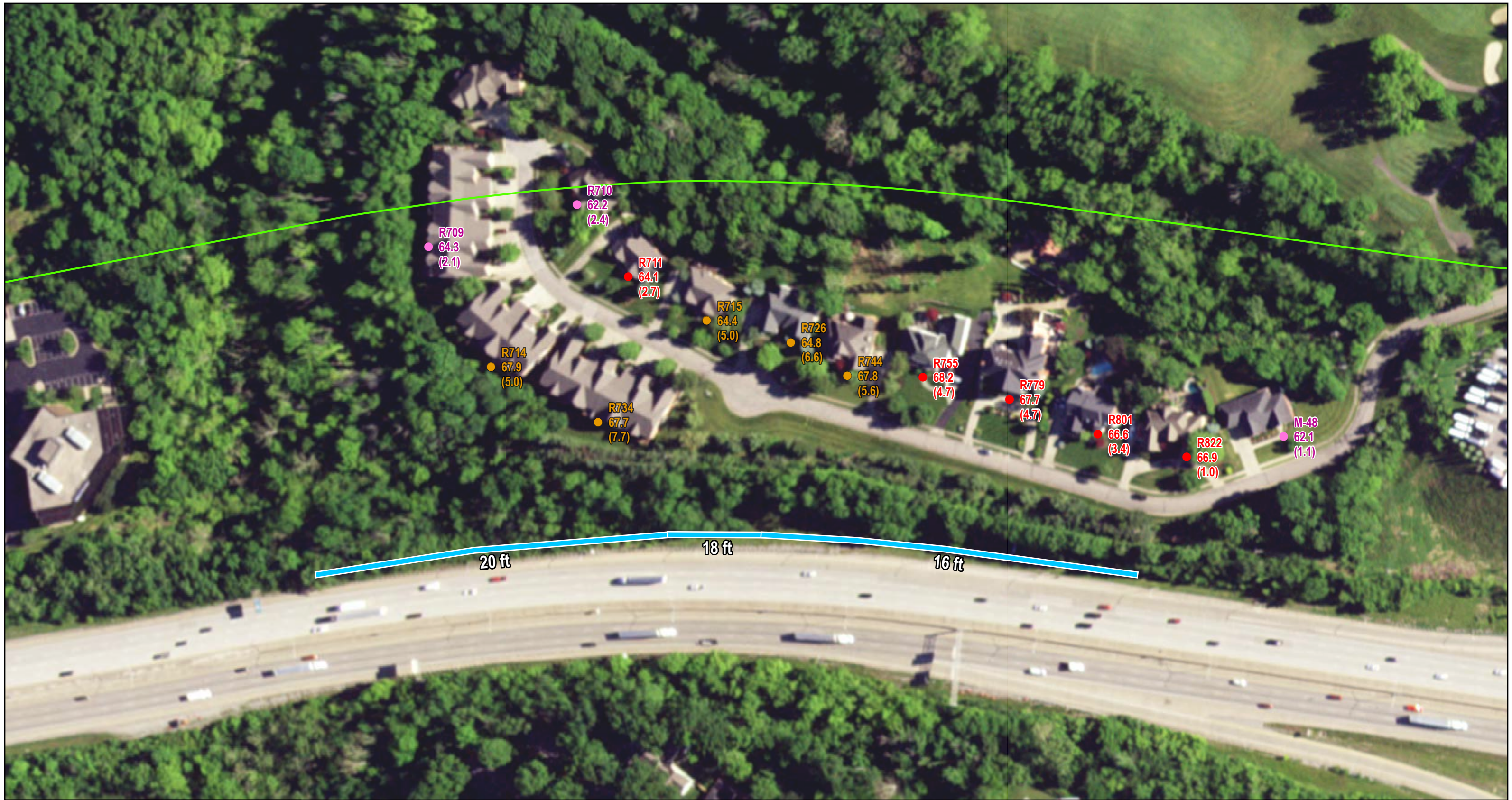
- Legend**
- Receptor #
  - Predicted Abated Noise Level
  - (Noise Reduction [dBA])
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  - Impacted, Not Benefitted
  - Benefitted
  - 500' Noise Buffer (Southern Study Area)
  - ▬ Analyzed Noise Barrier



**Brent Spence Bridge Corridor Project**  
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**Concept I-W Barrier B17A (18-24 ft)**  
**Exhibit 5**



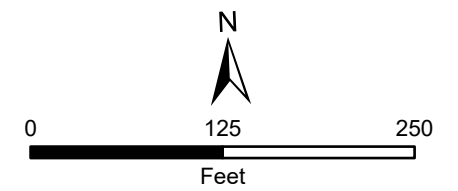
Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet



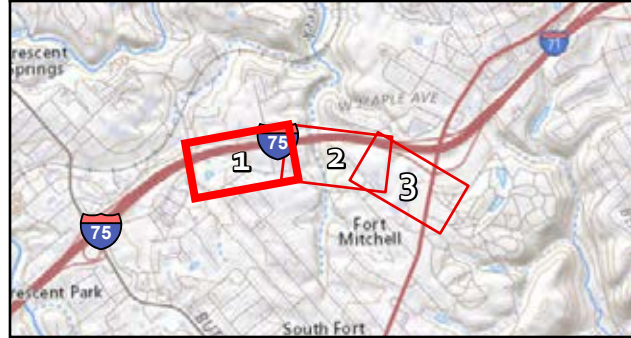
- Legend**
- Receptor #
  - Predicted Abated Noise Level
  - Noise Reduction [dBA]
  - Not Impacted, Not Benefitted
  - Impacted, Not Benefitted
  - Benefitted
  - 500' Noise Buffer (Southern Study Area)
  - ▬ Analyzed Noise Barrier



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**Concept I-W Barrier B17B (16-20 ft)**  
**Exhibit 6**



Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet

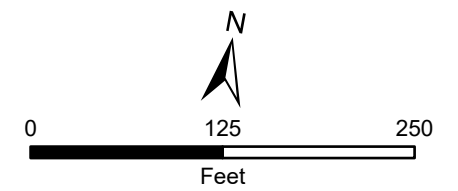


- Legend**
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  - Noise Reduction [dBA]
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  - Benefitted
  - ▭ 500' Noise Buffer (Southern Study Area)
  - ▭ Analyzed Noise Barrier

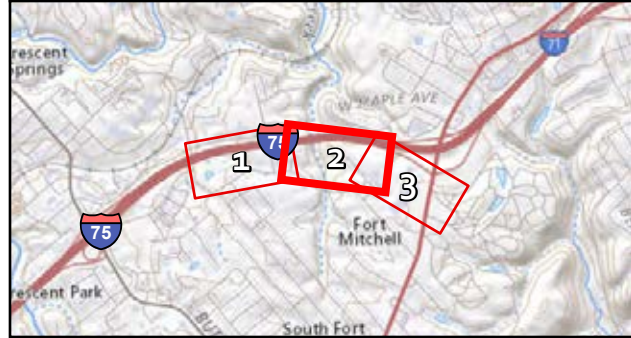


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 KYTC Item No. 6-17

**Concept I-W Barrier B18 (16-24 ft)**  
**Exhibit 7A**



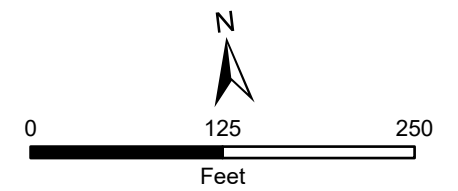
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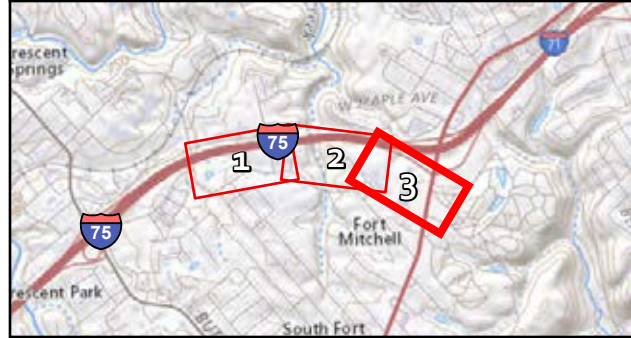
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  - Impacted, Not Benefitted
  - Benefitted
  - ▭ 500' Noise Buffer (Southern Study Area)
  - ▬ Analyzed Noise Barrier



**Brent Spence Bridge Corridor Project**  
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**Concept I-W Barrier B18 (16-24 ft)**  
**Exhibit 7B**



Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet

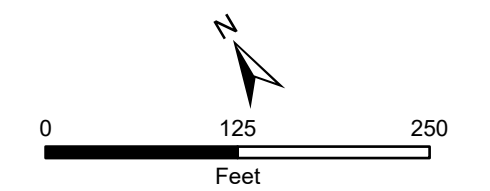


- Legend**
- Receptor #
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  - Noise Reduction [dBA]
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  - Impacted, Not Benefitted
  - Benefitted
  - ▭ 500' Noise Buffer (Southern Study Area)
  - ▬ Analyzed Noise Barrier



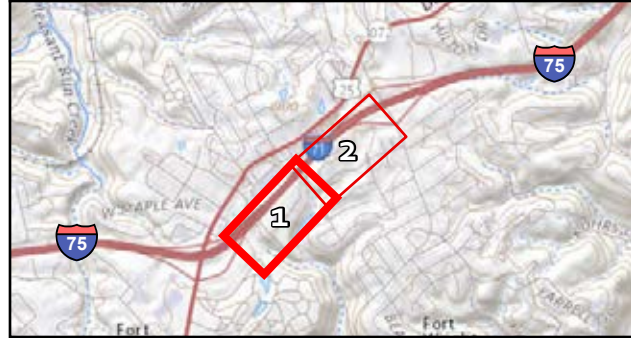
**Brent Spence Bridge Corridor Project**  
**Noise Study: Kentucky - Southern Section**  
 KYTC Item No. 6-17

**Concept I-W Barrier B18 (16-24 ft)**  
**Exhibit 7C**



Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet



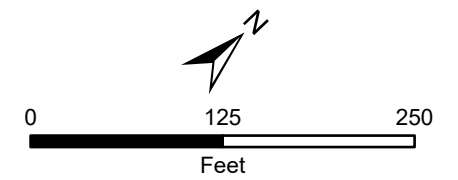


- Legend**
- Receptor #
  - Predicted Noise Level
  - Noise Reduction [dBA]
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  - Impacted, Not Benefitted
  - Benefitted
  - ▭ 500' Noise Buffer (Southern Study Area)
  - ▬ Analyzed Noise Barrier



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**Concept I-W Barrier B19 (20 ft)**  
**Exhibit 8A**



Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet

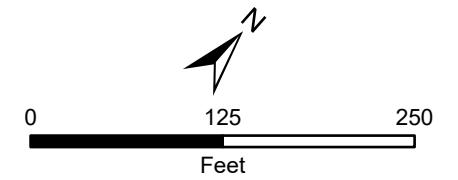


- Legend**
- Receptor #
  - Predicted Abated Noise Level
  - Noise Reduction [dBA]
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  - Impacted, Not Benefitted
  - Benefitted
  - ▭ 500' Noise Buffer (Southern Study Area)
  - ▭ Analyzed Noise Barrier

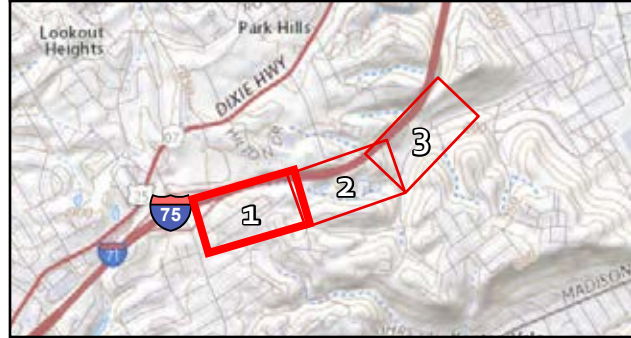
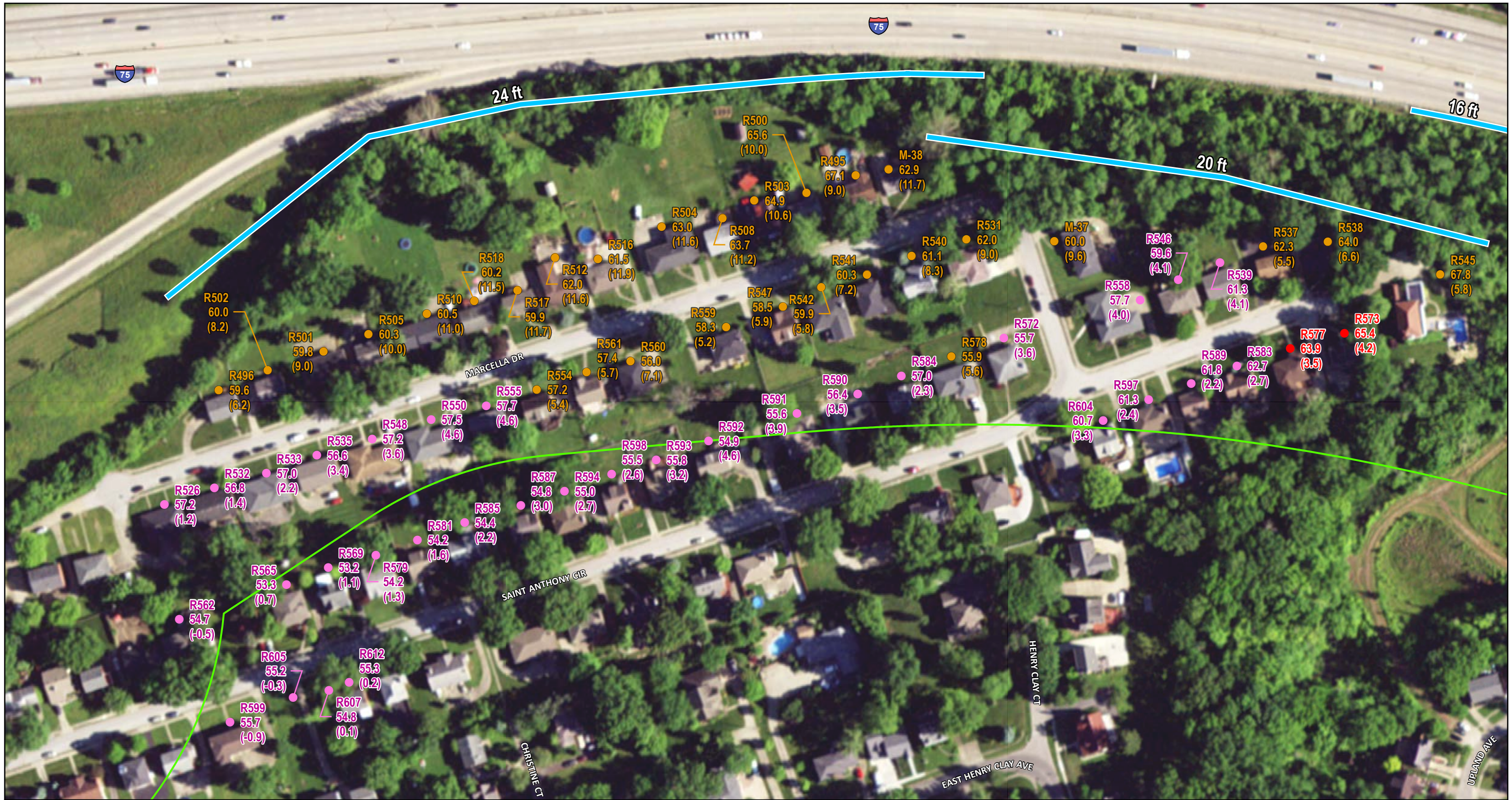


**Brent Spence Bridge Corridor Project  
Noise Study: Kentucky - Southern Section  
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**Concept I-W Barrier B19 (20 ft)  
Exhibit 8B**



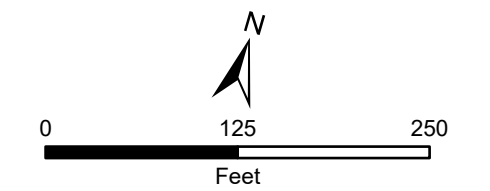
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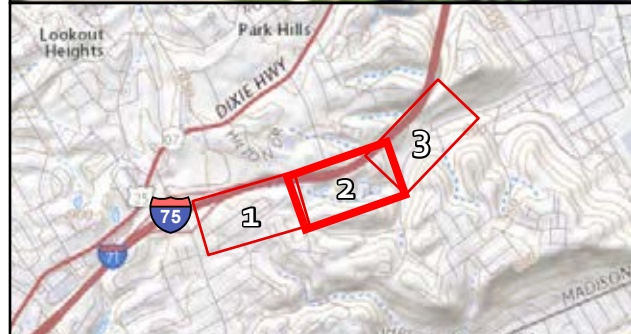
- Legend**
- Receptor #
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  - Impacted, Not Benefitted
  - Benefitted
  - ▭ 500' Noise Buffer (Southern Study Area)
  - ▬ Analyzed Noise Barrier



**Brent Spence Bridge Corridor Project**  
**Noise Study: Kentucky - Southern Section**  
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**Concept I-W Barrier B20 / NSA D (12 to 24 ft)**  
**Exhibit 9A**



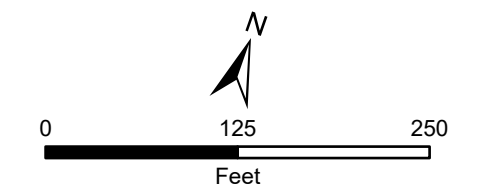
Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet



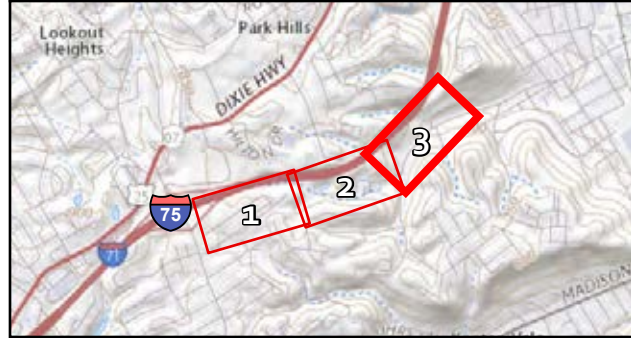
- Legend**
- Receptor #
  - Predicted Abated Noise Level
  - Noise Reduction [dBA]
  - Not Impacted, Not Benefitted
  - Impacted, Not Benefitted
  - Benefitted
  - ▭ 500' Noise Buffer (Southern Study Area)
  - ▭ Analyzed Noise Barrier



**Brent Spence Bridge Corridor Project**  
**Noise Study: Kentucky - Southern Section**  
 KYTC Item No. 6-17  
**Concept I-W Barrier B20 / NSA D (12 to 24 ft)**  
**Exhibit 9B**



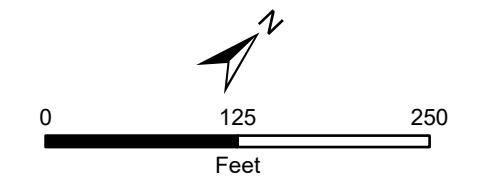
Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet



- Legend**
- Receptor #
  - Predicted Abated Noise Level
  - [Noise Reduction [dBA]]
  - Not Impacted, Not Benefitted
  - Impacted, Not Benefitted
  - Benefitted
  - ▭ 500' Noise Buffer (Southern Study Area)
  - ▬ Analyzed Noise Barrier



**Brent Spence Bridge Corridor Project**  
**Noise Study: Kentucky - Southern Section**  
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**Concept I-W Barrier B20 / NSA D (12 to 24 ft)**  
**Exhibit 9C**



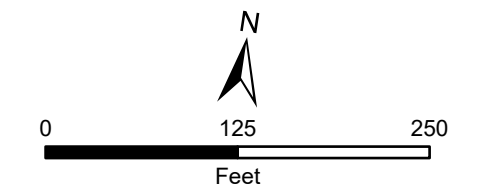
Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet



- Legend**
- Receptor #
  - Predicted Abated Noise Level
  - Noise Reduction [dBA]
  - Not Impacted, Not Benefitted
  - Impacted, Not Benefitted
  - Benefitted
  - ▭ 500' Noise Buffer (Southern Study Area)
  - ▬ Analyzed Noise Barrier



**Brent Spence Bridge Corridor Project**  
**Noise Study: Kentucky - Southern Section**  
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**Concept I-W Barrier B23 (18-22 ft)**  
**Exhibit 10A**



Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet

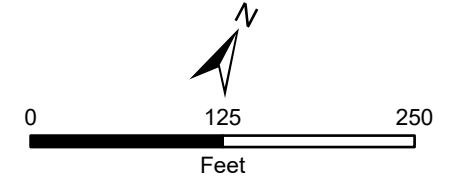


- Legend**
- Receptor #
  - Predicted Abated Noise Level
  - Noise Reduction [dBA]
  - Not Impacted, Not Benefitted
  - Impacted, Not Benefitted
  - Benefitted
  - ▭ 500' Noise Buffer (Southern Study Area)
  - ▭ Analyzed Noise Barrier



**Brent Spence Bridge Corridor Project**  
**Noise Study: Kentucky - Southern Section**  
 KYTC Item No. 6-17

**Concept I-W Barrier B23 (18-22 ft)**  
**Exhibit 10B**



Credit: KYFromAbove Partners; Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet

### **7.3 PARALLEL BARRIER CONSIDERATION**

The *FHWA Highway Noise Barrier Design Handbook* defines parallel barriers as two barriers which face each other on opposite sides of a roadway. Sound reflected between reflective parallel barriers may cause degradations in each barrier's performance due to multiple reflections that diffract over the individual barriers. To categorize parallel noise barriers and the insertion-loss degradation values, a width-to-height ratio is used. The separation distance width-to-barrier-height ratio ( $w/h$ ) is the ratio of the total distance between parallel barriers and the average height of the two barriers. Significant insertion loss degradation of greater than 3 dB(A) will occur when width-to-height ratios are less than 10:1. Within the study area there are no parallel barrier configurations with width-to-height ratios of less than 10:1 which would warrant further TNM2.5<sup>®</sup> modeling to quantify sound barrier performance degradation and require adjustments to the recommended sound barrier configurations outlined in this report.

### **8.0 COORDINATION WITH LOCAL OFFICIALS**

Coordination with and providing information to local officials is critical to developing a comprehensive approach to creating livable communities adjacent to highways. Impacts of highway traffic noise can be reduced through a program of shared responsibility. Requests to approve land use changes adjacent to highways should consider the current and predicted traffic noise.

Table 8 presents design year sound levels for areas along I-75 where vacant and possibly developable lands exist. Noise predictions were made for distances ranging from 100 feet to 575 feet from the edge of pavement (EOP) of Concept I-W for the Build condition in 2049. As indicated, sound levels exceed the NAC of 67 dB(A) for land use Categories B and C to a distance of 475 feet from EOP. Sound levels exceed the NAC of 72 dB(A) for land use Category E up to 200 feet from EOP.

The values in Table 8, while calculated at a particular location, do not represent predicted levels at a particular location along the roadway. Sound levels will vary with changes in terrain and will be affected by the shielding of objects such as buildings. This information is being included to make local officials and planners aware of anticipated highway noise levels so that future development will be compatible with these levels.



**Table 8: Design Year 2049 Sound Level for Undeveloped Lands**

Distance from I-75 <sup>(1)</sup>	dB(A) Leq <sup>(2)</sup>
100 Feet	77.5
125 Feet	76.5
150 Feet	74.8
175 Feet	73.2
200 Feet	72.4
225 Feet	71.5
250 Feet	70.8
275 Feet	70.3
300 Feet	69.8
325 Feet	69.4
350 Feet	69.0
375 Feet	68.6
400 Feet	68.2
425 Feet	67.8
450 Feet	67.4
475 Feet	67.1
500 Feet	66.7
525 Feet	66.4
550 Feet	66.1
575 Feet	65.8

(1) Distance is measured perpendicular to edge of pavement of I-75 near Sta. 467+00 RT

(2) Modeled at elevation of outside lane

## 9.0 CONSTRUCTION NOISE

Noise sensitive receptors will also be subjected to noise impacts associated with the construction phase of the proposed project. Construction noise will generate temporary noise impacts on adjacent and nearby properties, particularly those in residential land use. Construction noise will be emitted intermittently by a range of construction equipment at varying levels of intensity based on the types of operations being performed and the number of pieces of equipment in operation at any given time. Depending on project circumstances, options are available to minimize the temporary adverse noise impacts, including the proper maintenance of equipment, most notably adequate lubrication, and non-leaking mufflers, equipment restriction modifications to reduce noise emissions and restrict the use of certain equipment by location and time of day, controlling non-construction traffic by limiting heavy truck movements on residential streets, maximizing the distance between equipment and receptors where possible and, enclosing or screening noisy activities or stationary equipment. The contractor will be required to adhere to any and all federal, state, and local noise controls or ordinances in effect within the project limits. It will be the responsibility of the contractor to monitor construction noise and be aware of violations of the maximum allowable noise levels. Consideration of construction noise minimization and mitigation (as necessary) is required pursuant to CFR 772.19.

Additional information on construction noise can be accessed in the FHWA Construction Noise Handbook (FHWA-HEP-06-015) and the Roadway Construction Noise Model (RCNM) Version 2.0.

During design development, in addition to evaluating parameters such as cost, schedule, access, traffic impacts, safety, risk, etc., in areas where noise sensitive receptors are present, the project team will also consider construction noise abatement. Some examples would include:

- Foundation type selection. Different foundation types have varying effects on the intensity and duration of construction noise (e.g. piling versus cast-in-place concrete shafts).
- Installation methodology. The same feature of work can be achieved in a variety of ways and planned for in the design phase. This could involve using mechanical or chemical splitting as means of demolition versus the use of explosives, or drilling and setting a retaining wall versus driving soldier piles.
- Storage and staging areas. Identification or acquisition of locations/properties that provide separation from sensitive receptors. This could be by proximity or by the use of existing barriers.
- Phasing of work. Consideration of how work is phased can have a prominent impact on the duration for which a noise sensitive receptor is exposed to construction noise from a particular feature of work. This concept is especially evident when dealing with a receptor like a school that is out of session during the summer. Phasing the project to allow/facilitate all high decibel work to be completed at once, during this window, not only reduces, but eliminates this impact.
- Permanent noise barriers. Consideration will be given to the feasibility of constructing permanent noise barrier earlier in the project that are needed for noise abatement of the project's final configuration, to help mitigate temporary construction noise.
- Maintenance of Traffic (MOT). The development of the MOT plan provides a variety of opportunities with respect to mitigation of construction noise with respect to both intensity and duration. These include considering the location of noise sensitive receptors when setting detour routes and establishing haul routes. Note it will not only be important to evaluate the official routes, but also the "defacto" routes that may also be used as these can often result in heavy truck traffic utilizing residential streets. MOT plan development also provides for an avenue to evaluate the availability of nighttime and weekend work in conjunction with the permitted lane closure maps.
- Incentives. There are provisions to establish schedule-based incentives. These incentives could be used to help minimize the duration of overall construction noise.

During construction, the project team will be both proactive and reactive with respect to construction noise. This will be accomplished through the following:

- Equipment selection. Often there is a variety of equipment available to the Contractor to perform a particular task. Where noise sensitive receptors are present, specific consideration will be given to the selection of equipment to be utilized. This may include: the age of the equipment as newer equipment typically employs new technology with respect to emissions and noise, if shielding or engine enclosures are standard, size appropriateness and power source (gas/diesel, electric/solar, pneumatic, hydraulic).
- Equipment maintenance. The Contractor will have an established maintenance program for their equipment fleet. They will ensure that necessary maintenance/repairs are performed before putting equipment into service. They will also be pulled out of service to address deficiencies identified during

operation. When noise sensitive receptors are present, specific attention will be given to the muffler systems on all combustion engines, as that is often a primary source of construction noise.

- Screening/shielding/barriers. Having something between the source and the receptor is an effective mitigation technique and can take on many forms. The project team will take advantage of existing features where practical to minimize the impacts of construction noise on receptors. This will include bridges, berms, retaining walls, and buildings. Additionally, temporary features already necessary for performing the work like stockpiles and tool trailers can also be by strategically utilized to assist in this effort. Lastly, it may be necessary to construct temporary features such as hay bales specifically for this purpose.
- Scheduling of Work. If not dictated during design, the Contractor will give consideration to noise sensitive receptors when scheduling work. This may include: time of day, day of week, number of consecutive hours/days, special events and number of crews. With a project of this magnitude, there will also be opportunities to schedule concurrent operations in the same timeframe to reduce the overall duration of exposure, with potentially minimal increase in intensity.
- Education of Staff. The project staff will be educated on the noise sensitive receptors. This will include not only their location, but also the type (resident, school, business, etc.), hours of operation and any prior concerns communicated.
- Communication plan. As part of the project's overall communication plan, there will be a protocol established to notify the public, receive concerns/complaints and provide responses and/or resolutions. It will clearly provide contact information to submit electronically or via phone. All noise related complaints will be investigated by project personnel.

In the event any issues arise that are not covered by the items above within the limits of the KY South and/or the KY North sections, KYTC will defer to KYTC's latest issue of *Standard Specifications for Road and Bridge Construction* and any applicable supplements issued.

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# **APPENDIX A**

## **Field Information**

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## Summary

File Name on Meter	831_Data.011.s
File Name on PC	831_0002413-20220623 053005-831_Data.011.lbin
Serial Number	0002413
Model	Model 831
Firmware Version	2.403
User	
Location	
Job Description	
Note	

## Measurement

### Description

Start	2022-06-23 05:30:05
Stop	2022-06-23 05:45:14
Duration	00:15:08.9
Run Time	00:15:07.1
Pause	00:00:01.8

Pre-Calibration	2022-06-23 05:29:05
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamplifier	PRM831	
Microphone Correction	Off	
Integration Method	Linear	
Gain	0.0 dB	
Overload	144.0 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	76.5	73.5
Under Range Limit	<b>26.4</b>	26.8
Noise Floor	17.3	17.6
	<b>First</b>	<b>Second</b>
Instrument Identification	831_2431	

## Results

LAeq	62.9	
LAE	92.5	
EA	196.988 $\mu\text{Pa}^2\text{h}$	
LZpeak (max)	2022-06-23 05:39:22	97.3
LASmax	2022-06-23 05:39:22	75.2
LASmin	2022-06-23 05:36:40	60.3

SEA -99.9 dB

	Exceedance Counts	Durat
LAS > 65.0 dB	4	54.9
LAS > 85.0 dB	0	0.0
LZpeak > 135.0 dB	0	0.0
LZpeak > 137.0 dB	0	0.0
LZpeak > 140.0 dB	0	0.0

Community Noise Ldn LDay 07:00-22:00  
72.9 -99.9

LCeq	72.6 dB
LAeq	62.9 dB
LCeq - LAeq	9.7 dB
LALeq	63.6 dB
LAeq	62.9 dB
LALeq - LAeq	0.7 dB

A		
	dB	Time Stamp
Leq	62.9	
LS(max)	75.2	2022/06/23 5:39:22
LF(max)	76.3	2022/06/23 5:39:22
LI(max)	77.1	2022/06/23 5:39:21
LS(min)	60.3	2022/06/23 5:36:40
LF(min)	59.8	2022/06/23 5:36:39
LI(min)	60.4	2022/06/23 5:36:39
LPeak(max)	90.6	2022/06/23 5:39:22

Overload Count 0  
Overload Duration 0.0 s

#### Statistics

LA 5.00	64.1 dB
LA 10.00	63.6 dB
LA 33.30	62.6 dB
LA 50.00	62.2 dB
LA 66.60	61.9 dB
LA 90.00	61.4 dB

#### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-06-23 05:29:01	-26.48
PRM831	2022-03-01 07:40:42	-26.37
PRM831	2022-03-01 07:22:54	-26.44
PRM831	2022-03-01 07:15:28	-26.47

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LNight 22:00-07:00                      Lden                      LDay 07:00-19:00                      LEvening 19:00-22:00  
62.9    72.9    -99.9    -99.9

C		Z	
dB	Time Stamp	dB	Time Stamp
72.6		74.4	
85.2	2022/06/23 5:39:22	85.4	2022/06/23 5:39:22
87.0	2022/06/23 5:39:22	87.2	2022/06/23 5:39:22
87.6	2022/06/23 5:39:22	87.9	2022/06/23 5:39:22
68.0	2022/06/23 5:36:47	70.6	2022/06/23 5:36:44
66.9	2022/06/23 5:36:47	69.1	2022/06/23 5:36:46
68.3	2022/06/23 5:36:41	71.5	2022/06/23 5:43:46
97.0	2022/06/23 5:39:22	97.3	2022/06/23 5:39:22



**6.3**    **8.0**    **10.0**  
71.85    69.71    61.97  
63.49    70.43    71.30  
83.66    69.49    75.76  
74.79    66.90    61.01

## Summary

File Name on Meter	831_Data.012.s
File Name on PC	831_0002413-20220623 060005-831_Data.012.lbin
Serial Number	0002413
Model	Model 831
Firmware Version	2.403
User	
Location	
Job Description	
Note	

## Measurement

### Description

Start	2022-06-23 06:00:05
Stop	2022-06-23 06:15:08
Duration	00:15:02.9
Run Time	00:15:01.0
Pause	00:00:01.9

Pre-Calibration	2022-06-23 05:59:27
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamplifier	PRM831	
Microphone Correction	Off	
Integration Method	Linear	
Gain	0.0 dB	
Overload	144.0 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	76.4	73.4
Under Range Limit	<b>26.4</b>	26.8
Noise Floor	17.3	17.6
	<b>First</b>	<b>Second</b>
Instrument Identification	831_2431	

## Results

LAeq	59.6	
LAE	89.2	
EA	92.244 $\mu\text{Pa}^2\text{h}$	
LZpeak (max)	2022-06-23 06:06:06	90.5
LASmax	2022-06-23 06:06:07	67.2
LASmin	2022-06-23 06:04:52	56.9



SEA -99.9 dB

	Exceedance Counts	Durat
LAS > 65.0 dB	1	21.3
LAS > 85.0 dB	0	0.0
LZpeak > 135.0 dB	0	0.0
LZpeak > 137.0 dB	0	0.0
LZpeak > 140.0 dB	0	0.0

Community Noise Ldn LDay 07:00-22:00  
69.6 -99.9

LCeq 71.5 dB  
LAeq 59.6 dB  
LCeq - LAeq 11.9 dB  
LALeq 60.2 dB  
LAeq 59.6 dB  
LALeq - LAeq 0.5 dB

A		
	dB	Time Stamp
Leq	59.6	
LS(max)	67.2	2022/06/23 6:06:07
LF(max)	68.0	2022/06/23 6:06:07
LI(max)	68.9	2022/06/23 6:06:07
LS(min)	56.9	2022/06/23 6:04:52
LF(min)	56.5	2022/06/23 6:04:52
LI(min)	56.8	2022/06/23 6:11:03
LPeak(max)	84.3	2022/06/23 6:00:05

Overload Count 0  
Overload Duration 0.0 s

#### Statistics

LA 5.00 61.6 dB  
LA 10.00 60.8 dB  
LA 33.30 59.5 dB  
LA 50.00 59.1 dB  
LA 66.60 58.7 dB  
LA 90.00 57.9 dB

#### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-06-23 05:59:25	-26.46
PRM831	2022-06-23 05:45:50	-26.42
PRM831	2022-06-23 05:29:01	-26.48
PRM831	2022-03-01 07:40:42	-26.37

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**LNight 22:00-07:00**

59.6

**Lden**

69.6

**LDay 07:00-19:00**

-99.9

**LEvening 19:00-22:00**

-99.9

<b>C</b>		<b>Z</b>	
<b>dB</b>	<b>Time Stamp</b>	<b>dB</b>	<b>Time Stamp</b>
71.5		73.9	
80.9	2022/06/23 6:03:43	81.6	2022/06/23 6:03:43
82.9	2022/06/23 6:03:43	83.6	2022/06/23 6:03:43
83.6	2022/06/23 6:03:43	84.5	2022/06/23 6:03:43
67.4	2022/06/23 6:11:35	70.0	2022/06/23 6:11:26
65.5	2022/06/23 6:01:36	67.8	2022/06/23 6:11:26
67.6	2022/06/23 6:01:36	70.6	2022/06/23 6:11:58
89.9	2022/06/23 6:06:06	90.5	2022/06/23 6:06:06



<b>6.3</b>	<b>8.0</b>	<b>10.0</b>
66.84	70.47	74.02
67.65	63.33	75.48
71.85	69.71	61.97
63.49	70.43	71.30

## Summary

File Name on Meter	831_Data.013.s
File Name on PC	831_0002413-20220623 063006-831_Data.013.lbin
Serial Number	0002413
Model	Model 831
Firmware Version	2.403
User	
Location	
Job Description	
Note	

## Measurement

### Description

Start	2022-06-23 06:30:06
Stop	2022-06-23 06:45:15
Duration	00:15:09.4
Run Time	00:15:08.0
Pause	00:00:01.4

Pre-Calibration	2022-06-23 06:25:34
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamplifier	PRM831	
Microphone Correction	Off	
Integration Method	Linear	
Gain	0.0 dB	
Overload	144.1 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	76.5	73.5
Under Range Limit	<b>26.4</b>	26.8
Noise Floor	17.3	17.6
	<b>First</b>	<b>Second</b>
Instrument Identification	831_2431	

## Results

LAeq	63.2	
LAE	92.8	
EA	211.534 $\mu\text{Pa}^2\text{h}$	
LZpeak (max)	2022-06-23 06:41:08	95.8
LASmax	2022-06-23 06:41:49	75.2
LASmin	2022-06-23 06:31:07	57.5

SEA -99.9 dB

	Exceedance Counts	Durat
LAS > 65.0 dB	11	123.9
LAS > 85.0 dB	0	0.0
LZpeak > 135.0 dB	0	0.0
LZpeak > 137.0 dB	0	0.0
LZpeak > 140.0 dB	0	0.0

Community Noise Ldn LDay 07:00-22:00  
73.2 -99.9

LCeq	74.4 dB
LAeq	63.2 dB
LCeq - LAeq	11.2 dB
LALeq	63.8 dB
LAeq	63.2 dB
LALeq - LAeq	0.6 dB

A		
	dB	Time Stamp
Leq	63.2	
LS(max)	75.2	2022/06/23 6:41:49
LF(max)	76.6	2022/06/23 6:41:48
LI(max)	77.2	2022/06/23 6:41:48
LS(min)	57.5	2022/06/23 6:31:07
LF(min)	56.3	2022/06/23 6:31:07
LI(min)	56.8	2022/06/23 6:31:07
LPeak(max)	88.5	2022/06/23 6:41:48

Overload Count 0  
Overload Duration 0.0 s

#### Statistics

LA 5.00	65.7 dB
LA 10.00	64.6 dB
LA 33.30	63.1 dB
LA 50.00	62.4 dB
LA 66.60	61.9 dB
LA 90.00	61.0 dB

#### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-06-23 06:25:34	-26.50
PRM831	2022-06-23 06:15:35	-26.52
PRM831	2022-06-23 05:59:25	-26.46
PRM831	2022-06-23 05:45:50	-26.42

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LNight 22:00-07:00                      Lden                      LDay 07:00-19:00                      LEvening 19:00-22:00  
63.2    73.2    -99.9    -99.9

C		Z	
dB	Time Stamp	dB	Time Stamp
74.4		76.7	
82.7	2022/06/23 6:32:15	85.6	2022/06/23 6:36:58
85.6	2022/06/23 6:32:15	88.4	2022/06/23 6:36:57
87.4	2022/06/23 6:32:15	90.0	2022/06/23 6:36:57
67.0	2022/06/23 6:31:08	70.5	2022/06/23 6:31:10
65.4	2022/06/23 6:31:08	68.6	2022/06/23 6:31:08
67.5	2022/06/23 6:31:07	71.9	2022/06/23 6:31:08
92.9	2022/06/23 6:32:15	95.8	2022/06/23 6:41:08



**6.3**    **8.0**    **10.0**  
81.94    77.48    66.33  
82.27    49.45    54.56  
66.84    70.47    74.02  
67.65    63.33    75.48

## Summary

File Name on Meter	831_Data.014.s
File Name on PC	831_0002413-20220623 141007-831_Data.014.lbin
Serial Number	0002413
Model	Model 831
Firmware Version	2.403
User	
Location	
Job Description	
Note	

## Measurement

### Description

Start	2022-06-23 14:10:07
Stop	2022-06-23 14:25:09
Duration	00:15:01.8
Run Time	00:15:01.0
Pause	00:00:00.8

Pre-Calibration	2022-06-23 14:07:57
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamplifier	PRM831	
Microphone Correction	Off	
Integration Method	Linear	
Gain	0.0 dB	
Overload	144.2 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	76.6	73.6
Under Range Limit	<b>26.5</b>	26.8
Noise Floor	17.3	17.7
	<b>First</b>	<b>Second</b>
Instrument Identification	831_2431	

## Results

LAeq	59.4	
LAE	89.0	
EA	87.900 $\mu\text{Pa}^2\text{h}$	
LZpeak (max)	2022-06-23 14:19:58	90.9
LASmax	2022-06-23 14:16:52	71.0
LASmin	2022-06-23 14:24:18	54.9

SEA

-99.9 dB

	Exceedance Counts	Durati
LAS > 65.0 dB	3	23.3
LAS > 85.0 dB	0	0.0
LZpeak > 135.0 dB	0	0.0
LZpeak > 137.0 dB	0	0.0
LZpeak > 140.0 dB	0	0.0

Community Noise	Ldn	LDay 07:00-22:00
	59.4	59.4

LCeq	72.4 dB
LAeq	59.4 dB
LCeq - LAeq	12.9 dB
LAlaq	60.4 dB
LAeq	59.4 dB
LAlaq - LAeq	0.9 dB

A		
	dB	Time Stamp
Leq	59.4	
LS(max)	71.0	2022/06/23 14:16:52
LF(max)	72.0	2022/06/23 14:16:52
LI(max)	75.6	2022/06/23 14:12:19
LS(min)	54.9	2022/06/23 14:24:18
LF(min)	54.3	2022/06/23 14:24:17
LI(min)	54.7	2022/06/23 14:24:16
LPeak(max)	89.4	2022/06/23 14:12:19

Overload Count	0
Overload Duration	0.0 s

Statistics

LA 5.00	62.3 dB
LA 10.00	60.4 dB
LA 33.30	58.8 dB
LA 50.00	58.2 dB
LA 66.60	57.7 dB
LA 90.00	56.8 dB

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-06-23 14:07:54	-26.63
PRM831	2022-06-23 06:46:00	-26.53
PRM831	2022-06-23 06:25:34	-26.50
PRM831	2022-06-23 06:15:35	-26.52

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**LNight 22:00-07:00**  
-99.9

**Lden**  
59.4

**LDay 07:00-19:00**  
59.4

<b>C</b>		
<b>dB</b>	<b>Time Stamp</b>	<b>dB</b>
72.4		74.3
79.9	2022/06/23 14:21:28	81.6
81.4	2022/06/23 14:19:58	83.1
82.8	2022/06/23 14:19:58	84.5
65.7	2022/06/23 14:24:21	68.3
64.3	2022/06/23 14:24:05	66.7
66.6	2022/06/23 14:24:17	69.1
90.4	2022/06/23 14:16:36	90.9



**6.3**                      **8.0**  
81.22                      69.85  
61.67                      70.41  
81.94                      77.48  
82.27                      49.45



## Summary

File Name on Meter	831_Data.015.s
File Name on PC	831_0002413-20220623 143505-831_Data.015.lbin
Serial Number	0002413
Model	Model 831
Firmware Version	2.403
User	
Location	
Job Description	
Note	

## Measurement

### Description

Start	2022-06-23 14:35:05
Stop	2022-06-23 14:50:07
Duration	00:15:01.9
Run Time	00:15:00.5
Pause	00:00:01.4

Pre-Calibration	2022-06-23 14:34:39
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamplifier	PRM831	
Microphone Correction	Off	
Integration Method	Linear	
Gain	0.0 dB	
Overload	144.2 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	76.6	73.6
Under Range Limit	<b>26.5</b>	26.9
Noise Floor	17.3	17.7
	<b>First</b>	<b>Second</b>
Instrument Identification	831_2431	

## Results

LAeq	59.1	
LAE	88.6	
EA	81.065 $\mu\text{Pa}^2\text{h}$	
LZpeak (max)	2022-06-23 14:47:46	93.1
LASmax	2022-06-23 14:45:19	67.1
LASmin	2022-06-23 14:37:54	52.8

SEA

-99.9 dB

	Exceedance Counts	Durati
LAS > 65.0 dB	4	24.3
LAS > 85.0 dB	0	0.0
LZpeak > 135.0 dB	0	0.0
LZpeak > 137.0 dB	0	0.0
LZpeak > 140.0 dB	0	0.0

Community Noise	Ldn	LDay 07:00-22:00
	59.1	59.1

LCeq	73.0 dB
LAeq	59.1 dB
LCeq - LAeq	13.9 dB
LALeq	59.9 dB
LAeq	59.1 dB
LALeq - LAeq	0.8 dB

A		
	dB	Time Stamp
Leq	59.1	
LS(max)	67.1	2022/06/23 14:45:19
LF(max)	69.5	2022/06/23 14:43:00
LI(max)	70.7	2022/06/23 14:35:05
LS(min)	52.8	2022/06/23 14:37:54
LF(min)	52.3	2022/06/23 14:37:54
LI(min)	52.5	2022/06/23 14:37:54
LPeak(max)	84.0	2022/06/23 14:45:19

Overload Count	0
Overload Duration	0.0 s

Statistics

LA 5.00	62.3 dB
LA 10.00	60.7 dB
LA 33.30	59.2 dB
LA 50.00	58.5 dB
LA 66.60	57.5 dB
LA 90.00	55.6 dB

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-06-23 14:34:37	-26.66
PRM831	2022-06-23 14:25:51	-26.60
PRM831	2022-06-23 14:07:54	-26.63
PRM831	2022-06-23 06:46:00	-26.53

## Summary

File Name on Meter	831_Data.016.s
File Name on PC	831_0002413-20220623 150506-831_Data.016.lbin
Serial Number	0002413
Model	Model 831
Firmware Version	2.403
User	
Location	
Job Description	
Note	

## Measurement

### Description

Start	2022-06-23 15:05:06
Stop	2022-06-23 15:20:08
Duration	00:15:02.2
Run Time	00:15:01.1
Pause	00:00:01.1

Pre-Calibration	2022-06-23 15:02:34
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamplifier	PRM831	
Microphone Correction	Off	
Integration Method	Linear	
Gain	0.0 dB	
Overload	144.2 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	76.6	73.6
Under Range Limit	<b>26.5</b>	26.8
Noise Floor	17.3	17.7
	<b>First</b>	<b>Second</b>
Instrument Identification	831_2431	

## Results

LAeq	61.7	
LAE	91.3	
EA	148.836 $\mu\text{Pa}^2\text{h}$	
LZpeak (max)	2022-06-23 15:16:29	104.2
LASmax	2022-06-23 15:11:12	69.1
LASmin	2022-06-23 15:09:20	58.5

SEA

-99.9 dB

	Exceedance Counts	Durati
LAS > 65.0 dB	6	64.9
LAS > 85.0 dB	0	0.0
LZpeak > 135.0 dB	0	0.0
LZpeak > 137.0 dB	0	0.0
LZpeak > 140.0 dB	0	0.0

Community Noise	Ldn	LDay 07:00-22:00
	61.7	61.7

LCeq	75.1 dB
LAeq	61.7 dB
LCeq - LAeq	13.4 dB
LALeq	62.4 dB
LAeq	61.7 dB
LALeq - LAeq	0.7 dB

A		
	dB	Time Stamp
Leq	61.7	
LS(max)	69.1	2022/06/23 15:11:12
LF(max)	70.7	2022/06/23 15:06:00
LI(max)	71.8	2022/06/23 15:06:00
LS(min)	58.5	2022/06/23 15:09:20
LF(min)	58.0	2022/06/23 15:09:17
LI(min)	58.4	2022/06/23 15:09:17
LPeak(max)	84.5	2022/06/23 15:19:43

Overload Count	0
Overload Duration	0.0 s

Statistics

LA 5.00	64.7 dB
LA 10.00	63.5 dB
LA 33.30	61.5 dB
LA 50.00	61.0 dB
LA 66.60	60.5 dB
LA 90.00	59.7 dB

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-06-23 15:02:34	-26.61
PRM831	2022-06-23 14:50:59	-26.49
PRM831	2022-06-23 14:34:37	-26.66
PRM831	2022-06-23 14:25:51	-26.60

## Summary

File Name on Meter	831_Data.017.s
File Name on PC	831_0002413-20220705 054026-831_Data.017.lbin
Serial Number	0002413
Model	Model 831
Firmware Version	2.403
User	
Location	
Job Description	
Note	

## Measurement

Description	
Start	2022-07-05 05:40:26
Stop	2022-07-05 05:55:27
Duration	00:15:01.5
Run Time	00:15:01.5
Pause	00:00:00.0
Pre-Calibration	2022-07-05 05:39:50
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamplifier	PRM831	
Microphone Correction	Off	
Integration Method	Linear	
Gain	0.0 dB	
Overload	144.0 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	76.4	73.4
Under Range Limit	<b>26.4</b>	26.8
Noise Floor	17.3	17.6
	<b>First</b>	<b>Second</b>
Instrument Identification	831_2431	

## Results

LAeq	69.7	
LAE	99.3	
EA	939.927 $\mu\text{Pa}^2\text{h}$	
LZpeak (max)	2022-07-05 05:42:42	99.9
LASmax	2022-07-05 05:42:43	79.1
LASmin	2022-07-05 05:50:44	65.6

SEA -99.9 dB

	Exceedance Counts	Durat
LAS > 65.0 dB	1	901.4
LAS > 85.0 dB	0	0.0
LZpeak > 135.0 dB	0	0.0
LZpeak > 137.0 dB	0	0.0
LZpeak > 140.0 dB	0	0.0

Community Noise Ldn LDay 07:00-22:00  
79.7 -99.9

LCeq	74.9 dB
LAeq	69.7 dB
LCeq - LAeq	5.1 dB
LAlaq	70.5 dB
LAeq	69.7 dB
LAlaq - LAeq	0.8 dB

A		
	dB	Time Stamp
Leq	69.7	
LS(max)	79.1	2022/07/05 5:42:43
LF(max)	82.5	2022/07/05 5:42:42
LI(max)	83.8	2022/07/05 5:42:42
LS(min)	65.6	2022/07/05 5:50:44
LF(min)	64.4	2022/07/05 5:50:25
LI(min)	65.2	2022/07/05 5:50:25
LPeak(max)	93.6	2022/07/05 5:42:42

Overload Count 0  
Overload Duration 0.0 s

#### Statistics

LA 5.00	71.5 dB
LA 10.00	71.2 dB
LA 33.30	70.0 dB
LA 50.00	69.4 dB
LA 66.60	68.8 dB
LA 90.00	67.3 dB

#### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-05 05:39:48	-26.47
PRM831	2022-06-23 15:20:59	-26.55
PRM831	2022-06-23 15:02:34	-26.61
PRM831	2022-06-23 14:50:59	-26.49

## Summary

File Name on Meter	831_Data.018.s
File Name on PC	831_0002413-20220705 061006-831_Data.018.lbin
Serial Number	0002413
Model	Model 831
Firmware Version	2.403
User	
Location	
Job Description	
Note	

## Measurement

### Description

Start	2022-07-05 06:10:06
Stop	2022-07-05 06:25:07
Duration	00:15:01.6
Run Time	00:15:01.6
Pause	00:00:00.0

Pre-Calibration	2022-07-05 06:07:57
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamplifier	PRM831	
Microphone Correction	Off	
Integration Method	Linear	
Gain	0.0 dB	
Overload	144.1 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	76.5	73.5
Under Range Limit	<b>26.4</b>	26.8
Noise Floor	17.3	17.7
	<b>First</b>	<b>Second</b>
Instrument Identification	831_2431	

## Results

LAeq	65.8	
LAE	95.4	
EA	381.374 $\mu\text{Pa}^2\text{h}$	
LZpeak (max)	2022-07-05 06:12:32	95.8
LASmax	2022-07-05 06:12:32	74.1
LASmin	2022-07-05 06:18:49	62.0

SEA

-99.9 dB

	Exceedance Counts	Durat
LAS > 65.0 dB	2	850.5
LAS > 85.0 dB	0	0.0
LZpeak > 135.0 dB	0	0.0
LZpeak > 137.0 dB	0	0.0
LZpeak > 140.0 dB	0	0.0

Community Noise **Ldn** **LDay 07:00-22:00**  
 75.8 -99.9

LCeq	73.5 dB
LAeq	65.8 dB
LCeq - LAeq	7.7 dB
LALeq	66.5 dB
LAeq	65.8 dB
LALeq - LAeq	0.7 dB

A		
	dB	Time Stamp
Leq	65.8	
LS(max)	74.1	2022/07/05 6:12:32
LF(max)	75.7	2022/07/05 6:12:32
LI(max)	77.0	2022/07/05 6:12:32
LS(min)	62.0	2022/07/05 6:18:49
LF(min)	61.3	2022/07/05 6:18:49
LI(min)	61.7	2022/07/05 6:18:49
LPeak(max)	93.8	2022/07/05 6:12:32

Overload Count 0  
 Overload Duration 0.0 s

### Statistics

LA 5.00	67.3 dB
LA 10.00	66.7 dB
LA 33.30	65.9 dB
LA 50.00	65.6 dB
LA 66.60	65.1 dB
LA 90.00	64.2 dB

### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-05 06:07:55	-26.53
PRM831	2022-07-05 05:56:47	-26.52
PRM831	2022-07-05 05:39:48	-26.47
PRM831	2022-06-23 15:20:59	-26.55



## Summary

File Name on Meter	831_Data.019.s
File Name on PC	831_0002413-20220705 063700-831_Data.019.lbin
Serial Number	0002413
Model	Model 831
Firmware Version	2.403
User	
Location	
Job Description	
Note	

## Measurement

### Description

Start	2022-07-05 06:37:00
Stop	2022-07-05 06:52:01
Duration	00:15:01.2
Run Time	00:15:01.2
Pause	00:00:00.0

Pre-Calibration	2022-07-05 06:36:43
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamplifier	PRM831	
Microphone Correction	Off	
Integration Method	Linear	
Gain	0.0 dB	
Overload	144.1 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	76.5	73.5
Under Range Limit	<b>26.4</b>	26.8
Noise Floor	17.3	17.7
	<b>First</b>	<b>Second</b>
Instrument Identification	831_2431	

## Results

LAeq	72.0	
LAE	101.5	
EA	1.586 mPa <sup>2</sup> h	
LZpeak (max)	2022-07-05 06:37:12	96.9
LASmax	2022-07-05 06:47:00	77.4
LASmin	2022-07-05 06:45:41	68.5

SEA -99.9 dB

	Exceedance Counts	Durat
LAS > 65.0 dB	1	901.1
LAS > 85.0 dB	0	0.0
LZpeak > 135.0 dB	0	0.0
LZpeak > 137.0 dB	0	0.0
LZpeak > 140.0 dB	0	0.0

Community Noise Ldn LDay 07:00-22:00  
82.0 -99.9

LCeq	77.1 dB
LAeq	72.0 dB
LCeq - LAeq	5.1 dB
LALeq	72.8 dB
LAeq	72.0 dB
LALeq - LAeq	0.8 dB

A		
	dB	Time Stamp
Leq	72.0	
LS(max)	77.4	2022/07/05 6:47:00
LF(max)	81.2	2022/07/05 6:46:59
LI(max)	83.5	2022/07/05 6:46:59
LS(min)	68.5	2022/07/05 6:45:41
LF(min)	67.4	2022/07/05 6:45:41
LI(min)	68.2	2022/07/05 6:45:41
LPeak(max)	92.5	2022/07/05 6:46:34

Overload Count 0  
Overload Duration 0.0 s

#### Statistics

LA 5.00	74.0 dB
LA 10.00	73.2 dB
LA 33.30	72.3 dB
LA 50.00	71.8 dB
LA 66.60	71.3 dB
LA 90.00	70.3 dB

#### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-05 06:36:40	-26.52
PRM831	2022-07-05 06:25:44	-26.52
PRM831	2022-07-05 06:07:55	-26.53
PRM831	2022-07-05 05:56:47	-26.52

## Summary

File Name on Meter	831_Data.020.s
File Name on PC	831_0002413-20220706 061146-831_Data.020.lbin
Serial Number	0002413
Model	Model 831
Firmware Version	2.403
User	
Location	
Job Description	
Note	

## Measurement

### Description

Start	2022-07-06 06:11:46
Stop	2022-07-06 06:26:51
Duration	00:15:05.3
Run Time	00:15:05.3
Pause	00:00:00.0

Pre-Calibration	2022-07-06 06:11:20
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamplifier	PRM831	
Microphone Correction	Off	
Integration Method	Linear	
Gain	0.0 dB	
Overload	144.1 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	76.5	73.5
Under Range Limit	<b>26.4</b>	26.8
Noise Floor	17.3	17.6
	<b>First</b>	<b>Second</b>
Instrument Identification	831_2431	

## Results

LAeq	68.2	
LAE	97.8	
EA	669.769 $\mu\text{Pa}^2\text{h}$	
LZpeak (max)	2022-07-06 06:17:02	98.4
LASmax	2022-07-06 06:19:57	74.6
LASmin	2022-07-06 06:15:15	65.2

SEA -99.9 dB

	Exceedance Counts	Durat
LAS > 65.0 dB	1	905.2
LAS > 85.0 dB	0	0.0
LZpeak > 135.0 dB	0	0.0
LZpeak > 137.0 dB	0	0.0
LZpeak > 140.0 dB	0	0.0

Community Noise Ldn LDay 07:00-22:00  
78.2 -99.9

LCeq	75.3 dB
LAeq	68.2 dB
LCeq - LAeq	7.1 dB
LAlaq	69.0 dB
LAeq	68.2 dB
LAlaq - LAeq	0.8 dB

A		
	dB	Time Stamp
Leq	68.2	
LS(max)	74.6	2022/07/06 6:19:57
LF(max)	77.3	2022/07/06 6:19:56
LI(max)	77.9	2022/07/06 6:19:56
LS(min)	65.2	2022/07/06 6:15:15
LF(min)	64.3	2022/07/06 6:25:17
LI(min)	64.7	2022/07/06 6:25:17
LPeak(max)	89.4	2022/07/06 6:19:56

Overload Count 0  
Overload Duration 0.0 s

#### Statistics

LA 5.00	69.9 dB
LA 10.00	69.4 dB
LA 33.30	68.6 dB
LA 50.00	68.1 dB
LA 66.60	67.6 dB
LA 90.00	66.6 dB

#### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-06 06:11:18	-26.51
PRM831	2022-07-05 06:52:19	-26.52
PRM831	2022-07-05 06:36:40	-26.52
PRM831	2022-07-05 06:25:44	-26.52

## Summary

File Name on Meter	831_Data.021.s
File Name on PC	831_0002413-20220706 063249-831_Data.021.lbin
Serial Number	0002413
Model	Model 831
Firmware Version	2.403
User	
Location	
Job Description	
Note	

## Measurement

### Description

Start	2022-07-06 06:32:49
Stop	2022-07-06 06:47:52
Duration	00:15:03.1
Run Time	00:15:03.1
Pause	00:00:00.0

Pre-Calibration	2022-07-06 06:32:31
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamplifier	PRM831	
Microphone Correction	Off	
Integration Method	Linear	
Gain	0.0 dB	
Overload	144.1 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	76.5	73.5
Under Range Limit	<b>26.4</b>	26.8
Noise Floor	17.3	17.7
	<b>First</b>	<b>Second</b>
Instrument Identification	831_2431	

## Results

LAeq	67.2	
LAE	96.7	
EA	521.663 $\mu\text{Pa}^2\text{h}$	
LZpeak (max)	2022-07-06 06:45:01	99.6
LASmax	2022-07-06 06:44:38	77.5
LASmin	2022-07-06 06:39:55	61.9

SEA -99.9 dB

	Exceedance Counts	Durat
LAS > 65.0 dB	3	889.6
LAS > 85.0 dB	0	0.0
LZpeak > 135.0 dB	0	0.0
LZpeak > 137.0 dB	0	0.0
LZpeak > 140.0 dB	0	0.0

Community Noise Ldn LDay 07:00-22:00  
77.2 -99.9

LCeq	77.5 dB
LAeq	67.2 dB
LCeq - LAeq	10.3 dB
LALeq	68.1 dB
LAeq	67.2 dB
LALeq - LAeq	0.9 dB

A		
	dB	Time Stamp
Leq	67.2	
LS(max)	77.5	2022/07/06 6:44:38
LF(max)	79.9	2022/07/06 6:44:38
LI(max)	80.6	2022/07/06 6:44:38
LS(min)	61.9	2022/07/06 6:39:55
LF(min)	61.0	2022/07/06 6:39:55
LI(min)	61.6	2022/07/06 6:39:54
LPeak(max)	99.0	2022/07/06 6:44:36

Overload Count 0  
Overload Duration 0.0 s

#### Statistics

LA 5.00	69.9 dB
LA 10.00	68.9 dB
LA 33.30	67.3 dB
LA 50.00	66.6 dB
LA 66.60	65.7 dB
LA 90.00	64.5 dB

#### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-06 06:32:31	-26.56
PRM831	2022-07-06 06:27:38	-26.57
PRM831	2022-07-06 06:11:18	-26.51
PRM831	2022-07-05 06:52:19	-26.52

## Summary

File Name on Meter	831_Data.022.s
File Name on PC	831_0002413-20220706 065502-831_Data.022.lbin
Serial Number	0002413
Model	Model 831
Firmware Version	2.403
User	
Location	
Job Description	
Note	

## Measurement

### Description

Start	2022-07-06 06:55:02
Stop	2022-07-06 07:10:05
Duration	00:15:02.6
Run Time	00:15:02.6
Pause	00:00:00.0

Pre-Calibration	2022-07-06 06:54:37
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamplifier	PRM831	
Microphone Correction	Off	
Integration Method	Linear	
Gain	0.0 dB	
Overload	144.2 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	76.6	73.6
Under Range Limit	<b>26.5</b>	26.8
Noise Floor	17.3	17.7
	<b>First</b>	<b>Second</b>
Instrument Identification	831_2431	

## Results

LAeq	64.8	
LAE	94.3	
EA	300.524 $\mu\text{Pa}^2\text{h}$	
LZpeak (max)	2022-07-06 07:00:01	102.5
LASmax	2022-07-06 07:01:27	69.5
LASmin	2022-07-06 07:06:00	59.1

SEA

-99.9 dB

	Exceedance Counts	Durat
LAS > 65.0 dB	22	596.1
LAS > 85.0 dB	0	0.0
LZpeak > 135.0 dB	0	0.0
LZpeak > 137.0 dB	0	0.0
LZpeak > 140.0 dB	0	0.0

Community Noise	Ldn	LDay 07:00-22:00
	71.0	64.9

LCeq	76.3 dB
LAeq	64.8 dB
LCeq - LAeq	11.5 dB
LALeq	65.4 dB
LAeq	64.8 dB
LALeq - LAeq	0.7 dB

A		
	dB	Time Stamp
Leq	64.8	
LS(max)	69.5	2022/07/06 7:01:27
LF(max)	70.5	2022/07/06 7:01:26
LI(max)	71.5	2022/07/06 7:01:27
LS(min)	59.1	2022/07/06 7:06:00
LF(min)	58.5	2022/07/06 7:01:02
LI(min)	58.8	2022/07/06 7:01:02
LPeak(max)	85.5	2022/07/06 6:55:41

Overload Count	0
Overload Duration	0.0 s

### Statistics

LA 5.00	67.1 dB
LA 10.00	66.5 dB
LA 33.30	65.2 dB
LA 50.00	64.5 dB
LA 66.60	63.8 dB
LA 90.00	62.4 dB

### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-06 06:54:37	-26.62
PRM831	2022-07-06 06:48:41	-26.59
PRM831	2022-07-06 06:32:31	-26.56
PRM831	2022-07-06 06:27:38	-26.57



## Summary

File Name on Meter	831_Data.027.s
File Name on PC	831_0002413-20220707 084100-831_Data.027.lbin
Serial Number	0002413
Model	Model 831
Firmware Version	2.403
User	
Location	
Job Description	
Note	

## Measurement

### Description

Start	2022-07-07 08:41:00
Stop	2022-07-07 08:56:03
Duration	00:15:03.1
Run Time	00:15:03.1
Pause	00:00:00.0

Pre-Calibration	2022-07-07 08:40:24
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamplifier	PRM831	
Microphone Correction	Off	
Integration Method	Linear	
Gain	0.0 dB	
Overload	144.1 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	76.5	73.5
Under Range Limit	<b>26.4</b>	26.8
Noise Floor	17.3	17.6
	<b>First</b>	<b>Second</b>
Instrument Identification	831_2431	

## Results

LAeq	69.4	
LAE	99.0	
EA	882.085 $\mu\text{Pa}^2\text{h}$	
LZpeak (max)	2022-07-07 08:42:01	96.6
LASmax	2022-07-07 08:48:20	72.1
LASmin	2022-07-07 08:51:00	64.0

SEA

-99.9 dB

	Exceedance Counts	Durat
LAS > 65.0 dB	1	903.0
LAS > 85.0 dB	0	0.0
LZpeak > 135.0 dB	0	0.0
LZpeak > 137.0 dB	0	0.0
LZpeak > 140.0 dB	0	0.0

Community Noise	Ldn	LDay 07:00-22:00
	69.4	69.4

LCeq	77.7 dB
LAeq	69.4 dB
LCeq - LAeq	8.2 dB
LAlaq	70.0 dB
LAeq	69.4 dB
LAlaq - LAeq	0.6 dB

A		
	dB	Time Stamp
Leq	69.4	
LS(max)	72.1	2022/07/07 8:48:20
LF(max)	73.4	2022/07/07 8:48:20
LI(max)	74.7	2022/07/07 8:48:20
LS(min)	64.0	2022/07/07 8:51:00
LF(min)	63.3	2022/07/07 8:50:58
LI(min)	63.7	2022/07/07 8:50:59
LPeak(max)	86.1	2022/07/07 8:48:25

Overload Count	0
Overload Duration	0.0 s

Statistics

LA 5.00	70.9 dB
LA 10.00	70.6 dB
LA 33.30	69.9 dB
LA 50.00	69.4 dB
LA 66.60	69.0 dB
LA 90.00	67.9 dB

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-07 08:40:24	-26.51
PRM831	2022-07-07 08:35:25	-26.54
PRM831	2022-07-07 08:18:43	-26.53
PRM831	2022-07-07 08:12:34	-26.55

## Summary

File Name on Meter	831_Data.026.s
File Name on PC	831_0002413-20220707 081958-831_Data.026.lbin
Serial Number	0002413
Model	Model 831
Firmware Version	2.403
User	
Location	
Job Description	
Note	

## Measurement

### Description

Start	2022-07-07 08:19:58
Stop	2022-07-07 08:35:00
Duration	00:15:02.7
Run Time	00:15:02.7
Pause	00:00:00.0

Pre-Calibration	2022-07-07 08:18:43
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamplifier	PRM831	
Microphone Correction	Off	
Integration Method	Linear	
Gain	0.0 dB	
Overload	144.1 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	76.5	73.5
Under Range Limit	<b>26.4</b>	26.8
Noise Floor	17.3	17.7
	<b>First</b>	<b>Second</b>
Instrument Identification	831_2431	

## Results

LAeq	70.9	
LAE	100.5	
EA	1.246 mPa <sup>2</sup> h	
LZpeak (max)	2022-07-07 08:31:47	103.2
LASmax	2022-07-07 08:22:56	75.5
LASmin	2022-07-07 08:32:06	65.0

SEA

-99.9 dB

	Exceedance Counts	Durat
LAS > 65.0 dB	1	902.6
LAS > 85.0 dB	0	0.0
LZpeak > 135.0 dB	0	0.0
LZpeak > 137.0 dB	0	0.0
LZpeak > 140.0 dB	0	0.0

Community Noise	Ldn	LDay 07:00-22:00
	70.9	70.9

LCeq	79.6 dB
LAeq	70.9 dB
LCeq - LAeq	8.7 dB
LALeq	71.9 dB
LAeq	70.9 dB
LALeq - LAeq	0.9 dB

A		
	dB	Time Stamp
Leq	70.9	
LS(max)	75.5	2022/07/07 8:22:56
LF(max)	77.7	2022/07/07 8:22:56
LI(max)	79.0	2022/07/07 8:22:56
LS(min)	65.0	2022/07/07 8:32:06
LF(min)	63.9	2022/07/07 8:32:06
LI(min)	64.4	2022/07/07 8:32:06
LPeak(max)	93.1	2022/07/07 8:22:58

Overload Count	0
Overload Duration	0.0 s

Statistics

LA 5.00	73.3 dB
LA 10.00	72.7 dB
LA 33.30	71.4 dB
LA 50.00	70.7 dB
LA 66.60	70.1 dB
LA 90.00	68.6 dB

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-07 08:18:43	-26.53
PRM831	2022-07-07 08:12:34	-26.55
PRM831	2022-07-07 07:56:52	-26.56
PRM831	2022-07-07 07:30:29	-26.55

## Summary

File Name on Meter	831_Data.025.s
File Name on PC	831_0002413-20220707 075707-831_Data.025.lbin
Serial Number	0002413
Model	Model 831
Firmware Version	2.403
User	
Location	
Job Description	
Note	

## Measurement

### Description

Start	2022-07-07 07:57:07
Stop	2022-07-07 08:12:10
Duration	00:15:02.8
Run Time	00:15:02.8
Pause	00:00:00.0

Pre-Calibration	2022-07-07 07:56:53
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamplifier	PRM831	
Microphone Correction	Off	
Integration Method	Linear	
Gain	0.0 dB	
Overload	144.1 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	76.5	73.5
Under Range Limit	<b>26.4</b>	26.8
Noise Floor	17.3	17.7
	<b>First</b>	<b>Second</b>
Instrument Identification	831_2431	

## Results

LAeq	67.7	
LAE	97.2	
EA	585.921 $\mu\text{Pa}^2\text{h}$	
LZpeak (max)	2022-07-07 08:09:33	101.7
LASmax	2022-07-07 07:59:13	74.3
LASmin	2022-07-07 08:05:10	62.2

SEA

-99.9 dB

	Exceedance Counts	Durat
LAS > 65.0 dB	4	891.6
LAS > 85.0 dB	0	0.0
LZpeak > 135.0 dB	0	0.0
LZpeak > 137.0 dB	0	0.0
LZpeak > 140.0 dB	0	0.0

Community Noise	Ldn	LDay 07:00-22:00
	67.7	67.7

LCeq	78.0 dB
LAeq	67.7 dB
LCeq - LAeq	10.4 dB
LALeq	68.4 dB
LAeq	67.7 dB
LALeq - LAeq	0.8 dB

A		
	dB	Time Stamp
Leq	67.7	
LS(max)	74.3	2022/07/07 7:59:13
LF(max)	76.3	2022/07/07 7:59:13
LI(max)	77.4	2022/07/07 7:59:13
LS(min)	62.2	2022/07/07 8:05:10
LF(min)	61.1	2022/07/07 8:05:10
LI(min)	61.6	2022/07/07 8:01:17
LPeak(max)	90.9	2022/07/07 8:01:57

Overload Count	0
Overload Duration	0.0 s

Statistics

LA 5.00	70.1 dB
LA 10.00	69.5 dB
LA 33.30	68.0 dB
LA 50.00	67.3 dB
LA 66.60	66.5 dB
LA 90.00	65.2 dB

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-07 07:56:52	-26.56
PRM831	2022-07-07 07:30:29	-26.55
PRM831	2022-07-07 07:12:44	-26.54
PRM831	2022-07-07 07:03:21	-26.54

## Summary

File Name on Meter	831_Data.023.s
File Name on PC	831_0002413-20220707 064758-831_Data.023.lbin
Serial Number	0002413
Model	Model 831
Firmware Version	2.403
User	
Location	
Job Description	
Note	

## Measurement

### Description

Start	2022-07-07 06:47:58
Stop	2022-07-07 07:02:59
Duration	00:15:01.7
Run Time	00:15:01.7
Pause	00:00:00.0

Pre-Calibration	2022-07-07 06:46:52
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamplifier	PRM831	
Microphone Correction	Off	
Integration Method	Linear	
Gain	0.0 dB	
Overload	144.0 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	76.5	73.5
Under Range Limit	<b>26.4</b>	26.8
Noise Floor	17.3	17.6
	<b>First</b>	<b>Second</b>
Instrument Identification	831_2431	

## Results

LAeq	65.7	
LAE	95.3	
EA	375.033 $\mu\text{Pa}^2\text{h}$	
LZpeak (max)	2022-07-07 06:53:17	102.5
LASmax	2022-07-07 06:55:18	69.5
LASmin	2022-07-07 06:58:19	63.4

SEA

-99.9 dB

	Exceedance Counts	Durat
LAS > 65.0 dB	1	901.6
LAS > 85.0 dB	0	0.0
LZpeak > 135.0 dB	0	0.0
LZpeak > 137.0 dB	0	0.0
LZpeak > 140.0 dB	0	0.0

Community Noise	Ldn	LDay 07:00-22:00
	72.2	64.9

LCeq	81.2 dB
LAeq	65.7 dB
LCeq - LAeq	15.5 dB
LAleq	66.3 dB
LAeq	65.7 dB
LAleq - LAeq	0.6 dB

A		
	dB	Time Stamp
Leq	65.7	
LS(max)	69.5	2022/07/07 6:55:18
LF(max)	71.2	2022/07/07 6:54:32
LI(max)	72.4	2022/07/07 6:54:32
LS(min)	63.4	2022/07/07 6:58:19
LF(min)	62.9	2022/07/07 6:58:19
LI(min)	63.3	2022/07/07 6:58:19
LPeak(max)	88.4	2022/07/07 6:54:32

Overload Count	0
Overload Duration	0.0 s

Statistics

LA 5.00	67.3 dB
LA 10.00	66.7 dB
LA 33.30	65.9 dB
LA 50.00	65.6 dB
LA 66.60	65.3 dB
LA 90.00	64.6 dB

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-07 06:46:50	-26.49
PRM831	2022-07-06 07:11:45	-26.60
PRM831	2022-07-06 06:54:37	-26.62
PRM831	2022-07-06 06:48:41	-26.59



## Summary

File Name on Meter	831_Data.024.s
File Name on PC	831_0002413-20220707 071458-831_Data.024.lbin
Serial Number	0002413
Model	Model 831
Firmware Version	2.403
User	
Location	
Job Description	
Note	

## Measurement

### Description

Start	2022-07-07 07:14:58
Stop	2022-07-07 07:30:03
Duration	00:15:05.4
Run Time	00:15:05.4
Pause	00:00:00.0

Pre-Calibration	2022-07-07 07:12:44
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamplifier	PRM831	
Microphone Correction	Off	
Integration Method	Linear	
Gain	0.0 dB	
Overload	144.1 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	76.5	73.5
Under Range Limit	<b>26.4</b>	26.8
Noise Floor	17.3	17.7
	<b>First</b>	<b>Second</b>
Instrument Identification	831_2431	

## Results

LAeq	65.1	
LAE	94.7	
EA	327.239 $\mu\text{Pa}^2\text{h}$	
LZpeak (max)	2022-07-07 07:23:01	97.4
LASmax	2022-07-07 07:23:01	71.0
LASmin	2022-07-07 07:18:37	60.8

SEA

-99.9 dB

	Exceedance Counts	Durat
LAS > 65.0 dB	13	680.5
LAS > 85.0 dB	0	0.0
LZpeak > 135.0 dB	0	0.0
LZpeak > 137.0 dB	0	0.0
LZpeak > 140.0 dB	0	0.0

Community Noise	Ldn	LDay 07:00-22:00
	65.1	65.1

LCeq	75.7 dB
LAeq	65.1 dB
LCeq - LAeq	10.5 dB
LALeq	65.9 dB
LAeq	65.1 dB
LALeq - LAeq	0.8 dB

A		
	dB	Time Stamp
Leq	65.1	
LS(max)	71.0	2022/07/07 7:23:01
LF(max)	72.2	2022/07/07 7:28:28
LI(max)	73.3	2022/07/07 7:28:28
LS(min)	60.8	2022/07/07 7:18:37
LF(min)	60.2	2022/07/07 7:18:36
LI(min)	60.6	2022/07/07 7:18:37
LPeak(max)	84.1	2022/07/07 7:23:46

Overload Count	0
Overload Duration	0.0 s

### Statistics

LA 5.00	67.3 dB
LA 10.00	66.7 dB
LA 33.30	65.4 dB
LA 50.00	64.9 dB
LA 66.60	64.2 dB
LA 90.00	62.8 dB

### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-07 07:12:44	-26.54
PRM831	2022-07-07 07:03:21	-26.54
PRM831	2022-07-07 06:46:50	-26.49
PRM831	2022-07-06 07:11:45	-26.60

## Summary

**File Name on Meter** 831\_Data.028.s  
**File Name on PC** 831\_0002413-20220707 150158-831\_Data.028.ldbin  
**Serial Number** 0002413  
**Model** Model 831  
**Firmware Version** 2.403  
**User**  
**Location**  
**Job Description**  
**Note**

## Measurement

### Description

**Start** 2022-07-07 15:01:58  
**Stop** 2022-07-07 15:17:04  
**Duration** 00:15:05.3  
**Run Time** 00:15:05.3  
**Pause** 00:00:00.0

**Pre-Calibration** 2022-07-07 15:01:08  
**Post-Calibration** None  
**Calibration Deviation** ---

## Overall Settings

**RMS Weight** A Weighting  
**Peak Weight** Z Weighting  
**Detector** Slow  
**Preamplifier** PRM831  
**Microphone Correction** Off  
**Integration Method** Linear  
**Gain** 0.0 dB  
**Overload** 144.1 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
<b>Under Range Peak</b>	76.5	73.5	<b>78.5</b>
<b>Under Range Limit</b>	<b>26.4</b>	26.8	32.5
<b>Noise Floor</b>	17.3	17.6	23.0

	<b>First</b>	<b>Second</b>	<b>Third</b>
<b>Instrument Identification</b>	831_2431		

## Results

**LAeq** 59.4 dB  
**LAE** 89.0 dB  
**EA** 87.609  $\mu\text{Pa}^2\text{h}$   
**LZpeak (max)** 2022-07-07 15:16:19 107.9 dB  
**LASmax** 2022-07-07 15:16:19 78.6 dB  
**LASmin** 2022-07-07 15:11:35 53.3 dB

SEA

-99.9 dB

	Exceedance Counts	Duration
LAS > 65.0 dB	2	15.2 s
LAS > 85.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

Community Noise	Ldn	LDay 07:00-22:00	LNight 22:00-07:00
	59.4	59.4	-99.9

LCeq	71.6 dB
LAeq	59.4 dB
LCeq - LAeq	12.2 dB
LALeq	65.5 dB
LAeq	59.4 dB
LALeq - LAeq	6.1 dB

A			
	dB	Time Stamp	dB
Leq	59.4		71.6
LS(max)	78.6	2022/07/07 15:16:19	82.9
LF(max)	87.2	2022/07/07 15:16:19	86.3
LI(max)	92.1	2022/07/07 15:16:19	91.1
LS(min)	53.3	2022/07/07 15:11:35	66.5
LF(min)	52.7	2022/07/07 15:11:35	65.1
LI(min)	52.9	2022/07/07 15:11:35	67.0
LPeak(max)	108.4	2022/07/07 15:16:19	107.3

Overload Count	0
Overload Duration	0.0 s

Statistics

LA 5.00	62.4 dB
LA 10.00	61.3 dB
LA 33.30	58.8 dB
LA 50.00	57.9 dB
LA 66.60	57.1 dB
LA 90.00	56.0 dB

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-07 15:01:08	-26.51
PRM831	2022-07-07 14:52:21	-26.46
PRM831	2022-07-07 08:56:24	-26.54
PRM831	2022-07-07 08:40:24	-26.51

## Summary

**File Name on Meter** 831\_Data.029.s  
**File Name on PC** 831\_0002413-20220707 153200-831\_Data.029.ldbin  
**Serial Number** 0002413  
**Model** Model 831  
**Firmware Version** 2.403  
**User**  
**Location**  
**Job Description**  
**Note**

## Measurement

### Description

**Start** 2022-07-07 15:32:00  
**Stop** 2022-07-07 15:47:05  
**Duration** 00:15:05.0  
**Run Time** 00:14:59.3  
**Pause** 00:00:05.7  
  
**Pre-Calibration** 2022-07-07 15:31:13  
**Post-Calibration** None  
**Calibration Deviation** ---

## Overall Settings

**RMS Weight** A Weighting  
**Peak Weight** Z Weighting  
**Detector** Slow  
**Preamplifier** PRM831  
**Microphone Correction** Off  
**Integration Method** Linear  
**Gain** 0.0 dB  
**Overload** 144.1 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
<b>Under Range Peak</b>	76.5	73.5	<b>78.5</b>
<b>Under Range Limit</b>	<b>26.4</b>	26.8	32.5
<b>Noise Floor</b>	17.3	17.6	23.0

	<b>First</b>	<b>Second</b>	<b>Third</b>
<b>Instrument Identification</b>	831_2431		

## Results

**LAeq** 62.9 dB  
**LAE** 92.4 dB  
**EA** 194.833  $\mu\text{Pa}^2\text{h}$   
**LZpeak (max)** 2022-07-07 15:43:40 94.5 dB  
**LASmax** 2022-07-07 15:40:40 69.1 dB  
**LASmin** 2022-07-07 15:35:49 59.7 dB

SEA -99.9 dB

	Exceedance Counts	Duration
LAS > 65.0 dB	9	166.9 s
LAS > 85.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

Community Noise Ldn LDay 07:00-22:00 LNight 22:00-07:00  
62.9 62.9 -99.9

LCeq 73.9 dB  
LAeq 62.9 dB  
LCeq - LAeq 11.0 dB  
LAlaq 63.7 dB  
LAeq 62.9 dB  
LAlaq - LAeq 0.8 dB

	A		dB
	dB	Time Stamp	
Leq	62.9		73.9
LS(max)	69.1	2022/07/07 15:40:40	81.2
LF(max)	71.9	2022/07/07 15:40:40	83.5
LI(max)	75.8	2022/07/07 15:44:10	84.3
LS(min)	59.7	2022/07/07 15:35:49	68.8
LF(min)	59.1	2022/07/07 15:43:21	67.3
LI(min)	59.3	2022/07/07 15:42:28	69.4
LPeak(max)	87.3	2022/07/07 15:32:53	95.2

Overload Count 0  
Overload Duration 0.0 s

#### Statistics

LA 5.00 64.9 dB  
LA 10.00 64.4 dB  
LA 33.30 63.3 dB  
LA 50.00 62.7 dB  
LA 66.60 62.1 dB  
LA 90.00 61.0 dB

#### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-07 15:31:13	-26.50
PRM831	2022-07-07 15:17:21	-26.48
PRM831	2022-07-07 15:01:08	-26.51
PRM831	2022-07-07 14:52:21	-26.46

## Summary

**File Name on Meter** 831\_Data.030.s  
**File Name on PC** 831\_0002413-20220707 155303-831\_Data.030.ldbin  
**Serial Number** 0002413  
**Model** Model 831  
**Firmware Version** 2.403  
**User**  
**Location**  
**Job Description**  
**Note**

## Measurement

**Description**  
**Start** 2022-07-07 15:53:03  
**Stop** 2022-07-07 16:11:04  
**Duration** 00:18:00.5  
**Run Time** 00:13:26.0  
**Pause** 00:04:34.5  
  
**Pre-Calibration** 2022-07-07 15:52:12  
**Post-Calibration** None  
**Calibration Deviation** ---

## Overall Settings

**RMS Weight** A Weighting  
**Peak Weight** Z Weighting  
**Detector** Slow  
**Preamplifier** PRM831  
**Microphone Correction** Off  
**Integration Method** Linear  
**Gain** 0.0 dB  
**Overload** 144.0 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
<b>Under Range Peak</b>	76.5	73.5	<b>78.5</b>
<b>Under Range Limit</b>	<b>26.4</b>	26.8	32.5
<b>Noise Floor</b>	17.3	17.6	23.0

	<b>First</b>	<b>Second</b>	<b>Third</b>
<b>Instrument Identification</b>	831_2431		

## Results

**LAeq** 73.6 dB  
**LAE** 102.7 dB  
**EA** 2.052 mPa<sup>2</sup>h  
**LZpeak (max)** 2022-07-07 16:01:05 109.3 dB  
**LASmax** 2022-07-07 15:56:12 89.6 dB  
**LASmin** 2022-07-07 15:54:46 68.5 dB

SEA

-99.9 dB

	Exceedance Counts	Duration
LAS > 65.0 dB	3	806.0 s
LAS > 85.0 dB	3	6.8 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

Community Noise	Ldn	LDay 07:00-22:00	LNight 22:00-07:00
	73.6	73.6	-99.9

LCeq	79.0 dB
LAeq	73.6 dB
LCeq - LAeq	5.4 dB
LAlaq	75.6 dB
LAeq	73.6 dB
LAlaq - LAeq	2.0 dB

A			
	dB	Time Stamp	dB
Leq	73.6		79.0
LS(max)	89.6	2022/07/07 15:56:12	92.6
LF(max)	92.5	2022/07/07 15:56:12	95.4
LI(max)	94.1	2022/07/07 15:56:12	96.4
LS(min)	68.5	2022/07/07 15:54:46	73.6
LF(min)	67.7	2022/07/07 15:54:46	72.2
LI(min)	68.5	2022/07/07 15:54:45	73.8
LPeak(max)	110.4	2022/07/07 16:05:35	109.0

Overload Count	0
Overload Duration	0.0 s

### Statistics

LA 5.00	75.8 dB
LA 10.00	73.7 dB
LA 33.30	72.3 dB
LA 50.00	71.8 dB
LA 66.60	71.3 dB
LA 90.00	70.4 dB

### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-07 15:52:12	-26.49
PRM831	2022-07-07 15:47:25	-26.53
PRM831	2022-07-07 15:31:13	-26.50
PRM831	2022-07-07 15:17:21	-26.48



## Summary

**File Name on Meter** 831\_Data.031.s  
**File Name on PC** 831\_0002413-20220707 164801-831\_Data.031.ldbin  
**Serial Number** 0002413  
**Model** Model 831  
**Firmware Version** 2.403  
**User**  
**Location**  
**Job Description**  
**Note**

## Measurement

### Description

**Start** 2022-07-07 16:48:01  
**Stop** 2022-07-07 17:03:04  
**Duration** 00:15:03.2  
**Run Time** 00:15:03.2  
**Pause** 00:00:00.0

**Pre-Calibration** 2022-07-07 16:47:37  
**Post-Calibration** None  
**Calibration Deviation** ---

## Overall Settings

**RMS Weight** A Weighting  
**Peak Weight** Z Weighting  
**Detector** Slow  
**Preamplifier** PRM831  
**Microphone Correction** Off  
**Integration Method** Linear  
**Gain** 0.0 dB  
**Overload** 144.1 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
<b>Under Range Peak</b>	76.5	73.5	<b>78.5</b>
<b>Under Range Limit</b>	<b>26.4</b>	26.8	32.5
<b>Noise Floor</b>	17.3	17.7	23.0

	<b>First</b>	<b>Second</b>	<b>Third</b>
<b>Instrument Identification</b>	831_2431		

## Results

**LAeq** 66.7 dB  
**LAE** 96.3 dB  
**EA** 469.398  $\mu\text{Pa}^2\text{h}$   
**LZpeak (max)** 2022-07-07 16:55:23 99.9 dB  
**LASmax** 2022-07-07 16:55:24 71.4 dB  
**LASmin** 2022-07-07 16:51:59 62.2 dB

SEA -99.9 dB

	Exceedance Counts	Duration
LAS > 65.0 dB	4	877.8 s
LAS > 85.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

Community Noise Ldn LDay 07:00-22:00 LNight 22:00-07:00  
66.7 66.7 -99.9

LCeq 75.0 dB  
LAeq 66.7 dB  
LCeq - LAeq 8.3 dB  
LALeq 67.5 dB  
LAeq 66.7 dB  
LALeq - LAeq 0.8 dB

	A		dB
	dB	Time Stamp	
Leq	66.7		75.0
LS(max)	71.4	2022/07/07 16:55:24	89.4
LF(max)	73.9	2022/07/07 17:00:07	92.6
LI(max)	76.9	2022/07/07 17:02:54	93.2
LS(min)	62.2	2022/07/07 16:51:59	68.5
LF(min)	61.7	2022/07/07 16:51:58	66.9
LI(min)	62.2	2022/07/07 16:51:58	69.0
LPeak(max)	95.3	2022/07/07 17:02:54	98.7

Overload Count 0  
Overload Duration 0.0 s

#### Statistics

LA 5.00 68.3 dB  
LA 10.00 68.0 dB  
LA 33.30 67.1 dB  
LA 50.00 66.6 dB  
LA 66.60 66.1 dB  
LA 90.00 64.9 dB

#### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-07 16:47:35	-26.55
PRM831	2022-07-07 16:11:32	-26.49
PRM831	2022-07-07 15:52:12	-26.49
PRM831	2022-07-07 15:47:25	-26.53

## Summary

**File Name on Meter** 831\_Data.032.s  
**File Name on PC** 831\_0002413-20220707 170806-831\_Data.032.ldbin  
**Serial Number** 0002413  
**Model** Model 831  
**Firmware Version** 2.403  
**User**  
**Location**  
**Job Description**  
**Note**

## Measurement

### Description

**Start** 2022-07-07 17:08:06  
**Stop** 2022-07-07 17:23:09  
**Duration** 00:15:03.7  
**Run Time** 00:15:03.7  
**Pause** 00:00:00.0

**Pre-Calibration** 2022-07-07 17:07:32  
**Post-Calibration** None  
**Calibration Deviation** ---

## Overall Settings

**RMS Weight** A Weighting  
**Peak Weight** Z Weighting  
**Detector** Slow  
**Preamplifier** PRM831  
**Microphone Correction** Off  
**Integration Method** Linear  
**Gain** 0.0 dB  
**Overload** 144.0 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
<b>Under Range Peak</b>	76.5	73.5	<b>78.5</b>
<b>Under Range Limit</b>	<b>26.4</b>	26.8	32.5
<b>Noise Floor</b>	17.3	17.6	23.0

	<b>First</b>	<b>Second</b>	<b>Third</b>
<b>Instrument Identification</b>	831_2431		

## Results

**LAeq** 70.4 dB  
**LAE** 100.0 dB  
**EA** 1.101 mPa<sup>2</sup>h  
**LZpeak (max)** 2022-07-07 17:08:49 101.2 dB  
**LASmax** 2022-07-07 17:20:51 77.9 dB  
**LASmin** 2022-07-07 17:22:23 66.7 dB

SEA

-99.9 dB

	Exceedance Counts	Duration
LAS > 65.0 dB	1	903.6 s
LAS > 85.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

Community Noise	Ldn	LDay 07:00-22:00	LNight 22:00-07:00
	70.4	70.4	-99.9

LCeq	78.7 dB
LAeq	70.4 dB
LCeq - LAeq	8.3 dB
LALeq	71.1 dB
LAeq	70.4 dB
LALeq - LAeq	0.7 dB

A			
	dB	Time Stamp	dB
Leq	70.4		78.7
LS(max)	77.9	2022/07/07 17:20:51	90.6
LF(max)	80.5	2022/07/07 17:20:51	93.9
LI(max)	81.6	2022/07/07 17:20:51	94.9
LS(min)	66.7	2022/07/07 17:22:23	72.9
LF(min)	65.9	2022/07/07 17:22:20	70.9
LI(min)	66.5	2022/07/07 17:22:21	72.5
LPeak(max)	91.1	2022/07/07 17:18:59	100.6

Overload Count	0
Overload Duration	0.0 s

Statistics

LA 5.00	72.0 dB
LA 10.00	71.5 dB
LA 33.30	70.7 dB
LA 50.00	70.2 dB
LA 66.60	69.8 dB
LA 90.00	69.0 dB

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-07 17:07:32	-26.49
PRM831	2022-07-07 17:03:18	-26.47
PRM831	2022-07-07 16:47:35	-26.55
PRM831	2022-07-07 16:11:32	-26.49

## Summary

**File Name on Meter** 831\_Data.033.s  
**File Name on PC** 831\_0002413-20220707 175611-831\_Data.033.ldbin  
**Serial Number** 0002413  
**Model** Model 831  
**Firmware Version** 2.403  
**User**  
**Location**  
**Job Description**  
**Note**

## Measurement

### Description

**Start** 2022-07-07 17:56:11  
**Stop** 2022-07-07 18:11:14  
**Duration** 00:15:03.3  
**Run Time** 00:15:03.3  
**Pause** 00:00:00.0  
  
**Pre-Calibration** 2022-07-07 17:55:19  
**Post-Calibration** None  
**Calibration Deviation** ---

## Overall Settings

**RMS Weight** A Weighting  
**Peak Weight** Z Weighting  
**Detector** Slow  
**Preamplifier** PRM831  
**Microphone Correction** Off  
**Integration Method** Linear  
**Gain** 0.0 dB  
**Overload** 144.0 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
<b>Under Range Peak</b>	76.4	73.4	<b>78.4</b>
<b>Under Range Limit</b>	<b>26.4</b>	26.8	32.4
<b>Noise Floor</b>	17.3	17.6	23.0

	<b>First</b>	<b>Second</b>	<b>Third</b>
<b>Instrument Identification</b>	831_2431		

## Results

**LAeq** 63.2 dB  
**LAE** 92.8 dB  
**EA** 209.696  $\mu\text{Pa}^2\text{h}$   
**LZpeak (max)** 2022-07-07 18:08:11 99.5 dB  
**LASmax** 2022-07-07 18:11:04 68.0 dB  
**LASmin** 2022-07-07 17:59:09 58.1 dB

SEA

-99.9 dB

	Exceedance Counts	Duration
LAS > 65.0 dB	14	214.1 s
LAS > 85.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

Community Noise	Ldn	LDay 07:00-22:00	LNight 22:00-07:00
	63.2	63.2	-99.9

LCeq	74.3 dB
LAeq	63.2 dB
LCeq - LAeq	11.1 dB
LAlaq	63.9 dB
LAeq	63.2 dB
LAlaq - LAeq	0.7 dB

A			
	dB	Time Stamp	dB
Leq	63.2		74.3
LS(max)	68.0	2022/07/07 18:11:04	82.3
LF(max)	71.2	2022/07/07 18:11:01	87.9
LI(max)	73.7	2022/07/07 18:11:01	90.9
LS(min)	58.1	2022/07/07 17:59:09	67.7
LF(min)	57.3	2022/07/07 17:59:09	66.1
LI(min)	58.0	2022/07/07 17:59:09	68.2
LPeak(max)	88.6	2022/07/07 18:11:01	96.9

Overload Count	0
Overload Duration	0.0 s

### Statistics

LA 5.00	65.5 dB
LA 10.00	65.0 dB
LA 33.30	63.6 dB
LA 50.00	62.9 dB
LA 66.60	62.3 dB
LA 90.00	60.6 dB

### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-07 17:55:19	-26.46
PRM831	2022-07-07 17:30:01	-26.52
PRM831	2022-07-07 17:23:23	-26.47
PRM831	2022-07-07 17:07:32	-26.49

## Summary

**File Name on Meter** 831\_Data.034.s  
**File Name on PC** 831\_0002413-20220708 071803-831\_Data.034.ldbin  
**Serial Number** 0002413  
**Model** Model 831  
**Firmware Version** 2.403  
**User**  
**Location**  
**Job Description**  
**Note**

## Measurement

### Description

**Start** 2022-07-08 07:18:03  
**Stop** 2022-07-08 07:33:10  
**Duration** 00:15:06.6  
**Run Time** 00:15:06.6  
**Pause** 00:00:00.0  
  
**Pre-Calibration** 2022-07-08 07:14:19  
**Post-Calibration** None  
**Calibration Deviation** ---

## Overall Settings

**RMS Weight** A Weighting  
**Peak Weight** Z Weighting  
**Detector** Slow  
**Preamplifier** PRM831  
**Microphone Correction** Off  
**Integration Method** Linear  
**Gain** 0.0 dB  
**Overload** 144.0 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
<b>Under Range Peak</b>	76.4	73.4	<b>78.4</b>
<b>Under Range Limit</b>	<b>26.4</b>	26.7	32.4
<b>Noise Floor</b>	17.2	17.6	22.9

	<b>First</b>	<b>Second</b>	<b>Third</b>
<b>Instrument Identification</b>	831_2431		

## Results

**LAeq** 66.8 dB  
**LAE** 96.4 dB  
**EA** 482.140  $\mu\text{Pa}^2\text{h}$   
**LZpeak (max)** 2022-07-08 07:27:40 98.6 dB  
**LASmax** 2022-07-08 07:31:51 76.0 dB  
**LASmin** 2022-07-08 07:22:06 47.4 dB

SEA -99.9 dB

	Exceedance Counts	Duration
LAS > 65.0 dB	23	572.8 s
LAS > 85.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

Community Noise	Ldn	LDay 07:00-22:00	LNight 22:00-07:00
	66.8	66.8	-99.9

LCeq	74.1 dB
LAeq	66.8 dB
LCeq - LAeq	7.3 dB
LALeq	67.7 dB
LAeq	66.8 dB
LALeq - LAeq	0.9 dB

	A		dB
	dB	Time Stamp	
Leq	66.8		74.1
LS(max)	76.0	2022/07/08 7:31:51	86.9
LF(max)	77.6	2022/07/08 7:31:50	90.1
LI(max)	78.1	2022/07/08 7:30:41	92.1
LS(min)	47.4	2022/07/08 7:22:06	62.5
LF(min)	45.9	2022/07/08 7:22:04	60.5
LI(min)	46.8	2022/07/08 7:22:06	63.4
LPeak(max)	90.7	2022/07/08 7:30:41	97.8

Overload Count	0
Overload Duration	0.0 s

#### Statistics

LA 5.00	70.5 dB
LA 10.00	69.7 dB
LA 33.30	67.6 dB
LA 50.00	65.9 dB
LA 66.60	63.6 dB
LA 90.00	56.6 dB

#### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-08 07:14:19	-26.43
PRM831	2022-07-07 18:11:40	-26.48
PRM831	2022-07-07 17:55:19	-26.46
PRM831	2022-07-07 17:30:01	-26.52



## Summary

**File Name on Meter** 831\_Data.035.s  
**File Name on PC** 831\_0002413-20220708 075601-831\_Data.035.ldbin  
**Serial Number** 0002413  
**Model** Model 831  
**Firmware Version** 2.403  
**User**  
**Location**  
**Job Description**  
**Note**

## Measurement

### Description

**Start** 2022-07-08 07:56:01  
**Stop** 2022-07-08 08:11:05  
**Duration** 00:15:04.0  
**Run Time** 00:15:04.0  
**Pause** 00:00:00.0  
  
**Pre-Calibration** 2022-07-08 07:55:01  
**Post-Calibration** None  
**Calibration Deviation** ---

## Overall Settings

**RMS Weight** A Weighting  
**Peak Weight** Z Weighting  
**Detector** Slow  
**Preamplifier** PRM831  
**Microphone Correction** Off  
**Integration Method** Linear  
**Gain** 0.0 dB  
**Overload** 144.1 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
<b>Under Range Peak</b>	76.5	73.5	<b>78.5</b>
<b>Under Range Limit</b>	<b>26.4</b>	26.8	32.5
<b>Noise Floor</b>	17.3	17.7	23.0

	<b>First</b>	<b>Second</b>	<b>Third</b>
<b>Instrument Identification</b>	831_2431		

## Results

**LAeq** 58.4 dB  
**LAE** 88.0 dB  
**EA** 69.491  $\mu\text{Pa}^2\text{h}$   
**LZpeak (max)** 2022-07-08 08:09:23 95.6 dB  
**LASmax** 2022-07-08 08:09:23 66.2 dB  
**LASmin** 2022-07-08 08:06:14 52.6 dB

SEA

-99.9 dB

	Exceedance Counts	Duration
LAS > 65.0 dB	1	4.8 s
LAS > 85.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

Community Noise	Ldn	LDay 07:00-22:00	LNight 22:00-07:00
	58.4	58.4	-99.9

LCeq	73.2 dB
LAeq	58.4 dB
LCeq - LAeq	14.8 dB
LAlaq	59.5 dB
LAeq	58.4 dB
LAlaq - LAeq	1.1 dB

	A		dB
	dB	Time Stamp	
Leq	58.4		73.2
LS(max)	66.2	2022/07/08 8:09:23	88.4
LF(max)	71.1	2022/07/08 8:02:54	89.5
LI(max)	75.4	2022/07/08 8:02:54	90.3
LS(min)	52.6	2022/07/08 8:06:14	67.3
LF(min)	51.9	2022/07/08 8:06:14	65.7
LI(min)	52.3	2022/07/08 8:06:14	67.9
LPeak(max)	90.0	2022/07/08 8:02:54	94.3

Overload Count	0
Overload Duration	0.0 s

### Statistics

LA 5.00	60.6 dB
LA 10.00	59.7 dB
LA 33.30	58.5 dB
LA 50.00	57.9 dB
LA 66.60	57.4 dB
LA 90.00	56.4 dB

### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-08 07:55:00	-26.56
PRM831	2022-07-08 07:33:40	-26.48
PRM831	2022-07-08 07:14:19	-26.43
PRM831	2022-07-07 18:11:40	-26.48

## Summary

**File Name on Meter** 831\_Data.039.s  
**File Name on PC** 831\_0002413-20220711 164505-831\_Data.039.ldbin  
**Serial Number** 0002413  
**Model** Model 831  
**Firmware Version** 2.403  
**User**  
**Location**  
**Job Description**  
**Note**

## Measurement

### Description

**Start** 2022-07-11 16:45:05  
**Stop** 2022-07-11 17:00:13  
**Duration** 00:15:07.7  
**Run Time** 00:15:07.7  
**Pause** 00:00:00.0

**Pre-Calibration** 2022-07-11 16:44:15  
**Post-Calibration** None  
**Calibration Deviation** ---

## Overall Settings

**RMS Weight** A Weighting  
**Peak Weight** Z Weighting  
**Detector** Slow  
**Preamplifier** PRM831  
**Microphone Correction** Off  
**Integration Method** Linear  
**Gain** 0.0 dB  
**Overload** 144.1 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
<b>Under Range Peak</b>	76.5	73.5	<b>78.5</b>
<b>Under Range Limit</b>	<b>26.4</b>	26.8	32.5
<b>Noise Floor</b>	17.3	17.7	23.0

	<b>First</b>	<b>Second</b>	<b>Third</b>
<b>Instrument Identification</b>	831_2431		

## Results

**LAeq** 67.2 dB  
**LAE** 96.8 dB  
**EA** 529.297  $\mu\text{Pa}^2\text{h}$   
**LZpeak (max)** 2022-07-11 16:48:15 103.1 dB  
**LASmax** 2022-07-11 16:48:21 80.1 dB  
**LASmin** 2022-07-11 16:46:57 53.4 dB

SEA -99.9 dB

	Exceedance Counts	Duration
LAS > 65.0 dB	30	704.3 s
LAS > 85.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

Community Noise Ldn LDay 07:00-22:00 LNight 22:00-07:00  
67.2 67.2 -99.9

LCeq 77.9 dB  
LAeq 67.2 dB  
LCeq - LAeq 10.7 dB  
LAlaq 68.6 dB  
LAeq 67.2 dB  
LAlaq - LAeq 1.4 dB

	A		dB
	dB	Time Stamp	
Leq	67.2		77.9
LS(max)	80.1	2022/07/11 16:48:21	92.6
LF(max)	84.5	2022/07/11 16:48:21	95.7
LI(max)	85.0	2022/07/11 16:48:21	96.6
LS(min)	53.4	2022/07/11 16:46:57	65.2
LF(min)	52.5	2022/07/11 16:46:56	63.1
LI(min)	52.7	2022/07/11 16:46:57	66.6
LPeak(max)	92.3	2022/07/11 16:49:38	102.4

Overload Count 0  
Overload Duration 0.0 s

#### Statistics

LA 5.00 71.0 dB  
LA 10.00 69.5 dB  
LA 33.30 67.4 dB  
LA 50.00 66.3 dB  
LA 66.60 65.2 dB  
LA 90.00 61.3 dB

#### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-11 16:44:14	-26.57
PRM831	2022-07-11 16:36:45	-26.54
PRM831	2022-07-11 16:21:07	-26.57
PRM831	2022-07-11 15:45:20	-26.57

## Summary

**File Name on Meter** 831\_Data.038.s  
**File Name on PC** 831\_0002413-20220711 162119-831\_Data.038.ldbin  
**Serial Number** 0002413  
**Model** Model 831  
**Firmware Version** 2.403  
**User**  
**Location**  
**Job Description**  
**Note**

## Measurement

### Description

**Start** 2022-07-11 16:21:19  
**Stop** 2022-07-11 16:36:23  
**Duration** 00:15:03.3  
**Run Time** 00:15:03.3  
**Pause** 00:00:00.0

**Pre-Calibration** 2022-07-11 16:21:08  
**Post-Calibration** None  
**Calibration Deviation** ---

## Overall Settings

**RMS Weight** A Weighting  
**Peak Weight** Z Weighting  
**Detector** Slow  
**Preamplifier** PRM831  
**Microphone Correction** Off  
**Integration Method** Linear  
**Gain** 0.0 dB  
**Overload** 144.1 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
<b>Under Range Peak</b>	76.6	73.6	<b>78.6</b>
<b>Under Range Limit</b>	<b>26.4</b>	26.8	32.6
<b>Noise Floor</b>	17.3	17.7	23.1

	<b>First</b>	<b>Second</b>	<b>Third</b>
<b>Instrument Identification</b>	831_2431		

## Results

**LAeq** 59.0 dB  
**LAE** 88.6 dB  
**EA** 79.724  $\mu\text{Pa}^2\text{h}$   
**LZpeak (max)** 2022-07-11 16:34:40 96.9 dB  
**LASmax** 2022-07-11 16:32:37 71.4 dB  
**LASmin** 2022-07-11 16:25:36 53.0 dB

SEA -99.9 dB

	Exceedance Counts	Duration
LAS > 65.0 dB	5	19.5 s
LAS > 85.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

Community Noise Ldn LDay 07:00-22:00 LNight 22:00-07:00  
59.0 59.0 -99.9

LCeq 72.8 dB  
LAeq 59.0 dB  
LCeq - LAeq 13.8 dB  
LAlaq 60.7 dB  
LAeq 59.0 dB  
LAlaq - LAeq 1.7 dB

	A		dB
	dB	Time Stamp	
Leq	59.0		72.8
LS(max)	71.4	2022/07/11 16:32:37	83.5
LF(max)	73.7	2022/07/11 16:32:37	86.5
LI(max)	78.6	2022/07/11 16:34:40	96.1
LS(min)	53.0	2022/07/11 16:25:36	66.7
LF(min)	52.1	2022/07/11 16:25:36	65.5
LI(min)	52.7	2022/07/11 16:25:36	67.0
LPeak(max)	97.0	2022/07/11 16:34:40	96.1

Overload Count 0  
Overload Duration 0.0 s

#### Statistics

LA 5.00 61.4 dB  
LA 10.00 60.2 dB  
LA 33.30 58.7 dB  
LA 50.00 58.1 dB  
LA 66.60 57.5 dB  
LA 90.00 56.0 dB

#### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-11 16:21:07	-26.57
PRM831	2022-07-11 15:45:20	-26.57
PRM831	2022-07-11 15:29:39	-26.55
PRM831	2022-07-11 15:19:20	-26.50

## Summary

**File Name on Meter** 831\_Data.036.s  
**File Name on PC** 831\_0002413-20220711 150400-831\_Data.036.ldbin  
**Serial Number** 0002413  
**Model** Model 831  
**Firmware Version** 2.403  
**User**  
**Location**  
**Job Description**  
**Note**

## Measurement

### Description

**Start** 2022-07-11 15:04:00  
**Stop** 2022-07-11 15:19:02  
**Duration** 00:15:02.6  
**Run Time** 00:15:02.6  
**Pause** 00:00:00.0

**Pre-Calibration** 2022-07-11 15:03:03  
**Post-Calibration** None  
**Calibration Deviation** ---

## Overall Settings

**RMS Weight** A Weighting  
**Peak Weight** Z Weighting  
**Detector** Slow  
**Preamplifier** PRM831  
**Microphone Correction** Off  
**Integration Method** Linear  
**Gain** 0.0 dB  
**Overload** 144.1 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
<b>Under Range Peak</b>	76.6	73.6	<b>78.6</b>
<b>Under Range Limit</b>	<b>26.4</b>	26.8	32.6
<b>Noise Floor</b>	17.3	17.7	23.1

	<b>First</b>	<b>Second</b>	<b>Third</b>
<b>Instrument Identification</b>	831_2431		

## Results

**LAeq** 57.4 dB  
**LAE** 87.0 dB  
**EA** 55.113  $\mu\text{Pa}^2\text{h}$   
**LZpeak (max)** 2022-07-11 15:04:27 95.1 dB  
**LASmax** 2022-07-11 15:14:33 66.8 dB  
**LASmin** 2022-07-11 15:09:22 52.8 dB

SEA -99.9 dB

	Exceedance Counts	Duration
LAS > 65.0 dB	1	4.5 s
LAS > 85.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

Community Noise Ldn LDay 07:00-22:00 LNight 22:00-07:00  
57.4 57.4 -99.9

LCeq 72.8 dB  
LAeq 57.4 dB  
LCeq - LAeq 15.4 dB  
LALeq 58.6 dB  
LAeq 57.4 dB  
LALeq - LAeq 1.2 dB

	A		
	dB	Time Stamp	dB
Leq	57.4		72.8
LS(max)	66.8	2022/07/11 15:14:33	82.3
LF(max)	68.9	2022/07/11 15:14:30	85.5
LI(max)	71.1	2022/07/11 15:04:03	87.2
LS(min)	52.8	2022/07/11 15:09:22	67.4
LF(min)	52.4	2022/07/11 15:09:21	65.7
LI(min)	52.6	2022/07/11 15:09:21	67.9
LPeak(max)	90.5	2022/07/11 15:04:03	94.2

Overload Count 0  
Overload Duration 0.0 s

#### Statistics

LA 5.00 60.0 dB  
LA 10.00 59.2 dB  
LA 33.30 57.4 dB  
LA 50.00 56.7 dB  
LA 66.60 56.1 dB  
LA 90.00 54.8 dB

#### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-11 15:03:02	-26.57
PRM831	2022-07-08 08:11:20	-26.54
PRM831	2022-07-08 07:55:00	-26.56
PRM831	2022-07-08 07:33:40	-26.48



## Summary

**File Name on Meter** 831\_Data.037.s  
**File Name on PC** 831\_0002413-20220711 152959-831\_Data.037.ldbin  
**Serial Number** 0002413  
**Model** Model 831  
**Firmware Version** 2.403  
**User**  
**Location**  
**Job Description**  
**Note**

## Measurement

### Description

**Start** 2022-07-11 15:29:59  
**Stop** 2022-07-11 15:45:02  
**Duration** 00:15:02.7  
**Run Time** 00:15:02.7  
**Pause** 00:00:00.0

**Pre-Calibration** 2022-07-11 15:29:39  
**Post-Calibration** None  
**Calibration Deviation** ---

## Overall Settings

**RMS Weight** A Weighting  
**Peak Weight** Z Weighting  
**Detector** Slow  
**Preamplifier** PRM831  
**Microphone Correction** Off  
**Integration Method** Linear  
**Gain** 0.0 dB  
**Overload** 144.1 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
<b>Under Range Peak</b>	76.5	73.5	<b>78.5</b>
<b>Under Range Limit</b>	<b>26.4</b>	26.8	32.5
<b>Noise Floor</b>	17.3	17.7	23.0

	<b>First</b>	<b>Second</b>	<b>Third</b>
<b>Instrument Identification</b>	831_2431		

## Results

**LAeq** 65.7 dB  
**LAE** 95.3 dB  
**EA** 372.650  $\mu\text{Pa}^2\text{h}$   
**LZpeak (max)** 2022-07-11 15:37:17 96.1 dB  
**LASmax** 2022-07-11 15:37:18 70.5 dB  
**LASmin** 2022-07-11 15:40:03 59.8 dB

SEA -99.9 dB

	Exceedance Counts	Duration
LAS > 65.0 dB	9	793.8 s
LAS > 85.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

Community Noise Ldn LDay 07:00-22:00 LNight 22:00-07:00  
65.7 65.7 -99.9

LCeq 75.9 dB  
LAeq 65.7 dB  
LCeq - LAeq 10.2 dB  
LAlaq 66.5 dB  
LAeq 65.7 dB  
LAlaq - LAeq 0.8 dB

	A		dB
	dB	Time Stamp	
Leq	65.7		75.9
LS(max)	70.5	2022/07/11 15:37:18	86.4
LF(max)	73.7	2022/07/11 15:42:27	89.4
LI(max)	76.5	2022/07/11 15:42:27	90.0
LS(min)	59.8	2022/07/11 15:40:03	69.8
LF(min)	58.9	2022/07/11 15:40:02	67.5
LI(min)	59.5	2022/07/11 15:40:02	69.9
LPeak(max)	93.4	2022/07/11 15:44:21	95.3

Overload Count 0  
Overload Duration 0.0 s

#### Statistics

LA 5.00 67.9 dB  
LA 10.00 67.2 dB  
LA 33.30 66.0 dB  
LA 50.00 65.5 dB  
LA 66.60 65.0 dB  
LA 90.00 63.5 dB

#### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-11 15:29:39	-26.55
PRM831	2022-07-11 15:19:20	-26.50
PRM831	2022-07-11 15:03:02	-26.57
PRM831	2022-07-08 08:11:20	-26.54

## Summary

**File Name on Meter** 831\_Data.041.s  
**File Name on PC** 831\_0002413-20220712 152606-831\_Data.041.ldbin  
**Serial Number** 0002413  
**Model** Model 831  
**Firmware Version** 2.403  
**User**  
**Location**  
**Job Description**  
**Note**

## Measurement

### Description

**Start** 2022-07-12 15:26:06  
**Stop** 2022-07-12 15:41:09  
**Duration** 00:15:03.5  
**Run Time** 00:15:03.5  
**Pause** 00:00:00.0

**Pre-Calibration** 2022-07-12 15:24:23  
**Post-Calibration** None  
**Calibration Deviation** ---

## Overall Settings

**RMS Weight** A Weighting  
**Peak Weight** Z Weighting  
**Detector** Slow  
**Preamplifier** PRM831  
**Microphone Correction** Off  
**Integration Method** Linear  
**Gain** 0.0 dB  
**Overload** 144.1 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
<b>Under Range Peak</b>	76.5	73.5	<b>78.5</b>
<b>Under Range Limit</b>	<b>26.4</b>	26.8	32.5
<b>Noise Floor</b>	17.3	17.6	23.0

	<b>First</b>	<b>Second</b>	<b>Third</b>
<b>Instrument Identification</b>	831_2431		

## Results

**LAeq** 68.7 dB  
**LAE** 98.3 dB  
**EA** 744.193  $\mu\text{Pa}^2\text{h}$   
**LZpeak (max)** 2022-07-12 15:29:25 99.2 dB  
**LASmax** 2022-07-12 15:28:10 73.9 dB  
**LASmin** 2022-07-12 15:33:43 65.3 dB

SEA

-99.9 dB

	Exceedance Counts	Duration
LAS > 65.0 dB	1	903.4 s
LAS > 85.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

Community Noise	Ldn	LDay 07:00-22:00	LNight 22:00-07:00
	68.7	68.7	-99.9

LCeq	78.7 dB
LAeq	68.7 dB
LCeq - LAeq	10.0 dB
LAlaq	69.2 dB
LAeq	68.7 dB
LAlaq - LAeq	0.5 dB

	A		dB
	dB	Time Stamp	
Leq	68.7		78.7
LS(max)	73.9	2022/07/12 15:28:10	89.5
LF(max)	75.0	2022/07/12 15:28:10	92.3
LI(max)	75.4	2022/07/12 15:28:10	93.3
LS(min)	65.3	2022/07/12 15:33:43	73.4
LF(min)	64.7	2022/07/12 15:33:41	71.4
LI(min)	65.0	2022/07/12 15:33:42	73.4
LPeak(max)	87.2	2022/07/12 15:28:10	97.8

Overload Count	0
Overload Duration	0.0 s

Statistics

LA 5.00	70.4 dB
LA 10.00	70.0 dB
LA 33.30	69.0 dB
LA 50.00	68.5 dB
LA 66.60	68.0 dB
LA 90.00	66.9 dB

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-12 15:24:22	-26.51
PRM831	2022-07-12 15:20:25	-26.61
PRM831	2022-07-12 15:03:49	-26.68
PRM831	2022-07-11 17:00:40	-26.54

## Summary

**File Name on Meter** 831\_Data.040.s  
**File Name on PC** 831\_0002413-20220712 150501-831\_Data.040.ldbin  
**Serial Number** 0002413  
**Model** Model 831  
**Firmware Version** 2.403  
**User**  
**Location**  
**Job Description**  
**Note**

## Measurement

### Description

**Start** 2022-07-12 15:05:01  
**Stop** 2022-07-12 15:20:04  
**Duration** 00:15:03.5  
**Run Time** 00:15:03.5  
**Pause** 00:00:00.0

**Pre-Calibration** 2022-07-12 15:03:51  
**Post-Calibration** None  
**Calibration Deviation** ---

## Overall Settings

**RMS Weight** A Weighting  
**Peak Weight** Z Weighting  
**Detector** Slow  
**Preamplifier** PRM831  
**Microphone Correction** Off  
**Integration Method** Linear  
**Gain** 0.0 dB  
**Overload** 144.2 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
<b>Under Range Peak</b>	76.7	73.7	<b>78.7</b>
<b>Under Range Limit</b>	<b>26.5</b>	26.9	32.7
<b>Noise Floor</b>	17.3	17.7	23.1

	<b>First</b>	<b>Second</b>	<b>Third</b>
<b>Instrument Identification</b>	831_2431		

## Results

**LAeq** 71.1 dB  
**LAE** 100.7 dB  
**EA** 1.293 mPa<sup>2</sup>h  
**LZpeak (max)** 2022-07-12 15:05:35 103.3 dB  
**LASmax** 2022-07-12 15:18:44 77.0 dB  
**LASmin** 2022-07-12 15:05:26 67.0 dB

SEA -99.9 dB

	Exceedance Counts	Duration
LAS > 65.0 dB	1	903.4 s
LAS > 85.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

Community Noise Ldn LDay 07:00-22:00 LNight 22:00-07:00  
71.1 71.1 -99.9

LCeq 79.9 dB  
LAeq 71.1 dB  
LCeq - LAeq 8.8 dB  
LALeq 71.9 dB  
LAeq 71.1 dB  
LALeq - LAeq 0.8 dB

	A		dB
	dB	Time Stamp	
Leq	71.1		79.9
LS(max)	77.0	2022/07/12 15:18:44	87.7
LF(max)	78.6	2022/07/12 15:13:18	89.9
LI(max)	80.3	2022/07/12 15:13:18	92.5
LS(min)	67.0	2022/07/12 15:05:26	73.0
LF(min)	66.2	2022/07/12 15:05:07	71.6
LI(min)	66.8	2022/07/12 15:05:25	73.1
LPeak(max)	90.9	2022/07/12 15:18:43	98.2

Overload Count 0  
Overload Duration 0.0 s

#### Statistics

LA 5.00 73.1 dB  
LA 10.00 72.6 dB  
LA 33.30 71.4 dB  
LA 50.00 70.9 dB  
LA 66.60 70.3 dB  
LA 90.00 69.0 dB

#### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-12 15:03:49	-26.68
PRM831	2022-07-11 17:00:40	-26.54
PRM831	2022-07-11 16:44:14	-26.57
PRM831	2022-07-11 16:36:45	-26.54

## Summary

**File Name on Meter** 831\_Data.042.s  
**File Name on PC** 831\_0002413-20220712 155002-831\_Data.042.lbin  
**Serial Number** 0002413  
**Model** Model 831  
**Firmware Version** 2.403  
**User**  
**Location**  
**Job Description**  
**Note**

## Measurement

### Description

**Start** 2022-07-12 15:50:02  
**Stop** 2022-07-12 16:05:05  
**Duration** 00:15:03.4  
**Run Time** 00:15:03.4  
**Pause** 00:00:00.0  
  
**Pre-Calibration** 2022-07-12 15:49:48  
**Post-Calibration** None  
**Calibration Deviation** ---

## Overall Settings

**RMS Weight** A Weighting  
**Peak Weight** Z Weighting  
**Detector** Slow  
**Preamplifier** PRM831  
**Microphone Correction** Off  
**Integration Method** Linear  
**Gain** 0.0 dB  
**Overload** 144.1 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
<b>Under Range Peak</b>	76.6	73.6	<b>78.6</b>
<b>Under Range Limit</b>	<b>26.5</b>	26.8	32.6
<b>Noise Floor</b>	17.3	17.7	23.1

	<b>First</b>	<b>Second</b>	<b>Third</b>
<b>Instrument Identification</b>	831_2431		

## Results

**LAeq** 68.6 dB  
**LAE** 98.2 dB  
**EA** 727.172  $\mu\text{Pa}^2\text{h}$   
**LZpeak (max)** 2022-07-12 15:58:13 105.7 dB  
**LASmax** 2022-07-12 15:58:13 83.5 dB  
**LASmin** 2022-07-12 15:54:42 62.2 dB

SEA

-99.9 dB

	Exceedance Counts	Duration
LAS > 65.0 dB	2	899.5 s
LAS > 85.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

Community Noise	Ldn	LDay 07:00-22:00	LNight 22:00-07:00
	68.6	68.6	-99.9

LCeq	79.9 dB
LAeq	68.6 dB
LCeq - LAeq	11.3 dB
LALeq	69.6 dB
LAeq	68.6 dB
LALeq - LAeq	1.0 dB

	A		dB
	dB	Time Stamp	
Leq	68.6		79.9
LS(max)	83.5	2022/07/12 15:58:13	92.4
LF(max)	86.1	2022/07/12 15:58:13	94.9
LI(max)	86.9	2022/07/12 15:58:13	95.9
LS(min)	62.2	2022/07/12 15:54:42	73.1
LF(min)	61.1	2022/07/12 15:54:41	71.0
LI(min)	62.0	2022/07/12 15:54:41	73.5
LPeak(max)	99.9	2022/07/12 15:58:13	105.8

Overload Count	0
Overload Duration	0.0 s

### Statistics

LA 5.00	70.6 dB
LA 10.00	69.9 dB
LA 33.30	68.3 dB
LA 50.00	67.6 dB
LA 66.60	67.1 dB
LA 90.00	65.9 dB

### Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	2022-07-12 15:49:45	-26.60
PRM831	2022-07-12 15:42:00	-26.58
PRM831	2022-07-12 15:24:22	-26.51
PRM831	2022-07-12 15:20:25	-26.61



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## **APPENDIX B**

### **Hardware Calibration Certification**

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# Calibration Certificate

Certificate Number 2021008317

**Customer:**

Palmer Engineering Co  
400 Shoppers Drive  
Winchester, KY 40392, United States

<b>Model Number</b>	831	<b>Procedure Number</b>	D0001.8378
<b>Serial Number</b>	0002413	<b>Technician</b>	Ron Harris
<b>Test Results</b>	<b>Pass</b>	<b>Calibration Date</b>	12 Jul 2021
<b>Initial Condition</b>	AS RECEIVED same as shipped	<b>Calibration Due</b>	12 Jul 2022
<b>Description</b>	Larson Davis Model 831 Class 1 Sound Level Meter Firmware Revision: 2.403	<b>Temperature</b>	23.72 °C ± 0.25 °C
		<b>Humidity</b>	50.7 %RH ± 2.0 %RH
		<b>Static Pressure</b>	86.13 kPa ± 0.13 kPa

**Evaluation Method** Tested electrically using Larson Davis PRM831 S/N 017105 and a 12.0 pF capacitor to simulate microphone capacitance. Data reported in dB re 20 µPa assuming a microphone sensitivity of 50.0 mV/Pa.

**Compliance Standards** Compliant to Manufacturer Specifications and the following standards when combined with Calibration Certificate from procedure D0001.8384:

IEC 60651:2001 Type 1	ANSI S1.4-2014 Class 1
IEC 60804:2000 Type 1	ANSI S1.4 (R2006) Type 1
IEC 61252:2002	ANSI S1.25 (R2007)
IEC 61672:2013 Class 1	ANSI S1.43 (R2007) Type 1

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017. **Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.**

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

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Correction data from Larson Davis Model 831 Sound Level Meter Manual, I831.01 Rev S, 2019-09-10

Calibration Check Frequency: 1000 Hz; Reference Sound Pressure Level: 114 dB re 20 µPa; Reference Range: 0 dB gain

Periodic tests were performed in accordance with procedures from IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part3.

Pattern approval for IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1 successfully completed by Physikalisch-Technische Bundesanstalt (PTB) on 2016-02-24 certificate number DE-15-M-PTB-0056.

The sound level meter submitted for testing successfully completed the periodic tests of IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part 3.

LARSON DAVIS - A PCB PIEZOTRONICS DIV.

1681 West 820 North  
Provo, UT 84601, United States  
716-684-0001



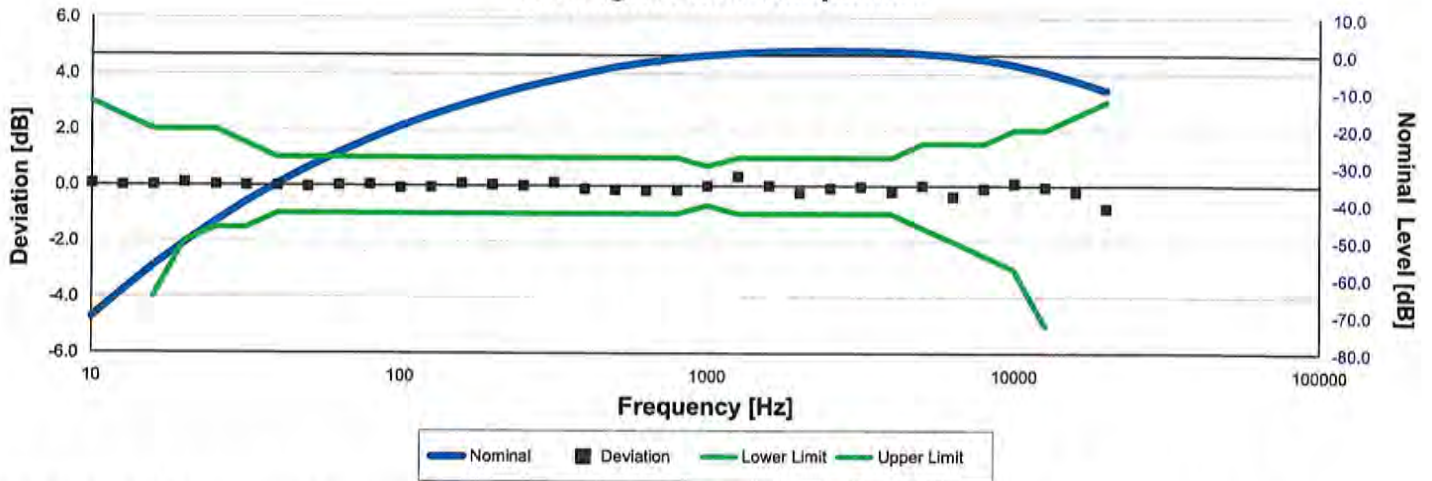
for the environmental conditions under which the tests were performed. As evidence was publicly available, from an independent testing organization responsible for approving the results of pattern-evaluation tests performed in accordance with IEC 61672-2:2013 / ANSI/ASA S1.4-2014/Part 2, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1; the sound level meter submitted for testing conforms to the class 1 specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1.

**Standards Used**

Description	Cal Date	Cal Due	Cal Standard
Hart Scientific 2626-H Temperature Probe	2021-02-04	2022-08-04	006767
SRS DS360 Ultra Low Distortion Generator	2021-01-05	2022-01-05	007118



### A-weight Filter Response



Electrical signal test of frequency weighting performed according to IEC 61672-3:2013 13 and ANSI S1.4-2014 Part 3: 13 for compliance to IEC 61672-1:2013 5.5; IEC 60651:2001 6.1 and 9.2.2; IEC 60804:2000 5; ANSI S1.4:1983 (R2006) 5.1 and 8.2.1; ANSI S1.4-2014 Part 1: 5.5

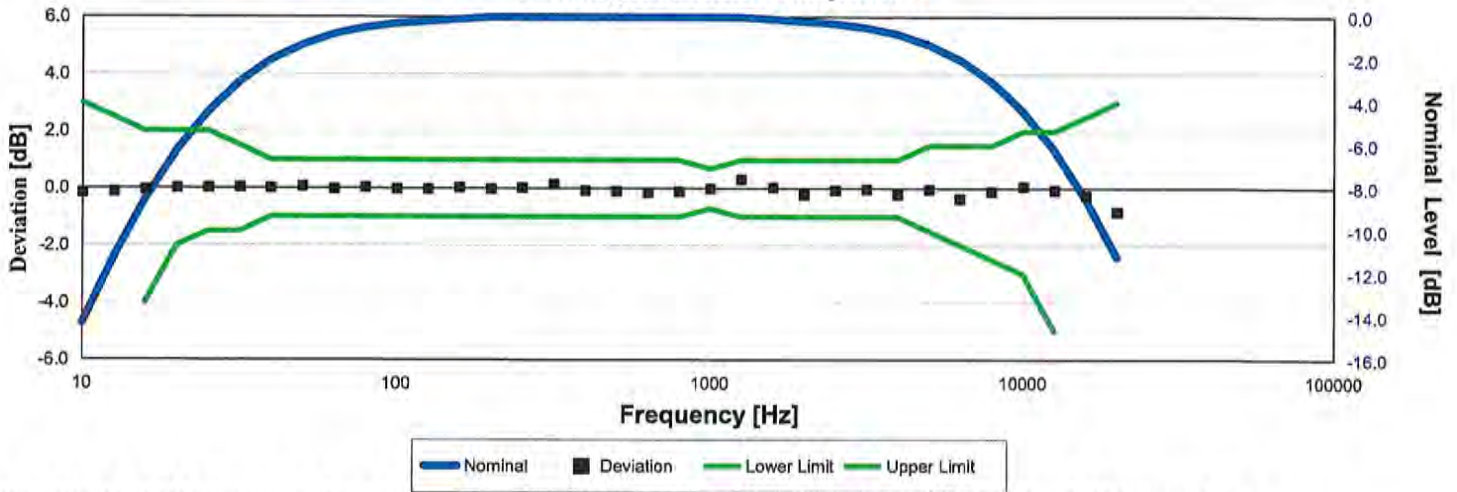
Frequency [Hz]	Test Result [dB]	Deviation [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
10.00	-70.33	0.07	-inf	3.00	0.25	Pass
12.59	-63.39	0.01	-inf	2.50	0.25	Pass
15.85	-56.68	0.02	-4.00	2.00	0.25	Pass
19.95	-50.39	0.11	-2.00	2.00	0.25	Pass
25.12	-44.67	0.03	-1.50	2.00	0.25	Pass
31.62	-39.39	0.01	-1.50	1.50	0.25	Pass
39.81	-34.61	-0.01	-1.00	1.00	0.25	Pass
50.12	-30.24	-0.04	-1.00	1.00	0.25	Pass
63.10	-26.18	0.02	-1.00	1.00	0.25	Pass
79.43	-22.46	0.04	-1.00	1.00	0.25	Pass
100.00	-19.17	-0.07	-1.00	1.00	0.25	Pass
125.89	-16.15	-0.05	-1.00	1.00	0.25	Pass
158.49	-13.32	0.08	-1.00	1.00	0.25	Pass
199.53	-10.86	0.04	-1.00	1.00	0.25	Pass
251.19	-8.59	0.01	-1.00	1.00	0.25	Pass
316.23	-6.48	0.12	-1.00	1.00	0.25	Pass
398.11	-4.91	-0.11	-1.00	1.00	0.25	Pass
501.19	-3.35	-0.15	-1.00	1.00	0.25	Pass
630.96	-2.06	-0.16	-1.00	1.00	0.25	Pass
794.33	-0.95	-0.15	-1.00	1.00	0.25	Pass
1,000.00	0.00	0.00	-0.70	0.70	0.25	Pass
1,258.93	0.94	0.34	-1.00	1.00	0.25	Pass
1,584.89	1.01	0.01	-1.00	1.00	0.25	Pass
1,995.26	0.95	-0.25	-1.00	1.00	0.25	Pass
2,511.89	1.22	-0.09	-1.00	1.00	0.25	Pass
3,162.28	1.17	-0.03	-1.00	1.00	0.25	Pass
3,981.07	0.79	-0.21	-1.00	1.00	0.25	Pass
5,011.87	0.51	0.01	-1.50	1.50	0.25	Pass
6,309.57	-0.49	-0.39	-2.00	1.50	0.25	Pass
7,943.28	-1.20	-0.10	-2.50	1.50	0.25	Pass
10,000.00	-2.41	0.09	-3.00	2.00	0.25	Pass
12,589.25	-4.34	-0.04	-5.00	2.00	0.25	Pass
15,848.93	-6.82	-0.22	-16.00	2.50	0.25	Pass
19,952.62	-10.10	-0.80	-inf	3.00	0.25	Pass

-- End of measurement results--

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### C-weight Filter Response



Electrical signal test of frequency weighting performed according to IEC 61672-3:2013 13 and ANSI S1.4-2014 Part 3: 13 for compliance to IEC 61672-1:2013 5.5; IEC 60651:2001 6.1 and 9.2.2; IEC 60804:2000 5; ANSI S1.4:1983 (R2006) 5.1 and 8.2.1; ANSI S1.4-2014 Part 1: 5.5

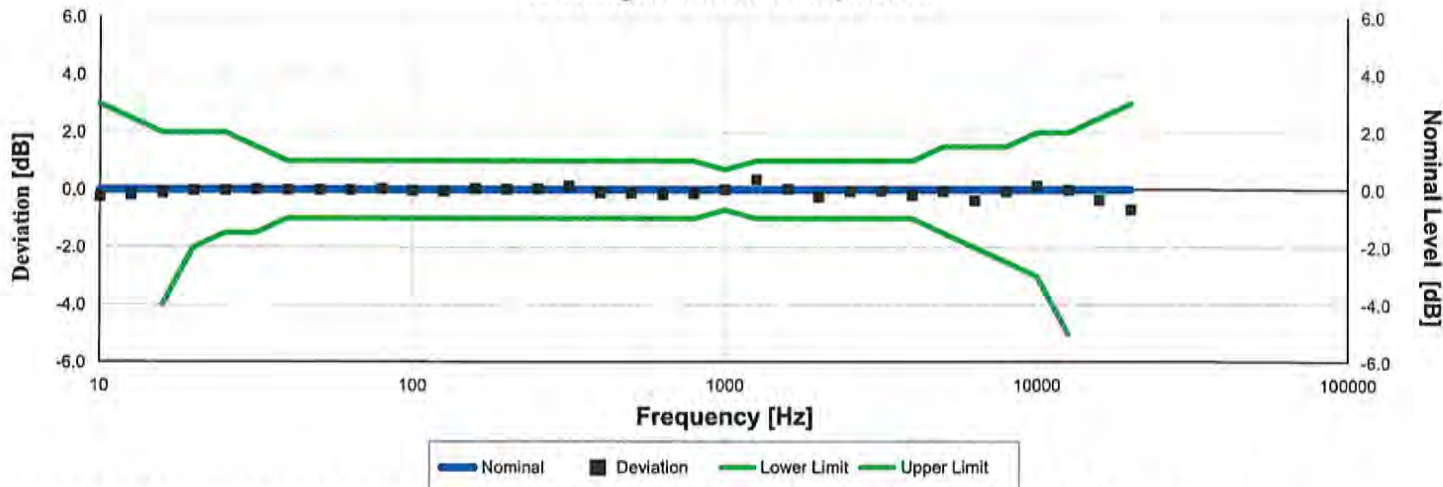
Frequency [Hz]	Test Result [dB]	Deviation [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
10.00	-14.45	-0.15	-inf	3.00	0.25	Pass
12.59	-11.32	-0.12	-inf	2.50	0.25	Pass
15.85	-8.54	-0.04	-4.00	2.00	0.25	Pass
19.95	-6.18	0.02	-2.00	2.00	0.25	Pass
25.12	-4.37	0.03	-1.50	2.00	0.25	Pass
31.62	-2.96	0.04	-1.50	1.50	0.25	Pass
39.81	-1.97	0.03	-1.00	1.00	0.25	Pass
50.12	-1.22	0.08	-1.00	1.00	0.25	Pass
63.10	-0.81	-0.01	-1.00	1.00	0.25	Pass
79.43	-0.46	0.04	-1.00	1.00	0.25	Pass
100.00	-0.32	-0.02	-1.00	1.00	0.25	Pass
125.89	-0.22	-0.02	-1.00	1.00	0.25	Pass
158.49	-0.05	0.05	-1.00	1.00	0.25	Pass
199.53	-0.01	-0.01	-1.00	1.00	0.25	Pass
251.19	0.03	0.03	-1.00	1.00	0.25	Pass
316.23	0.15	0.15	-1.00	1.00	0.25	Pass
398.11	-0.07	-0.07	-1.00	1.00	0.25	Pass
501.19	-0.09	-0.09	-1.00	1.00	0.25	Pass
630.96	-0.13	-0.13	-1.00	1.00	0.25	Pass
794.33	-0.11	-0.11	-1.00	1.00	0.25	Pass
1,000.00	0.00	0.00	-0.70	0.70	0.25	Pass
1,258.93	0.32	0.32	-1.00	1.00	0.25	Pass
1,584.89	-0.06	0.05	-1.00	1.00	0.25	Pass
1,995.26	-0.42	-0.22	-1.00	1.00	0.25	Pass
2,511.89	-0.36	-0.06	-1.00	1.00	0.25	Pass
3,162.28	-0.53	-0.03	-1.00	1.00	0.25	Pass
3,981.07	-1.00	-0.20	-1.00	1.00	0.25	Pass
5,011.87	-1.33	-0.03	-1.50	1.50	0.25	Pass
6,309.57	-2.36	-0.36	-2.00	1.50	0.25	Pass
7,943.28	-3.10	-0.10	-2.50	1.50	0.25	Pass
10,000.00	-4.32	0.08	-3.00	2.00	0.25	Pass
12,589.25	-6.26	-0.06	-5.00	2.00	0.25	Pass
15,848.93	-8.75	-0.25	-16.00	2.50	0.25	Pass
19,952.62	-12.03	-0.83	-inf	3.00	0.25	Pass

-- End of measurement results--

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### Z-weight Filter Response



Electrical signal test of frequency weighting performed according to IEC 61672-3:2013 13 and ANSI S1.4-2014 Part 3: 13 for compliance to IEC 61672-1:2013 5.5; IEC 60651:2001 6.1 and 9.2.2; IEC 60804:2000 5; ANSI S1.4:1983 (R2006) 5.1 and 8.2.1; ANSI S1.4-2014 Part 1: 5.5

Frequency [Hz]	Test Result [dB]	Deviation [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
10.00	-0.24	-0.24	-inf	3.00	0.25	Pass
12.59	-0.18	-0.18	-inf	2.50	0.25	Pass
15.85	-0.11	-0.10	-4.00	2.00	0.25	Pass
19.95	-0.02	-0.02	-2.00	2.00	0.25	Pass
25.12	-0.02	-0.02	-1.50	2.00	0.25	Pass
31.62	0.02	0.02	-1.50	1.50	0.25	Pass
39.81	0.00	0.00	-1.00	1.00	0.25	Pass
50.12	-0.01	-0.01	-1.00	1.00	0.25	Pass
63.10	-0.01	-0.01	-1.00	1.00	0.25	Pass
79.43	0.04	0.04	-1.00	1.00	0.25	Pass
100.00	-0.03	-0.03	-1.00	1.00	0.25	Pass
125.89	-0.05	-0.05	-1.00	1.00	0.25	Pass
158.49	0.04	0.04	-1.00	1.00	0.25	Pass
199.53	0.02	0.02	-1.00	1.00	0.25	Pass
251.19	0.04	0.04	-1.00	1.00	0.25	Pass
316.23	0.14	0.14	-1.00	1.00	0.25	Pass
398.11	-0.10	-0.10	-1.00	1.00	0.25	Pass
501.19	-0.11	-0.11	-1.00	1.00	0.25	Pass
630.96	-0.16	-0.16	-1.00	1.00	0.25	Pass
794.33	-0.13	-0.13	-1.00	1.00	0.25	Pass
1,000.00	0.00	0.00	-0.70	0.70	0.25	Pass
1,258.93	0.35	0.35	-1.00	1.00	0.25	Pass
1,584.89	0.03	0.03	-1.00	1.00	0.25	Pass
1,995.26	-0.25	-0.25	-1.00	1.00	0.25	Pass
2,511.89	-0.07	-0.07	-1.00	1.00	0.25	Pass
3,162.28	-0.04	-0.04	-1.00	1.00	0.25	Pass
3,981.07	-0.20	-0.20	-1.00	1.00	0.25	Pass
5,011.87	-0.06	-0.06	-1.50	1.50	0.25	Pass
6,309.57	-0.37	-0.37	-2.00	1.50	0.25	Pass
7,943.28	-0.07	-0.07	-2.50	1.50	0.25	Pass
10,000.00	0.14	0.14	-3.00	2.00	0.25	Pass
12,589.25	-0.01	-0.01	-5.00	2.00	0.25	Pass
15,848.93	-0.36	-0.35	-16.00	2.50	0.25	Pass
19,952.62	-0.70	-0.70	-inf	3.00	0.25	Pass

– End of measurement results –

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### High Level Stability

Electrical signal test of high level stability performed according to IEC 61672-3:2013 21 and ANSI S1.4-2014 Part 3: 21 for compliance to IEC 61672-1:2013 5.15 and ANSI S1.4-2014 Part 1: 5.15

Measurement	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
High Level Stability	0.00	-0.10	0.10	0.01 ‡	Pass
-- End of measurement results--					

### Long-Term Stability

Electrical signal test of long term stability performed according to IEC 61672-3:2013 15 and ANSI S1.4-2014 Part 3: 15 for compliance to IEC 61672-1:2013 5.14 and ANSI S1.4-2014 Part 1: 5.14

Test Duration [min]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
36	0.00	-0.10	0.10	0.01 ‡	Pass
-- End of measurement results--					

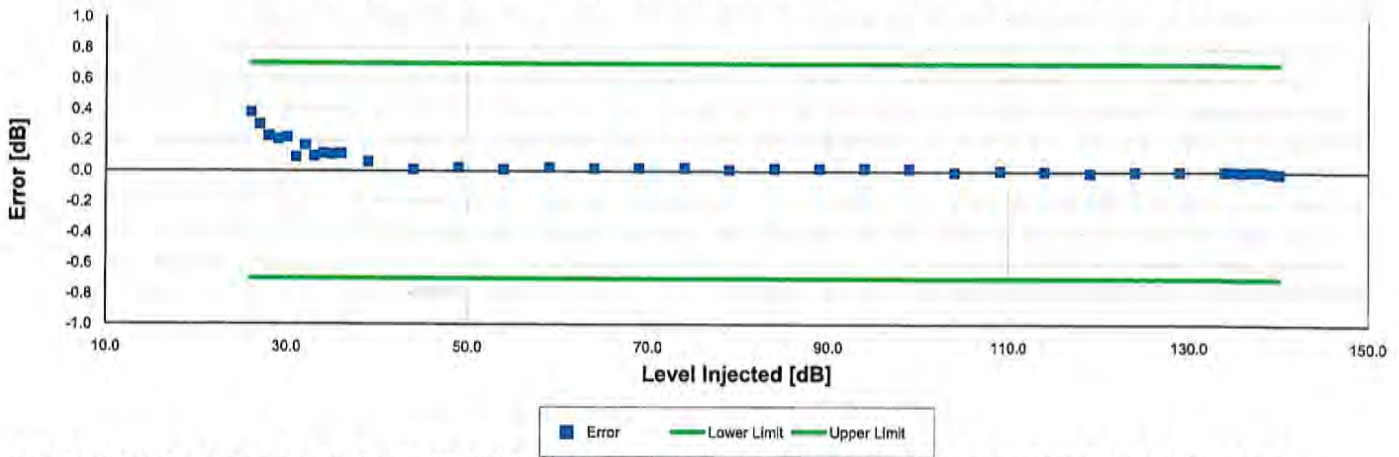
### 1 kHz Reference Levels

Frequency weightings and time weightings at 1 kHz (reference is A weighted Fast) performed according to IEC 61672-3:2013 14 and ANSI S1.4-2014 Part 3: 14 for compliance to IEC 61672-1:2013 5.5.9 and 5.8.3 and ANSI S1.4-2014 Part 1: 5.5.9 and 5.8.3

Measurement	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
C weight	114.00	113.80	114.20	0.15	Pass
Z weight	113.99	113.80	114.20	0.15	Pass
Slow	114.00	113.90	114.10	0.15	Pass
Impulse	114.00	113.90	114.10	0.15	Pass
-- End of measurement results--					



### A-weighted 0 dB Gain Broadband Log Linearity: 8,000.00 Hz



Broadband level linearity performed according to IEC 61672-3:2013 16 and ANSI S1.4-2014 Part 3: 16 for compliance to IEC 61672-1:2013 5.6, IEC 60804:2000 6.2, IEC 61252:2002 8, ANSI S1.4 (R2006) 6.9, ANSI S1.4-2014 Part 1: 5.6, ANSI S1.43 (R2007) 6.2

Level [dB]	Error [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
26.00	0.38	-0.70	0.70	0.16	Pass
27.00	0.31	-0.70	0.70	0.16	Pass
28.00	0.23	-0.70	0.70	0.16	Pass
29.00	0.21	-0.70	0.70	0.16	Pass
30.00	0.22	-0.70	0.70	0.16	Pass
31.00	0.09	-0.70	0.70	0.16	Pass
32.00	0.17	-0.70	0.70	0.16	Pass
33.00	0.10	-0.70	0.70	0.16	Pass
34.00	0.12	-0.70	0.70	0.16	Pass
35.00	0.11	-0.70	0.70	0.16	Pass
36.00	0.12	-0.70	0.70	0.16	Pass
39.00	0.06	-0.70	0.70	0.16	Pass
44.00	0.01	-0.70	0.70	0.16	Pass
49.00	0.03	-0.70	0.70	0.16	Pass
54.00	0.01	-0.70	0.70	0.16	Pass
59.00	0.03	-0.70	0.70	0.16	Pass
64.00	0.02	-0.70	0.70	0.16	Pass
69.00	0.02	-0.70	0.70	0.16	Pass
74.00	0.02	-0.70	0.70	0.16	Pass
79.00	0.01	-0.70	0.70	0.16	Pass
84.00	0.02	-0.70	0.70	0.16	Pass
89.00	0.02	-0.70	0.70	0.16	Pass
94.00	0.02	-0.70	0.70	0.16	Pass
99.00	0.02	-0.70	0.70	0.16	Pass
104.00	0.00	-0.70	0.70	0.15	Pass
109.00	0.01	-0.70	0.70	0.15	Pass
114.00	0.00	-0.70	0.70	0.15	Pass
119.00	-0.01	-0.70	0.70	0.15	Pass
124.00	0.00	-0.70	0.70	0.15	Pass
129.00	0.00	-0.70	0.70	0.15	Pass
134.00	0.00	-0.70	0.70	0.15	Pass
135.00	0.00	-0.70	0.70	0.15	Pass
136.00	0.00	-0.70	0.70	0.15	Pass
137.00	0.00	-0.70	0.70	0.15	Pass
138.00	0.00	-0.70	0.70	0.15	Pass
139.00	0.00	-0.70	0.70	0.15	Pass



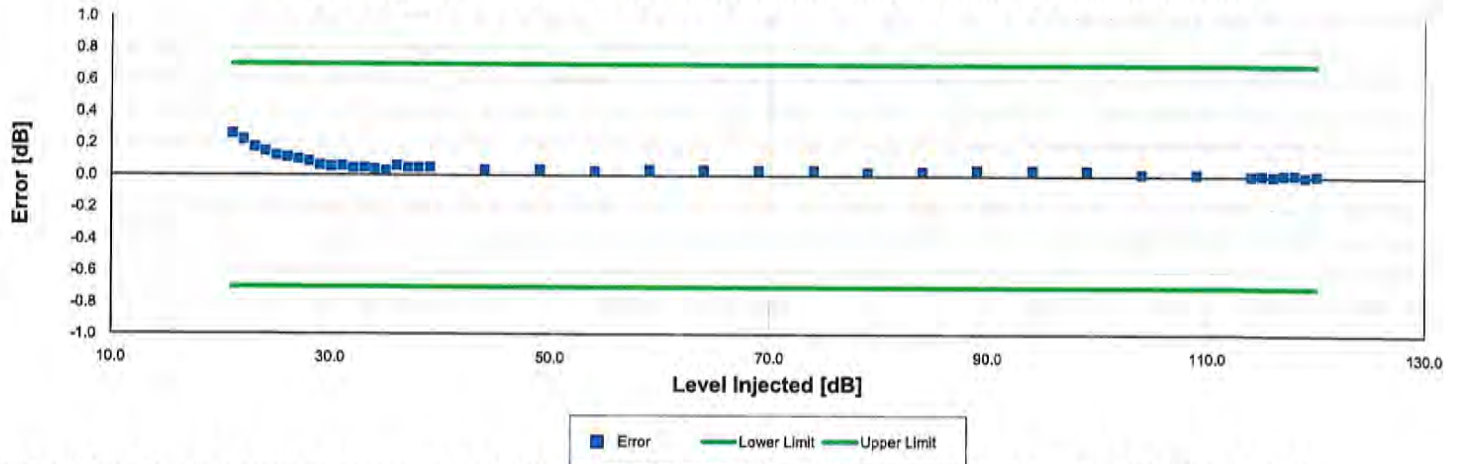


Level [dB]	Error [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
140.00	-0.01	-0.70	0.70	0.15	Pass

-- End of measurement results--



### A-weighted 20 dB Gain Broadband Log Linearity: 8,000.00 Hz



Broadband level linearity performed according to IEC 61672-3:2013 16 and ANSI S1.4-2014 Part 3: 16 for compliance to IEC 61672-1:2013 5.6, IEC 60804:2000 6.2, IEC 61252:2002 8, ANSI S1.4 (R2006) 6.9, ANSI S1.4-2014 Part 1: 5.6, ANSI S1.43 (R2007) 6.2

Level [dB]	Error [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
21.00	0.26	-0.70	0.70	0.16	Pass
22.00	0.23	-0.70	0.70	0.16	Pass
23.00	0.18	-0.70	0.70	0.16	Pass
24.00	0.15	-0.70	0.70	0.16	Pass
25.00	0.13	-0.70	0.70	0.16	Pass
26.00	0.12	-0.70	0.70	0.16	Pass
27.00	0.10	-0.70	0.70	0.16	Pass
28.00	0.09	-0.70	0.70	0.16	Pass
29.00	0.07	-0.70	0.70	0.16	Pass
30.00	0.06	-0.70	0.70	0.16	Pass
31.00	0.06	-0.70	0.70	0.16	Pass
32.00	0.05	-0.70	0.70	0.16	Pass
33.00	0.05	-0.70	0.70	0.16	Pass
34.00	0.04	-0.70	0.70	0.16	Pass
35.00	0.03	-0.70	0.70	0.16	Pass
36.00	0.06	-0.70	0.70	0.16	Pass
37.00	0.05	-0.70	0.70	0.16	Pass
38.00	0.05	-0.70	0.70	0.16	Pass
39.00	0.05	-0.70	0.70	0.16	Pass
44.00	0.04	-0.70	0.70	0.16	Pass
49.00	0.04	-0.70	0.70	0.16	Pass
54.00	0.03	-0.70	0.70	0.16	Pass
59.00	0.04	-0.70	0.70	0.16	Pass
64.00	0.04	-0.70	0.70	0.16	Pass
69.00	0.04	-0.70	0.70	0.16	Pass
74.00	0.04	-0.70	0.70	0.16	Pass
79.00	0.03	-0.70	0.70	0.16	Pass
84.00	0.03	-0.70	0.70	0.16	Pass
89.00	0.04	-0.70	0.70	0.16	Pass
94.00	0.04	-0.70	0.70	0.16	Pass
99.00	0.04	-0.70	0.70	0.16	Pass
104.00	0.02	-0.70	0.70	0.15	Pass
109.00	0.02	-0.70	0.70	0.15	Pass
114.00	0.01	-0.70	0.70	0.15	Pass
115.00	0.01	-0.70	0.70	0.15	Pass
116.00	0.00	-0.70	0.70	0.15	Pass

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Level [dB]	Error [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
117.00	0.01	-0.70	0.70	0.15	Pass
118.00	0.02	-0.70	0.70	0.15	Pass
119.00	0.00	-0.70	0.70	0.15	Pass
120.00	0.01	-0.70	0.70	0.15	Pass

-- End of measurement results--

### Slow Detector

Toneburst response performed according to IEC 61672-3:2013 18 and ANSI S1.4-2014 Part 3: 18 for compliance to IEC 61672-1:2013 5.9, IEC 60651:2001 9.4.2, ANSI S1.4:1983 (R2006) 8.4.2 and ANSI S1.4-2014 Part 1: 5.9

Amplitude [dB]	Duration [ms]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
137.00	200	-7.56	-7.92	-6.92	0.15	Pass
	2	-27.15	-29.99	-25.99	0.15	Pass

-- End of measurement results--

### Fast Detector

Toneburst response performed according to IEC 61672-3:2013 18 and ANSI S1.4-2014 Part 3: 18 for compliance to IEC 61672-1:2013 5.9, IEC 60651:2001 9.4.2, ANSI S1.4:1983 (R2006) 8.4.2 and ANSI S1.4-2014 Part 1: 5.9

Amplitude [dB]	Duration [ms]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
137.00	200.00	-1.03	-1.48	-0.48	0.15	Pass
	2.00	-18.17	-19.49	-16.99	0.15	Pass
	0.25	-27.30	-29.99	-25.99	0.15	Pass

-- End of measurement results--

### Sound Exposure Level

Toneburst response performed according to IEC 61672-3:2013 18 and ANSI S1.4-2014 Part 3: 18 for compliance to IEC 61672-1:2013 5.9, IEC 60651:2001 9.4.2, ANSI S1.4:1983 (R2006) 8.4.2 and ANSI S1.4-2014 Part 1: 5.9

Amplitude [dB]	Duration [ms]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
137.00	200.00	-7.00	-7.49	-6.49	0.15	Pass
	2.00	-27.02	-28.49	-25.99	0.15	Pass
	0.25	-36.14	-39.02	-35.02	0.15	Pass

-- End of measurement results--

### Peak C-weight

C-weighted peak sound level performed according to IEC 61672-3:2013 19 and ANSI S1.4-2014 Part 3: 19 for compliance to IEC 61672-1:2013 5.13 and ANSI S1.4-2014 Part 1: 5.13

Level [dB]	Frequency [Hz]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
135.00	31.50	138.21	135.50	139.50	0.15	Pass
135.00	500.00	138.57	137.50	139.50	0.15	Pass
135.00	8,000.00	137.73	136.40	140.40	0.15	Pass
135.00, Negative	500.00	137.15	136.40	138.40	0.15	Pass
135.00, Positive	500.00	137.18	136.40	138.40	0.15	Pass

-- End of measurement results--



**Peak Z-weight**

Z-weighted peak sound level performed according to IEC 60651:2001 9.4.4 and ANSI S1.4:1983 (R2006) 8.4.4

Amplitude [dB]	Duration [μs]		Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
136.00	100	Negative Pulse	136.31	133.97	137.97	0.15	Pass
		Positive Pulse	136.35	134.01	138.01	0.15	Pass
126.00	100	Negative Pulse	126.30	123.95	127.95	0.15	Pass
		Positive Pulse	126.35	124.00	128.00	0.15	Pass
116.00	100	Negative Pulse	116.31	113.96	117.96	0.15	Pass
		Positive Pulse	116.35	114.00	118.00	0.15	Pass
106.00	100	Negative Pulse	106.29	103.94	107.94	0.15	Pass
		Positive Pulse	106.34	104.00	108.00	0.15	Pass

-- End of measurement results--

**Overload Detector**

Overload indication performed according to IEC 61672-3:2013 20 and ANSI S1.4-2014 Part 3: 20 for compliance to IEC 61672-1:2013 5.11, IEC 60804:2000 9.3.5, IEC 61252:2002 11, ANSI S1.4 (R2006) 5.8, and ANSI S1.4-2014 Part 1: 5.11, ANSI S1.25 (R2007) 7.6, ANSI S1.43 (R2007) 7

Measurement	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
Positive	141.20	140.00	142.00	0.15	Pass
Negative	141.10	140.00	142.00	0.15	Pass
Difference	0.10	-1.50	1.50	0.16	Pass

-- End of measurement results--

**Peak Rise Time**

Peak rise time performed according to IEC 60651:2001 9.4.4 and ANSI S1.4:1983 (R2006) 8.4.4

Amplitude [dB]	Duration [μs]		Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
139.00	40	Negative Pulse	135.94	134.45	136.45	0.15	Pass
		Positive Pulse	135.98	134.49	136.49	0.15	Pass
	30	Negative Pulse	134.98	134.45	136.45	0.15	Pass
		Positive Pulse	135.04	134.49	136.49	0.15	Pass

-- End of measurement results--

## Positive Pulse Crest Factor

200  $\mu$ s pulse tests at 2.0, 12.0, 22.0, 32.0 dB below Overload Limit

Crest Factor measured according to IEC 60651:2001 9.4.2 and ANSI S1.4:1983 (R2006) 8.4.2

Amplitude [dB]	Crest Factor	Test Result [dB]	Limits [dB]	Expanded Uncertainty [dB]	Result
138.00	3	OVLD	$\pm 0.50$	0.15 ‡	Pass
	5	OVLD	$\pm 1.00$	0.15 ‡	Pass
	10	OVLD	$\pm 1.50$	0.15 ‡	Pass
128.00	3	-0.12	$\pm 0.50$	0.15 ‡	Pass
	5	-0.12	$\pm 1.00$	0.15 ‡	Pass
	10	OVLD	$\pm 1.50$	0.15 ‡	Pass
118.00	3	-0.13	$\pm 0.50$	0.16 ‡	Pass
	5	-0.14	$\pm 1.00$	0.15 ‡	Pass
	10	0.01	$\pm 1.50$	0.15 ‡	Pass
108.00	3	-0.15	$\pm 0.50$	0.18 ‡	Pass
	5	-0.13	$\pm 1.00$	0.15 ‡	Pass
	10	0.01	$\pm 1.50$	0.15 ‡	Pass

-- End of measurement results--

## Negative Pulse Crest Factor

200  $\mu$ s pulse tests at 2.0, 12.0, 22.0, 32.0 dB below Overload Limit

Crest Factor measured according to IEC 60651:2001 9.4.2 and ANSI S1.4:1983 (R2006) 8.4.2

Amplitude [dB]	Crest Factor	Test Result [dB]	Limits [dB]	Expanded Uncertainty [dB]	Result
138.00	3	OVLD	$\pm 0.50$	0.15 ‡	Pass
	5	OVLD	$\pm 1.00$	0.15 ‡	Pass
	10	OVLD	$\pm 1.50$	0.15 ‡	Pass
128.00	3	-0.16	$\pm 0.50$	0.15 ‡	Pass
	5	-0.15	$\pm 1.00$	0.15 ‡	Pass
	10	OVLD	$\pm 1.50$	0.15 ‡	Pass
118.00	3	-0.16	$\pm 0.50$	0.15 ‡	Pass
	5	-0.16	$\pm 1.00$	0.15 ‡	Pass
	10	-0.04	$\pm 1.50$	0.15 ‡	Pass
108.00	3	-0.18	$\pm 0.50$	0.15 ‡	Pass
	5	-0.17	$\pm 1.00$	0.15 ‡	Pass
	10	-0.05	$\pm 1.50$	0.15 ‡	Pass

-- End of measurement results--

## Tone Burst

## 2kHz tone burst tests at 2.0, 12.0, 22.0, 32.0 dB below Overload Limit

Tone burst response measured according to IEC 60651:2001 9.4.2 and ANSI S1.4:1983 (R2006) 8.4.2

Amplitude [dB]	Crest Factor	Test Result [dB]	Limits [dB]	Expanded Uncertainty [dB]	Result
138.00	3	OVLD	$\pm 0.50$	0.15	Pass
	5	OVLD	$\pm 1.00$	0.15	Pass
128.00	3	-0.07	$\pm 0.50$	0.17	Pass
	5	-0.06	$\pm 1.00$	0.15	Pass
118.00	3	-0.06	$\pm 0.50$	0.15	Pass
	5	-0.01	$\pm 1.00$	0.15	Pass
108.00	3	-0.06	$\pm 0.50$	0.15	Pass
	5	-0.03	$\pm 1.00$	0.15	Pass

-- End of measurement results--

## Impulse Detector - Repeat

Impulse Detector measured according to IEC 60651:2001 9.4.3 and ANSI S1.4:1983 (R2006) 8.4.3

Amplitude [dB]	Repetition Rate [Hz]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
140	100.00	-2.83	-3.71	-1.71	0.15	Pass
	20.00	-7.70	-9.57	-5.57	0.15	Pass
	2.00	-8.73	-10.76	-6.76	0.15	Pass
Step	2.00	5.09	4.00	6.00	0.16	Pass

-- End of measurement results--

## Impulse Detector - Single

Impulse Detector measured according to IEC 60651:2001 9.4.3 and ANSI S1.4:1983 (R2006) 8.4.3

Amplitude [dB]	Duration [ms]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
140	20.00	-3.61	-5.11	-2.11	0.15	Pass
	5.00	-8.72	-10.76	-6.76	0.16	Pass
	2.00	-12.62	-14.55	-10.55	0.16	Pass
Step	2.00	10.04	9.00	11.00	0.16	Pass

-- End of measurement results--

## Gain

Gain measured according to IEC 61672-3:2013 17.3 and 17.4 and ANSI S1.4-2014 Part 3: 17.3 and 17.4

Measurement	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
0 dB Gain	94.03	93.92	94.12	0.15	Pass
0 dB Gain, Linearity	29.12	28.32	29.72	0.16	Pass
20 dB Gain	94.04	93.92	94.12	0.15	Pass
20 dB Gain, Linearity	24.16	23.32	24.72	0.16	Pass
OBA Low Range	94.02	93.92	94.12	0.15	Pass
OBA Normal Range	94.02	93.20	94.80	0.15	Pass

-- End of measurement results--

## Broadband Noise Floor

Self-generated noise measured according to IEC 61672-3:2013 11.2 and ANSI S1.4-2014 Part 3: 11.2

Measurement	Test Result [dB]	Upper limit [dB]	Result
A-weight Noise Floor	7.02	15.00	Pass
C-weight Noise Floor	12.25	17.30	Pass
Z-weight Noise Floor	21.04	24.50	Pass

-- End of measurement results--

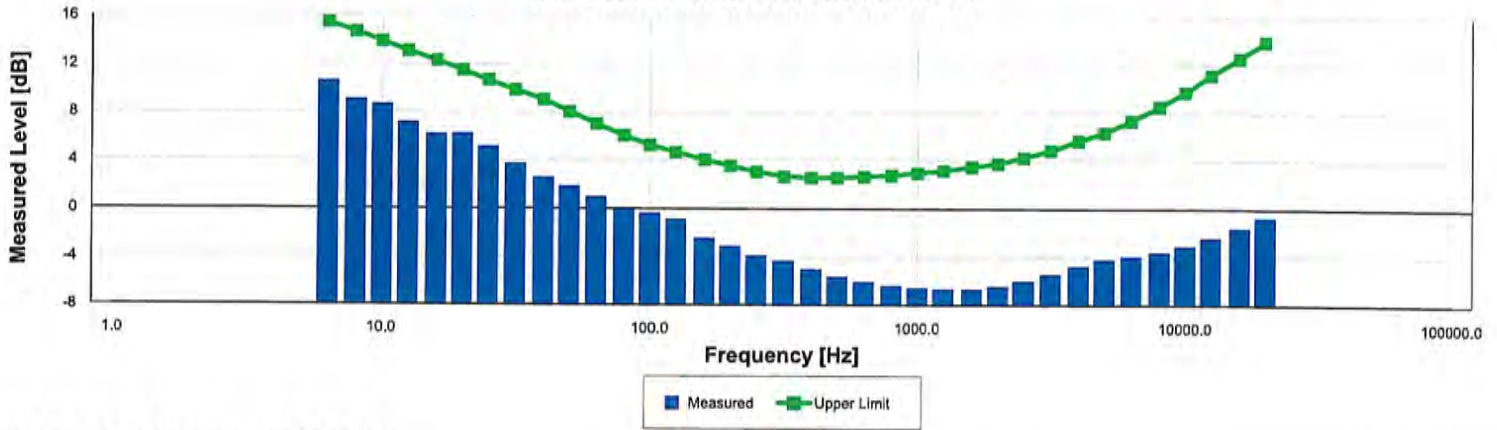
## Total Harmonic Distortion

Measured using 1/3-Octave filters

Measurement	Test Result [dB]	Lower Limit [dB]	Upper Limit [dB]	Expanded Uncertainty [dB]	Result
10 Hz Signal	137.52	137.20	138.80	0.15	Pass
THD	-71.24		-60.00	0.01 ‡	Pass
THD+N	-65.40		-60.00	0.01 ‡	Pass

-- End of measurement results--

### 1/3-Octave Self-Generated Noise



The SLM is set to low range and 20 dB gain.

Frequency [Hz]	Test Result [dB]	Upper limit [dB]	Result
6.30	10.64	15.50	Pass
8.00	9.09	14.70	Pass
10.00	8.70	13.90	Pass
12.50	7.21	13.10	Pass
16.00	6.24	12.30	Pass
20.00	6.27	11.50	Pass
25.00	5.20	10.70	Pass
31.50	3.77	9.90	Pass
40.00	2.62	9.10	Pass
50.00	1.90	8.10	Pass
63.00	1.03	7.10	Pass
80.00	0.05	6.10	Pass
100.00	-0.32	5.30	Pass
125.00	-0.83	4.70	Pass
160.00	-2.39	4.10	Pass
200.00	-3.07	3.60	Pass
250.00	-3.83	3.10	Pass
315.00	-4.30	2.70	Pass
400.00	-5.00	2.60	Pass
500.00	-5.59	2.60	Pass
630.00	-6.03	2.70	Pass
800.00	-6.36	2.80	Pass
1,000.00	-6.52	3.00	Pass
1,250.00	-6.63	3.20	Pass
1,600.00	-6.63	3.50	Pass
2,000.00	-6.41	3.80	Pass
2,500.00	-5.95	4.30	Pass
3,150.00	-5.38	4.90	Pass
4,000.00	-4.71	5.70	Pass
5,000.00	-4.17	6.40	Pass
6,300.00	-3.88	7.40	Pass
8,000.00	-3.54	8.60	Pass
10,000.00	-3.05	9.80	Pass
12,500.00	-2.35	11.20	Pass
16,000.00	-1.54	12.60	Pass
20,000.00	-0.65	14.00	Pass

-- End of measurement results--



-- End of Report--

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Signatory: Ron Harris

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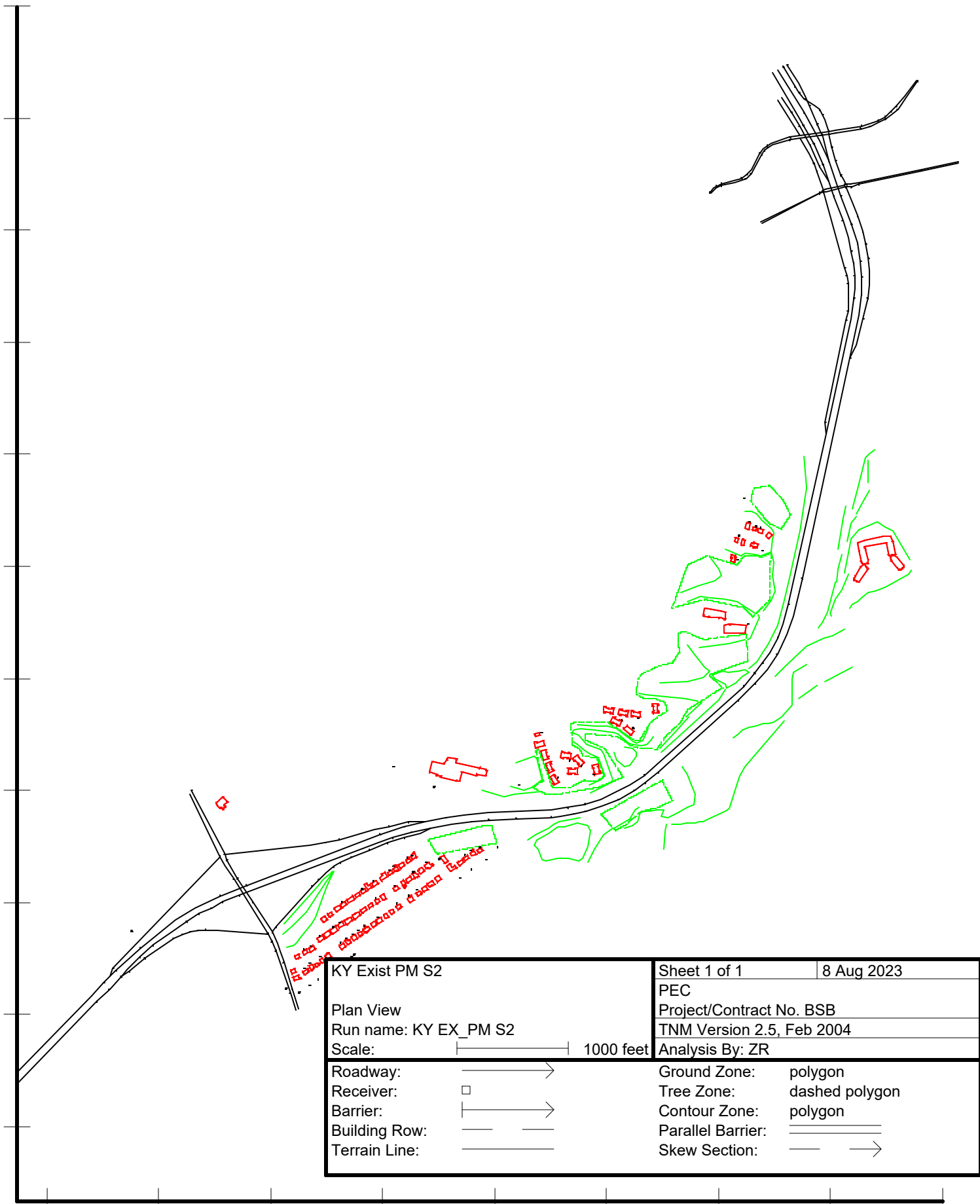


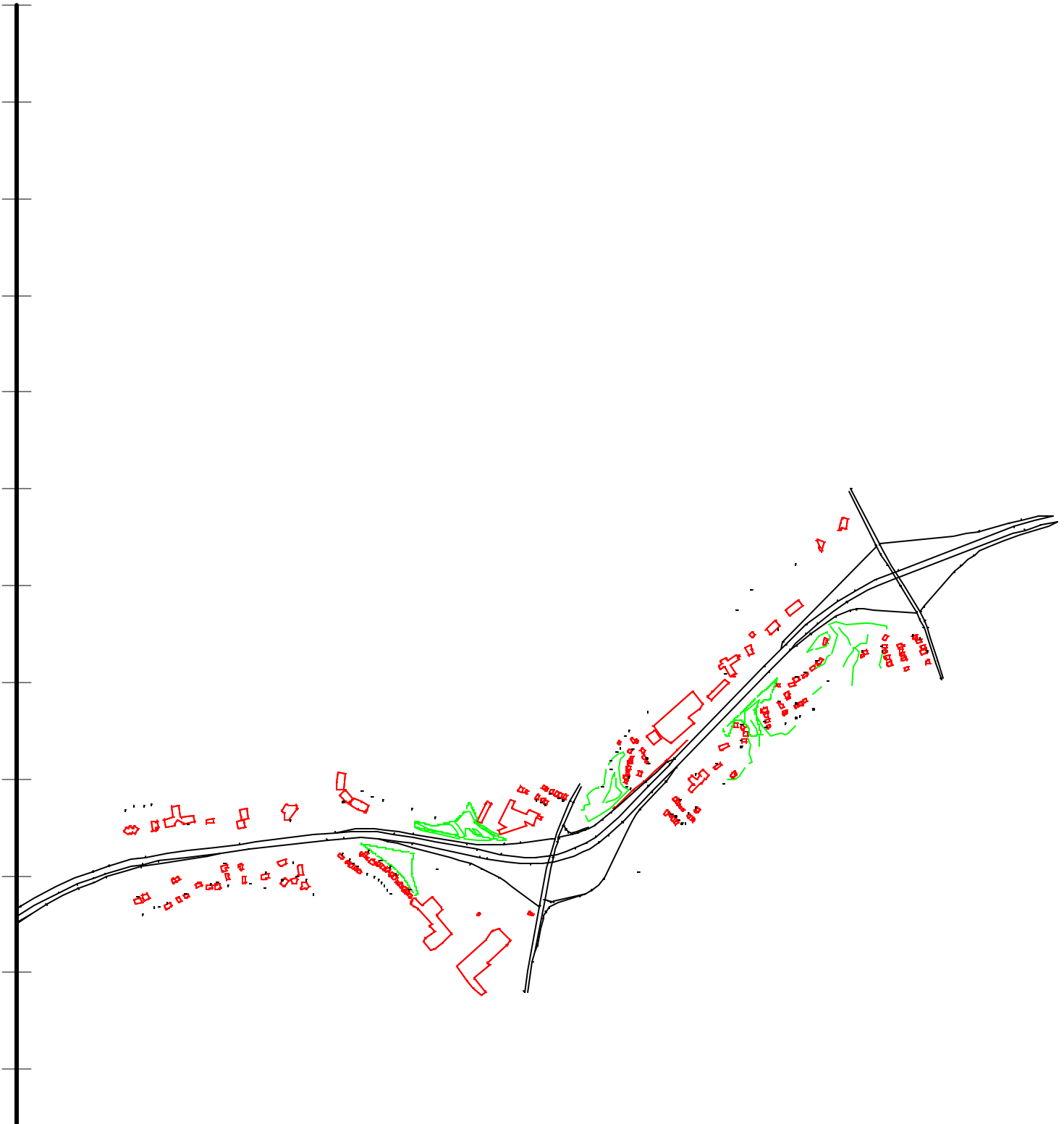
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# **APPENDIX C**

## **TNM Model Validation Runs**

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KY Exist PM S2		Sheet 1 of 1	8 Aug 2023
Plan View		PEC	
Run name: KY EX_PM S3		Project/Contract No. BSB	
Scale:  1000 feet		TNM Version 2.5, Feb 2004	
Analysis By: ZR			
Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

000 5257000 5258000 5259000 5260000 5261000 5262000 5263000 5264000 5265000 5266000



**INPUT: RECEIVERS**

**BSB**

R496(K2006)	1349	1	5,265,448.0	4,274,882.5	859.94	4.92	0.00	66	10.0	8.0
M-38(K1609)	1350	1	5,266,246.0	4,275,430.0	838.00	4.92	0.00	66	10.0	8.0
R499(K1172)	1353	1	5,269,316.5	4,278,364.5	788.32	4.92	0.00	66	10.0	8.0
R500(K1620)	1354	1	5,266,147.0	4,275,367.5	839.24	4.92	0.00	66	10.0	8.0
R501(K2004)	1355	1	5,265,571.5	4,274,973.5	853.28	4.92	0.00	66	10.0	8.0
R502(K2005)	1356	1	5,265,505.0	4,274,927.5	859.94	4.92	0.00	66	10.0	8.0
R503(K1622)	1357	1	5,266,081.0	4,275,337.5	839.14	4.92	0.00	66	10.0	8.0
R504(K1630)	1358	1	5,265,969.0	4,275,267.5	837.60	4.92	0.00	66	10.0	8.0
R505(K1674)	1359	1	5,265,624.0	4,275,013.5	852.20	4.92	0.00	66	10.0	8.0
M-31(K1979)	1360	1	5,269,245.5	4,277,491.0	779.60	4.92	0.00	66	10.0	8.0
R507(K1564)	1362	1	5,267,761.0	4,276,228.0	809.91	4.92	0.00	66	10.0	8.0
R508(K1627)	1363	1	5,266,046.0	4,275,302.0	838.45	4.92	0.00	66	10.0	8.0
R509(K1573)	1364	1	5,267,202.0	4,276,057.0	845.31	4.92	0.00	66	10.0	8.0
R510(K1670 R-61)	1365	1	5,265,693.0	4,275,063.0	849.12	4.92	0.00	66	10.0	8.0
R512(K1642)	1367	1	5,265,840.5	4,275,186.0	840.42	4.92	0.00	66	10.0	8.0
R514(K1174)	1369	1	5,269,360.0	4,278,352.0	778.74	4.92	0.00	66	10.0	8.0
R515(K1569)	1370	1	5,267,733.5	4,276,164.5	810.93	4.92	0.00	66	10.0	8.0
R516(K1638)	1371	1	5,265,897.5	4,275,200.5	838.88	4.92	0.00	66	10.0	8.0
R517(K1652)	1372	1	5,265,803.5	4,275,128.5	844.36	4.92	0.00	66	10.0	8.0
R518(K1665)	1373	1	5,265,750.5	4,275,098.0	845.67	4.92	0.00	66	10.0	8.0
R519(K2012)	1374	1	5,265,286.0	4,274,592.5	861.35	4.92	0.00	66	10.0	8.0
R520(K2014)	1375	1	5,265,214.0	4,274,549.5	868.08	4.92	0.00	66	10.0	8.0
M-35(K1503)	1377	1	5,267,929.0	4,276,185.0	797.87	4.92	0.00	66	10.0	8.0
R523(K1578)	1379	1	5,267,546.5	4,276,123.0	824.64	4.92	0.00	66	10.0	8.0
R525(K1570)	1381	1	5,267,868.5	4,276,148.5	799.35	4.92	0.00	66	10.0	8.0
R526(K2009)	1382	1	5,265,420.5	4,274,711.0	856.20	4.92	0.00	66	10.0	8.0
R527(K2011)	1383	1	5,265,345.0	4,274,621.5	858.01	4.92	0.00	66	10.0	8.0
M-30(K1176)	1384	1	5,269,449.5	4,278,314.5	770.00	4.92	0.00	66	10.0	8.0
R530(K1181)	1388	1	5,269,373.5	4,278,150.5	775.56	4.92	0.00	66	10.0	8.0
R531(K1621)	1389	1	5,266,375.5	4,275,367.5	843.90	4.92	0.00	66	10.0	8.0
R532(K2008)	1390	1	5,265,480.0	4,274,752.0	856.93	4.92	0.00	66	10.0	8.0
M-37(K1616)	1391	1	5,266,492.0	4,275,399.0	842.00	4.92	0.00	66	10.0	8.0
R533(K2007)	1392	1	5,265,543.0	4,274,791.0	857.45	4.92	0.00	66	10.0	8.0
R535(K1705)	1394	1	5,265,602.5	4,274,834.0	856.53	4.92	0.00	66	10.0	8.0
R536(K2024)	1395	1	5,265,186.0	4,274,422.0	866.34	4.92	0.00	66	10.0	8.0
R537(K85)	1396	1	5,266,769.0	4,275,472.0	839.08	4.92	0.00	66	10.0	8.0

**INPUT: RECEIVERS**

**BSB**

R538(K1602)	1397	1	5,266,852.5	4,275,503.0	840.95	4.92	0.00	66	10.0	8.0
R539(K1611)	1398	1	5,266,718.5	4,275,434.0	841.51	4.92	0.00	66	10.0	8.0
R540(K1624)	1399	1	5,266,309.5	4,275,325.0	844.43	4.92	0.00	66	10.0	8.0
R541(K1629)	1401	1	5,266,258.0	4,275,283.0	845.47	4.92	0.00	66	10.0	8.0
R542(K1632)	1402	1	5,266,202.5	4,275,249.0	843.90	4.92	0.00	66	10.0	8.0
R545(K1608)	1405	1	5,267,013.0	4,275,503.0	846.07	4.92	0.00	66	10.0	8.0
R546(K1613)	1406	1	5,266,670.0	4,275,396.0	843.24	4.92	0.00	66	10.0	8.0
R547(K1637)	1407	1	5,266,159.5	4,275,208.5	843.18	4.92	0.00	66	10.0	8.0
R548(K1699)	1408	1	5,265,669.0	4,274,877.0	856.20	4.92	0.00	66	10.0	8.0
R550(K1695)	1410	1	5,265,739.5	4,274,925.0	854.33	4.92	0.00	66	10.0	8.0
R551(K2019)	1411	1	5,265,336.5	4,274,467.0	859.32	4.92	0.00	66	10.0	8.0
R552(K2023)	1412	1	5,265,288.5	4,274,426.0	862.31	4.92	0.00	66	10.0	8.0
R553(K2031)	1413	1	5,265,212.5	4,274,364.5	864.37	4.92	0.00	66	10.0	8.0
R554(K1677)	1414	1	5,265,867.0	4,275,005.0	849.51	4.92	0.00	66	10.0	8.0
R555(K1687)	1415	1	5,265,806.5	4,274,964.5	852.07	4.92	0.00	66	10.0	8.0
R556(K2018)	1416	1	5,265,384.5	4,274,485.5	856.01	4.92	0.00	66	10.0	8.0
R557(K2037)	1417	1	5,265,126.5	4,274,244.0	863.91	4.92	0.00	66	10.0	8.0
R558(K1626)	1418	1	5,266,627.5	4,275,354.5	844.26	4.92	0.00	66	10.0	8.0
R559(K1648)	1419	1	5,266,092.5	4,275,160.0	842.65	4.92	0.00	66	10.0	8.0
R560(K1668)	1420	1	5,265,979.5	4,275,078.5	842.88	4.92	0.00	66	10.0	8.0
R561(K1672)	1421	1	5,265,926.0	4,275,047.0	846.92	4.92	0.00	66	10.0	8.0
R562(K2013)	1422	1	5,265,484.0	4,274,565.5	848.49	4.92	0.00	66	10.0	8.0
R563(K2015)	1423	1	5,265,430.0	4,274,525.5	852.86	4.92	0.00	66	10.0	8.0
R565(K1713)	1425	1	5,265,612.0	4,274,652.0	848.39	4.92	0.00	66	10.0	8.0
R566(K2038)	1426	1	5,265,242.5	4,274,209.5	860.96	4.92	0.00	66	10.0	8.0
R569(K1712)	1429	1	5,265,660.5	4,274,690.5	848.72	4.92	0.00	66	10.0	8.0
R570(K2036)	1430	1	5,265,335.5	4,274,271.0	859.25	4.92	0.00	66	10.0	8.0
R572(K1635)	1432	1	5,266,462.5	4,275,252.0	845.64	4.92	0.00	66	10.0	8.0
R573(K1617)	1433	1	5,266,909.5	4,275,389.0	843.34	4.92	0.00	66	10.0	8.0
R577(K1623)	1436	1	5,266,844.0	4,275,348.0	841.08	4.92	0.00	66	10.0	8.0
R578(K1634)	1437	1	5,266,400.5	4,275,207.5	848.26	4.92	0.00	66	10.0	8.0
R579(K1710)	1438	1	5,265,718.5	4,274,725.0	851.02	4.92	0.00	66	10.0	8.0
R580(K2034)	1439	1	5,265,408.0	4,274,322.5	856.20	4.92	0.00	66	10.0	8.0
R581(K1708)	1441	1	5,265,767.5	4,274,761.0	851.51	4.92	0.00	66	10.0	8.0
R583(K1628)	1444	1	5,266,780.5	4,275,304.5	841.34	4.92	0.00	66	10.0	8.0
R584(K1641)	1445	1	5,266,342.0	4,275,163.0	846.98	4.92	0.00	66	10.0	8.0

**INPUT: RECEIVERS****BSB**

R585(K1706)	1446	1	5,265,823.0	4,274,802.0	851.54	4.92	0.00	66	10.0	8.0	
R586(K2030)	1447	1	5,265,471.0	4,274,369.5	851.87	4.92	0.00	66	10.0	8.0	
R587(K1704)	1448	1	5,265,890.5	4,274,846.0	850.20	4.92	0.00	66	10.0	8.0	
R589(K1631)	1450	1	5,266,727.0	4,275,263.5	842.39	4.92	0.00	66	10.0	8.0	
R590(K1651)	1451	1	5,266,291.5	4,275,122.0	845.67	4.92	0.00	66	10.0	8.0	
R591(K1666)	1452	1	5,266,219.0	4,275,073.0	843.24	4.92	0.00	66	10.0	8.0	
R592(K1682)	1453	1	5,266,113.0	4,275,003.0	844.49	4.92	0.00	66	10.0	8.0	
R593(K1691)	1454	1	5,266,051.5	4,274,958.0	847.15	4.92	0.00	66	10.0	8.0	
R594(K1698)	1455	1	5,265,942.5	4,274,881.5	848.89	4.92	0.00	66	10.0	8.0	
R597(K1636)	1458	1	5,266,677.0	4,275,226.5	845.44	4.92	0.00	66	10.0	8.0	
R598(K1694)	1459	1	5,265,998.0	4,274,922.5	847.80	4.92	0.00	66	10.0	8.0	
R599(K2021)	1460	1	5,265,590.5	4,274,449.0	845.41	4.92	0.00	66	10.0	8.0	
R600(K2027)	1461	1	5,265,521.0	4,274,403.5	849.31	4.92	0.00	66	10.0	8.0	
R604(K1643)	1465	1	5,266,625.0	4,275,181.5	846.43	4.92	0.00	66	10.0	8.0	
R605(K1718)	1466	1	5,265,664.0	4,274,506.0	842.06	4.92	0.00	66	10.0	8.0	
R607(K1717)	1468	1	5,265,708.5	4,274,529.0	843.18	4.92	0.00	66	10.0	8.0	
R612(K1716)	1473	1	5,265,732.0	4,274,547.0	845.47	4.92	0.00	66	10.0	8.0	
R637(K1617 R-60)	1498	1	5,267,486.0	4,275,133.0	831.00	4.92	0.00	66	10.0	8.0	
R902	1575	1	5,266,533.0	4,275,966.5	821.00	4.92	0.00	66	10.0	8.0	Y
R903	1576	1	5,266,083.5	4,276,221.5	864.00	4.92	0.00	66	10.0	8.0	Y
R904	1577	1	5,267,010.5	4,276,329.5	806.00	4.92	0.00	66	10.0	8.0	Y





**INPUT: RECEIVERS**

**BSB**

R724(K1415)	1149	1	5,261,903.0	4,273,412.5	826.41	4.92	0.00	66	10.0	8.0
R725(K1264)	1150	1	5,257,665.0	4,272,546.5	834.62	4.92	0.00	66	10.0	8.0
R726(K1487)	1151	1	5,259,449.0	4,272,793.0	805.94	4.92	0.00	66	10.0	8.0
R727(K2068)	1152	1	5,258,071.0	4,272,601.5	812.21	4.92	0.00	66	10.0	8.0
R728(K1419)	1153	1	5,261,900.0	4,273,329.0	817.98	4.92	0.00	66	10.0	8.0
R729(K1422)	1154	1	5,261,862.5	4,273,288.0	816.67	4.92	0.00	66	10.0	8.0
R730(K1311)	1155	1	5,263,522.5	4,274,554.0	844.43	4.92	0.00	66	10.0	8.0
R731(K1429)	1156	1	5,261,833.0	4,273,244.0	811.39	4.92	0.00	66	10.0	8.0
R732(K65)	1157	1	5,261,799.5	4,273,200.5	813.55	4.92	0.00	66	10.0	8.0
R733(K1332)	1158	1	5,263,096.0	4,274,188.5	853.00	4.92	0.00	66	10.0	8.0
R734(K1201)	1159	1	5,259,180.0	4,272,695.0	795.05	4.92	0.00	66	10.0	8.0
R735(K1339)	1160	1	5,262,983.5	4,274,101.5	852.27	4.92	0.00	66	10.0	8.0
R736(K2067)	1161	1	5,258,488.5	4,272,583.0	787.67	4.92	0.00	66	10.0	8.0
M-43(K1349)	1162	1	5,262,957.5	4,273,917.5	850.17	4.92	0.00	66	10.0	8.0
R737(K1323)	1163	1	5,263,256.0	4,274,289.5	854.43	4.92	0.00	66	10.0	8.0
R738(K1412)	1164	1	5,262,061.0	4,273,369.0	831.40	4.92	0.00	66	10.0	8.0
R739(K1424)	1165	1	5,262,026.5	4,273,317.5	827.59	4.92	0.00	66	10.0	8.0
R740(K1454)	1166	1	5,261,750.5	4,273,078.0	812.11	4.92	0.00	66	10.0	8.0
R741(K1307)	1167	1	5,263,747.5	4,274,755.0	852.33	4.92	0.00	66	10.0	8.0
R742(K1450)	1168	1	5,261,803.0	4,273,108.0	808.53	4.92	0.00	66	10.0	8.0
R743(K1479)	1169	1	5,260,856.0	4,272,872.5	825.79	4.92	0.00	66	10.0	8.0
R744(K1497)	1170	1	5,259,524.5	4,272,744.0	809.02	4.92	0.00	66	10.0	8.0
R745(K1476)	1171	1	5,261,096.0	4,272,902.5	824.28	4.92	0.00	66	10.0	8.0
R746(K1458)	1172	1	5,261,714.0	4,273,023.0	817.06	4.92	0.00	66	10.0	8.0
R747(K1482)	1173	1	5,260,914.5	4,272,854.5	825.30	4.92	0.00	66	10.0	8.0
R748(K2091)	1174	1	5,257,809.0	4,272,136.0	836.98	4.92	0.00	66	10.0	8.0
R749(K1767)	1175	1	5,257,971.0	4,272,142.0	829.76	4.92	0.00	66	10.0	8.0
R750(K1435)	1176	1	5,262,035.0	4,273,221.0	826.35	4.92	0.00	66	10.0	8.0
R751(K1427)	1177	1	5,262,149.5	4,273,281.0	824.05	4.92	0.00	66	10.0	8.0
R752(K1438)	1178	1	5,262,029.0	4,273,184.5	825.99	4.92	0.00	66	10.0	8.0
R753(K1472)	1179	1	5,261,713.0	4,272,930.0	811.58	4.92	0.00	66	10.0	8.0
R754(K1478)	1180	1	5,261,125.0	4,272,886.0	823.79	4.92	0.00	66	10.0	8.0
R755(K1488)	1181	1	5,259,628.0	4,272,737.5	813.45	4.92	0.00	66	10.0	8.0
R756(K2109B)	1182	1	5,258,400.0	4,272,184.0	826.35	4.92	0.00	66	10.0	8.0
R757(K2105)	1183	1	5,257,298.0	4,272,001.0	797.84	4.92	0.00	66	10.0	8.0
R758(K1448)	1184	1	5,262,015.5	4,273,130.5	826.12	4.92	0.00	66	10.0	8.0

**INPUT: RECEIVERS**

**BSB**

R759(K1283)	1185	1	5,264,232.0	4,275,739.0	897.71	4.92	0.00	66	10.0	8.0
R760(K1433)	1186	1	5,262,173.5	4,273,225.5	820.31	4.92	0.00	66	10.0	8.0
R761(K1483)	1187	1	5,261,173.0	4,272,858.5	823.07	4.92	0.00	66	10.0	8.0
R762(K1455)	1188	1	5,261,999.5	4,273,077.5	826.18	4.92	0.00	66	10.0	8.0
R763(K1485)	1189	1	5,261,227.5	4,272,833.5	822.02	4.92	0.00	66	10.0	8.0
R764(KV2092)	1190	1	5,258,514.0	4,272,147.5	816.73	4.92	0.00	66	10.0	8.0
R765(K1459)	1191	1	5,261,987.0	4,273,030.5	825.63	4.92	0.00	66	10.0	8.0
R766(K2085)	1192	1	5,259,031.0	4,272,238.0	807.29	4.92	0.00	66	10.0	8.0
R767(K1491)	1193	1	5,261,033.0	4,272,789.5	823.20	4.92	0.00	66	10.0	8.0
R768(K1437)	1194	1	5,262,190.0	4,273,172.0	812.70	4.92	0.00	66	10.0	8.0
R769(K2119)	1195	1	5,257,537.5	4,271,972.0	813.98	4.92	0.00	66	10.0	8.0
R770(K1489)	1196	1	5,261,264.0	4,272,817.5	820.57	4.92	0.00	66	10.0	8.0
R771(K2101)	1197	1	5,257,812.5	4,272,007.5	828.94	4.92	0.00	66	10.0	8.0
R772(K2109E)	1198	1	5,258,581.0	4,272,137.5	808.96	4.92	0.00	66	10.0	8.0
R773(KV1469)	1199	1	5,261,964.0	4,272,929.0	816.73	4.92	0.00	66	10.0	8.0
R774(K1346)	1200	1	5,263,525.5	4,274,013.5	829.27	4.92	0.00	66	10.0	8.0
R775(K1496)	1201	1	5,261,082.0	4,272,771.5	825.33	4.92	0.00	66	10.0	8.0
R776(K2087)	1202	1	5,259,106.0	4,272,178.5	815.46	4.92	0.00	66	10.0	8.0
R777(K2106)	1203	1	5,258,008.5	4,272,017.0	839.41	4.92	0.00	66	10.0	8.0
M-41(K1318)	1204	1	5,263,990.0	4,274,394.5	885.83	4.92	0.00	66	10.0	8.0
R778(K2104)	1205	1	5,258,235.5	4,272,045.0	836.39	4.92	0.00	66	10.0	8.0
R779(K1195)	1206	1	5,259,745.5	4,272,702.0	815.42	4.92	0.00	66	10.0	8.0
R780(K1383)	1207	1	5,263,352.0	4,273,742.0	831.83	4.92	0.00	66	10.0	8.0
R781(K1456)	1208	1	5,262,123.5	4,273,055.5	817.06	4.92	0.00	66	10.0	8.0
R782(K1495)	1209	1	5,261,307.0	4,272,793.0	819.92	4.92	0.00	66	10.0	8.0
R783(K1722C)	1210	1	5,256,980.0	4,271,841.0	786.12	4.92	0.00	66	10.0	8.0
R784(K1769)	1211	1	5,259,139.0	4,272,143.0	816.18	4.92	0.00	66	10.0	8.0
R785(K2083)	1212	1	5,259,293.5	4,272,268.5	811.52	4.92	0.00	66	10.0	8.0
M-44(K75)	1213	1	5,263,123.5	4,273,545.5	833.00	4.92	0.00	66	10.0	8.0
M-46(K1469)	1214	1	5,262,005.5	4,272,911.5	825.00	4.92	0.00	66	10.0	8.0
R786(K1194)	1215	1	5,261,118.5	4,272,744.5	823.49	4.92	0.00	66	10.0	8.0
R787(K2122)	1216	1	5,257,736.0	4,271,947.0	824.38	4.92	0.00	66	10.0	8.0
R788(K1722B)	1217	1	5,256,912.0	4,271,794.0	784.52	4.92	0.00	66	10.0	8.0
M-40(K1315)	1218	1	5,264,650.0	4,274,426.0	860.01	4.92	0.00	66	10.0	8.0
M-42(K1348)	1219	1	5,263,693.5	4,274,013.5	848.99	4.92	0.00	66	10.0	8.0
R789(K1319)	1220	1	5,264,595.0	4,274,378.5	858.01	4.92	0.00	66	10.0	8.0

**INPUT: RECEIVERS**

**BSB**

R790(K1360)	1221	1	5,263,614.0	4,273,919.5	846.56	4.92	0.00	66	10.0	8.0
R791(K1365)	1222	1	5,263,533.5	4,273,819.0	833.76	4.92	0.00	66	10.0	8.0
R792(K1421)	1223	1	5,262,965.0	4,273,380.5	840.98	4.92	0.00	66	10.0	8.0
R793(KV2025)	1224	1	5,264,756.5	4,274,433.0	869.26	4.92	0.00	66	10.0	8.0
R794(KV1318)	1225	1	5,263,987.5	4,274,326.0	870.87	4.92	0.00	66	10.0	8.0
R795(K74)	1226	1	5,263,148.5	4,273,579.5	821.00	4.92	0.00	66	10.0	8.0
R796(K1341)	1227	1	5,263,716.0	4,274,068.0	851.41	4.92	0.00	66	10.0	8.0
R797(K2124)	1228	1	5,257,662.5	4,271,925.5	818.51	4.92	0.00	66	10.0	8.0
R798(K1326)	1229	1	5,264,399.0	4,274,330.5	836.42	4.92	0.00	66	10.0	8.0
R799(K1391)	1230	1	5,263,379.5	4,273,663.5	827.99	4.92	0.00	66	10.0	8.0
R800(K2086)	1231	1	5,259,376.0	4,272,200.0	810.44	4.92	0.00	66	10.0	8.0
R801(K1205)	1232	1	5,259,864.5	4,272,649.5	817.26	4.92	0.00	66	10.0	8.0
R802(K1331)	1233	1	5,263,924.5	4,274,236.5	871.30	4.92	0.00	66	10.0	8.0
R803(K2017)	1234	1	5,264,923.5	4,274,496.5	884.65	4.92	0.00	66	10.0	8.0
R804(K2025)	1235	1	5,264,824.0	4,274,410.5	881.07	4.92	0.00	66	10.0	8.0
R805(K78)	1236	1	5,263,806.0	4,274,114.0	856.89	4.92	0.00	66	10.0	8.0
R806(K1322)	1237	1	5,264,599.5	4,274,329.5	859.58	4.92	0.00	66	10.0	8.0
R807(K1336)	1238	1	5,263,888.0	4,274,184.5	862.96	4.92	0.00	66	10.0	8.0
R808(K2109)	1239	1	5,258,556.5	4,272,010.5	816.24	4.92	0.00	66	10.0	8.0
R809(K71)	1240	1	5,263,146.5	4,273,412.5	810.14	4.92	0.00	66	10.0	8.0
R810(K2020)	1241	1	5,264,992.0	4,274,464.5	880.19	4.92	0.00	66	10.0	8.0
R811(K2095)	1242	1	5,259,182.5	4,272,114.5	816.67	4.92	0.00	66	10.0	8.0
R812(K1386)	1243	1	5,263,590.0	4,273,726.0	827.66	4.92	0.00	66	10.0	8.0
R813(K2114)	1244	1	5,257,407.0	4,271,826.0	804.37	4.92	0.00	66	10.0	8.0
R814(K2125)	1245	1	5,257,850.0	4,271,909.5	829.23	4.92	0.00	66	10.0	8.0
M-48(K37)	1246	1	5,260,119.0	4,272,635.0	822.00	4.92	0.00	66	10.0	8.0
R815(K73)	1247	1	5,263,157.0	4,273,471.5	801.74	4.92	0.00	66	10.0	8.0
R816(K1372)	1248	1	5,263,714.0	4,273,793.5	832.15	4.92	0.00	66	10.0	8.0
R817(K1395)	1249	1	5,263,386.0	4,273,604.5	826.05	4.92	0.00	66	10.0	8.0
R818(K2029)	1250	1	5,264,832.5	4,274,351.0	873.62	4.92	0.00	66	10.0	8.0
R819(K2088)	1251	1	5,259,424.0	4,272,167.5	815.65	4.92	0.00	66	10.0	8.0
R820(K2138)	1252	1	5,257,325.5	4,271,798.0	810.34	4.92	0.00	66	10.0	8.0
R821(K1722A)	1253	1	5,256,965.0	4,271,611.5	796.20	4.92	0.00	66	10.0	8.0
R822(K1204)	1254	1	5,259,985.0	4,272,612.5	820.08	4.92	0.00	66	10.0	8.0
R823(K1722)	1255	1	5,257,079.0	4,271,684.5	810.21	4.92	0.00	66	10.0	8.0
R824(K2099)	1256	1	5,259,223.0	4,272,080.5	815.26	4.92	0.00	66	10.0	8.0

**INPUT: RECEIVERS**

**BSB**

R825(K2127)	1257	1	5,258,076.0	4,271,933.0	834.06	4.92	0.00	66	10.0	8.0
R826(K2144)	1258	1	5,257,216.0	4,271,729.5	810.44	4.92	0.00	66	10.0	8.0
R827(K2109C)	1259	1	5,258,405.5	4,271,969.0	819.20	4.92	0.00	66	10.0	8.0
R828(K1720)	1260	1	5,257,135.0	4,271,692.5	812.40	4.92	0.00	66	10.0	8.0
R829(K2026)	1261	1	5,265,041.0	4,274,412.0	873.72	4.92	0.00	66	10.0	8.0
R830(K68)	1262	1	5,263,147.5	4,273,346.0	813.55	4.92	0.00	66	10.0	8.0
R831(K1328)	1263	1	5,264,615.5	4,274,259.0	862.90	4.92	0.00	66	10.0	8.0
M-45(K1484)	1264	1	5,262,676.5	4,273,061.0	829.37	4.92	0.00	66	10.0	8.0
R832(K1362)	1265	1	5,263,801.5	4,273,844.5	830.15	4.92	0.00	66	10.0	8.0
R833(K1370)	1266	1	5,263,757.5	4,273,815.0	831.89	4.92	0.00	66	10.0	8.0
R834(K1402)	1267	1	5,263,402.0	4,273,548.0	822.38	4.92	0.00	66	10.0	8.0
R835(K1446)	1268	1	5,262,892.0	4,273,167.0	822.38	4.92	0.00	66	10.0	8.0
R836(K67)	1269	1	5,263,124.0	4,273,287.5	814.77	4.92	0.00	66	10.0	8.0
R837(K2033)	1270	1	5,264,845.0	4,274,311.5	871.30	4.92	0.00	66	10.0	8.0
R838(K2109F)	1271	1	5,258,654.0	4,271,969.0	801.28	4.92	0.00	66	10.0	8.0
R839(K1334)	1272	1	5,264,638.5	4,274,200.5	863.13	4.92	0.00	66	10.0	8.0
R840(K2109A)	1273	1	5,258,226.0	4,271,892.0	820.44	4.92	0.00	66	10.0	8.0
R841(K30)	1274	1	5,257,528.5	4,271,722.5	817.23	4.92	0.00	66	10.0	8.0
R842(K1353)	1275	1	5,264,042.0	4,274,026.0	822.21	4.92	0.00	66	10.0	8.0
R843(K1406)	1276	1	5,263,511.0	4,273,531.5	822.57	4.92	0.00	66	10.0	8.0
R844(K2032)	1277	1	5,265,071.5	4,274,333.0	870.41	4.92	0.00	66	10.0	8.0
R845(K2103)	1278	1	5,259,286.5	4,272,029.0	820.28	4.92	0.00	66	10.0	8.0
R846(K1396)	1279	1	5,263,668.0	4,273,623.0	821.56	4.92	0.00	66	10.0	8.0
R847(K1403)	1280	1	5,263,605.0	4,273,584.5	823.07	4.92	0.00	66	10.0	8.0
R848(K2035)	1281	1	5,264,861.0	4,274,266.0	864.21	4.92	0.00	66	10.0	8.0
R849(K1397)	1282	1	5,263,714.0	4,273,643.5	817.72	4.92	0.00	66	10.0	8.0
R850(K1721)	1283	1	5,257,425.5	4,271,673.0	820.02	4.92	0.00	66	10.0	8.0
R851(K2094)	1284	1	5,259,472.0	4,272,129.0	820.28	4.92	0.00	66	10.0	8.0
R852(K2109D)	1285	1	5,258,381.0	4,271,876.0	817.62	4.92	0.00	66	10.0	8.0
R853(K1217)	1286	1	5,260,452.0	4,272,547.0	825.53	4.92	0.00	66	10.0	8.0
R854(K1460)	1287	1	5,263,061.5	4,273,109.0	816.57	4.92	0.00	66	10.0	8.0
R855(K1392)	1288	1	5,263,800.5	4,273,685.0	816.83	4.92	0.00	66	10.0	8.0
R856(K1394)	1289	1	5,263,751.0	4,273,660.0	817.55	4.92	0.00	66	10.0	8.0
R857(K1193)	1290	1	5,262,496.0	4,272,829.5	815.82	4.92	0.00	66	10.0	8.0
R858(K1379)	1291	1	5,263,965.5	4,273,766.0	816.83	4.92	0.00	66	10.0	8.0
R859(K1385)	1292	1	5,263,892.5	4,273,735.0	815.95	4.92	0.00	66	10.0	8.0

**INPUT: RECEIVERS**

**BSB**

R860(K2097)	1293	1	5,259,523.5	4,272,104.0	819.95	4.92	0.00	66	10.0	8.0
R861(K1390)	1294	1	5,263,840.0	4,273,701.0	815.32	4.92	0.00	66	10.0	8.0
R862(K1449)	1295	1	5,263,152.0	4,273,183.0	813.45	4.92	0.00	66	10.0	8.0
M-39(K2037)	1296	1	5,265,126.5	4,274,244.0	863.91	4.92	0.00	66	10.0	8.0
R863(K2043)	1297	1	5,264,887.0	4,274,164.0	861.58	4.92	0.00	66	10.0	8.0
R864(K2117)	1298	1	5,259,354.5	4,271,999.0	820.93	4.92	0.00	66	10.0	8.0
R865(K1212)	1299	1	5,261,512.0	4,272,608.0	820.00	4.92	0.00	66	10.0	8.0
R866(K2066)	1300	1	5,260,953.5	4,272,530.0	830.09	4.92	0.00	66	10.0	8.0
R867(K1196)	1301	1	5,262,517.0	4,272,799.0	816.90	4.92	0.00	66	10.0	8.0
R868(KV1492)	1302	1	5,262,966.5	4,272,964.0	814.50	4.92	0.00	66	10.0	8.0
R869(K1492)	1303	1	5,262,895.0	4,272,913.0	828.15	4.92	0.00	66	10.0	8.0
R870(K2102)	1304	1	5,259,561.0	4,272,052.0	821.20	4.92	0.00	66	10.0	8.0
R871(K2120)	1305	1	5,259,396.0	4,271,969.5	819.00	4.92	0.00	66	10.0	8.0
R872(KV2147)	1306	1	5,258,732.5	4,271,819.0	795.61	4.92	0.00	66	10.0	8.0
R873(K2107)	1307	1	5,259,585.5	4,272,028.0	822.02	4.92	0.00	66	10.0	8.0
R874(K1473)	1308	1	5,263,173.0	4,273,040.5	790.52	4.92	0.00	66	10.0	8.0
R875(K1203)	1309	1	5,262,538.5	4,272,753.5	819.00	4.92	0.00	66	10.0	8.0
R876(K2128)	1310	1	5,259,428.5	4,271,940.0	819.69	4.92	0.00	66	10.0	8.0
R877(K40)	1311	1	5,262,837.5	4,272,826.5	829.23	4.92	0.00	66	10.0	8.0
R878(K2141)	1312	1	5,260,006.5	4,272,078.0	836.22	4.92	0.00	66	10.0	8.0
R879(K2121)	1313	1	5,259,628.0	4,271,979.0	829.23	4.92	0.00	66	10.0	8.0
R880(K1202)	1314	1	5,262,794.0	4,272,779.5	826.35	4.92	0.00	66	10.0	8.0
R881(K2130)	1315	1	5,259,457.0	4,271,908.0	819.49	4.92	0.00	66	10.0	8.0
R882(K1211)	1316	1	5,262,403.0	4,272,692.5	815.72	4.92	0.00	66	10.0	8.0
R883(K1209)	1317	1	5,262,573.5	4,272,719.0	818.87	4.92	0.00	66	10.0	8.0
R884(K1213)	1318	1	5,262,430.0	4,272,651.5	819.69	4.92	0.00	66	10.0	8.0
R885(K2126)	1319	1	5,259,653.0	4,271,943.5	834.02	4.92	0.00	66	10.0	8.0
R886(K1206)	1320	1	5,262,751.0	4,272,736.0	822.64	4.92	0.00	66	10.0	8.0
R887(K2113)	1321	1	5,259,490.0	4,271,862.5	822.48	4.92	0.00	66	10.0	8.0
R888(K1218)	1322	1	5,262,473.5	4,272,625.5	819.79	4.92	0.00	66	10.0	8.0
R889(K36)	1323	1	5,262,680.0	4,272,718.0	819.00	4.92	0.00	66	10.0	8.0
R890(K2131)	1324	1	5,259,695.5	4,271,906.0	835.99	4.92	0.00	66	10.0	8.0
R891(K2140)	1325	1	5,259,528.0	4,271,830.5	823.13	4.92	0.00	66	10.0	8.0
R892(K1216)	1326	1	5,262,597.0	4,272,657.5	818.38	4.92	0.00	66	10.0	8.0
R893(K1220)	1327	1	5,262,502.5	4,272,587.0	818.41	4.92	0.00	66	10.0	8.0
R894(K2111)	1328	1	5,259,723.0	4,271,871.5	837.63	4.92	0.00	66	10.0	8.0

**INPUT: RECEIVERS**

**BSB**

R895(K1219)	1329	1	5,262,633.5	4,272,617.5	810.37	4.92	0.00	66	10.0	8.0	
R896(K2142)	1330	1	5,259,564.0	4,271,785.0	825.07	4.92	0.00	66	10.0	8.0	
R897(K2139)	1331	1	5,259,745.0	4,271,832.0	839.77	4.92	0.00	66	10.0	8.0	
R898(K1224)	1332	1	5,262,535.5	4,272,552.5	816.05	4.92	0.00	66	10.0	8.0	
R899(K1223)	1333	1	5,262,567.5	4,272,551.5	814.83	4.92	0.00	66	10.0	8.0	
R900(K1222)	1334	1	5,262,677.0	4,272,569.5	804.04	4.92	0.00	66	10.0	8.0	
R901(K1753)	1335	1	5,262,085.5	4,272,056.0	804.37	4.92	0.00	66	10.0	8.0	
M-47(K2141)	1446	1	5,260,572.5	4,271,681.0	829.00	4.92	0.00	66	10.0	8.0	
M-44a(K75)	1447	1	5,263,099.5	4,273,604.5	827.00	4.92	0.00	66	10.0	8.0	
R905	1448	1	5,261,611.0	4,272,712.0	820.00	4.92	0.00	66	10.0	8.0	Y
R1000	1449	1	5,262,018.5	4,273,989.5	859.50	4.92	0.00	66	10.0	8.0	Y
R1001	1450	1	5,262,106.0	4,273,976.0	859.50	4.92	0.00	66	10.0	8.0	Y
R1002	1451	1	5,262,284.0	4,274,096.0	859.50	4.92	0.00	66	10.0	8.0	Y
R1003	1452	1	5,262,317.5	4,274,171.5	861.50	4.92	0.00	66	10.0	8.0	Y
R1004	1453	1	5,262,432.5	4,274,179.0	861.50	4.92	0.00	66	10.0	8.0	Y
R1005	1454	1	5,262,539.5	4,274,236.0	861.50	4.92	0.00	66	10.0	8.0	Y
R1006	1455	1	5,262,365.0	4,274,282.0	861.50	4.92	0.00	66	10.0	8.0	Y
R1007	1456	1	5,262,454.0	4,274,327.0	861.50	4.92	0.00	66	10.0	8.0	Y
R1008	1457	1	5,262,590.5	4,274,445.5	867.50	4.92	0.00	66	10.0	8.0	Y
R1009	1458	1	5,262,710.5	4,274,519.0	876.50	4.92	0.00	66	10.0	8.0	Y
R1010	1459	1	5,262,825.5	4,274,604.0	886.50	4.92	0.00	66	10.0	8.0	Y
R1011	1460	1	5,262,944.5	4,274,671.0	889.50	4.92	0.00	66	10.0	8.0	Y
R1012	1461	1	5,263,704.0	4,275,230.0	901.50	4.92	0.00	66	10.0	8.0	Y
R1013	1462	1	5,263,113.0	4,274,709.0	901.50	4.92	0.00	66	10.0	8.0	Y
R1014	1463	1	5,263,253.0	4,274,967.0	904.50	4.92	0.00	66	10.0	8.0	Y
R1015	1464	1	5,263,121.0	4,274,938.0	905.50	4.92	0.00	66	10.0	8.0	Y
R1016	1465	1	5,263,382.0	4,275,239.0	910.00	4.92	0.00	66	10.0	8.0	Y
R1017	1466	1	5,263,723.0	4,275,420.5	920.00	4.92	0.00	66	10.0	8.0	Y



**INPUT: ROADWAYS**

**BSB**

		point46	46	5,267,694.0	4,275,799.0	779.00				Average	
		point47	47	5,267,802.0	4,275,823.0	776.00				Average	
		point48	48	5,267,949.0	4,275,870.0	770.00				Average	
		point49	49	5,268,093.0	4,275,932.0	763.00				Average	
		point50	50	5,268,234.0	4,276,011.0	755.00				Average	
		point51	51	5,268,333.5	4,276,078.0	749.00				Average	
		point52	52	5,268,452.0	4,276,170.0	741.00				Average	
		point53	53	5,269,161.5	4,276,813.0	693.00				Average	
		point54	54	5,269,314.0	4,276,964.0	684.00				Average	
		point55	55	5,269,418.0	4,277,088.0	676.00				Average	
		point56	56	5,269,506.0	4,277,226.0	668.00				Average	
		point57	57	5,269,593.0	4,277,401.0	658.00				Average	
		point58	58	5,269,650.0	4,277,569.0	649.00				Average	
		point59	59	5,269,729.0	4,277,902.0	631.00				Average	
		point60	60	5,270,158.0	4,279,869.0	530.00					
Rd6; NB 75 1120 Off - 5th St/1	36.0	point61	61	5,270,158.0	4,279,869.0	530.00				Average	
		point62	62	5,270,238.0	4,280,256.0	517.00				Average	
		point63	63	5,270,260.0	4,280,432.0	513.50				Average	
		point64	64	5,270,262.0	4,280,591.0	512.00				Average	
		point65	65	5,270,251.0	4,280,735.0	511.00				Average	
		point66	66	5,270,220.0	4,280,889.0	511.50				Average	
		point67	67	5,270,167.0	4,281,063.0	512.50				Average	
		point68	68	5,270,074.0	4,281,319.0	514.50				Average	Y
		point69	69	5,269,962.0	4,281,627.0	518.00					
Rd7; NB 75 Off to 5th - On fr Pike/1	36.0	point70	70	5,269,962.0	4,281,627.0	518.00				Average	Y
		point71	71	5,269,884.0	4,281,806.0	519.00				Average	Y
		point72	72	5,269,744.0	4,282,058.0	521.50				Average	Y
		point73	73	5,269,510.5	4,282,437.0	517.50					
Rd12; SB 75 Svc Rd Off - Svc Rd On/1	48.0	point108	108	5,269,458.0	4,282,406.0	519.50				Average	Y
		point109	109	5,269,700.0	4,282,012.0	520.50				Average	Y
		point110	110	5,269,742.0	4,281,937.0	520.00				Average	Y
		point111	111	5,269,832.0	4,281,775.0	519.00				Average	Y
		point112	112	5,269,914.0	4,281,588.0	518.00				Average	Y
		point113	113	5,269,968.0	4,281,438.0	516.50					
Rd13;SB 75 On fr Svc Rd - On Fr 12th/1	48.0	point114	114	5,269,968.0	4,281,438.0	516.50				Average	Y
		point115	115	5,270,014.0	4,281,306.0	514.50				Average	Y
		point116	116	5,270,092.0	4,281,088.0	512.00				Average	
		point117	117	5,270,141.0	4,280,936.0	510.00				Average	
		point118	118	5,270,169.0	4,280,816.0	508.50				Average	



**INPUT: ROADWAYS**

**BSB**

		point119	119	5,270,186.0	4,280,710.5	508.00				Average
		point120	120	5,270,196.0	4,280,596.0	508.50				Average
		point121	121	5,270,196.0	4,280,480.0	510.00				Average
		point122	122	5,270,190.5	4,280,393.0	511.50				Average
		point123	123	5,270,164.0	4,280,213.0	516.50				Average
		point124	124	5,269,939.5	4,279,187.0	565.00				
Rd14; SB 75 On fr 12th - Off to 1072/1	48.0	point125	125	5,269,939.5	4,279,187.0	565.00				Average
		point126	126	5,269,608.0	4,277,667.5	642.00				Average
		point127	127	5,269,556.0	4,277,492.0	650.00				Average
		point128	128	5,269,505.0	4,277,368.0	658.00				Average
		point129	129	5,269,434.0	4,277,233.0	666.00				Average
		point130	130	5,269,375.0	4,277,142.0	673.00				Average
		point131	131	5,269,303.0	4,277,052.0	678.00				Average
		point132	132	5,269,203.0	4,276,939.0	686.00				Average
		point133	133	5,268,434.0	4,276,239.5	738.00				Average
		point134	134	5,268,317.5	4,276,145.0	745.00				Average
		point135	135	5,268,185.0	4,276,057.0	753.00				Average
		point136	136	5,268,050.0	4,275,985.0	761.00				Average
		point137	137	5,267,927.5	4,275,931.0	767.00				Average
		point138	138	5,267,784.0	4,275,886.0	773.00				Average
		point139	139	5,267,633.5	4,275,855.0	779.00				Average
		point140	140	5,267,487.0	4,275,835.0	783.00				Average
		point141	141	5,266,927.0	4,275,811.0	792.00				Average
		point142	142	5,266,704.0	4,275,789.0	794.50				Average
		point143	143	5,266,549.0	4,275,766.0	796.50				Average
		point144	144	5,266,367.5	4,275,730.0	801.00				
Rd15;SB 75 Under 1072/1	48.0	point145	145	5,266,367.5	4,275,730.0	801.00				Average
		point146	146	5,266,175.0	4,275,683.0	808.00				Average
		point147	147	5,265,961.5	4,275,618.0	819.00				Average
		point148	148	5,264,771.0	4,275,165.0	874.00				Average
		point149	149	5,264,535.0	4,275,068.0	877.00				Average
		point150	150	5,264,313.0	4,274,955.5	877.00				Average
		point151	151	5,264,138.0	4,274,852.0	874.00				Average
		point152	152	5,263,818.0	4,274,603.0	864.00				Average
		point153	153	5,263,606.0	4,274,396.5	856.00				Average
		point154	154	5,263,552.0	4,274,350.0	854.00				
Rd16;SB 75 1072 On - Didie Off/1	48.0	point155	155	5,263,552.0	4,274,350.0	854.00				Average
		point156	156	5,263,497.0	4,274,289.5	852.00				Average
		point157	157	5,263,385.0	4,274,177.0	848.00				Average

**INPUT: ROADWAYS**

**BSB**

		point158	158	5,262,454.0	4,273,221.0	826.50					
Rd22; NB Off To 1072/1	12.0	point221	221	5,263,655.0	4,274,350.0	855.50				Average	
		point222	222	5,263,728.5	4,274,395.0	856.00				Average	
		point223	223	5,263,867.0	4,274,514.0	860.00				Average	
		point224	224	5,264,125.0	4,274,693.0	867.00				Average	
		point225	225	5,264,205.0	4,274,732.0	869.00				Average	
		point226	226	5,264,273.0	4,274,752.5	871.00				Average	
		point227	227	5,264,346.0	4,274,766.0	873.00				Average	
		point228	228	5,264,409.0	4,274,768.0	875.00				Average	
		point229	229	5,264,515.0	4,274,761.5	878.00				Average	
		point230	230	5,264,964.5	4,274,733.0	889.50					
Rd23; NB On fr 1072/1	12.0	point231	231	5,264,999.0	4,274,745.0	891.00				Average	
		point232	232	5,265,042.0	4,274,795.0	891.00				Average	
		point233	233	5,265,359.0	4,275,158.5	860.00				Average	
		point234	234	5,265,420.0	4,275,223.0	854.00				Average	
		point235	235	5,265,486.0	4,275,279.5	848.00				Average	
		point236	236	5,265,555.5	4,275,332.0	842.00				Average	
		point237	237	5,265,612.0	4,275,368.0	838.00				Average	
		point238	238	5,265,710.5	4,275,418.0	832.00				Average	
		point239	239	5,265,867.0	4,275,480.0	823.00				Average	
		point240	240	5,266,029.0	4,275,539.5	814.00				Average	
		point241	241	5,266,182.0	4,275,586.0	806.00				Average	
		point242	242	5,266,325.0	4,275,625.0	800.00				Average	
		point243	243	5,266,417.0	4,275,674.0	798.00					
Rd24; NB Off to 12th (1 lane)/1	12.0	point244	244	5,270,158.0	4,279,869.0	530.00				Average	
		point245	245	5,270,210.0	4,279,985.0	525.50				Average	
		point246	246	5,270,274.0	4,280,219.0	519.50				Average	
		point247	247	5,270,313.0	4,280,401.0	516.00				Average	
		point248	248	5,270,325.0	4,280,525.0	513.00				Average	
		point249	249	5,270,327.0	4,280,653.0	510.00				Average	
		point250	250	5,270,320.0	4,280,760.5	507.50				Average	
		point251	251	5,270,297.5	4,280,889.0	504.00				Average	
		point252	252	5,270,271.0	4,280,997.0	501.50					
Rd25; NB Off to 2th (2 lane)/1	24.0	point253	253	5,270,271.0	4,280,997.0	501.50				Average	
		point254	254	5,270,222.0	4,281,135.0	498.00				Average	
		point255	255	5,270,172.0	4,281,257.0	496.50				Average	
		point256	256	5,270,116.0	4,281,391.0	497.50					
Rd26; NB Svc Rs 12th - Pike/1	36.0	point257	257	5,270,121.0	4,281,415.0	498.00				Average	
		point258	258	5,270,094.0	4,281,470.0	497.00				Average	

**INPUT: ROADWAYS**

**BSB**

		point259	259	5,270,076.5	4,281,499.0	496.50				Average	
		point260	260	5,270,027.0	4,281,632.0	494.50				Average	
		point261	261	5,269,992.0	4,281,754.0	493.00				Average	
		point262	262	5,269,970.0	4,281,868.0	495.00					
Rd27; NB on Fr Pike/1	12.0	point263	263	5,269,964.5	4,281,890.0	495.00				Average	
		point264	264	5,269,932.5	4,281,993.0	492.50				Average	
		point265	265	5,269,911.0	4,282,041.0	492.00				Average	
		point266	266	5,269,879.0	4,282,083.5	493.00				Average	
		point267	267	5,269,837.0	4,282,123.0	495.50				Average	
		point268	268	5,269,748.0	4,282,184.0	503.00				Average	
		point269	269	5,269,702.0	4,282,233.0	507.00				Average	
		point270	270	5,269,663.0	4,282,290.0	510.50				Average	
		point271	271	5,269,558.5	4,282,466.0	516.20					
Rd28; NB off to 5th/1	12.0	point280	280	5,269,962.0	4,281,627.0	518.00				Average	Y
		point281	281	5,269,902.0	4,281,857.0	520.00				Average	Y
		point282	282	5,269,896.0	4,281,879.0	520.00				Average	Y
		point283	283	5,269,865.0	4,281,955.0	522.00				Average	Y
		point284	284	5,269,796.0	4,282,125.0	524.00				Average	Y
		point285	285	5,269,757.0	4,282,206.0	524.50				Average	Y
		point286	286	5,269,697.0	4,282,320.0	524.00				Average	Y
		point287	287	5,269,595.0	4,282,482.0	520.60					
Rd38; SB On fr Svc Rd/1	12.0	point375	375	5,269,549.0	4,282,190.0	521.00				Average	Y
		point376	376	5,269,635.0	4,282,054.0	520.00				Average	Y
		point377	377	5,269,707.0	4,281,931.0	519.50				Average	Y
		point378	378	5,269,804.0	4,281,761.0	519.00				Average	Y
		point379	379	5,269,886.0	4,281,576.0	518.00				Average	Y
		point380	380	5,269,968.0	4,281,438.0	516.50					
Rd40; SB off to W Pike (2 lane)/1	24.0	point390	390	5,269,512.0	4,282,161.0	514.50				Average	
		point391	391	5,269,703.0	4,281,848.0	501.00					
Rd41; SB Bullock St to 12th/1	36.0	point392	392	5,269,708.0	4,281,825.0	501.20				Average	
		point393	393	5,269,795.0	4,281,682.0	496.00				Average	
		point394	394	5,269,832.0	4,281,600.0	494.50				Average	
		point395	395	5,269,862.0	4,281,526.0	493.00				Average	
		point396	396	5,269,914.5	4,281,360.5	490.20					
Rd42; SB On fr 12th St/1	12.0	point397	397	5,269,923.5	4,281,344.5	490.00				Average	
		point398	398	5,270,110.5	4,280,668.0	499.00				Average	
		point399	399	5,270,126.0	4,280,598.0	501.00				Average	
		point400	400	5,270,137.0	4,280,526.0	503.50				Average	
		point401	401	5,270,142.5	4,280,458.0	506.00				Average	

**INPUT: ROADWAYS**

**BSB**

		point402	402	5,270,142.5	4,280,369.0	509.60				Average	
		point403	403	5,270,135.5	4,280,287.0	512.50				Average	
		point404	404	5,270,122.0	4,280,203.0	515.50				Average	
		point405	405	5,269,936.0	4,279,294.0	559.50				Average	
		point406	406	5,269,939.5	4,279,187.0	565.00					
Rd43; SB Off to 1072/1	12.0	point407	407	5,266,367.5	4,275,730.0	801.00				Average	
		point408	408	5,266,216.0	4,275,726.5	807.00				Average	
		point409	409	5,266,036.5	4,275,689.0	816.00				Average	
		point410	410	5,265,910.0	4,275,658.0	823.00				Average	
		point411	411	5,265,596.0	4,275,572.0	843.00				Average	
		point412	412	5,265,472.0	4,275,545.0	851.00				Average	
		point413	413	5,265,335.0	4,275,523.5	860.00				Average	
		point414	414	5,264,576.0	4,275,439.0	899.50					
Rd44; SB On Fr 1072/1	12.0	point415	415	5,264,538.0	4,275,422.0	900.00				Average	
		point416	416	5,263,580.0	4,274,421.0	856.00				Average	
		point417	417	5,263,552.0	4,274,350.0	854.00					
Rd56; SB 1072 to SB off ramp/1	24.0	point479	479	5,264,266.0	4,275,976.0	898.00				Average	
		point480	480	5,264,538.0	4,275,422.0	900.00					
Rd57; SB 1072 Over 75/1	24.0	point481	481	5,264,538.0	4,275,422.0	900.00				Average	
		point482	482	5,264,587.0	4,275,332.0	900.00				Average	Y
		point483	483	5,264,659.0	4,275,215.0	900.00				Average	Y
		point484	484	5,264,793.0	4,275,002.0	897.00				Average	Y
		point485	485	5,264,964.5	4,274,733.0	889.50					
Rd58; SB Kyles fr NB off Ramp/1	24.0	point486	486	5,264,964.5	4,274,733.0	889.50				Average	
		point487	487	5,265,000.0	4,274,659.0	885.00				Average	
		point488	488	5,265,034.0	4,274,578.0	880.00				Average	
		point489	489	5,265,160.0	4,274,199.0	863.00					
Rd59; NB 1072 to NB On Ramp/1	24.0	point490	490	5,265,174.5	4,274,245.0	864.00				Average	
		point491	491	5,265,101.5	4,274,480.0	875.00				Average	
		point492	492	5,265,072.0	4,274,577.0	881.00				Average	
		point493	493	5,265,044.0	4,274,649.0	885.50				Average	
		point494	494	5,264,999.0	4,274,745.0	891.00					
Rd60; NB 1072 Over 75/1	24.0	point495	495	5,264,999.0	4,274,745.0	891.00				Average	Y
		point496	496	5,264,827.0	4,275,016.0	897.00				Average	Y
		point497	497	5,264,692.0	4,275,228.0	900.00				Average	Y
		point498	498	5,264,597.0	4,275,390.0	900.00				Average	Y
		point499	499	5,264,576.0	4,275,439.0	899.50					
Rd61; NB 1072 Fr SB On ramp/1	36.0	point500	500	5,264,576.0	4,275,439.0	899.50				Average	
		point501	501	5,264,282.5	4,276,017.0	899.00					

**INPUT: ROADWAYS**

**BSB**

Rd62; EB 12th to SB On Ramp/1	12.0	point502	502	5,269,370.0	4,281,073.0	518.00				Average
		point503	503	5,269,885.0	4,281,332.0	490.00				Average
		point504	504	5,269,923.5	4,281,344.5	490.00				
Rd63; EB 12th Under 75/1	12.0	point505	505	5,269,923.5	4,281,344.5	490.00				Average
		point506	506	5,269,941.0	4,281,351.0	490.20				Average
		point507	507	5,270,116.0	4,281,391.0	497.50				
Rd64; EB 12th Fr NB off ramp/1	12.0	point508	508	5,270,116.0	4,281,391.0	497.50				Average
		point509	509	5,270,170.0	4,281,392.0	500.70				Average
		point510	510	5,270,236.0	4,281,417.0	504.50				Average
		point511	511	5,270,790.0	4,281,535.0	522.00				Average
		point512	512	5,271,123.0	4,281,604.5	526.00				
Rd65; WB 12th to NB On Ramp/1	12.0	point513	513	5,271,119.0	4,281,618.0	526.00				Average
		point514	514	5,270,790.0	4,281,549.0	522.00				Average
		point515	515	5,270,233.0	4,281,432.0	504.50				Average
		point516	516	5,270,158.0	4,281,420.0	500.50				Average
		point517	517	5,270,121.0	4,281,415.0	498.00				
Rd66; WB 12th Under 75/1	12.0	point518	518	5,270,121.0	4,281,415.0	498.00				Average
		point519	519	5,270,107.0	4,281,413.0	497.00				Average
		point520	520	5,269,932.5	4,281,372.0	490.50				Average
		point521	521	5,269,914.5	4,281,360.5	490.20				
Rd67; WB 12 fr SB ramp/1	12.0	point522	522	5,269,914.5	4,281,360.5	490.20				Average
		point523	523	5,269,882.0	4,281,341.0	490.00				Average
		point524	524	5,269,357.0	4,281,077.0	518.00				
Rd68; EB Pike to Bullock/1	12.0	point525	525	5,268,917.0	4,281,333.0	541.00				Average
		point526	526	5,268,942.5	4,281,365.0	539.00				Average
		point527	527	5,268,965.5	4,281,384.0	538.00				Average
		point528	528	5,269,009.0	4,281,403.0	536.00				Average
		point529	529	5,269,127.5	4,281,430.0	531.00				Average
		point530	530	5,269,198.0	4,281,456.0	529.00				Average
		point531	531	5,269,225.5	4,281,469.0	528.00				Average
		point532	532	5,269,271.0	4,281,510.0	526.00				Average
		point533	533	5,269,291.5	4,281,538.5	525.00				Average
		point534	534	5,269,371.0	4,281,686.0	518.00				Average
		point535	535	5,269,393.0	4,281,718.0	516.00				Average
		point536	536	5,269,427.0	4,281,749.0	514.00				Average
		point537	537	5,269,468.0	4,281,769.0	512.00				Average
		point538	538	5,269,622.5	4,281,812.0	505.00				Average
		point539	539	5,269,708.0	4,281,825.0	501.20				
Rd69; EB Pike Under 75/1	24.0	point540	540	5,269,708.0	4,281,825.0	501.20				Average

**INPUT: ROADWAYS**

**BSB**

		point541	541	5,269,970.0	4,281,868.0	495.00					
Rd70; EB Pike fr nNB Svc Rd/1	12.0	point542	542	5,269,970.0	4,281,868.0	495.00					Average
		point543	543	5,270,031.0	4,281,878.0	495.50					Average
		point544	544	5,270,253.0	4,281,915.0	502.00					Average
		point545	545	5,270,334.0	4,281,936.0	505.50					Average
		point546	546	5,270,411.0	4,281,967.0	509.00					Average
		point547	547	5,270,475.0	4,282,001.0	512.00					Average
		point548	548	5,270,531.0	4,282,042.0	515.00					Average
		point549	549	5,270,580.5	4,282,090.5	518.00					Average
		point550	550	5,270,659.0	4,282,190.0	523.00					Average
		point551	551	5,270,763.0	4,282,336.0	529.00					
Rd71; WB pike to On Ramp/1	24.0	point552	552	5,270,746.0	4,282,345.0	529.00					Average
		point553	553	5,270,642.0	4,282,201.0	523.00					Average
		point554	554	5,270,566.0	4,282,105.0	518.00					Average
		point555	555	5,270,516.5	4,282,056.0	515.00					Average
		point556	556	5,270,466.5	4,282,019.0	512.00					Average
		point557	557	5,270,402.5	4,281,985.0	509.00					Average
		point558	558	5,270,322.0	4,281,957.0	505.50					Average
		point559	559	5,270,252.0	4,281,937.5	502.00					Average
		point560	560	5,270,024.0	4,281,900.0	495.50					Average
		point561	561	5,269,964.5	4,281,890.0	495.00					
Rd72; WB Pike Under 75/1	24.0	point562	562	5,269,964.5	4,281,890.0	495.00					Average
		point563	563	5,269,703.0	4,281,848.0	501.00					
Rd73; WB Pike Fr SB Off Ramp/1	24.0	point564	564	5,269,703.0	4,281,848.0	501.00					Average
		point565	565	5,269,618.0	4,281,834.0	505.00					Average
		point566	566	5,269,446.0	4,281,781.0	512.50					Average
		point567	567	5,269,412.0	4,281,761.0	514.00					Average
		point568	568	5,269,378.0	4,281,732.0	516.00					Average
		point569	569	5,269,350.0	4,281,692.0	518.00					Average
		point570	570	5,269,273.0	4,281,542.0	525.00					Average
		point571	571	5,269,232.5	4,281,500.0	527.00					Average
		point572	572	5,269,186.0	4,281,471.0	529.00					Average
		point573	573	5,269,134.0	4,281,455.0	531.00					Average
		point574	574	5,269,004.0	4,281,423.0	536.00					Average
		point575	575	5,268,956.0	4,281,400.0	538.00					Average
		point576	576	5,268,932.0	4,281,384.0	539.00					Average
		point577	577	5,268,899.0	4,281,342.0	541.00					
Rd101; SB Kyles fr St Anthony(2)/1	24.0	point684	684	5,265,160.0	4,274,199.0	863.00					Average
		point685	685	5,265,212.0	4,274,047.0	859.00					

**INPUT: ROADWAYS****BSB**

Rd102; BD Kyles to Anthony(2)/1	24.0	point686	686	5,265,238.0	4,274,056.0	859.00				Average	
		point687	687	5,265,174.5	4,274,245.0	864.00					





**INPUT: ROADWAYS**

**BSB**

		point152	152	5,263,818.0	4,274,603.0	864.00				Average
		point153	153	5,263,606.0	4,274,396.5	856.00				Average
		point154	154	5,263,552.0	4,274,350.0	854.00				
Rd16;SB 75 1072 On - Didie Off/1	48.0	point155	155	5,263,552.0	4,274,350.0	854.00				Average
		point156	156	5,263,497.0	4,274,289.5	852.00				Average
		point157	157	5,263,385.0	4,274,177.0	848.00				Average
		point158	158	5,262,454.0	4,273,221.0	826.50				
Rd17; SB 75 Under Dixie/1	48.0	point159	159	5,262,454.0	4,273,221.0	826.50				Average
		point160	160	5,262,403.0	4,273,161.0	826.00				Average
		point161	161	5,262,297.0	4,273,051.0	825.00				Average
		point162	162	5,262,188.5	4,272,940.0	823.50				Average
		point163	163	5,261,876.0	4,272,617.5	820.00				Average
		point164	164	5,261,761.0	4,272,508.0	819.00				Average
		point165	165	5,261,641.0	4,272,414.0	817.50				Average
		point166	166	5,261,542.0	4,272,352.0	817.00				Average
		point167	167	5,261,435.0	4,272,298.0	816.00				Average
		point168	168	5,261,325.0	4,272,258.0	815.50				Average
		point169	169	5,261,236.0	4,272,234.0	814.50				Average
		point170	170	5,261,139.0	4,272,215.0	814.00				Average
		point171	171	5,261,021.0	4,272,202.0	813.50				Average
		point172	172	5,260,904.5	4,272,204.0	813.50				Average
		point173	173	5,260,660.5	4,272,236.0	815.00				Average
		point174	174	5,260,416.0	4,272,284.0	814.00				Average
		point175	175	5,259,986.0	4,272,368.0	807.50				Average
		point176	176	5,259,755.0	4,272,413.0	802.00				Average
		point177	177	5,259,554.0	4,272,446.5	796.00				Average
		point178	178	5,259,385.5	4,272,466.0	791.50				Average
		point179	179	5,259,239.0	4,272,473.0	788.00				Average
		point180	180	5,259,113.0	4,272,471.5	786.00				Average
		point181	181	5,258,947.0	4,272,462.0	785.50				
Rd18; NB Off to Dixie/1	12.0	point182	182	5,259,403.0	4,272,396.0	790.50				Average
		point183	183	5,259,499.0	4,272,369.0	793.00				Average
		point184	184	5,259,595.0	4,272,346.0	796.00				Average
		point185	185	5,259,750.0	4,272,307.0	801.00				Average
		point186	186	5,260,147.0	4,272,202.0	811.00				Average
		point187	187	5,260,245.0	4,272,172.5	814.50				Average
		point188	188	5,260,352.5	4,272,134.0	819.50				Average
		point189	189	5,260,473.5	4,272,081.5	825.50				Average
		point190	190	5,260,652.0	4,271,988.0	835.00				Average

**INPUT: ROADWAYS**

**BSB**

		point191	191	5,260,703.0	4,271,956.0	837.50				Average
		point192	192	5,260,783.5	4,271,902.0	841.50				Average
		point193	193	5,261,066.5	4,271,699.0	850.50				
Rd19; NB On fr SB Dixie/1	12.0	point194	194	5,261,116.0	4,271,770.0	849.50				Average
		point195	195	5,261,162.0	4,271,747.0	848.00				Average
		point196	196	5,261,182.5	4,271,741.5	847.00				Average
		point197	197	5,261,210.0	4,271,745.0	846.50				Average
		point198	198	5,261,542.0	4,271,829.0	834.50				
Rd20; NB on Fr NB Dixie/1	12.0	point199	199	5,261,014.0	4,271,229.0	860.50				Average
		point200	200	5,261,043.5	4,271,297.0	859.00				Average
		point201	201	5,261,078.0	4,271,472.0	855.00				Average
		point202	202	5,261,098.5	4,271,576.0	852.50				Average
		point203	203	5,261,109.0	4,271,610.0	851.50				Average
		point204	204	5,261,129.0	4,271,643.5	850.50				Average
		point205	205	5,261,166.0	4,271,686.0	848.50				Average
		point206	206	5,261,202.0	4,271,711.0	847.00				Average
		point207	207	5,261,260.0	4,271,737.0	845.00				Average
		point208	208	5,261,490.5	4,271,805.0	836.50				Average
		point209	209	5,261,542.0	4,271,829.0	834.50				
Rd21; NB On From Dixie/1	12.0	point210	210	5,261,542.0	4,271,829.0	834.50				Average
		point211	211	5,261,609.0	4,271,867.0	832.50				Average
		point212	212	5,261,673.0	4,271,919.0	830.00				Average
		point213	213	5,261,728.0	4,271,985.0	827.50				Average
		point214	214	5,261,753.0	4,272,026.0	825.50				Average
		point215	215	5,261,958.0	4,272,462.0	819.00				Average
		point216	216	5,262,015.0	4,272,576.5	819.50				Average
		point217	217	5,262,060.0	4,272,648.0	820.50				Average
		point218	218	5,262,103.0	4,272,702.0	821.00				Average
		point219	219	5,262,372.0	4,272,989.0	824.50				Average
		point220	220	5,262,484.0	4,273,137.5	826.00				
Rd22; NB Off To 1072/1	12.0	point221	221	5,263,655.0	4,274,350.0	855.50				Average
		point222	222	5,263,728.5	4,274,395.0	856.00				Average
		point223	223	5,263,867.0	4,274,514.0	860.00				Average
		point224	224	5,264,125.0	4,274,693.0	867.00				Average
		point225	225	5,264,205.0	4,274,732.0	869.00				Average
		point226	226	5,264,273.0	4,274,752.5	871.00				Average
		point227	227	5,264,346.0	4,274,766.0	873.00				Average
		point228	228	5,264,409.0	4,274,768.0	875.00				Average
		point229	229	5,264,515.0	4,274,761.5	878.00				Average

**INPUT: ROADWAYS**

**BSB**

		point230	230	5,264,964.5	4,274,733.0	889.50					
Rd23; NB On fr 1072/1	12.0	point231	231	5,264,999.0	4,274,745.0	891.00					Average
		point232	232	5,265,042.0	4,274,795.0	891.00					Average
		point233	233	5,265,359.0	4,275,158.5	860.00					Average
		point234	234	5,265,420.0	4,275,223.0	854.00					Average
		point235	235	5,265,486.0	4,275,279.5	848.00					Average
		point236	236	5,265,555.5	4,275,332.0	842.00					Average
		point237	237	5,265,612.0	4,275,368.0	838.00					Average
		point238	238	5,265,710.5	4,275,418.0	832.00					Average
		point239	239	5,265,867.0	4,275,480.0	823.00					Average
		point240	240	5,266,029.0	4,275,539.5	814.00					Average
		point241	241	5,266,182.0	4,275,586.0	806.00					Average
		point242	242	5,266,325.0	4,275,625.0	800.00					Average
		point243	243	5,266,417.0	4,275,674.0	798.00					
Rd43; SB Off to 1072/1	12.0	point407	407	5,266,367.5	4,275,730.0	801.00					Average
		point408	408	5,266,216.0	4,275,726.5	807.00					Average
		point409	409	5,266,036.5	4,275,689.0	816.00					Average
		point410	410	5,265,910.0	4,275,658.0	823.00					Average
		point411	411	5,265,596.0	4,275,572.0	843.00					Average
		point412	412	5,265,472.0	4,275,545.0	851.00					Average
		point413	413	5,265,335.0	4,275,523.5	860.00					Average
		point414	414	5,264,576.0	4,275,439.0	899.50					
Rd44; SB On Fr 1072/1	12.0	point415	415	5,264,538.0	4,275,422.0	900.00					Average
		point416	416	5,263,580.0	4,274,421.0	856.00					Average
		point417	417	5,263,552.0	4,274,350.0	854.00					
Rd45; SB off to Dixie/1	12.0	point418	418	5,262,454.0	4,273,221.0	826.50					Average
		point419	419	5,262,381.0	4,273,182.0	825.00					Average
		point420	420	5,262,274.0	4,273,085.0	823.50					Average
		point421	421	5,262,159.0	4,272,982.0	822.50					Average
		point422	422	5,261,882.0	4,272,731.5	820.00					Average
		point423	423	5,261,798.0	4,272,657.0	820.00					Average
		point424	424	5,261,707.5	4,272,584.0	821.50					Average
		point425	425	5,261,636.0	4,272,537.0	823.50					Average
		point426	426	5,261,569.0	4,272,499.0	826.00					Average
		point427	427	5,261,531.0	4,272,480.5	827.00					Average
		point428	428	5,261,454.0	4,272,452.0	829.50					Average
		point429	429	5,261,392.5	4,272,435.0	831.50					Average
		point430	430	5,261,262.0	4,272,406.0	835.00					
Rd46;SB Off To Nb Dixie/1	12.0	point431	431	5,261,568.0	4,272,518.0	824.50					Average

**INPUT: ROADWAYS**

**BSB**

		point432	432	5,261,526.0	4,272,498.0	826.00				Average	
		point433	433	5,261,442.5	4,272,467.0	828.50				Average	
		point434	434	5,261,396.0	4,272,457.0	830.00				Average	
		point435	435	5,261,362.0	4,272,464.0	830.50				Average	
		point436	436	5,261,335.5	4,272,494.0	830.50				Average	
		point437	437	5,261,308.0	4,272,539.0	830.50					
Rd47; SB on Fr Dixie/1	12.0	point438	438	5,261,221.0	4,272,395.0	836.50				Average	
		point439	439	5,261,186.0	4,272,391.5	837.00				Average	
		point440	440	5,260,867.0	4,272,357.5	827.50				Average	
		point441	441	5,260,692.5	4,272,340.0	819.50				Average	
		point442	442	5,260,551.0	4,272,330.0	815.00				Average	
		point443	443	5,260,423.0	4,272,332.0	813.00				Average	
		point444	444	5,260,313.5	4,272,345.0	812.00				Average	
		point445	445	5,259,758.0	4,272,446.0	802.00				Average	
		point446	446	5,259,613.0	4,272,470.0	799.00				Average	
		point447	447	5,259,476.5	4,272,489.0	795.50				Average	
		point448	448	5,259,353.5	4,272,498.0	792.00				Average	
		point449	449	5,259,168.5	4,272,498.0	788.50				Average	
		point450	450	5,258,947.0	4,272,462.0	785.50					
Rd48; SB Dixie to Off ramp/1	24.0	point451	451	5,261,485.0	4,272,968.0	820.50				Average	
		point452	452	5,261,378.0	4,272,778.0	823.00				Average	
		point453	453	5,261,294.5	4,272,600.0	829.00				Average	
		point454	454	5,261,237.0	4,272,448.0	834.50				Average	
		point455	455	5,261,221.0	4,272,395.0	836.50					
Rd49; SB Dixie Over 75/1	24.0	point456	456	5,261,221.0	4,272,395.0	836.50				Average	
		point457	457	5,261,189.5	4,272,288.0	840.00				Average	Y
		point458	458	5,261,139.5	4,272,090.5	845.50				Average	Y
		point459	459	5,261,066.5	4,271,699.0	850.50					
Rd50; SB Dixie Fr on Ramp/1	24.0	point460	460	5,261,066.5	4,271,699.0	850.50				Average	
		point461	461	5,260,945.5	4,271,036.5	862.00				Average	
		point462	462	5,260,904.5	4,270,815.0	859.70					
Rd51; NB Dixie to Off ramp/1	24.0	point463	463	5,260,940.0	4,270,810.0	860.00				Average	
		point464	464	5,260,993.5	4,271,125.5	861.50				Average	
		point465	465	5,261,014.0	4,271,229.0	860.50					
Rd52; NB Dixie Off-Off/1	24.0	point466	466	5,261,014.0	4,271,229.0	860.50				Average	
		point467	467	5,261,116.0	4,271,770.0	849.50					
Rd53; NB Dixie Over 75/1	24.0	point468	468	5,261,116.0	4,271,770.0	849.50				Average	
		point469	469	5,261,179.0	4,272,097.5	844.50				Average	Y
		point470	470	5,261,205.0	4,272,211.0	841.70				Average	Y

**INPUT: ROADWAYS**

**BSB**

		point471	471	5,261,228.5	4,272,296.0	839.00				Average	Y
		point472	472	5,261,249.0	4,272,370.0	836.50				Average	Y
		point473	473	5,261,262.0	4,272,406.0	835.00					
Rd54; NB Dixie Off SB - Off NB/1	24.0	point474	474	5,261,262.0	4,272,406.0	835.00				Average	
		point475	475	5,261,308.0	4,272,539.0	830.50					
Rd55; NB Dixie fr 75 off/1	24.0	point476	476	5,261,308.0	4,272,539.0	830.50				Average	
		point477	477	5,261,414.0	4,272,779.0	822.00				Average	
		point478	478	5,261,496.0	4,272,938.0	820.00					
Rd56; SB 1072 to SB off ramp/1	24.0	point479	479	5,264,266.0	4,275,976.0	898.00				Average	
		point480	480	5,264,538.0	4,275,422.0	900.00					
Rd57; SB 1072 Over 75/1	24.0	point481	481	5,264,538.0	4,275,422.0	900.00				Average	
		point482	482	5,264,587.0	4,275,332.0	900.00				Average	Y
		point483	483	5,264,659.0	4,275,215.0	900.00				Average	Y
		point484	484	5,264,793.0	4,275,002.0	897.00				Average	Y
		point485	485	5,264,964.5	4,274,733.0	889.50					
Rd58; SB Kyles fr NB off Ramp/1	24.0	point486	486	5,264,964.5	4,274,733.0	889.50				Average	
		point487	487	5,265,000.0	4,274,659.0	885.00				Average	
		point488	488	5,265,034.0	4,274,578.0	880.00				Average	
		point489	489	5,265,160.0	4,274,199.0	863.00					
Rd59; NB 1072 to NB On Ramp/1	24.0	point490	490	5,265,174.5	4,274,245.0	864.00				Average	
		point491	491	5,265,101.5	4,274,480.0	875.00				Average	
		point492	492	5,265,072.0	4,274,577.0	881.00				Average	
		point493	493	5,265,044.0	4,274,649.0	885.50				Average	
		point494	494	5,264,999.0	4,274,745.0	891.00					
Rd60; NB 1072 Over 75/1	24.0	point495	495	5,264,999.0	4,274,745.0	891.00				Average	Y
		point496	496	5,264,827.0	4,275,016.0	897.00				Average	Y
		point497	497	5,264,692.0	4,275,228.0	900.00				Average	Y
		point498	498	5,264,597.0	4,275,390.0	900.00				Average	Y
		point499	499	5,264,576.0	4,275,439.0	899.50					
Rd61; NB 1072 Fr SB On ramp/1	36.0	point500	500	5,264,576.0	4,275,439.0	899.50				Average	
		point501	501	5,264,282.5	4,276,017.0	899.00					
Rd101; SB Kyles fr St Anthony(2)/1	24.0	point684	684	5,265,160.0	4,274,199.0	863.00				Average	
		point685	685	5,265,212.0	4,274,047.0	859.00					
Rd102; BD Kyles to Anthony(2)/1	24.0	point686	686	5,265,238.0	4,274,056.0	859.00				Average	
		point687	687	5,265,174.5	4,274,245.0	864.00					
RD 104 ; NB 75 Butter on-Dixi Off (3)/1	36.0	point701	701	5,257,778.0	4,272,249.0	806.30				Average	
		point702	702	5,258,067.0	4,272,286.0	804.00				Average	
		point703	703	5,258,874.5	4,272,387.0	785.00				Average	
		point704	704	5,259,041.0	4,272,401.0	785.00				Average	

**INPUT: ROADWAYS**

**BSB**

		point705	705	5,259,216.0	4,272,406.0	786.50				Average
		point706	706	5,259,403.0	4,272,396.0	790.50				
Rd 106 NB On fr EB Butter (1)/1	12.0	point707	707	5,255,375.0	4,271,318.0	786.00				Average
		point708	708	5,255,498.0	4,271,415.5	781.50				Average
		point709	709	5,255,635.0	4,271,515.0	776.50				Average
		point710	710	5,255,812.0	4,271,618.0	770.50				
Rd107 NB On Fr WB Butter (1)/1	12.0	point711	711	5,255,386.0	4,271,303.0	785.50				Average
		point712	712	5,255,520.0	4,271,410.0	780.50				Average
		point713	713	5,255,630.5	4,271,492.0	776.50				Average
		point714	714	5,255,812.0	4,271,618.0	770.50				
Rd 108 NB On Fr Butter (1)/1	12.0	point715	715	5,255,812.0	4,271,618.0	770.50				Average
		point716	716	5,255,974.0	4,271,718.5	767.50				Average
		point717	717	5,256,141.0	4,271,811.0	766.00				Average
		point718	718	5,256,303.0	4,271,883.0	768.00				Average
		point719	719	5,256,467.0	4,271,951.0	771.00				Average
		point720	720	5,256,597.0	4,272,000.0	775.00				Average
		point721	721	5,256,798.5	4,272,062.0	782.50				Average
		point722	722	5,256,953.5	4,272,104.0	789.00				Average
		point723	723	5,257,158.0	4,272,143.0	796.00				Average
		point724	724	5,257,444.0	4,272,182.0	803.50				Average
		point725	725	5,257,632.0	4,272,213.0	805.50				Average
		point726	726	5,257,778.0	4,272,249.0	806.30				
Rd 109 SB 75 Dixie On-5 Lane/1	48.0	point727	727	5,258,947.0	4,272,462.0	785.50				Average
		point728	728	5,258,735.0	4,272,437.0	787.00				Average
		point729	729	5,258,482.0	4,272,405.0	791.50				Average
		point730	730	5,258,128.5	4,272,361.0	802.50				Average
		point731	731	5,257,966.0	4,272,341.0	804.80				Average
		point732	732	5,257,713.5	4,272,309.5	806.50				Average
		point733	733	5,257,427.0	4,272,274.0	804.00				Average
		point734	734	5,257,215.0	4,272,247.0	800.00				Average
		point735	735	5,256,991.0	4,272,208.0	793.00				
Rd 110 SB 75 to end (5)/1	60.0	point736	736	5,256,991.0	4,272,208.0	793.00				Average
		point737	737	5,256,846.0	4,272,183.0	788.00				Average
		point738	738	5,256,609.5	4,272,117.0	779.00				Average
		point739	739	5,256,445.0	4,272,056.0	773.50				Average
		point740	740	5,256,262.5	4,271,992.0	770.00				Average
		point741	741	5,256,062.0	4,271,902.0	769.00				Average
		point742	742	5,255,842.0	4,271,784.0	771.00				Average
		point743	743	5,255,699.0	4,271,698.0	775.00				Average

**INPUT: ROADWAYS**

**BSB**

		point744	744	5,255,477.0	4,271,549.0	782.50				Average	
		point745	745	5,255,316.0	4,271,422.0	788.00					
Roadway120; NB 75 to On fr Butter (3)	36.0	point688	753	5,255,351.0	4,271,358.0	788.00				Average	
		point689	754	5,255,509.0	4,271,481.5	782.00				Average	
		point690	755	5,255,681.0	4,271,601.0	776.00				Average	
		point691	756	5,255,849.0	4,271,705.0	771.00				Average	
		point692	757	5,256,105.0	4,271,842.0	768.00				Average	
		point693	758	5,256,294.0	4,271,924.0	769.00				Average	
		point694	759	5,256,463.5	4,271,990.0	773.00				Average	
		point695	760	5,256,586.0	4,272,033.0	776.50				Average	
		point696	761	5,256,842.5	4,272,111.0	782.00				Average	
		point697	762	5,256,964.0	4,272,133.0	790.50				Average	
		point698	763	5,257,129.0	4,272,165.0	796.00				Average	
		point699	764	5,257,410.0	4,272,203.0	803.50				Average	
		point700	765	5,257,778.0	4,272,249.0	806.30					
Rd 1; NB 75 Under Dixie/1	36.0	point1	766	5,259,403.0	4,272,396.0	790.50				Average	
		point2	767	5,259,627.0	4,272,366.5	798.00				Average	
		point3	768	5,259,754.0	4,272,343.0	802.00				Average	
		point4	769	5,260,446.0	4,272,206.0	814.50				Average	
		point5	770	5,260,520.0	4,272,192.0	815.00				Average	
		point6	771	5,260,733.5	4,272,156.0	815.50				Average	
		point7	772	5,260,872.5	4,272,138.0	815.00				Average	
		point8	773	5,260,975.0	4,272,134.0	815.00				Average	
		point9	774	5,261,095.0	4,272,140.5	815.00				Average	
		point10	775	5,261,216.0	4,272,158.0	816.00				Average	
		point11	776	5,261,319.5	4,272,185.0	816.50				Average	
		point12	777	5,261,424.0	4,272,220.0	817.50				Average	
		point13	778	5,261,510.0	4,272,259.0	817.50				Average	
		point14	779	5,261,582.0	4,272,296.0	818.50				Average	
		point15	780	5,261,682.0	4,272,359.0	819.00				Average	
		point16	781	5,261,780.5	4,272,435.0	820.00				Average	
		point17	782	5,261,925.0	4,272,571.0	821.00				Average	
		point18	783	5,262,227.5	4,272,882.0	823.50				Average	
		point19	784	5,262,336.0	4,272,993.0	825.00				Average	
		point20	785	5,262,484.0	4,273,137.5	826.00					

**INPUT: TERRAIN LINES**

**BSB**

PEC			<b>8 August 2023</b>	
ZR			<b>TNM 2.5</b>	
<b>INPUT: TERRAIN LINES</b>				
<b>PROJECT/CONTRACT:</b>	<b>BSB</b>			
<b>RUN:</b>	<b>KY Exist PM S2</b>			
<b>Terrain Line</b>	<b>Points</b>			
<b>Name</b>	<b>No.</b>	<b>Coordinates (ground)</b>		
		<b>X</b>	<b>Y</b>	<b>Z</b>
		ft	ft	ft
Terrain Line24	191	5,267,437.5	4,275,377.5	748.70
	192	5,267,551.5	4,275,403.5	746.00
	193	5,267,640.0	4,275,408.0	744.70
	194	5,267,732.5	4,275,381.5	748.40
	195	5,267,766.0	4,275,399.5	749.20
	196	5,267,816.0	4,275,505.0	749.70
	197	5,267,843.5	4,275,653.5	750.90
	198	5,267,815.0	4,275,693.5	754.60
	199	5,267,721.0	4,275,716.0	752.90
	200	5,267,601.5	4,275,687.5	750.80
	201	5,267,550.0	4,275,682.0	750.50
	202	5,267,460.5	4,275,622.5	748.70
	203	5,267,366.5	4,275,566.5	750.00
	204	5,267,337.5	4,275,518.5	748.40
	205	5,267,373.5	4,275,489.0	745.60
	206	5,267,405.0	4,275,395.0	747.00
	207	5,267,437.5	4,275,377.5	748.70
Terrain Line25	208	5,267,276.0	4,275,567.0	773.20
	209	5,267,349.0	4,275,618.5	774.60
	210	5,267,464.0	4,275,677.0	772.60
	211	5,267,511.5	4,275,713.5	774.00
	212	5,267,558.5	4,275,729.0	775.80
	213	5,267,751.5	4,275,767.5	774.00
Terrain Line26	214	5,267,821.0	4,275,367.0	745.00



**INPUT: TERRAIN LINES**

**BSB**

	215	5,267,873.0	4,275,482.5	742.10
	216	5,267,955.0	4,275,616.0	742.20
	217	5,268,033.5	4,275,667.5	743.70
Terrain Line72	481	5,268,521.5	4,275,706.0	694.90
	482	5,268,511.0	4,275,646.5	691.60
	483	5,268,489.5	4,275,484.0	683.40
Terrain Line76	500	5,270,151.5	4,277,639.5	730.20
	501	5,270,177.0	4,277,673.5	733.40
	502	5,270,216.5	4,277,692.5	739.60
	503	5,270,260.0	4,277,731.5	743.60
	504	5,270,318.0	4,277,771.5	745.90
	505	5,270,369.5	4,277,785.5	754.10
	506	5,270,465.5	4,277,827.0	758.40
	507	5,270,671.5	4,277,939.0	754.50
	508	5,270,695.5	4,277,972.5	743.40
Terrain Line77	509	5,269,876.5	4,277,461.5	679.10
	510	5,269,902.0	4,277,508.0	680.70
	511	5,269,954.0	4,277,600.0	688.60
	512	5,270,026.5	4,277,867.5	681.20
Terrain Line78	513	5,269,931.5	4,276,977.0	584.90
	514	5,270,174.5	4,277,109.5	584.60
Terrain Line79	517	5,269,694.5	4,276,828.0	583.20
	518	5,269,863.5	4,276,944.5	586.70
Terrain Line81	524	5,269,109.5	4,276,478.5	639.50
	525	5,269,160.0	4,276,510.0	635.30
	526	5,269,196.0	4,276,544.5	631.70
	527	5,269,247.5	4,276,569.5	622.60
	528	5,269,310.0	4,276,584.0	611.10
	529	5,269,379.0	4,276,601.5	604.10
	530	5,269,429.0	4,276,603.5	595.30
	531	5,269,477.5	4,276,620.0	589.70
	532	5,269,547.5	4,276,667.0	584.90
	533	5,269,641.0	4,276,776.0	581.20
	534	5,269,642.5	4,276,882.5	593.80
	535	5,269,640.0	4,276,928.5	600.50
	536	5,269,636.0	4,276,978.5	611.10

**INPUT: TERRAIN LINES**

**BSB**

	537	5,269,639.0	4,277,009.5	616.70
	538	5,269,646.0	4,277,058.5	626.80
	539	5,269,767.5	4,277,130.5	627.30
Terrain Line83	546	5,270,109.0	4,277,945.0	705.50
	547	5,270,126.5	4,278,070.5	703.10
	548	5,270,159.0	4,278,248.5	699.00
	549	5,270,232.5	4,278,335.5	700.10
	550	5,270,394.5	4,278,402.5	701.60
	551	5,270,468.0	4,278,364.0	706.10
	552	5,270,537.0	4,278,329.0	701.60
	553	5,270,658.0	4,278,125.5	717.20
	554	5,270,694.5	4,278,064.5	720.50
Terrain Line84	555	5,270,310.5	4,278,760.5	670.70
	556	5,270,313.5	4,278,792.0	664.20
	557	5,270,320.5	4,278,824.0	659.10
	558	5,270,318.0	4,278,863.0	651.90
	559	5,270,319.0	4,278,921.0	636.00
	560	5,270,321.0	4,278,956.5	628.40
Terrain Line85	562	5,270,214.0	4,278,478.5	693.00
	563	5,270,280.5	4,278,600.0	691.50
	564	5,270,331.5	4,278,684.0	683.50
Terrain Line87	568	5,270,131.0	4,278,233.5	694.00
	569	5,270,164.0	4,278,396.0	690.00
	570	5,270,206.0	4,278,451.0	689.50
Terrain Line88	571	5,270,045.5	4,278,155.0	653.50
	572	5,270,091.0	4,278,437.0	657.40
	573	5,270,120.5	4,278,547.5	654.50
Terrain Line89	574	5,270,177.5	4,278,520.0	679.50
	575	5,270,225.0	4,278,697.5	659.10
	576	5,270,274.0	4,278,889.0	638.80
	577	5,270,292.5	4,278,977.5	628.40
	578	5,270,324.0	4,279,018.0	622.70
	579	5,270,368.5	4,279,047.0	617.90
Terrain Line90	582	5,270,081.0	4,278,116.5	678.20
	583	5,270,052.0	4,277,988.5	672.30
	584	5,270,030.5	4,277,873.0	681.20

**INPUT: TERRAIN LINES****BSB**

Terrain Line91	585	5,268,146.0	4,275,668.5	712.30
	586	5,268,213.0	4,275,696.0	714.70
	587	5,268,263.0	4,275,735.0	713.60
	588	5,268,283.0	4,275,808.5	719.30
	589	5,268,333.0	4,275,823.0	720.70
	590	5,268,370.5	4,275,824.5	716.10
	591	5,268,438.5	4,275,833.0	722.80
	592	5,268,491.0	4,275,836.0	713.40
	593	5,268,475.0	4,275,774.5	709.70
	594	5,268,531.0	4,275,764.0	710.40
	595	5,268,619.5	4,275,814.5	714.80
	596	5,268,706.0	4,275,854.5	715.20
	597	5,268,759.5	4,275,881.0	707.50
	598	5,268,771.0	4,275,974.5	705.80
	599	5,268,744.0	4,276,061.0	707.50
	600	5,268,703.5	4,276,148.5	707.10
	601	5,268,657.5	4,276,217.5	708.60
Terrain Line92	602	5,269,490.5	4,277,028.5	660.90
	603	5,269,585.0	4,277,126.5	658.50
	604	5,269,764.0	4,277,292.0	664.50
	605	5,269,912.5	4,277,371.0	666.30
	606	5,270,005.0	4,277,391.5	666.50
	607	5,270,100.0	4,277,445.0	666.10
Terrain Line93	608	5,268,558.0	4,275,706.0	691.80
	609	5,268,600.0	4,275,705.5	686.00
	610	5,268,643.0	4,275,710.5	681.90
	611	5,268,690.5	4,275,715.0	676.60
	612	5,268,733.5	4,275,719.0	671.90
	613	5,268,772.5	4,275,725.0	666.60
	614	5,268,813.5	4,275,733.0	658.70
	615	5,268,844.5	4,275,735.5	655.30
	616	5,268,892.5	4,275,750.0	649.00
	617	5,269,043.0	4,275,819.0	628.10
	618	5,269,080.5	4,275,848.0	623.60
	619	5,269,150.5	4,276,074.0	608.80
	620	5,269,175.5	4,276,144.5	603.80

**INPUT: TERRAIN LINES****BSB**

	621	5,269,220.0	4,276,221.5	598.80
	622	5,269,571.0	4,276,631.0	578.50
Terrain Line96	633	5,267,125.0	4,276,049.5	844.40
	634	5,267,243.5	4,276,013.0	843.70
	635	5,267,315.0	4,276,039.5	847.00
	636	5,267,404.0	4,276,103.5	842.50
	637	5,267,382.0	4,276,195.0	846.00
	638	5,267,365.0	4,276,293.5	844.00
	639	5,267,333.5	4,276,315.0	842.50
	640	5,267,179.5	4,276,262.5	843.70
Terrain Line97	641	5,267,825.5	4,276,058.5	790.20
	642	5,267,932.0	4,276,104.5	792.20
	643	5,267,972.5	4,276,145.0	784.20
	644	5,267,910.5	4,276,300.5	788.40
	645	5,267,831.5	4,276,344.0	793.50
	646	5,267,797.5	4,276,360.0	791.70
	647	5,267,727.5	4,276,421.5	785.90
	648	5,267,687.0	4,276,440.0	789.00
Terrain Line98	649	5,267,843.5	4,275,984.5	768.50
	650	5,268,044.0	4,276,088.0	766.80
Terrain Line99	667	5,267,720.0	4,276,594.5	792.10
	668	5,267,888.0	4,276,581.5	793.20
	669	5,267,995.0	4,276,582.0	792.30
	670	5,268,068.5	4,276,556.0	792.70
	671	5,268,222.5	4,276,446.5	790.70
	672	5,268,251.5	4,276,436.0	788.20
	673	5,268,302.5	4,276,452.5	783.50
	674	5,268,358.0	4,276,565.0	786.40
Terrain Line100	675	5,268,138.5	4,276,401.0	753.70
	676	5,268,218.5	4,276,379.5	755.30
	677	5,268,249.5	4,276,350.5	756.60
	678	5,268,245.5	4,276,319.5	755.20
	679	5,268,185.0	4,276,236.5	753.40
	680	5,268,146.0	4,276,226.0	753.00
	681	5,268,076.5	4,276,281.0	752.30
	682	5,268,047.5	4,276,351.0	752.50

**INPUT: TERRAIN LINES**

**BSB**

Terrain Line101	683	5,268,458.5	4,276,380.5	741.70
	684	5,268,624.0	4,276,562.0	740.80
	685	5,268,721.0	4,276,671.0	741.00
Terrain Line102	686	5,268,688.5	4,276,671.0	753.60
	687	5,268,826.5	4,276,797.0	743.70
Terrain Line103	714	5,268,473.0	4,276,346.0	729.60
	715	5,268,719.0	4,276,567.5	714.00
	716	5,268,979.5	4,276,818.5	694.40
	717	5,269,046.5	4,276,912.5	677.30
Terrain Line104	718	5,269,048.5	4,276,916.5	676.20
	719	5,269,132.5	4,276,963.5	674.80
	720	5,269,194.5	4,277,022.0	674.00
	721	5,269,249.5	4,277,067.0	674.40
	722	5,269,222.5	4,277,085.5	674.40
	723	5,269,158.0	4,277,069.0	674.30
	724	5,269,060.0	4,277,066.5	674.90
	725	5,269,023.5	4,277,077.0	679.30
	726	5,268,920.0	4,277,036.0	672.20
	727	5,268,950.5	4,277,008.0	670.20
	728	5,269,047.5	4,276,960.0	671.40
	729	5,269,048.5	4,276,916.5	676.20
Terrain Line105	730	5,269,253.0	4,277,099.0	672.20
	731	5,269,319.0	4,277,156.5	665.40
	732	5,269,431.0	4,277,323.0	655.00
	733	5,269,506.0	4,277,484.5	646.70
	734	5,269,572.5	4,277,705.0	637.60
	735	5,269,617.5	4,277,902.0	650.00
Terrain Line106	736	5,269,620.0	4,277,906.0	628.60
	737	5,269,710.5	4,278,323.0	607.20
	738	5,269,763.5	4,278,708.5	585.80
	739	5,269,739.0	4,278,991.5	566.80
Terrain Line108	763	5,268,646.0	4,277,770.5	737.90
	764	5,268,794.5	4,277,838.5	732.80
	765	5,268,949.5	4,277,875.0	716.30
	766	5,269,004.5	4,277,924.5	717.00
	767	5,268,983.0	4,277,988.5	728.30

**INPUT: TERRAIN LINES**

**BSB**

	768	5,268,952.0	4,278,037.0	738.40
	769	5,268,910.0	4,278,082.0	751.70
Terrain Line109	770	5,269,449.5	4,278,136.5	763.50
	771	5,269,478.0	4,278,043.0	740.70
	772	5,269,466.5	4,277,923.0	724.10
	773	5,269,474.5	4,277,855.5	704.60
	774	5,269,490.0	4,277,782.5	686.60
	775	5,269,453.5	4,277,710.0	705.90
	776	5,269,416.5	4,277,654.5	724.60
	777	5,269,378.0	4,277,607.5	743.30
Terrain Line110	778	5,268,705.5	4,277,306.5	755.00
	779	5,268,769.0	4,277,219.0	736.10
	780	5,268,818.0	4,277,155.5	716.50
	781	5,268,854.0	4,277,114.0	698.40
	782	5,268,897.0	4,277,073.5	678.90
	783	5,268,839.0	4,277,012.0	680.40
	784	5,268,701.0	4,276,985.0	704.60
	785	5,268,463.0	4,276,967.5	721.80
Terrain Line98-2	849	5,268,040.5	4,276,100.5	768.50
	651	5,267,961.0	4,276,334.5	766.00
	652	5,267,934.0	4,276,373.5	765.30
	653	5,267,801.0	4,276,424.5	769.00
	654	5,267,733.5	4,276,499.0	765.00
	655	5,267,680.0	4,276,520.0	765.70
	656	5,267,689.5	4,276,553.5	769.70
	657	5,267,747.5	4,276,558.5	774.20
	658	5,267,878.5	4,276,543.0	772.10
	659	5,268,044.0	4,276,529.5	774.00
	660	5,268,088.0	4,276,508.0	776.30
	661	5,268,180.0	4,276,435.5	774.60
	662	5,268,217.5	4,276,417.0	776.90
	663	5,268,300.0	4,276,403.0	765.30
	664	5,268,339.5	4,276,424.0	766.90
	665	5,268,376.5	4,276,449.5	762.30
	666	5,268,396.0	4,276,490.0	759.90
Terrain Line102-2	850	5,268,798.0	4,276,806.0	754.70

**INPUT: TERRAIN LINES**

**BSB**

	688	5,268,681.5	4,276,824.5	756.40
	689	5,268,333.0	4,276,863.5	763.20
	690	5,268,268.5	4,276,870.5	755.20
Terrain Line102-2-2-2	852	5,268,805.5	4,277,289.0	767.80
	705	5,269,081.0	4,277,317.5	766.90
Terrain Line102-2-2-2-2	853	5,269,344.5	4,277,549.0	758.20
	708	5,269,329.0	4,277,580.5	763.80
Terrain Line102-2-2-2-2-2	854	5,269,310.5	4,277,592.5	762.30
	709	5,269,143.5	4,277,689.5	757.40
	710	5,269,031.0	4,277,710.5	758.60
	711	5,268,901.5	4,277,732.5	770.10
	712	5,268,815.5	4,277,737.5	762.50
	713	5,268,698.5	4,277,692.0	766.40
Terrain Line107-2	855	5,269,187.0	4,278,106.5	771.40
	756	5,269,042.0	4,278,160.0	772.40
Terrain Line107-2	857	5,269,213.0	4,278,504.5	767.80
	744	5,269,278.0	4,278,502.5	764.40
	745	5,269,326.0	4,278,472.0	763.50
	746	5,269,368.0	4,278,422.5	766.20
	747	5,269,456.0	4,278,346.0	763.10
	748	5,269,472.5	4,278,308.0	764.70
	749	5,269,471.0	4,278,289.5	765.40
	750	5,269,467.5	4,278,253.0	765.90
	751	5,269,446.5	4,278,138.5	765.00
	752	5,269,363.0	4,278,104.0	771.60
	753	5,269,308.5	4,278,114.5	772.30
	754	5,269,219.0	4,278,121.0	774.40
	755	5,269,187.0	4,278,106.5	771.40
Terrain Line82-2	859	5,269,984.0	4,277,560.5	715.80
	542	5,269,981.5	4,277,589.0	713.90
	543	5,270,026.0	4,277,715.5	715.30
	544	5,270,080.0	4,277,793.0	715.60
	545	5,270,141.0	4,277,936.5	714.90
Terrain Line102-2-2-2-2	861	5,269,081.0	4,277,317.5	766.90
	862	5,269,222.5	4,277,353.0	767.50
Terrain Line102-2-2-2-2-2	863	5,269,236.5	4,277,358.0	767.10

**INPUT: TERRAIN LINES****BSB**

	706	5,269,259.0	4,277,362.0	760.00
	707	5,269,344.5	4,277,549.0	758.20
Terrain Line95-2	864	5,267,395.0	4,275,996.5	830.80
	629	5,267,160.0	4,275,974.5	830.70
	630	5,267,111.0	4,275,970.5	830.50
	631	5,267,074.5	4,275,957.0	828.90
	632	5,266,869.5	4,276,008.0	829.70
Terrain Line26-2	867	5,268,048.5	4,275,674.5	742.50
	219	5,268,188.5	4,275,754.0	737.90
	220	5,268,237.5	4,275,833.5	742.90
	221	5,268,267.0	4,275,865.0	742.80
Terrain Line139	868	5,265,094.0	4,274,724.0	886.50
	869	5,265,179.0	4,274,794.0	888.00
	870	5,265,305.0	4,274,923.0	883.00
	889	5,265,477.0	4,275,199.0	852.00
	890	5,265,544.0	4,275,280.0	841.00
Terrain Line140	871	5,265,109.0	4,274,824.0	885.00
	872	5,265,405.0	4,275,165.0	854.00
	873	5,265,456.0	4,275,215.0	849.00
	874	5,265,527.0	4,275,275.0	841.50
	875	5,265,544.0	4,275,287.0	840.00
Terrain Line141	876	5,265,133.0	4,274,609.0	879.00
	877	5,265,167.0	4,274,618.0	876.00
	878	5,265,183.0	4,274,624.0	875.00
	879	5,265,198.0	4,274,637.0	874.00
	880	5,265,219.0	4,274,659.0	872.00
	881	5,265,253.0	4,274,697.0	869.00
	882	5,265,347.0	4,274,817.0	862.00
	883	5,265,389.0	4,274,882.0	860.50
	884	5,265,446.0	4,275,040.0	853.00
	885	5,265,481.0	4,275,135.0	849.00
	886	5,265,517.0	4,275,218.0	844.00
	887	5,265,553.0	4,275,284.0	840.00



**INPUT: TERRAIN LINES**

**BSB**

<b>PEC</b>			<b>8 August 2023</b>	
<b>ZR</b>			<b>TNM 2.5</b>	
<b>INPUT: TERRAIN LINES</b>				
<b>PROJECT/CONTRACT:</b>	<b>BSB</b>			
<b>RUN:</b>	<b>KY Exist PM S2</b>			
<b>Terrain Line</b>	<b>Points</b>			
<b>Name</b>	<b>No.</b>	<b>Coordinates (ground)</b>		
		<b>X</b>	<b>Y</b>	<b>Z</b>
		ft	ft	ft
Terrain Line7	86	5,259,779.5	4,272,555.0	820.20
	87	5,259,862.0	4,272,552.5	816.30
	88	5,259,956.5	4,272,530.0	817.70
	89	5,260,000.5	4,272,530.5	818.20
	90	5,260,044.5	4,272,541.5	817.80
	91	5,260,080.0	4,272,549.0	816.70
	92	5,260,132.0	4,272,551.0	815.10
	93	5,260,169.5	4,272,526.0	811.30
	94	5,260,212.0	4,272,468.5	808.60
	95	5,260,229.5	4,272,444.0	808.30
	96	5,260,202.0	4,272,432.5	815.50
	97	5,260,165.5	4,272,440.0	820.80
	98	5,260,090.0	4,272,457.5	821.70
	99	5,259,907.5	4,272,499.5	821.00
	100	5,259,783.5	4,272,552.5	820.60
Terrain Line8	101	5,260,240.5	4,272,400.5	808.50
	102	5,260,040.0	4,272,445.0	810.80
	103	5,259,839.0	4,272,491.0	811.60
	104	5,259,768.5	4,272,512.5	813.70
Terrain Line9	105	5,260,374.5	4,272,507.0	786.60
	106	5,260,424.0	4,272,436.5	780.40
	107	5,260,459.5	4,272,435.0	785.60
	108	5,260,412.0	4,272,479.5	787.80
	109	5,260,374.5	4,272,507.0	786.60

**INPUT: TERRAIN LINES****BSB**

Terrain Line14	131	5,261,910.0	4,272,879.5	802.20
	132	5,261,878.5	4,272,897.0	802.50
	133	5,261,859.5	4,272,938.5	803.00
	134	5,261,846.5	4,273,027.0	801.40
Terrain Line15	138	5,261,746.0	4,272,765.0	798.60
	139	5,261,783.5	4,272,777.0	798.40
	140	5,261,845.5	4,272,805.5	799.40
	141	5,261,879.5	4,272,827.0	801.00
	142	5,261,914.0	4,272,876.5	802.20
Terrain Line16	145	5,261,895.5	4,272,988.0	817.70
	146	5,261,885.0	4,273,123.0	820.40
	147	5,261,901.5	4,273,220.5	814.70
	148	5,261,946.5	4,273,263.0	818.80
	149	5,261,927.0	4,273,290.5	814.70
	150	5,261,895.5	4,273,282.5	814.50
Terrain Line17	152	5,261,801.5	4,273,197.5	812.60
	153	5,261,779.5	4,273,171.0	813.40
	154	5,261,773.5	4,273,155.0	813.10
Terrain Line18	155	5,261,755.5	4,273,110.0	812.70
	156	5,261,744.5	4,273,078.0	812.40
	157	5,261,727.5	4,273,002.0	810.80
	158	5,261,737.0	4,272,961.0	809.50
	159	5,261,721.0	4,272,943.5	812.10
Terrain Line19	160	5,261,681.0	4,272,927.0	814.50
	161	5,261,668.5	4,272,922.5	814.30
	162	5,261,638.5	4,272,914.0	814.00
	163	5,261,603.0	4,272,886.5	813.70
Terrain Line20	164	5,261,807.5	4,273,007.0	797.60
	165	5,261,835.0	4,273,078.0	800.50
	166	5,261,844.5	4,273,033.0	800.70
Terrain Line21	167	5,260,207.5	4,272,569.0	800.20
	168	5,260,286.0	4,272,665.0	799.80
	169	5,260,334.5	4,272,686.5	816.00
Terrain Line34	263	5,261,603.0	4,272,886.5	813.70
	264	5,261,556.5	4,272,836.5	813.60
	265	5,261,577.5	4,272,757.5	813.60

**INPUT: TERRAIN LINES**

**BSB**

	266	5,261,527.0	4,272,744.0	817.80
	267	5,261,520.5	4,272,701.0	819.70
	268	5,261,499.0	4,272,694.5	819.40
Terrain Line35	269	5,261,537.0	4,272,630.5	819.10
	270	5,261,561.5	4,272,610.0	817.10
	271	5,261,570.5	4,272,581.0	814.60
Terrain Line36	272	5,261,570.5	4,272,581.0	814.60
	273	5,261,671.0	4,272,639.5	813.50
	274	5,261,793.5	4,272,713.5	814.10
	275	5,261,848.5	4,272,763.0	814.20
	276	5,261,989.0	4,272,897.0	817.10
Terrain Line37	281	5,260,593.0	4,272,395.5	808.00
	282	5,260,576.5	4,272,425.0	813.60
	283	5,260,529.5	4,272,468.5	816.80
	284	5,260,446.0	4,272,516.0	814.50
	285	5,260,412.5	4,272,537.0	812.00
	286	5,260,384.5	4,272,564.0	812.80
	287	5,260,385.5	4,272,594.5	822.00
	288	5,260,352.5	4,272,650.5	819.30
	289	5,260,336.5	4,272,683.5	816.80
Terrain Line38	290	5,260,362.0	4,272,719.5	825.50
	291	5,260,398.5	4,272,635.5	825.20
	292	5,260,416.0	4,272,606.0	825.40
Terrain Line39	293	5,260,408.5	4,272,574.0	824.60
	294	5,260,442.5	4,272,546.0	825.30
	295	5,260,502.5	4,272,517.0	825.70
	296	5,260,574.0	4,272,476.0	825.60
	297	5,260,648.0	4,272,439.0	825.80
Terrain Line40	299	5,260,281.0	4,272,432.5	799.30
	300	5,260,258.0	4,272,484.5	798.00
	301	5,260,228.0	4,272,532.0	798.80
	302	5,260,201.0	4,272,562.0	801.00
Terrain Line42	311	5,263,296.5	4,273,732.5	812.10
	312	5,263,306.5	4,273,670.5	812.70
	313	5,263,368.0	4,273,568.5	812.60
	314	5,263,451.0	4,273,454.5	811.60

**INPUT: TERRAIN LINES****BSB**

	315	5,263,505.0	4,273,468.0	812.20
	316	5,263,559.0	4,273,481.0	813.30
	317	5,263,599.5	4,273,472.0	809.90
	318	5,263,632.5	4,273,492.5	808.10
	319	5,263,709.5	4,273,568.5	810.50
Terrain Line43	862	5,263,298.0	4,273,751.0	812.50
	320	5,263,333.0	4,273,827.0	812.00
	321	5,263,236.5	4,273,749.5	809.00
	322	5,263,191.0	4,273,707.0	807.60
	323	5,263,177.0	4,273,659.5	806.10
	324	5,263,190.0	4,273,586.0	803.60
Terrain Line44	326	5,263,220.5	4,273,446.0	805.10
	327	5,263,231.0	4,273,395.0	804.20
	328	5,263,239.5	4,273,360.5	803.90
	329	5,263,233.0	4,273,283.0	805.40
	330	5,263,263.0	4,273,187.5	805.80
	331	5,263,231.5	4,273,165.5	810.10
Terrain Line45	333	5,263,186.0	4,273,121.0	806.70
	334	5,263,126.0	4,273,043.0	808.30
	335	5,263,082.0	4,273,009.0	810.00
	336	5,262,998.5	4,273,007.5	810.10
Terrain Line46	338	5,263,323.0	4,273,469.5	786.30
	339	5,263,300.5	4,273,526.5	790.30
	340	5,263,240.0	4,273,621.0	793.00
Terrain Line50	360	5,264,343.5	4,274,244.0	826.80
	361	5,264,302.0	4,274,170.0	826.90
	362	5,264,292.5	4,273,986.0	826.60
Terrain Line51	363	5,264,271.0	4,274,405.0	831.50
	364	5,264,242.5	4,274,475.0	836.50
	365	5,264,192.5	4,274,535.0	839.90
	366	5,264,153.5	4,274,572.5	841.80
Terrain Line52	367	5,264,326.5	4,274,373.0	826.00
	368	5,264,381.0	4,274,410.5	828.10
	369	5,264,439.0	4,274,414.0	834.30
	370	5,264,457.5	4,274,499.0	832.60
Terrain Line53	371	5,264,055.0	4,274,604.5	859.10

**INPUT: TERRAIN LINES**

**BSB**

	372	5,264,126.0	4,274,630.5	860.50
	373	5,264,225.5	4,274,608.5	860.90
	374	5,264,431.0	4,274,620.0	859.40
	375	5,264,469.5	4,274,628.5	861.10
	376	5,264,646.0	4,274,595.0	862.80
	377	5,264,646.5	4,274,559.5	861.20
Terrain Line55	381	5,264,606.5	4,274,313.0	860.70
	382	5,264,573.5	4,274,186.0	860.80
	383	5,264,587.0	4,274,152.5	859.90
Terrain Line56	384	5,264,302.5	4,274,366.5	824.80
	385	5,264,308.0	4,274,334.0	824.50
	386	5,264,246.5	4,274,263.5	824.50
	387	5,264,206.5	4,274,169.5	822.70
Terrain Line57	389	5,263,983.0	4,273,959.5	826.20
	390	5,263,894.0	4,273,889.5	824.40
Terrain Line58	391	5,264,063.5	4,274,586.0	861.50
	392	5,264,114.5	4,274,537.5	858.10
	393	5,264,135.5	4,274,505.5	855.20
	394	5,264,117.5	4,274,405.0	856.80
	395	5,264,080.0	4,274,301.5	858.70
Terrain Line60	402	5,263,819.5	4,274,327.0	877.20
	403	5,263,940.5	4,274,495.5	882.60
	404	5,264,037.0	4,274,529.0	878.60
	405	5,264,043.5	4,274,515.5	877.80
Terrain Line61	407	5,264,034.0	4,274,410.0	879.20
	408	5,264,025.0	4,274,387.5	879.30
	409	5,263,915.5	4,274,355.0	879.10
Terrain Line119	847	5,260,283.0	4,272,397.5	804.20
	848	5,260,415.5	4,272,373.5	803.00
	849	5,260,491.5	4,272,373.5	804.00
	850	5,260,554.0	4,272,382.5	804.40
	851	5,260,580.0	4,272,389.5	805.00
Terrain Line120	852	5,261,805.5	4,273,000.5	797.80
	853	5,261,798.5	4,272,915.5	796.90
Terrain Line121	854	5,261,794.5	4,272,903.5	798.50
	855	5,261,746.0	4,272,821.5	798.10

**INPUT: TERRAIN LINES****BSB**

	856	5,261,726.0	4,272,763.0	798.70
Terrain Line122	857	5,261,986.5	4,272,898.5	816.80
	858	5,261,926.5	4,272,934.0	814.90
	859	5,261,899.5	4,272,981.5	818.40
Terrain Line123	860	5,261,881.0	4,273,280.5	813.80
	861	5,261,813.0	4,273,212.0	812.60
Terrain Line124	863	5,263,335.5	4,273,357.5	777.50
	864	5,263,329.0	4,273,451.5	785.80
Terrain Line125	865	5,264,301.5	4,274,371.0	825.70
	866	5,264,322.0	4,274,368.0	825.90
	867	5,264,366.0	4,274,327.5	828.90
	868	5,264,349.5	4,274,257.5	826.90
Terrain Line127	872	5,264,047.5	4,274,506.5	878.20
	873	5,264,061.0	4,274,472.0	875.80
	874	5,264,046.5	4,274,439.0	879.20
Terrain Line129	880	5,264,065.5	4,274,294.0	859.50
	881	5,264,039.0	4,274,276.0	859.30
	882	5,264,000.0	4,274,199.5	857.50
	883	5,263,950.5	4,274,178.5	861.30
	884	5,263,916.5	4,274,163.0	860.70
Terrain Line130	885	5,263,893.5	4,274,347.5	879.20
	886	5,263,823.0	4,274,327.0	877.20

INPUT: TRAFFIC FOR LAeq1h Volumes

BSB

PEC													
ZR													
INPUT: TRAFFIC FOR LAeq1h Volumes				8 August 2023									
PROJECT/CONTRACT:				TNM 2.5									
RUN:				BSB									
ROADWAY				KY Exist PM S2									
Roadway Name	Points Name	No.	Segment		MTrucks		HTrucks		Buses		Motorcycles		
			Autos										
			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	
Rd3; NB 75 Dixie On - 1072 Off/1	point21	21	3689	55	0	0	611	55	0	0	0	0	
	point22	22	3689	55	0	0	611	55	0	0	0	0	
	point23	23	3689	55	0	0	611	55	0	0	0	0	
	point24	24											
Rd4; NB 75 Under 1072/1	point25	25	3689	55	0	0	611	55	0	0	0	0	
	point26	26	3689	55	0	0	611	55	0	0	0	0	
	point27	27	3689	55	0	0	611	55	0	0	0	0	
	point28	28	3689	55	0	0	611	55	0	0	0	0	
	point29	29	3689	55	0	0	611	55	0	0	0	0	
	point30	30	3689	55	0	0	611	55	0	0	0	0	
	point31	31	3689	55	0	0	611	55	0	0	0	0	
	point32	32	3689	55	0	0	611	55	0	0	0	0	
	point33	33	3689	55	0	0	611	55	0	0	0	0	
	point34	34	3689	55	0	0	611	55	0	0	0	0	
Rd5; NB 75 1072 On - 1120 Off/1	point35	35	3689	55	0	0	611	55	0	0	0	0	
	point36	36	3689	55	0	0	611	55	0	0	0	0	
	point37	37	3689	55	0	0	611	55	0	0	0	0	
	point38	38											
	point39	39	5800	55	0	0	960	55	0	0	0	0	
	point40	40	5800	55	0	0	960	55	0	0	0	0	
	point41	41	5800	55	0	0	960	55	0	0	0	0	
	point42	42	5800	55	0	0	960	55	0	0	0	0	
	point43	43	5800	55	0	0	960	55	0	0	0	0	

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point44	44	5800	55	0	0	960	55	0	0	0	0
	point45	45	5800	55	0	0	960	55	0	0	0	0
	point46	46	5800	55	0	0	960	55	0	0	0	0
	point47	47	5800	55	0	0	960	55	0	0	0	0
	point48	48	5800	55	0	0	960	55	0	0	0	0
	point49	49	5800	55	0	0	960	55	0	0	0	0
	point50	50	5800	55	0	0	960	55	0	0	0	0
	point51	51	5800	55	0	0	960	55	0	0	0	0
	point52	52	5800	55	0	0	960	55	0	0	0	0
	point53	53	5800	55	0	0	960	55	0	0	0	0
	point54	54	5800	55	0	0	960	55	0	0	0	0
	point55	55	5800	55	0	0	960	55	0	0	0	0
	point56	56	5800	55	0	0	960	55	0	0	0	0
	point57	57	5800	55	0	0	960	55	0	0	0	0
	point58	58	5800	55	0	0	960	55	0	0	0	0
	point59	59	5800	55	0	0	960	55	0	0	0	0
	point60	60										
Rd6; NB 75 1120 Off - 5th St/1	point61	61	3993	55	60	55	477	55	60	55	0	0
	point62	62	3993	55	60	55	477	55	60	55	0	0
	point63	63	3993	55	60	55	477	55	60	55	0	0
	point64	64	3993	55	60	55	477	55	60	55	0	0
	point65	65	3993	55	60	55	477	55	60	55	0	0
	point66	66	3993	55	60	55	477	55	60	55	0	0
	point67	67	3993	55	60	55	477	55	60	55	0	0
	point68	68	3993	55	60	55	477	55	60	55	0	0
	point69	69										
Rd7; NB 75 Off to 5th - On fr Pike/1	point70	70	3622	55	45	55	358	55	45	55	0	0
	point71	71	3622	55	45	55	358	55	45	55	0	0
	point72	72	3622	55	45	55	358	55	45	55	0	0
	point73	73										
Rd12; SB 75 Svc Rd Off - Svc Rd On/1	point108	108	5046	55	75	55	603	55	75	55	0	0
	point109	109	5046	55	75	55	603	55	75	55	0	0
	point110	110	5046	55	75	55	603	55	75	55	0	0
	point111	111	5046	55	75	55	603	55	75	55	0	0
	point112	112	5046	55	75	55	603	55	75	55	0	0
	point113	113										



**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

Rd13;SB 75 On fr Svc Rd - On Fr 12th/1	point114	114	5922	55	81	55	646	55	81	55	0	0
	point115	115	5922	55	81	55	646	55	81	55	0	0
	point116	116	5922	55	81	55	646	55	81	55	0	0
	point117	117	5922	55	81	55	646	55	81	55	0	0
	point118	118	5922	55	81	55	646	55	81	55	0	0
	point119	119	5922	55	81	55	646	55	81	55	0	0
	point120	120	5922	55	81	55	646	55	81	55	0	0
	point121	121	5922	55	81	55	646	55	81	55	0	0
	point122	122	5922	55	81	55	646	55	81	55	0	0
	point123	123	5922	55	81	55	646	55	81	55	0	0
	point124	124										
Rd14; SB 75 On fr 12th - Off to 1072/1	point125	125	4367	55	0	0	723	55	0	0	0	0
	point126	126	4367	55	0	0	723	55	0	0	0	0
	point127	127	4367	55	0	0	723	55	0	0	0	0
	point128	128	4367	55	0	0	723	55	0	0	0	0
	point129	129	4367	55	0	0	723	55	0	0	0	0
	point130	130	4367	55	0	0	723	55	0	0	0	0
	point131	131	4367	55	0	0	723	55	0	0	0	0
	point132	132	4367	55	0	0	723	55	0	0	0	0
	point133	133	4367	55	0	0	723	55	0	0	0	0
	point134	134	4367	55	0	0	723	55	0	0	0	0
	point135	135	4367	55	0	0	723	55	0	0	0	0
	point136	136	4367	55	0	0	723	55	0	0	0	0
	point137	137	4367	55	0	0	723	55	0	0	0	0
	point138	138	4367	55	0	0	723	55	0	0	0	0
	point139	139	4367	55	0	0	723	55	0	0	0	0
	point140	140	4367	55	0	0	723	55	0	0	0	0
	point141	141	4367	55	0	0	723	55	0	0	0	0
	point142	142	4367	55	0	0	723	55	0	0	0	0
	point143	143	4367	55	0	0	723	55	0	0	0	0
	point144	144										
Rd15;SB 75 Under 1072/1	point145	145	2668	55	0	0	442	55	0	0	0	0
	point146	146	2668	55	0	0	442	55	0	0	0	0
	point147	147	2668	55	0	0	442	55	0	0	0	0
	point148	148	2668	55	0	0	442	55	0	0	0	0
	point149	149	2668	55	0	0	442	55	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point150	150	2668	55	0	0	442	55	0	0	0	0
	point151	151	2668	55	0	0	442	55	0	0	0	0
	point152	152	2668	55	0	0	442	55	0	0	0	0
	point153	153	2668	55	0	0	442	55	0	0	0	0
	point154	154										
Rd16;SB 75 1072 On - Didie Off/1	point155	155	2668	55	0	0	442	55	0	0	0	0
	point156	156	2668	55	0	0	442	55	0	0	0	0
	point157	157	2668	55	0	0	442	55	0	0	0	0
	point158	158										
Rd22; NB Off To 1072/1	point221	221	480	35	0	0	0	0	0	0	0	0
	point222	222	480	35	0	0	0	0	0	0	0	0
	point223	223	480	35	0	0	0	0	0	0	0	0
	point224	224	480	35	0	0	0	0	0	0	0	0
	point225	225	480	35	0	0	0	0	0	0	0	0
	point226	226	480	35	0	0	0	0	0	0	0	0
	point227	227	480	35	0	0	0	0	0	0	0	0
	point228	228	480	35	0	0	0	0	0	0	0	0
	point229	229	480	35	0	0	0	0	0	0	0	0
	point230	230										
Rd23; NB On fr 1072/1	point231	231	1100	35	0	0	0	0	0	0	0	0
	point232	232	1100	35	0	0	0	0	0	0	0	0
	point233	233	1100	35	0	0	0	0	0	0	0	0
	point234	234	1100	35	0	0	0	0	0	0	0	0
	point235	235	1100	35	0	0	0	0	0	0	0	0
	point236	236	1100	35	0	0	0	0	0	0	0	0
	point237	237	1100	35	0	0	0	0	0	0	0	0
	point238	238	1100	35	0	0	0	0	0	0	0	0
	point239	239	1100	35	0	0	0	0	0	0	0	0
	point240	240	1100	35	0	0	0	0	0	0	0	0
	point241	241	1100	35	0	0	0	0	0	0	0	0
	point242	242	1100	35	0	0	0	0	0	0	0	0
	point243	243										
Rd24; NB Off to 12th (1 lane)/1	point244	244	539	35	4	35	7	35	0	0	0	0
	point245	245	539	35	4	35	7	35	0	0	0	0
	point246	246	539	35	4	35	7	35	0	0	0	0
	point247	247	539	35	4	35	7	35	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point248	248	539	35	4	35	7	35	0	0	0	0
	point249	249	539	35	4	35	7	35	0	0	0	0
	point250	250	539	35	4	35	7	35	0	0	0	0
	point251	251	539	35	4	35	7	35	0	0	0	0
	point252	252										
Rd25; NB Off to 2th (2 lane)/1	point253	253	539	35	4	35	7	35	0	0	0	0
	point254	254	539	35	4	35	7	35	0	0	0	0
	point255	255	539	35	4	35	7	35	0	0	0	0
	point256	256										
Rd26; NB Svc Rs 12th - Pike/1	point257	257	406	25	2	25	2	25	0	0	0	0
	point258	258	406	25	2	25	2	25	0	0	0	0
	point259	259	406	25	2	25	2	25	0	0	0	0
	point260	260	406	25	2	25	2	25	0	0	0	0
	point261	261	406	25	2	25	2	25	0	0	0	0
	point262	262										
Rd27; NB on Fr Pike/1	point263	263	349	35	4	35	6	35	0	0	0	0
	point264	264	349	35	4	35	6	35	0	0	0	0
	point265	265	349	35	4	35	6	35	0	0	0	0
	point266	266	349	35	4	35	6	35	0	0	0	0
	point267	267	349	35	4	35	6	35	0	0	0	0
	point268	268	349	35	4	35	6	35	0	0	0	0
	point269	269	349	35	4	35	6	35	0	0	0	0
	point270	270	349	35	4	35	6	35	0	0	0	0
	point271	271										
Rd28; NB off to 5th/1	point280	280	494	35	10	35	16	35	0	0	0	0
	point281	281	494	35	10	35	16	35	0	0	0	0
	point282	282	494	35	10	35	16	35	0	0	0	0
	point283	283	494	35	10	35	16	35	0	0	0	0
	point284	284	494	35	10	35	16	35	0	0	0	0
	point285	285	494	35	10	35	16	35	0	0	0	0
	point286	286	494	35	10	35	16	35	0	0	0	0
	point287	287										
Rd38; SB On fr Svc Rd/1	point375	375	893	35	15	35	22	35	0	0	0	0
	point376	376	893	35	15	35	22	35	0	0	0	0
	point377	377	893	35	15	35	22	35	0	0	0	0
	point378	378	893	35	15	35	22	35	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point379	379	893	35	15	35	22	35	0	0	0	0
	point380	380										
Rd40; SB off to W Pike (2 lane)/1	point390	390	764	25	0	0	6	25	9	25	0	0
	point391	391										
Rd41; SB Bullock St to 12th/1	point392	392	545	25	0	0	2	25	3	25	0	0
	point393	393	545	25	0	0	2	25	3	25	0	0
	point394	394	545	25	0	0	2	25	3	25	0	0
	point395	395	545	25	0	0	2	25	3	25	0	0
	point396	396										
Rd42; SB On fr 12th St/1	point397	397	529	35	4	35	6	35	0	0	0	0
	point398	398	529	35	4	35	6	35	0	0	0	0
	point399	399	529	35	4	35	6	35	0	0	0	0
	point400	400	529	35	4	35	6	35	0	0	0	0
	point401	401	529	35	4	35	6	35	0	0	0	0
	point402	402	529	35	4	35	6	35	0	0	0	0
	point403	403	529	35	4	35	6	35	0	0	0	0
	point404	404	529	35	4	35	6	35	0	0	0	0
	point405	405	529	35	4	35	6	35	0	0	0	0
	point406	406										
Rd43; SB Off to 1072/1	point407	407	700	35	0	0	0	0	0	0	0	0
	point408	408	700	35	0	0	0	0	0	0	0	0
	point409	409	700	35	0	0	0	0	0	0	0	0
	point410	410	700	35	0	0	0	0	0	0	0	0
	point411	411	700	35	0	0	0	0	0	0	0	0
	point412	412	700	35	0	0	0	0	0	0	0	0
	point413	413	700	35	0	0	0	0	0	0	0	0
	point414	414										
Rd44; SB On Fr 1072/1	point415	415	420	35	0	0	0	0	0	0	0	0
	point416	416	420	35	0	0	0	0	0	0	0	0
	point417	417										
Rd56; SB 1072 to SB off ramp/1	point479	479	652	25	0	0	68	25	0	0	0	0
	point480	480										
Rd57; SB 1072 Over 75/1	point481	481	797	25	0	0	83	25	0	0	0	0
	point482	482	797	25	0	0	83	25	0	0	0	0
	point483	483	797	25	0	0	83	25	0	0	0	0
	point484	484	797	25	0	0	83	25	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point485	485										
Rd58; SB Kyles fr NB off Ramp/1	point486	486	1426	25	0	0	6	25	9	25	0	0
	point487	487	1426	25	0	0	6	25	9	25	0	0
	point488	488	1426	25	0	0	6	25	9	25	0	0
	point489	489										
Rd59; NB 1072 to NB On Ramp/1	point490	490	1096	25	0	0	114	25	0	0	0	0
	point491	491	1096	25	0	0	114	25	0	0	0	0
	point492	492	1096	25	0	0	114	25	0	0	0	0
	point493	493	1096	25	0	0	114	25	0	0	0	0
	point494	494										
Rd60; NB 1072 Over 75/1	point495	495	1096	25	0	0	114	25	0	0	0	0
	point496	496	1096	25	0	0	114	25	0	0	0	0
	point497	497	1096	25	0	0	114	25	0	0	0	0
	point498	498	1096	25	0	0	114	25	0	0	0	0
	point499	499										
Rd61; NB 1072 Fr SB On ramp/1	point500	500	788	25	0	0	68	25	0	0	0	0
	point501	501										
Rd62; EB 12th to SB On Ramp/1	point502	502	89	25	0	0	1	25	0	0	0	0
	point503	503	89	25	0	0	1	25	0	0	0	0
	point504	504										
Rd63; EB 12th Under 75/1	point505	505	323	25	3	25	4	25	0	0	0	0
	point506	506	323	25	3	25	4	25	0	0	0	0
	point507	507										
Rd64; EB 12th Fr NB off ramp/1	point508	508	683	25	3	25	4	25	0	0	0	0
	point509	509	683	25	3	25	4	25	0	0	0	0
	point510	510	683	25	3	25	4	25	0	0	0	0
	point511	511	683	25	3	25	4	25	0	0	0	0
	point512	512										
Rd65; WB 12th to NB On Ramp/1	point513	513	505	25	0	0	2	25	3	25	0	0
	point514	514	505	25	0	0	2	25	3	25	0	0
	point515	515	505	25	0	0	2	25	3	25	0	0
	point516	516	505	25	0	0	2	25	3	25	0	0
	point517	517										
Rd66; WB 12th Under 75/1	point518	518	284	25	0	0	2	25	3	25	0	0
	point519	519	284	25	0	0	2	25	3	25	0	0
	point520	520	284	25	0	0	2	25	3	25	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point521	521										
Rd67; WB 12 fr SB ramp/1	point522	522	59	25	0	0	0	0	0	0	0	0
	point523	523	59	25	0	0	0	0	0	0	0	0
	point524	524										
Rd68; EB Pike to Bullock/1	point525	525	287	25	1	25	2	25	0	0	0	0
	point526	526	287	25	1	25	2	25	0	0	0	0
	point527	527	287	25	1	25	2	25	0	0	0	0
	point528	528	287	25	1	25	2	25	0	0	0	0
	point529	529	287	25	1	25	2	25	0	0	0	0
	point530	530	287	25	1	25	2	25	0	0	0	0
	point531	531	287	25	1	25	2	25	0	0	0	0
	point532	532	287	25	1	25	2	25	0	0	0	0
	point533	533	287	25	1	25	2	25	0	0	0	0
	point534	534	287	25	1	25	2	25	0	0	0	0
	point535	535	287	25	1	25	2	25	0	0	0	0
	point536	536	287	25	1	25	2	25	0	0	0	0
	point537	537	287	25	1	25	2	25	0	0	0	0
	point538	538	287	25	1	25	2	25	0	0	0	0
	point539	539										
Rd69; EB Pike Under 75/1	point540	540	396	25	2	25	2	25	0	0	0	0
	point541	541										
Rd70; EB Pike fr nNB Svc Rd/1	point542	542	406	25	2	25	2	25	0	0	0	0
	point543	543	406	25	2	25	2	25	0	0	0	0
	point544	544	406	25	2	25	2	25	0	0	0	0
	point545	545	406	25	2	25	2	25	0	0	0	0
	point546	546	406	25	2	25	2	25	0	0	0	0
	point547	547	406	25	2	25	2	25	0	0	0	0
	point548	548	406	25	2	25	2	25	0	0	0	0
	point549	549	406	25	2	25	2	25	0	0	0	0
	point550	550	406	25	2	25	2	25	0	0	0	0
	point551	551										
Rd71; WB pike to On Ramp/1	point552	552	634	25	0	0	3	25	4	25	0	0
	point553	553	634	25	0	0	3	25	4	25	0	0
	point554	554	634	25	0	0	3	25	4	25	0	0
	point555	555	634	25	0	0	3	25	4	25	0	0
	point556	556	634	25	0	0	3	25	4	25	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point557	557	634	25	0	0	3	25	4	25	0	0
	point558	558	634	25	0	0	3	25	4	25	0	0
	point559	559	634	25	0	0	3	25	4	25	0	0
	point560	560	634	25	0	0	3	25	4	25	0	0
	point561	561										
Rd72; WB Pike Under 75/1	point562	562	673	25	0	0	3	25	4	25	0	0
	point563	563										
Rd73; WB Pike Fr SB Off Ramp/1	point564	564	792	25	0	0	3	25	5	25	0	0
	point565	565	792	25	0	0	3	25	5	25	0	0
	point566	566	792	25	0	0	3	25	5	25	0	0
	point567	567	792	25	0	0	3	25	5	25	0	0
	point568	568	792	25	0	0	3	25	5	25	0	0
	point569	569	792	25	0	0	3	25	5	25	0	0
	point570	570	792	25	0	0	3	25	5	25	0	0
	point571	571	792	25	0	0	3	25	5	25	0	0
	point572	572	792	25	0	0	3	25	5	25	0	0
	point573	573	792	25	0	0	3	25	5	25	0	0
	point574	574	792	25	0	0	3	25	5	25	0	0
	point575	575	792	25	0	0	3	25	5	25	0	0
	point576	576	792	25	0	0	3	25	5	25	0	0
	point577	577										
Rd101; SB Kyles fr St Anthony(2)/1	point684	684	797	25	0	0	83	25	0	0	0	0
	point685	685										
Rd102; BD Kyles to Anthony(2)/1	point686	686	1158	25	5	25	7	25	0	0	0	0
	point687	687										

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

<b>PEC</b>		<b>8 August 2023</b>										
<b>ZR</b>		<b>TNM 2.5</b>										
<b>INPUT: TRAFFIC FOR LAeq1h Volumes</b>												
<b>PROJECT/CONTRACT:</b>		<b>BSB</b>										
<b>RUN:</b>		<b>KY Exist PM S2</b>										
<b>Roadway</b>	<b>Points</b>											
<b>Name</b>	<b>Name</b>	<b>No.</b>	<b>Segment</b>		<b>MTrucks</b>		<b>HTrucks</b>		<b>Buses</b>		<b>Motorcycles</b>	
			<b>Autos</b>		<b>V</b>	<b>S</b>	<b>V</b>	<b>S</b>	<b>V</b>	<b>S</b>	<b>V</b>	<b>S</b>
					veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Rd3; NB 75 Dixie On - 1072 Off/1	point21	21	3689	55	0	0	611	55	0	0	0	0
	point22	22	4620	55	69	55	552	55	69	55	0	0
	point23	23	4620	55	69	55	552	55	69	55	0	0
	point24	24										
Rd4; NB 75 Under 1072/1	point25	25	3689	55	0	0	611	55	0	0	0	0
	point26	26	3689	55	0	0	611	55	0	0	0	0
	point27	27	3689	55	0	0	611	55	0	0	0	0
	point28	28	3689	55	0	0	611	55	0	0	0	0
	point29	29	3689	55	0	0	611	55	0	0	0	0
	point30	30	3689	55	0	0	611	55	0	0	0	0
	point31	31	3689	55	0	0	611	55	0	0	0	0
	point32	32	3689	55	0	0	611	55	0	0	0	0
	point33	33	3689	55	0	0	611	55	0	0	0	0
	point34	34	3689	55	0	0	611	55	0	0	0	0
	point35	35	3689	55	0	0	611	55	0	0	0	0
	point36	36	3689	55	0	0	611	55	0	0	0	0
	point37	37	3689	55	0	0	611	55	0	0	0	0
	point38	38										
Rd15;SB 75 Under 1072/1	point145	145	2668	55	0	0	442	55	0	0	0	0
	point146	146	2668	55	0	0	442	55	0	0	0	0
	point147	147	2668	55	0	0	442	55	0	0	0	0
	point148	148	2668	55	0	0	442	55	0	0	0	0
	point149	149	2668	55	0	0	442	55	0	0	0	0



**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point150	150	2668	55	0	0	442	55	0	0	0	0
	point151	151	2668	55	0	0	442	55	0	0	0	0
	point152	152	2668	55	0	0	442	55	0	0	0	0
	point153	153	2668	55	0	0	442	55	0	0	0	0
	point154	154										
Rd16;SB 75 1072 On - Didie Off/1	point155	155	2668	55	0	0	442	55	0	0	0	0
	point156	156	2668	55	0	0	442	55	0	0	0	0
	point157	157	2668	55	0	0	442	55	0	0	0	0
	point158	158										
Rd17; SB 75 Under Dixie/1	point159	159	2668	55	0	0	442	55	0	0	0	0
	point160	160	2668	55	0	0	442	55	0	0	0	0
	point161	161	2668	55	0	0	442	55	0	0	0	0
	point162	162	2668	55	0	0	442	55	0	0	0	0
	point163	163	2668	55	0	0	442	55	0	0	0	0
	point164	164	2668	55	0	0	442	55	0	0	0	0
	point165	165	2668	55	0	0	442	55	0	0	0	0
	point166	166	2668	55	0	0	442	55	0	0	0	0
	point167	167	2668	55	0	0	442	55	0	0	0	0
	point168	168	2668	55	0	0	442	55	0	0	0	0
	point169	169	2668	55	0	0	442	55	0	0	0	0
	point170	170	2668	55	0	0	442	55	0	0	0	0
	point171	171	2668	55	0	0	442	55	0	0	0	0
	point172	172	2668	55	0	0	442	55	0	0	0	0
	point173	173	2668	55	0	0	442	55	0	0	0	0
	point174	174	2668	55	0	0	442	55	0	0	0	0
	point175	175	2668	55	0	0	442	55	0	0	0	0
	point176	176	2668	55	0	0	442	55	0	0	0	0
	point177	177	2668	55	0	0	442	55	0	0	0	0
	point178	178	2668	55	0	0	442	55	0	0	0	0
	point179	179	2668	55	0	0	442	55	0	0	0	0
	point180	180	2668	55	0	0	442	55	0	0	0	0
	point181	181										
Rd18; NB Off to Dixie/1	point182	182	270	35	0	0	0	0	0	0	0	0
	point183	183	270	35	0	0	0	0	0	0	0	0
	point184	184	270	35	0	0	0	0	0	0	0	0
	point185	185	270	35	0	0	0	0	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point186	186	270	35	0	0	0	0	0	0	0	0
	point187	187	270	35	0	0	0	0	0	0	0	0
	point188	188	270	35	0	0	0	0	0	0	0	0
	point189	189	270	35	0	0	0	0	0	0	0	0
	point190	190	270	35	0	0	0	0	0	0	0	0
	point191	191	270	35	0	0	0	0	0	0	0	0
	point192	192	270	35	0	0	0	0	0	0	0	0
	point193	193										
Rd19; NB On fr SB Dixie/1	point194	194	0	0	0	0	0	0	0	0	0	0
	point195	195	0	0	0	0	0	0	0	0	0	0
	point196	196	0	0	0	0	0	0	0	0	0	0
	point197	197	0	0	0	0	0	0	0	0	0	0
	point198	198										
Rd20; NB on Fr NB Dixie/1	point199	199	0	0	0	0	0	0	0	0	0	0
	point200	200	0	0	0	0	0	0	0	0	0	0
	point201	201	0	0	0	0	0	0	0	0	0	0
	point202	202	0	0	0	0	0	0	0	0	0	0
	point203	203	0	0	0	0	0	0	0	0	0	0
	point204	204	0	0	0	0	0	0	0	0	0	0
	point205	205	0	0	0	0	0	0	0	0	0	0
	point206	206	0	0	0	0	0	0	0	0	0	0
	point207	207	0	0	0	0	0	0	0	0	0	0
	point208	208	0	0	0	0	0	0	0	0	0	0
	point209	209										
Rd21; NB On From Dixie/1	point210	210	610	35	0	0	0	0	0	0	0	0
	point211	211	610	35	0	0	0	0	0	0	0	0
	point212	212	610	35	0	0	0	0	0	0	0	0
	point213	213	610	35	0	0	0	0	0	0	0	0
	point214	214	610	35	0	0	0	0	0	0	0	0
	point215	215	610	35	0	0	0	0	0	0	0	0
	point216	216	610	35	0	0	0	0	0	0	0	0
	point217	217	610	35	0	0	0	0	0	0	0	0
	point218	218	610	35	0	0	0	0	0	0	0	0
	point219	219	610	35	0	0	0	0	0	0	0	0
	point220	220										
Rd22; NB Off To 1072/1	point221	221	480	35	0	0	0	0	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point222	222	480	35	0	0	0	0	0	0	0	0
	point223	223	480	35	0	0	0	0	0	0	0	0
	point224	224	480	35	0	0	0	0	0	0	0	0
	point225	225	480	35	0	0	0	0	0	0	0	0
	point226	226	480	35	0	0	0	0	0	0	0	0
	point227	227	480	35	0	0	0	0	0	0	0	0
	point228	228	480	35	0	0	0	0	0	0	0	0
	point229	229	480	35	0	0	0	0	0	0	0	0
	point230	230										
Rd23; NB On fr 1072/1	point231	231	1100	35	0	0	0	0	0	0	0	0
	point232	232	1100	35	0	0	0	0	0	0	0	0
	point233	233	1100	35	0	0	0	0	0	0	0	0
	point234	234	1100	35	0	0	0	0	0	0	0	0
	point235	235	1100	35	0	0	0	0	0	0	0	0
	point236	236	1100	35	0	0	0	0	0	0	0	0
	point237	237	1100	35	0	0	0	0	0	0	0	0
	point238	238	1100	35	0	0	0	0	0	0	0	0
	point239	239	1100	35	0	0	0	0	0	0	0	0
	point240	240	1100	35	0	0	0	0	0	0	0	0
	point241	241	1100	35	0	0	0	0	0	0	0	0
	point242	242	1100	35	0	0	0	0	0	0	0	0
	point243	243										
Rd43; SB Off to 1072/1	point407	407	700	35	0	0	0	0	0	0	0	0
	point408	408	700	35	0	0	0	0	0	0	0	0
	point409	409	700	35	0	0	0	0	0	0	0	0
	point410	410	700	35	0	0	0	0	0	0	0	0
	point411	411	700	35	0	0	0	0	0	0	0	0
	point412	412	700	35	0	0	0	0	0	0	0	0
	point413	413	700	35	0	0	0	0	0	0	0	0
	point414	414										
Rd44; SB On Fr 1072/1	point415	415	420	35	0	0	0	0	0	0	0	0
	point416	416	420	35	0	0	0	0	0	0	0	0
	point417	417										
Rd45; SB off to Dixie/1	point418	418	440	35	0	0	0	0	0	0	0	0
	point419	419	440	35	0	0	0	0	0	0	0	0
	point420	420	440	35	0	0	0	0	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point421	421	440	35	0	0	0	0	0	0	0	0
	point422	422	440	35	0	0	0	0	0	0	0	0
	point423	423	440	35	0	0	0	0	0	0	0	0
	point424	424	440	35	0	0	0	0	0	0	0	0
	point425	425	440	35	0	0	0	0	0	0	0	0
	point426	426	440	35	0	0	0	0	0	0	0	0
	point427	427	440	35	0	0	0	0	0	0	0	0
	point428	428	440	35	0	0	0	0	0	0	0	0
	point429	429	440	35	0	0	0	0	0	0	0	0
	point430	430										
Rd46;SB Off To Nb Dixie/1	point431	431	0	0	0	0	0	0	0	0	0	0
	point432	432	0	0	0	0	0	0	0	0	0	0
	point433	433	0	0	0	0	0	0	0	0	0	0
	point434	434	0	0	0	0	0	0	0	0	0	0
	point435	435	0	0	0	0	0	0	0	0	0	0
	point436	436	0	0	0	0	0	0	0	0	0	0
	point437	437										
Rd47; SB on Fr Dixie/1	point438	438	470	35	0	0	0	0	0	0	0	0
	point439	439	470	35	0	0	0	0	0	0	0	0
	point440	440	470	35	0	0	0	0	0	0	0	0
	point441	441	470	35	0	0	0	0	0	0	0	0
	point442	442	470	35	0	0	0	0	0	0	0	0
	point443	443	470	35	0	0	0	0	0	0	0	0
	point444	444	470	35	0	0	0	0	0	0	0	0
	point445	445	470	35	0	0	0	0	0	0	0	0
	point446	446	470	35	0	0	0	0	0	0	0	0
	point447	447	470	35	0	0	0	0	0	0	0	0
	point448	448	470	35	0	0	0	0	0	0	0	0
	point449	449	470	35	0	0	0	0	0	0	0	0
	point450	450										
Rd48; SB Dixie to Off ramp/1	point451	451	634	25	0	0	16	25	0	0	0	0
	point452	452	634	25	0	0	16	25	0	0	0	0
	point453	453	634	25	0	0	16	25	0	0	0	0
	point454	454	634	25	0	0	16	25	0	0	0	0
	point455	455										
Rd49; SB Dixie Over 75/1	point456	456	634	25	0	0	16	25	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point457	457	634	25	0	0	16	25	0	0	0	0
	point458	458	634	25	0	0	16	25	0	0	0	0
	point459	459										
Rd50; SB Dixie Fr on Ramp/1	point460	460	634	25	0	0	16	25	0	0	0	0
	point461	461	634	25	0	0	16	25	0	0	0	0
	point462	462										
Rd51; NB Dixie to Off ramp/1	point463	463	1794	25	0	0	46	25	0	0	0	0
	point464	464	1794	25	0	0	46	25	0	0	0	0
	point465	465										
Rd52; NB Dixie Off-Off/1	point466	466	1794	25	0	0	46	25	0	0	0	0
	point467	467										
Rd53; NB Dixie Over 75/1	point468	468	957	25	0	0	33	25	0	0	0	0
	point469	469	957	25	0	0	33	25	0	0	0	0
	point470	470	957	25	0	0	33	25	0	0	0	0
	point471	471	957	25	0	0	33	25	0	0	0	0
	point472	472	957	25	0	0	33	25	0	0	0	0
	point473	473										
Rd54; NB Dixie Off SB - Off NB/1	point474	474	594	25	2	25	4	25	0	0	0	0
	point475	475										
Rd55; NB Dixie fr 75 off/1	point476	476	957	25	0	0	33	25	0	0	0	0
	point477	477	957	25	0	0	33	25	0	0	0	0
	point478	478										
Rd56; SB 1072 to SB off ramp/1	point479	479	652	25	0	0	68	25	0	0	0	0
	point480	480										
Rd57; SB 1072 Over 75/1	point481	481	797	25	0	0	83	25	0	0	0	0
	point482	482	797	25	0	0	83	25	0	0	0	0
	point483	483	797	25	0	0	83	25	0	0	0	0
	point484	484	797	25	0	0	83	25	0	0	0	0
	point485	485										
Rd58; SB Kyles fr NB off Ramp/1	point486	486	797	25	0	0	83	25	0	0	0	0
	point487	487	797	25	0	0	83	25	0	0	0	0
	point488	488	797	25	0	0	83	25	0	0	0	0
	point489	489										
Rd59; NB 1072 to NB On Ramp/1	point490	490	1096	25	0	0	114	25	0	0	0	0
	point491	491	1096	25	0	0	114	25	0	0	0	0
	point492	492	1096	25	0	0	114	25	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point493	493	1096	25	0	0	114	25	0	0	0	0
	point494	494										
Rd60; NB 1072 Over 75/1	point495	495	1096	25	0	0	114	25	0	0	0	0
	point496	496	1096	25	0	0	114	25	0	0	0	0
	point497	497	1096	25	0	0	114	25	0	0	0	0
	point498	498	1096	25	0	0	114	25	0	0	0	0
	point499	499										
Rd61; NB 1072 Fr SB On ramp/1	point500	500	788	25	0	0	82	25	0	0	0	0
	point501	501										
Rd101; SB Kyles fr St Anthony(2)/1	point684	684	797	25	0	0	83	25	0	0	0	0
	point685	685										
Rd102; BD Kyles to Anthony(2)/1	point686	686	1158	25	5	25	7	25	0	0	0	0
	point687	687										
RD 104 ; NB 75 Butter on-Dixi Off (3)/1	point701	701	3393	55	0	0	797	55	0	0	0	0
	point702	702	3393	55	0	0	797	55	0	0	0	0
	point703	703	3393	55	0	0	797	55	0	0	0	0
	point704	704	3393	55	0	0	797	55	0	0	0	0
	point705	705	3393	55	0	0	797	55	0	0	0	0
	point706	706										
Rd 106 NB On fr EB Butter (1)/1	point707	707	264	35	14	35	22	35	0	0	0	0
	point708	708	264	35	14	35	22	35	0	0	0	0
	point709	709	264	35	14	35	22	35	0	0	0	0
	point710	710										
Rd107 NB On Fr WB Butter (1)/1	point711	711	264	35	14	35	22	35	0	0	0	0
	point712	712	264	35	14	35	22	35	0	0	0	0
	point713	713	264	35	14	35	22	35	0	0	0	0
	point714	714										
Rd 108 NB On Fr Butter (1)/1	point715	715	0	0	0	0	0	0	0	0	0	0
	point716	716	0	0	0	0	0	0	0	0	0	0
	point717	717	0	0	0	0	0	0	0	0	0	0
	point718	718	0	0	0	0	0	0	0	0	0	0
	point719	719	0	0	0	0	0	0	0	0	0	0
	point720	720	0	0	0	0	0	0	0	0	0	0
	point721	721	0	0	0	0	0	0	0	0	0	0
	point722	722	0	0	0	0	0	0	0	0	0	0
	point723	723	0	0	0	0	0	0	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point724	724	0	0	0	0	0	0	0	0	0	0
	point725	725	0	0	0	0	0	0	0	0	0	0
	point726	726										
Rd 109 SB 75 Dixie On-5 Lane/1	point727	727	5721	55	101	55	808	55	101	55	0	0
	point728	728	5721	55	101	55	808	55	101	55	0	0
	point729	729	5721	55	101	55	808	55	101	55	0	0
	point730	730	5721	55	101	55	808	55	101	55	0	0
	point731	731	5721	55	101	55	808	55	101	55	0	0
	point732	732	5721	55	101	55	808	55	101	55	0	0
	point733	733	5721	55	101	55	808	55	101	55	0	0
	point734	734	5721	55	101	55	808	55	101	55	0	0
	point735	735										
Rd 110 SB 75 to end (5)/1	point736	736	2664	55	0	0	626	55	0	0	0	0
	point737	737	2664	55	0	0	626	55	0	0	0	0
	point738	738	2664	55	0	0	626	55	0	0	0	0
	point739	739	2664	55	0	0	626	55	0	0	0	0
	point740	740	2664	55	0	0	626	55	0	0	0	0
	point741	741	2664	55	0	0	626	55	0	0	0	0
	point742	742	2664	55	0	0	626	55	0	0	0	0
	point743	743	2664	55	0	0	626	55	0	0	0	0
	point744	744	2664	55	0	0	626	55	0	0	0	0
	point745	745										
Roadway120; NB 75 to On fr Butter (3)	point688	753	3393	55	0	0	797	55	0	0	0	0
	point689	754	3393	55	0	0	797	55	0	0	0	0
	point690	755	3393	55	0	0	797	55	0	0	0	0
	point691	756	3393	55	0	0	797	55	0	0	0	0
	point692	757	3393	55	0	0	797	55	0	0	0	0
	point693	758	3393	55	0	0	797	55	0	0	0	0
	point694	759	3393	55	0	0	797	55	0	0	0	0
	point695	760	3393	55	0	0	797	55	0	0	0	0
	point696	761	3393	55	0	0	797	55	0	0	0	0
	point697	762	3393	55	0	0	797	55	0	0	0	0
	point698	763	3393	55	0	0	797	55	0	0	0	0
	point699	764	3393	55	0	0	797	55	0	0	0	0
	point700	765										
Rd 1; NB 75 Under Dixie/1	point1	766	3689	55	0	0	611	55	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point2	767	3689	55	0	0	611	55	0	0	0	0
	point3	768	3689	55	0	0	611	55	0	0	0	0
	point4	769	3689	55	0	0	611	55	0	0	0	0
	point5	770	3689	55	0	0	611	55	0	0	0	0
	point6	771	3689	55	0	0	611	55	0	0	0	0
	point7	772	3689	55	0	0	611	55	0	0	0	0
	point8	773	3689	55	0	0	611	55	0	0	0	0
	point9	774	3689	55	0	0	611	55	0	0	0	0
	point10	775	3689	55	0	0	611	55	0	0	0	0
	point11	776	3689	55	0	0	611	55	0	0	0	0
	point12	777	3689	55	0	0	611	55	0	0	0	0
	point13	778	3689	55	0	0	611	55	0	0	0	0
	point14	779	3689	55	0	0	611	55	0	0	0	0
	point15	780	3689	55	0	0	611	55	0	0	0	0
	point16	781	3689	55	0	0	611	55	0	0	0	0
	point17	782	3689	55	0	0	611	55	0	0	0	0
	point18	783	3689	55	0	0	611	10	0	0	0	0
	point19	784	3689	55	0	0	611	55	0	0	0	0
	point20	785										



**INPUT: TREE ZONES**

**BSB**

<b>PEC</b>				<b>8 August 2023</b>		
<b>ZR</b>				<b>TNM 2.5</b>		
<b>INPUT: TREE ZONES</b>						
<b>PROJECT/CONTRACT:</b>	<b>BSB</b>					
<b>RUN:</b>	<b>KY Exist PM S2</b>					
<b>Tree Zone</b>		<b>Points</b>				
<b>Name</b>	<b>Average Height</b>	<b>No.</b>	<b>Coordinates (ground)</b>			
	<b>ft</b>		<b>X</b>	<b>Y</b>	<b>Z</b>	
			<b>ft</b>	<b>ft</b>	<b>ft</b>	
Tree Zone 8	32.81	145	5,267,936.0	4,275,798.0	814.50	
		146	5,268,060.5	4,275,652.5	830.40	
		147	5,268,154.5	4,275,704.5	827.00	
		148	5,268,286.0	4,275,818.5	804.80	
		149	5,268,442.5	4,275,857.5	789.50	
		150	5,268,570.5	4,275,918.0	764.30	
		151	5,268,479.0	4,276,101.5	746.50	
Tree Zone 9	32.81	153	5,269,229.0	4,277,402.5	780.40	
		154	5,268,895.5	4,277,363.5	797.10	
		155	5,268,864.0	4,277,350.5	797.20	
		156	5,268,719.0	4,277,409.0	798.50	
		157	5,268,675.0	4,277,427.5	792.50	
		158	5,268,619.0	4,277,408.0	798.60	
		159	5,268,630.5	4,277,243.0	799.90	
		160	5,268,572.0	4,277,150.0	790.40	
		161	5,268,426.5	4,277,111.0	794.50	
		162	5,268,305.5	4,277,053.5	806.20	
		163	5,268,261.5	4,277,002.5	810.60	
		164	5,268,247.0	4,276,864.5	815.20	
		165	5,268,301.5	4,276,835.0	809.30	
		166	5,268,413.5	4,276,828.5	803.40	
		167	5,268,500.5	4,276,796.5	792.80	
		168	5,268,512.5	4,276,767.5	787.40	
		169	5,268,522.5	4,276,719.5	787.70	

**INPUT: TREE ZONES**

**BSB**

		170	5,268,429.5	4,276,658.5	800.40
		171	5,268,367.5	4,276,604.0	804.00
		172	5,268,278.0	4,276,458.5	782.70
		173	5,268,235.5	4,276,453.0	786.90
		174	5,267,999.0	4,276,613.0	829.80
		175	5,267,902.5	4,276,616.0	843.60
		176	5,267,662.5	4,276,612.5	840.60
		177	5,267,679.0	4,276,415.0	802.60
		178	5,267,742.5	4,276,378.0	794.10
		179	5,267,771.0	4,276,321.5	786.60
		180	5,267,896.5	4,276,297.0	783.70
		181	5,267,958.5	4,276,146.0	779.10
		182	5,267,940.0	4,276,121.0	781.10
		183	5,267,891.5	4,276,091.0	787.40
		184	5,267,784.0	4,276,100.0	796.20
		185	5,267,648.5	4,276,035.0	815.40
		186	5,267,501.0	4,276,033.5	824.50
		187	5,267,464.5	4,276,139.0	809.20
		188	5,267,376.0	4,276,371.5	790.40
		189	5,267,352.5	4,276,363.0	790.60
		190	5,267,415.0	4,276,093.5	816.90
		191	5,267,323.0	4,276,039.0	820.90
		192	5,267,442.5	4,275,978.0	829.10
		193	5,267,567.0	4,275,979.0	826.90
		194	5,267,906.0	4,276,036.5	788.80
		195	5,268,129.0	4,276,128.5	767.20
		196	5,267,964.0	4,276,385.5	793.60
		197	5,267,798.0	4,276,457.0	815.40
		198	5,267,793.5	4,276,515.5	831.00
		199	5,268,079.5	4,276,491.5	807.60
		200	5,268,222.0	4,276,395.0	778.00
		201	5,268,429.5	4,276,375.0	766.10
		202	5,268,523.0	4,276,508.5	772.10
		203	5,268,635.0	4,276,606.0	764.40
		204	5,268,706.5	4,276,730.0	773.40
		205	5,269,016.0	4,276,925.5	748.30

**INPUT: TREE ZONES**

**BSB**

		206	5,268,896.5	4,277,041.0	777.50
		207	5,269,241.5	4,277,163.5	754.60
Tree Zone 10	32.81	209	5,268,567.5	4,277,639.0	800.80
		210	5,268,863.0	4,277,713.5	792.80
		211	5,269,200.5	4,277,641.5	768.50
		212	5,269,286.5	4,277,557.5	764.20
		213	5,269,440.0	4,277,711.5	742.90
		214	5,269,446.0	4,278,126.5	795.30
		215	5,269,369.5	4,278,094.0	794.10
		216	5,269,220.0	4,278,106.5	813.00
		217	5,269,204.5	4,278,088.5	812.70
		218	5,269,188.5	4,278,076.5	801.40
		219	5,269,146.5	4,278,020.0	801.70
		220	5,268,881.0	4,278,101.0	816.10
		221	5,268,705.5	4,278,021.0	822.00
Tree Zone 12	32.81	256	5,269,297.0	4,278,704.5	802.40
		257	5,269,266.0	4,278,593.5	801.20
		258	5,269,424.0	4,278,398.0	798.30
		259	5,269,539.5	4,278,340.0	792.80
		260	5,269,624.5	4,278,470.5	772.40
		261	5,269,552.5	4,278,606.0	778.90
		262	5,269,435.0	4,278,727.5	796.50
Tree Zone7	30.00	356	5,266,391.0	4,275,570.5	850.00
		357	5,266,469.5	4,275,442.5	850.00
		358	5,267,004.0	4,275,540.0	804.00
		359	5,266,957.5	4,275,694.0	804.00
		360	5,266,868.5	4,275,691.0	804.00

**INPUT: TREE ZONES**

**BSB**

<b>PEC</b>		<b>8 August 2023</b>			
<b>ZR</b>		<b>TNM 2.5</b>			
<b>INPUT: TREE ZONES</b>					
<b>PROJECT/CONTRACT:</b>		<b>BSB</b>			
<b>RUN:</b>		<b>KY Exist PM S2</b>			
<b>Tree Zone</b>		<b>Points</b>			
<b>Name</b>	<b>Average Height</b>	<b>No.</b>	<b>Coordinates (ground)</b>		<b>Z</b>
	ft		<b>X</b>	<b>Y</b>	ft
			ft	ft	
Tree Zone2	20.00	382	5,259,769.5	4,272,521.5	813.60
		383	5,259,917.0	4,272,482.0	819.30
		384	5,260,033.0	4,272,468.0	823.20
		385	5,260,204.5	4,272,429.5	829.60
		386	5,260,259.0	4,272,404.5	832.20
		387	5,260,302.0	4,272,427.0	832.90
		388	5,260,297.0	4,272,490.5	831.70
		389	5,260,321.0	4,272,505.5	831.50
		390	5,260,410.0	4,272,434.0	833.10
		391	5,260,600.0	4,272,389.5	831.10
		392	5,260,710.0	4,272,382.5	827.40
		393	5,260,710.5	4,272,396.0	827.40
		394	5,260,577.5	4,272,439.0	831.80
		395	5,260,402.0	4,272,565.5	829.60
		396	5,260,422.0	4,272,613.0	828.10
		397	5,260,340.0	4,272,772.0	819.40
		398	5,260,284.5	4,272,674.0	829.90
		399	5,260,196.0	4,272,580.0	831.40
		400	5,260,011.5	4,272,536.5	822.50
		401	5,259,946.0	4,272,535.5	820.30
		402	5,259,775.5	4,272,580.5	814.30
Tree Zone4	0.00	420	5,263,503.5	4,274,035.5	833.70
		421	5,263,257.0	4,273,809.5	825.10
		422	5,262,957.5	4,273,515.0	815.20

**INPUT: TREE ZONES****BSB**

		423	5,262,991.5	4,273,449.5	816.10
		424	5,263,020.5	4,273,461.5	817.80
		425	5,263,075.5	4,273,615.5	820.70
		426	5,263,146.5	4,273,628.0	823.40
		427	5,263,219.5	4,273,548.0	828.30
		428	5,263,238.5	4,273,456.0	829.00
		429	5,263,356.5	4,273,469.5	826.30
		430	5,263,281.0	4,273,725.0	825.90
		431	5,263,386.0	4,273,832.5	830.70
		432	5,263,440.0	4,273,828.0	832.20
		433	5,263,517.5	4,274,048.5	834.20
Tree Zone28	0.00	460	5,259,757.0	4,272,245.0	805.20
		461	5,259,223.0	4,272,343.5	801.80
		462	5,259,536.0	4,272,115.5	792.60
		463	5,259,647.5	4,272,012.0	801.00
		464	5,259,775.5	4,271,814.0	800.00
		465	5,259,807.0	4,271,831.5	800.00
		466	5,259,741.0	4,272,035.5	800.00

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## **APPENDIX D**

**KYTC Traffic Data  
(See Attached Excel  
Spreadsheets)**

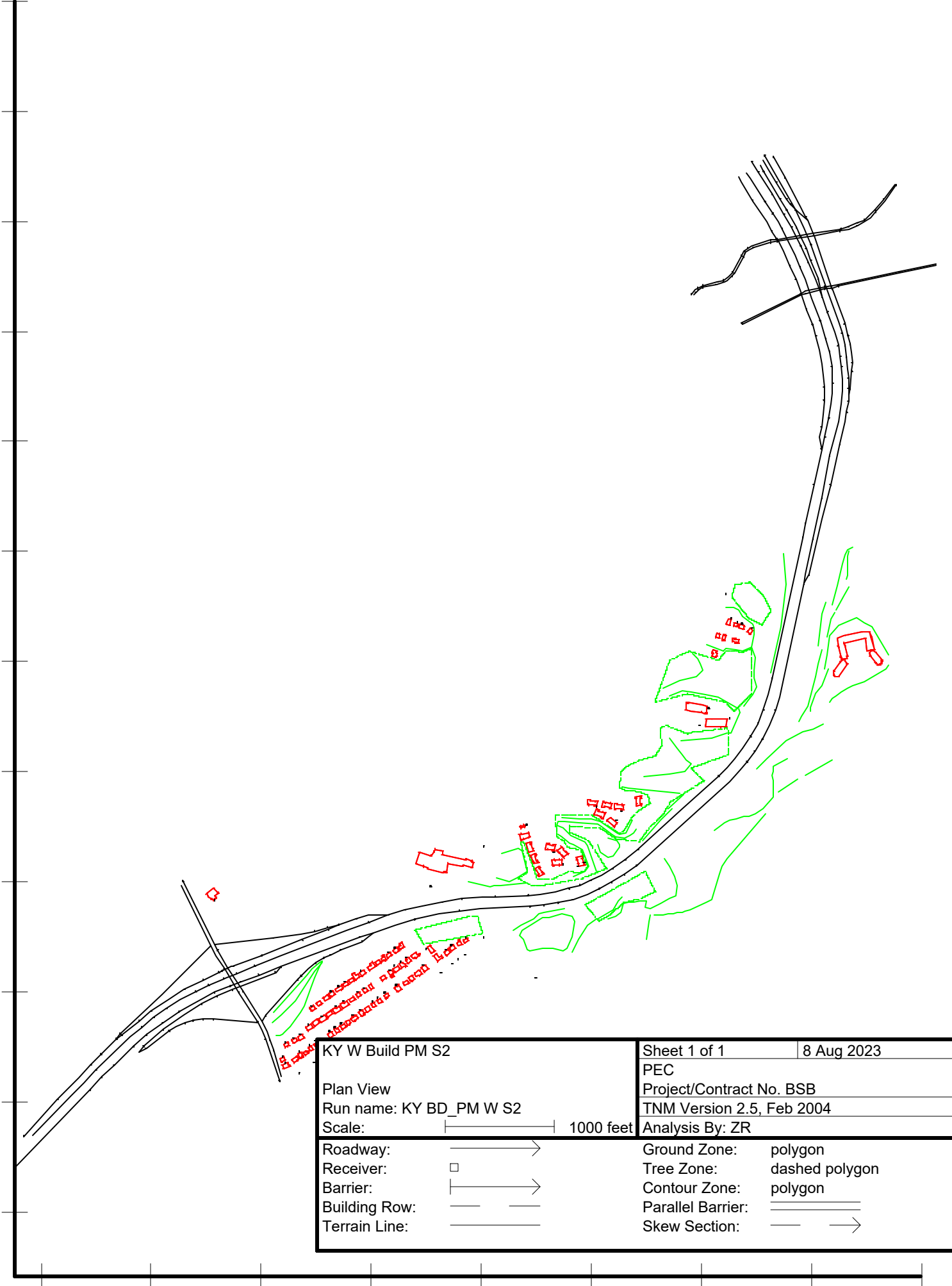
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# **APPENDIX E**

## **TNM Runs – Build 2049**

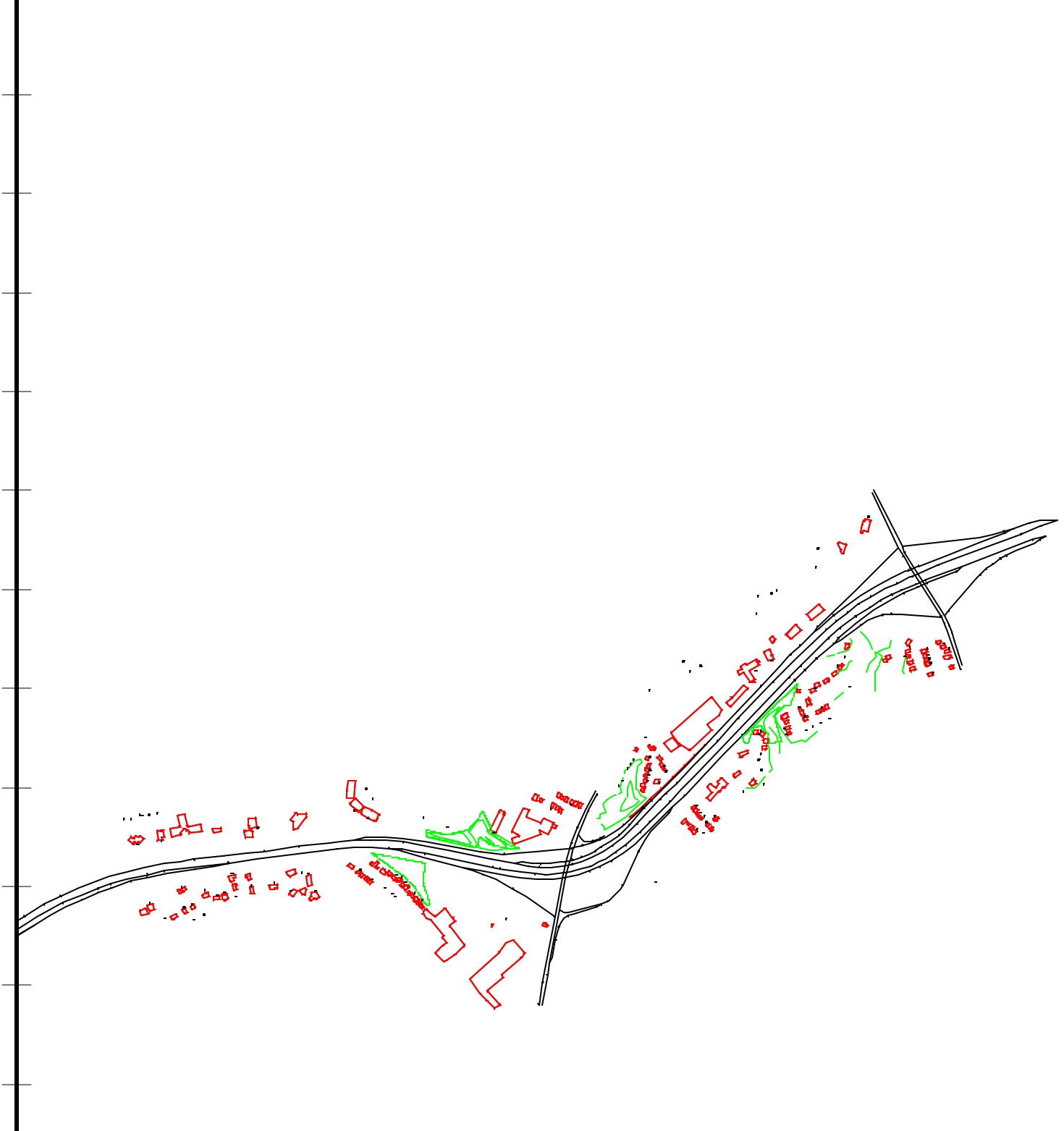
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000

5264000 5265000 5266000 5267000 5268000 5269000 5270000 5271000





KY W Build PM S3		Sheet 1 of 1	8 Aug 2023
Plan View		PEC	
Run name: KY BD_PM W S3		Project/Contract No. BSB	
Scale:  1000 feet		TNM Version 2.5, Feb 2004	
Analysis By: ZR			
Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

000 5257000 5258000 5259000 5260000 5261000 5262000 5263000 5264000 5265000 5266000



**INPUT: RECEIVERS**

**BSB**

R496(K2006)	436	1	5,265,448.0	4,274,882.5	859.94	4.92	62.40	66	10.0	7.0	Y
M-38(K1609)	437	1	5,266,246.0	4,275,430.0	838.00	4.92	71.90	66	10.0	7.0	Y
R499(K1172)	440	1	5,269,316.5	4,278,364.5	788.32	4.92	44.80	66	10.0	7.0	Y
R500(K1620)	441	1	5,266,147.0	4,275,367.5	839.24	4.92	72.40	66	10.0	7.0	Y
R501(K2004)	442	1	5,265,571.5	4,274,973.5	853.28	4.92	64.70	66	10.0	7.0	Y
R502(K2005)	443	1	5,265,505.0	4,274,927.5	859.94	4.92	64.00	66	10.0	7.0	Y
R503(K1622)	444	1	5,266,081.0	4,275,337.5	839.14	4.92	72.10	66	10.0	7.0	Y
R504(K1630)	445	1	5,265,969.0	4,275,267.5	837.60	4.92	71.20	66	10.0	7.0	Y
R505(K1674)	446	1	5,265,624.0	4,275,013.5	852.20	4.92	66.10	66	10.0	7.0	Y
M-31(K1979)	447	1	5,269,245.5	4,277,491.0	779.60	4.92	70.00	66	10.0	7.0	Y
R507(K1564)	449	1	5,267,761.0	4,276,228.0	809.91	4.92	63.00	66	10.0	7.0	Y
R508(K1627)	450	1	5,266,046.0	4,275,302.0	838.45	4.92	71.50	66	10.0	7.0	Y
R509(K1573)	451	1	5,267,202.0	4,276,057.0	845.31	4.92	69.40	66	10.0	7.0	Y
R510(K1670 R-61)	452	1	5,265,693.0	4,275,063.0	849.12	4.92	67.20	66	10.0	7.0	Y
R512(K1642)	454	1	5,265,840.5	4,275,186.0	840.42	4.92	69.70	66	10.0	7.0	Y
R514(K1174)	456	1	5,269,360.0	4,278,352.0	778.74	4.92	47.40	66	10.0	7.0	Y
R515(K1569)	457	1	5,267,733.5	4,276,164.5	810.93	4.92	65.10	66	10.0	7.0	Y
R516(K1638)	458	1	5,265,897.5	4,275,200.5	838.88	4.92	69.70	66	10.0	7.0	Y
R517(K1652)	459	1	5,265,803.5	4,275,128.5	844.36	4.92	67.50	66	10.0	7.0	Y
R518(K1665)	460	1	5,265,750.5	4,275,098.0	845.67	4.92	67.60	66	10.0	7.0	Y
R519(K2012)	461	1	5,265,286.0	4,274,592.5	861.35	4.92	58.90	66	10.0	7.0	Y
R520(K2014)	462	1	5,265,214.0	4,274,549.5	868.08	4.92	61.90	66	10.0	7.0	Y
M-35(K1503)	464	1	5,267,929.0	4,276,185.0	797.87	4.92	70.80	66	10.0	7.0	Y
R523(K1578)	466	1	5,267,546.5	4,276,123.0	824.64	4.92	59.70	66	10.0	7.0	Y
R525(K1570)	468	1	5,267,868.5	4,276,148.5	799.35	4.92	70.30	66	10.0	7.0	Y
R526(K2009)	469	1	5,265,420.5	4,274,711.0	856.20	4.92	56.70	66	10.0	7.0	Y
R527(K2011)	470	1	5,265,345.0	4,274,621.5	858.01	4.92	57.50	66	10.0	7.0	Y
M-30(K1176)	471	1	5,269,449.5	4,278,314.5	770.00	4.92	66.90	66	10.0	7.0	Y
R530(K1181)	474	1	5,269,373.5	4,278,150.5	775.56	4.92	52.90	66	10.0	7.0	Y
R531(K1621)	475	1	5,266,375.5	4,275,367.5	843.90	4.92	67.60	66	10.0	7.0	Y
R532(K2008)	476	1	5,265,480.0	4,274,752.0	856.93	4.92	56.20	66	10.0	7.0	Y
M-37(K1616)	477	1	5,266,492.0	4,275,399.0	842.00	4.92	66.40	66	10.0	7.0	Y
R533(K2007)	478	1	5,265,543.0	4,274,791.0	857.45	4.92	56.80	66	10.0	7.0	Y
R535(K1705)	480	1	5,265,602.5	4,274,834.0	856.53	4.92	56.50	66	10.0	7.0	Y
R536(K2024)	481	1	5,265,186.0	4,274,422.0	866.34	4.92	64.10	66	10.0	7.0	Y
R537(K85)	482	1	5,266,769.0	4,275,472.0	839.08	4.92	66.30	66	10.0	7.0	Y

**INPUT: RECEIVERS**

**BSB**

R538(K1602)	483	1	5,266,852.5	4,275,503.0	840.95	4.92	69.40	66	10.0	7.0	Y
R539(K1611)	484	1	5,266,718.5	4,275,434.0	841.51	4.92	63.80	66	10.0	7.0	Y
R540(K1624)	485	1	5,266,309.5	4,275,325.0	844.43	4.92	66.20	66	10.0	7.0	Y
R541(K1629)	487	1	5,266,258.0	4,275,283.0	845.47	4.92	64.20	66	10.0	7.0	Y
R542(K1632)	488	1	5,266,202.5	4,275,249.0	843.90	4.92	62.10	66	10.0	7.0	Y
R545(K1608)	491	1	5,267,013.0	4,275,503.0	846.07	4.92	72.10	66	10.0	7.0	Y
R546(K1613)	492	1	5,266,670.0	4,275,396.0	843.24	4.92	61.10	66	10.0	7.0	Y
R547(K1637)	493	1	5,266,159.5	4,275,208.5	843.18	4.92	60.70	66	10.0	7.0	Y
R548(K1699)	494	1	5,265,669.0	4,274,877.0	856.20	4.92	57.10	66	10.0	7.0	Y
R550(K1695)	496	1	5,265,739.5	4,274,925.0	854.33	4.92	58.40	66	10.0	7.0	Y
R551(K2019)	497	1	5,265,336.5	4,274,467.0	859.32	4.92	56.00	66	10.0	7.0	Y
R552(K2023)	498	1	5,265,288.5	4,274,426.0	862.31	4.92	58.40	66	10.0	7.0	Y
R553(K2031)	499	1	5,265,212.5	4,274,364.5	864.37	4.92	61.20	66	10.0	7.0	Y
R554(K1677)	500	1	5,265,867.0	4,275,005.0	849.51	4.92	59.00	66	10.0	7.0	Y
R555(K1687)	501	1	5,265,806.5	4,274,964.5	852.07	4.92	58.80	66	10.0	7.0	Y
R556(K2018)	502	1	5,265,384.5	4,274,485.5	856.01	4.92	54.30	66	10.0	7.0	Y
R557(K2037)	503	1	5,265,126.5	4,274,244.0	863.91	4.92	69.40	66	10.0	7.0	Y
R558(K1626)	504	1	5,266,627.5	4,275,354.5	844.26	4.92	58.50	66	10.0	7.0	Y
R559(K1648)	505	1	5,266,092.5	4,275,160.0	842.65	4.92	59.60	66	10.0	7.0	Y
R560(K1668)	506	1	5,265,979.5	4,275,078.5	842.88	4.92	59.20	66	10.0	7.0	Y
R561(K1672)	507	1	5,265,926.0	4,275,047.0	846.92	4.92	59.40	66	10.0	7.0	Y
R562(K2013)	508	1	5,265,484.0	4,274,565.5	848.49	4.92	52.20	66	10.0	7.0	Y
R563(K2015)	509	1	5,265,430.0	4,274,525.5	852.86	4.92	53.00	66	10.0	7.0	Y
R565(K1713)	511	1	5,265,612.0	4,274,652.0	848.39	4.92	52.40	66	10.0	7.0	Y
R566(K2038)	512	1	5,265,242.5	4,274,209.5	860.96	4.92	64.70	66	10.0	7.0	Y
R569(K1712)	515	1	5,265,660.5	4,274,690.5	848.72	4.92	52.70	66	10.0	7.0	Y
R570(K2036)	516	1	5,265,335.5	4,274,271.0	859.25	4.92	60.00	66	10.0	7.0	Y
R572(K1635)	518	1	5,266,462.5	4,275,252.0	845.64	4.92	55.50	66	10.0	7.0	Y
R573(K1617)	519	1	5,266,909.5	4,275,389.0	843.34	4.92	68.00	66	10.0	7.0	Y
R577(K1623)	523	1	5,266,844.0	4,275,348.0	841.08	4.92	65.50	66	10.0	7.0	Y
R578(K1634)	524	1	5,266,400.5	4,275,207.5	848.26	4.92	58.40	66	10.0	7.0	Y
R579(K1710)	525	1	5,265,718.5	4,274,725.0	851.02	4.92	53.30	66	10.0	7.0	Y
R580(K2034)	526	1	5,265,408.0	4,274,322.5	856.20	4.92	55.10	66	10.0	7.0	Y
R581(K1708)	528	1	5,265,767.5	4,274,761.0	851.51	4.92	53.10	66	10.0	7.0	Y
R583(K1628)	531	1	5,266,780.5	4,275,304.5	841.34	4.92	63.30	66	10.0	7.0	Y
R584(K1641)	532	1	5,266,342.0	4,275,163.0	846.98	4.92	56.40	66	10.0	7.0	Y

**INPUT: RECEIVERS****BSB**

R585(K1706)	533	1	5,265,823.0	4,274,802.0	851.54	4.92	53.60	66	10.0	7.0	Y
R586(K2030)	534	1	5,265,471.0	4,274,369.5	851.87	4.92	53.10	66	10.0	7.0	Y
R587(K1704)	535	1	5,265,890.5	4,274,846.0	850.20	4.92	54.20	66	10.0	7.0	Y
R589(K1631)	537	1	5,266,727.0	4,275,263.5	842.39	4.92	61.90	66	10.0	7.0	Y
R590(K1651)	538	1	5,266,291.5	4,275,122.0	845.67	4.92	56.30	66	10.0	7.0	Y
R591(K1666)	539	1	5,266,219.0	4,275,073.0	843.24	4.92	55.90	66	10.0	7.0	Y
R592(K1682)	540	1	5,266,113.0	4,275,003.0	844.49	4.92	56.10	66	10.0	7.0	Y
R593(K1691)	541	1	5,266,051.5	4,274,958.0	847.15	4.92	55.40	66	10.0	7.0	Y
R594(K1698)	542	1	5,265,942.5	4,274,881.5	848.89	4.92	54.20	66	10.0	7.0	Y
R597(K1636)	545	1	5,266,677.0	4,275,226.5	845.44	4.92	61.40	66	10.0	7.0	Y
R598(K1694)	546	1	5,265,998.0	4,274,922.5	847.80	4.92	54.40	66	10.0	7.0	Y
R599(K2021)	547	1	5,265,590.5	4,274,449.0	845.41	4.92	53.30	66	10.0	7.0	Y
R600(K2027)	548	1	5,265,521.0	4,274,403.5	849.31	4.92	53.30	66	10.0	7.0	Y
R604(K1643)	552	1	5,266,625.0	4,275,181.5	846.43	4.92	61.60	66	10.0	7.0	Y
R605(K1718)	553	1	5,265,664.0	4,274,506.0	842.06	4.92	53.50	66	10.0	7.0	Y
R607(K1717)	555	1	5,265,708.5	4,274,529.0	843.18	4.92	53.50	66	10.0	7.0	Y
R612(K1716)	560	1	5,265,732.0	4,274,547.0	845.47	4.92	54.10	66	10.0	7.0	Y
R637(K1617 R-60)	585	1	5,267,486.0	4,275,133.0	831.00	4.92	67.00	66	10.0	7.0	Y
R902	655	1	5,266,533.0	4,275,966.5	821.00	4.92	74.50	66	10.0	7.0	Y
R903	656	1	5,266,083.5	4,276,221.5	864.00	4.92	65.10	66	10.0	7.0	Y
R904	657	1	5,267,010.5	4,276,329.5	806.00	4.92	54.40	66	10.0	7.0	Y

**INPUT: RECEIVERS**

**BSB**

PEC							8 August 2023					
ZR							TNM 2.5					
INPUT: RECEIVERS												
PROJECT/CONTRACT:		BSB										
RUN:		KY W Build PM S3										
Receiver												
Name	No.	#DUs	Coordinates (ground)			Height above Ground	Input Sound Levels and Criteria				Active in Calc.	
			X	Y	Z		Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal		
			ft	ft	ft	ft	dBA	dBA	dB	dB		
R702(K47)	210	1	5,256,878.5	4,272,731.0	794.33	4.92	62.00	66	10.0	7.0	Y	
R703(K1251)	211	1	5,257,058.5	4,272,747.5	805.09	4.92	61.40	66	10.0	7.0	Y	
R704(K46)	212	1	5,256,848.5	4,272,708.5	792.62	4.92	62.30	66	10.0	7.0	Y	
R705(K48)	213	1	5,256,903.5	4,272,722.5	795.84	4.92	62.20	66	10.0	7.0	Y	
R706(K1254)	214	1	5,256,974.0	4,272,731.5	799.54	4.92	61.80	66	10.0	7.0	Y	
R707(K44)	215	1	5,256,714.0	4,272,689.0	789.93	4.92	62.70	66	10.0	7.0	Y	
R708(K43)	216	1	5,256,787.0	4,272,688.0	790.46	4.92	62.60	66	10.0	7.0	Y	
R709(K1471)	217	1	5,258,958.0	4,272,945.5	796.85	4.92	63.50	66	10.0	7.0	Y	
R710(K64)	218	1	5,259,164.0	4,272,994.5	807.35	4.92	61.70	66	10.0	7.0	Y	
R711(K1474)	219	1	5,259,230.0	4,272,892.5	806.27	4.92	63.90	66	10.0	7.0	Y	
R712(K1304)	220	1	5,263,102.5	4,274,761.5	904.01	4.92	65.70	66	10.0	7.0	Y	
R713(K1267)	221	1	5,256,859.5	4,272,436.0	790.95	4.92	71.80	66	10.0	7.0	Y	
R714(K1493)	222	1	5,259,036.5	4,272,777.0	796.16	4.92	68.90	66	10.0	7.0	Y	
R715(K1481)	223	1	5,259,335.0	4,272,828.0	805.42	4.92	65.80	66	10.0	7.0	Y	
R716(K1302)	224	1	5,263,203.5	4,274,831.5	901.32	4.92	65.60	66	10.0	7.0	Y	
R717(K1266)	225	1	5,257,098.5	4,272,468.5	803.15	4.92	72.90	66	10.0	7.0	Y	
R718(K1295)	226	1	5,263,307.5	4,274,994.5	901.28	4.92	64.10	66	10.0	7.0	Y	
R719(K1291)	227	1	5,263,412.0	4,275,256.0	897.12	4.92	60.90	66	10.0	7.0	Y	
R720(K1262)	228	1	5,257,434.0	4,272,544.5	818.24	4.92	72.20	66	10.0	7.0	Y	
R721(K1381)	229	1	5,262,186.5	4,273,703.0	837.08	4.92	58.60	66	10.0	7.0	Y	
R722(K1404)	230	1	5,261,982.5	4,273,509.0	830.78	4.92	58.30	66	10.0	7.0	Y	
R723(K1405)	231	1	5,261,949.0	4,273,458.0	828.25	4.92	58.40	66	10.0	7.0	Y	

**INPUT: RECEIVERS**

**BSB**

R724(K1415)	232	1	5,261,903.0	4,273,412.5	826.41	4.92	53.90	66	10.0	7.0	Y
R725(K1264)	233	1	5,257,665.0	4,272,546.5	834.62	4.92	73.60	66	10.0	7.0	Y
R726(K1487)	234	1	5,259,449.0	4,272,793.0	805.94	4.92	67.60	66	10.0	7.0	Y
R727(K2068)	235	1	5,258,071.0	4,272,601.5	812.21	4.92	71.90	66	10.0	7.0	Y
R728(K1419)	236	1	5,261,900.0	4,273,329.0	817.98	4.92	58.20	66	10.0	7.0	Y
R729(K1422)	237	1	5,261,862.5	4,273,288.0	816.67	4.92	58.10	66	10.0	7.0	Y
R730(K1311)	238	1	5,263,522.5	4,274,554.0	844.43	4.92	69.80	66	10.0	7.0	Y
R731(K1429)	239	1	5,261,833.0	4,273,244.0	811.39	4.92	58.20	66	10.0	7.0	Y
R732(K65)	240	1	5,261,799.5	4,273,200.5	813.55	4.92	58.90	66	10.0	7.0	Y
R733(K1332)	241	1	5,263,096.0	4,274,188.5	853.00	4.92	71.10	66	10.0	7.0	Y
R734(K1201)	242	1	5,259,180.0	4,272,695.0	795.05	4.92	72.00	66	10.0	7.0	Y
R735(K1339)	243	1	5,262,983.5	4,274,101.5	852.27	4.92	65.90	66	10.0	7.0	Y
R736(K2067)	244	1	5,258,488.5	4,272,583.0	787.67	4.92	75.20	66	10.0	7.0	Y
M-43(K1349)	245	1	5,262,957.5	4,273,917.5	850.17	4.92	75.70	66	10.0	7.0	Y
R737(K1323)	246	1	5,263,256.0	4,274,289.5	854.43	4.92	73.50	66	10.0	7.0	Y
R738(K1412)	247	1	5,262,061.0	4,273,369.0	831.40	4.92	60.60	66	10.0	7.0	Y
R739(K1424)	248	1	5,262,026.5	4,273,317.5	827.59	4.92	58.70	66	10.0	7.0	Y
R740(K1454)	249	1	5,261,750.5	4,273,078.0	812.11	4.92	60.60	66	10.0	7.0	Y
R741(K1307)	250	1	5,263,747.5	4,274,755.0	852.33	4.92	67.80	66	10.0	7.0	Y
R742(K1450)	251	1	5,261,803.0	4,273,108.0	808.53	4.92	58.70	66	10.0	7.0	Y
R743(K1479)	252	1	5,260,856.0	4,272,872.5	825.79	4.92	55.90	66	10.0	7.0	Y
R744(K1497)	253	1	5,259,524.5	4,272,744.0	809.02	4.92	70.00	66	10.0	7.0	Y
R745(K1476)	254	1	5,261,096.0	4,272,902.5	824.28	4.92	55.20	66	10.0	7.0	Y
R746(K1458)	255	1	5,261,714.0	4,273,023.0	817.06	4.92	63.10	66	10.0	7.0	Y
R747(K1482)	256	1	5,260,914.5	4,272,854.5	825.30	4.92	53.90	66	10.0	7.0	Y
R748(K2091)	257	1	5,257,809.0	4,272,136.0	836.98	4.92	78.00	66	10.0	7.0	Y
R749(K1767)	258	1	5,257,971.0	4,272,142.0	829.76	4.92	77.40	66	10.0	7.0	Y
R750(K1435)	259	1	5,262,035.0	4,273,221.0	826.35	4.92	60.00	66	10.0	7.0	Y
R751(K1427)	260	1	5,262,149.5	4,273,281.0	824.05	4.92	61.40	66	10.0	7.0	Y
R752(K1438)	261	1	5,262,029.0	4,273,184.5	825.99	4.92	60.60	66	10.0	7.0	Y
R753(K1472)	262	1	5,261,713.0	4,272,930.0	811.58	4.92	62.70	66	10.0	7.0	Y
R754(K1478)	263	1	5,261,125.0	4,272,886.0	823.79	4.92	56.20	66	10.0	7.0	Y
R755(K1488)	264	1	5,259,628.0	4,272,737.5	813.45	4.92	69.60	66	10.0	7.0	Y
R756(K2109B)	265	1	5,258,400.0	4,272,184.0	826.35	4.92	77.10	66	10.0	7.0	Y
R757(K2105)	266	1	5,257,298.0	4,272,001.0	797.84	4.92	74.70	66	10.0	7.0	Y
R758(K1448)	267	1	5,262,015.5	4,273,130.5	826.12	4.92	61.70	66	10.0	7.0	Y

**INPUT: RECEIVERS**

**BSB**

R759(K1283)	268	1	5,264,232.0	4,275,739.0	897.71	4.92	63.10	66	10.0	7.0	Y
R760(K1433)	269	1	5,262,173.5	4,273,225.5	820.31	4.92	61.70	66	10.0	7.0	Y
R761(K1483)	270	6	5,261,173.0	4,272,858.5	823.07	4.92	57.30	66	10.0	7.0	Y
R762(K1455)	271	1	5,261,999.5	4,273,077.5	826.18	4.92	63.20	66	10.0	7.0	Y
R763(K1485)	272	1	5,261,227.5	4,272,833.5	822.02	4.92	58.60	66	10.0	7.0	Y
R764(KV2092)	273	1	5,258,514.0	4,272,147.5	816.73	4.92	74.50	66	10.0	7.0	Y
R765(K1459)	274	1	5,261,987.0	4,273,030.5	825.63	4.92	63.20	66	10.0	7.0	Y
R766(K2085)	275	1	5,259,031.0	4,272,238.0	807.29	4.92	75.20	66	10.0	7.0	Y
R767(K1491)	276	1	5,261,033.0	4,272,789.5	823.20	4.92	54.60	66	10.0	7.0	Y
R768(K1437)	277	1	5,262,190.0	4,273,172.0	812.70	4.92	61.50	66	10.0	7.0	Y
R769(K2119)	278	1	5,257,537.5	4,271,972.0	813.98	4.92	72.80	66	10.0	7.0	Y
R770(K1489)	279	1	5,261,264.0	4,272,817.5	820.57	4.92	59.90	66	10.0	7.0	Y
R771(K2101)	280	1	5,257,812.5	4,272,007.5	828.94	4.92	69.60	66	10.0	7.0	Y
R772(K2109E)	281	1	5,258,581.0	4,272,137.5	808.96	4.92	73.50	66	10.0	7.0	Y
R773(KV1469)	282	1	5,261,964.0	4,272,929.0	816.73	4.92	62.70	66	10.0	7.0	Y
R774(K1346)	283	1	5,263,525.5	4,274,013.5	829.27	4.92	70.70	66	10.0	7.0	Y
R775(K1496)	284	1	5,261,082.0	4,272,771.5	825.33	4.92	55.70	66	10.0	7.0	Y
R776(K2087)	285	1	5,259,106.0	4,272,178.5	815.46	4.92	72.00	66	10.0	7.0	Y
R777(K2106)	286	1	5,258,008.5	4,272,017.0	839.41	4.92	71.00	66	10.0	7.0	Y
M-41(K1318)	287	1	5,263,990.0	4,274,394.5	885.83	4.92	69.90	66	10.0	7.0	Y
R778(K2104)	288	1	5,258,235.5	4,272,045.0	836.39	4.92	71.90	66	10.0	7.0	Y
R779(K1195)	289	1	5,259,745.5	4,272,702.0	815.42	4.92	69.20	66	10.0	7.0	Y
R780(K1383)	290	1	5,263,352.0	4,273,742.0	831.83	4.92	71.10	66	10.0	7.0	Y
R781(K1456)	291	1	5,262,123.5	4,273,055.5	817.06	4.92	62.50	66	10.0	7.0	Y
R782(K1495)	292	1	5,261,307.0	4,272,793.0	819.92	4.92	62.60	66	10.0	7.0	Y
R783(K1722C)	293	1	5,256,980.0	4,271,841.0	786.12	4.92	70.80	66	10.0	7.0	Y
R784(K1769)	294	1	5,259,139.0	4,272,143.0	816.18	4.92	69.10	66	10.0	7.0	Y
R785(K2083)	295	1	5,259,293.5	4,272,268.5	811.52	4.92	76.40	66	10.0	7.0	Y
M-44(K75)	296	1	5,263,123.5	4,273,545.5	833.00	4.92	70.70	66	10.0	7.0	Y
M-46(K1469)	297	1	5,262,005.5	4,272,911.5	825.00	4.92	65.00	66	10.0	7.0	Y
R786(K1194)	298	1	5,261,118.5	4,272,744.5	823.49	4.92	59.00	66	10.0	7.0	Y
R787(K2122)	299	1	5,257,736.0	4,271,947.0	824.38	4.92	69.70	66	10.0	7.0	Y
R788(K1722B)	300	1	5,256,912.0	4,271,794.0	784.52	4.92	70.00	66	10.0	7.0	Y
M-40(K1315)	301	1	5,264,650.0	4,274,426.0	860.01	4.92	61.90	66	10.0	7.0	Y
M-42(K1348)	302	1	5,263,693.5	4,274,013.5	848.99	4.92	63.90	66	10.0	7.0	Y
R789(K1319)	303	1	5,264,595.0	4,274,378.5	858.01	4.92	63.70	66	10.0	7.0	Y



**INPUT: RECEIVERS**

**BSB**

R790(K1360)	304	1	5,263,614.0	4,273,919.5	846.56	4.92	70.60	66	10.0	7.0	Y
R791(K1365)	305	1	5,263,533.5	4,273,819.0	833.76	4.92	69.10	66	10.0	7.0	Y
R792(K1421)	306	1	5,262,965.0	4,273,380.5	840.98	4.92	73.90	66	10.0	7.0	Y
R793(KV2025)	307	1	5,264,756.5	4,274,433.0	869.26	4.92	62.40	66	10.0	7.0	Y
R794(KV1318)	308	1	5,263,987.5	4,274,326.0	870.87	4.92	65.90	66	10.0	7.0	Y
R795(K74)	309	1	5,263,148.5	4,273,579.5	821.00	4.92	69.00	66	10.0	7.0	Y
R796(K1341)	310	1	5,263,716.0	4,274,068.0	851.41	4.92	70.60	66	10.0	7.0	Y
R797(K2124)	311	1	5,257,662.5	4,271,925.5	818.51	4.92	69.80	66	10.0	7.0	Y
R798(K1326)	312	1	5,264,399.0	4,274,330.5	836.42	4.92	61.90	66	10.0	7.0	Y
R799(K1391)	313	1	5,263,379.5	4,273,663.5	827.99	4.92	67.50	66	10.0	7.0	Y
R800(K2086)	314	1	5,259,376.0	4,272,200.0	810.44	4.92	72.50	66	10.0	7.0	Y
R801(K1205)	315	1	5,259,864.5	4,272,649.5	817.26	4.92	67.10	66	10.0	7.0	Y
R802(K1331)	316	1	5,263,924.5	4,274,236.5	871.30	4.92	68.20	66	10.0	7.0	Y
R803(K2017)	317	1	5,264,923.5	4,274,496.5	884.65	4.92	65.70	66	10.0	7.0	Y
R804(K2025)	318	1	5,264,824.0	4,274,410.5	881.07	4.92	63.50	66	10.0	7.0	Y
R805(K78)	319	1	5,263,806.0	4,274,114.0	856.89	4.92	69.50	66	10.0	7.0	Y
R806(K1322)	320	1	5,264,599.5	4,274,329.5	859.58	4.92	63.60	66	10.0	7.0	Y
R807(K1336)	321	1	5,263,888.0	4,274,184.5	862.96	4.92	68.40	66	10.0	7.0	Y
R808(K2109)	322	1	5,258,556.5	4,272,010.5	816.24	4.92	65.40	66	10.0	7.0	Y
R809(K71)	323	1	5,263,146.5	4,273,412.5	810.14	4.92	65.90	66	10.0	7.0	Y
R810(K2020)	324	1	5,264,992.0	4,274,464.5	880.19	4.92	67.10	66	10.0	7.0	Y
R811(K2095)	325	1	5,259,182.5	4,272,114.5	816.67	4.92	67.40	66	10.0	7.0	Y
R812(K1386)	326	1	5,263,590.0	4,273,726.0	827.66	4.92	63.10	66	10.0	7.0	Y
R813(K2114)	327	1	5,257,407.0	4,271,826.0	804.37	4.92	67.30	66	10.0	7.0	Y
R814(K2125)	328	1	5,257,850.0	4,271,909.5	829.23	4.92	67.30	66	10.0	7.0	Y
M-48(K37)	329	1	5,260,119.0	4,272,635.0	822.00	4.92	60.90	66	10.0	7.0	Y
R815(K73)	330	1	5,263,157.0	4,273,471.5	801.74	4.92	64.10	66	10.0	7.0	Y
R816(K1372)	331	1	5,263,714.0	4,273,793.5	832.15	4.92	61.00	66	10.0	7.0	Y
R817(K1395)	332	1	5,263,386.0	4,273,604.5	826.05	4.92	67.30	66	10.0	7.0	Y
R818(K2029)	333	1	5,264,832.5	4,274,351.0	873.62	4.92	55.40	66	10.0	7.0	Y
R819(K2088)	334	1	5,259,424.0	4,272,167.5	815.65	4.92	72.50	66	10.0	7.0	Y
R820(K2138)	335	1	5,257,325.5	4,271,798.0	810.34	4.92	67.50	66	10.0	7.0	Y
R821(K1722A)	336	1	5,256,965.0	4,271,611.5	796.20	4.92	63.90	66	10.0	7.0	Y
R822(K1204)	337	1	5,259,985.0	4,272,612.5	820.08	4.92	65.40	66	10.0	7.0	Y
R823(K1722)	338	1	5,257,079.0	4,271,684.5	810.21	4.92	66.20	66	10.0	7.0	Y
R824(K2099)	339	1	5,259,223.0	4,272,080.5	815.26	4.92	65.10	66	10.0	7.0	Y

**INPUT: RECEIVERS**

**BSB**

R825(K2127)	340	1	5,258,076.0	4,271,933.0	834.06	4.92	66.90	66	10.0	7.0	Y
R826(K2144)	341	1	5,257,216.0	4,271,729.5	810.44	4.92	66.80	66	10.0	7.0	Y
R827(K2109C)	342	1	5,258,405.5	4,271,969.0	819.20	4.92	66.60	66	10.0	7.0	Y
R828(K1720)	343	1	5,257,135.0	4,271,692.5	812.40	4.92	66.40	66	10.0	7.0	Y
R829(K2026)	344	1	5,265,041.0	4,274,412.0	873.72	4.92	68.30	66	10.0	7.0	Y
R830(K68)	345	1	5,263,147.5	4,273,346.0	813.55	4.92	65.70	66	10.0	7.0	Y
R831(K1328)	346	1	5,264,615.5	4,274,259.0	862.90	4.92	63.20	66	10.0	7.0	Y
M-45(K1484)	347	1	5,262,676.5	4,273,061.0	829.37	4.92	72.30	66	10.0	7.0	Y
R832(K1362)	348	1	5,263,801.5	4,273,844.5	830.15	4.92	59.20	66	10.0	7.0	Y
R833(K1370)	349	1	5,263,757.5	4,273,815.0	831.89	4.92	60.40	66	10.0	7.0	Y
R834(K1402)	350	1	5,263,402.0	4,273,548.0	822.38	4.92	65.90	66	10.0	7.0	Y
R835(K1446)	351	1	5,262,892.0	4,273,167.0	822.38	4.92	68.10	66	10.0	7.0	Y
R836(K67)	352	1	5,263,124.0	4,273,287.5	814.77	4.92	65.30	66	10.0	7.0	Y
R837(K2033)	353	1	5,264,845.0	4,274,311.5	871.30	4.92	55.40	66	10.0	7.0	Y
R838(K2109F)	354	1	5,258,654.0	4,271,969.0	801.28	4.92	65.20	66	10.0	7.0	Y
R839(K1334)	355	1	5,264,638.5	4,274,200.5	863.13	4.92	61.90	66	10.0	7.0	Y
R840(K2109A)	356	1	5,258,226.0	4,271,892.0	820.44	4.92	62.20	66	10.0	7.0	Y
R841(K30)	357	1	5,257,528.5	4,271,722.5	817.23	4.92	63.90	66	10.0	7.0	Y
R842(K1353)	358	1	5,264,042.0	4,274,026.0	822.21	4.92	57.30	66	10.0	7.0	Y
R843(K1406)	359	1	5,263,511.0	4,273,531.5	822.57	4.92	62.80	66	10.0	7.0	Y
R844(K2032)	360	1	5,265,071.5	4,274,333.0	870.41	4.92	68.20	66	10.0	7.0	Y
R845(K2103)	361	1	5,259,286.5	4,272,029.0	820.28	4.92	63.70	66	10.0	7.0	Y
R846(K1396)	362	1	5,263,668.0	4,273,623.0	821.56	4.92	60.10	66	10.0	7.0	Y
R847(K1403)	363	1	5,263,605.0	4,273,584.5	823.07	4.92	61.70	66	10.0	7.0	Y
R848(K2035)	364	1	5,264,861.0	4,274,266.0	864.21	4.92	54.80	66	10.0	7.0	Y
R849(K1397)	365	1	5,263,714.0	4,273,643.5	817.72	4.92	58.60	66	10.0	7.0	Y
R850(K1721)	366	1	5,257,425.5	4,271,673.0	820.02	4.92	64.80	66	10.0	7.0	Y
R851(K2094)	367	1	5,259,472.0	4,272,129.0	820.28	4.92	72.00	66	10.0	7.0	Y
R852(K2109D)	368	1	5,258,381.0	4,271,876.0	817.62	4.92	61.70	66	10.0	7.0	Y
R853(K1217)	369	1	5,260,452.0	4,272,547.0	825.53	4.92	60.50	66	10.0	7.0	Y
R854(K1460)	370	1	5,263,061.5	4,273,109.0	816.57	4.92	62.70	66	10.0	7.0	Y
R855(K1392)	371	1	5,263,800.5	4,273,685.0	816.83	4.92	57.70	66	10.0	7.0	Y
R856(K1394)	372	1	5,263,751.0	4,273,660.0	817.55	4.92	58.20	66	10.0	7.0	Y
R857(K1193)	373	1	5,262,496.0	4,272,829.5	815.82	4.92	69.60	66	10.0	7.0	Y
R858(K1379)	374	1	5,263,965.5	4,273,766.0	816.83	4.92	56.90	66	10.0	7.0	Y
R859(K1385)	375	1	5,263,892.5	4,273,735.0	815.95	4.92	56.10	66	10.0	7.0	Y

**INPUT: RECEIVERS**

**BSB**

R860(K2097)	376	1	5,259,523.5	4,272,104.0	819.95	4.92	71.60	66	10.0	7.0	Y
R861(K1390)	377	1	5,263,840.0	4,273,701.0	815.32	4.92	55.40	66	10.0	7.0	Y
R862(K1449)	378	1	5,263,152.0	4,273,183.0	813.45	4.92	63.80	66	10.0	7.0	Y
M-39(K2037)	379	1	5,265,126.5	4,274,244.0	863.91	4.92	71.20	66	10.0	7.0	Y
R863(K2043)	380	1	5,264,887.0	4,274,164.0	861.58	4.92	54.20	66	10.0	7.0	Y
R864(K2117)	381	1	5,259,354.5	4,271,999.0	820.93	4.92	62.40	66	10.0	7.0	Y
R865(K1212)	382	1	5,261,512.0	4,272,608.0	820.00	4.92	68.80	66	10.0	7.0	Y
R866(K2066)	383	1	5,260,953.5	4,272,530.0	830.09	4.92	64.30	66	10.0	7.0	Y
R867(K1196)	384	1	5,262,517.0	4,272,799.0	816.90	4.92	67.00	66	10.0	7.0	Y
R868(KV1492)	385	1	5,262,966.5	4,272,964.0	814.50	4.92	63.10	66	10.0	7.0	Y
R869(K1492)	386	1	5,262,895.0	4,272,913.0	828.15	4.92	61.80	66	10.0	7.0	Y
R870(K2102)	387	1	5,259,561.0	4,272,052.0	821.20	4.92	70.60	66	10.0	7.0	Y
R871(K2120)	388	1	5,259,396.0	4,271,969.5	819.00	4.92	61.40	66	10.0	7.0	Y
R872(KV2147)	389	1	5,258,732.5	4,271,819.0	795.61	4.92	61.80	66	10.0	7.0	Y
R873(K2107)	390	1	5,259,585.5	4,272,028.0	822.02	4.92	70.30	66	10.0	7.0	Y
R874(K1473)	391	1	5,263,173.0	4,273,040.5	790.52	4.92	51.70	66	10.0	7.0	Y
R875(K1203)	392	1	5,262,538.5	4,272,753.5	819.00	4.92	64.90	66	10.0	7.0	Y
R876(K2128)	393	1	5,259,428.5	4,271,940.0	819.69	4.92	61.00	66	10.0	7.0	Y
R877(K40)	394	1	5,262,837.5	4,272,826.5	829.23	4.92	61.50	66	10.0	7.0	Y
R878(K2141)	395	1	5,260,006.5	4,272,078.0	836.22	4.92	73.90	66	10.0	7.0	Y
R879(K2121)	396	1	5,259,628.0	4,271,979.0	829.23	4.92	69.90	66	10.0	7.0	Y
R880(K1202)	397	1	5,262,794.0	4,272,779.5	826.35	4.92	61.30	66	10.0	7.0	Y
R881(K2130)	398	1	5,259,457.0	4,271,908.0	819.49	4.92	60.80	66	10.0	7.0	Y
R882(K1211)	399	1	5,262,403.0	4,272,692.5	815.72	4.92	69.20	66	10.0	7.0	Y
R883(K1209)	400	1	5,262,573.5	4,272,719.0	818.87	4.92	63.00	66	10.0	7.0	Y
R884(K1213)	401	1	5,262,430.0	4,272,651.5	819.69	4.92	65.60	66	10.0	7.0	Y
R885(K2126)	402	1	5,259,653.0	4,271,943.5	834.02	4.92	69.80	66	10.0	7.0	Y
R886(K1206)	403	1	5,262,751.0	4,272,736.0	822.64	4.92	61.60	66	10.0	7.0	Y
R887(K2113)	404	1	5,259,490.0	4,271,862.5	822.48	4.92	60.40	66	10.0	7.0	Y
R888(K1218)	405	1	5,262,473.5	4,272,625.5	819.79	4.92	63.90	66	10.0	7.0	Y
R889(K36)	406	1	5,262,680.0	4,272,718.0	819.00	4.92	61.90	66	10.0	7.0	Y
R890(K2131)	407	1	5,259,695.5	4,271,906.0	835.99	4.92	69.20	66	10.0	7.0	Y
R891(K2140)	408	1	5,259,528.0	4,271,830.5	823.13	4.92	59.90	66	10.0	7.0	Y
R892(K1216)	409	1	5,262,597.0	4,272,657.5	818.38	4.92	62.10	66	10.0	7.0	Y
R893(K1220)	410	1	5,262,502.5	4,272,587.0	818.41	4.92	62.10	66	10.0	7.0	Y
R894(K2111)	411	1	5,259,723.0	4,271,871.5	837.63	4.92	68.70	66	10.0	7.0	Y

**INPUT: RECEIVERS****BSB**

R895(K1219)	412	1	5,262,633.5	4,272,617.5	810.37	4.92	55.80	66	10.0	7.0	Y
R896(K2142)	413	1	5,259,564.0	4,271,785.0	825.07	4.92	59.60	66	10.0	7.0	Y
R897(K2139)	414	1	5,259,745.0	4,271,832.0	839.77	4.92	68.20	66	10.0	7.0	Y
R898(K1224)	415	1	5,262,535.5	4,272,552.5	816.05	4.92	61.20	66	10.0	7.0	Y
R899(K1223)	416	1	5,262,567.5	4,272,551.5	814.83	4.92	61.20	66	10.0	7.0	Y
R900(K1222)	417	1	5,262,677.0	4,272,569.5	804.04	4.92	56.90	66	10.0	7.0	Y
R901(K1753)	418	1	5,262,085.5	4,272,056.0	804.37	4.92	60.80	66	10.0	7.0	Y
M-47(K2141)	670	1	5,260,572.5	4,271,681.0	829.00	4.92	60.00	66	10.0	7.0	Y
M-44a(K75)	671	1	5,263,099.5	4,273,604.5	827.00	4.92	72.50	66	10.0	7.0	Y
R905	672	1	5,261,611.0	4,272,712.0	820.00	4.92	69.70	66	10.0	7.0	Y
R1000	673	1	5,262,018.5	4,273,989.5	859.50	4.92	60.00	66	10.0	7.0	Y
R1001	674	1	5,262,106.0	4,273,976.0	859.50	4.92	61.10	66	10.0	7.0	Y
R1002	675	1	5,262,284.0	4,274,096.0	859.50	4.92	61.00	66	10.0	7.0	Y
R1003	676	1	5,262,317.5	4,274,171.5	861.50	4.92	60.50	66	10.0	7.0	Y
R1004	677	1	5,262,432.5	4,274,179.0	861.50	4.92	61.30	66	10.0	7.0	Y
R1005	678	1	5,262,539.5	4,274,236.0	861.50	4.92	60.90	66	10.0	7.0	Y
R1006	679	1	5,262,365.0	4,274,282.0	861.50	4.92	59.40	66	10.0	7.0	Y
R1007	680	1	5,262,454.0	4,274,327.0	861.50	4.92	59.20	66	10.0	7.0	Y
R1008	681	1	5,262,590.5	4,274,445.5	867.50	4.92	59.60	66	10.0	7.0	Y
R1009	682	1	5,262,710.5	4,274,519.0	876.50	4.92	61.00	66	10.0	7.0	Y
R1010	683	1	5,262,825.5	4,274,604.0	886.50	4.92	63.00	66	10.0	7.0	Y
R1011	684	1	5,262,944.5	4,274,671.0	889.50	4.92	63.80	66	10.0	7.0	Y
R1012	685	1	5,263,704.0	4,275,230.0	901.50	4.92	64.60	66	10.0	7.0	Y
R1013	686	1	5,263,113.0	4,274,709.0	901.50	4.92	66.50	66	10.0	7.0	Y
R1014	687	1	5,263,253.0	4,274,967.0	904.50	4.92	64.20	66	10.0	7.0	Y
R1015	688	1	5,263,121.0	4,274,938.0	905.50	4.92	63.30	66	10.0	7.0	Y
R1016	689	1	5,263,382.0	4,275,239.0	910.00	4.92	62.30	66	10.0	7.0	Y
R1017	690	1	5,263,723.0	4,275,420.5	920.00	4.92	63.50	66	10.0	7.0	Y

INPUT: ROADWAYS

BSB

PEC						8 August 2023					
ZR						TNM 2.5					
INPUT: ROADWAYS						Average pavement type shall be used unless					
PROJECT/CONTRACT:			BSB			a State highway agency substantiates the use					
RUN:			KY W Build PM S2			of a different type with the approval of FHWA					
Roadway		Points			Coordinates (pavement)			Flow Control		Segment	
Name	Width	Name	No.	X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Rd13 ; NB 1072 to NB 75 On1	24.0	point1	1	5,265,174.5	4,274,245.0	864.00				Average	
		point2	2	5,265,101.5	4,274,480.0	875.00				Average	
		point3	3	5,265,072.0	4,274,577.0	881.00				Average	
		point4	4	5,265,044.0	4,274,649.0	885.50				Average	
		point5	5	5,264,999.0	4,274,745.0	891.00					
Rd14 ; NB 1072 Over 751	24.0	point6	6	5,264,999.0	4,274,745.0	891.00				Average	
		point7	7	5,264,827.0	4,275,016.0	897.00				Average	Y
		point8	8	5,264,692.0	4,275,228.0	900.00				Average	Y
		point9	9	5,264,597.0	4,275,390.0	900.00				Average	Y
		point10	10	5,264,576.0	4,275,439.0	899.50					
Rd15 ; NB 1072 Fr SB 75 Off1	36.0	point11	11	5,264,576.0	4,275,439.0	899.50				Average	
		point12	12	5,264,282.5	4,276,017.0	899.00					
Rd16 ; SB 1072 to On to SB 751	24.0	point13	13	5,264,266.0	4,275,976.0	898.00				Average	
		point14	14	5,264,538.0	4,275,422.0	900.00					
Rd17 ; SB 1072 Over 751	24.0	point15	15	5,264,538.0	4,275,422.0	900.00				Average	
		point16	16	5,264,587.0	4,275,332.0	900.00				Average	Y
		point17	17	5,264,659.0	4,275,215.0	900.00				Average	Y
		point18	18	5,264,793.0	4,275,002.0	897.00				Average	Y
		point19	19	5,264,964.5	4,274,733.0	889.50					
Rd18 ; SB 1072 Fr On fr NB 751	24.0	point20	20	5,264,964.5	4,274,733.0	889.50				Average	
		point21	21	5,265,000.0	4,274,659.0	885.00				Average	
		point22	22	5,265,034.0	4,274,578.0	880.00				Average	
		point23	23	5,265,160.0	4,274,199.0	863.00					
Rd19 ; EB Pike to SB Svc Rd(1)1	12.0	point24	24	5,269,622.5	4,281,812.0	505.00				Average	
		point25	25	5,269,687.0	4,281,822.0	502.00					

**INPUT: ROADWAYS**

**BSB**

Rd20 ; EB Pike Under 75(1)1	12.0	point26	26	5,269,687.0	4,281,822.0	502.00				Average
		point27	27	5,270,012.0	4,281,875.0	496.00				
Rd21 ; WB Pike Under 75(2)1	24.0	point28	28	5,270,003.5	4,281,896.5	496.00				Average
		point29	29	5,269,676.0	4,281,843.0	502.00				
Rd22 ; WB Pike Fr SB SB Svc(2)1	24.0	point30	30	5,269,676.0	4,281,843.0	502.00				Average
		point31	31	5,269,618.0	4,281,834.0	505.00				
Rd39 ; EB 11th St(1)1	12.0	point32	32	5,270,012.0	4,281,875.0	496.00				Average
		point33	33	5,270,253.0	4,281,915.0	502.00				Average
		point34	34	5,270,334.0	4,281,936.0	505.50				Average
		point35	35	5,270,411.0	4,281,967.0	509.00				Average
		point36	36	5,270,475.0	4,282,001.0	512.00				Average
		point37	37	5,270,531.0	4,282,042.0	515.00				Average
		point38	38	5,270,580.5	4,282,090.5	518.00				Average
		point39	39	5,270,659.0	4,282,190.0	523.00				Average
		point40	40	5,270,763.0	4,282,336.0	529.00				
Rd40 ; wb 11th St (2)1	24.0	point41	41	5,270,746.0	4,282,345.0	529.00				Average
		point42	42	5,270,642.0	4,282,201.0	523.00				Average
		point43	43	5,270,566.0	4,282,105.0	518.00				Average
		point44	44	5,270,516.5	4,282,056.0	515.00				Average
		point45	45	5,270,466.5	4,282,019.0	512.00				Average
		point46	46	5,270,402.5	4,281,985.0	509.00				Average
		point47	47	5,270,322.0	4,281,957.0	505.50				Average
		point48	48	5,270,252.0	4,281,937.5	502.00				Average
		point49	49	5,270,003.5	4,281,896.5	496.00				
Rd41 ; EB Pike (1)1	12.0	point50	50	5,268,917.0	4,281,333.0	541.00				Average
		point51	51	5,268,942.5	4,281,365.0	539.00				Average
		point52	52	5,268,965.5	4,281,384.0	538.00				Average
		point53	53	5,269,009.0	4,281,403.0	536.00				Average
		point54	54	5,269,127.5	4,281,430.0	531.00				Average
		point55	55	5,269,198.0	4,281,456.0	529.00				Average
		point56	56	5,269,225.5	4,281,469.0	528.00				Average
		point57	57	5,269,271.0	4,281,510.0	526.00				Average
		point58	58	5,269,291.5	4,281,538.5	525.00				Average
		point59	59	5,269,371.0	4,281,686.0	518.00				Average
		point60	60	5,269,393.0	4,281,718.0	516.00				Average
		point61	61	5,269,427.0	4,281,749.0	514.00				Average
		point62	62	5,269,468.0	4,281,769.0	512.00				Average
		point63	63	5,269,622.5	4,281,812.0	505.00				
Rd42 ; WB Pike(2)1	24.0	point64	64	5,269,618.0	4,281,834.0	505.00				Average

**INPUT: ROADWAYS**

**BSB**

		point65	65	5,269,446.0	4,281,781.0	512.50				Average	
		point66	66	5,269,412.0	4,281,761.0	514.00				Average	
		point67	67	5,269,378.0	4,281,732.0	516.00				Average	
		point68	68	5,269,350.0	4,281,692.0	518.00				Average	
		point69	69	5,269,273.0	4,281,542.0	525.00				Average	
		point70	70	5,269,232.5	4,281,500.0	527.00				Average	
		point71	71	5,269,186.0	4,281,471.0	529.00				Average	
		point72	72	5,269,134.0	4,281,455.0	531.00				Average	
		point73	73	5,269,004.0	4,281,423.0	536.00				Average	
		point74	74	5,268,956.0	4,281,400.0	538.00				Average	
		point75	75	5,268,932.0	4,281,384.0	539.00				Average	
		point76	76	5,268,899.0	4,281,342.0	541.00					
Rd59 ; NB CD 1072 Off-75 On(1)1	12.0	point77	77	5,263,885.5	4,274,467.0	859.00				Average	
		point78	78	5,263,929.0	4,274,517.5	861.00				Average	
		point79	79	5,264,109.0	4,274,670.0	871.00				Average	
		point80	80	5,264,291.0	4,274,800.0	875.50				Average	
		point81	81	5,264,459.0	4,274,898.5	877.30				Average	
		point82	82	5,264,597.0	4,274,970.0	877.80				Average	
		point83	83	5,264,734.0	4,275,030.0	877.00				Average	Y
		point84	84	5,264,831.0	4,275,069.5	873.00				Average	Y
		point85	85	5,265,126.0	4,275,189.0	865.40				Average	
		point86	86	5,265,181.0	4,275,236.0	860.00					
Rd60 ; NB On fr 1072(1)1	12.0	point87	87	5,264,999.0	4,274,745.0	891.00				Average	
		point88	88	5,265,042.0	4,274,795.0	891.00				Average	
		point89	89	5,265,328.0	4,275,123.0	861.00				Average	
		point90	90	5,265,361.0	4,275,158.0	860.00				Average	
		point91	91	5,265,425.0	4,275,218.0	854.00				Average	
		point92	92	5,265,494.0	4,275,272.0	848.00				Average	
		point93	93	5,265,567.0	4,275,319.0	842.00				Average	
		point94	94	5,265,625.0	4,275,351.0	838.00				Average	
		point95	95	5,265,719.5	4,275,395.0	832.00				Average	
		point96	96	5,265,910.0	4,275,468.0	823.00				Average	
		point97	97	5,265,967.0	4,275,511.0	815.00					
Rd 61 ; NB On Fr Svc + 1072(2)1	24.0	point98	98	5,265,967.0	4,275,511.0	815.00				Average	
		point99	99	5,266,018.0	4,275,548.5	814.00					
Rd62 ; NB Off to 1072(1)1	12.0	point100	100	5,263,885.5	4,274,467.0	859.00				Average	
		point101	101	5,263,951.0	4,274,498.0	861.00				Average	
		point102	102	5,264,161.5	4,274,654.5	868.00				Average	
		point103	76	5,264,225.0	4,274,694.0	870.60				Average	

**INPUT: ROADWAYS**

**BSB**

		point104	104	5,264,305.0	4,274,727.5	873.20				Average	
		point105	105	5,264,380.5	4,274,748.0	875.40				Average	
		point106	106	5,264,469.5	4,274,761.5	877.00				Average	
		point107	107	5,264,560.0	4,274,759.0	879.00				Average	
		point108	108	5,264,964.5	4,274,733.0	889.50					
Rd64 ; NB 75 4Lane-5Lane(4)1	48.0	point109	109	5,262,486.0	4,273,136.0	826.00				Average	
		point110	110	5,263,442.0	4,274,122.0	848.50				Average	Y
		point111	111	5,263,552.5	4,274,237.0	852.00				Average	Y
		point112	112	5,263,660.0	4,274,346.0	855.50				Average	
		point113	113	5,263,835.0	4,274,515.0	861.00				Average	
		point114	114	5,263,955.0	4,274,619.0	865.00				Average	
		point115	115	5,264,104.5	4,274,734.0	870.00				Average	
		point116	116	5,264,252.0	4,274,832.0	874.00				Average	
		point117	117	5,264,364.5	4,274,898.0	876.00				Average	
		point118	118	5,264,471.0	4,274,954.0	877.00				Average	
		point119	119	5,264,572.0	4,275,003.0	877.00				Average	
		point120	120	5,264,717.0	4,275,065.0	875.00				Average	Y
		point121	121	5,264,811.0	4,275,101.5	873.00				Average	Y
		point122	122	5,264,976.0	4,275,165.0	869.00				Average	
		point123	123	5,265,181.0	4,275,236.0	860.00					
Rd65 ; NB 75 Svc Rd On-1072 On(5)1	60.0	point124	124	5,265,181.0	4,275,236.0	860.00				Average	
		point125	125	5,265,893.0	4,275,509.0	822.00				Average	
		point126	126	5,266,018.0	4,275,548.5	814.00					
Rd66 ; NB 75 1072 On-2_4Split(6)1	72.0	point127	127	5,266,018.0	4,275,548.5	814.00				Average	
		point128	128	5,266,211.0	4,275,617.0	807.00				Average	
		point129	129	5,266,394.0	4,275,669.0	796.00				Average	
		point130	130	5,266,611.0	4,275,717.0	793.00				Average	
		point131	131	5,266,798.0	4,275,746.0	792.00				Average	
		point132	132	5,266,981.0	4,275,765.0	790.40				Average	
		point133	133	5,267,439.0	4,275,783.5	783.10				Average	
		point134	134	5,267,562.0	4,275,795.0	780.40				Average	
		point135	135	5,267,695.0	4,275,817.5	776.50				Average	
		point136	136	5,267,823.0	4,275,849.5	772.00				Average	
		point137	137	5,267,958.0	4,275,897.0	767.00				Average	
		point138	138	5,268,068.0	4,275,945.0	762.00				Average	
		point139	139	5,268,182.0	4,276,004.0	747.50				Average	
		point140	140	5,268,299.0	4,276,077.0	741.00				Average	
		point141	141	5,268,406.0	4,276,157.0	682.50				Average	
		point142	142	5,269,250.5	4,276,921.0	677.50				Average	



**INPUT: ROADWAYS**

**BSB**

		point143	143	5,269,344.0	4,277,022.0	670.40				Average	
		point144	144	5,269,409.0	4,277,101.0	665.40				Average	
		point145	145	5,269,479.0	4,277,199.0	660.40				Average	
		point146	146	5,269,545.0	4,277,308.0	655.40				Average	
		point147	147	5,269,608.0	4,277,432.0	647.40				Average	
		point148	148	5,269,663.0	4,277,568.0	641.40				Average	
		point149	149	5,269,702.0	4,277,689.0	635.40				Average	
		point150	150	5,269,927.0	4,278,714.5	587.90					
Rd68 ; NB 75 Off to 12 to Off to	1	48.0	point151	151	5,269,927.0	4,278,714.5	587.90			Average	
			point152	152	5,269,935.0	4,278,805.0	579.80			Average	
			point153	153	5,270,003.5	4,279,124.0	567.90			Average	
			point154	154	5,270,085.5	4,279,495.0	549.00			Average	
			point155	155	5,270,157.0	4,279,880.0	530.00			Average	
			point156	156	5,270,236.0	4,280,190.0	518.00			Average	
			point157	157	5,270,262.0	4,280,352.0	513.70			Average	
			point158	158	5,270,272.0	4,280,467.0	511.90			Average	
			point159	159	5,270,272.5	4,280,576.0	510.60			Average	
			point160	160	5,270,265.5	4,280,686.0	510.00			Average	
			point161	161	5,270,253.0	4,280,783.0	509.90			Average	
			point162	162	5,270,233.0	4,280,883.0	510.40			Average	
			point163	163	5,270,199.5	4,281,002.0	511.50			Average	
			point164	164	5,270,137.0	4,281,186.0	513.40			Average	
			point165	165	5,270,087.0	4,281,322.0	514.80				
Rd69 ; NB 75 Off to-New Bridge(3)1		36.0	point166	166	5,270,087.0	4,281,322.0	514.80			Average	Y
			point167	167	5,270,024.0	4,281,478.0	516.50			Average	Y
			point168	168	5,269,960.0	4,281,640.0	518.10			Average	Y
			point169	169	5,269,893.0	4,281,789.0	519.50			Average	Y
			point170	170	5,269,809.0	4,281,957.0	520.60			Average	Y
			point171	171	5,269,742.0	4,282,073.0	521.00			Average	Y
			point172	172	5,269,633.0	4,282,255.0	520.60			Average	Y
			point173	173	5,269,506.0	4,282,456.0	518.60			Average	Y
			point174	174	5,269,451.5	4,282,552.0	517.50				
Rd71; NB CD Rd (2)1		24.0	point175	175	5,269,927.0	4,278,714.5	587.90			Average	
			point176	176	5,269,969.0	4,278,797.0	579.80			Average	
			point177	177	5,270,090.0	4,279,307.5	550.00			Average	
			point178	178	5,270,162.0	4,279,615.0	535.00			Average	
			point179	179	5,270,250.0	4,279,986.0	522.00			Average	
			point180	180	5,270,297.0	4,280,191.0	517.80			Average	
			point181	181	5,270,313.0	4,280,275.0	516.00			Average	

**INPUT: ROADWAYS**

**BSB**

		point182	182	5,270,325.0	4,280,373.0	514.90				Average	
		point183	183	5,270,329.5	4,280,432.0	514.60					
Rd72 ; NB CD fr off to 12th(1)1	12.0	point184	184	5,270,329.5	4,280,432.0	514.60				Average	Y
		point185	185	5,270,326.0	4,280,491.0	514.70				Average	Y
		point186	186	5,270,326.0	4,280,585.0	515.00				Average	Y
		point187	187	5,270,322.0	4,280,669.0	515.90				Average	Y
		point188	188	5,270,310.0	4,280,778.0	516.90				Average	Y
		point189	189	5,270,293.0	4,280,881.0	517.90				Average	Y
		point190	190	5,270,267.0	4,280,990.0	519.00				Average	Y
		point191	191	5,270,233.0	4,281,099.0	520.00				Average	Y
		point192	192	5,270,142.5	4,281,354.0	522.50				Average	Y
		point193	193	5,270,053.0	4,281,611.5	525.10				Average	Y
		point194	194	5,269,986.0	4,281,798.5	527.00				Average	Y
		point195	195	5,269,925.0	4,281,944.0	528.30				Average	Y
		point196	196	5,269,841.0	4,282,115.0	529.20				Average	Y
		point197	197	5,269,701.0	4,282,366.0	526.50				Average	Y
		point198	198	5,269,567.5	4,282,605.0	523.40					
Rd74 ; NB On Ramp Fr Pike(1)1	12.0	point199	199	5,269,953.0	4,282,015.0	494.80				Average	
		point200	200	5,269,859.5	4,282,099.5	495.60				Average	
		point201	201	5,269,800.5	4,282,162.0	498.00				Average	Y
		point202	202	5,269,764.0	4,282,212.0	500.70				Average	
		point203	203	5,269,669.0	4,282,362.0	510.00				Average	Y
		point204	204	5,269,594.0	4,282,484.0	516.00				Average	Y
		point205	205	5,269,549.0	4,282,562.0	517.60					
Rd77 ; NB 75 to Old Br(2)1	24.0	point206	206	5,270,087.0	4,281,322.0	514.80				Average	Y
		point207	207	5,270,051.0	4,281,487.0	516.50				Average	Y
		point208	208	5,269,987.0	4,281,652.5	518.10				Average	Y
		point209	209	5,269,941.0	4,281,762.0	519.30				Average	Y
		point210	210	5,269,893.0	4,281,869.0	520.00				Average	Y
		point211	211	5,269,852.0	4,281,953.0	520.60				Average	Y
		point212	212	5,269,766.0	4,282,114.0	521.00				Average	Y
		point213	213	5,269,706.0	4,282,216.0	520.70				Average	Y
		point214	214	5,269,556.0	4,282,462.0	518.90				Average	Y
		point215	215	5,269,524.0	4,282,517.0	518.50					
Rd82 ; EB Pike fr new local Rd(2)1	24.0	point216	216	5,270,183.0	4,281,399.0	500.70				Average	
		point217	217	5,270,236.0	4,281,417.0	504.50				Average	
		point218	218	5,270,790.0	4,281,535.0	522.00				Average	
		point219	219	5,271,123.0	4,281,604.5	526.00					
Rd83 ; EB 12th to SB new local Rd(1)1	12.0	point220	220	5,269,370.0	4,281,073.0	518.00				Average	

**INPUT: ROADWAYS**

**BSB**

		point221	221	5,269,898.5	4,281,339.0	490.00					
Rd84 ; EB 12th Under 75(2)1	24.0	point222	222	5,269,898.5	4,281,339.0	490.00				Average	
		point223	223	5,269,941.0	4,281,351.0	490.20				Average	
		point224	224	5,270,116.0	4,281,391.0	497.50				Average	
		point225	225	5,270,179.0	4,281,395.0	500.70					
Rd85 ; WB 12th to NB New Local Rd(2)1	24.0	point226	226	5,271,119.0	4,281,618.0	526.00				Average	
		point227	227	5,270,790.0	4,281,549.0	522.00				Average	
		point228	228	5,270,233.0	4,281,432.0	504.50				Average	
		point229	229	5,270,174.0	4,281,422.0	500.70					
Rd86 ; WB 12th Under 75(2)1	24.0	point230	230	5,270,171.0	4,281,417.5	500.70				Average	
		point231	231	5,270,107.0	4,281,413.0	497.00				Average	
		point232	232	5,269,932.5	4,281,372.0	490.20				Average	
		point233	233	5,269,896.0	4,281,348.0	490.00					
Rd87 ; WB 12th fr SB Svc Rd(1)1	12.0	point234	234	5,269,896.0	4,281,348.0	490.00				Average	
		point235	235	5,269,357.0	4,281,077.0	515.00					
Rd94 ; NB Off to New local@12th(1)1	12.0	point236	236	5,270,329.5	4,280,432.0	514.60				Average	
		point237	237	5,270,342.0	4,280,488.0	514.70				Average	
		point238	238	5,270,358.0	4,280,650.0	517.70				Average	
		point239	239	5,270,361.0	4,280,723.0	517.90				Average	
		point240	240	5,270,357.0	4,280,814.0	517.00				Average	
		point241	241	5,270,344.0	4,280,893.0	515.00				Average	
		point242	242	5,270,323.0	4,280,973.0	512.00					
Rd95 ; NB New local to Pike(3)1	36.0	point243	243	5,270,323.0	4,280,973.0	512.00				Average	
		point244	244	5,270,290.0	4,281,079.0	505.70				Average	
		point245	245	5,270,179.0	4,281,395.0	500.70					
Rd96 ; NB new local @ Pike(3)1	36.0	point246	246	5,270,179.0	4,281,395.0	500.70				Average	
		point247	247	5,270,171.0	4,281,417.5	500.70					
Rd97 ; NB new local Pike-11th(3)1	36.0	point248	248	5,270,171.0	4,281,417.5	500.70				Average	
		point249	249	5,270,133.0	4,281,528.0	498.00				Average	
		point250	250	5,270,048.0	4,281,772.0	494.30				Average	
		point251	251	5,270,012.0	4,281,875.0	496.00					
Rd98 ; NB new local @ 11th(3)1	36.0	point252	252	5,270,012.0	4,281,875.0	496.00				Average	
		point253	253	5,270,003.5	4,281,896.5	496.00					
Rd99 ; NB new local 11th-On to nb 75(3)1	36.0	point254	254	5,270,003.5	4,281,896.5	496.00				Average	
		point255	255	5,269,953.0	4,282,015.0	494.80					
Rd00 ; NB new local On to 75-11th(3)1	36.0	point256	256	5,269,953.0	4,282,015.0	494.80				Average	
		point257	257	5,269,937.0	4,282,050.0	494.90				Average	
		point258	258	5,269,885.0	4,282,147.0	496.60				Average	
		point259	259	5,269,743.0	4,282,405.0	497.00				Average	

**INPUT: ROADWAYS**

**BSB**

		point260	260	5,269,638.5	4,282,594.0	498.40					
Rd116 ; SB 75 Cd On-6l ane(7)1	84.0	point261	261	5,269,405.0	4,282,448.5	518.20				Average	Y
		point262	262	5,269,437.5	4,282,395.0	519.00				Average	Y
		point263	263	5,269,572.0	4,282,182.0	520.80				Average	Y
		point264	264	5,269,638.5	4,282,074.0	521.00				Average	Y
		point265	265	5,269,690.0	4,281,997.0	520.90					
Rd117 ; SB 75 CD On-Ramp On(6)1	72.0	point266	266	5,269,690.0	4,281,997.0	520.90				Average	Y
		point267	267	5,269,725.0	4,281,934.0	520.70				Average	Y
		point268	268	5,269,786.0	4,281,816.0	520.10				Average	Y
		point269	269	5,269,841.0	4,281,699.0	519.00				Average	Y
		point270	270	5,269,889.0	4,281,586.0	517.90				Average	Y
		point271	271	5,269,934.0	4,281,474.5	516.80				Average	Y
		point272	272	5,269,996.5	4,281,303.0	515.00				Average	Y
		point273	273	5,270,072.0	4,281,099.0	512.80				Average	Y
		point274	274	5,270,125.0	4,280,935.0	511.20				Average	Y
		point275	275	5,270,154.0	4,280,820.0	510.30				Average	Y
		point276	276	5,270,174.0	4,280,687.0	510.00				Average	Y
		point277	277	5,270,180.0	4,280,623.0	510.20				Average	Y
		point278	278	5,270,183.0	4,280,532.5	510.90				Average	Y
		point279	279	5,270,179.0	4,280,443.0	511.90				Average	Y
		point280	280	5,270,170.0	4,280,347.0	513.70				Average	Y
		point281	281	5,270,148.0	4,280,215.0	517.00				Average	Y
		point282	282	5,270,113.0	4,280,044.0	523.00				Average	Y
		point283	283	5,270,083.0	4,279,935.0	528.00					
Rd118 ; SB 75 On Ramp-6 lane(7)1	84.0	point284	284	5,270,083.0	4,279,935.0	528.00				Average	
		point285	285	5,270,011.0	4,279,611.0	544.40				Average	
		point286	286	5,269,935.0	4,279,257.0	561.40				Average	
		point287	287	5,269,913.0	4,279,131.0	568.40					
Rd119 ; SB 75 7 lane-Off to 1072(6)1	72.0	point288	288	5,269,913.0	4,279,131.0	568.40				Average	
		point289	289	5,269,772.0	4,278,485.0	598.00				Average	
		point290	290	5,269,633.0	4,277,851.0	637.40				Average	
		point291	291	5,269,599.0	4,277,707.0	645.40				Average	
		point292	292	5,269,553.0	4,277,567.0	650.40				Average	
		point293	293	5,269,500.0	4,277,442.0	655.40				Average	
		point294	294	5,269,435.5	4,277,325.0	660.40				Average	
		point295	295	5,269,364.5	4,277,213.5	665.40				Average	
		point296	296	5,269,295.0	4,277,124.0	670.40				Average	
		point297	297	5,269,223.0	4,277,042.0	677.50				Average	
		point298	298	5,269,146.0	4,276,965.0	685.40				Average	

**INPUT: ROADWAYS**

**BSB**

		point299	299	5,268,806.0	4,276,657.0	710.40				Average	
		point300	300	5,268,412.0	4,276,298.0	737.40				Average	
		point301	301	5,268,299.0	4,276,204.0	747.50				Average	
		point302	302	5,268,182.0	4,276,124.0	755.00				Average	
		point303	303	5,268,080.0	4,276,066.0	760.40				Average	
		point304	304	5,267,981.0	4,276,017.0	765.20				Average	
		point305	305	5,267,886.0	4,275,979.5	769.50				Average	
		point306	306	5,267,785.0	4,275,945.5	773.50				Average	
		point307	307	5,267,664.0	4,275,917.0	780.30				Average	
		point308	308	5,267,526.0	4,275,894.0	783.00				Average	
		point309	309	5,267,412.0	4,275,886.0	786.00				Average	
		point310	310	5,267,118.0	4,275,875.0	788.00				Average	
		point311	311	5,266,997.0	4,275,869.0	790.40				Average	
		point312	312	5,266,816.0	4,275,852.0	792.40				Average	
		point313	313	5,266,634.0	4,275,824.5	793.20				Average	
		point314	314	5,266,453.0	4,275,789.0	799.00				Average	
		point315	315	5,266,297.0	4,275,749.0	803.00				Average	
		point316	316	5,266,143.0	4,275,703.0	806.00					
Rd121 ; SB 75 1072 Off-5 lane(6)1	72.0	point317	317	5,266,143.0	4,275,703.0	806.00				Average	
		point318	318	5,265,968.0	4,275,641.0	814.00				Average	
		point319	319	5,265,765.0	4,275,563.0	827.00				Average	
		point320	320	5,265,163.0	4,275,334.0	861.00				Average	
		point321	321	5,264,934.0	4,275,247.0	874.50				Average	
		point322	322	5,264,764.0	4,275,176.0	877.00				Average	Y
		point323	323	5,264,670.5	4,275,138.0	877.00				Average	Y
		point324	324	5,264,647.0	4,275,128.0	877.00					
Rd122 ; SB 75 5lane-4lane (5)1	60.0	point325	325	5,264,647.0	4,275,128.0	877.00				Average	
		point326	326	5,264,515.0	4,275,069.0	877.30				Average	
		point327	327	5,264,399.0	4,275,012.5	877.00				Average	
		point328	328	5,264,257.5	4,274,934.0	875.50				Average	
		point329	329	5,264,131.0	4,274,854.0	869.00				Average	
		point330	330	5,264,018.0	4,274,774.0	866.30				Average	
		point331	331	5,263,907.0	4,274,688.5	866.00				Average	
		point332	332	5,263,800.0	4,274,598.0	862.00				Average	
		point333	333	5,263,492.0	4,274,295.0	852.00				Average	Y
		point334	334	5,263,381.0	4,274,181.0	847.30				Average	Y
		point335	335	5,263,266.0	4,274,063.0	845.00				Average	
		point336	336	5,262,917.0	4,273,704.0	837.50					
Rd135 ; SB new local 9th-Pike(3)1	36.0	point337	337	5,269,327.0	4,282,414.0	496.00				Average	

**INPUT: ROADWAYS**

**BSB**

		point338	338	5,269,355.5	4,282,362.0	494.40				Average	
		point339	339	5,269,463.0	4,282,190.0	497.90				Average	
		point340	340	5,269,586.0	4,281,997.0	503.40				Average	
		point341	341	5,269,637.0	4,281,912.0	502.70				Average	
		point342	342	5,269,676.0	4,281,843.0	502.00					
Rd136 ; SB New local @ Pike(3)1	36.0	point343	343	5,269,676.0	4,281,843.0	502.00				Average	
		point344	344	5,269,687.0	4,281,822.0	502.00					
Rd137 ; SB new local Pike-12th(3)1	36.0	point345	345	5,269,687.0	4,281,822.0	502.00				Average	
		point346	346	5,269,736.0	4,281,730.0	500.50				Average	
		point347	347	5,269,797.0	4,281,599.0	498.70				Average	
		point348	348	5,269,849.0	4,281,474.5	495.00				Average	
		point349	349	5,269,896.0	4,281,348.0	490.00					
Rd138 ; SB new local @ 12th(3)1	36.0	point350	350	5,269,896.0	4,281,348.0	490.00				Average	
		point351	351	5,269,898.5	4,281,339.0	490.00					
Rd139 ; SB new local 12th-75(2)1	24.0	point352	352	5,269,898.5	4,281,339.0	490.00				Average	
		point353	353	5,269,950.0	4,281,202.0	489.00				Average	
		point354	354	5,270,001.0	4,281,063.0	491.70				Average	
		point355	355	5,270,033.0	4,280,963.0	495.60				Average	Y
		point356	356	5,270,066.0	4,280,836.0	501.00				Average	Y
		point357	357	5,270,088.0	4,280,710.5	505.00				Average	Y
		point358	358	5,270,100.0	4,280,603.0	506.80				Average	Y
		point359	359	5,270,106.0	4,280,498.0	508.20				Average	Y
		point360	360	5,270,106.0	4,280,376.0	510.40				Average	Y
		point361	361	5,270,097.0	4,280,256.0	514.00				Average	Y
		point362	362	5,270,082.0	4,280,137.0	519.50				Average	Y
		point363	363	5,270,064.0	4,280,047.0	523.00				Average	Y
		point364	364	5,270,083.0	4,279,935.0	528.00					
Rd140 ; SB Off to CD @ 1072(1)1	12.0	point365	365	5,266,143.0	4,275,703.0	806.00				Average	
		point366	366	5,265,963.5	4,275,706.0	814.00				Average	
		point367	367	5,265,853.0	4,275,673.0	821.00				Average	
		point368	368	5,265,693.0	4,275,618.0	831.70					
Rd141 ; SB CD 1072 off-on(1)1	12.0	point369	369	5,265,693.0	4,275,618.0	831.70				Average	
		point370	370	5,265,602.0	4,275,573.0	836.30				Average	
		point371	371	5,265,363.0	4,275,480.0	854.00				Average	
		point372	372	5,264,993.0	4,275,338.5	869.10				Average	
		point373	373	5,264,738.0	4,275,243.0	874.30				Average	
		point374	374	5,264,725.0	4,275,237.0	874.40				Average	Y
		point375	375	5,264,633.0	4,275,198.0	877.00				Average	Y
		point376	376	5,264,608.0	4,275,187.0	877.30				Average	

**INPUT: ROADWAYS**

**BSB**

		point377	377	5,264,460.5	4,275,117.5	877.20				Average	
		point378	378	5,264,293.0	4,275,028.0	875.50				Average	
		point379	379	5,264,149.0	4,274,939.0	871.00				Average	
		point380	380	5,263,990.5	4,274,830.0	868.50				Average	
		point381	381	5,263,879.0	4,274,744.0	866.20				Average	
		point382	382	5,263,726.0	4,274,611.0	864.50				Average	
		point383	383	5,263,680.0	4,274,581.0	861.80					
Rd142 ; SB CD 1072 on-1 lane(2)1	24.0	point384	384	5,263,680.0	4,274,581.0	861.80				Average	
		point385	385	5,263,538.0	4,274,440.0	856.00				Average	
		point386	386	5,263,444.0	4,274,341.0	850.50				Average	Y
		point387	387	5,263,333.5	4,274,227.0	846.00				Average	Y
		point388	388	5,263,143.0	4,274,028.0	842.00					
Rd143 ; SB CD 2 lane-Dixie Off(1)1	12.0	point389	389	5,263,143.0	4,274,028.0	842.00				Average	
		point390	390	5,262,832.0	4,273,698.5	837.00					
Rd150 ; SB Off to 1072(1)1	12.0	point391	391	5,265,693.0	4,275,618.0	831.70				Average	
		point392	392	5,265,591.0	4,275,593.0	836.30				Average	
		point393	393	5,265,477.0	4,275,560.0	851.00				Average	
		point394	394	5,265,348.0	4,275,531.0	860.00				Average	
		point395	395	5,265,098.0	4,275,497.0	879.50					
Rd151 ; SB Off to 1072(2)1	24.0	point396	396	5,265,098.0	4,275,497.0	879.50				Average	
		point397	397	5,264,576.0	4,275,439.0	899.50					
Rd152 ; SB On fr Dixie(1)1	12.0	point398	398	5,264,538.0	4,275,422.0	900.00				Average	
		point399	399	5,264,091.0	4,274,984.0	883.50				Average	
		point400	400	5,263,711.0	4,274,626.0	864.50				Average	
		point401	401	5,263,680.0	4,274,581.0	861.80					

INPUT: ROADWAYS

BSB

PEC						8 August 2023					
ZR						TNM 2.5					
INPUT: ROADWAYS						Average pavement type shall be used unless					
PROJECT/CONTRACT:			BSB			a State highway agency substantiates the use					
RUN:			KY W Build PM S3			of a different type with the approval of FHWA					
Roadway		Points			Coordinates (pavement)			Flow Control		Segment	
Name	Width	Name	No.	X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Rd 1 ; NB On Fr WB Dixie1	12.0	point1	1	5,261,116.0	4,271,770.0	849.50				Average	
		point2	2	5,261,162.0	4,271,747.0	848.00				Average	
		point3	3	5,261,182.5	4,271,741.5	847.00				Average	
		point4	4	5,261,210.0	4,271,745.0	846.50				Average	
		point5	5	5,261,542.0	4,271,829.0	834.50					
Rd2 ; NB On Fr WB Dixie1	12.0	point6	6	5,261,014.0	4,271,229.0	860.50				Average	
		point7	7	5,261,043.5	4,271,297.0	859.00				Average	
		point8	8	5,261,078.0	4,271,472.0	855.00				Average	
		point9	9	5,261,098.5	4,271,576.0	852.50				Average	
		point10	10	5,261,109.0	4,271,610.0	851.50				Average	
		point11	11	5,261,129.0	4,271,643.5	850.50				Average	
		point12	12	5,261,166.0	4,271,686.0	848.50				Average	
		point13	13	5,261,202.0	4,271,711.0	847.00				Average	
		point14	14	5,261,260.0	4,271,737.0	845.00				Average	
		point15	15	5,261,490.5	4,271,805.0	836.50				Average	
		point16	16	5,261,542.0	4,271,829.0	834.50					
Rd3 ; SB on Fr Dixie1	12.0	point17	17	5,261,221.0	4,272,395.0	836.50				Average	
		point18	18	5,261,186.0	4,272,391.5	837.00				Average	
		point19	19	5,260,867.0	4,272,357.5	827.50				Average	
		point20	20	5,260,692.5	4,272,340.0	819.50				Average	
		point21	21	5,260,553.0	4,272,337.0	815.00				Average	
		point22	22	5,260,427.5	4,272,341.5	813.00				Average	
		point23	23	5,260,316.0	4,272,357.0	812.00				Average	
		point24	24	5,259,759.5	4,272,458.0	802.00				Average	
		point25	25	5,259,533.5	4,272,494.0	798.00					



**INPUT: ROADWAYS**

**BSB**

Rd3 ; SB on Fr Dixie2	12.0	point26	26	5,259,533.5	4,272,494.0	798.00				Average	
		point27	27	5,259,361.0	4,272,509.0	793.00				Average	
		point28	28	5,259,164.0	4,272,505.5	789.00				Average	
		point29	29	5,259,035.0	4,272,477.0	786.00					
Rd4 ; NB Dixie H'way to Off to 751	24.0	point30	30	5,260,940.0	4,270,810.0	860.00				Average	
		point31	31	5,260,993.5	4,271,125.5	861.50				Average	
		point32	32	5,261,014.0	4,271,229.0	860.50					
Rd5 ; NB Dixie Off - Off1	24.0	point33	33	5,261,014.0	4,271,229.0	860.50				Average	
		point34	34	5,261,116.0	4,271,770.0	849.50					
Rd6 ; NB Dixie Over 711	24.0	point35	35	5,261,116.0	4,271,770.0	849.50				Average	
		point36	36	5,261,179.0	4,272,097.5	844.50				Average	Y
		point37	37	5,261,205.0	4,272,211.0	841.70				Average	Y
		point38	38	5,261,228.5	4,272,296.0	839.00				Average	Y
		point39	39	5,261,249.0	4,272,370.0	836.50				Average	
		point40	40	5,261,262.0	4,272,406.0	835.00					
Rd7 ; SB 71 Off to NB Dixie1	12.0	point41	41	5,261,568.0	4,272,518.0	824.50				Average	
		point42	42	5,261,526.0	4,272,498.0	826.00				Average	
		point43	43	5,261,442.5	4,272,467.0	828.50				Average	
		point44	44	5,261,396.0	4,272,457.0	830.00				Average	
		point45	45	5,261,362.0	4,272,464.0	830.50				Average	
		point46	46	5,261,335.5	4,272,494.0	830.50				Average	
		point47	47	5,261,308.0	4,272,539.0	830.50					
Rd8 ; NB Dixie Off SB - Off NB1	24.0	point48	48	5,261,262.0	4,272,406.0	835.00				Average	Y
		point49	49	5,261,308.0	4,272,539.0	830.50					
Rd9 ; NB Dixie Fr 71 Off1	24.0	point50	50	5,261,308.0	4,272,539.0	830.50				Average	
		point51	51	5,261,414.0	4,272,779.0	822.00				Average	
		point52	52	5,261,496.0	4,272,938.0	820.00					
Rd10 ; SB Dixie to On to SB 711	24.0	point53	53	5,261,485.0	4,272,968.0	820.50				Average	
		point54	54	5,261,378.0	4,272,778.0	823.00				Average	
		point55	55	5,261,294.5	4,272,600.0	829.00				Average	
		point56	56	5,261,237.0	4,272,448.0	834.50				Average	Y
		point57	57	5,261,221.0	4,272,395.0	836.50					
Rd11 ; SB Dixie Over 711	24.0	point58	58	5,261,221.0	4,272,395.0	836.50				Average	Y
		point59	59	5,261,189.5	4,272,288.0	840.00				Average	Y
		point60	60	5,261,139.5	4,272,090.5	845.50				Average	Y
		point61	61	5,261,066.5	4,271,699.0	850.50					
Rd12 ; SB Dixie Fr NB On1	24.0	point62	62	5,261,066.5	4,271,699.0	850.50				Average	
		point63	63	5,260,945.5	4,271,036.5	862.00				Average	
		point64	64	5,260,904.5	4,270,815.0	859.70					

**INPUT: ROADWAYS**

**BSB**

Rd13 ; NB 1072 to NB 75 On1	24.0	point65	65	5,265,174.5	4,274,245.0	864.00				Average	
		point66	66	5,265,101.5	4,274,480.0	875.00				Average	
		point67	67	5,265,072.0	4,274,577.0	881.00				Average	
		point68	68	5,265,044.0	4,274,649.0	885.50				Average	
		point69	69	5,264,999.0	4,274,745.0	891.00					
Rd14 ; NB 1072 Over 751	24.0	point70	70	5,264,999.0	4,274,745.0	891.00				Average	
		point71	71	5,264,827.0	4,275,016.0	897.00				Average	Y
		point72	72	5,264,692.0	4,275,228.0	900.00				Average	Y
		point73	73	5,264,597.0	4,275,390.0	900.00				Average	Y
		point74	74	5,264,576.0	4,275,439.0	899.50					
Rd16 ; SB 1072 to On to SB 751	24.0	point77	77	5,264,266.0	4,275,976.0	898.00				Average	
		point78	78	5,264,538.0	4,275,422.0	900.00					
Rd17 ; SB 1072 Over 751	24.0	point79	79	5,264,538.0	4,275,422.0	900.00				Average	
		point80	80	5,264,587.0	4,275,332.0	900.00				Average	Y
		point81	81	5,264,659.0	4,275,215.0	900.00				Average	Y
		point82	82	5,264,793.0	4,275,002.0	897.00				Average	Y
		point83	83	5,264,964.5	4,274,733.0	889.50					
Rd18 ; SB 1072 Fr On fr NB 751	24.0	point84	84	5,264,964.5	4,274,733.0	889.50				Average	
		point85	85	5,265,000.0	4,274,659.0	885.00				Average	
		point86	86	5,265,034.0	4,274,578.0	880.00				Average	
		point87	87	5,265,160.0	4,274,199.0	863.00					
Rd53 ; NB Off to CD Rd @ Dixie(1)1	12.0	point88	88	5,259,403.0	4,272,396.0	790.50				Average	
		point89	89	5,259,499.0	4,272,369.0	793.00				Average	
		point90	90	5,259,748.0	4,272,302.0	801.00					
Rd53 ; NB Off to CD Rd @ Dixie(1)2	12.0	point91	91	5,259,748.0	4,272,302.0	801.00				Average	
		point92	92	5,260,144.0	4,272,195.5	811.00					
Rd54 ; NB Off to Dixie(1)1	12.0	point93	93	5,260,144.0	4,272,195.5	811.00				Average	
		point94	94	5,260,242.0	4,272,168.0	814.50				Average	
		point95	95	5,260,352.0	4,272,129.0	819.50				Average	
		point96	96	5,260,472.0	4,272,078.0	825.50				Average	
		point97	97	5,260,650.0	4,271,985.5	835.00				Average	
		point98	98	5,260,783.5	4,271,902.0	841.50				Average	
		point99	99	5,261,066.5	4,271,699.0	850.50					
Rd55 ; NB CD Rd Dixie Off-On1	12.0	point100	100	5,260,144.0	4,272,195.5	811.00				Average	
		point101	101	5,260,316.0	4,272,168.0	814.00				Average	
		point102	102	5,260,625.0	4,272,108.0	815.20				Average	
		point103	103	5,260,723.0	4,272,095.0	815.10				Average	
		point104	104	5,260,886.0	4,272,081.5	813.80				Average	
		point105	105	5,261,050.5	4,272,085.0	813.60				Average	Y

**INPUT: ROADWAYS**

**BSB**

		point106	106	5,261,163.0	4,272,097.5	814.50				Average	Y
		point107	107	5,261,230.0	4,272,109.0	814.90				Average	Y
		point108	108	5,261,312.0	4,272,129.0	815.00				Average	
		point109	109	5,261,424.5	4,272,166.0	816.30				Average	
		point110	110	5,261,528.0	4,272,208.0	817.50				Average	
		point111	111	5,261,643.0	4,272,267.0	818.20				Average	
		point112	112	5,261,760.0	4,272,343.0	819.00				Average	
		point113	113	5,261,875.0	4,272,436.0	820.10				Average	
		point114	114	5,262,209.0	4,272,772.0	822.30				Average	
		point115	115	5,262,259.5	4,272,811.0	824.00					
Rd56 ; NB ON fr Dixie to CD Rd(1)1	12.0	point116	116	5,261,542.0	4,271,829.0	834.50				Average	
		point117	117	5,261,609.0	4,271,867.0	832.50				Average	
		point118	118	5,261,673.0	4,271,919.0	830.00				Average	
		point119	119	5,261,728.0	4,271,985.0	827.50				Average	
		point120	120	5,261,753.0	4,272,026.0	825.50				Average	
		point121	121	5,261,915.0	4,272,369.0	818.90				Average	
		point122	122	5,261,976.5	4,272,480.0	819.10				Average	
		point123	123	5,262,040.0	4,272,564.0	819.80				Average	
		point124	124	5,262,223.0	4,272,758.0	821.50				Average	
		point125	125	5,262,259.5	4,272,811.0	824.00					
Rd57 ; NB CD Rd Dixie On-1lane(2)1	24.0	point126	126	5,262,259.5	4,272,811.0	824.00				Average	Y
		point127	127	5,262,380.0	4,272,936.0	826.00				Average	Y
		point128	128	5,262,770.5	4,273,343.0	828.00					
Rd58 ; NB CD 2lane-Off to 1072(1)1	12.0	point129	129	5,262,770.5	4,273,343.0	828.00				Average	
		point130	130	5,262,963.0	4,273,550.0	834.00				Average	
		point131	131	5,263,491.0	4,274,094.0	849.30				Average	Y
		point132	132	5,263,593.5	4,274,196.0	855.00				Average	Y
		point133	133	5,263,711.0	4,274,311.0	857.80				Average	
		point134	134	5,263,885.5	4,274,467.0	859.00					
Rd59 ; NB CD 1072 Off-75 On(1)1	12.0	point135	135	5,263,885.5	4,274,467.0	859.00				Average	
		point136	136	5,263,929.0	4,274,517.5	861.00				Average	
		point137	137	5,264,109.0	4,274,670.0	871.00				Average	
		point138	138	5,264,291.0	4,274,800.0	875.50				Average	
		point139	139	5,264,459.0	4,274,898.5	877.30				Average	
		point140	140	5,264,597.0	4,274,970.0	877.80				Average	
		point141	141	5,264,734.0	4,275,030.0	877.00				Average	Y
		point142	142	5,264,831.0	4,275,069.5	873.00				Average	Y
		point143	143	5,265,126.0	4,275,189.0	865.40				Average	
		point144	144	5,265,181.0	4,275,236.0	860.00					

**INPUT: ROADWAYS**

**BSB**

Rd60 ; NB On fr 1072(1)1	12.0	point145	145	5,264,999.0	4,274,745.0	891.00				Average	
		point146	146	5,265,042.0	4,274,795.0	891.00				Average	
		point147	147	5,265,328.0	4,275,123.0	861.00				Average	
		point148	148	5,265,361.0	4,275,158.0	860.00				Average	
		point149	149	5,265,425.0	4,275,218.0	854.00				Average	
		point150	150	5,265,494.0	4,275,272.0	848.00				Average	
		point151	151	5,265,567.0	4,275,319.0	842.00				Average	
		point152	152	5,265,625.0	4,275,351.0	838.00				Average	
		point153	153	5,265,719.5	4,275,395.0	832.00				Average	
		point154	154	5,265,910.0	4,275,468.0	823.00				Average	
		point155	155	5,265,967.0	4,275,511.0	815.00					
Rd 61 ; NB On Fr Svc + 1072(2)1	24.0	point156	156	5,265,967.0	4,275,511.0	815.00				Average	
		point157	157	5,266,018.0	4,275,548.5	814.00					
Rd62 ; NB Off to 1072(1)1	12.0	point158	158	5,263,885.5	4,274,467.0	859.00				Average	
		point159	159	5,263,951.0	4,274,498.0	861.00				Average	
		point160	160	5,264,161.5	4,274,654.5	868.00				Average	
		point161	161	5,264,225.0	4,274,694.0	870.60				Average	
		point162	162	5,264,305.0	4,274,727.5	873.20				Average	
		point163	163	5,264,380.5	4,274,748.0	875.40				Average	
		point164	164	5,264,469.5	4,274,761.5	877.00				Average	
		point165	165	5,264,560.0	4,274,759.0	879.00				Average	
		point166	166	5,264,964.5	4,274,733.0	889.50					
Rd63 ; NB 75 3 lane-4lane(3)1	36.0	point167	167	5,259,403.0	4,272,396.0	790.50				Average	
		point168	168	5,259,523.0	4,272,382.0	795.00				Average	
		point169	169	5,259,658.0	4,272,361.0	799.00				Average	
		point170	170	5,259,755.0	4,272,339.0	802.00					
Rd63 ; NB 75 3 lane-4lane(3)2	36.0	point171	171	5,259,755.0	4,272,339.0	802.00				Average	
		point172	172	5,260,446.0	4,272,204.0	814.50				Average	
		point173	173	5,260,523.5	4,272,190.0	815.00				Average	
		point174	174	5,260,737.0	4,272,150.0	815.50				Average	
		point175	175	5,260,871.0	4,272,134.0	815.00				Average	
		point176	176	5,260,977.5	4,272,129.0	815.00				Average	
		point177	177	5,261,098.0	4,272,136.0	815.00				Average	Y
		point178	178	5,261,220.0	4,272,156.0	816.00				Average	Y
		point179	179	5,261,324.0	4,272,183.0	816.50				Average	
		point180	180	5,261,431.0	4,272,219.0	817.50				Average	
		point181	181	5,261,515.5	4,272,256.0	817.50				Average	
		point182	182	5,261,590.0	4,272,293.0	818.50				Average	
		point183	183	5,261,690.0	4,272,354.0	819.00				Average	

**INPUT: ROADWAYS**

**BSB**

		point184	184	5,261,791.0	4,272,428.0	820.00				Average	
		point185	185	5,261,932.0	4,272,560.5	821.00				Average	
		point186	186	5,262,030.0	4,272,665.0	822.00					
Rd64 ; NB 75 4Lane-5Lane(4)1	48.0	point187	187	5,262,030.0	4,272,665.0	822.00				Average	
		point188	188	5,262,233.0	4,272,875.0	823.50				Average	Y
		point189	189	5,262,340.0	4,272,986.0	825.00				Average	Y
		point190	190	5,262,486.0	4,273,136.0	826.00				Average	
		point191	191	5,263,442.0	4,274,122.0	848.50				Average	Y
		point192	192	5,263,552.5	4,274,237.0	852.00				Average	Y
		point193	193	5,263,660.0	4,274,346.0	855.50				Average	
		point194	194	5,263,835.0	4,274,515.0	861.00				Average	
		point195	195	5,263,955.0	4,274,619.0	865.00				Average	
		point196	196	5,264,104.5	4,274,734.0	870.00				Average	
		point197	197	5,264,252.0	4,274,832.0	874.00				Average	
		point198	198	5,264,364.5	4,274,898.0	876.00				Average	
		point199	199	5,264,471.0	4,274,954.0	877.00				Average	
		point200	200	5,264,572.0	4,275,003.0	877.00				Average	
		point201	201	5,264,717.0	4,275,065.0	875.00				Average	Y
		point202	202	5,264,811.0	4,275,101.5	873.00				Average	Y
		point203	203	5,264,976.0	4,275,165.0	869.00				Average	
		point204	204	5,265,181.0	4,275,236.0	860.00					
Rd65 ; NB 75 Svc Rd On-1072 On(5)1	60.0	point205	205	5,265,181.0	4,275,236.0	860.00				Average	
		point206	206	5,265,893.0	4,275,509.0	822.00				Average	
		point207	207	5,266,018.0	4,275,548.5	814.00					
Rd121 ; SB 75 1072 Off-5 lane(6)1	72.0	point208	208	5,266,143.0	4,275,703.0	806.00				Average	
		point209	209	5,265,968.0	4,275,641.0	814.00				Average	
		point210	210	5,265,765.0	4,275,563.0	827.00				Average	
		point211	211	5,265,163.0	4,275,334.0	861.00				Average	
		point212	212	5,264,934.0	4,275,247.0	874.50				Average	
		point213	213	5,264,764.0	4,275,176.0	877.00				Average	Y
		point214	214	5,264,670.5	4,275,138.0	877.00				Average	Y
		point215	215	5,264,647.0	4,275,128.0	877.00					
Rd122 ; SB 75 5lane-4lane (5)1	60.0	point216	216	5,264,647.0	4,275,128.0	877.00				Average	
		point217	217	5,264,515.0	4,275,069.0	877.30				Average	
		point218	218	5,264,399.0	4,275,012.5	877.00				Average	
		point219	219	5,264,257.5	4,274,934.0	875.50				Average	
		point220	220	5,264,131.0	4,274,854.0	869.00				Average	
		point221	221	5,264,018.0	4,274,774.0	866.30				Average	
		point222	222	5,263,907.0	4,274,688.5	866.00				Average	

**INPUT: ROADWAYS**

**BSB**

		point223	223	5,263,800.0	4,274,598.0	862.00				Average	
		point224	224	5,263,492.0	4,274,295.0	852.00				Average	Y
		point225	225	5,263,381.0	4,274,181.0	847.30				Average	Y
		point226	226	5,263,266.0	4,274,063.0	845.00				Average	
		point227	227	5,262,917.0	4,273,704.0	837.50				Average	
		point228	228	5,262,704.0	4,273,473.0	832.00					
Rd140 ; SB Off to CD @ 1072(1)1	12.0	point229	229	5,266,143.0	4,275,703.0	806.00				Average	
		point230	230	5,265,963.5	4,275,706.0	814.00				Average	
		point231	231	5,265,853.0	4,275,673.0	821.00				Average	
		point232	232	5,265,693.0	4,275,618.0	831.70					
Rd141 ; SB CD 1072 off-on(1)1	12.0	point233	233	5,265,693.0	4,275,618.0	831.70				Average	
		point234	234	5,265,602.0	4,275,573.0	836.30				Average	
		point235	235	5,265,363.0	4,275,480.0	854.00				Average	
		point236	236	5,264,993.0	4,275,338.5	869.10				Average	
		point237	237	5,264,738.0	4,275,243.0	874.30				Average	
		point238	238	5,264,725.0	4,275,237.0	874.40				Average	Y
		point239	239	5,264,633.0	4,275,198.0	877.00				Average	Y
		point240	240	5,264,608.0	4,275,187.0	877.30				Average	
		point241	241	5,264,460.5	4,275,117.5	877.20				Average	
		point242	242	5,264,293.0	4,275,028.0	875.50				Average	
		point243	243	5,264,149.0	4,274,939.0	871.00				Average	
		point244	244	5,263,990.5	4,274,830.0	868.50				Average	
		point245	245	5,263,879.0	4,274,744.0	866.20				Average	
		point246	246	5,263,726.0	4,274,611.0	864.50				Average	
		point247	247	5,263,680.0	4,274,581.0	861.80					
Rd142 ; SB CD 1072 on-1 lane(2)1	24.0	point248	248	5,263,680.0	4,274,581.0	861.80				Average	
		point249	249	5,263,538.0	4,274,440.0	856.00				Average	
		point250	250	5,263,444.0	4,274,341.0	850.50				Average	Y
		point251	251	5,263,333.5	4,274,227.0	846.00				Average	Y
		point252	252	5,263,143.0	4,274,028.0	842.00					
Rd143 ; SB CD 2 lane-Dixie Off(1)1	12.0	point253	253	5,263,143.0	4,274,028.0	842.00				Average	
		point254	254	5,262,832.0	4,273,698.5	837.00				Average	
		point255	255	5,262,598.0	4,273,450.0	830.00				Average	
		point256	256	5,262,400.0	4,273,238.0	826.80				Average	
		point257	257	5,262,263.0	4,273,101.0	826.00				Average	Y
		point258	258	5,262,153.0	4,272,990.0	823.60				Average	Y
		point259	259	5,262,038.0	4,272,876.0	822.30					
Rd144 ; SB 75 - CD on @ Dixie(4)1	48.0	point260	260	5,262,704.0	4,273,473.0	832.00				Average	
		point261	261	5,262,453.0	4,273,215.0	824.00				Average	

**INPUT: ROADWAYS**

**BSB**

		point262	262	5,262,295.0	4,273,052.0	821.00				Average	Y
		point263	263	5,262,188.0	4,272,941.0	820.10				Average	Y
		point264	264	5,262,129.5	4,272,882.0	819.30				Average	
		point265	265	5,261,894.0	4,272,638.0	818.60				Average	
		point266	266	5,261,753.0	4,272,501.0	817.80				Average	
		point267	267	5,261,645.0	4,272,416.0	817.00				Average	
		point268	268	5,261,547.0	4,272,354.0	816.50				Average	
		point269	269	5,261,438.0	4,272,300.0	815.90				Average	
		point270	270	5,261,330.0	4,272,259.0	815.20				Average	
		point271	271	5,261,239.0	4,272,235.0	814.70				Average	Y
		point272	272	5,261,145.0	4,272,216.0	813.90				Average	Y
		point273	273	5,261,023.0	4,272,202.0	813.70				Average	
		point274	274	5,260,904.5	4,272,204.0	814.30				Average	
		point275	275	5,260,797.0	4,272,213.5	815.10				Average	
		point276	276	5,260,665.0	4,272,243.0	815.30					
Rd145 ; SB 75 fr CD on @ Dixie(5)1	60.0	point277	277	5,260,665.0	4,272,243.0	815.30				Average	
		point278	278	5,260,418.5	4,272,291.0	810.50				Average	
		point279	279	5,259,987.0	4,272,375.0	805.30				Average	
		point280	280	5,259,756.0	4,272,420.0	802.00				Average	
		point281	281	5,259,539.0	4,272,457.0	796.00					
Rd145 ; SB 75 fr CD on @ Dixie(5)2	60.0	point282	282	5,259,539.0	4,272,457.0	796.00				Average	
		point283	283	5,259,362.5	4,272,476.0	791.00				Average	
		point284	284	5,259,207.5	4,272,480.5	788.00				Average	
		point285	285	5,259,035.0	4,272,477.0	786.00					
Rd146 ; SB CD Dixie Off-75(1)1	12.0	point286	286	5,262,038.0	4,272,876.0	822.30				Average	
		point287	287	5,261,966.0	4,272,791.0	820.10				Average	
		point288	288	5,261,810.0	4,272,626.0	818.50				Average	
		point289	289	5,261,707.0	4,272,526.0	817.90				Average	
		point290	290	5,261,625.0	4,272,458.0	817.40				Average	
		point291	291	5,261,531.0	4,272,398.5	816.80				Average	
		point292	292	5,261,472.5	4,272,366.5	816.40				Average	
		point293	293	5,261,401.5	4,272,332.0	815.90				Average	
		point294	294	5,261,334.0	4,272,305.0	814.90				Average	
		point295	295	5,261,249.0	4,272,279.0	814.70				Average	Y
		point296	296	5,261,155.0	4,272,258.0	814.20				Average	Y
		point297	297	5,261,127.0	4,272,252.0	814.10				Average	
		point298	298	5,261,018.5	4,272,240.0	813.60				Average	
		point299	299	5,260,926.0	4,272,238.0	813.80				Average	
		point300	300	5,260,833.0	4,272,243.0	814.40				Average	

**INPUT: ROADWAYS**

**BSB**

		point301	301	5,260,740.0	4,272,256.0	815.10				Average
		point302	302	5,260,665.0	4,272,243.0	815.30				
Rd147 ; SB off to Dixie(1)1	12.0	point303	303	5,262,038.0	4,272,876.0	822.30				Average
		point304	304	5,261,946.0	4,272,803.0	821.50				Average
		point305	305	5,261,756.0	4,272,626.0	819.80				Average
		point306	306	5,261,693.0	4,272,576.0	821.60				Average
		point307	307	5,261,582.0	4,272,507.0	824.50				
Rd148 ; SB Off to SB dixie(2)1	24.0	point308	308	5,261,582.0	4,272,505.5	824.50				Average
		point309	309	5,261,513.0	4,272,475.0	825.00				Average
		point310	310	5,261,436.0	4,272,446.0	828.00				Average
		point311	311	5,261,339.0	4,272,422.0	830.50				Average
		point312	312	5,261,262.0	4,272,406.0	835.00				
Rd149 ; SB Off @ Dixie (2)1	24.0	point313	313	5,261,262.0	4,272,406.0	835.00				Average
		point314	314	5,261,221.0	4,272,395.0	836.50				
Rd150 ; SB Off to 1072(1)1	12.0	point315	315	5,265,693.0	4,275,618.0	831.70				Average
		point316	316	5,265,591.0	4,275,593.0	836.30				Average
		point317	317	5,265,477.0	4,275,560.0	851.00				Average
		point318	318	5,265,348.0	4,275,531.0	860.00				Average
		point319	319	5,265,098.0	4,275,497.0	879.50				
Rd151 ; SB Off to 1072(2)1	24.0	point320	320	5,265,098.0	4,275,497.0	879.50				Average
		point321	321	5,264,576.0	4,275,439.0	899.50				
Rd152 ; SB On fr Dixie(1)1	12.0	point322	322	5,264,538.0	4,275,422.0	900.00				Average
		point323	323	5,264,091.0	4,274,984.0	883.50				Average
		point324	324	5,263,711.0	4,274,626.0	864.50				Average
		point325	325	5,263,680.0	4,274,581.0	861.80				
Rd254; NB 75 to On Fr Butter (3)1	36.0	point326	326	5,255,351.0	4,271,358.0	788.00				Average
		point327	327	5,255,509.0	4,271,481.5	782.00				Average
		point328	328	5,255,681.0	4,271,601.0	776.00				Average
		point329	329	5,255,849.0	4,271,705.0	771.00				Average
		point330	330	5,256,105.0	4,271,842.0	768.00				Average
		point331	331	5,256,294.0	4,271,924.0	769.00				Average
		point332	332	5,256,463.5	4,271,990.0	773.00				Average
		point333	333	5,256,586.0	4,272,033.0	776.50				Average
		point334	334	5,256,750.5	4,272,083.0	782.00				Average
		point335	335	5,256,964.0	4,272,133.0	790.50				Average
		point336	336	5,257,129.0	4,272,165.0	796.00				Average
		point337	337	5,257,778.0	4,272,249.0	806.30				
Rd255; NB 75 Butte On-Dixie Off (3)1	36.0	point338	338	5,257,778.0	4,272,249.0	806.30				Average
		point339	339	5,258,067.0	4,272,286.0	804.00				Average



**INPUT: ROADWAYS**

**BSB**

		point340	340	5,258,874.5	4,272,387.0	785.00				Average
		point341	341	5,259,041.0	4,272,401.0	785.00				Average
		point342	342	5,259,216.0	4,272,406.0	786.50				Average
		point343	343	5,259,403.0	4,272,396.0	790.50				
Rd256; NB On Fr EB Butter (1)1	12.0	point344	344	5,255,375.0	4,271,318.0	786.00				Average
		point345	345	5,255,498.0	4,271,415.5	781.50				Average
		point346	346	5,255,635.0	4,271,515.0	776.50				Average
		point347	347	5,255,812.0	4,271,618.0	770.50				
Rd257; NB On Fr WB Butter (1)1	12.0	point348	348	5,255,386.0	4,271,303.0	785.50				Average
		point349	349	5,255,520.0	4,271,410.0	780.50				Average
		point350	350	5,255,630.5	4,271,492.0	776.50				Average
		point351	351	5,255,812.0	4,271,618.0	770.50				
Rd258; NB On Fr Butter (1)1	12.0	point352	352	5,255,812.0	4,271,618.0	770.50				Average
		point353	353	5,255,974.0	4,271,718.5	767.50				Average
		point354	354	5,256,141.0	4,271,811.0	766.00				Average
		point355	355	5,256,303.0	4,271,883.0	768.00				Average
		point356	356	5,256,467.0	4,271,951.0	771.00				Average
		point357	357	5,256,597.0	4,272,000.0	775.00				Average
		point358	358	5,256,798.5	4,272,062.0	782.50				Average
		point359	359	5,256,953.5	4,272,104.0	789.00				Average
		point360	360	5,257,158.0	4,272,143.0	796.00				Average
		point361	361	5,257,444.0	4,272,182.0	803.50				Average
		point362	362	5,257,632.0	4,272,213.0	805.50				Average
		point363	363	5,257,778.0	4,272,249.0	806.30				
Rd259; SB 75 to End (5)1	60.0	point364	364	5,259,035.0	4,272,477.0	786.00				Average
		point365	365	5,258,911.0	4,272,464.0	786.30				Average
		point366	366	5,258,789.0	4,272,450.0	786.30				Average
		point367	367	5,258,488.0	4,272,412.0	793.20				Average
		point368	368	5,258,128.5	4,272,366.5	802.60				Average
		point369	369	5,257,966.5	4,272,349.0	805.00				Average
		point370	370	5,257,719.0	4,272,318.0	806.70				Average
		point371	371	5,257,425.0	4,272,280.0	804.60				Average
		point372	372	5,257,288.0	4,272,261.5	801.90				Average
		point373	373	5,257,133.0	4,272,241.0	798.20				Average
		point374	374	5,256,917.5	4,272,200.0	791.50				Average
		point375	375	5,256,744.0	4,272,158.0	784.10				Average
		point376	376	5,256,574.0	4,272,106.5	776.90				Average
		point377	377	5,256,449.5	4,272,065.5	774.00				Average
		point378	378	5,256,260.5	4,271,992.0	770.20				Average

**INPUT: ROADWAYS****BSB**

		point379	379	5,256,080.0	4,271,910.5	768.90				Average	
		point380	380	5,255,913.5	4,271,827.0	770.00				Average	
		point381	381	5,255,715.0	4,271,709.5	773.70				Average	
		point382	382	5,255,562.0	4,271,610.0	779.30				Average	
		point383	383	5,255,393.5	4,271,487.0	785.10				Average	
		point384	384	5,255,299.0	4,271,410.0	788.70					
Rd15 NB 1072 Fr SB 75 Off	36.0	point385	385	5,264,577.5	4,275,443.5	899.50				Average	
		point386	386	5,264,282.5	4,276,017.0	899.00					



**RESULTS: SOUND LEVELS**

**BSB**

R499(K1172)	440	1	44.8	46.1	66	1.3	10	----	46.1	0.0	7	-7.0
R500(K1620)	441	1	72.4	75.6	66	3.2	10	Snd Lvl	75.6	0.0	7	-7.0
R501(K2004)	442	1	64.7	68.8	66	4.1	10	Snd Lvl	68.8	0.0	7	-7.0
R502(K2005)	443	1	64.0	68.2	66	4.2	10	Snd Lvl	68.2	0.0	7	-7.0
R503(K1622)	444	1	72.1	75.5	66	3.4	10	Snd Lvl	75.5	0.0	7	-7.0
R504(K1630)	445	1	71.2	74.6	66	3.4	10	Snd Lvl	74.6	0.0	7	-7.0
R505(K1674)	446	1	66.1	70.3	66	4.2	10	Snd Lvl	70.3	0.0	7	-7.0
M-31(K1979)	447	1	70.0	69.7	66	-0.3	10	Snd Lvl	69.7	0.0	7	-7.0
R507(K1564)	449	1	63.0	62.2	66	-0.8	10	----	62.2	0.0	7	-7.0
R508(K1627)	450	1	71.5	74.9	66	3.4	10	Snd Lvl	74.9	0.0	7	-7.0
R509(K1573)	451	1	69.4	71.1	66	1.7	10	Snd Lvl	71.1	0.0	7	-7.0
R510(K1670 R-61)	452	1	67.2	71.5	66	4.3	10	Snd Lvl	71.5	0.0	7	-7.0
R512(K1642)	454	1	69.7	73.6	66	3.9	10	Snd Lvl	73.6	0.0	7	-7.0
R514(K1174)	456	1	47.4	48.3	66	0.9	10	----	48.3	0.0	7	-7.0
R515(K1569)	457	1	65.1	64.3	66	-0.8	10	----	64.3	0.0	7	-7.0
R516(K1638)	458	1	69.7	73.4	66	3.7	10	Snd Lvl	73.4	0.0	7	-7.0
R517(K1652)	459	1	67.5	71.6	66	4.1	10	Snd Lvl	71.6	0.0	7	-7.0
R518(K1665)	460	1	67.6	71.7	66	4.1	10	Snd Lvl	71.7	0.0	7	-7.0
R519(K2012)	461	1	58.9	59.5	66	0.6	10	----	59.5	0.0	7	-7.0
R520(K2014)	462	1	61.9	61.8	66	-0.1	10	----	61.8	0.0	7	-7.0
M-35(K1503)	464	1	70.8	70.9	66	0.1	10	Snd Lvl	70.9	0.0	7	-7.0
R523(K1578)	466	1	59.7	59.1	66	-0.6	10	----	59.1	0.0	7	-7.0
R525(K1570)	468	1	70.3	70.2	66	-0.1	10	Snd Lvl	70.2	0.0	7	-7.0
R526(K2009)	469	1	56.7	58.4	66	1.7	10	----	58.4	0.0	7	-7.0
R527(K2011)	470	1	57.5	58.9	66	1.4	10	----	58.9	0.0	7	-7.0
M-30(K1176)	471	1	66.9	68.4	66	1.5	10	Snd Lvl	68.4	0.0	7	-7.0
R530(K1181)	474	1	52.9	54.1	66	1.2	10	----	54.1	0.0	7	-7.0
R531(K1621)	475	1	67.6	71.0	66	3.4	10	Snd Lvl	71.0	0.0	7	-7.0
R532(K2008)	476	1	56.2	58.2	66	2.0	10	----	58.2	0.0	7	-7.0
M-37(K1616)	477	1	66.4	69.6	66	3.2	10	Snd Lvl	69.6	0.0	7	-7.0
R533(K2007)	478	1	56.8	59.2	66	2.4	10	----	59.2	0.0	7	-7.0
R535(K1705)	480	1	56.5	60.0	66	3.5	10	----	60.0	0.0	7	-7.0
R536(K2024)	481	1	64.1	64.0	66	-0.1	10	----	64.0	0.0	7	-7.0
R537(K85)	482	1	66.3	67.8	66	1.5	10	Snd Lvl	67.8	0.0	7	-7.0
R538(K1602)	483	1	69.4	70.6	66	1.2	10	Snd Lvl	70.6	0.0	7	-7.0
R539(K1611)	484	1	63.8	65.4	66	1.6	10	----	65.4	0.0	7	-7.0
R540(K1624)	485	1	66.2	69.4	66	3.2	10	Snd Lvl	69.4	0.0	7	-7.0
R541(K1629)	487	1	64.2	67.5	66	3.3	10	Snd Lvl	67.5	0.0	7	-7.0
R542(K1632)	488	1	62.1	65.7	66	3.6	10	----	65.7	0.0	7	-7.0
R545(K1608)	491	1	72.1	73.6	66	1.5	10	Snd Lvl	73.6	0.0	7	-7.0
R546(K1613)	492	1	61.1	63.7	66	2.6	10	----	63.7	0.0	7	-7.0

**RESULTS: SOUND LEVELS**

**BSB**

R547(K1637)	493	1	60.7	64.4	66	3.7	10	----	64.4	0.0	7	-7.0
R548(K1699)	494	1	57.1	60.8	66	3.7	10	----	60.8	0.0	7	-7.0
R550(K1695)	496	1	58.4	62.1	66	3.7	10	----	62.1	0.0	7	-7.0
R551(K2019)	497	1	56.0	56.8	66	0.8	10	----	56.8	0.0	7	-7.0
R552(K2023)	498	1	58.4	58.9	66	0.5	10	----	58.9	0.0	7	-7.0
R553(K2031)	499	1	61.2	61.7	66	0.5	10	----	61.7	0.0	7	-7.0
R554(K1677)	500	1	59.0	62.6	66	3.6	10	----	62.6	0.0	7	-7.0
R555(K1687)	501	1	58.8	62.3	66	3.5	10	----	62.3	0.0	7	-7.0
R556(K2018)	502	1	54.3	55.6	66	1.3	10	----	55.6	0.0	7	-7.0
R557(K2037)	503	1	69.4	70.3	66	0.9	10	Snd Lvl	70.3	0.0	7	-7.0
R558(K1626)	504	1	58.5	61.7	66	3.2	10	----	61.7	0.0	7	-7.0
R559(K1648)	505	1	59.6	63.5	66	3.9	10	----	63.5	0.0	7	-7.0
R560(K1668)	506	1	59.2	63.1	66	3.9	10	----	63.1	0.0	7	-7.0
R561(K1672)	507	1	59.4	63.1	66	3.7	10	----	63.1	0.0	7	-7.0
R562(K2013)	508	1	52.2	54.2	66	2.0	10	----	54.2	0.0	7	-7.0
R563(K2015)	509	1	53.0	55.1	66	2.1	10	----	55.1	0.0	7	-7.0
R565(K1713)	511	1	52.4	54.0	66	1.6	10	----	54.0	0.0	7	-7.0
R566(K2038)	512	1	64.7	62.2	66	-2.5	10	----	62.2	0.0	7	-7.0
R569(K1712)	515	1	52.7	54.3	66	1.6	10	----	54.3	0.0	7	-7.0
R570(K2036)	516	1	60.0	60.1	66	0.1	10	----	60.1	0.0	7	-7.0
R572(K1635)	518	1	55.5	59.3	66	3.8	10	----	59.3	0.0	7	-7.0
R573(K1617)	519	1	68.0	69.6	66	1.6	10	Snd Lvl	69.6	0.0	7	-7.0
R577(K1623)	523	1	65.5	67.4	66	1.9	10	Snd Lvl	67.4	0.0	7	-7.0
R578(K1634)	524	1	58.4	61.5	66	3.1	10	----	61.5	0.0	7	-7.0
R579(K1710)	525	1	53.3	55.5	66	2.2	10	----	55.5	0.0	7	-7.0
R580(K2034)	526	1	55.1	56.3	66	1.2	10	----	56.3	0.0	7	-7.0
R581(K1708)	528	1	53.1	55.8	66	2.7	10	----	55.8	0.0	7	-7.0
R583(K1628)	531	1	63.3	65.4	66	2.1	10	----	65.4	0.0	7	-7.0
R584(K1641)	532	1	56.4	59.3	66	2.9	10	----	59.3	0.0	7	-7.0
R585(K1706)	533	1	53.6	56.6	66	3.0	10	----	56.6	0.0	7	-7.0
R586(K2030)	534	1	53.1	54.3	66	1.2	10	----	54.3	0.0	7	-7.0
R587(K1704)	535	1	54.2	57.8	66	3.6	10	----	57.8	0.0	7	-7.0
R589(K1631)	537	1	61.9	64.0	66	2.1	10	----	64.0	0.0	7	-7.0
R590(K1651)	538	1	56.3	59.9	66	3.6	10	----	59.9	0.0	7	-7.0
R591(K1666)	539	1	55.9	59.5	66	3.6	10	----	59.5	0.0	7	-7.0
R592(K1682)	540	1	56.1	59.5	66	3.4	10	----	59.5	0.0	7	-7.0
R593(K1691)	541	1	55.4	59.0	66	3.6	10	----	59.0	0.0	7	-7.0
R594(K1698)	542	1	54.2	57.7	66	3.5	10	----	57.7	0.0	7	-7.0
R597(K1636)	545	1	61.4	63.7	66	2.3	10	----	63.7	0.0	7	-7.0
R598(K1694)	546	1	54.4	58.1	66	3.7	10	----	58.1	0.0	7	-7.0
R599(K2021)	547	1	53.3	54.8	66	1.5	10	----	54.8	0.0	7	-7.0

**RESULTS: SOUND LEVELS**

**BSB**

R600(K2027)	548	1	53.3	54.8	66	1.5	10	----	54.8	0.0	7	-7.0
R604(K1643)	552	1	61.6	64.0	66	2.4	10	----	64.0	0.0	7	-7.0
R605(K1718)	553	1	53.5	54.9	66	1.4	10	----	54.9	0.0	7	-7.0
R607(K1717)	555	1	53.5	54.9	66	1.4	10	----	54.9	0.0	7	-7.0
R612(K1716)	560	1	54.1	55.5	66	1.4	10	----	55.5	0.0	7	-7.0
R637(K1617 R-60)	585	1	67.0	68.0	66	1.0	10	Snd Lvl	68.0	0.0	7	-7.0
R902	655	1	74.5	77.2	66	2.7	10	Snd Lvl	77.2	0.0	7	-7.0
R903	656	1	65.1	69.5	66	4.4	10	Snd Lvl	69.5	0.0	7	-7.0
R904	657	1	54.4	56.7	66	2.3	10	----	56.7	0.0	7	-7.0
<b>Dwelling Units</b>		<b># DUs</b>	<b>Noise Reduction</b>									
			<b>Min</b>	<b>Avg</b>	<b>Max</b>							
			<b>dB</b>	<b>dB</b>	<b>dB</b>							
All Selected		115	0.0	0.0	0.0							
All Impacted		33	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							



**RESULTS: SOUND LEVELS**

**BSB**

R726(K1487)	234	1	67.6	70.7	66	3.1	10	Snd Lvl	70.7	0.0	7	-7.0
R727(K2068)	235	1	71.9	73.8	66	1.9	10	Snd Lvl	73.8	0.0	7	-7.0
R728(K1419)	236	1	58.2	60.6	66	2.4	10	----	60.6	0.0	7	-7.0
R729(K1422)	237	1	58.1	60.8	66	2.7	10	----	60.8	0.0	7	-7.0
R730(K1311)	238	1	69.8	70.6	66	0.8	10	Snd Lvl	70.6	0.0	7	-7.0
R731(K1429)	239	1	58.2	61.1	66	2.9	10	----	61.1	0.0	7	-7.0
R732(K65)	240	1	58.9	61.5	66	2.6	10	----	61.5	0.0	7	-7.0
R733(K1332)	241	1	71.1	75.2	66	4.1	10	Snd Lvl	75.2	0.0	7	-7.0
R734(K1201)	242	1	72.0	74.8	66	2.8	10	Snd Lvl	74.8	0.0	7	-7.0
R735(K1339)	243	1	65.9	70.4	66	4.5	10	Snd Lvl	70.4	0.0	7	-7.0
R736(K2067)	244	1	75.2	75.8	66	0.6	10	Snd Lvl	75.8	0.0	7	-7.0
M-43(K1349)	245	1	75.7	78.7	66	3.0	10	Snd Lvl	78.7	0.0	7	-7.0
R737(K1323)	246	1	73.5	77.2	66	3.7	10	Snd Lvl	77.2	0.0	7	-7.0
R738(K1412)	247	1	60.6	63.3	66	2.7	10	----	63.3	0.0	7	-7.0
R739(K1424)	248	1	58.7	61.1	66	2.4	10	----	61.1	0.0	7	-7.0
R740(K1454)	249	1	60.6	63.0	66	2.4	10	----	63.0	0.0	7	-7.0
R741(K1307)	250	1	67.8	66.3	66	-1.5	10	Snd Lvl	66.3	0.0	7	-7.0
R742(K1450)	251	1	58.7	61.3	66	2.6	10	----	61.3	0.0	7	-7.0
R743(K1479)	252	1	55.9	58.3	66	2.4	10	----	58.3	0.0	7	-7.0
R744(K1497)	253	1	70.0	72.9	66	2.9	10	Snd Lvl	72.9	0.0	7	-7.0
R745(K1476)	254	1	55.2	58.5	66	3.3	10	----	58.5	0.0	7	-7.0
R746(K1458)	255	1	63.1	65.3	66	2.2	10	----	65.3	0.0	7	-7.0
R747(K1482)	256	1	53.9	57.2	66	3.3	10	----	57.2	0.0	7	-7.0
R748(K2091)	257	1	78.0	79.2	66	1.2	10	Snd Lvl	79.2	0.0	7	-7.0
R749(K1767)	258	1	77.4	78.7	66	1.3	10	Snd Lvl	78.7	0.0	7	-7.0
R750(K1435)	259	1	60.0	62.2	66	2.2	10	----	62.2	0.0	7	-7.0
R751(K1427)	260	1	61.4	63.5	66	2.1	10	----	63.5	0.0	7	-7.0
R752(K1438)	261	1	60.6	62.4	66	1.8	10	----	62.4	0.0	7	-7.0
R753(K1472)	262	1	62.7	65.1	66	2.4	10	----	65.1	0.0	7	-7.0
R754(K1478)	263	1	56.2	59.4	66	3.2	10	----	59.4	0.0	7	-7.0
R755(K1488)	264	1	69.6	72.6	66	3.0	10	Snd Lvl	72.6	0.0	7	-7.0
R756(K2109B)	265	1	77.1	78.3	66	1.2	10	Snd Lvl	78.3	0.0	7	-7.0
R757(K2105)	266	1	74.7	76.2	66	1.5	10	Snd Lvl	76.2	0.0	7	-7.0
R758(K1448)	267	1	61.7	64.9	66	3.2	10	----	64.9	0.0	7	-7.0
R759(K1283)	268	1	63.1	63.6	66	0.5	10	----	63.6	0.0	7	-7.0
R760(K1433)	269	1	61.7	63.3	66	1.6	10	----	63.3	0.0	7	-7.0
R761(K1483)	270	1	57.3	60.3	66	3.0	10	----	60.3	0.0	7	-7.0
R762(K1455)	271	1	63.2	64.4	66	1.2	10	----	64.4	0.0	7	-7.0
R763(K1485)	272	1	58.6	61.6	66	3.0	10	----	61.6	0.0	7	-7.0
R764(KV2092)	273	1	74.5	75.6	66	1.1	10	Snd Lvl	75.6	0.0	7	-7.0
R765(K1459)	274	1	63.2	65.0	66	1.8	10	----	65.0	0.0	7	-7.0



**RESULTS: SOUND LEVELS**

**BSB**

R766(K2085)	275	1	75.2	77.0	66	1.8	10	Snd Lvl	77.0	0.0	7	-7.0
R767(K1491)	276	1	54.6	58.4	66	3.8	10	----	58.4	0.0	7	-7.0
R768(K1437)	277	1	61.5	63.4	66	1.9	10	----	63.4	0.0	7	-7.0
R769(K2119)	278	1	72.8	74.4	66	1.6	10	Snd Lvl	74.4	0.0	7	-7.0
R770(K1489)	279	1	59.9	62.4	66	2.5	10	----	62.4	0.0	7	-7.0
R771(K2101)	280	1	69.6	71.0	66	1.4	10	Snd Lvl	71.0	0.0	7	-7.0
R772(K2109E)	281	1	73.5	75.1	66	1.6	10	Snd Lvl	75.1	0.0	7	-7.0
R773(KV1469)	282	1	62.7	65.0	66	2.3	10	----	65.0	0.0	7	-7.0
R774(K1346)	283	1	70.7	72.8	66	2.1	10	Snd Lvl	72.8	0.0	7	-7.0
R775(K1496)	284	1	55.7	59.6	66	3.9	10	----	59.6	0.0	7	-7.0
R776(K2087)	285	1	72.0	74.1	66	2.1	10	Snd Lvl	74.1	0.0	7	-7.0
R777(K2106)	286	1	71.0	72.5	66	1.5	10	Snd Lvl	72.5	0.0	7	-7.0
M-41(K1318)	287	1	69.9	75.7	66	5.8	10	Snd Lvl	75.7	0.0	7	-7.0
R778(K2104)	288	1	71.9	73.3	66	1.4	10	Snd Lvl	73.3	0.0	7	-7.0
R779(K1195)	289	1	69.2	72.2	66	3.0	10	Snd Lvl	72.2	0.0	7	-7.0
R780(K1383)	290	1	71.1	73.0	66	1.9	10	Snd Lvl	73.0	0.0	7	-7.0
R781(K1456)	291	1	62.5	64.3	66	1.8	10	----	64.3	0.0	7	-7.0
R782(K1495)	292	1	62.6	65.1	66	2.5	10	----	65.1	0.0	7	-7.0
R783(K1722C)	293	1	70.8	73.0	66	2.2	10	Snd Lvl	73.0	0.0	7	-7.0
R784(K1769)	294	1	69.1	71.8	66	2.7	10	Snd Lvl	71.8	0.0	7	-7.0
R785(K2083)	295	1	76.4	78.6	66	2.2	10	Snd Lvl	78.6	0.0	7	-7.0
M-44(K75)	296	1	70.7	73.6	66	2.9	10	Snd Lvl	73.6	0.0	7	-7.0
M-46(K1469)	297	1	65.0	67.2	66	2.2	10	Snd Lvl	67.2	0.0	7	-7.0
R786(K1194)	298	1	59.0	62.0	66	3.0	10	----	62.0	0.0	7	-7.0
R787(K2122)	299	1	69.7	71.6	66	1.9	10	Snd Lvl	71.6	0.0	7	-7.0
R788(K1722B)	300	1	70.0	72.2	66	2.2	10	Snd Lvl	72.2	0.0	7	-7.0
M-40(K1315)	301	1	61.9	63.2	66	1.3	10	----	63.2	0.0	7	-7.0
M-42(K1348)	302	1	63.9	69.5	66	5.6	10	Snd Lvl	69.5	0.0	7	-7.0
R789(K1319)	303	1	63.7	64.7	66	1.0	10	----	64.7	0.0	7	-7.0
R790(K1360)	304	1	70.6	74.2	66	3.6	10	Snd Lvl	74.2	0.0	7	-7.0
R791(K1365)	305	1	69.1	71.6	66	2.5	10	Snd Lvl	71.6	0.0	7	-7.0
R792(K1421)	306	1	73.9	77.3	66	3.4	10	Snd Lvl	77.3	0.0	7	-7.0
R793(KV2025)	307	1	62.4	64.3	66	1.9	10	----	64.3	0.0	7	-7.0
R794(KV1318)	308	1	65.9	71.2	66	5.3	10	Snd Lvl	71.2	0.0	7	-7.0
R795(K74)	309	1	69.0	70.5	66	1.5	10	Snd Lvl	70.5	0.0	7	-7.0
R796(K1341)	310	1	70.6	74.9	66	4.3	10	Snd Lvl	74.9	0.0	7	-7.0
R797(K2124)	311	1	69.8	71.7	66	1.9	10	Snd Lvl	71.7	0.0	7	-7.0
R798(K1326)	312	1	61.9	63.8	66	1.9	10	----	63.8	0.0	7	-7.0
R799(K1391)	313	1	67.5	70.2	66	2.7	10	Snd Lvl	70.2	0.0	7	-7.0
R800(K2086)	314	1	72.5	75.4	66	2.9	10	Snd Lvl	75.4	0.0	7	-7.0
R801(K1205)	315	1	67.1	69.9	66	2.8	10	Snd Lvl	69.9	0.0	7	-7.0

**RESULTS: SOUND LEVELS**

**BSB**

R802(K1331)	316	1	68.2	73.1	66	4.9	10	Snd Lvl	73.1	0.0	7	-7.0
R803(K2017)	317	1	65.7	66.7	66	1.0	10	Snd Lvl	66.7	0.0	7	-7.0
R804(K2025)	318	1	63.5	65.2	66	1.7	10	----	65.2	0.0	7	-7.0
R805(K78)	319	1	69.5	73.8	66	4.3	10	Snd Lvl	73.8	0.0	7	-7.0
R806(K1322)	320	1	63.6	64.4	66	0.8	10	----	64.4	0.0	7	-7.0
R807(K1336)	321	1	68.4	73.1	66	4.7	10	Snd Lvl	73.1	0.0	7	-7.0
R808(K2109)	322	1	65.4	67.2	66	1.8	10	Snd Lvl	67.2	0.0	7	-7.0
R809(K71)	323	1	65.9	68.1	66	2.2	10	Snd Lvl	68.1	0.0	7	-7.0
R810(K2020)	324	1	67.1	66.7	66	-0.4	10	Snd Lvl	66.7	0.0	7	-7.0
R811(K2095)	325	1	67.4	70.3	66	2.9	10	Snd Lvl	70.3	0.0	7	-7.0
R812(K1386)	326	1	63.1	66.4	66	3.3	10	Snd Lvl	66.4	0.0	7	-7.0
R813(K2114)	327	1	67.3	69.0	66	1.7	10	Snd Lvl	69.0	0.0	7	-7.0
R814(K2125)	328	1	67.3	69.3	66	2.0	10	Snd Lvl	69.3	0.0	7	-7.0
M-48(K37)	329	1	60.9	63.2	66	2.3	10	----	63.2	0.0	7	-7.0
R815(K73)	330	1	64.1	66.4	66	2.3	10	Snd Lvl	66.4	0.0	7	-7.0
R816(K1372)	331	1	61.0	64.9	66	3.9	10	----	64.9	0.0	7	-7.0
R817(K1395)	332	1	67.3	70.1	66	2.8	10	Snd Lvl	70.1	0.0	7	-7.0
R818(K2029)	333	1	55.4	55.5	66	0.1	10	----	55.5	0.0	7	-7.0
R819(K2088)	334	1	72.5	75.2	66	2.7	10	Snd Lvl	75.2	0.0	7	-7.0
R820(K2138)	335	1	67.5	69.4	66	1.9	10	Snd Lvl	69.4	0.0	7	-7.0
R821(K1722A)	336	1	63.9	65.7	66	1.8	10	----	65.7	0.0	7	-7.0
R822(K1204)	337	1	65.4	67.9	66	2.5	10	Snd Lvl	67.9	0.0	7	-7.0
R823(K1722)	338	1	66.2	68.3	66	2.1	10	Snd Lvl	68.3	0.0	7	-7.0
R824(K2099)	339	1	65.1	68.1	66	3.0	10	Snd Lvl	68.1	0.0	7	-7.0
R825(K2127)	340	1	66.9	68.6	66	1.7	10	Snd Lvl	68.6	0.0	7	-7.0
R826(K2144)	341	1	66.8	68.8	66	2.0	10	Snd Lvl	68.8	0.0	7	-7.0
R827(K2109C)	342	1	66.6	68.3	66	1.7	10	Snd Lvl	68.3	0.0	7	-7.0
R828(K1720)	343	1	66.4	68.5	66	2.1	10	Snd Lvl	68.5	0.0	7	-7.0
R829(K2026)	344	1	68.3	67.5	66	-0.8	10	Snd Lvl	67.5	0.0	7	-7.0
R830(K68)	345	1	65.7	68.3	66	2.6	10	Snd Lvl	68.3	0.0	7	-7.0
R831(K1328)	346	1	63.2	64.4	66	1.2	10	----	64.4	0.0	7	-7.0
M-45(K1484)	347	1	72.3	76.0	66	3.7	10	Snd Lvl	76.0	0.0	7	-7.0
R832(K1362)	348	1	59.2	62.1	66	2.9	10	----	62.1	0.0	7	-7.0
R833(K1370)	349	1	60.4	63.8	66	3.4	10	----	63.8	0.0	7	-7.0
R834(K1402)	350	1	65.9	68.5	66	2.6	10	Snd Lvl	68.5	0.0	7	-7.0
R835(K1446)	351	1	68.1	71.6	66	3.5	10	Snd Lvl	71.6	0.0	7	-7.0
R836(K67)	352	1	65.3	68.0	66	2.7	10	Snd Lvl	68.0	0.0	7	-7.0
R837(K2033)	353	1	55.4	55.6	66	0.2	10	----	55.6	0.0	7	-7.0
R838(K2109F)	354	1	65.2	66.8	66	1.6	10	Snd Lvl	66.8	0.0	7	-7.0
R839(K1334)	355	1	61.9	63.6	66	1.7	10	----	63.6	0.0	7	-7.0
R840(K2109A)	356	1	62.2	63.8	66	1.6	10	----	63.8	0.0	7	-7.0

**RESULTS: SOUND LEVELS**

**BSB**

R841(K30)	357	1	63.9	65.4	66	1.5	10	----	65.4	0.0	7	-7.0
R842(K1353)	358	1	57.3	61.5	66	4.2	10	----	61.5	0.0	7	-7.0
R843(K1406)	359	1	62.8	65.3	66	2.5	10	----	65.3	0.0	7	-7.0
R844(K2032)	360	1	68.2	67.3	66	-0.9	10	Snd Lvl	67.3	0.0	7	-7.0
R845(K2103)	361	1	63.7	66.6	66	2.9	10	Snd Lvl	66.6	0.0	7	-7.0
R846(K1396)	362	1	60.1	63.3	66	3.2	10	----	63.3	0.0	7	-7.0
R847(K1403)	363	1	61.7	64.5	66	2.8	10	----	64.5	0.0	7	-7.0
R848(K2035)	364	1	54.8	54.4	66	-0.4	10	----	54.4	0.0	7	-7.0
R849(K1397)	365	1	58.6	62.0	66	3.4	10	----	62.0	0.0	7	-7.0
R850(K1721)	366	1	64.8	66.0	66	1.2	10	Snd Lvl	66.0	0.0	7	-7.0
R851(K2094)	367	1	72.0	74.8	66	2.8	10	Snd Lvl	74.8	0.0	7	-7.0
R852(K2109D)	368	1	61.7	62.9	66	1.2	10	----	62.9	0.0	7	-7.0
R853(K1217)	369	1	60.5	63.4	66	2.9	10	----	63.4	0.0	7	-7.0
R854(K1460)	370	1	62.7	65.3	66	2.6	10	----	65.3	0.0	7	-7.0
R855(K1392)	371	1	57.7	61.7	66	4.0	10	----	61.7	0.0	7	-7.0
R856(K1394)	372	1	58.2	61.2	66	3.0	10	----	61.2	0.0	7	-7.0
R857(K1193)	373	1	69.6	72.8	66	3.2	10	Snd Lvl	72.8	0.0	7	-7.0
R858(K1379)	374	1	56.9	60.5	66	3.6	10	----	60.5	0.0	7	-7.0
R859(K1385)	375	1	56.1	59.9	66	3.8	10	----	59.9	0.0	7	-7.0
R860(K2097)	376	1	71.6	74.4	66	2.8	10	Snd Lvl	74.4	0.0	7	-7.0
R861(K1390)	377	1	55.4	58.7	66	3.3	10	----	58.7	0.0	7	-7.0
R862(K1449)	378	1	63.8	66.0	66	2.2	10	Snd Lvl	66.0	0.0	7	-7.0
M-39(K2037)	379	1	71.2	70.2	66	-1.0	10	Snd Lvl	70.2	0.0	7	-7.0
R863(K2043)	380	1	54.2	53.9	66	-0.3	10	----	53.9	0.0	7	-7.0
R864(K2117)	381	1	62.4	65.2	66	2.8	10	----	65.2	0.0	7	-7.0
R865(K1212)	382	1	68.8	71.5	66	2.7	10	Snd Lvl	71.5	0.0	7	-7.0
R866(K2066)	383	1	64.3	68.1	66	3.8	10	Snd Lvl	68.1	0.0	7	-7.0
R867(K1196)	384	1	67.0	70.6	66	3.6	10	Snd Lvl	70.6	0.0	7	-7.0
R868(KV1492)	385	1	63.1	63.7	66	0.6	10	----	63.7	0.0	7	-7.0
R869(K1492)	386	1	61.8	65.2	66	3.4	10	----	65.2	0.0	7	-7.0
R870(K2102)	387	1	70.6	73.4	66	2.8	10	Snd Lvl	73.4	0.0	7	-7.0
R871(K2120)	388	1	61.4	64.1	66	2.7	10	----	64.1	0.0	7	-7.0
R872(KV2147)	389	1	61.8	63.9	66	2.1	10	----	63.9	0.0	7	-7.0
R873(K2107)	390	1	70.3	73.1	66	2.8	10	Snd Lvl	73.1	0.0	7	-7.0
R874(K1473)	391	1	51.7	54.9	66	3.2	10	----	54.9	0.0	7	-7.0
R875(K1203)	392	1	64.9	69.0	66	4.1	10	Snd Lvl	69.0	0.0	7	-7.0
R876(K2128)	393	1	61.0	63.5	66	2.5	10	----	63.5	0.0	7	-7.0
R877(K40)	394	1	61.5	64.9	66	3.4	10	----	64.9	0.0	7	-7.0
R878(K2141)	395	1	73.9	76.6	66	2.7	10	Snd Lvl	76.6	0.0	7	-7.0
R879(K2121)	396	1	69.9	72.8	66	2.9	10	Snd Lvl	72.8	0.0	7	-7.0
R880(K1202)	397	1	61.3	65.3	66	4.0	10	----	65.3	0.0	7	-7.0

**RESULTS: SOUND LEVELS**

**BSB**

R881(K2130)	398	1	60.8	63.0	66	2.2	10	----	63.0	0.0	7	-7.0
R882(K1211)	399	1	69.2	71.9	66	2.7	10	Snd Lvl	71.9	0.0	7	-7.0
R883(K1209)	400	1	63.0	67.5	66	4.5	10	Snd Lvl	67.5	0.0	7	-7.0
R884(K1213)	401	1	65.6	69.9	66	4.3	10	Snd Lvl	69.9	0.0	7	-7.0
R885(K2126)	402	1	69.8	72.5	66	2.7	10	Snd Lvl	72.5	0.0	7	-7.0
R886(K1206)	403	1	61.6	65.4	66	3.8	10	----	65.4	0.0	7	-7.0
R887(K2113)	404	1	60.4	62.7	66	2.3	10	----	62.7	0.0	7	-7.0
R888(K1218)	405	1	63.9	68.2	66	4.3	10	Snd Lvl	68.2	0.0	7	-7.0
R889(K36)	406	1	61.9	66.3	66	4.4	10	Snd Lvl	66.3	0.0	7	-7.0
R890(K2131)	407	1	69.2	72.1	66	2.9	10	Snd Lvl	72.1	0.0	7	-7.0
R891(K2140)	408	1	59.9	62.1	66	2.2	10	----	62.1	0.0	7	-7.0
R892(K1216)	409	1	62.1	65.7	66	3.6	10	----	65.7	0.0	7	-7.0
R893(K1220)	410	1	62.1	66.2	66	4.1	10	Snd Lvl	66.2	0.0	7	-7.0
R894(K2111)	411	1	68.7	71.6	66	2.9	10	Snd Lvl	71.6	0.0	7	-7.0
R895(K1219)	412	1	55.8	59.8	66	4.0	10	----	59.8	0.0	7	-7.0
R896(K2142)	413	1	59.6	61.7	66	2.1	10	----	61.7	0.0	7	-7.0
R897(K2139)	414	1	68.2	71.1	66	2.9	10	Snd Lvl	71.1	0.0	7	-7.0
R898(K1224)	415	1	61.2	65.4	66	4.2	10	----	65.4	0.0	7	-7.0
R899(K1223)	416	1	61.2	65.2	66	4.0	10	----	65.2	0.0	7	-7.0
R900(K1222)	417	1	56.9	60.7	66	3.8	10	----	60.7	0.0	7	-7.0
R901(K1753)	418	1	60.8	64.4	66	3.6	10	----	64.4	0.0	7	-7.0
M-47(K2141)	670	1	60.0	63.0	66	3.0	10	----	63.0	0.0	7	-7.0
M-44a(K75)	671	1	72.5	74.3	66	1.8	10	Snd Lvl	74.3	0.0	7	-7.0
R905	672	1	69.7	72.5	66	2.8	10	Snd Lvl	72.5	0.0	7	-7.0
R1000	673	1	60.0	62.8	66	2.8	10	----	62.8	0.0	7	-7.0
R1001	674	1	61.1	64.0	66	2.9	10	----	64.0	0.0	7	-7.0
R1002	675	1	61.0	64.1	66	3.1	10	----	64.1	0.0	7	-7.0
R1003	676	1	60.5	63.4	66	2.9	10	----	63.4	0.0	7	-7.0
R1004	677	1	61.3	64.3	66	3.0	10	----	64.3	0.0	7	-7.0
R1005	678	1	60.9	64.0	66	3.1	10	----	64.0	0.0	7	-7.0
R1006	679	1	59.4	62.2	66	2.8	10	----	62.2	0.0	7	-7.0
R1007	680	1	59.2	62.2	66	3.0	10	----	62.2	0.0	7	-7.0
R1008	681	1	59.6	62.5	66	2.9	10	----	62.5	0.0	7	-7.0
R1009	682	1	61.0	63.8	66	2.8	10	----	63.8	0.0	7	-7.0
R1010	683	1	63.0	65.8	66	2.8	10	----	65.8	0.0	7	-7.0
R1011	684	1	63.8	66.9	66	3.1	10	Snd Lvl	66.9	0.0	7	-7.0
R1012	685	1	64.6	66.5	66	1.9	10	Snd Lvl	66.5	0.0	7	-7.0
R1013	686	1	66.5	69.4	66	2.9	10	Snd Lvl	69.4	0.0	7	-7.0
R1014	687	1	64.2	67.2	66	3.0	10	Snd Lvl	67.2	0.0	7	-7.0
R1015	688	1	63.3	66.2	66	2.9	10	Snd Lvl	66.2	0.0	7	-7.0
R1016	689	1	62.3	64.3	66	2.0	10	----	64.3	0.0	7	-7.0

**RESULTS: SOUND LEVELS**

**BSB**

R1017	690	1	63.5	65.8	66	2.3	10	----	65.8	0.0	7	-7.0
<b>Dwelling Units</b>		<b># DUs</b>	<b>Noise Reduction</b>									
			<b>Min</b>	<b>Avg</b>	<b>Max</b>							
			<b>dB</b>	<b>dB</b>	<b>dB</b>							
All Selected		230	0.0	0.0	0.0							
All Impacted		118	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

**INPUT: TERRAIN LINES**

**BSB**

PEC			<b>8 August 2023</b>	
ZR			<b>TNM 2.5</b>	
<b>INPUT: TERRAIN LINES</b>				
<b>PROJECT/CONTRACT:</b>	<b>BSB</b>			
<b>RUN:</b>	<b>KY W Build PM S2</b>			
<b>Terrain Line</b>	<b>Points</b>			
<b>Name</b>	<b>No.</b>	<b>Coordinates (ground)</b>		
		<b>X</b>	<b>Y</b>	<b>Z</b>
		ft	ft	ft
Terrain Line1	1	5,267,437.5	4,275,377.5	748.70
	2	5,267,551.5	4,275,403.5	746.00
	3	5,267,640.0	4,275,408.0	744.70
	4	5,267,732.5	4,275,381.5	748.40
	5	5,267,765.5	4,275,399.5	749.20
	6	5,267,816.0	4,275,505.0	749.70
	7	5,267,843.5	4,275,653.5	750.90
	8	5,267,815.0	4,275,693.5	754.60
	9	5,267,721.0	4,275,716.0	752.90
	10	5,267,601.5	4,275,687.5	750.80
	11	5,267,550.0	4,275,682.0	750.50
	12	5,267,460.0	4,275,622.5	748.70
	13	5,267,366.5	4,275,566.5	750.00
	14	5,267,337.0	4,275,518.5	748.40
	15	5,267,373.5	4,275,489.0	745.60
	16	5,267,405.0	4,275,395.0	747.00
	17	5,267,437.5	4,275,377.5	748.70
Terrain Line2	18	5,267,276.0	4,275,567.0	773.20
	19	5,267,349.0	4,275,618.5	774.60
	20	5,267,464.0	4,275,677.0	772.60
	21	5,267,511.5	4,275,713.5	774.00
	22	5,267,558.0	4,275,729.0	775.80
	23	5,267,751.5	4,275,767.5	774.00
Terrain Line3	24	5,267,820.5	4,275,367.0	745.00

**INPUT: TERRAIN LINES****BSB**

	25	5,267,873.0	4,275,482.5	742.10
	26	5,267,955.0	4,275,616.0	742.20
	27	5,268,033.5	4,275,667.0	743.70
Terrain Line4	28	5,268,521.5	4,275,706.0	694.90
	29	5,268,511.0	4,275,646.5	691.60
	30	5,268,489.5	4,275,484.0	683.40
Terrain Line5	31	5,270,151.5	4,277,639.5	730.20
	32	5,270,177.0	4,277,673.5	733.40
	33	5,270,216.5	4,277,692.5	739.60
	34	5,270,260.0	4,277,731.5	743.60
	35	5,270,318.0	4,277,771.5	745.90
	36	5,270,369.5	4,277,785.5	754.10
	37	5,270,465.5	4,277,827.0	758.40
	38	5,270,671.5	4,277,939.0	754.50
	39	5,270,695.5	4,277,972.5	743.40
Terrain Line6	40	5,269,876.5	4,277,461.5	679.10
	41	5,269,902.0	4,277,508.0	680.70
	42	5,269,954.0	4,277,600.0	688.60
	43	5,270,026.0	4,277,867.5	681.20
Terrain Line7	44	5,269,931.5	4,276,976.5	584.90
	45	5,270,174.5	4,277,109.5	584.60
Terrain Line8	46	5,269,694.5	4,276,828.0	583.20
	47	5,269,863.5	4,276,944.5	586.70
Terrain Line9	48	5,269,109.5	4,276,478.5	639.50
	49	5,269,159.5	4,276,510.0	635.30
	50	5,269,196.0	4,276,544.5	631.70
	51	5,269,247.5	4,276,569.5	622.60
	52	5,269,310.0	4,276,584.0	611.10
	53	5,269,378.5	4,276,601.5	604.10
	54	5,269,428.5	4,276,603.5	595.30
	55	5,269,477.5	4,276,620.0	589.70
	56	5,269,547.0	4,276,667.0	584.90
	57	5,269,640.5	4,276,776.0	581.20
	58	5,269,642.5	4,276,882.5	593.80
	59	5,269,640.0	4,276,928.5	600.50
	60	5,269,636.0	4,276,978.5	611.10

**INPUT: TERRAIN LINES****BSB**

	61	5,269,638.5	4,277,009.5	616.70
	62	5,269,646.0	4,277,058.5	626.80
	63	5,269,767.5	4,277,130.5	627.30
Terrain Line10	64	5,270,109.0	4,277,945.0	705.50
	65	5,270,126.5	4,278,070.5	703.10
	66	5,270,158.5	4,278,248.5	699.00
	67	5,270,232.5	4,278,335.5	700.10
	68	5,270,394.5	4,278,402.0	701.60
	69	5,270,468.0	4,278,364.0	706.10
	70	5,270,537.0	4,278,329.0	701.60
	71	5,270,658.0	4,278,125.5	717.20
	72	5,270,694.5	4,278,064.5	720.50
Terrain Line11	73	5,270,310.5	4,278,760.5	670.70
	74	5,270,313.5	4,278,792.0	664.20
	75	5,270,320.5	4,278,824.0	659.10
	76	5,270,318.0	4,278,863.0	651.90
	77	5,270,319.0	4,278,921.0	636.00
	78	5,270,320.5	4,278,965.0	628.40
	79	5,270,326.0	4,279,015.5	622.50
Terrain Line12	80	5,270,214.0	4,278,478.5	693.00
	81	5,270,280.5	4,278,600.0	691.50
	82	5,270,331.5	4,278,684.0	683.50
Terrain Line13	83	5,270,131.0	4,278,233.5	694.00
	84	5,270,164.0	4,278,396.0	690.00
	85	5,270,206.0	4,278,451.0	689.50
Terrain Line14	86	5,270,045.5	4,278,155.0	653.50
	87	5,270,091.0	4,278,437.0	657.40
	88	5,270,120.5	4,278,547.5	654.50
Terrain Line15	89	5,270,177.5	4,278,520.0	679.50
	90	5,270,224.5	4,278,697.5	659.10
	91	5,270,274.0	4,278,889.0	638.80
	92	5,270,292.5	4,278,977.5	628.40
	93	5,270,324.0	4,279,018.0	622.70
	94	5,270,368.5	4,279,047.0	617.90
Terrain Line16	95	5,270,081.0	4,278,116.5	678.20
	96	5,270,052.0	4,277,988.5	672.30



**INPUT: TERRAIN LINES**

**BSB**

	97	5,270,030.5	4,277,873.0	681.20
Terrain Line17	98	5,268,146.0	4,275,668.5	712.30
	99	5,268,213.0	4,275,696.0	714.70
	100	5,268,263.0	4,275,735.0	713.60
	101	5,268,283.0	4,275,808.5	719.30
	102	5,268,333.0	4,275,823.0	720.70
	103	5,268,370.0	4,275,824.5	716.10
	104	5,268,438.5	4,275,833.0	722.80
	105	5,268,491.0	4,275,836.0	713.40
	106	5,268,475.0	4,275,774.5	709.70
	107	5,268,531.0	4,275,764.0	710.40
	108	5,268,619.5	4,275,814.5	714.80
	109	5,268,705.5	4,275,854.0	715.20
	110	5,268,759.5	4,275,881.0	707.50
	111	5,268,771.0	4,275,974.5	705.80
	112	5,268,744.0	4,276,061.0	707.50
	113	5,268,703.0	4,276,148.5	707.10
	114	5,268,657.5	4,276,217.5	708.60
Terrain Line18	115	5,269,490.0	4,277,028.5	660.90
	116	5,269,585.0	4,277,126.5	658.50
	117	5,269,764.0	4,277,292.0	664.50
	118	5,269,912.0	4,277,371.0	666.30
	119	5,270,005.0	4,277,391.5	666.50
	120	5,270,100.0	4,277,445.0	666.10
Terrain Line19	121	5,268,558.0	4,275,706.0	691.80
	122	5,268,600.0	4,275,705.5	686.00
	123	5,268,643.0	4,275,710.5	681.90
	124	5,268,690.5	4,275,715.0	676.60
	125	5,268,733.0	4,275,719.0	671.90
	126	5,268,772.5	4,275,725.0	666.60
	127	5,268,813.5	4,275,733.0	658.70
	128	5,268,844.5	4,275,735.5	655.30
	129	5,268,892.5	4,275,750.0	649.00
	130	5,269,043.0	4,275,819.0	628.10
	131	5,269,080.5	4,275,848.0	623.60
	132	5,269,150.5	4,276,074.0	608.80

**INPUT: TERRAIN LINES**

**BSB**

	133	5,269,175.5	4,276,144.0	603.80
	134	5,269,220.0	4,276,221.5	598.80
	142	5,269,571.0	4,276,631.0	578.50
Terrain Line20	136	5,267,125.0	4,276,049.5	844.40
	137	5,267,243.5	4,276,013.0	843.70
	138	5,267,315.0	4,276,039.0	847.00
	139	5,267,404.0	4,276,103.5	842.50
	140	5,267,382.0	4,276,195.0	846.00
	141	5,267,365.0	4,276,293.5	844.00
	142	5,267,333.5	4,276,315.0	842.50
	143	5,267,179.5	4,276,262.5	843.70
Terrain Line21	144	5,267,825.0	4,276,058.5	790.20
	145	5,267,932.0	4,276,104.5	792.20
	146	5,267,972.5	4,276,145.0	784.20
	147	5,267,910.5	4,276,300.5	788.40
	148	5,267,831.5	4,276,344.0	793.50
	149	5,267,797.5	4,276,360.0	791.70
	150	5,267,727.0	4,276,421.5	785.90
	151	5,267,687.0	4,276,440.0	789.00
Terrain Line23	154	5,267,720.0	4,276,594.5	792.10
	155	5,267,888.0	4,276,581.5	793.20
	156	5,267,995.0	4,276,582.0	792.30
	157	5,268,068.5	4,276,556.0	792.70
	158	5,268,222.0	4,276,446.5	790.70
	159	5,268,251.5	4,276,436.0	788.20
	160	5,268,302.5	4,276,452.5	783.50
	161	5,268,358.0	4,276,565.0	786.40
Terrain Line24	162	5,268,138.5	4,276,401.0	753.70
	163	5,268,218.5	4,276,379.5	755.30
	164	5,268,249.5	4,276,350.5	756.60
	165	5,268,245.5	4,276,319.5	755.20
	166	5,268,185.0	4,276,236.5	753.40
	167	5,268,146.0	4,276,226.0	753.00
	168	5,268,076.0	4,276,281.0	752.30
	169	5,268,047.5	4,276,351.0	752.50
Terrain Line25	170	5,268,458.5	4,276,380.5	741.70

**INPUT: TERRAIN LINES****BSB**

	171	5,268,623.5	4,276,562.0	740.80
	172	5,268,721.0	4,276,671.0	741.00
Terrain Line26	173	5,268,688.5	4,276,671.0	753.60
	174	5,268,826.5	4,276,797.0	743.70
Terrain Line30	197	5,269,620.0	4,277,906.0	628.60
	198	5,269,710.5	4,278,323.0	607.20
	199	5,269,763.5	4,278,708.5	585.80
	200	5,269,739.0	4,278,991.5	566.80
Terrain Line31	201	5,268,646.0	4,277,770.5	737.90
	202	5,268,794.5	4,277,838.5	732.80
	203	5,268,949.5	4,277,875.0	716.30
	204	5,269,004.5	4,277,924.5	717.00
	205	5,268,983.0	4,277,988.5	728.30
	206	5,268,952.0	4,278,037.0	738.40
	207	5,268,910.0	4,278,082.0	751.70
Terrain Line32	208	5,269,449.0	4,278,136.5	763.50
	209	5,269,478.0	4,278,043.0	740.70
	210	5,269,466.5	4,277,923.0	724.10
	211	5,269,474.0	4,277,855.5	704.60
	212	5,269,490.0	4,277,782.5	686.60
	213	5,269,453.5	4,277,710.0	705.90
	214	5,269,416.5	4,277,654.0	724.60
	215	5,269,378.0	4,277,607.5	743.30
Terrain Line33	216	5,268,705.5	4,277,306.5	755.00
	217	5,268,769.0	4,277,219.0	736.10
	218	5,268,818.0	4,277,155.5	716.50
	219	5,268,854.0	4,277,114.0	698.40
	220	5,268,897.0	4,277,073.5	678.90
	221	5,268,839.0	4,277,012.0	680.40
	222	5,268,701.0	4,276,985.0	704.60
	223	5,268,463.0	4,276,967.5	721.80
Terrain Line34	224	5,268,040.5	4,276,100.5	768.50
	225	5,267,961.0	4,276,334.5	766.00
	226	5,267,934.0	4,276,373.5	765.30
	227	5,267,801.0	4,276,424.5	769.00
	228	5,267,733.5	4,276,499.0	765.00

**INPUT: TERRAIN LINES**

**BSB**

	229	5,267,680.0	4,276,520.0	765.70
	230	5,267,689.5	4,276,553.5	769.70
	231	5,267,747.5	4,276,558.5	774.20
	232	5,267,878.5	4,276,543.0	772.10
	233	5,268,044.0	4,276,529.5	774.00
	234	5,268,088.0	4,276,508.0	776.30
	235	5,268,180.0	4,276,435.5	774.60
	236	5,268,217.5	4,276,417.0	776.90
	237	5,268,299.5	4,276,403.0	765.30
	238	5,268,339.5	4,276,424.0	766.90
	239	5,268,376.5	4,276,449.5	762.30
	240	5,268,396.0	4,276,490.0	759.90
Terrain Line35	241	5,268,798.0	4,276,806.0	754.70
	242	5,268,681.5	4,276,824.5	756.40
	243	5,268,333.0	4,276,863.5	763.20
	244	5,268,268.5	4,276,870.5	755.20
Terrain Line36	245	5,268,805.5	4,277,289.0	767.80
	246	5,269,081.0	4,277,317.5	766.90
Terrain Line37	247	5,269,344.0	4,277,549.0	758.20
	248	5,269,329.0	4,277,580.5	763.80
Terrain Line38	249	5,269,310.0	4,277,592.5	762.30
	250	5,269,143.5	4,277,689.5	757.40
	251	5,269,031.0	4,277,710.5	758.60
	252	5,268,901.5	4,277,732.5	770.10
	253	5,268,815.0	4,277,737.5	762.50
	254	5,268,698.5	4,277,692.0	766.40
Terrain Line39	255	5,269,187.0	4,278,106.5	771.40
	256	5,269,042.0	4,278,160.0	772.40
Terrain Line40	257	5,269,213.0	4,278,504.5	767.80
	258	5,269,278.0	4,278,502.5	764.40
	259	5,269,326.0	4,278,472.0	763.50
	260	5,269,368.0	4,278,422.5	766.20
	261	5,269,456.0	4,278,346.0	763.10
	262	5,269,472.0	4,278,308.0	764.70
	263	5,269,471.0	4,278,289.5	765.40
	264	5,269,467.5	4,278,253.0	765.90

**INPUT: TERRAIN LINES****BSB**

	265	5,269,446.5	4,278,138.5	765.00
	266	5,269,362.5	4,278,104.0	771.60
	267	5,269,308.5	4,278,114.5	772.30
	268	5,269,218.5	4,278,121.0	774.40
	269	5,269,187.0	4,278,106.5	771.40
Terrain Line41	270	5,269,984.0	4,277,560.5	715.80
	271	5,269,981.5	4,277,589.0	713.90
	272	5,270,026.0	4,277,715.5	715.30
	273	5,270,080.0	4,277,793.0	715.60
	274	5,270,141.0	4,277,936.5	714.90
Terrain Line42	275	5,268,048.5	4,275,674.0	742.50
	276	5,268,188.5	4,275,754.0	737.90
	277	5,268,237.5	4,275,833.5	742.90
	278	5,268,267.0	4,275,865.0	742.80
Terrain Line43	279	5,269,081.0	4,277,317.5	766.90
	280	5,269,222.5	4,277,353.0	767.50
Terrain Line44	281	5,269,236.5	4,277,358.0	767.10
	282	5,269,259.0	4,277,362.0	760.00
	283	5,269,344.0	4,277,549.0	758.20
Terrain Line45	284	5,267,395.0	4,275,996.5	830.80
	285	5,267,160.0	4,275,974.5	830.70
	286	5,267,111.0	4,275,970.5	830.50
	287	5,267,074.5	4,275,957.0	828.90
	288	5,266,869.5	4,276,008.0	829.70
Terrain Line46	289	5,265,094.0	4,274,724.0	886.50
	290	5,265,179.0	4,274,794.0	888.00
	291	5,265,305.0	4,274,923.0	883.00
	309	5,265,477.0	4,275,199.0	852.00
	310	5,265,544.0	4,275,280.0	841.00
Terrain Line47	292	5,265,109.0	4,274,824.0	885.00
	293	5,265,405.0	4,275,165.0	854.00
	294	5,265,456.0	4,275,215.0	849.00
	295	5,265,527.0	4,275,275.0	841.50
	296	5,265,544.0	4,275,287.0	840.00
Terrain Line48	297	5,265,133.0	4,274,609.0	879.00
	298	5,265,167.0	4,274,618.0	876.00

**INPUT: TERRAIN LINES**

	299	5,265,183.0	4,274,624.0	875.00
	300	5,265,198.0	4,274,637.0	874.00
	301	5,265,219.0	4,274,659.0	872.00
	302	5,265,253.0	4,274,697.0	869.00
	303	5,265,347.0	4,274,817.0	862.00
	304	5,265,389.0	4,274,882.0	860.50
	305	5,265,446.0	4,275,040.0	853.00
	306	5,265,481.0	4,275,135.0	849.00
	307	5,265,517.0	4,275,218.0	844.00
	308	5,265,553.0	4,275,284.0	840.00

**BSB**

**INPUT: TERRAIN LINES**

**BSB**

<b>PEC</b>			<b>8 August 2023</b>		
<b>ZR</b>			<b>TNM 2.5</b>		
<b>INPUT: TERRAIN LINES</b>					
<b>PROJECT/CONTRACT:</b>	<b>BSB</b>				
<b>RUN:</b>	<b>KY W Build PM S3</b>				
<b>Terrain Line</b>	<b>Points</b>				
<b>Name</b>	<b>No.</b>	<b>Coordinates (ground)</b>			
		<b>X</b>	<b>Y</b>	<b>Z</b>	
		ft	ft	ft	
Terrain Line1	1	5,259,779.5	4,272,555.0	820.20	
	2	5,259,862.0	4,272,552.5	816.30	
	3	5,259,956.5	4,272,530.0	817.70	
	4	5,260,000.5	4,272,530.5	818.20	
	5	5,260,044.5	4,272,541.5	817.80	
	6	5,260,080.0	4,272,549.0	816.70	
	7	5,260,132.0	4,272,551.0	815.10	
	8	5,260,169.5	4,272,526.0	811.30	
	9	5,260,212.0	4,272,468.5	808.60	
	10	5,260,229.0	4,272,444.0	808.30	
	11	5,260,202.0	4,272,432.5	815.50	
	12	5,260,165.5	4,272,439.5	820.80	
	13	5,260,090.0	4,272,457.5	821.70	
	14	5,259,907.5	4,272,499.5	821.00	
	15	5,259,783.5	4,272,552.5	820.60	
Terrain Line2	16	5,260,240.5	4,272,400.5	808.50	
	17	5,260,040.0	4,272,445.0	810.80	
	18	5,259,839.0	4,272,491.0	811.60	
	19	5,259,768.5	4,272,512.5	813.70	
Terrain Line3	20	5,260,374.5	4,272,507.0	786.60	
	21	5,260,424.0	4,272,436.5	780.40	
	22	5,260,459.5	4,272,435.0	785.60	
	23	5,260,411.5	4,272,479.5	787.80	
	24	5,260,374.5	4,272,507.0	786.60	

**INPUT: TERRAIN LINES****BSB**

Terrain Line4	25	5,261,910.0	4,272,879.5	802.20
	26	5,261,878.5	4,272,897.0	802.50
	27	5,261,859.5	4,272,938.5	803.00
	28	5,261,846.5	4,273,027.0	801.40
Terrain Line5	29	5,261,746.0	4,272,765.0	798.60
	30	5,261,783.5	4,272,777.0	798.40
	31	5,261,845.5	4,272,805.5	799.40
	32	5,261,879.5	4,272,827.0	801.00
	33	5,261,914.0	4,272,876.5	802.20
Terrain Line6	34	5,261,895.5	4,272,988.0	817.70
	35	5,261,885.0	4,273,123.0	820.40
	36	5,261,901.0	4,273,220.5	814.70
	37	5,261,946.5	4,273,263.0	818.80
	38	5,261,926.5	4,273,290.5	814.70
	39	5,261,895.5	4,273,282.5	814.50
Terrain Line7	40	5,261,801.0	4,273,197.5	812.60
	41	5,261,779.5	4,273,171.0	813.40
	42	5,261,773.5	4,273,155.0	813.10
Terrain Line8	43	5,261,755.0	4,273,110.0	812.70
	44	5,261,744.0	4,273,078.0	812.40
	45	5,261,727.5	4,273,002.0	810.80
	46	5,261,737.0	4,272,961.0	809.50
	47	5,261,721.0	4,272,943.5	812.10
Terrain Line9	48	5,261,681.0	4,272,927.0	814.50
	49	5,261,668.5	4,272,922.5	814.30
	50	5,261,638.5	4,272,914.0	814.00
	51	5,261,602.5	4,272,886.5	813.70
Terrain Line10	52	5,261,807.5	4,273,007.0	797.60
	53	5,261,835.0	4,273,078.0	800.50
	54	5,261,844.0	4,273,032.5	800.70
Terrain Line11	55	5,260,207.5	4,272,569.0	800.20
	56	5,260,286.0	4,272,665.0	799.80
	57	5,260,334.0	4,272,686.0	816.00
Terrain Line12	58	5,261,602.5	4,272,886.5	813.70
	59	5,261,556.5	4,272,836.5	813.60
	60	5,261,577.5	4,272,757.5	813.60



**INPUT: TERRAIN LINES****BSB**

	61	5,261,527.0	4,272,744.0	817.80
	62	5,261,520.5	4,272,701.0	819.70
	63	5,261,499.0	4,272,694.5	819.40
Terrain Line13	64	5,261,537.0	4,272,630.5	819.10
	65	5,261,561.5	4,272,610.0	817.10
	66	5,261,570.5	4,272,581.0	814.60
Terrain Line14	67	5,261,570.5	4,272,581.0	814.60
	68	5,261,671.0	4,272,639.5	813.50
	69	5,261,793.5	4,272,713.5	814.10
	70	5,261,848.5	4,272,763.0	814.20
	71	5,261,989.0	4,272,897.0	817.10
Terrain Line15	72	5,260,593.0	4,272,395.5	808.00
	73	5,260,576.0	4,272,425.0	813.60
	74	5,260,529.5	4,272,468.5	816.80
	75	5,260,446.0	4,272,516.0	814.50
	76	5,260,412.5	4,272,537.0	812.00
	77	5,260,384.5	4,272,564.0	812.80
	78	5,260,385.5	4,272,594.5	822.00
	79	5,260,352.5	4,272,650.5	819.30
	80	5,260,336.5	4,272,683.5	816.80
Terrain Line16	81	5,260,361.5	4,272,719.5	825.50
	82	5,260,398.0	4,272,635.5	825.20
	83	5,260,416.0	4,272,606.0	825.40
Terrain Line17	84	5,260,408.5	4,272,574.0	824.60
	85	5,260,442.5	4,272,546.0	825.30
	86	5,260,502.5	4,272,517.0	825.70
	87	5,260,573.5	4,272,476.0	825.60
	88	5,260,648.0	4,272,439.0	825.80
Terrain Line18	89	5,260,281.0	4,272,432.5	799.30
	90	5,260,258.0	4,272,484.5	798.00
	91	5,260,228.0	4,272,532.0	798.80
	92	5,260,201.0	4,272,562.0	801.00
Terrain Line19	93	5,263,296.5	4,273,732.5	812.10
	94	5,263,306.5	4,273,670.5	812.70
	95	5,263,368.0	4,273,568.5	812.60
	96	5,263,451.0	4,273,454.5	811.60

**INPUT: TERRAIN LINES****BSB**

	97	5,263,505.0	4,273,468.0	812.20
	98	5,263,559.0	4,273,481.0	813.30
	99	5,263,599.5	4,273,472.0	809.90
	100	5,263,632.5	4,273,492.5	808.10
	101	5,263,709.5	4,273,568.5	810.50
Terrain Line20	102	5,263,298.0	4,273,751.0	812.50
	103	5,263,333.0	4,273,826.5	812.00
	104	5,263,236.5	4,273,749.5	809.00
	105	5,263,191.0	4,273,707.0	807.60
	106	5,263,176.5	4,273,659.5	806.10
	107	5,263,190.0	4,273,586.0	803.60
Terrain Line21	108	5,263,220.5	4,273,445.5	805.10
	109	5,263,231.0	4,273,395.0	804.20
	110	5,263,239.5	4,273,360.5	803.90
	111	5,263,233.0	4,273,283.0	805.40
	112	5,263,263.0	4,273,187.5	805.80
	113	5,263,231.0	4,273,165.0	810.10
Terrain Line22	114	5,263,185.5	4,273,121.0	806.70
	115	5,263,126.0	4,273,043.0	808.30
	116	5,263,082.0	4,273,009.0	810.00
	117	5,262,998.5	4,273,007.5	810.10
Terrain Line23	118	5,263,322.5	4,273,469.5	786.30
	119	5,263,300.5	4,273,526.5	790.30
	120	5,263,240.0	4,273,621.0	793.00
Terrain Line24	121	5,264,343.5	4,274,244.0	826.80
	122	5,264,302.0	4,274,170.0	826.90
	123	5,264,292.5	4,273,986.0	826.60
Terrain Line25	124	5,264,271.0	4,274,405.0	831.50
	125	5,264,242.5	4,274,475.0	836.50
	126	5,264,192.5	4,274,535.0	839.90
	127	5,264,153.5	4,274,572.5	841.80
Terrain Line26	128	5,264,326.0	4,274,373.0	826.00
	129	5,264,380.5	4,274,410.5	828.10
	130	5,264,439.0	4,274,414.0	834.30
	131	5,264,457.5	4,274,499.0	832.60
Terrain Line28	139	5,264,606.5	4,274,313.0	860.70

**INPUT: TERRAIN LINES****BSB**

	140	5,264,573.5	4,274,186.0	860.80
	141	5,264,587.0	4,274,152.5	859.90
Terrain Line29	142	5,264,302.5	4,274,366.5	824.80
	143	5,264,307.5	4,274,334.0	824.50
	144	5,264,246.0	4,274,263.5	824.50
	145	5,264,206.5	4,274,169.5	822.70
Terrain Line30	146	5,263,983.0	4,273,959.5	826.20
	147	5,263,894.0	4,273,889.5	824.40
Terrain Line33	157	5,264,034.0	4,274,410.0	879.20
	158	5,264,025.0	4,274,387.5	879.30
	159	5,263,915.5	4,274,355.0	879.10
Terrain Line34	160	5,260,283.0	4,272,397.5	804.20
	161	5,260,415.5	4,272,373.5	803.00
	162	5,260,491.5	4,272,373.5	804.00
	163	5,260,554.0	4,272,382.5	804.40
	164	5,260,580.0	4,272,389.5	805.00
Terrain Line35	165	5,261,805.5	4,273,000.5	797.80
	166	5,261,798.5	4,272,915.5	796.90
Terrain Line36	167	5,261,794.0	4,272,903.5	798.50
	168	5,261,746.0	4,272,821.5	798.10
	169	5,261,725.5	4,272,763.0	798.70
Terrain Line37	170	5,261,986.5	4,272,898.0	816.80
	171	5,261,926.5	4,272,934.0	814.90
	172	5,261,899.0	4,272,981.5	818.40
Terrain Line38	173	5,261,880.5	4,273,280.5	813.80
	174	5,261,813.0	4,273,212.0	812.60
Terrain Line39	175	5,263,335.5	4,273,357.5	777.50
	176	5,263,329.0	4,273,451.5	785.80
Terrain Line40	177	5,264,301.0	4,274,371.0	825.70
	178	5,264,321.5	4,274,368.0	825.90
	179	5,264,366.0	4,274,327.5	828.90
	180	5,264,349.5	4,274,257.5	826.90
Terrain Line41	181	5,264,047.5	4,274,506.0	878.20
	182	5,264,061.0	4,274,472.0	875.80
	183	5,264,046.5	4,274,439.0	879.20
Terrain Line42	184	5,264,065.5	4,274,294.0	859.50

**INPUT: TERRAIN LINES**

	185	5,264,038.5	4,274,276.0	859.30
	186	5,264,000.0	4,274,199.5	857.50
	187	5,263,950.5	4,274,178.5	861.30
	188	5,263,916.5	4,274,163.0	860.70
Terrain Line43	189	5,263,893.5	4,274,347.5	879.20
	190	5,263,823.0	4,274,327.0	877.20

**BSB**

INPUT: TRAFFIC FOR LAeq1h Volumes

BSB

PEC		8 August 2023											
ZR		TNM 2.5											
INPUT: TRAFFIC FOR LAeq1h Volumes													
PROJECT/CONTRACT:		BSB											
RUN:		KY W Build PM S2											
Roadway	Points												
Name	Name	No.	Segment		MTrucks		HTrucks		Buses		Motorcycles		
			Autos		V	S	V	S	V	S	V	S	
			V	S	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
Rd13 ; NB 1072 to NB 75 On1	point1	1	1179	25	0	0	64	25	0	0	0	0	
	point2	2	1179	25	0	0	64	25	0	0	0	0	
	point3	3	1179	25	0	0	64	25	0	0	0	0	
	point4	4	1179	25	0	0	64	25	0	0	0	0	
	point5	5											
Rd14 ; NB 1072 Over 751	point6	6	953	25	0	0	46	25	0	0	0	0	
	point7	7	953	25	0	0	46	25	0	0	0	0	
	point8	8	953	25	0	0	46	25	0	0	0	0	
	point9	9	953	25	0	0	46	25	0	0	0	0	
	point10	10											
Rd15 ; NB 1072 Fr SB 75 Off1	point11	11	694	25	0	0	34	25	0	0	0	0	
	point12	12											
Rd16 ; SB 1072 to On to SB 751	point13	13	694	25	0	0	34	25	0	0	0	0	
	point14	14											
Rd17 ; SB 1072 Over 751	point15	15	953	25	0	0	46	25	0	0	0	0	
	point16	16	953	25	0	0	46	25	0	0	0	0	
	point17	17	953	25	0	0	46	25	0	0	0	0	
	point18	18	953	25	0	0	46	25	0	0	0	0	
	point19	19											
Rd18 ; SB 1072 Fr On fr NB 751	point20	20	1179	25	0	0	64	25	0	0	0	0	
	point21	21	1179	25	0	0	64	25	0	0	0	0	
	point22	22	1179	25	0	0	64	25	0	0	0	0	
	point23	23											

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

Rd19 ; EB Pike to SB Svc Rd(1)1	point24	24	257	25	1	25	2	25	0	0	0	0
	point25	25										
Rd20 ; EB Pike Under 75(1)1	point26	26	257	25	1	25	2	25	0	0	0	0
	point27	27										
Rd21 ; WB Pike Under 75(2)1	point28	28	1158	25	5	25	7	25	0	0	0	0
	point29	29										
Rd22 ; WB Pike Fr SB SB Svc(2)1	point30	30	1158	25	5	25	7	25	0	0	0	0
	point31	31										
Rd39 ; EB 11th St(1)1	point32	32	1366	25	6	25	8	25	0	0	0	0
	point33	33	1366	25	6	25	8	25	0	0	0	0
	point34	34	1366	25	6	25	8	25	0	0	0	0
	point35	35	1366	25	6	25	8	25	0	0	0	0
	point36	36	1366	25	6	25	8	25	0	0	0	0
	point37	37	1366	25	6	25	8	25	0	0	0	0
	point38	38	1366	25	6	25	8	25	0	0	0	0
	point39	39	1366	25	6	25	8	25	0	0	0	0
	point40	40										
Rd40 ; wb 11th St (2)1	point41	41	1079	25	4	25	7	25	0	0	0	0
	point42	42	1079	25	4	25	7	25	0	0	0	0
	point43	43	1079	25	4	25	7	25	0	0	0	0
	point44	44	1079	25	4	25	7	25	0	0	0	0
	point45	45	1079	25	4	25	7	25	0	0	0	0
	point46	46	1079	25	4	25	7	25	0	0	0	0
	point47	47	1079	25	4	25	7	25	0	0	0	0
	point48	48	1079	25	4	25	7	25	0	0	0	0
	point49	49										
Rd41 ; EB Pike (1)1	point50	50	257	25	1	25	2	25	0	0	0	0
	point51	51	257	25	1	25	2	25	0	0	0	0
	point52	52	257	25	1	25	2	25	0	0	0	0
	point53	53	257	25	1	25	2	25	0	0	0	0
	point54	54	257	25	1	25	2	25	0	0	0	0
	point55	55	257	25	1	25	2	25	0	0	0	0
	point56	56	257	25	1	25	2	25	0	0	0	0
	point57	57	257	25	1	25	2	25	0	0	0	0
	point58	58	257	25	1	25	2	25	0	0	0	0
	point59	59	257	25	1	25	2	25	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point60	60	257	25	1	25	2	25	0	0	0	0
	point61	61	257	25	1	25	2	25	0	0	0	0
	point62	62	257	25	1	25	2	25	0	0	0	0
	point63	63										
Rd42 ; WB Pike(2)1	point64	64	1158	25	5	25	7	25	0	0	0	0
	point65	65	1158	25	5	25	7	25	0	0	0	0
	point66	66	1158	25	5	25	7	25	0	0	0	0
	point67	67	1158	25	5	25	7	25	0	0	0	0
	point68	68	1158	25	5	25	7	25	0	0	0	0
	point69	69	1158	25	5	25	7	25	0	0	0	0
	point70	70	1158	25	5	25	7	25	0	0	0	0
	point71	71	1158	25	5	25	7	25	0	0	0	0
	point72	72	1158	25	5	25	7	25	0	0	0	0
	point73	73	1158	25	5	25	7	25	0	0	0	0
	point74	74	1158	25	5	25	7	25	0	0	0	0
	point75	75	1158	25	5	25	7	25	0	0	0	0
	point76	76										
Rd59 ; NB CD 1072 Off-75 On(1)1	point77	77	424	35	0	0	27	35	0	0	0	0
	point78	78	424	35	0	0	27	35	0	0	0	0
	point79	79	424	35	0	0	27	35	0	0	0	0
	point80	80	424	35	0	0	27	35	0	0	0	0
	point81	81	424	35	0	0	27	35	0	0	0	0
	point82	82	424	35	0	0	27	35	0	0	0	0
	point83	83	424	35	0	0	27	35	0	0	0	0
	point84	84	424	35	0	0	27	35	0	0	0	0
	point85	85	424	35	0	0	27	35	0	0	0	0
	point86	86										
Rd60 ; NB On fr 1072(1)1	point87	87	541	35	0	0	44	35	0	0	0	0
	point88	88	541	35	0	0	44	35	0	0	0	0
	point89	89	541	35	0	0	44	35	0	0	0	0
	point90	90	541	35	0	0	44	35	0	0	0	0
	point91	91	541	35	0	0	44	35	0	0	0	0
	point92	92	541	35	0	0	44	35	0	0	0	0
	point93	93	541	35	0	0	44	35	0	0	0	0
	point94	94	541	35	0	0	44	35	0	0	0	0
	point95	95	541	35	0	0	44	35	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point96	96	541	35	0	0	44	35	0	0	0	0
	point97	97										
Rd 61 ; NB On Fr Svc + 1072(2)1	point98	98	689	35	9	35	13	35	0	0	0	0
	point99	99										
Rd62 ; NB Off to 1072(1)1	point100	100	371	35	0	0	17	35	0	0	0	0
	point101	101	371	35	0	0	17	35	0	0	0	0
	point102	102	371	35	0	0	17	35	0	0	0	0
	point103	103	371	35	0	0	17	35	0	0	0	0
	point104	104	371	35	0	0	17	35	0	0	0	0
	point105	105	371	35	0	0	17	35	0	0	0	0
	point106	106	371	35	0	0	17	35	0	0	0	0
	point107	107	371	35	0	0	17	35	0	0	0	0
	point108	108										
Rd64 ; NB 75 4Lane-5Lane(4)1	point109	109	4015	55	0	0	1240	55	0	0	0	0
	point110	110	4015	55	0	0	1240	55	0	0	0	0
	point111	111	4015	55	0	0	1240	55	0	0	0	0
	point112	112	4015	55	0	0	1240	55	0	0	0	0
	point113	113	4015	55	0	0	1240	55	0	0	0	0
	point114	114	4015	55	0	0	1240	55	0	0	0	0
	point115	115	4015	55	0	0	1240	55	0	0	0	0
	point116	116	4015	55	0	0	1240	55	0	0	0	0
	point117	117	4015	55	0	0	1240	55	0	0	0	0
	point118	118	4015	55	0	0	1240	55	0	0	0	0
	point119	119	4015	55	0	0	1240	55	0	0	0	0
	point120	120	4015	55	0	0	1240	55	0	0	0	0
	point121	121	4015	55	0	0	1240	55	0	0	0	0
	point122	122	4015	55	0	0	1240	55	0	0	0	0
	point123	123										
Rd65 ; NB 75 Svc Rd On-1072 On(5)1	point124	124	4406	55	0	0	1272	55	0	0	0	0
	point125	125	4406	55	0	0	1272	55	0	0	0	0
	point126	126										
Rd66 ; NB 75 1072 On-2_4Split(6)1	point127	127	4942	55	0	0	1322	55	0	0	0	0
	point128	128	4942	55	0	0	1322	55	0	0	0	0
	point129	129	4942	55	0	0	1322	55	0	0	0	0
	point130	130	4942	55	0	0	1322	55	0	0	0	0
	point131	131	4942	55	0	0	1322	55	0	0	0	0



**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point132	132	4942	55	0	0	1322	55	0	0	0	0	
	point133	133	4942	55	0	0	1322	55	0	0	0	0	
	point134	134	4942	55	0	0	1322	55	0	0	0	0	
	point135	135	4942	55	0	0	1322	55	0	0	0	0	
	point136	136	4942	55	0	0	1322	55	0	0	0	0	
	point137	137	4942	55	0	0	1322	55	0	0	0	0	
	point138	138	4942	55	0	0	1322	55	0	0	0	0	
	point139	139	4942	55	0	0	1322	55	0	0	0	0	
	point140	140	4942	55	0	0	1322	55	0	0	0	0	
	point141	141	4942	55	0	0	1322	55	0	0	0	0	
	point142	142	4942	55	0	0	1322	55	0	0	0	0	
	point143	143	4942	55	0	0	1322	55	0	0	0	0	
	point144	144	4942	55	0	0	1322	55	0	0	0	0	
	point145	145	4942	55	0	0	1322	55	0	0	0	0	
	point146	146	4942	55	0	0	1322	55	0	0	0	0	
	point147	147	4942	55	0	0	1322	55	0	0	0	0	
	point148	148	4942	55	0	0	1322	55	0	0	0	0	
	point149	149	4942	55	0	0	1322	55	0	0	0	0	
	point150	150											
Rd68 ; NB 75 Off to 12 to Off to	1	point151	151	2990	55	0	0	1216	55	0	0	0	0
		point152	152	2990	55	0	0	1216	55	0	0	0	0
		point153	153	2990	55	0	0	1216	55	0	0	0	0
		point154	154	2990	55	0	0	1216	55	0	0	0	0
		point155	155	2990	55	0	0	1216	55	0	0	0	0
		point156	156	2990	55	0	0	1216	55	0	0	0	0
		point157	157	2990	55	0	0	1216	55	0	0	0	0
		point158	158	2990	55	0	0	1216	55	0	0	0	0
		point159	159	2990	55	0	0	1216	55	0	0	0	0
		point160	160	2990	55	0	0	1216	55	0	0	0	0
		point161	161	2990	55	0	0	1216	55	0	0	0	0
		point162	162	2990	55	0	0	1216	55	0	0	0	0
		point163	163	2990	55	0	0	1216	55	0	0	0	0
		point164	164	2990	55	0	0	1216	55	0	0	0	0
		point165	165										
Rd69 ; NB 75 Off to-New Bridge(3)1		point166	166	3360	55	64	55	512	55	64	55	0	0
		point167	167	3360	55	64	55	512	55	64	55	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point168	168	3360	55	64	55	512	55	64	55	0	0
	point169	169	3360	55	64	55	512	55	64	55	0	0
	point170	170	3360	55	64	55	512	55	64	55	0	0
	point171	171	3360	55	64	55	512	55	64	55	0	0
	point172	172	3360	55	64	55	512	55	64	55	0	0
	point173	173	3360	55	64	55	512	55	64	55	0	0
	point174	174										
Rd71; NB CD Rd (2)1	point175	175	1897	35	0	0	143	35	0	0	0	0
	point176	176	1897	35	0	0	143	35	0	0	0	0
	point177	177	1897	35	0	0	143	35	0	0	0	0
	point178	178	1897	35	0	0	143	35	0	0	0	0
	point179	179	1897	35	0	0	143	35	0	0	0	0
	point180	180	1897	35	0	0	143	35	0	0	0	0
	point181	181	1897	35	0	0	143	35	0	0	0	0
	point182	182	1897	35	0	0	143	35	0	0	0	0
	point183	183										
Rd72 ; NB CD fr off to 12th(1)1	point184	184	805	25	10	25	15	25	0	0	0	0
	point185	185	805	25	10	25	15	25	0	0	0	0
	point186	186	805	25	10	25	15	25	0	0	0	0
	point187	187	805	25	10	25	15	25	0	0	0	0
	point188	188	805	25	10	25	15	25	0	0	0	0
	point189	189	805	25	10	25	15	25	0	0	0	0
	point190	190	805	25	10	25	15	25	0	0	0	0
	point191	191	805	25	10	25	15	25	0	0	0	0
	point192	192	805	25	10	25	15	25	0	0	0	0
	point193	193	805	25	10	25	15	25	0	0	0	0
	point194	194	805	25	10	25	15	25	0	0	0	0
	point195	195	805	25	10	25	15	25	0	0	0	0
	point196	196	805	25	10	25	15	25	0	0	0	0
	point197	197	805	25	10	25	15	25	0	0	0	0
	point198	198										
Rd74 ; NB On Ramp Fr Pike(1)1	point199	199	534	35	7	35	10	35	0	0	0	0
	point200	200	534	35	7	35	10	35	0	0	0	0
	point201	201	534	35	7	35	10	35	0	0	0	0
	point202	202	534	35	7	35	10	35	0	0	0	0
	point203	203	534	35	7	35	10	35	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point204	204	534	35	7	35	10	35	0	0	0	0
	point205	205										
Rd77 ; NB 75 to Old Br(2)1	point206	206	1971	55	40	55	188	55	40	55	0	0
	point207	207	1971	55	40	55	188	55	40	55	0	0
	point208	208	1971	55	40	55	188	55	40	55	0	0
	point209	209	1971	55	40	55	188	55	40	55	0	0
	point210	210	1971	55	40	55	188	55	40	55	0	0
	point211	211	1971	55	40	55	188	55	40	55	0	0
	point212	212	1971	55	40	55	188	55	40	55	0	0
	point213	213	1971	55	40	55	188	55	40	55	0	0
	point214	214	1971	55	40	55	188	55	40	55	0	0
	point215	215										
Rd82 ; EB Pike fr new local Rd(2)1	point216	216	653	25	3	25	4	25	0	0	0	0
	point217	217	653	25	3	25	4	25	0	0	0	0
	point218	218	653	25	3	25	4	25	0	0	0	0
	point219	219										
Rd83 ; EB 12th to SB new local Rd(1)1	point220	220	119	25	0	0	1	25	0	0	0	0
	point221	221										
Rd84 ; EB 12th Under 75(2)1	point222	222	257	25	1	25	2	25	0	0	0	0
	point223	223	257	25	1	25	2	25	0	0	0	0
	point224	224	257	25	1	25	2	25	0	0	0	0
	point225	225										
Rd85 ; WB 12th to NB New Local Rd(2)1	point226	226	653	25	3	25	4	25	0	0	0	0
	point227	227	653	25	3	25	4	25	0	0	0	0
	point228	228	653	25	3	25	4	25	0	0	0	0
	point229	229										
Rd86 ; WB 12th Under 75(2)1	point230	230	455	25	2	25	3	25	0	0	0	0
	point231	231	455	25	2	25	3	25	0	0	0	0
	point232	232	455	25	2	25	3	25	0	0	0	0
	point233	233										
Rd87 ; WB 12th fr SB Svc Rd(1)1	point234	234	129	25	1	25	1	25	0	0	0	0
	point235	235										
Rd94 ; NB Off to New local@12th(1)1	point236	236	1152	25	19	25	29	25	0	0	0	0
	point237	237	1152	25	19	25	29	25	0	0	0	0
	point238	238	1152	25	19	25	29	25	0	0	0	0
	point239	239	1152	25	19	25	29	25	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point240	240	1152	25	19	25	29	25	0	0	0	0
	point241	241	1152	25	19	25	29	25	0	0	0	0
	point242	242										
Rd95 ; NB New local to Pike(3)1	point243	243	1152	25	19	25	29	25	0	0	0	0
	point244	244	1152	25	19	25	29	25	0	0	0	0
	point245	245										
Rd96 ; NB new local @ Pike(3)1	point246	246	1152	25	19	25	29	25	0	0	0	0
	point247	247										
Rd97 ; NB new local Pike-11th(3)1	point248	248	970	25	12	25	18	25	0	0	0	0
	point249	249	970	25	12	25	18	25	0	0	0	0
	point250	250	970	25	12	25	18	25	0	0	0	0
	point251	251										
Rd98 ; NB new local @ 11th(3)1	point252	252	970	25	12	25	18	25	0	0	0	0
	point253	253										
Rd99 ; NB new local 11th-On to nb 75(3)1	point254	254	970	25	12	25	18	25	0	0	0	0
	point255	255										
Rd00 ; NB new local On to 75-11th(3)1	point256	256	295	25	6	25	9	25	0	0	0	0
	point257	257	295	25	6	25	9	25	0	0	0	0
	point258	258	295	25	6	25	9	25	0	0	0	0
	point259	259	295	25	6	25	9	25	0	0	0	0
	point260	260										
Rd116 ; SB 75 Cd On-6l ane(7)1	point261	261	7501	55	143	55	1143	55	143	55	0	0
	point262	262	7501	55	143	55	1143	55	143	55	0	0
	point263	263	7501	55	143	55	1143	55	143	55	0	0
	point264	264	7501	55	143	55	1143	55	143	55	0	0
	point265	265										
Rd117 ; SB 75 CD On-Ramp On(6)1	point266	266	5731	55	0	0	941	55	0	0	0	0
	point267	267	5731	55	0	0	941	55	0	0	0	0
	point268	268	5731	55	0	0	941	55	0	0	0	0
	point269	269	5731	55	0	0	941	55	0	0	0	0
	point270	270	5731	55	0	0	941	55	0	0	0	0
	point271	271	5731	55	0	0	941	55	0	0	0	0
	point272	272	5731	55	0	0	941	55	0	0	0	0
	point273	273	5731	55	0	0	941	55	0	0	0	0
	point274	274	5731	55	0	0	941	55	0	0	0	0
	point275	275	5731	55	0	0	941	55	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point276	276	5731	55	0	0	941	55	0	0	0	0
	point277	277	5731	55	0	0	941	55	0	0	0	0
	point278	278	5731	55	0	0	941	55	0	0	0	0
	point279	279	5731	55	0	0	941	55	0	0	0	0
	point280	280	5731	55	0	0	941	55	0	0	0	0
	point281	281	5731	55	0	0	941	55	0	0	0	0
	point282	282	5731	55	0	0	941	55	0	0	0	0
	point283	283										
Rd118 ; SB 75 On Ramp-6 lane(7)1	point284	284	6718	55	0	0	986	55	0	0	0	0
	point285	285	6718	55	0	0	986	55	0	0	0	0
	point286	286	6718	55	0	0	986	55	0	0	0	0
	point287	287										
Rd119 ; SB 75 7 lane-Off to 1072(6)1	point288	288	6718	55	0	0	986	55	0	0	0	0
	point289	289	6718	55	0	0	986	55	0	0	0	0
	point290	290	6718	55	0	0	986	55	0	0	0	0
	point291	291	6718	55	0	0	986	55	0	0	0	0
	point292	292	6718	55	0	0	986	55	0	0	0	0
	point293	293	6718	55	0	0	986	55	0	0	0	0
	point294	294	6718	55	0	0	986	55	0	0	0	0
	point295	295	6718	55	0	0	986	55	0	0	0	0
	point296	296	6718	55	0	0	986	55	0	0	0	0
	point297	297	6718	55	0	0	986	55	0	0	0	0
	point298	298	6718	55	0	0	986	55	0	0	0	0
	point299	299	6718	55	0	0	986	55	0	0	0	0
	point300	300	6718	55	0	0	986	55	0	0	0	0
	point301	301	6718	55	0	0	986	55	0	0	0	0
	point302	302	6718	55	0	0	986	55	0	0	0	0
	point303	303	6718	55	0	0	986	55	0	0	0	0
	point304	304	6718	55	0	0	986	55	0	0	0	0
	point305	305	6718	55	0	0	986	55	0	0	0	0
	point306	306	6718	55	0	0	986	55	0	0	0	0
	point307	307	6718	55	0	0	986	55	0	0	0	0
	point308	308	6718	55	0	0	986	55	0	0	0	0
	point309	309	6718	55	0	0	986	55	0	0	0	0
	point310	310	6718	55	0	0	986	55	0	0	0	0
	point311	311	6718	55	0	0	986	55	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point312	312	6718	55	0	0	986	55	0	0	0	0
	point313	313	6718	55	0	0	986	55	0	0	0	0
	point314	314	6718	55	0	0	986	55	0	0	0	0
	point315	315	6718	55	0	0	986	55	0	0	0	0
	point316	316										
Rd121 ; SB 75 1072 Off-5 lane(6)1	point317	317	5513	55	0	0	920	55	0	0	0	0
	point318	318	5513	55	0	0	920	55	0	0	0	0
	point319	319	5513	55	0	0	920	55	0	0	0	0
	point320	320	5513	55	0	0	920	55	0	0	0	0
	point321	321	5513	55	0	0	920	55	0	0	0	0
	point322	322	5513	55	0	0	920	55	0	0	0	0
	point323	323	5513	55	0	0	920	55	0	0	0	0
	point324	324										
Rd122 ; SB 75 5lane-4lane (5)1	point325	325	5513	55	0	0	920	55	0	0	0	0
	point326	326	5513	55	0	0	920	55	0	0	0	0
	point327	327	5513	55	0	0	920	55	0	0	0	0
	point328	328	5513	55	0	0	920	55	0	0	0	0
	point329	329	5513	55	0	0	920	55	0	0	0	0
	point330	330	5513	55	0	0	920	55	0	0	0	0
	point331	331	5513	55	0	0	920	55	0	0	0	0
	point332	332	5513	55	0	0	920	55	0	0	0	0
	point333	333	5513	55	0	0	920	55	0	0	0	0
	point334	334	5513	55	0	0	920	55	0	0	0	0
	point335	335	5513	55	0	0	920	55	0	0	0	0
	point336	336										
Rd135 ; SB new local 9th-Pike(3)1	point337	337	1515	25	6	25	9	25	0	0	0	0
	point338	338	1515	25	6	25	9	25	0	0	0	0
	point339	339	1515	25	6	25	9	25	0	0	0	0
	point340	340	1515	25	6	25	9	25	0	0	0	0
	point341	341	1515	25	6	25	9	25	0	0	0	0
	point342	342										
Rd136 ; SB New local @ Pike(3)1	point343	343	1515	25	6	25	9	25	0	0	0	0
	point344	344										
Rd137 ; SB new local Pike-12th(3)1	point345	345	1257	25	5	25	8	25	0	0	0	0
	point346	346	1257	25	5	25	8	25	0	0	0	0
	point347	347	1257	25	5	25	8	25	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point348	348	1257	25	5	25	8	25	0	0	0	0
	point349	349										
Rd138 ; SB new local @ 12th(3)1	point350	350	1257	25	5	25	8	25	0	0	0	0
	point351	351										
Rd139 ; SB new local 12th-75(2)1	point352	352	970	35	0	0	36	35	0	0	0	0
	point353	353	970	35	0	0	36	35	0	0	0	0
	point354	354	970	35	0	0	36	35	0	0	0	0
	point355	355	970	35	0	0	36	35	0	0	0	0
	point356	356	970	35	0	0	36	35	0	0	0	0
	point357	357	970	35	0	0	36	35	0	0	0	0
	point358	358	970	35	0	0	36	35	0	0	0	0
	point359	359	970	35	0	0	36	35	0	0	0	0
	point360	360	970	35	0	0	36	35	0	0	0	0
	point361	361	970	35	0	0	36	35	0	0	0	0
	point362	362	970	35	0	0	36	35	0	0	0	0
	point363	363	970	35	0	0	36	35	0	0	0	0
	point364	364										
Rd140 ; SB Off to CD @ 1072(1)1	point365	365	1212	35	0	0	49	35	0	0	0	0
	point366	366	1212	35	0	0	49	35	0	0	0	0
	point367	367	1212	35	0	0	49	35	0	0	0	0
	point368	368										
Rd141 ; SB CD 1072 off-on(1)1	point369	369	403	25	0	0	15	25	0	0	0	0
	point370	370	403	25	0	0	15	25	0	0	0	0
	point371	371	403	25	0	0	15	25	0	0	0	0
	point372	372	403	25	0	0	15	25	0	0	0	0
	point373	373	403	25	0	0	15	25	0	0	0	0
	point374	374	403	25	0	0	15	25	0	0	0	0
	point375	375	403	25	0	0	15	25	0	0	0	0
	point376	376	403	25	0	0	15	25	0	0	0	0
	point377	377	403	25	0	0	15	25	0	0	0	0
	point378	378	403	25	0	0	15	25	0	0	0	0
	point379	379	403	25	0	0	15	25	0	0	0	0
	point380	380	403	25	0	0	15	25	0	0	0	0
	point381	381	403	25	0	0	15	25	0	0	0	0
	point382	382	403	25	0	0	15	25	0	0	0	0
	point383	383										

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

Rd142 ; SB CD 1072 on-1 lane(2)1	point384	384	810	25	0	0	33	25	0	0	0	0
	point385	385	810	25	0	0	33	25	0	0	0	0
	point386	386	810	25	0	0	33	25	0	0	0	0
	point387	387	810	25	0	0	33	25	0	0	0	0
	point388	388										
Rd143 ; SB CD 2 lane-Dixie Off(1)1	point389	389	1215	25	10	25	15	25	0	0	0	0
	point390	390										
Rd150 ; SB Off to 1072(1)1	point391	391	807	35	0	0	34	35	0	0	0	0
	point392	392	807	35	0	0	34	35	0	0	0	0
	point393	393	807	35	0	0	34	35	0	0	0	0
	point394	394	807	35	0	0	34	35	0	0	0	0
	point395	395										
Rd151 ; SB Off to 1072(2)1	point396	396	807	35	0	0	34	35	0	0	0	0
	point397	397										
Rd152 ; SB On fr Dixie(1)1	point398	398	406	35	0	0	18	35	0	0	0	0
	point399	399	406	35	0	0	18	35	0	0	0	0
	point400	400	406	35	0	0	18	35	0	0	0	0
	point401	401										



INPUT: TRAFFIC FOR LAeq1h Volumes

BSB

PEC													
ZR													
INPUT: TRAFFIC FOR LAeq1h Volumes													
PROJECT/CONTRACT:	BSB												
RUN:	KY W Build PM S3												
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	
Rd 1 ; NB On Fr WB Dixie1	point1	1	220	35	0	0	14	35	0	0	0	0	
	point2	2	220	35	0	0	14	35	0	0	0	0	
	point3	3	220	35	0	0	14	35	0	0	0	0	
	point4	4	220	35	0	0	14	35	0	0	0	0	
	point5	5											
Rd2 ; NB On Fr WB Dixie1	point6	6	220	35	0	0	14	35	0	0	0	0	
	point7	7	220	35	0	0	14	35	0	0	0	0	
	point8	8	220	35	0	0	14	35	0	0	0	0	
	point9	9	220	35	0	0	14	35	0	0	0	0	
	point10	10	220	35	0	0	14	35	0	0	0	0	
	point11	11	220	35	0	0	14	35	0	0	0	0	
	point12	12	220	35	0	0	14	35	0	0	0	0	
	point13	13	220	35	0	0	14	35	0	0	0	0	
	point14	14	220	35	0	0	14	35	0	0	0	0	
	point15	15	220	35	0	0	14	35	0	0	0	0	
	point16	16											
Rd3 ; SB on Fr Dixie1	point17	17	443	35	0	0	24	35	0	0	0	0	
	point18	18	443	35	0	0	24	35	0	0	0	0	
	point19	19	443	35	0	0	24	35	0	0	0	0	
	point20	20	443	35	0	0	24	35	0	0	0	0	
	point21	21	443	35	0	0	24	35	0	0	0	0	
	point22	22	443	35	0	0	24	35	0	0	0	0	
	point23	23	443	35	0	0	24	35	0	0	0	0	

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point24	24	443	35	0	0	24	35	0	0	0	0
	point25	25										
Rd3 ; SB on Fr Dixie2	point26	26	443	35	0	0	24	35	0	0	0	0
	point27	27	443	35	0	0	24	35	0	0	0	0
	point28	28	443	35	0	0	24	35	0	0	0	0
	point29	29										
Rd4 ; NB Dixie H'way to Off to 751	point30	30	1218	25	0	0	54	25	0	0	0	0
	point31	31	1218	25	0	0	54	25	0	0	0	0
	point32	32										
Rd5 ; NB Dixie Off - Off1	point33	33	513	25	0	0	25	25	0	0	0	0
	point34	34										
Rd6 ; NB Dixie Over 711	point35	35	988	25	0	0	42	25	0	0	0	0
	point36	36	988	25	0	0	42	25	0	0	0	0
	point37	37	988	25	0	0	42	25	0	0	0	0
	point38	38	988	25	0	0	42	25	0	0	0	0
	point39	39	988	25	0	0	42	25	0	0	0	0
	point40	40										
Rd7 ; SB 71 Off to NB Dixie1	point41	41	440	35	0	0	16	35	0	0	0	0
	point42	42	440	35	0	0	16	35	0	0	0	0
	point43	43	440	35	0	0	16	35	0	0	0	0
	point44	44	440	35	0	0	16	35	0	0	0	0
	point45	45	440	35	0	0	16	35	0	0	0	0
	point46	46	440	35	0	0	16	35	0	0	0	0
	point47	47										
Rd8 ; NB Dixie Off SB - Off NB1	point48	48	753	25	0	0	32	25	0	0	0	0
	point49	49										
Rd9 ; NB Dixie Fr 71 Off1	point50	50	889	25	0	0	42	25	0	0	0	0
	point51	51	889	25	0	0	42	25	0	0	0	0
	point52	52										
Rd10 ; SB Dixie to On to SB 711	point53	53	889	25	0	0	42	25	0	0	0	0
	point54	54	889	25	0	0	42	25	0	0	0	0
	point55	55	889	25	0	0	42	25	0	0	0	0
	point56	56	889	25	0	0	42	25	0	0	0	0
	point57	57										
Rd11 ; SB Dixie Over 711	point58	58	988	25	0	0	42	25	0	0	0	0
	point59	59	988	25	0	0	42	25	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point60	60	988	25	0	0	42	25	0	0	0	0
	point61	61										
Rd12 ; SB Dixie Fr NB On1	point62	62	1218	25	0	0	54	25	0	0	0	0
	point63	63	1218	25	0	0	54	25	0	0	0	0
	point64	64										
Rd13 ; NB 1072 to NB 75 On1	point65	65	1179	25	0	0	64	25	0	0	0	0
	point66	66	1179	25	0	0	64	25	0	0	0	0
	point67	67	1179	25	0	0	64	25	0	0	0	0
	point68	68	1179	25	0	0	64	25	0	0	0	0
	point69	69										
Rd14 ; NB 1072 Over 751	point70	70	954	25	0	0	46	25	0	0	0	0
	point71	71	954	25	0	0	46	25	0	0	0	0
	point72	72	954	25	0	0	46	25	0	0	0	0
	point73	73	954	25	0	0	46	25	0	0	0	0
	point74	74										
Rd16 ; SB 1072 to On to SB 751	point77	77	695	25	0	0	34	25	0	0	0	0
	point78	78										
Rd17 ; SB 1072 Over 751	point79	79	954	25	0	0	46	25	0	0	0	0
	point80	80	954	25	0	0	46	25	0	0	0	0
	point81	81	954	25	0	0	46	25	0	0	0	0
	point82	82	954	25	0	0	46	25	0	0	0	0
	point83	83										
Rd18 ; SB 1072 Fr On fr NB 751	point84	84	1179	25	0	0	64	25	0	0	0	0
	point85	85	1179	25	0	0	64	25	0	0	0	0
	point86	86	1179	25	0	0	64	25	0	0	0	0
	point87	87										
Rd53 ; NB Off to CD Rd @ Dixie(1)1	point88	88	751	35	0	0	33	35	0	0	0	0
	point89	89	751	35	0	0	33	35	0	0	0	0
	point90	90										
Rd53 ; NB Off to CD Rd @ Dixie(1)2	point91	91	751	35	0	0	33	35	0	0	0	0
	point92	92										
Rd54 ; NB Off to Dixie(1)1	point93	93	406	35	0	0	16	35	0	0	0	0
	point94	94	406	35	0	0	16	35	0	0	0	0
	point95	95	406	35	0	0	16	35	0	0	0	0
	point96	96	406	35	0	0	16	35	0	0	0	0
	point97	97	406	35	0	0	16	35	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point98	98	406	35	0	0	16	35	0	0	0	0
	point99	99										
Rd55 ; NB CD Rd Dixie Off-On1	point100	100	347	35	0	0	16	35	0	0	0	0
	point101	101	347	35	0	0	16	35	0	0	0	0
	point102	102	347	35	0	0	16	35	0	0	0	0
	point103	103	347	35	0	0	16	35	0	0	0	0
	point104	104	347	35	0	0	16	35	0	0	0	0
	point105	105	347	35	0	0	16	35	0	0	0	0
	point106	106	347	35	0	0	16	35	0	0	0	0
	point107	107	347	35	0	0	16	35	0	0	0	0
	point108	108	347	35	0	0	16	35	0	0	0	0
	point109	109	347	35	0	0	16	35	0	0	0	0
	point110	110	347	35	0	0	16	35	0	0	0	0
	point111	111	347	35	0	0	16	35	0	0	0	0
	point112	112	347	35	0	0	16	35	0	0	0	0
	point113	113	347	35	0	0	16	35	0	0	0	0
	point114	114	347	35	0	0	16	35	0	0	0	0
	point115	115										
Rd56 ; NB ON fr Dixie to CD Rd(1)1	point116	116	441	35	0	0	28	35	0	0	0	0
	point117	117	441	35	0	0	28	35	0	0	0	0
	point118	118	441	35	0	0	28	35	0	0	0	0
	point119	119	441	35	0	0	28	35	0	0	0	0
	point120	120	441	35	0	0	28	35	0	0	0	0
	point121	121	441	35	0	0	28	35	0	0	0	0
	point122	122	441	35	0	0	28	35	0	0	0	0
	point123	123	441	35	0	0	28	35	0	0	0	0
	point124	124	441	35	0	0	28	35	0	0	0	0
	point125	125										
Rd57 ; NB CD Rd Dixie On-1lane(2)1	point126	126	789	35	0	0	42	35	0	0	0	0
	point127	127	789	35	0	0	42	35	0	0	0	0
	point128	128										
Rd58 ; NB CD 2lane-Off to 1072(1)1	point129	129	789	25	0	0	42	25	0	0	0	0
	point130	130	789	25	0	0	42	25	0	0	0	0
	point131	131	789	25	0	0	42	25	0	0	0	0
	point132	132	789	25	0	0	42	25	0	0	0	0
	point133	133	789	25	0	0	42	25	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point134	134										
Rd59 ; NB CD 1072 Off-75 On(1)1	point135	135	424	35	0	0	27	35	0	0	0	0
	point136	136	424	35	0	0	27	35	0	0	0	0
	point137	137	424	35	0	0	27	35	0	0	0	0
	point138	138	424	35	0	0	27	35	0	0	0	0
	point139	139	424	35	0	0	27	35	0	0	0	0
	point140	140	424	35	0	0	27	35	0	0	0	0
	point141	141	424	35	0	0	27	35	0	0	0	0
	point142	142	424	35	0	0	27	35	0	0	0	0
	point143	143	424	35	0	0	27	35	0	0	0	0
	point144	144										
Rd60 ; NB On fr 1072(1)1	point145	145	541	35	0	0	44	35	0	0	0	0
	point146	146	541	35	0	0	44	35	0	0	0	0
	point147	147	541	35	0	0	44	35	0	0	0	0
	point148	148	541	35	0	0	44	35	0	0	0	0
	point149	149	541	35	0	0	44	35	0	0	0	0
	point150	150	541	35	0	0	44	35	0	0	0	0
	point151	151	541	35	0	0	44	35	0	0	0	0
	point152	152	541	35	0	0	44	35	0	0	0	0
	point153	153	541	35	0	0	44	35	0	0	0	0
	point154	154	541	35	0	0	44	35	0	0	0	0
	point155	155										
Rd 61 ; NB On Fr Svc + 1072(2)1	point156	156	689	35	9	35	13	35	0	0	0	0
	point157	157										
Rd62 ; NB Off to 1072(1)1	point158	158	371	35	0	0	17	35	0	0	0	0
	point159	159	371	35	0	0	17	35	0	0	0	0
	point160	160	371	35	0	0	17	35	0	0	0	0
	point161	161	371	35	0	0	17	35	0	0	0	0
	point162	162	371	35	0	0	17	35	0	0	0	0
	point163	163	371	35	0	0	17	35	0	0	0	0
	point164	164	371	35	0	0	17	35	0	0	0	0
	point165	165	371	35	0	0	17	35	0	0	0	0
	point166	166										
Rd63 ; NB 75 3 lane-4lane(3)1	point167	167	4015	55	0	0	1240	55	0	0	0	0
	point168	168	4015	55	0	0	1240	55	0	0	0	0
	point169	169	4015	55	0	0	1240	55	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point170	170										
Rd63 ; NB 75 3 lane-4lane(3)2	point171	171	4015	55	0	0	1240	55	0	0	0	0
	point172	172	4015	55	0	0	1240	55	0	0	0	0
	point173	173	4015	55	0	0	1240	55	0	0	0	0
	point174	174	4015	55	0	0	1240	55	0	0	0	0
	point175	175	4015	55	0	0	1240	55	0	0	0	0
	point176	176	4015	55	0	0	1240	55	0	0	0	0
	point177	177	4015	55	0	0	1240	55	0	0	0	0
	point178	178	4015	55	0	0	1240	55	0	0	0	0
	point179	179	4015	55	0	0	1240	55	0	0	0	0
	point180	180	4015	55	0	0	1240	55	0	0	0	0
	point181	181	4015	55	0	0	1240	55	0	0	0	0
	point182	182	4015	55	0	0	1240	55	0	0	0	0
	point183	183	4015	55	0	0	1240	55	0	0	0	0
	point184	184	4015	55	0	0	1240	55	0	0	0	0
	point185	185	4015	55	0	0	1240	55	0	0	0	0
	point186	186										
Rd64 ; NB 75 4Lane-5Lane(4)1	point187	187	4015	55	0	0	1240	55	0	0	0	0
	point188	188	4015	55	0	0	1240	55	0	0	0	0
	point189	189	4015	55	0	0	1240	55	0	0	0	0
	point190	190	4015	55	0	0	1240	55	0	0	0	0
	point191	191	4015	55	0	0	1240	55	0	0	0	0
	point192	192	4015	55	0	0	1240	55	0	0	0	0
	point193	193	4015	55	0	0	1240	55	0	0	0	0
	point194	194	4015	55	0	0	1240	55	0	0	0	0
	point195	195	4015	55	0	0	1240	55	0	0	0	0
	point196	196	4015	55	0	0	1240	55	0	0	0	0
	point197	197	4015	55	0	0	1240	55	0	0	0	0
	point198	198	4015	55	0	0	1240	55	0	0	0	0
	point199	199	4015	55	0	0	1240	55	0	0	0	0
	point200	200	4015	55	0	0	1240	55	0	0	0	0
	point201	201	4015	55	0	0	1240	55	0	0	0	0
	point202	202	4015	55	0	0	1240	55	0	0	0	0
	point203	203	4015	55	0	0	1240	55	0	0	0	0
	point204	204										
Rd65 ; NB 75 Svc Rd On-1072 On(5)1	point205	205	4406	55	0	0	1272	55	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point206	206	4406	55	0	0	1272	55	0	0	0	0
	point207	207										
Rd121 ; SB 75 1072 Off-5 lane(6)1	point208	208	5513	55	0	0	920	55	0	0	0	0
	point209	209	5513	55	0	0	920	55	0	0	0	0
	point210	210	5513	55	0	0	920	55	0	0	0	0
	point211	211	5513	55	0	0	920	55	0	0	0	0
	point212	212	5513	55	0	0	920	55	0	0	0	0
	point213	213	5513	55	0	0	920	55	0	0	0	0
	point214	214	5513	55	0	0	920	55	0	0	0	0
	point215	215										
Rd122 ; SB 75 5lane-4lane (5)1	point216	216	5513	55	0	0	920	55	0	0	0	0
	point217	217	5513	55	0	0	920	55	0	0	0	0
	point218	218	5513	55	0	0	920	55	0	0	0	0
	point219	219	5513	55	0	0	920	55	0	0	0	0
	point220	220	5513	55	0	0	920	55	0	0	0	0
	point221	221	5513	55	0	0	920	55	0	0	0	0
	point222	222	5513	55	0	0	920	55	0	0	0	0
	point223	223	5513	55	0	0	920	55	0	0	0	0
	point224	224	5513	55	0	0	920	55	0	0	0	0
	point225	225	5513	55	0	0	920	55	0	0	0	0
	point226	226	5513	55	0	0	920	55	0	0	0	0
	point227	227	5513	55	0	0	920	55	0	0	0	0
	point228	228										
Rd140 ; SB Off to CD @ 1072(1)1	point229	229	1212	35	0	0	49	35	0	0	0	0
	point230	230	1212	35	0	0	49	35	0	0	0	0
	point231	231	1212	35	0	0	49	35	0	0	0	0
	point232	232										
Rd141 ; SB CD 1072 off-on(1)1	point233	233	403	35	0	0	15	35	0	0	0	0
	point234	234	403	35	0	0	15	35	0	0	0	0
	point235	235	403	35	0	0	15	35	0	0	0	0
	point236	236	403	35	0	0	15	35	0	0	0	0
	point237	237	403	35	0	0	15	35	0	0	0	0
	point238	238	403	35	0	0	15	35	0	0	0	0
	point239	239	403	35	0	0	15	35	0	0	0	0
	point240	240	403	35	0	0	15	35	0	0	0	0
	point241	241	403	35	0	0	15	35	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point242	242	403	35	0	0	15	35	0	0	0	0
	point243	243	403	35	0	0	15	35	0	0	0	0
	point244	244	403	35	0	0	15	35	0	0	0	0
	point245	245	403	35	0	0	15	35	0	0	0	0
	point246	246	403	35	0	0	15	35	0	0	0	0
	point247	247										
Rd142 ; SB CD 1072 on-1 lane(2)1	point248	248	810	35	0	0	33	35	0	0	0	0
	point249	249	810	35	0	0	33	35	0	0	0	0
	point250	250	810	35	0	0	33	35	0	0	0	0
	point251	251	810	35	0	0	33	35	0	0	0	0
	point252	252										
Rd143 ; SB CD 2 lane-Dixie Off(1)1	point253	253	810	35	0	0	33	35	0	0	0	0
	point254	254	810	35	0	0	33	35	0	0	0	0
	point255	255	810	35	0	0	33	35	0	0	0	0
	point256	256	810	35	0	0	33	35	0	0	0	0
	point257	257	810	35	0	0	33	35	0	0	0	0
	point258	258	810	35	0	0	33	35	0	0	0	0
	point259	259										
Rd144 ; SB 75 - CD on @ Dixie(4)1	point260	260	5513	55	0	0	920	55	0	0	0	0
	point261	261	5513	55	0	0	920	55	0	0	0	0
	point262	262	5513	55	0	0	920	55	0	0	0	0
	point263	263	5513	55	0	0	920	55	0	0	0	0
	point264	264	5513	55	0	0	920	55	0	0	0	0
	point265	265	5513	55	0	0	920	55	0	0	0	0
	point266	266	5513	55	0	0	920	55	0	0	0	0
	point267	267	5513	55	0	0	920	55	0	0	0	0
	point268	268	5513	55	0	0	920	55	0	0	0	0
	point269	269	5513	55	0	0	920	55	0	0	0	0
	point270	270	5513	55	0	0	920	55	0	0	0	0
	point271	271	5513	55	0	0	920	55	0	0	0	0
	point272	272	5513	55	0	0	920	55	0	0	0	0
	point273	273	5513	55	0	0	920	55	0	0	0	0
	point274	274	5513	55	0	0	920	55	0	0	0	0
	point275	275	5513	55	0	0	920	55	0	0	0	0
	point276	276										
Rd145 ; SB 75 fr CD on @ Dixie(5)1	point277	277	5870	55	0	0	948	55	0	0	0	0



**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point278	278	5870	55	0	0	948	55	0	0	0	0
	point279	279	5870	55	0	0	948	55	0	0	0	0
	point280	280	5870	55	0	0	948	55	0	0	0	0
	point281	281										
Rd145 ; SB 75 fr CD on @ Dixie(5)2	point282	282	5870	55	0	0	948	55	0	0	0	0
	point283	283	5870	55	0	0	948	55	0	0	0	0
	point284	284	5870	55	0	0	948	55	0	0	0	0
	point285	285										
Rd146 ; SB CD Dixie Off-75(1)1	point286	286	375	35	0	0	17	35	0	0	0	0
	point287	287	375	35	0	0	17	35	0	0	0	0
	point288	288	375	35	0	0	17	35	0	0	0	0
	point289	289	375	35	0	0	17	35	0	0	0	0
	point290	290	375	35	0	0	17	35	0	0	0	0
	point291	291	375	35	0	0	17	35	0	0	0	0
	point292	292	375	35	0	0	17	35	0	0	0	0
	point293	293	375	35	0	0	17	35	0	0	0	0
	point294	294	375	35	0	0	17	35	0	0	0	0
	point295	295	375	35	0	0	17	35	0	0	0	0
	point296	296	375	35	0	0	17	35	0	0	0	0
	point297	297	375	35	0	0	17	35	0	0	0	0
	point298	298	375	35	0	0	17	35	0	0	0	0
	point299	299	375	35	0	0	17	35	0	0	0	0
	point300	300	375	35	0	0	17	35	0	0	0	0
	point301	301	375	35	0	0	17	35	0	0	0	0
	point302	302										
Rd147 ; SB off to Dixie(1)1	point303	303	422	35	0	0	16	35	0	0	0	0
	point304	304	422	35	0	0	16	35	0	0	0	0
	point305	305	422	35	0	0	16	35	0	0	0	0
	point306	306	422	35	0	0	16	35	0	0	0	0
	point307	307										
Rd148 ; SB Off to SB dixie(2)1	point308	308	422	35	0	0	16	35	0	0	0	0
	point309	309	422	35	0	0	16	35	0	0	0	0
	point310	310	422	35	0	0	16	35	0	0	0	0
	point311	311	422	35	0	0	16	35	0	0	0	0
	point312	312										
Rd149 ; SB Off @ Dixie (2)1	point313	313	586	35	18	35	26	35	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point314	314										
Rd150 ; SB Off to 1072(1)1	point315	315	1083	35	23	35	34	35	0	0	0	0
	point316	316	1083	35	23	35	34	35	0	0	0	0
	point317	317	1083	35	23	35	34	35	0	0	0	0
	point318	318	1083	35	23	35	34	35	0	0	0	0
	point319	319										
Rd151 ; SB Off to 1072(2)1	point320	320	807	35	0	0	34	35	0	0	0	0
	point321	321										
Rd152 ; SB On fr Dixie(1)1	point322	322	440	35	0	0	16	35	0	0	0	0
	point323	323	440	35	0	0	16	35	0	0	0	0
	point324	324	440	35	0	0	16	35	0	0	0	0
	point325	325										
Rd254; NB 75 to On Fr Butter (3)1	point326	326	4772	55	0	0	1269	55	0	0	0	0
	point327	327	4772	55	0	0	1269	55	0	0	0	0
	point328	328	4772	55	0	0	1269	55	0	0	0	0
	point329	329	4772	55	0	0	1269	55	0	0	0	0
	point330	330	4772	55	0	0	1269	55	0	0	0	0
	point331	331	4772	55	0	0	1269	55	0	0	0	0
	point332	332	4772	55	0	0	1269	55	0	0	0	0
	point333	333	4772	55	0	0	1269	55	0	0	0	0
	point334	334	4772	55	0	0	1269	55	0	0	0	0
	point335	335	4772	55	0	0	1269	55	0	0	0	0
	point336	336	4772	55	0	0	1269	55	0	0	0	0
	point337	337										
Rd255; NB 75 Butte On-Dixie Off (3)1	point338	338	4772	55	0	0	1269	55	0	0	0	0
	point339	339	4772	55	0	0	1269	55	0	0	0	0
	point340	340	4772	55	0	0	1269	55	0	0	0	0
	point341	341	4772	55	0	0	1269	55	0	0	0	0
	point342	342	4772	55	0	0	1269	55	0	0	0	0
	point343	343										
Rd256; NB On Fr EB Butter (1)1	point344	344	343	35	19	35	28	35	0	0	0	0
	point345	345	343	35	19	35	28	35	0	0	0	0
	point346	346	343	35	19	35	28	35	0	0	0	0
	point347	347										
Rd257; NB On Fr WB Butter (1)1	point348	348	343	35	19	35	28	35	0	0	0	0
	point349	349	343	35	19	35	28	35	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point350	350	343	35	19	35	28	35	0	0	0	0
	point351	351										
Rd258; NB On Fr Butter (1)1	point352	352	686	35	37	35	56	35	0	0	0	0
	point353	353	686	35	37	35	56	35	0	0	0	0
	point354	354	686	35	37	35	56	35	0	0	0	0
	point355	355	686	35	37	35	56	35	0	0	0	0
	point356	356	686	35	37	35	56	35	0	0	0	0
	point357	357	686	35	37	35	56	35	0	0	0	0
	point358	358	686	35	37	35	56	35	0	0	0	0
	point359	359	686	35	37	35	56	35	0	0	0	0
	point360	360	686	35	37	35	56	35	0	0	0	0
	point361	361	686	35	37	35	56	35	0	0	0	0
	point362	362	686	35	37	35	56	35	0	0	0	0
	point363	363										
Rd259; SB 75 to End (5)1	point364	364	6284	55	0	0	981	55	0	0	0	0
	point365	365	6284	55	0	0	981	55	0	0	0	0
	point366	366	6284	55	0	0	981	55	0	0	0	0
	point367	367	6284	55	0	0	981	55	0	0	0	0
	point368	368	6284	55	0	0	981	55	0	0	0	0
	point369	369	6284	55	0	0	981	55	0	0	0	0
	point370	370	6284	55	0	0	981	55	0	0	0	0
	point371	371	6284	55	0	0	981	55	0	0	0	0
	point372	372	6284	55	0	0	981	55	0	0	0	0
	point373	373	6284	55	0	0	981	55	0	0	0	0
	point374	374	6284	55	0	0	981	55	0	0	0	0
	point375	375	6284	55	0	0	981	55	0	0	0	0
	point376	376	6284	55	0	0	981	55	0	0	0	0
	point377	377	6284	55	0	0	981	55	0	0	0	0
	point378	378	6284	55	0	0	981	55	0	0	0	0
	point379	379	6284	55	0	0	981	55	0	0	0	0
	point380	380	6284	55	0	0	981	55	0	0	0	0
	point381	381	6284	55	0	0	981	55	0	0	0	0
	point382	382	6284	55	0	0	981	55	0	0	0	0
	point383	383	6284	55	0	0	981	55	0	0	0	0
	point384	384										
Rd15 NB 1072 Fr SB 75 Off	point385	385	695	25	0	0	34	25	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**BSB**

	point386	386											
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**INPUT: TREE ZONES**

**BSB**

<b>PEC</b>						<b>8 August 2023</b>
<b>ZR</b>						<b>TNM 2.5</b>
<b>INPUT: TREE ZONES</b>						
<b>PROJECT/CONTRACT:</b>	<b>BSB</b>					
<b>RUN:</b>	<b>KY W Build PM S2</b>					
<b>Tree Zone</b>		<b>Points</b>				
<b>Name</b>	<b>Average Height</b>	<b>No.</b>	<b>Coordinates (ground)</b>			
	<b>ft</b>		<b>X</b>	<b>Y</b>	<b>Z</b>	
			<b>ft</b>	<b>ft</b>	<b>ft</b>	
Tree Zone 8	32.81	88	5,267,936.0	4,275,798.0	814.50	
		89	5,268,060.0	4,275,652.5	830.40	
		90	5,268,154.5	4,275,704.5	827.00	
		91	5,268,286.0	4,275,818.5	804.80	
		92	5,268,442.5	4,275,857.5	789.50	
		93	5,268,570.5	4,275,918.0	764.30	
		94	5,268,479.0	4,276,101.5	746.50	
Tree Zone 9	32.81	95	5,269,229.0	4,277,402.5	780.40	
		96	5,268,895.5	4,277,363.5	797.10	
		97	5,268,864.0	4,277,350.5	797.20	
		98	5,268,719.0	4,277,409.0	798.50	
		99	5,268,675.0	4,277,427.5	792.50	
		100	5,268,619.0	4,277,407.5	798.60	
		101	5,268,630.0	4,277,243.0	799.90	
		102	5,268,572.0	4,277,150.0	790.40	
		103	5,268,426.5	4,277,111.0	794.50	
		104	5,268,305.5	4,277,053.5	806.20	
		105	5,268,261.5	4,277,002.5	810.60	
		106	5,268,247.0	4,276,864.5	815.20	
		107	5,268,301.5	4,276,835.0	809.30	
		108	5,268,413.5	4,276,828.0	803.40	
		109	5,268,500.0	4,276,796.5	792.80	
		110	5,268,512.5	4,276,767.5	787.40	
		111	5,268,522.5	4,276,719.5	787.70	

**INPUT: TREE ZONES**

**BSB**

		112	5,268,429.5	4,276,658.5	800.40
		113	5,268,367.5	4,276,604.0	804.00
		114	5,268,278.0	4,276,458.5	782.70
		115	5,268,235.5	4,276,453.0	786.90
		116	5,267,998.5	4,276,613.0	829.80
		117	5,267,902.5	4,276,616.0	843.60
		118	5,267,662.5	4,276,612.5	840.60
		119	5,267,679.0	4,276,415.0	802.60
		120	5,267,742.5	4,276,378.0	794.10
		121	5,267,771.0	4,276,321.5	786.60
		122	5,267,896.5	4,276,297.0	783.70
		123	5,267,958.5	4,276,146.0	779.10
		124	5,267,940.0	4,276,121.0	781.10
		125	5,267,891.0	4,276,091.0	787.40
		126	5,267,784.0	4,276,100.0	796.20
		127	5,267,648.5	4,276,034.5	815.40
		128	5,267,501.0	4,276,033.5	824.50
		129	5,267,464.5	4,276,139.0	809.20
		130	5,267,375.5	4,276,371.5	790.40
		131	5,267,352.5	4,276,363.0	790.60
		132	5,267,414.5	4,276,093.5	816.90
		133	5,267,323.0	4,276,039.0	820.90
		134	5,267,442.5	4,275,978.0	829.10
		135	5,267,567.0	4,275,979.0	826.90
		136	5,267,906.0	4,276,036.5	788.80
		137	5,268,128.5	4,276,128.0	767.20
		138	5,267,964.0	4,276,385.5	793.60
		139	5,267,797.5	4,276,456.5	815.40
		140	5,267,793.0	4,276,515.5	831.00
		141	5,268,079.5	4,276,491.5	807.60
		142	5,268,222.0	4,276,395.0	778.00
		143	5,268,429.5	4,276,375.0	766.10
		144	5,268,523.0	4,276,508.5	772.10
		145	5,268,635.0	4,276,606.0	764.40
		146	5,268,706.5	4,276,730.0	773.40
		147	5,269,015.5	4,276,925.5	748.30

**INPUT: TREE ZONES****BSB**

		148	5,268,896.5	4,277,041.0	777.50
		149	5,269,241.5	4,277,163.5	754.60
Tree Zone 10	32.81	150	5,268,567.5	4,277,639.0	800.80
		151	5,268,863.0	4,277,713.5	792.80
		152	5,269,200.5	4,277,641.5	768.50
		153	5,269,286.5	4,277,557.5	764.20
		154	5,269,440.0	4,277,711.0	742.90
		155	5,269,446.0	4,278,126.0	795.30
		156	5,269,369.5	4,278,094.0	794.10
		157	5,269,220.0	4,278,106.5	813.00
		158	5,269,204.5	4,278,088.5	812.70
		159	5,269,188.5	4,278,076.5	801.40
		160	5,269,146.5	4,278,020.0	801.70
		161	5,268,881.0	4,278,101.0	816.10
		162	5,268,705.5	4,278,021.0	822.00
Tree Zone 12	32.81	163	5,269,297.0	4,278,704.5	802.40
		164	5,269,266.0	4,278,593.5	801.20
		165	5,269,424.0	4,278,397.5	798.30
		166	5,269,539.5	4,278,340.0	792.80
		167	5,269,624.5	4,278,470.5	772.40
		168	5,269,552.5	4,278,606.0	778.90
		169	5,269,435.0	4,278,727.5	796.50
Tree Zone7	30.00	170	5,266,391.0	4,275,570.5	850.00
		171	5,266,469.5	4,275,442.5	850.00
		172	5,267,004.0	4,275,539.5	804.00
		173	5,266,957.5	4,275,694.0	804.00
		174	5,266,868.5	4,275,691.0	804.00

**INPUT: TREE ZONES**

**BSB**

<b>PEC</b>		<b>8 August 2023</b>			
<b>ZR</b>		<b>TNM 2.5</b>			
<b>INPUT: TREE ZONES</b>					
<b>PROJECT/CONTRACT:</b>		<b>BSB</b>			
<b>RUN:</b>		<b>KY W Build PM S3</b>			
<b>Tree Zone</b>		<b>Points</b>			
<b>Name</b>	<b>Average Height</b>	<b>No.</b>	<b>Coordinates (ground)</b>		
	ft		<b>X</b>	<b>Y</b>	<b>Z</b>
			ft	ft	ft
Tree Zone2	20.00	43	5,259,769.5	4,272,521.5	813.60
		44	5,259,916.5	4,272,482.0	819.30
		45	5,260,033.0	4,272,468.0	823.20
		46	5,260,204.0	4,272,429.5	829.60
		47	5,260,259.0	4,272,404.5	832.20
		48	5,260,302.0	4,272,427.0	832.90
		49	5,260,297.0	4,272,490.5	831.70
		50	5,260,320.5	4,272,505.5	831.50
		51	5,260,409.5	4,272,434.0	833.10
		52	5,260,600.0	4,272,389.5	831.10
		53	5,260,710.0	4,272,382.5	827.40
		54	5,260,710.5	4,272,396.0	827.40
		55	5,260,577.5	4,272,439.0	831.80
		56	5,260,402.0	4,272,565.0	829.60
		57	5,260,422.0	4,272,613.0	828.10
		58	5,260,340.0	4,272,772.0	819.40
		59	5,260,284.0	4,272,674.0	829.90
		60	5,260,196.0	4,272,580.0	831.40
		61	5,260,011.5	4,272,536.5	822.50
		62	5,259,946.0	4,272,535.5	820.30
		63	5,259,775.5	4,272,580.5	814.30
Tree Zone4	0.00	64	5,263,503.5	4,274,035.5	833.70
		65	5,263,257.0	4,273,809.5	825.10
		66	5,262,957.5	4,273,515.0	815.20



**INPUT: TREE ZONES****BSB**

		67	5,262,991.5	4,273,449.5	816.10
		68	5,263,020.5	4,273,461.5	817.80
		69	5,263,075.5	4,273,615.5	820.70
		70	5,263,146.5	4,273,628.0	823.40
		71	5,263,219.5	4,273,548.0	828.30
		72	5,263,238.0	4,273,456.0	829.00
		73	5,263,356.5	4,273,469.5	826.30
		74	5,263,281.0	4,273,725.0	825.90
		75	5,263,386.0	4,273,832.5	830.70
		76	5,263,440.0	4,273,828.0	832.20
		77	5,263,517.5	4,274,048.5	834.20
Tree Zone1	0.00	78	5,259,757.0	4,272,245.0	805.20
		79	5,259,223.0	4,272,343.5	801.80
		80	5,259,536.0	4,272,115.5	792.60
		81	5,259,647.5	4,272,012.0	801.00
		82	5,259,775.5	4,271,814.0	800.00
		83	5,259,807.0	4,271,831.5	800.00
		84	5,259,741.0	4,272,035.5	800.00

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# **APPENDIX F**

## **TNM Runs – Barrier Analysis**

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**RESULTS: SOUND LEVELS**

**BSB**

PEC									8 August 2023			
ZR									TNM 2.5			
									Calculated with TNM 2.5			
<b>RESULTS: SOUND LEVELS</b>												
<b>PROJECT/CONTRACT:</b>		<b>BSB</b>										
<b>RUN:</b>		<b>KY Barrier B16B 12-22'</b>										
<b>BARRIER DESIGN:</b>		<b>12-20</b>										
<b>ATMOSPHERICS:</b>		<b>68 deg F, 50% RH</b>										
		<b>Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.</b>										

Receiver												
Name	No.	#DUs	Existing	No Barrier		Increase over existing		Type Impact	With Barrier			
			L <sub>Aeq</sub> 1h	L <sub>Aeq</sub> 1h	Crit'n	Calculated	Crit'n		Calculated	Noise Reduction	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R721(K1381)	229	1	58.6	63.8	66	5.2	10	----	63.4	0.4	7	-6.6
R722(K1404)	230	1	58.3	63.1	66	4.8	10	----	60.0	3.1	7	-3.9
R723(K1405)	231	1	58.4	62.8	66	4.4	10	----	59.0	3.8	7	-3.2
R724(K1415)	232	1	53.9	59.3	66	5.4	10	----	56.7	2.6	7	-4.4
R728(K1419)	236	1	58.2	61.5	66	3.3	10	----	57.9	3.6	7	-3.4
R729(K1422)	237	1	58.1	62.0	66	3.9	10	----	58.0	4.0	7	-3.0
R731(K1429)	239	1	58.2	61.8	66	3.6	10	----	58.8	3.0	7	-4.0
R732(K65)	240	1	58.9	63.5	66	4.6	10	----	57.9	5.6	7	-1.4
R738(K1412)	247	1	60.6	67.9	66	7.3	10	Snd Lvl	62.8	5.1	7	-1.9
R739(K1424)	248	1	58.7	67.0	66	8.3	10	Snd Lvl	60.8	6.2	7	-0.8
R740(K1454)	249	1	60.6	66.4	66	5.8	10	Snd Lvl	59.3	7.1	7	0.1
R742(K1450)	251	1	58.7	64.5	66	5.8	10	----	57.9	6.6	7	-0.4
R746(K1458)	255	1	63.1	69.1	66	6.0	10	Snd Lvl	60.6	8.5	7	1.5
R750(K1435)	259	1	60.0	70.4	66	10.4	10	Both	61.9	8.5	7	1.5
R751(K1427)	260	1	61.4	71.1	66	9.7	10	Snd Lvl	64.4	6.7	7	-0.3
R752(K1438)	261	1	60.6	71.4	66	10.8	10	Both	61.9	9.5	7	2.5
R753(K1472)	262	1	62.7	68.7	66	6.0	10	Snd Lvl	60.8	7.9	7	0.9
R758(K1448)	267	1	61.7	72.6	66	10.9	10	Both	63.3	9.3	7	2.3
R760(K1433)	269	1	61.7	70.9	66	9.2	10	Snd Lvl	63.7	7.2	7	0.2
R762(K1455)	271	1	63.2	74.3	66	11.1	10	Both	63.9	10.4	7	3.4
R765(K1459)	274	1	63.2	75.4	66	12.2	10	Both	64.4	11.0	7	4.0
R768(K1437)	277	1	61.5	71.0	66	9.5	10	Snd Lvl	63.0	8.0	7	1.0
R773(KV1469)	282	1	62.7	74.9	66	12.2	10	Both	63.5	11.4	7	4.4
R781(K1456)	291	1	62.5	75.8	66	13.3	10	Both	63.2	12.6	7	5.6

**RESULTS: SOUND LEVELS**

**BSB**

M-46(K1469)	297	1	65.0	79.0	66	14.0	10	Both	64.6	14.4	7	7.4
R905	672	1	69.7	73.0	66	3.3	10	Snd Lvl	64.1	8.9	7	1.9
R865	673	1	68.8	71.4	66	2.6	10	Snd Lvl	64.6	6.8	7	-0.2
R1000	676	1	60.0	64.1	66	4.1	10	----	63.4	0.7	7	-6.3
R1001	677	1	61.1	65.3	66	4.2	10	----	64.7	0.6	7	-6.4
R1002	678	1	61.1	65.7	66	4.6	10	----	65.4	0.3	7	-6.7
R1003	679	1	60.5	65.3	66	4.8	10	----	65.1	0.2	7	-6.8
R1004	680	1	61.3	66.4	66	5.1	10	Snd Lvl	66.2	0.2	7	-6.8
R1005	681	1	60.9	66.8	66	5.9	10	Snd Lvl	66.6	0.2	7	-6.8
R1006	682	1	59.4	64.6	66	5.2	10	----	64.4	0.2	7	-6.8
R1007	683	1	59.2	64.9	66	5.7	10	----	64.8	0.1	7	-6.9
R1008	684	1	59.6	65.3	66	5.7	10	----	65.2	0.1	7	-6.9
R1009	685	1	61.0	66.0	66	5.0	10	Snd Lvl	65.9	0.1	7	-6.9
R1010	686	1	63.0	66.6	66	3.6	10	Snd Lvl	66.4	0.2	7	-6.8
R1011	687	1	63.8	67.0	66	3.2	10	Snd Lvl	66.9	0.1	7	-6.9
R1012	688	1	64.6	66.5	66	1.9	10	Snd Lvl	66.5	0.0	7	-7.0
R1013	689	1	66.5	68.7	66	2.2	10	Snd Lvl	68.7	0.0	7	-7.0
R1014	690	1	64.2	66.7	66	2.5	10	Snd Lvl	66.6	0.1	7	-6.9
R1015	691	1	63.3	65.9	66	2.6	10	----	65.8	0.1	7	-6.9
R1016	692	1	62.3	64.2	66	1.9	10	----	64.1	0.1	7	-6.9
<b>Dwelling Units</b>		<b># DUs</b>	<b>Noise Reduction</b>									
			<b>Min</b>	<b>Avg</b>	<b>Max</b>							
			<b>dB</b>	<b>dB</b>	<b>dB</b>							
All Selected		44	0.0	4.4	14.4							
All Impacted		26	0.0	6.2	14.4							
All that meet NR Goal		14	7.1	9.6	14.4							

**RESULTS: BARRIER DESCRIPTIONS**

**BSB**

PEC										
ZR					8 August 2023					
					TNM 2.5					

**RESULTS: BARRIER DESCRIPTIONS**

<b>PROJECT/CONTRACT:</b>	<b>BSB</b>
<b>RUN:</b>	<b>KY Barrier B16B 12-22'</b>
<b>BARRIER DESIGN:</b>	<b>12-20</b>

Barriers										
Name	Type	Heights along Barrier			Length	If Wall Area	If Berm Volume	Top Width	Run:Rise	Cost
		Min	Avg	Max						
		ft	ft	ft	ft	sq ft	cu yd	ft	ft:ft	\$
Barrier142; Prop Noise wall B5	W	12.00	17.29	22.00	1308	22617				723746
1469	W	20.00	20.00	20.00	125	2496				0
1459	W	10.00	10.00	10.00	151	1507				0
1456	W	10.00	10.00	10.00	160	1599				0
1455	W	20.00	20.00	20.00	129	2579				0
1448	W	20.00	20.00	20.00	147	2932				0
1438	W	20.00	20.00	20.00	138	2750				0
1437	W	20.00	20.00	20.00	111	2226				0
1435	W	20.00	20.00	20.00	135	2693				0
1433	W	20.00	20.00	20.00	143	2859				0
1427	W	10.00	10.00	10.00	149	1492				0
1424	W	20.00	20.00	20.00	133	2669				0
1417	W	10.00	10.00	10.00	428	4284				0
1415	W	20.00	20.00	20.00	104	2076				0
1413	W	10.00	10.00	10.00	1566	15662				0
1412	W	20.00	20.00	20.00	238	4760				0
									Total Cost:	723746

**RESULTS: BARRIER DESIGN**

**BSB**

<b>PEC</b>												<b>8 August 2023</b>
<b>ZR</b>												<b>TNM 2.5</b>
												<b>Calculated with TNM 2.5</b>

**RESULTS: BARRIER DESIGN**

<b>PROJECT/CONTRACT:</b>	<b>BSB</b>
<b>RUN:</b>	<b>KY Barrier B16B 12-22'</b>
<b>BARRIER DESIGN:</b>	<b>12-20</b>

<b>ATMOSPHERICS:</b>	<b>68 deg F, 50% RH</b>
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<b>Selected Receivers</b>										
<b>Name</b>	<b>No.</b>	<b>Noise Reduction</b>				<b>Barrier Reviewed</b>	<b>Important Segments</b>			<b>Partial</b>
		<b>Calc</b>	<b>Calc</b>	<b>Goal</b>	<b>Calc-Goal</b>		<b>Name</b>	<b>No.</b>	<b>Height</b>	<b>LAeq1h</b>
		<b>LAeq1h</b>	<b>dB</b>	<b>dB</b>	<b>dB</b>				<b>ft</b>	<b>dBA</b>
		<b>dBA</b>	<b>dB</b>	<b>dB</b>	<b>dB</b>				<b>ft</b>	<b>dBA</b>

R721(K1381)	229	63.4	0.4	7	-6.6	Barrier142; Prop Noise wall B5	point1055	1055	0.0	51.4
						Barrier142; Prop Noise wall B5	point1060	1060	18.0	47.6
						Barrier142; Prop Noise wall B5	point1056	1056	22.0	46.6
						Barrier142; Prop Noise wall B5	point1061	1061	18.0	46.0
						Barrier142; Prop Noise wall B5	point1059	1059	18.0	44.7
						Barrier142; Prop Noise wall B5	point1058	1058	20.0	43.8
						Barrier142; Prop Noise wall B5	point1062	1062	16.0	39.6
						Barrier142; Prop Noise wall B5	point1071	1071	12.0	35.4
						Barrier142; Prop Noise wall B5	point1070	1070	16.0	35.3
						Barrier142; Prop Noise wall B5	point1072	1072	14.0	35.2
R722(K1404)	230	60.0	3.1	7	-3.9	Barrier142; Prop Noise wall B5	point1056	1056	22.0	50.1
						Barrier142; Prop Noise wall B5	point1058	1058	20.0	49.5
						Barrier142; Prop Noise wall B5	point1062	1062	16.0	48.6
						Barrier142; Prop Noise wall B5	point1055	1055	0.0	46.9
						Barrier142; Prop Noise wall B5	point1070	1070	16.0	45.4
						Barrier142; Prop Noise wall B5	point1060	1060	18.0	43.7
						Barrier142; Prop Noise wall B5	point1072	1072	14.0	43.6
						Barrier142; Prop Noise wall B5	point1071	1071	12.0	43.6
						Barrier142; Prop Noise wall B5	point1057	1057	22.0	42.1
						Barrier142; Prop Noise wall B5	point1061	1061	18.0	41.7
R723(K1405)	231	59.0	3.8	7	-3.2	Barrier142; Prop Noise wall B5	point1062	1062	16.0	49.2

**RESULTS: BARRIER DESIGN**

R724(K1415)	232	56.7	2.6	7
R728(K1419)	236	57.9	3.6	7
R729(K1422)	237	58.0	4.0	7

**BSB**

Barrier142; Prop Noise wall B5	point1059	1059	18.0	48.4
Barrier142; Prop Noise wall B5	point1055	1055	0.0	46.3
Barrier142; Prop Noise wall B5	point1070	1070	16.0	45.8
Barrier142; Prop Noise wall B5	point1071	1071	12.0	44.7
Barrier142; Prop Noise wall B5	point1058	1058	20.0	44.5
Barrier142; Prop Noise wall B5	point1061	1061	18.0	43.4
Barrier142; Prop Noise wall B5	point1072	1072	14.0	43.3
Barrier142; Prop Noise wall B5	point1073	1073	16.0	41.9
Barrier142; Prop Noise wall B5	point1060	1060	18.0	41.5
-4.4 Barrier142; Prop Noise wall B5	point1056	1056	22.0	49.7
Barrier142; Prop Noise wall B5	point1058	1058	20.0	46.8
Barrier142; Prop Noise wall B5	point1061	1061	18.0	46.4
Barrier142; Prop Noise wall B5	point1060	1060	18.0	41.6
Barrier142; Prop Noise wall B5	point1059	1059	18.0	41.4
Barrier142; Prop Noise wall B5	point1055	1055	0.0	40.5
Barrier142; Prop Noise wall B5	point1062	1062	16.0	39.2
Barrier142; Prop Noise wall B5	point1057	1057	22.0	37.1
Barrier142; Prop Noise wall B5	point1070	1070	16.0	31.5
Barrier142; Prop Noise wall B5	point1071	1071	12.0	30.4
-3.4 Barrier142; Prop Noise wall B5	point1055	1055	0.0	52.9
Barrier142; Prop Noise wall B5	point1062	1062	16.0	49.3
Barrier142; Prop Noise wall B5	point1070	1070	16.0	46.2
Barrier142; Prop Noise wall B5	point1061	1061	18.0	45.7
Barrier142; Prop Noise wall B5	point1071	1071	12.0	44.3
Barrier142; Prop Noise wall B5	point1072	1072	14.0	43.7
Barrier142; Prop Noise wall B5	point1058	1058	20.0	43.2
Barrier142; Prop Noise wall B5	point1056	1056	22.0	42.8
Barrier142; Prop Noise wall B5	point1073	1073	16.0	42.3
Barrier142; Prop Noise wall B5	point1059	1059	18.0	41.5
-3.0 Barrier142; Prop Noise wall B5	point1059	1059	18.0	50.1
Barrier142; Prop Noise wall B5	point1062	1062	16.0	49.8
Barrier142; Prop Noise wall B5	point1061	1061	18.0	47.7
Barrier142; Prop Noise wall B5	point1056	1056	22.0	46.8
Barrier142; Prop Noise wall B5	point1070	1070	16.0	46.7
Barrier142; Prop Noise wall B5	point1071	1071	12.0	44.8
Barrier142; Prop Noise wall B5	point1072	1072	14.0	44.5

**RESULTS: BARRIER DESIGN**

R731(K1429)	239	58.8	3.0	7
R732(K65)	240	57.9	5.6	7
R738(K1412)	247	62.8	5.1	7
R739(K1424)	248	60.8	6.2	7

**BSB**

Barrier142; Prop Noise wall B5	point1073	1073	16.0	42.9
Barrier142; Prop Noise wall B5	point1058	1058	20.0	42.4
Barrier142; Prop Noise wall B5	point1060	1060	18.0	40.9
-4.0 Barrier142; Prop Noise wall B5	point1059	1059	18.0	52.8
Barrier142; Prop Noise wall B5	point1062	1062	16.0	49.5
Barrier142; Prop Noise wall B5	point1055	1055	0.0	48.3
Barrier142; Prop Noise wall B5	point1061	1061	18.0	47.8
Barrier142; Prop Noise wall B5	point1070	1070	16.0	46.9
Barrier142; Prop Noise wall B5	point1056	1056	22.0	46.5
Barrier142; Prop Noise wall B5	point1060	1060	18.0	45.6
Barrier142; Prop Noise wall B5	point1071	1071	12.0	44.1
Barrier142; Prop Noise wall B5	point1072	1072	14.0	43.9
Barrier142; Prop Noise wall B5	point1058	1058	20.0	43.1
-1.4 Barrier142; Prop Noise wall B5	point1062	1062	16.0	50.4
Barrier142; Prop Noise wall B5	point1061	1061	18.0	49.9
Barrier142; Prop Noise wall B5	point1070	1070	16.0	47.7
Barrier142; Prop Noise wall B5	point1072	1072	14.0	45.4
Barrier142; Prop Noise wall B5	point1071	1071	12.0	45.3
Barrier142; Prop Noise wall B5	point1059	1059	18.0	44.9
Barrier142; Prop Noise wall B5	point1055	1055	0.0	44.5
Barrier142; Prop Noise wall B5	point1073	1073	16.0	43.6
Barrier142; Prop Noise wall B5	point1060	1060	18.0	43.1
Barrier142; Prop Noise wall B5	point1058	1058	20.0	42.3
-1.9 Barrier142; Prop Noise wall B5	point1055	1055	0.0	55.8
Barrier142; Prop Noise wall B5	point1056	1056	22.0	55.3
Barrier142; Prop Noise wall B5	point1058	1058	20.0	55.2
Barrier142; Prop Noise wall B5	point1060	1060	18.0	52.2
Barrier142; Prop Noise wall B5	point1059	1059	18.0	51.4
Barrier142; Prop Noise wall B5	point1061	1061	18.0	50.7
Barrier142; Prop Noise wall B5	point1057	1057	22.0	46.5
Barrier142; Prop Noise wall B5	point1071	1071	12.0	44.2
Barrier142; Prop Noise wall B5	point1072	1072	14.0	43.6
Barrier142; Prop Noise wall B5	point1062	1062	16.0	41.0
-0.8 Barrier142; Prop Noise wall B5	point1055	1055	0.0	54.2
Barrier142; Prop Noise wall B5	point1059	1059	18.0	53.3
Barrier142; Prop Noise wall B5	point1060	1060	18.0	52.1



**RESULTS: BARRIER DESIGN**

R740(K1454)	249	59.3	7.1	7
R742(K1450)	251	57.9	6.6	7
R746(K1458)	255	60.6	8.5	7

**BSB**

Barrier142; Prop Noise wall B5	point1058	1058	20.0	50.9
Barrier142; Prop Noise wall B5	point1056	1056	22.0	49.2
Barrier142; Prop Noise wall B5	point1072	1072	14.0	45.4
Barrier142; Prop Noise wall B5	point1071	1071	12.0	42.8
Barrier142; Prop Noise wall B5	point1061	1061	18.0	42.0
Barrier142; Prop Noise wall B5	point1057	1057	22.0	40.3
Barrier142; Prop Noise wall B5	point1073	1073	16.0	39.7
0.1 Barrier142; Prop Noise wall B5	point1061	1061	18.0	52.1
Barrier142; Prop Noise wall B5	point1062	1062	16.0	52.0
Barrier142; Prop Noise wall B5	point1070	1070	16.0	49.3
Barrier142; Prop Noise wall B5	point1072	1072	14.0	47.2
Barrier142; Prop Noise wall B5	point1071	1071	12.0	46.4
Barrier142; Prop Noise wall B5	point1060	1060	18.0	46.0
Barrier142; Prop Noise wall B5	point1073	1073	16.0	45.2
Barrier142; Prop Noise wall B5	point1059	1059	18.0	44.1
Barrier142; Prop Noise wall B5	point1058	1058	20.0	43.6
Barrier142; Prop Noise wall B5	point1063	1063	16.0	42.9
-0.4 Barrier142; Prop Noise wall B5	point1061	1061	18.0	51.4
Barrier142; Prop Noise wall B5	point1062	1062	16.0	51.1
Barrier142; Prop Noise wall B5	point1070	1070	16.0	48.2
Barrier142; Prop Noise wall B5	point1072	1072	14.0	45.8
Barrier142; Prop Noise wall B5	point1071	1071	12.0	45.4
Barrier142; Prop Noise wall B5	point1073	1073	16.0	44.2
Barrier142; Prop Noise wall B5	point1060	1060	18.0	44.0
Barrier142; Prop Noise wall B5	point1063	1063	16.0	41.8
Barrier142; Prop Noise wall B5	point1059	1059	18.0	41.6
Barrier142; Prop Noise wall B5	point1064	1064	16.0	40.8
1.5 Barrier142; Prop Noise wall B5	point1062	1062	16.0	53.5
Barrier142; Prop Noise wall B5	point1061	1061	18.0	52.9
Barrier142; Prop Noise wall B5	point1070	1070	16.0	50.9
Barrier142; Prop Noise wall B5	point1072	1072	14.0	48.5
Barrier142; Prop Noise wall B5	point1071	1071	12.0	48.1
Barrier142; Prop Noise wall B5	point1060	1060	18.0	48.1
Barrier142; Prop Noise wall B5	point1073	1073	16.0	46.6
Barrier142; Prop Noise wall B5	point1058	1058	20.0	45.7
Barrier142; Prop Noise wall B5	point1063	1063	16.0	44.4

**RESULTS: BARRIER DESIGN**

RESULTS: BARRIER DESIGN					BSB				
					Barrier142; Prop Noise wall B5	point1059	1059	18.0	44.1
R750(K1435)	259	61.9	8.5	7	1.5 Barrier142; Prop Noise wall B5	point1059	1059	18.0	55.2
					Barrier142; Prop Noise wall B5	point1055	1055	0.0	54.9
					Barrier142; Prop Noise wall B5	point1060	1060	18.0	54.5
					Barrier142; Prop Noise wall B5	point1061	1061	18.0	53.0
					Barrier142; Prop Noise wall B5	point1058	1058	20.0	51.6
					Barrier142; Prop Noise wall B5	point1056	1056	22.0	48.1
					Barrier142; Prop Noise wall B5	point1062	1062	16.0	42.9
					Barrier142; Prop Noise wall B5	point1057	1057	22.0	40.9
					Barrier142; Prop Noise wall B5	point1070	1070	16.0	36.9
					Barrier142; Prop Noise wall B5	point1072	1072	14.0	35.6
R751(K1427)	260	64.4	6.7	7	-0.3 Barrier142; Prop Noise wall B5	point1055	1055	0.0	61.5
					Barrier142; Prop Noise wall B5	point1058	1058	20.0	56.8
					Barrier142; Prop Noise wall B5	point1056	1056	22.0	56.3
					Barrier142; Prop Noise wall B5	point1059	1059	18.0	49.5
					Barrier142; Prop Noise wall B5	point1057	1057	22.0	47.9
					Barrier142; Prop Noise wall B5	point1060	1060	18.0	40.5
					Barrier142; Prop Noise wall B5	point1061	1061	18.0	38.2
					Barrier142; Prop Noise wall B5	point1071	1071	12.0	36.4
					Barrier142; Prop Noise wall B5	point1072	1072	14.0	36.0
					Barrier142; Prop Noise wall B5	point1062	1062	16.0	35.3
R752(K1438)	261	61.9	9.5	7	2.5 Barrier142; Prop Noise wall B5	point1059	1059	18.0	55.7
					Barrier142; Prop Noise wall B5	point1060	1060	18.0	55.4
					Barrier142; Prop Noise wall B5	point1061	1061	18.0	53.7
					Barrier142; Prop Noise wall B5	point1058	1058	20.0	52.8
					Barrier142; Prop Noise wall B5	point1056	1056	22.0	50.4
					Barrier142; Prop Noise wall B5	point1055	1055	0.0	48.8
					Barrier142; Prop Noise wall B5	point1062	1062	16.0	44.8
					Barrier142; Prop Noise wall B5	point1057	1057	22.0	39.4
					Barrier142; Prop Noise wall B5	point1070	1070	16.0	37.3
					Barrier142; Prop Noise wall B5	point1072	1072	14.0	36.2
R753(K1472)	262	60.8	7.9	7	0.9 Barrier142; Prop Noise wall B5	point1062	1062	16.0	54.0
					Barrier142; Prop Noise wall B5	point1061	1061	18.0	52.7
					Barrier142; Prop Noise wall B5	point1070	1070	16.0	51.9
					Barrier142; Prop Noise wall B5	point1072	1072	14.0	49.4
					Barrier142; Prop Noise wall B5	point1060	1060	18.0	48.7

**RESULTS: BARRIER DESIGN**

RESULTS: BARRIER DESIGN					BSB				
					Barrier142; Prop Noise wall B5	point1071	1071	12.0	48.6
					Barrier142; Prop Noise wall B5	point1073	1073	16.0	47.6
					Barrier142; Prop Noise wall B5	point1063	1063	16.0	45.3
					Barrier142; Prop Noise wall B5	point1064	1064	16.0	44.5
					Barrier142; Prop Noise wall B5	point1058	1058	20.0	42.4
R758(K1448)	267	63.3	9.3	7	2.3 Barrier142; Prop Noise wall B5	point1060	1060	18.0	56.8
					Barrier142; Prop Noise wall B5	point1059	1059	18.0	56.4
					Barrier142; Prop Noise wall B5	point1058	1058	20.0	55.7
					Barrier142; Prop Noise wall B5	point1061	1061	18.0	55.0
					Barrier142; Prop Noise wall B5	point1055	1055	0.0	52.9
					Barrier142; Prop Noise wall B5	point1056	1056	22.0	47.6
					Barrier142; Prop Noise wall B5	point1062	1062	16.0	46.9
					Barrier142; Prop Noise wall B5	point1057	1057	22.0	40.3
					Barrier142; Prop Noise wall B5	point1070	1070	16.0	37.5
					Barrier142; Prop Noise wall B5	point1072	1072	14.0	36.4
R760(K1433)	269	63.7	7.2	7	0.2 Barrier142; Prop Noise wall B5	point1055	1055	0.0	59.4
					Barrier142; Prop Noise wall B5	point1058	1058	20.0	57.7
					Barrier142; Prop Noise wall B5	point1056	1056	22.0	55.8
					Barrier142; Prop Noise wall B5	point1059	1059	18.0	50.7
					Barrier142; Prop Noise wall B5	point1057	1057	22.0	48.0
					Barrier142; Prop Noise wall B5	point1072	1072	14.0	41.7
					Barrier142; Prop Noise wall B5	point1073	1073	16.0	39.9
					Barrier142; Prop Noise wall B5	point1060	1060	18.0	39.2
					Barrier142; Prop Noise wall B5	point1061	1061	18.0	35.9
					Barrier142; Prop Noise wall B5	point1071	1071	12.0	34.2
R762(K1455)	271	63.9	10.4	7	3.4 Barrier142; Prop Noise wall B5	point1060	1060	18.0	58.1
					Barrier142; Prop Noise wall B5	point1059	1059	18.0	56.6
					Barrier142; Prop Noise wall B5	point1061	1061	18.0	56.5
					Barrier142; Prop Noise wall B5	point1058	1058	20.0	55.3
					Barrier142; Prop Noise wall B5	point1056	1056	22.0	53.1
					Barrier142; Prop Noise wall B5	point1055	1055	0.0	50.4
					Barrier142; Prop Noise wall B5	point1062	1062	16.0	48.0
					Barrier142; Prop Noise wall B5	point1057	1057	22.0	45.5
					Barrier142; Prop Noise wall B5	point1072	1072	14.0	41.0
					Barrier142; Prop Noise wall B5	point1070	1070	16.0	39.9
R765(K1459)	274	64.4	11.0	7	4.0 Barrier142; Prop Noise wall B5	point1060	1060	18.0	58.9

**RESULTS: BARRIER DESIGN**

R768(K1437)	277	63.0	8.0	7
R773(KV1469)	282	63.5	11.4	7
R781(K1456)	291	63.2	12.6	7

**BSB**

Barrier142; Prop Noise wall B5	point1061	1061	18.0	57.9
Barrier142; Prop Noise wall B5	point1059	1059	18.0	56.2
Barrier142; Prop Noise wall B5	point1058	1058	20.0	54.4
Barrier142; Prop Noise wall B5	point1055	1055	0.0	52.8
Barrier142; Prop Noise wall B5	point1056	1056	22.0	52.6
Barrier142; Prop Noise wall B5	point1062	1062	16.0	50.6
Barrier142; Prop Noise wall B5	point1057	1057	22.0	45.0
Barrier142; Prop Noise wall B5	point1070	1070	16.0	38.0
Barrier142; Prop Noise wall B5	point1072	1072	14.0	37.3
1.0 Barrier142; Prop Noise wall B5	point1058	1058	20.0	57.5
Barrier142; Prop Noise wall B5	point1059	1059	18.0	56.5
Barrier142; Prop Noise wall B5	point1055	1055	0.0	55.1
Barrier142; Prop Noise wall B5	point1056	1056	22.0	53.5
Barrier142; Prop Noise wall B5	point1060	1060	18.0	51.5
Barrier142; Prop Noise wall B5	point1057	1057	22.0	46.3
Barrier142; Prop Noise wall B5	point1061	1061	18.0	42.9
Barrier142; Prop Noise wall B5	point1062	1062	16.0	37.0
Barrier142; Prop Noise wall B5	point1072	1072	14.0	36.6
Barrier142; Prop Noise wall B5	point1070	1070	16.0	33.4
4.4 Barrier142; Prop Noise wall B5	point1061	1061	18.0	60.1
Barrier142; Prop Noise wall B5	point1060	1060	18.0	56.1
Barrier142; Prop Noise wall B5	point1062	1062	16.0	53.1
Barrier142; Prop Noise wall B5	point1059	1059	18.0	52.4
Barrier142; Prop Noise wall B5	point1058	1058	20.0	50.2
Barrier142; Prop Noise wall B5	point1056	1056	22.0	47.1
Barrier142; Prop Noise wall B5	point1055	1055	0.0	46.0
Barrier142; Prop Noise wall B5	point1070	1070	16.0	45.8
Barrier142; Prop Noise wall B5	point1072	1072	14.0	45.6
Barrier142; Prop Noise wall B5	point1073	1073	16.0	42.9
5.6 Barrier142; Prop Noise wall B5	point1059	1059	18.0	59.7
Barrier142; Prop Noise wall B5	point1060	1060	18.0	57.1
Barrier142; Prop Noise wall B5	point1058	1058	20.0	53.7
Barrier142; Prop Noise wall B5	point1056	1056	22.0	50.3
Barrier142; Prop Noise wall B5	point1055	1055	0.0	49.7
Barrier142; Prop Noise wall B5	point1061	1061	18.0	48.1
Barrier142; Prop Noise wall B5	point1057	1057	22.0	43.7

**RESULTS: BARRIER DESIGN**

M-46(K1469)	297	64.6	14.4	7
R905	672	64.1	8.9	7
R865	673	64.6	6.8	7
R1000	676	63.4	0.7	7

**BSB**

Barrier142; Prop Noise wall B5	point1062	1062	16.0	42.7
Barrier142; Prop Noise wall B5	point1072	1072	14.0	41.7
Barrier142; Prop Noise wall B5	point1073	1073	16.0	38.3
7.4 Barrier142; Prop Noise wall B5	point1061	1061	18.0	62.2
Barrier142; Prop Noise wall B5	point1060	1060	18.0	59.0
Barrier142; Prop Noise wall B5	point1059	1059	18.0	51.0
Barrier142; Prop Noise wall B5	point1058	1058	20.0	48.9
Barrier142; Prop Noise wall B5	point1062	1062	16.0	48.1
Barrier142; Prop Noise wall B5	point1056	1056	22.0	45.1
Barrier142; Prop Noise wall B5	point1072	1072	14.0	44.1
Barrier142; Prop Noise wall B5	point1073	1073	16.0	41.3
Barrier142; Prop Noise wall B5	point1057	1057	22.0	39.7
Barrier142; Prop Noise wall B5	point1070	1070	16.0	38.9
1.9 Barrier142; Prop Noise wall B5	point1072	1072	14.0	56.2
Barrier142; Prop Noise wall B5	point1070	1070	16.0	56.1
Barrier142; Prop Noise wall B5	point1071	1071	12.0	54.9
Barrier142; Prop Noise wall B5	point1062	1062	16.0	53.9
Barrier142; Prop Noise wall B5	point1073	1073	16.0	53.9
Barrier142; Prop Noise wall B5	point1061	1061	18.0	50.6
Barrier142; Prop Noise wall B5	point1060	1060	18.0	48.9
Barrier142; Prop Noise wall B5	point1058	1058	20.0	48.2
Barrier142; Prop Noise wall B5	point1059	1059	18.0	47.8
Barrier142; Prop Noise wall B5	point1063	1063	16.0	46.7
-0.2 Barrier142; Prop Noise wall B5	point1071	1071	12.0	59.4
Barrier142; Prop Noise wall B5	point1072	1072	14.0	55.9
Barrier142; Prop Noise wall B5	point1070	1070	16.0	53.0
Barrier142; Prop Noise wall B5	point1073	1073	16.0	50.9
Barrier142; Prop Noise wall B5	point1062	1062	16.0	50.8
Barrier142; Prop Noise wall B5	point1061	1061	18.0	48.7
Barrier142; Prop Noise wall B5	point1060	1060	18.0	47.5
Barrier142; Prop Noise wall B5	point1058	1058	20.0	47.2
Barrier142; Prop Noise wall B5	point1059	1059	18.0	46.7
Barrier142; Prop Noise wall B5	point1056	1056	22.0	46.4
-6.3 Barrier142; Prop Noise wall B5	point1055	1055	0.0	53.0
Barrier142; Prop Noise wall B5	point1056	1056	22.0	50.1
Barrier142; Prop Noise wall B5	point1059	1059	18.0	48.4

**RESULTS: BARRIER DESIGN**

RESULTS: BARRIER DESIGN					BSB				
					Barrier142; Prop Noise wall B5	point1062	1062	16.0	47.8
					Barrier142; Prop Noise wall B5	point1058	1058	20.0	47.5
					Barrier142; Prop Noise wall B5	point1070	1070	16.0	45.1
					Barrier142; Prop Noise wall B5	point1060	1060	18.0	43.1
					Barrier142; Prop Noise wall B5	point1061	1061	18.0	43.0
					Barrier142; Prop Noise wall B5	point1072	1072	14.0	42.8
					Barrier142; Prop Noise wall B5	point1071	1071	12.0	40.8
R1001	677	64.7	0.6	7	-6.4 Barrier142; Prop Noise wall B5	point1055	1055	0.0	54.2
					Barrier142; Prop Noise wall B5	point1056	1056	22.0	51.2
					Barrier142; Prop Noise wall B5	point1059	1059	18.0	49.1
					Barrier142; Prop Noise wall B5	point1058	1058	20.0	49.0
					Barrier142; Prop Noise wall B5	point1060	1060	18.0	47.0
					Barrier142; Prop Noise wall B5	point1070	1070	16.0	45.0
					Barrier142; Prop Noise wall B5	point1062	1062	16.0	45.0
					Barrier142; Prop Noise wall B5	point1071	1071	12.0	43.1
					Barrier142; Prop Noise wall B5	point1072	1072	14.0	42.5
					Barrier142; Prop Noise wall B5	point1061	1061	18.0	42.1
R1002	678	65.4	0.3	7	-6.7 Barrier142; Prop Noise wall B5	point1055	1055	0.0	53.7
					Barrier142; Prop Noise wall B5	point1056	1056	22.0	49.6
					Barrier142; Prop Noise wall B5	point1059	1059	18.0	47.7
					Barrier142; Prop Noise wall B5	point1058	1058	20.0	47.7
					Barrier142; Prop Noise wall B5	point1060	1060	18.0	47.2
					Barrier142; Prop Noise wall B5	point1061	1061	18.0	44.5
					Barrier142; Prop Noise wall B5	point1071	1071	12.0	40.7
					Barrier142; Prop Noise wall B5	point1072	1072	14.0	39.9
					Barrier142; Prop Noise wall B5	point1062	1062	16.0	39.4
					Barrier142; Prop Noise wall B5	point1057	1057	22.0	38.6
R1003	679	65.1	0.2	7	-6.8 Barrier142; Prop Noise wall B5	point1055	1055	0.0	52.8
					Barrier142; Prop Noise wall B5	point1056	1056	22.0	48.4
					Barrier142; Prop Noise wall B5	point1059	1059	18.0	47.2
					Barrier142; Prop Noise wall B5	point1058	1058	20.0	46.6
					Barrier142; Prop Noise wall B5	point1060	1060	18.0	46.4
					Barrier142; Prop Noise wall B5	point1061	1061	18.0	43.8
					Barrier142; Prop Noise wall B5	point1071	1071	12.0	40.1
					Barrier142; Prop Noise wall B5	point1072	1072	14.0	39.4
					Barrier142; Prop Noise wall B5	point1062	1062	16.0	39.2

**RESULTS: BARRIER DESIGN**

RESULTS: BARRIER DESIGN					BSB				
					Barrier142; Prop Noise wall B5	point1057	1057	22.0	37.6
R1004	680	66.2	0.2	7	-6.8 Barrier142; Prop Noise wall B5	point1055	1055	0.0	52.9
					Barrier142; Prop Noise wall B5	point1056	1056	22.0	48.8
					Barrier142; Prop Noise wall B5	point1058	1058	20.0	47.5
					Barrier142; Prop Noise wall B5	point1059	1059	18.0	47.2
					Barrier142; Prop Noise wall B5	point1060	1060	18.0	46.8
					Barrier142; Prop Noise wall B5	point1061	1061	18.0	45.0
					Barrier142; Prop Noise wall B5	point1062	1062	16.0	41.1
					Barrier142; Prop Noise wall B5	point1070	1070	16.0	38.4
					Barrier142; Prop Noise wall B5	point1057	1057	22.0	37.8
					Barrier142; Prop Noise wall B5	point1071	1071	12.0	36.2
R1005	681	66.6	0.2	7	-6.8 Barrier142; Prop Noise wall B5	point1055	1055	0.0	52.0
					Barrier142; Prop Noise wall B5	point1056	1056	22.0	48.1
					Barrier142; Prop Noise wall B5	point1058	1058	20.0	46.6
					Barrier142; Prop Noise wall B5	point1059	1059	18.0	46.3
					Barrier142; Prop Noise wall B5	point1060	1060	18.0	45.7
					Barrier142; Prop Noise wall B5	point1061	1061	18.0	44.6
					Barrier142; Prop Noise wall B5	point1062	1062	16.0	42.3
					Barrier142; Prop Noise wall B5	point1072	1072	14.0	37.8
					Barrier142; Prop Noise wall B5	point1057	1057	22.0	36.9
					Barrier142; Prop Noise wall B5	point1071	1071	12.0	35.1
R1006	682	64.4	0.2	7	-6.8 Barrier142; Prop Noise wall B5	point1055	1055	0.0	50.9
					Barrier142; Prop Noise wall B5	point1056	1056	22.0	46.3
					Barrier142; Prop Noise wall B5	point1059	1059	18.0	45.3
					Barrier142; Prop Noise wall B5	point1060	1060	18.0	44.9
					Barrier142; Prop Noise wall B5	point1058	1058	20.0	44.7
					Barrier142; Prop Noise wall B5	point1061	1061	18.0	42.6
					Barrier142; Prop Noise wall B5	point1071	1071	12.0	38.9
					Barrier142; Prop Noise wall B5	point1072	1072	14.0	38.3
					Barrier142; Prop Noise wall B5	point1062	1062	16.0	37.8
					Barrier142; Prop Noise wall B5	point1057	1057	22.0	35.5
R1007	683	64.8	0.1	7	-6.9 Barrier142; Prop Noise wall B5	point1055	1055	0.0	50.3
					Barrier142; Prop Noise wall B5	point1056	1056	22.0	45.9
					Barrier142; Prop Noise wall B5	point1060	1060	18.0	44.6
					Barrier142; Prop Noise wall B5	point1059	1059	18.0	44.3
					Barrier142; Prop Noise wall B5	point1058	1058	20.0	43.8

**RESULTS: BARRIER DESIGN**

RESULTS: BARRIER DESIGN					BSB				
					Barrier142; Prop Noise wall B5	point1061	1061	18.0	42.7
					Barrier142; Prop Noise wall B5	point1062	1062	16.0	38.2
					Barrier142; Prop Noise wall B5	point1071	1071	12.0	37.4
					Barrier142; Prop Noise wall B5	point1057	1057	22.0	35.0
					Barrier142; Prop Noise wall B5	point1072	1072	14.0	34.8
R1008	684	65.2	0.1	7	-6.9 Barrier142; Prop Noise wall B5	point1055	1055	0.0	49.0
					Barrier142; Prop Noise wall B5	point1056	1056	22.0	45.3
					Barrier142; Prop Noise wall B5	point1059	1059	18.0	44.1
					Barrier142; Prop Noise wall B5	point1058	1058	20.0	44.0
					Barrier142; Prop Noise wall B5	point1060	1060	18.0	43.8
					Barrier142; Prop Noise wall B5	point1061	1061	18.0	42.8
					Barrier142; Prop Noise wall B5	point1062	1062	16.0	39.9
					Barrier142; Prop Noise wall B5	point1070	1070	16.0	35.5
					Barrier142; Prop Noise wall B5	point1073	1073	16.0	34.6
					Barrier142; Prop Noise wall B5	point1072	1072	14.0	34.2
R1009	685	65.9	0.1	7	-6.9 Barrier142; Prop Noise wall B5	point1055	1055	0.0	49.4
					Barrier142; Prop Noise wall B5	point1056	1056	22.0	46.0
					Barrier142; Prop Noise wall B5	point1058	1058	20.0	45.3
					Barrier142; Prop Noise wall B5	point1059	1059	18.0	44.5
					Barrier142; Prop Noise wall B5	point1060	1060	18.0	43.9
					Barrier142; Prop Noise wall B5	point1061	1061	18.0	43.6
					Barrier142; Prop Noise wall B5	point1062	1062	16.0	41.4
					Barrier142; Prop Noise wall B5	point1071	1071	12.0	39.2
					Barrier142; Prop Noise wall B5	point1072	1072	14.0	38.8
					Barrier142; Prop Noise wall B5	point1070	1070	16.0	37.5
R1010	686	66.4	0.2	7	-6.8 Barrier142; Prop Noise wall B5	point1055	1055	0.0	50.2
					Barrier142; Prop Noise wall B5	point1056	1056	22.0	46.8
					Barrier142; Prop Noise wall B5	point1058	1058	20.0	46.2
					Barrier142; Prop Noise wall B5	point1059	1059	18.0	45.0
					Barrier142; Prop Noise wall B5	point1060	1060	18.0	44.0
					Barrier142; Prop Noise wall B5	point1061	1061	18.0	43.8
					Barrier142; Prop Noise wall B5	point1062	1062	16.0	41.7
					Barrier142; Prop Noise wall B5	point1070	1070	16.0	39.5
					Barrier142; Prop Noise wall B5	point1071	1071	12.0	39.2
					Barrier142; Prop Noise wall B5	point1072	1072	14.0	38.6
R1011	687	66.9	0.1	7	-6.9 Barrier142; Prop Noise wall B5	point1055	1055	0.0	49.2



**RESULTS: BARRIER DESIGN**

R1012	688	66.5	0.0	7
R1013	689	68.7	0.0	7
R1014	690	66.6	0.1	7

**BSB**

Barrier142; Prop Noise wall B5	point1056	1056	22.0	46.3
Barrier142; Prop Noise wall B5	point1058	1058	20.0	45.6
Barrier142; Prop Noise wall B5	point1059	1059	18.0	44.6
Barrier142; Prop Noise wall B5	point1060	1060	18.0	43.8
Barrier142; Prop Noise wall B5	point1061	1061	18.0	43.0
Barrier142; Prop Noise wall B5	point1062	1062	16.0	40.8
Barrier142; Prop Noise wall B5	point1071	1071	12.0	38.6
Barrier142; Prop Noise wall B5	point1070	1070	16.0	38.6
Barrier142; Prop Noise wall B5	point1072	1072	14.0	38.5
-7.0 Barrier142; Prop Noise wall B5	point1055	1055	0.0	41.4
Barrier142; Prop Noise wall B5	point1056	1056	22.0	40.8
Barrier142; Prop Noise wall B5	point1058	1058	20.0	39.4
Barrier142; Prop Noise wall B5	point1059	1059	18.0	37.7
Barrier142; Prop Noise wall B5	point1060	1060	18.0	34.2
Barrier142; Prop Noise wall B5	point1061	1061	18.0	34.0
Barrier142; Prop Noise wall B5	point1072	1072	14.0	33.8
Barrier142; Prop Noise wall B5	point1071	1071	12.0	33.4
Barrier142; Prop Noise wall B5	point1062	1062	16.0	32.3
Barrier142; Prop Noise wall B5	point1070	1070	16.0	31.2
-7.0 Barrier142; Prop Noise wall B5	point1055	1055	0.0	49.1
Barrier142; Prop Noise wall B5	point1056	1056	22.0	47.4
Barrier142; Prop Noise wall B5	point1058	1058	20.0	46.5
Barrier142; Prop Noise wall B5	point1059	1059	18.0	46.2
Barrier142; Prop Noise wall B5	point1060	1060	18.0	43.8
Barrier142; Prop Noise wall B5	point1061	1061	18.0	43.0
Barrier142; Prop Noise wall B5	point1072	1072	14.0	39.6
Barrier142; Prop Noise wall B5	point1062	1062	16.0	38.6
Barrier142; Prop Noise wall B5	point1057	1057	22.0	35.6
Barrier142; Prop Noise wall B5	point1071	1071	12.0	35.3
-6.9 Barrier142; Prop Noise wall B5	point1055	1055	0.0	46.0
Barrier142; Prop Noise wall B5	point1056	1056	22.0	44.7
Barrier142; Prop Noise wall B5	point1058	1058	20.0	43.8
Barrier142; Prop Noise wall B5	point1059	1059	18.0	43.3
Barrier142; Prop Noise wall B5	point1060	1060	18.0	41.3
Barrier142; Prop Noise wall B5	point1061	1061	18.0	40.8
Barrier142; Prop Noise wall B5	point1062	1062	16.0	38.4

**RESULTS: BARRIER DESIGN**

R1015	691	65.8	0.1	7
R1016	692	64.1	0.1	7

**BSB**

Barrier142; Prop Noise wall B5	point1071	1071	12.0	37.8
Barrier142; Prop Noise wall B5	point1072	1072	14.0	37.4
Barrier142; Prop Noise wall B5	point1070	1070	16.0	36.4
-6.9 Barrier142; Prop Noise wall B5	point1055	1055	0.0	46.7
Barrier142; Prop Noise wall B5	point1056	1056	22.0	45.1
Barrier142; Prop Noise wall B5	point1058	1058	20.0	44.5
Barrier142; Prop Noise wall B5	point1059	1059	18.0	43.5
Barrier142; Prop Noise wall B5	point1060	1060	18.0	42.4
Barrier142; Prop Noise wall B5	point1061	1061	18.0	41.8
Barrier142; Prop Noise wall B5	point1062	1062	16.0	39.6
Barrier142; Prop Noise wall B5	point1072	1072	14.0	38.2
Barrier142; Prop Noise wall B5	point1071	1071	12.0	37.6
Barrier142; Prop Noise wall B5	point1070	1070	16.0	37.5
-6.9 Barrier142; Prop Noise wall B5	point1055	1055	0.0	43.5
Barrier142; Prop Noise wall B5	point1058	1058	20.0	41.3
Barrier142; Prop Noise wall B5	point1056	1056	22.0	40.9
Barrier142; Prop Noise wall B5	point1059	1059	18.0	40.3
Barrier142; Prop Noise wall B5	point1060	1060	18.0	38.9
Barrier142; Prop Noise wall B5	point1061	1061	18.0	38.5
Barrier142; Prop Noise wall B5	point1062	1062	16.0	36.4
Barrier142; Prop Noise wall B5	point1071	1071	12.0	35.6
Barrier142; Prop Noise wall B5	point1072	1072	14.0	35.3
Barrier142; Prop Noise wall B5	point1070	1070	16.0	34.7

**RESULTS: BARRIER DESIGN****BSB**

Total Cost, All Barriers (including additional cost(s))					\$723746					

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

PEC													8 August 2023
ZR													TNM 2.5

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**PROJECT/CONTRACT:           BSB**  
**RUN:                               KY Barrier B16B 12-22'**  
**BARRIER DESIGN:           12-20**

Barriers		Segments											
Name	Type	Name	No.	Heights			Length	If Wall		On Struc?	Important Reflections?	If Berm Volume	Cost
				First Point	Average	Second Point		Area					
				ft	ft	ft	ft	sq ft			cu yd	\$	
Barrier142; Prop Noise wall B5	W	point1055	1055	0.00	0.00	0.00	0	0					0
		point1056	1056	22.00	22.00	22.00	144	3159					101085
		point1057	1057	22.00	22.00	22.00	14	313					10006
		point1058	1058	20.00	20.00	20.00	145	2899					92774
		point1059	1059	18.00	18.00	18.00	157	2827					90452
		point1060	1060	18.00	18.00	18.00	144	2598					83124
		point1061	1061	18.00	18.00	18.00	144	2585					82730
		point1062	1062	16.00	16.00	16.00	112	1788					57220
		point1063	1063	16.00	16.00	16.00	16	260					8335
		point1064	1064	16.00	16.00	16.00	16	249					7965
		point1070	1070	16.00	16.00	16.00	118	1889					60462
point1073	1073	16.00	16.00	16.00	61	982					31437		
point1072	1072	14.00	14.00	14.00	108	1515					48486		
point1071	1071	12.00	12.00	12.00	129	1552					49673		
1469	W	point521	521	20.00	20.00	20.00	29	589					0
		point522	522	20.00	20.00	20.00	25	497					0
		point523	523	20.00	20.00	20.00	17	342					0
		point524	524	20.00	20.00	20.00	8	165					0
		point525	525	20.00	20.00	20.00	12	238					0
		point526	526	20.00	20.00	20.00	33	665					0
1459	W	point503	503	10.00	10.00	10.00	5	49					0
		point504	504	10.00	10.00	10.00	12	118					0
		point505	505	10.00	10.00	10.00	27	267					0
		point506	506	10.00	10.00	10.00	46	457					0

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

		point507	507	10.00	10.00	10.00	32	318				0
		point508	508	10.00	10.00	10.00	30	298				0
1456	W	point498	498	10.00	10.00	10.00	31	311				0
		point499	499	10.00	10.00	10.00	46	465				0
		point500	500	10.00	10.00	10.00	36	362				0
		point501	501	10.00	10.00	10.00	46	461				0
1455	W	point491	491	20.00	20.00	20.00	13	255				0
		point492	492	20.00	20.00	20.00	10	204				0
		point493	493	20.00	20.00	20.00	15	306				0
		point494	494	20.00	20.00	20.00	26	514				0
		point495	495	20.00	20.00	20.00	27	548				0
		point496	496	20.00	20.00	20.00	38	752				0
1448	W	point484	484	20.00	20.00	20.00	31	618				0
		point485	485	20.00	20.00	20.00	16	316				0
		point486	486	20.00	20.00	20.00	8	161				0
		point487	487	20.00	20.00	20.00	19	371				0
		point488	488	20.00	20.00	20.00	39	779				0
		point489	489	20.00	20.00	20.00	34	687				0
1438	W	point471	471	20.00	20.00	20.00	42	845				0
		point472	472	20.00	20.00	20.00	9	184				0
		point473	473	20.00	20.00	20.00	9	184				0
		point474	474	20.00	20.00	20.00	17	344				0
		point475	475	20.00	20.00	20.00	33	653				0
		point476	476	20.00	20.00	20.00	27	539				0
1437	W	point466	466	20.00	20.00	20.00	29	587				0
		point467	467	20.00	20.00	20.00	28	556				0
		point468	468	20.00	20.00	20.00	27	538				0
		point469	469	20.00	20.00	20.00	27	545				0
1435	W	point459	459	20.00	20.00	20.00	17	340				0
		point460	460	20.00	20.00	20.00	16	320				0
		point461	461	20.00	20.00	20.00	9	187				0
		point462	462	20.00	20.00	20.00	25	502				0
		point463	463	20.00	20.00	20.00	27	534				0

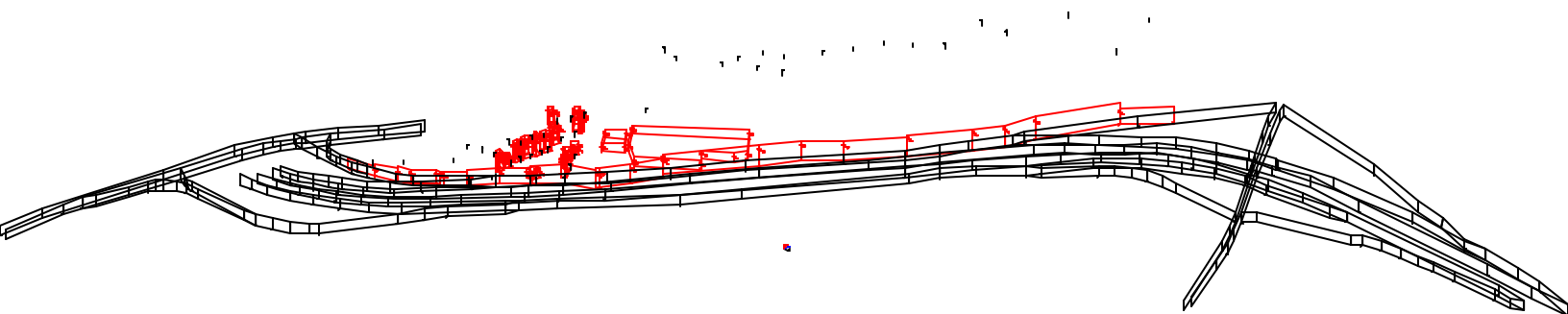
**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

		point464	464	20.00	20.00	20.00	41	810				0
1433	W	point452	452	20.00	20.00	20.00	41	821				0
		point453	453	20.00	20.00	20.00	30	608				0
		point454	454	20.00	20.00	20.00	34	673				0
		point455	455	20.00	20.00	20.00	10	191				0
		point456	456	20.00	20.00	20.00	7	135				0
		point457	457	20.00	20.00	20.00	22	432				0
1427	W	point447	447	10.00	10.00	10.00	43	428				0
		point448	448	10.00	10.00	10.00	32	318				0
		point449	449	10.00	10.00	10.00	42	424				0
		point450	450	10.00	10.00	10.00	32	322				0
1424	W	point442	442	20.00	20.00	20.00	33	659				0
		point443	443	20.00	20.00	20.00	33	663				0
		point444	444	20.00	20.00	20.00	34	682				0
		point445	445	20.00	20.00	20.00	33	665				0
1417	W	point430	430	10.00	10.00	10.00	110	1101				0
		point431	431	10.00	10.00	10.00	104	1041				0
		point432	432	10.00	10.00	10.00	110	1104				0
		point433	433	10.00	10.00	10.00	104	1037				0
1415	W	point425	425	20.00	20.00	20.00	25	491				0
		point426	426	20.00	20.00	20.00	27	544				0
		point427	427	20.00	20.00	20.00	25	508				0
		point428	428	20.00	20.00	20.00	27	533				0
1413	W	point416	416	10.00	10.00	10.00	63	631				0
		point417	417	10.00	10.00	10.00	165	1648				0
		point418	418	10.00	10.00	10.00	541	5409				0
		point419	419	10.00	10.00	10.00	133	1334				0
		point420	420	10.00	10.00	10.00	128	1276				0
		point421	421	10.00	10.00	10.00	305	3048				0
		point422	422	10.00	10.00	10.00	81	812				0
		point423	423	10.00	10.00	10.00	151	1505				0
1412	W	point405	405	20.00	20.00	20.00	25	496				0

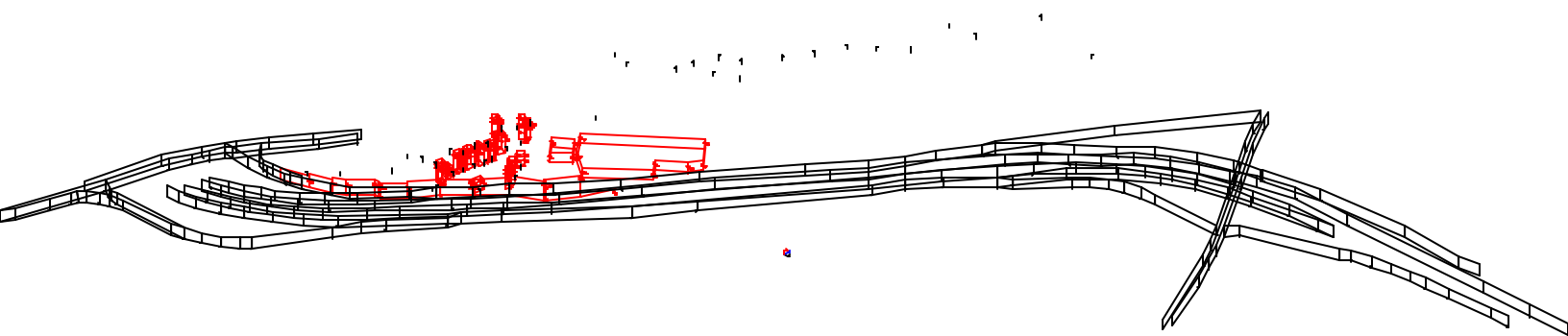
**RESULTS: BARRIER-SEGMENT DESCRIPTIONS****BSB**

		point406	406	20.00	20.00	20.00	53	1069				0
		point407	407	20.00	20.00	20.00	22	439				0
		point408	408	20.00	20.00	20.00	19	375				0
		point409	409	20.00	20.00	20.00	14	283				0
		point410	410	20.00	20.00	20.00	18	369				0
		point411	411	20.00	20.00	20.00	10	205				0
		point412	412	20.00	20.00	20.00	20	397				0
		point413	413	20.00	20.00	20.00	23	453				0
		point414	414	20.00	20.00	20.00	34	673				0



KY Barrier B16A 12-24'		Sheet 1 of 1	8 Aug 2023
Barrier View-summit		PEC	
Run name: Summir		Project/Contract No. BSB	
Scale: <DNA - due to perspective>		TNM Version 2.5, Feb 2004	
		Analysis By: ZR	
Roadway:	—————>	Ground Zone:	polygon
Receiver:	□	Tree Zone:	dashed polygon
Barrier:	┆—————>	Contour Zone:	polygon
Building Row:	—— ———	Parallel Barrier:	=====
Terrain Line:	—————	Skew Section:	—— ———>





KY Barrier B16B 12-22'		Sheet 1 of 1	8 Aug 2023
Barrier View-12-20		PEC	
Run name: KY W Barrier 16 24'		Project/Contract No. BSB	
Scale: <DNA - due to perspective>		TNM Version 2.5, Feb 2004	
		Analysis By: ZR	
Roadway:	—————>	Ground Zone:	polygon
Receiver:	□	Tree Zone:	dashed polygon
Barrier:	—————>	Contour Zone:	polygon
Building Row:	— — — — —	Parallel Barrier:	=====
Terrain Line:	—————	Skew Section:	— — — — —>

**RESULTS: SOUND LEVELS**

**BSB**

Palmer Engineering									8 August 2023				
ZR									TNM 2.5				
									Calculated with TNM 2.5				

**RESULTS: SOUND LEVELS**

<b>PROJECT/CONTRACT:</b>	<b>BSB</b>												
<b>RUN:</b>	<b>KY W Barrier B17A 16-20'</b>												
<b>BARRIER DESIGN:</b>	<b>16'-20'</b>												
<b>ATMOSPHERICS:</b>	<b>68 deg F, 50% RH</b>												

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	Increase over existing			With Barrier				
			L <sub>Aeq</sub> 1h	L <sub>Aeq</sub> 1h	Crit'n	Calculated	Crit'n	Type Impact	Calculated	Noise Reduction	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R709(K1471)	217	1	63.5	66.4	66	2.9	10	Snd Lvl	64.5	1.9	7	-5.1
R710(K64)	218	1	61.7	64.6	66	2.9	10	----	61.3	3.3	7	-3.7
R711(K1474)	219	1	63.9	66.8	66	2.9	10	Snd Lvl	62.8	4.0	7	-3.0
R714(K1493)	222	1	68.9	72.9	66	4.0	10	Snd Lvl	67.7	5.2	7	-1.8
R715(K1481)	223	1	65.8	69.4	66	3.6	10	Snd Lvl	61.4	8.0	7	1.0
R726(K1487)	234	1	67.6	71.4	66	3.8	10	Snd Lvl	62.3	9.1	7	2.1
R734(K1201)	242	1	72.0	75.4	66	3.4	10	Snd Lvl	67.1	8.3	7	1.3
R744(K1497)	253	1	70.0	73.4	66	3.4	10	Snd Lvl	65.4	8.0	7	1.0
R755(K1488)	264	1	69.6	72.9	66	3.3	10	Snd Lvl	65.3	7.6	7	0.6
R779(K1195)	289	1	69.2	72.4	66	3.2	10	Snd Lvl	64.9	7.5	7	0.5
R801(K1205)	315	1	67.1	70.0	66	2.9	10	Snd Lvl	65.0	5.0	7	-2.0
M-48(K37)	329	1	60.9	63.2	66	2.3	10	----	61.3	1.9	7	-5.1
R822(K1204)	337	1	65.4	67.9	66	2.5	10	Snd Lvl	66.3	1.6	7	-5.4
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		13	1.6	5.5	9.1							
All Impacted		11	1.6	6.0	9.1							
All that meet NR Goal		6	7.5	8.1	9.1							

**RESULTS: SOUND LEVELS**

**BSB**

Palmer Engineering ZR										8 August 2023 TNM 2.5 Calculated with TNM 2.5			
<b>RESULTS: SOUND LEVELS</b>													
<b>PROJECT/CONTRACT:</b>		<b>BSB</b>											
<b>RUN:</b>		<b>KY W Barrier B17B 16-20'</b>											
<b>BARRIER DESIGN:</b>		<b>16'-20' Optimized</b>											
<b>ATMOSPHERICS:</b>		<b>68 deg F, 50% RH</b>											
		<b>Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.</b>											

Receiver													
Name	No.	#DUs	Existing	No Barrier	Increase over existing			With Barrier					
			LAeq1h	LAeq1h	Crit'n	Calculated	Crit'n	Type	Calculated	Noise Reduction	Goal	Calculated	
				Calculated		Calculated		Sub'l Inc	Impact	LAeq1h	Calculated	Goal	Calculated
			dBA	dBA	dBA	dB	dB			dBA	dB	dB	dB
													minus
													Goal
R709(K1471)	217	1	63.5	66.4	66	2.9	10	Snd Lvl		64.3	2.1	7	-4.9
R710(K64)	218	1	61.7	64.6	66	2.9	10	----		62.2	2.4	7	-4.6
R711(K1474)	219	1	63.9	66.8	66	2.9	10	Snd Lvl		64.1	2.7	7	-4.3
R714(K1493)	222	1	68.9	72.9	66	4.0	10	Snd Lvl		67.9	5.0	7	-2.0
R715(K1481)	223	1	65.8	69.4	66	3.6	10	Snd Lvl		64.4	5.0	7	-2.0
R726(K1487)	234	1	67.6	71.4	66	3.8	10	Snd Lvl		64.8	6.6	7	-0.4
R734(K1201)	242	1	72.0	75.4	66	3.4	10	Snd Lvl		67.7	7.7	7	0.7
R744(K1497)	253	1	70.0	73.4	66	3.4	10	Snd Lvl		67.8	5.6	7	-1.4
R755(K1488)	264	1	69.6	72.9	66	3.3	10	Snd Lvl		68.2	4.7	7	-2.3
R779(K1195)	289	1	69.2	72.4	66	3.2	10	Snd Lvl		67.7	4.7	7	-2.3
R801(K1205)	315	1	67.1	70.0	66	2.9	10	Snd Lvl		66.6	3.4	7	-3.6
M-48(K37)	329	1	60.9	63.2	66	2.3	10	----		62.1	1.1	7	-5.9
R822(K1204)	337	1	65.4	67.9	66	2.5	10	Snd Lvl		66.9	1.0	7	-6.0
<b>Dwelling Units</b>		<b># DUs</b>	<b>Noise Reduction</b>										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		13	1.0	4.0	7.7								
All Impacted		11	1.0	4.4	7.7								
All that meet NR Goal		1	7.7	7.7	7.7								

**RESULTS: BARRIER DESCRIPTIONS**

**BSB**

Palmer Engineering				8 August 2023						
ZR				TNM 2.5						

**RESULTS: BARRIER DESCRIPTIONS**

<b>PROJECT/CONTRACT:</b>	<b>BSB</b>									
<b>RUN:</b>	<b>KY W Barrier B17A 16-20'</b>									
<b>BARRIER DESIGN:</b>	<b>16'-20'</b>									

<b>Barriers</b>										
<b>Name</b>	<b>Type</b>	<b>Heights along Barrier</b>			<b>Length</b>	<b>If Wall</b>		<b>If Berm</b>		<b>Cost</b>
		<b>Min</b>	<b>Avg</b>	<b>Max</b>		<b>Area</b>	<b>Volume</b>	<b>Top</b>	<b>Run:Rise</b>	
		ft	ft	ft	ft	sq ft	cu yd	ft	ft:ft	\$
Barrier142; Prop Barrier B6	W	18.00	21.07	24.00	1127	23732				759435
1493	W	10.00	10.00	10.00	413	4129				0
1471	W	10.00	10.00	10.00	487	4873				0
1201	W	10.00	10.00	10.00	496	4957				0
									Total Cost:	759435

**RESULTS: BARRIER DESCRIPTIONS**

**BSB**

Palmer Engineering				8 August 2023						
ZR				TNM 2.5						

**RESULTS: BARRIER DESCRIPTIONS**

<b>PROJECT/CONTRACT:</b>	<b>BSB</b>									
<b>RUN:</b>	<b>KY W Barrier B17B 16-20'</b>									
<b>BARRIER DESIGN:</b>	<b>16'-20' Optimized</b>									

<b>Barriers</b>										
<b>Name</b>	<b>Type</b>	<b>Heights along Barrier</b>			<b>Length</b>	<b>If Wall</b>		<b>If Berm</b>		<b>Cost</b>
		<b>Min</b>	<b>Avg</b>	<b>Max</b>		<b>Area</b>	<b>Volume</b>	<b>Top</b>	<b>Run:Rise</b>	
		ft	ft	ft	ft	sq ft	cu yd	ft	ft:ft	\$
Barrier142; Prop Barrier B6	W	16.00	17.95	20.00	1127	20228				647286
1493	W	10.00	10.00	10.00	413	4129				0
1471	W	10.00	10.00	10.00	487	4873				0
1201	W	10.00	10.00	10.00	496	4957				0
									Total Cost:	647286

**RESULTS: BARRIER DESIGN**

**BSB**

Palmer Engineering						8 August 2023
ZR						TNM 2.5
						Calculated with TNM 2.5

**RESULTS: BARRIER DESIGN**

<b>PROJECT/CONTRACT:</b>	<b>BSB</b>
<b>RUN:</b>	<b>KY W Barrier B17A 16-20'</b>
<b>BARRIER DESIGN:</b>	<b>16'-20'</b>

**ATMOSPHERICS:** 68 deg F, 50% RH

**Selected Receivers**

Name	No.	Noise Reduction				Barrier Reviewed	Important Segments			Partial
		Calc LAeq1h dBA	Calc dB	Goal dB	Calc-Goal dB		Name	No.	Height ft	LAeq1h dBA
R709(K1471)	217	64.5	1.9	7	-5.1	Barrier142; Prop Barrier B6	point1070	1070	0.0	62.0
						Barrier142; Prop Barrier B6	PT11	1066	18.0	55.7
						Barrier142; Prop Barrier B6	PT10	1065	22.0	49.0
						Barrier142; Prop Barrier B6	PT9	1064	24.0	39.6
						Barrier142; Prop Barrier B6	PT7	1062	22.0	38.5
						Barrier142; Prop Barrier B6	PT8	1063	24.0	38.4
						Barrier142; Prop Barrier B6	PT6	1061	20.0	37.6
						Barrier142; Prop Barrier B6	PT4	1059	18.0	35.5
						Barrier142; Prop Barrier B6	PT3	1058	0.0	33.8
						Barrier142; Prop Barrier B6	PT5	1060	20.0	33.5
R710(K64)	218	61.3	3.3	7	-3.7	Barrier142; Prop Barrier B6	point1070	1070	0.0	57.7
						Barrier142; Prop Barrier B6	PT11	1066	18.0	52.0
						Barrier142; Prop Barrier B6	PT8	1063	24.0	47.4
						Barrier142; Prop Barrier B6	PT6	1061	20.0	47.3
						Barrier142; Prop Barrier B6	PT7	1062	22.0	47.1
						Barrier142; Prop Barrier B6	PT10	1065	22.0	47.0
						Barrier142; Prop Barrier B6	PT9	1064	24.0	47.0
						Barrier142; Prop Barrier B6	PT5	1060	20.0	43.0
						Barrier142; Prop Barrier B6	PT4	1059	18.0	42.9
						Barrier142; Prop Barrier B6	point1067	1055	0.0	41.5
R711(K1474)	219	62.8	4.0	7	-3.0	Barrier142; Prop Barrier B6	point1070	1070	0.0	57.6

**RESULTS: BARRIER DESIGN**

R714(K1493)	222	67.7	5.2	7
R715(K1481)	223	61.4	8.0	7
R726(K1487)	234	62.3	9.1	7

**BSB**

	Barrier142; Prop Barrier B6	PT11	1066	18.0	52.8
	Barrier142; Prop Barrier B6	PT8	1063	24.0	49.6
	Barrier142; Prop Barrier B6	PT7	1062	22.0	49.2
	Barrier142; Prop Barrier B6	PT6	1061	20.0	49.0
	Barrier142; Prop Barrier B6	PT9	1064	24.0	49.0
	Barrier142; Prop Barrier B6	PT10	1065	22.0	48.9
	Barrier142; Prop Barrier B6	PT4	1059	18.0	44.5
	Barrier142; Prop Barrier B6	PT5	1060	20.0	44.5
	Barrier142; Prop Barrier B6	PT3	1058	0.0	42.5
-1.8	Barrier142; Prop Barrier B6	point1070	1070	0.0	65.2
	Barrier142; Prop Barrier B6	PT11	1066	18.0	59.9
	Barrier142; Prop Barrier B6	PT10	1065	22.0	57.9
	Barrier142; Prop Barrier B6	PT9	1064	24.0	51.8
	Barrier142; Prop Barrier B6	PT8	1063	24.0	50.6
	Barrier142; Prop Barrier B6	PT7	1062	22.0	46.1
	Barrier142; Prop Barrier B6	PT6	1061	20.0	41.8
	Barrier142; Prop Barrier B6	PT4	1059	18.0	37.5
	Barrier142; Prop Barrier B6	PT5	1060	20.0	36.0
	Barrier142; Prop Barrier B6	PT3	1058	0.0	32.9
1.0	Barrier142; Prop Barrier B6	PT9	1064	24.0	53.6
	Barrier142; Prop Barrier B6	PT10	1065	22.0	52.8
	Barrier142; Prop Barrier B6	point1070	1070	0.0	51.6
	Barrier142; Prop Barrier B6	PT8	1063	24.0	51.4
	Barrier142; Prop Barrier B6	PT7	1062	22.0	50.9
	Barrier142; Prop Barrier B6	PT6	1061	20.0	50.8
	Barrier142; Prop Barrier B6	PT11	1066	18.0	49.2
	Barrier142; Prop Barrier B6	PT5	1060	20.0	46.2
	Barrier142; Prop Barrier B6	PT4	1059	18.0	46.0
	Barrier142; Prop Barrier B6	PT3	1058	0.0	44.7
2.1	Barrier142; Prop Barrier B6	PT10	1065	22.0	55.4
	Barrier142; Prop Barrier B6	PT9	1064	24.0	53.8
	Barrier142; Prop Barrier B6	PT8	1063	24.0	52.5
	Barrier142; Prop Barrier B6	PT6	1061	20.0	52.5
	Barrier142; Prop Barrier B6	point1070	1070	0.0	52.3
	Barrier142; Prop Barrier B6	PT7	1062	22.0	51.8
	Barrier142; Prop Barrier B6	PT11	1066	18.0	48.8

**RESULTS: BARRIER DESIGN**

R734(K1201)	242	67.1	8.3	7
R744(K1497)	253	65.4	8.0	7
R755(K1488)	264	65.3	7.6	7
R779(K1195)	289	64.9	7.5	7

**BSB**

	Barrier142; Prop Barrier B6	PT5	1060	20.0	47.9
	Barrier142; Prop Barrier B6	PT4	1059	18.0	47.2
	Barrier142; Prop Barrier B6	PT3	1058	0.0	45.5
1.3	Barrier142; Prop Barrier B6	point1070	1070	0.0	62.6
	Barrier142; Prop Barrier B6	PT10	1065	22.0	60.3
	Barrier142; Prop Barrier B6	PT11	1066	18.0	60.3
	Barrier142; Prop Barrier B6	PT9	1064	24.0	55.1
	Barrier142; Prop Barrier B6	PT8	1063	24.0	52.9
	Barrier142; Prop Barrier B6	PT7	1062	22.0	50.6
	Barrier142; Prop Barrier B6	PT6	1061	20.0	48.4
	Barrier142; Prop Barrier B6	PT5	1060	20.0	43.3
	Barrier142; Prop Barrier B6	PT4	1059	18.0	39.0
	Barrier142; Prop Barrier B6	PT3	1058	0.0	38.2
1.0	Barrier142; Prop Barrier B6	point1070	1070	0.0	58.2
	Barrier142; Prop Barrier B6	PT11	1066	18.0	57.6
	Barrier142; Prop Barrier B6	PT10	1065	22.0	57.4
	Barrier142; Prop Barrier B6	PT6	1061	20.0	54.5
	Barrier142; Prop Barrier B6	PT9	1064	24.0	54.3
	Barrier142; Prop Barrier B6	PT8	1063	24.0	54.1
	Barrier142; Prop Barrier B6	PT7	1062	22.0	53.7
	Barrier142; Prop Barrier B6	PT5	1060	20.0	49.8
	Barrier142; Prop Barrier B6	PT4	1059	18.0	49.2
	Barrier142; Prop Barrier B6	PT3	1058	0.0	47.3
0.6	Barrier142; Prop Barrier B6	PT10	1065	22.0	58.2
	Barrier142; Prop Barrier B6	PT11	1066	18.0	57.2
	Barrier142; Prop Barrier B6	point1070	1070	0.0	56.7
	Barrier142; Prop Barrier B6	PT6	1061	20.0	55.6
	Barrier142; Prop Barrier B6	PT7	1062	22.0	54.0
	Barrier142; Prop Barrier B6	PT8	1063	24.0	53.7
	Barrier142; Prop Barrier B6	PT9	1064	24.0	53.2
	Barrier142; Prop Barrier B6	PT5	1060	20.0	51.3
	Barrier142; Prop Barrier B6	PT4	1059	18.0	49.9
	Barrier142; Prop Barrier B6	PT3	1058	0.0	48.4
0.5	Barrier142; Prop Barrier B6	PT10	1065	22.0	58.8
	Barrier142; Prop Barrier B6	PT6	1061	20.0	56.2
	Barrier142; Prop Barrier B6	PT11	1066	18.0	55.8



**RESULTS: BARRIER DESIGN**

R801(K1205)	315	65.0	5.0	7
M-48(K37)	329	61.3	1.9	7
R822(K1204)	337	66.3	1.6	7

		<b>BSB</b>			
	Barrier142; Prop Barrier B6	PT7	1062	22.0	53.7
	Barrier142; Prop Barrier B6	point1070	1070	0.0	53.1
	Barrier142; Prop Barrier B6	PT9	1064	24.0	53.0
	Barrier142; Prop Barrier B6	PT8	1063	24.0	52.9
	Barrier142; Prop Barrier B6	PT5	1060	20.0	52.4
	Barrier142; Prop Barrier B6	PT3	1058	0.0	51.2
	Barrier142; Prop Barrier B6	PT4	1059	18.0	50.4
-2.0	Barrier142; Prop Barrier B6	PT10	1065	22.0	58.7
	Barrier142; Prop Barrier B6	PT9	1064	24.0	56.8
	Barrier142; Prop Barrier B6	PT3	1058	0.0	56.1
	Barrier142; Prop Barrier B6	PT4	1059	18.0	53.9
	Barrier142; Prop Barrier B6	PT6	1061	20.0	53.5
	Barrier142; Prop Barrier B6	PT7	1062	22.0	53.3
	Barrier142; Prop Barrier B6	PT8	1063	24.0	52.7
	Barrier142; Prop Barrier B6	PT2	1057	0.0	52.6
	Barrier142; Prop Barrier B6	point1067	1055	0.0	52.0
	Barrier142; Prop Barrier B6	PT5	1060	20.0	51.2
-5.1	Barrier142; Prop Barrier B6	PT8	1063	24.0	55.7
	Barrier142; Prop Barrier B6	PT9	1064	24.0	55.5
	Barrier142; Prop Barrier B6	PT3	1058	0.0	51.7
	Barrier142; Prop Barrier B6	PT4	1059	18.0	49.2
	Barrier142; Prop Barrier B6	PT7	1062	22.0	49.1
	Barrier142; Prop Barrier B6	PT6	1061	20.0	48.7
	Barrier142; Prop Barrier B6	point1067	1055	0.0	46.6
	Barrier142; Prop Barrier B6	PT5	1060	20.0	46.1
	Barrier142; Prop Barrier B6	PT2	1057	0.0	45.7
	Barrier142; Prop Barrier B6	PT1	1056	0.0	44.3
-5.4	Barrier142; Prop Barrier B6	PT3	1058	0.0	60.5
	Barrier142; Prop Barrier B6	PT2	1057	0.0	57.8
	Barrier142; Prop Barrier B6	PT9	1064	24.0	57.1
	Barrier142; Prop Barrier B6	PT8	1063	24.0	56.8
	Barrier142; Prop Barrier B6	point1067	1055	0.0	55.4
	Barrier142; Prop Barrier B6	PT4	1059	18.0	55.4
	Barrier142; Prop Barrier B6	PT1	1056	0.0	54.0
	Barrier142; Prop Barrier B6	PT6	1061	20.0	51.8
	Barrier142; Prop Barrier B6	PT7	1062	22.0	51.1

**RESULTS: BARRIER DESIGN**

<b>RESULTS: BARRIER DESIGN</b>					<b>BSB</b>				
					Barrier142; Prop Barrier B6	PT5	1060	20.0	50.4
Total Cost, All Barriers (including additional cost(s))					\$759435				

**RESULTS: BARRIER DESIGN**

**BSB**

Palmer Engineering													8 August 2023
ZR													TNM 2.5
													Calculated with TNM 2.5

**RESULTS: BARRIER DESIGN**

<b>PROJECT/CONTRACT:</b>	<b>BSB</b>
<b>RUN:</b>	<b>KY W Barrier B17B 16-20'</b>
<b>BARRIER DESIGN:</b>	<b>16'-20' Optimized</b>

**ATMOSPHERICS:** 68 deg F, 50% RH

**Selected Receivers**

Name	No.	Noise Reduction				Barrier Reviewed	Important Segments			Partial LAeq1h
		Calc LAeq1h	Calc	Goal	Calc-Goal		Name	No.	Height	
		dBA	dB	dB	dB				ft	
R709(K1471)	217	64.3	2.1	7	-4.9	Barrier142; Prop Barrier B6	point1070	1070	0.0	62.0
						Barrier142; Prop Barrier B6	PT11	1066	20.0	53.5
						Barrier142; Prop Barrier B6	PT10	1065	20.0	49.8
						Barrier142; Prop Barrier B6	PT9	1064	18.0	41.1
						Barrier142; Prop Barrier B6	PT7	1062	16.0	40.2
						Barrier142; Prop Barrier B6	PT8	1063	16.0	40.0
						Barrier142; Prop Barrier B6	PT6	1061	16.0	38.9
						Barrier142; Prop Barrier B6	PT4	1059	16.0	35.8
						Barrier142; Prop Barrier B6	PT5	1060	16.0	34.6
						Barrier142; Prop Barrier B6	PT3	1058	0.0	33.8
R710(K64)	218	62.2	2.4	7	-4.6	Barrier142; Prop Barrier B6	point1070	1070	0.0	57.7
						Barrier142; Prop Barrier B6	PT8	1063	16.0	53.0
						Barrier142; Prop Barrier B6	PT7	1062	16.0	51.1
						Barrier142; Prop Barrier B6	PT6	1061	16.0	50.4
						Barrier142; Prop Barrier B6	PT10	1065	20.0	49.9
						Barrier142; Prop Barrier B6	PT11	1066	20.0	49.3
						Barrier142; Prop Barrier B6	PT9	1064	18.0	49.1
						Barrier142; Prop Barrier B6	PT5	1060	16.0	46.0
						Barrier142; Prop Barrier B6	PT4	1059	16.0	44.5
						Barrier142; Prop Barrier B6	point1067	1055	0.0	41.5
R711(K1474)	219	64.1	2.7	7	-4.3	Barrier142; Prop Barrier B6	point1070	1070	0.0	57.6

**RESULTS: BARRIER DESIGN**

R714(K1493)	222	67.9	5.0	7
R715(K1481)	223	64.4	5.0	7
R726(K1487)	234	64.8	6.6	7

**BSB**

	Barrier142; Prop Barrier B6	PT8	1063	16.0	55.7
	Barrier142; Prop Barrier B6	PT7	1062	16.0	53.4
	Barrier142; Prop Barrier B6	PT10	1065	20.0	52.5
	Barrier142; Prop Barrier B6	PT9	1064	18.0	52.3
	Barrier142; Prop Barrier B6	PT6	1061	16.0	52.2
	Barrier142; Prop Barrier B6	PT11	1066	20.0	51.3
	Barrier142; Prop Barrier B6	PT5	1060	16.0	47.3
	Barrier142; Prop Barrier B6	PT4	1059	16.0	46.1
	Barrier142; Prop Barrier B6	PT3	1058	0.0	42.5
-2.0	Barrier142; Prop Barrier B6	point1070	1070	0.0	65.2
	Barrier142; Prop Barrier B6	PT10	1065	20.0	59.0
	Barrier142; Prop Barrier B6	PT11	1066	20.0	57.5
	Barrier142; Prop Barrier B6	PT9	1064	18.0	56.4
	Barrier142; Prop Barrier B6	PT8	1063	16.0	55.3
	Barrier142; Prop Barrier B6	PT7	1062	16.0	48.7
	Barrier142; Prop Barrier B6	PT6	1061	16.0	43.1
	Barrier142; Prop Barrier B6	PT4	1059	16.0	36.7
	Barrier142; Prop Barrier B6	PT5	1060	16.0	35.1
	Barrier142; Prop Barrier B6	PT3	1058	0.0	32.9
-2.0	Barrier142; Prop Barrier B6	PT8	1063	16.0	58.5
	Barrier142; Prop Barrier B6	PT9	1064	18.0	58.4
	Barrier142; Prop Barrier B6	PT7	1062	16.0	54.1
	Barrier142; Prop Barrier B6	PT10	1065	20.0	53.9
	Barrier142; Prop Barrier B6	PT6	1061	16.0	53.5
	Barrier142; Prop Barrier B6	point1070	1070	0.0	51.6
	Barrier142; Prop Barrier B6	PT11	1066	20.0	49.0
	Barrier142; Prop Barrier B6	PT5	1060	16.0	48.7
	Barrier142; Prop Barrier B6	PT4	1059	16.0	46.7
	Barrier142; Prop Barrier B6	PT3	1058	0.0	44.7
-0.4	Barrier142; Prop Barrier B6	PT9	1064	18.0	58.1
	Barrier142; Prop Barrier B6	PT8	1063	16.0	57.7
	Barrier142; Prop Barrier B6	PT10	1065	20.0	56.7
	Barrier142; Prop Barrier B6	PT7	1062	16.0	55.3
	Barrier142; Prop Barrier B6	PT6	1061	16.0	54.9
	Barrier142; Prop Barrier B6	point1070	1070	0.0	52.3
	Barrier142; Prop Barrier B6	PT5	1060	16.0	50.7

**RESULTS: BARRIER DESIGN**

R734(K1201)	242	67.7	7.7	7
R744(K1497)	253	67.8	5.6	7
R755(K1488)	264	68.2	4.7	7
R779(K1195)	289	67.7	4.7	7

**BSB**

	Barrier142; Prop Barrier B6	PT11	1066	20.0	48.7
	Barrier142; Prop Barrier B6	PT4	1059	16.0	48.0
	Barrier142; Prop Barrier B6	PT3	1058	0.0	45.5
0.7	Barrier142; Prop Barrier B6	point1070	1070	0.0	62.6
	Barrier142; Prop Barrier B6	PT10	1065	20.0	61.6
	Barrier142; Prop Barrier B6	PT9	1064	18.0	58.7
	Barrier142; Prop Barrier B6	PT11	1066	20.0	58.3
	Barrier142; Prop Barrier B6	PT8	1063	16.0	56.7
	Barrier142; Prop Barrier B6	PT7	1062	16.0	52.8
	Barrier142; Prop Barrier B6	PT6	1061	16.0	49.5
	Barrier142; Prop Barrier B6	PT5	1060	16.0	44.2
	Barrier142; Prop Barrier B6	PT4	1059	16.0	39.7
	Barrier142; Prop Barrier B6	PT3	1058	0.0	38.2
-1.4	Barrier142; Prop Barrier B6	PT8	1063	16.0	60.3
	Barrier142; Prop Barrier B6	PT9	1064	18.0	59.4
	Barrier142; Prop Barrier B6	PT10	1065	20.0	59.2
	Barrier142; Prop Barrier B6	PT6	1061	16.0	58.4
	Barrier142; Prop Barrier B6	point1070	1070	0.0	58.2
	Barrier142; Prop Barrier B6	PT7	1062	16.0	57.5
	Barrier142; Prop Barrier B6	PT11	1066	20.0	57.4
	Barrier142; Prop Barrier B6	PT5	1060	16.0	52.9
	Barrier142; Prop Barrier B6	PT4	1059	16.0	50.2
	Barrier142; Prop Barrier B6	PT3	1058	0.0	47.3
-2.3	Barrier142; Prop Barrier B6	PT6	1061	16.0	60.6
	Barrier142; Prop Barrier B6	PT8	1063	16.0	60.5
	Barrier142; Prop Barrier B6	PT10	1065	20.0	59.5
	Barrier142; Prop Barrier B6	PT7	1062	16.0	58.7
	Barrier142; Prop Barrier B6	PT9	1064	18.0	58.6
	Barrier142; Prop Barrier B6	point1070	1070	0.0	56.7
	Barrier142; Prop Barrier B6	PT11	1066	20.0	56.2
	Barrier142; Prop Barrier B6	PT5	1060	16.0	56.2
	Barrier142; Prop Barrier B6	PT4	1059	16.0	53.2
	Barrier142; Prop Barrier B6	PT3	1058	0.0	48.4
-2.3	Barrier142; Prop Barrier B6	PT6	1061	16.0	61.2
	Barrier142; Prop Barrier B6	PT10	1065	20.0	59.8
	Barrier142; Prop Barrier B6	PT8	1063	16.0	58.7

**RESULTS: BARRIER DESIGN**

R801(K1205)	315	66.6	3.4	7
M-48(K37)	329	62.1	1.1	7
R822(K1204)	337	66.9	1.0	7

		<b>BSB</b>			
	Barrier142; Prop Barrier B6	PT9	1064	18.0	57.6
	Barrier142; Prop Barrier B6	PT5	1060	16.0	57.4
	Barrier142; Prop Barrier B6	PT7	1062	16.0	57.4
	Barrier142; Prop Barrier B6	PT11	1066	20.0	55.8
	Barrier142; Prop Barrier B6	point1070	1070	0.0	53.1
	Barrier142; Prop Barrier B6	PT4	1059	16.0	52.8
	Barrier142; Prop Barrier B6	PT3	1058	0.0	51.2
-3.6	Barrier142; Prop Barrier B6	PT10	1065	20.0	58.8
	Barrier142; Prop Barrier B6	PT9	1064	18.0	58.3
	Barrier142; Prop Barrier B6	PT8	1063	16.0	57.7
	Barrier142; Prop Barrier B6	PT6	1061	16.0	56.9
	Barrier142; Prop Barrier B6	PT7	1062	16.0	56.4
	Barrier142; Prop Barrier B6	PT3	1058	0.0	56.1
	Barrier142; Prop Barrier B6	PT4	1059	16.0	56.0
	Barrier142; Prop Barrier B6	PT5	1060	16.0	53.1
	Barrier142; Prop Barrier B6	PT2	1057	0.0	52.6
	Barrier142; Prop Barrier B6	point1067	1055	0.0	52.0
-5.9	Barrier142; Prop Barrier B6	PT8	1063	16.0	56.8
	Barrier142; Prop Barrier B6	PT9	1064	18.0	56.6
	Barrier142; Prop Barrier B6	PT3	1058	0.0	51.7
	Barrier142; Prop Barrier B6	PT7	1062	16.0	51.4
	Barrier142; Prop Barrier B6	PT4	1059	16.0	49.8
	Barrier142; Prop Barrier B6	PT6	1061	16.0	48.9
	Barrier142; Prop Barrier B6	point1067	1055	0.0	46.6
	Barrier142; Prop Barrier B6	PT5	1060	16.0	46.6
	Barrier142; Prop Barrier B6	PT2	1057	0.0	45.7
	Barrier142; Prop Barrier B6	PT1	1056	0.0	44.3
-6.0	Barrier142; Prop Barrier B6	PT3	1058	0.0	60.5
	Barrier142; Prop Barrier B6	PT8	1063	16.0	58.5
	Barrier142; Prop Barrier B6	PT9	1064	18.0	57.8
	Barrier142; Prop Barrier B6	PT2	1057	0.0	57.8
	Barrier142; Prop Barrier B6	PT4	1059	16.0	56.7
	Barrier142; Prop Barrier B6	point1067	1055	0.0	55.4
	Barrier142; Prop Barrier B6	PT7	1062	16.0	54.1
	Barrier142; Prop Barrier B6	PT1	1056	0.0	54.0
	Barrier142; Prop Barrier B6	PT6	1061	16.0	52.2

**RESULTS: BARRIER DESIGN**

<b>RESULTS: BARRIER DESIGN</b>					<b>BSB</b>				
					Barrier142; Prop Barrier B6	PT5	1060	16.0	51.0
Total Cost, All Barriers (including additional cost(s))					\$647286				

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

Palmer Engineering													8 August 2023
ZR													TNM 2.5

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**PROJECT/CONTRACT:** BSB  
**RUN:** KY W Barrier B17A 16-20'  
**BARRIER DESIGN:** 16'-20'

Barriers		Segments											
Name	Type	Name	No.	Heights			Length	If Wall				If Berm	Cost
				First Point	Average	Second Point		Area	On Struc?	Important Reflections?	Volume		
				ft	ft	ft	ft	sq ft			cu yd	\$	
Barrier142; Prop Barrier B6	W	point1067	1055	0.00	0.00	0.00	0	0				0	
		PT1	1056	0.00	0.00	0.00	0	0				0	
		PT2	1057	0.00	0.00	0.00	0	0				0	
		PT3	1058	0.00	0.00	0.00	0	0				0	
		PT4	1059	18.00	18.00	18.00	87	1571				50284	
		PT5	1060	20.00	20.00	20.00	56	1118				35777	
		PT6	1061	20.00	20.00	20.00	120	2397				76707	
		PT7	1062	22.00	22.00	22.00	120	2645				84627	
		PT8	1063	24.00	24.00	24.00	129	3088				98810	
		PT9	1064	24.00	24.00	24.00	128	3075				98412	
		PT10	1065	22.00	22.00	22.00	270	5944				190210	
		PT11	1066	18.00	18.00	18.00	216	3894				124609	
		point1070	1070	0.00	0.00	0.00	0	0				0	
1493	W	point593	593	10.00	10.00	10.00	75	750				0	
		point594	594	10.00	10.00	10.00	45	447				0	
		point595	595	10.00	10.00	10.00	43	430				0	
		point596	596	10.00	10.00	10.00	13	127				0	
		point597	597	10.00	10.00	10.00	14	138				0	
		point598	598	10.00	10.00	10.00	13	127				0	
		point599	599	10.00	10.00	10.00	17	170				0	
		point600	600	10.00	10.00	10.00	36	359				0	
		point601	601	10.00	10.00	10.00	5	54				0	
		point602	602	10.00	10.00	10.00	39	385				0	
		point603	603	10.00	10.00	10.00	114	1142				0	



**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

1471	W	point528	528	10.00	10.00	10.00	73	731				0
		point529	529	10.00	10.00	10.00	98	985				0
		point530	530	10.00	10.00	10.00	73	730				0
		point531	531	10.00	10.00	10.00	74	740				0
		point532	532	10.00	10.00	10.00	169	1687				0
1201	W	point64	64	10.00	10.00	10.00	79	794				0
		point65	65	10.00	10.00	10.00	21	206				0
		point66	66	10.00	10.00	10.00	53	526				0
		point67	67	10.00	10.00	10.00	18	177				0
		point68	68	10.00	10.00	10.00	84	837				0
		point69	69	10.00	10.00	10.00	58	584				0
		point70	70	10.00	10.00	10.00	17	168				0
		point71	71	10.00	10.00	10.00	26	257				0
		point72	72	10.00	10.00	10.00	49	490				0
		point73	73	10.00	10.00	10.00	92	918				0

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

Palmer Engineering												8 August 2023
ZR												TNM 2.5

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

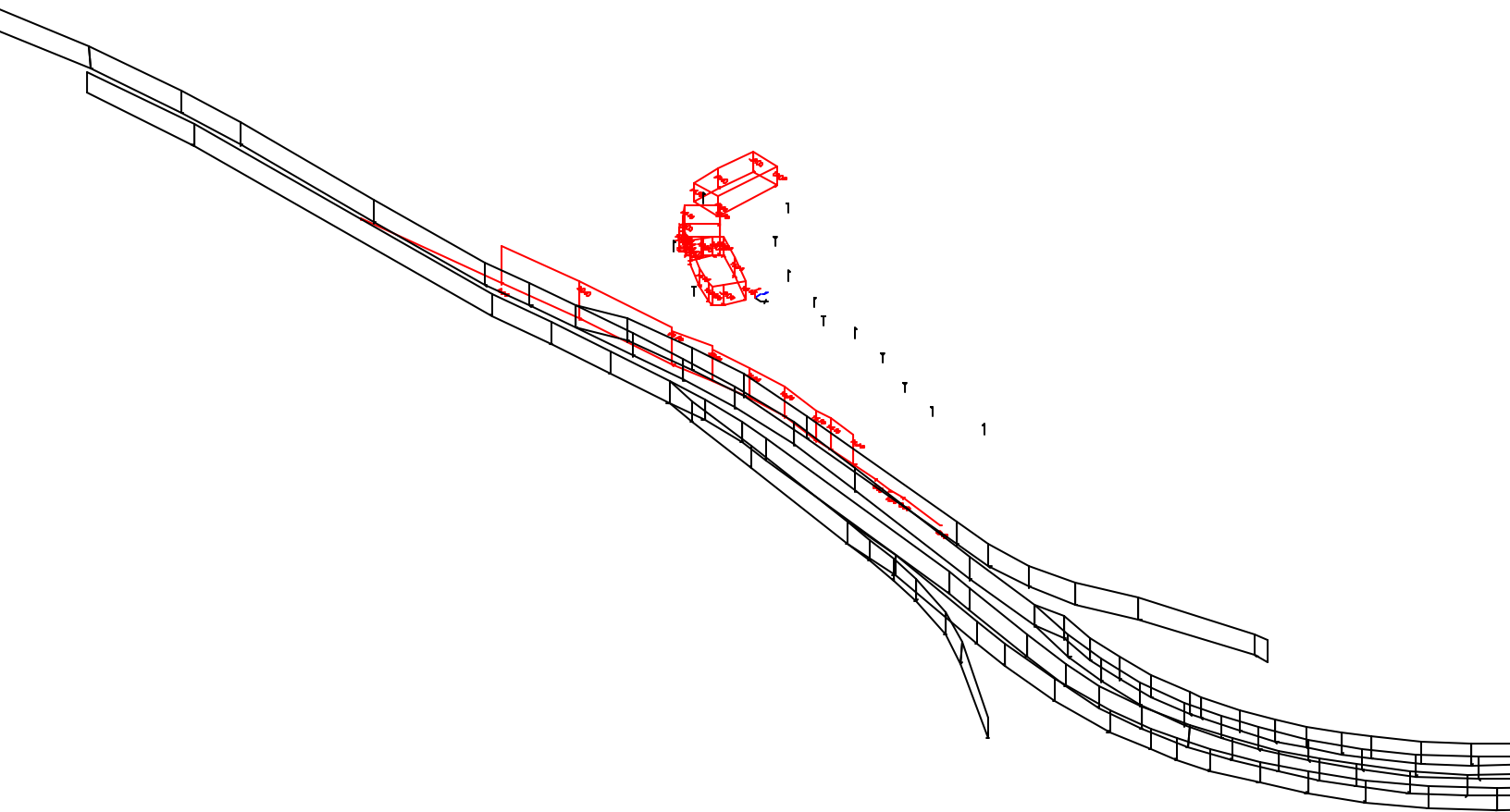
**PROJECT/CONTRACT: BSB**  
**RUN: KY W Barrier B17B 16-20'**  
**BARRIER DESIGN: 16'-20' Optimized**

Barriers		Segments												
Name	Type	Name	No.	Heights			Length	If Wall		On Struc?	Important Reflections?	If Berm Volume	Cost	
				First Point	Average	Second Point		Area	cu yd					\$
				ft	ft	ft		sq ft						
Barrier142; Prop Barrier B6	W	point1067	1055	0.00	0.00	0.00	0	0				0		
		PT1	1056	0.00	0.00	0.00	0	0				0		
		PT2	1057	0.00	0.00	0.00	0	0				0		
		PT3	1058	0.00	0.00	0.00	0	0				0		
		PT4	1059	16.00	16.00	16.00	87	1397				44697		
		PT5	1060	16.00	16.00	16.00	56	894				28622		
		PT6	1061	16.00	16.00	16.00	120	1918				61365		
		PT7	1062	16.00	16.00	16.00	120	1923				61547		
		PT8	1063	16.00	16.00	16.00	129	2059				65873		
		PT9	1064	18.00	18.00	18.00	128	2307				73809		
		PT10	1065	20.00	20.00	20.00	270	5404				172918		
		PT11	1066	20.00	20.00	20.00	216	4327				138455		
		point1070	1070	0.00	0.00	0.00	0	0				0		
1493	W	point593	593	10.00	10.00	10.00	75	750				0		
		point594	594	10.00	10.00	10.00	45	447				0		
		point595	595	10.00	10.00	10.00	43	430				0		
		point596	596	10.00	10.00	10.00	13	127				0		
		point597	597	10.00	10.00	10.00	14	138				0		
		point598	598	10.00	10.00	10.00	13	127				0		
		point599	599	10.00	10.00	10.00	17	170				0		
		point600	600	10.00	10.00	10.00	36	359				0		
		point601	601	10.00	10.00	10.00	5	54				0		
		point602	602	10.00	10.00	10.00	39	385				0		
		point603	603	10.00	10.00	10.00	114	1142				0		

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**






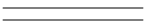


**BSB**

1471	W	point528	528	10.00	10.00	10.00	73	731				0
		point529	529	10.00	10.00	10.00	98	985				0
		point530	530	10.00	10.00	10.00	73	730				0
		point531	531	10.00	10.00	10.00	74	740				0
		point532	532	10.00	10.00	10.00	169	1687				0
1201	W	point64	64	10.00	10.00	10.00	79	794				0
		point65	65	10.00	10.00	10.00	21	206				0
		point66	66	10.00	10.00	10.00	53	526				0
		point67	67	10.00	10.00	10.00	18	177				0
		point68	68	10.00	10.00	10.00	84	837				0
		point69	69	10.00	10.00	10.00	58	584				0
		point70	70	10.00	10.00	10.00	17	168				0
		point71	71	10.00	10.00	10.00	26	257				0
		point72	72	10.00	10.00	10.00	49	490				0
		point73	73	10.00	10.00	10.00	92	918				0



KY W Barrier B17B 16-20'		Sheet 1 of 1	8 Aug 2023
Barrier View-16'-20' Optimized		Palmer Engineering	
Run name: KY W Barrier 17		Project/Contract No. BSB	
Scale: <DNA - due to perspective>		TNM Version 2.5, Feb 2004	
Analysis By: ZR			
Roadway:	—————>	Ground Zone:	polygon
Receiver:	□	Tree Zone:	dashed polygon
Barrier:	┆—————>	Contour Zone:	polygon
Building Row:	— — — — —	Parallel Barrier:	=====
Terrain Line:	—————	Skew Section:	— — — — —>



KY W Barrier B18 20'		Sheet 1 of 1	8 Aug 2023
Plan View		PEC	
Run name: 20-22		Project/Contract No. BSB	
Scale: 		TNM Version 2.5, Feb 2004	
Analysis By: ZR			
Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

**RESULTS: SOUND LEVELS**

**BSB**

<b>PEC</b>									<b>8 August 2023</b>			
<b>ZR</b>									<b>TNM 2.5</b>			
									<b>Calculated with TNM 2.5</b>			
<b>RESULTS: SOUND LEVELS</b>												
<b>PROJECT/CONTRACT:</b>		<b>BSB</b>										
<b>RUN:</b>		<b>KY W Barrier B18 20'</b>										
<b>BARRIER DESIGN:</b>		<b>18-24'</b>										
<b>ATMOSPHERICS:</b>		<b>68 deg F, 50% RH</b>										
		<b>Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.</b>										

<b>Receiver</b>												
<b>Name</b>	<b>No.</b>	<b>#DUs</b>	<b>Existing</b>	<b>No Barrier</b>		<b>Increase over existing</b>		<b>Type Impact</b>	<b>With Barrier</b>			
			<b>LAeq1h</b>	<b>LAeq1h Calculated</b>	<b>Crit'n</b>	<b>Calculated</b>	<b>Crit'n</b>		<b>Sub'l Inc</b>	<b>Calculated LAeq1h</b>	<b>Noise Reduction</b>	
			<b>dBA</b>	<b>dBA</b>	<b>dBA</b>	<b>dB</b>	<b>dB</b>		<b>dBA</b>	<b>dB</b>	<b>dB</b>	<b>dB</b>
R748(K2091)	257	1	78.0	79.4	66	1.4	10	Snd Lvl	70.5	8.9	7	1.9
R749(K1767)	258	1	77.4	78.6	66	1.2	10	Snd Lvl	66.5	12.1	7	5.1
R756(K2109B)	265	1	77.1	78.1	66	1.0	10	Snd Lvl	66.5	11.6	7	4.6
R757(K2105)	266	1	74.7	76.0	66	1.3	10	Snd Lvl	66.6	9.4	7	2.4
R764(KV2092)	273	1	74.5	71.9	66	-2.6	10	Snd Lvl	63.1	8.8	7	1.8
R766(K2085)	275	1	75.2	77.4	66	2.2	10	Snd Lvl	66.3	11.1	7	4.1
R769(K2119)	278	1	72.8	73.3	66	0.5	10	Snd Lvl	65.7	7.6	7	0.6
R771(K2101)	280	1	69.6	70.1	66	0.5	10	Snd Lvl	63.0	7.1	7	0.1
R772(K2109E)	281	1	73.5	70.2	66	-3.3	10	Snd Lvl	61.6	8.6	7	1.6
R776(K2087)	285	1	72.0	74.4	66	2.4	10	Snd Lvl	65.2	9.2	7	2.2
R777(K2106)	286	1	71.0	71.5	66	0.5	10	Snd Lvl	62.6	8.9	7	1.9
R778(K2104)	288	1	71.9	72.4	66	0.5	10	Snd Lvl	62.4	10.0	7	3.0
R783(K1722C)	293	1	70.8	73.0	66	2.2	10	Snd Lvl	66.2	6.8	7	-0.2
R784(K1769)	294	1	69.1	72.1	66	3.0	10	Snd Lvl	62.7	9.4	7	2.4
R785(K2083)	295	1	76.4	78.8	66	2.4	10	Snd Lvl	68.4	10.4	7	3.4
R787(K2122)	299	1	69.7	70.3	66	0.6	10	Snd Lvl	62.8	7.5	7	0.5
R788(K1722B)	300	1	70.0	72.2	66	2.2	10	Snd Lvl	66.6	5.6	7	-1.4
R797(K2124)	311	1	69.8	70.3	66	0.5	10	Snd Lvl	63.0	7.3	7	0.3
R800(K2086)	314	1	72.5	75.4	66	2.9	10	Snd Lvl	65.5	9.9	7	2.9
R808(K2109)	322	1	65.4	61.4	66	-4.0	10	----	55.9	5.5	7	-1.5
R811(K2095)	325	1	67.4	70.6	66	3.2	10	Snd Lvl	61.6	9.0	7	2.0
R813(K2114)	327	1	67.3	68.7	66	1.4	10	Snd Lvl	61.8	6.9	7	-0.1
R814(K2125)	328	1	67.3	67.9	66	0.6	10	Snd Lvl	61.4	6.5	7	-0.5
R819(K2088)	334	1	72.5	75.3	66	2.8	10	Snd Lvl	66.8	8.5	7	1.5

**RESULTS: SOUND LEVELS**

**BSB**

R820(K2138)	335	1	67.5	69.4	66	1.9	10	Snd Lvl	64.0	5.4	7	-1.6
R821(K1722A)	336	1	63.9	65.7	66	1.8	10	----	63.9	1.8	7	-5.2
R823(K1722)	338	1	66.2	68.6	66	2.4	10	Snd Lvl	65.3	3.3	7	-3.7
R824(K2099)	339	1	65.1	68.7	66	3.6	10	Snd Lvl	59.2	9.5	7	2.5
R825(K2127)	340	1	66.9	66.1	66	-0.8	10	Snd Lvl	58.8	7.3	7	0.3
R826(K2144)	341	1	66.8	69.0	66	2.2	10	Snd Lvl	64.6	4.4	7	-2.6
R827(K2109C)	342	1	66.6	64.4	66	-2.2	10	----	57.0	7.4	7	0.4
R828(K1720)	343	1	66.4	68.8	66	2.4	10	Snd Lvl	65.3	3.5	7	-3.5
R838(K2109F)	354	1	65.2	64.8	66	-0.4	10	----	56.5	8.3	7	1.3
R840(K2109A)	356	1	62.2	61.5	66	-0.7	10	----	55.4	6.1	7	-0.9
R841(K30)	357	1	63.9	65.1	66	1.2	10	----	60.8	4.3	7	-2.7
R845(K2103)	361	1	63.7	67.0	66	3.3	10	Snd Lvl	59.9	7.1	7	0.1
R850(K1721)	366	1	64.8	65.9	66	1.1	10	----	61.2	4.7	7	-2.3
R851(K2094)	367	1	72.0	74.9	66	2.9	10	Snd Lvl	67.6	7.3	7	0.3
R852(K2109D)	368	1	61.7	59.4	66	-2.3	10	----	54.1	5.3	7	-1.7
R860(K2097)	376	1	71.6	74.5	66	2.9	10	Snd Lvl	67.3	7.2	7	0.2
R864(K2117)	381	1	62.4	65.4	66	3.0	10	----	59.3	6.1	7	-0.9
R870(K2102)	387	1	70.6	73.5	66	2.9	10	Snd Lvl	66.4	7.1	7	0.1
R871(K2120)	388	1	61.4	64.3	66	2.9	10	----	58.8	5.5	7	-1.5
R872(KV2147)	389	1	61.8	62.2	66	0.4	10	----	54.1	8.1	7	1.1
R873(K2107)	390	1	70.3	73.2	66	2.9	10	Snd Lvl	66.3	6.9	7	-0.1
R876(K2128)	393	1	61.0	63.6	66	2.6	10	----	58.1	5.5	7	-1.5
R878(K2141)	395	1	73.9	76.8	66	2.9	10	Snd Lvl	74.3	2.5	7	-4.5
R879(K2121)	396	1	69.9	72.8	66	2.9	10	Snd Lvl	66.7	6.1	7	-0.9
R881(K2130)	398	1	60.8	62.8	66	2.0	10	----	58.2	4.6	7	-2.4
R885(K2126)	402	1	69.8	72.5	66	2.7	10	Snd Lvl	66.5	6.0	7	-1.0
R887(K2113)	404	1	60.4	62.5	66	2.1	10	----	58.0	4.5	7	-2.5
R890(K2131)	407	1	69.2	72.1	66	2.9	10	Snd Lvl	66.0	6.1	7	-0.9
R891(K2140)	408	1	59.9	61.8	66	1.9	10	----	56.8	5.0	7	-2.0
R894(K2111)	411	1	68.7	71.6	66	2.9	10	Snd Lvl	65.6	6.0	7	-1.0
R896(K2142)	413	1	59.6	61.1	66	1.5	10	----	56.3	4.8	7	-2.2
R897(K2139)	414	1	68.2	71.1	66	2.9	10	Snd Lvl	65.1	6.0	7	-1.0
M-47(K2141)	670	1	60.0	63.4	66	3.4	10	----	58.9	4.5	7	-2.5
Receiver672	672	1	68.9	70.6	66	1.7	10	Snd Lvl	66.5	4.1	7	-2.9
<b>Dwelling Units</b>		<b># DUs</b>	<b>Noise Reduction</b>									
			<b>Min</b>	<b>Avg</b>	<b>Max</b>							
			<b>dB</b>	<b>dB</b>	<b>dB</b>							
All Selected		58	1.8	6.9	12.1							
All Impacted		41	2.5	7.5	12.1							
All that meet NR Goal		28	7.1	8.7	12.1							

**RESULTS: BARRIER DESCRIPTIONS**

**BSB**

PEC										
ZR										

8 August 2023

TNM 2.5

**RESULTS: BARRIER DESCRIPTIONS**

<b>PROJECT/CONTRACT:</b>	<b>BSB</b>
<b>RUN:</b>	<b>KY W Barrier B18 20'</b>
<b>BARRIER DESIGN:</b>	<b>18-24'</b>

Barriers										
Name	Type	Heights along Barrier			Length	If Wall	If Berm	Top	Run:Rise	Cost
		Min	Avg	Max						
		ft	ft	ft	ft	sq ft	cu yd	ft	ft:ft	\$
Barrier143	W	16.00	19.53	24.00	4466	87223				2791144
1722C	W	20.00	20.00	20.00	231	4627				0
1722C	W	20.00	20.00	20.00	5	105				0
1722B	W	20.00	20.00	20.00	237	4744				0
2109F	W	20.00	20.00	20.00	307	6148				0
2109E	W	20.00	20.00	20.00	295	5891				0
2109B	W	20.00	20.00	20.00	256	5114				0
2109C	W	20.00	20.00	20.00	237	4736				0
2144	W	10.00	10.00	10.00	202	2022				0
2141	W	20.00	20.00	20.00	1773	35456				0
2139	W	20.00	20.00	20.00	130	2600				0
2138	W	20.00	20.00	20.00	164	3280				0
2131	W	20.00	20.00	20.00	161	3220				0
2126	W	10.00	10.00	10.00	150	1502				0
2124	W	10.00	10.00	10.00	197	1966				0
2122	W	10.00	10.00	10.00	235	2350				0
2121	W	10.00	10.00	10.00	119	1193				0
2119	W	20.00	20.00	20.00	192	3842				0
2114	W	10.00	10.00	10.00	148	1477				0
2111	W	10.00	10.00	10.00	147	1470				0
2109	W	10.00	10.00	10.00	216	2164				0
2108	W	10.00	10.00	10.00	157	1575				0
2107	W	10.00	10.00	10.00	55	547				0



**RESULTS: BARRIER DESCRIPTIONS**

**BSB**

2106	W	10.00	10.00	10.00	199	1989				0
2105	W	20.00	20.00	20.00	250	4998				0
2104	W	20.00	20.00	20.00	261	5224				0
2102	W	10.00	10.00	10.00	162	1617				0
2101	W	10.00	10.00	10.00	199	1991				0
2099	W	10.00	10.00	10.00	138	1382				0
2097	W	10.00	10.00	10.00	200	2002				0
2095	W	10.00	10.00	10.00	129	1288				0
2094	W	10.00	10.00	10.00	148	1479				0
2091	W	10.00	10.00	10.00	241	2409				0
2088	W	10.00	10.00	10.00	157	1567				0
2087	W	10.00	10.00	10.00	138	1378				0
2086	W	10.00	10.00	10.00	204	2042				0
2085	W	10.00	10.00	10.00	183	1833				0
2083	W	10.00	10.00	10.00	334	3337				0
1769	W	10.00	10.00	10.00	148	1478				0
1767	W	10.00	10.00	10.00	194	1941				0
1754	W	10.00	10.00	10.00	1974	19741				0
1745	W	10.00	10.00	10.00	149	1491				0
1743	W	10.00	10.00	10.00	66	661				0
									Total Cost:	2791144

**RESULTS: BARRIER DESIGN**

**BSB**

PEC																8 August 2023
ZR																TNM 2.5
																Calculated with TNM 2.5

**RESULTS: BARRIER DESIGN**

<b>PROJECT/CONTRACT:</b>	<b>BSB</b>															
<b>RUN:</b>	<b>KY W Barrier B18 20'</b>															
<b>BARRIER DESIGN:</b>	<b>18-24'</b>															

<b>ATMOSPHERICS:</b>	<b>68 deg F, 50% RH</b>															
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<b>Selected Receivers</b>											
Name	No.	Noise Reduction				Barrier Reviewed	Important Segments			Partial	
		Calc LAeq1h	Calc	Goal	Calc-Goal		Name	No.	Height	LAeq1h	
		dBA	dB	dB	dB				ft	dBA	

R748(K2091)	257	70.5	8.9	7	1.9	Barrier143	point1080	1080	24.0	68.9
						Barrier143	point1079	1079	18.0	63.9
						Barrier143	point1078	1078	18.0	56.5
						Barrier143	point1077	1077	16.0	51.0
						Barrier143	point1082	1082	24.0	48.9
						Barrier143	point1084	1084	22.0	45.4
						Barrier143	point1081	1081	24.0	45.0
						Barrier143	point1085	1085	22.0	44.6
						Barrier143	point1083	1083	24.0	42.2
						Barrier143	point1086	1086	20.0	39.3
R749(K1767)	258	66.5	12.1	7	5.1	Barrier143	point1080	1080	24.0	65.8
						Barrier143	point1079	1079	18.0	54.4
						Barrier143	point1078	1078	18.0	51.4
						Barrier143	point1082	1082	24.0	50.8
						Barrier143	point1084	1084	22.0	45.3
						Barrier143	point1083	1083	24.0	43.2
						Barrier143	point1085	1085	22.0	43.2
						Barrier143	point1077	1077	16.0	42.2
						Barrier143	point1081	1081	24.0	39.7
						Barrier143	point1086	1086	20.0	38.9
R756(K2109B)	265	66.5	11.6	7	4.6	Barrier143	point1080	1080	18.0	64.9

**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier143	point1082	1082	22.0	58.6
						Barrier143	point1081	1081	20.0	54.3
						Barrier143	point1085	1085	22.0	50.9
						Barrier143	point1084	1084	22.0	49.3
						Barrier143	point1083	1083	24.0	48.4
						Barrier143	point1086	1086	20.0	47.9
						Barrier143	point1078	1078	18.0	43.9
						Barrier143	point1079	1079	18.0	41.6
						Barrier143	point1087	1087	20.0	40.7
R757(K2105)	266	66.6	9.4	7	2.4	Barrier143	point1078	1078	18.0	63.1
						Barrier143	point1079	1079	18.0	62.0
						Barrier143	point1077	1077	16.0	54.5
						Barrier143	point1080	1080	24.0	47.6
						Barrier143	point1085	1085	22.0	35.5
						Barrier143	point1086	1086	20.0	34.7
						Barrier143	point1082	1082	24.0	32.0
						Barrier143	point1084	1084	22.0	31.7
						Barrier143	point1083	1083	24.0	30.3
						Barrier143	point1087	1087	20.0	29.7
R764(KV2092)	273	63.1	8.8	7	1.8	Barrier143	point1080	1080	18.0	59.1
						Barrier143	point1082	1082	22.0	58.0
						Barrier143	point1081	1081	20.0	55.9
						Barrier143	point1083	1083	24.0	48.2
						Barrier143	point1084	1084	22.0	47.9
						Barrier143	point1086	1086	20.0	44.9
						Barrier143	point1085	1085	22.0	44.7
						Barrier143	point1087	1087	20.0	40.8
						Barrier143	point1078	1078	18.0	35.4
						Barrier143	point1079	1079	18.0	35.3
R766(K2085)	275	66.3	11.1	7	4.1	Barrier143	point1082	1082	22.0	64.8
						Barrier143	point1081	1081	20.0	57.9
						Barrier143	point1083	1083	24.0	54.7
						Barrier143	point1084	1084	22.0	53.2
						Barrier143	point1080	1080	18.0	46.8
						Barrier143	point1085	1085	22.0	46.7
						Barrier143	point1086	1086	20.0	42.8

**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier143	point1078	1078	18.0	36.8
						Barrier143	point1077	1077	16.0	33.8
						Barrier143	point1079	1079	18.0	26.8
R769(K2119)	278	65.7	7.6	7	0.6	Barrier143	point1079	1079	18.0	62.9
						Barrier143	point1078	1078	18.0	61.4
						Barrier143	point1080	1080	18.0	51.1
						Barrier143	point1077	1077	16.0	49.0
						Barrier143	point1085	1085	22.0	36.5
						Barrier143	point1082	1082	22.0	36.1
						Barrier143	point1084	1084	22.0	34.0
						Barrier143	point1087	1087	20.0	33.0
						Barrier143	point1086	1086	20.0	33.0
						Barrier143	point1083	1083	24.0	32.4
R771(K2101)	280	63.0	7.1	7	0.1	Barrier143	point1079	1079	18.0	60.5
						Barrier143	point1078	1078	18.0	56.2
						Barrier143	point1080	1080	18.0	51.0
						Barrier143	point1077	1077	16.0	49.4
						Barrier143	point1087	1087	20.0	43.0
						Barrier143	point1086	1086	20.0	40.0
						Barrier143	point1085	1085	22.0	37.5
						Barrier143	point1082	1082	22.0	35.8
						Barrier143	point1084	1084	22.0	32.4
						Barrier143	point1083	1083	24.0	31.0
R772(K2109E)	281	61.6	8.6	7	1.6	Barrier143	point1080	1080	18.0	57.3
						Barrier143	point1082	1082	22.0	56.1
						Barrier143	point1081	1081	20.0	55.7
						Barrier143	point1083	1083	24.0	46.9
						Barrier143	point1085	1085	22.0	43.3
						Barrier143	point1084	1084	22.0	42.8
						Barrier143	point1086	1086	20.0	40.9
						Barrier143	point1087	1087	20.0	37.7
						Barrier143	point1079	1079	18.0	35.1
						Barrier143	point1078	1078	18.0	34.7
R776(K2087)	285	65.2	9.2	7	2.2	Barrier143	point1082	1082	22.0	63.3
						Barrier143	point1081	1081	20.0	56.5
						Barrier143	point1083	1083	24.0	55.3

**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier143	point1080	1080	18.0	52.2
						Barrier143	point1085	1085	22.0	48.6
						Barrier143	point1086	1086	20.0	47.3
						Barrier143	point1084	1084	22.0	47.2
						Barrier143	point1087	1087	20.0	40.3
						Barrier143	point1078	1078	18.0	34.1
						Barrier143	point1077	1077	16.0	32.7
R777(K2106)	286	62.6	8.9	7	1.9	Barrier143	point1080	1080	18.0	60.5
						Barrier143	point1079	1079	18.0	51.6
						Barrier143	point1078	1078	18.0	51.6
						Barrier143	point1085	1085	22.0	49.5
						Barrier143	point1086	1086	20.0	47.6
						Barrier143	point1082	1082	22.0	46.9
						Barrier143	point1081	1081	20.0	46.5
						Barrier143	point1077	1077	16.0	45.7
						Barrier143	point1084	1084	22.0	44.7
						Barrier143	point1087	1087	20.0	42.3
R778(K2104)	288	62.4	10.0	7	3.0	Barrier143	point1080	1080	18.0	61.0
						Barrier143	point1085	1085	22.0	50.9
						Barrier143	point1082	1082	22.0	49.2
						Barrier143	point1086	1086	20.0	49.0
						Barrier143	point1084	1084	22.0	47.4
						Barrier143	point1083	1083	24.0	45.8
						Barrier143	point1087	1087	20.0	44.0
						Barrier143	point1079	1079	18.0	43.8
						Barrier143	point1077	1077	16.0	42.7
						Barrier143	point1078	1078	18.0	42.4
R783(K1722C)	293	66.2	6.8	7	-0.2	Barrier143	point1078	1078	18.0	59.8
						Barrier143	point1077	1077	16.0	59.3
						Barrier143	point1079	1079	18.0	54.4
						Barrier143	point1080	1080	24.0	38.7
						Barrier143	point1087	1087	20.0	33.8
						Barrier143	point1085	1085	22.0	31.7
						Barrier143	point1082	1082	24.0	31.5
						Barrier143	point1084	1084	22.0	30.5
						Barrier143	point1086	1086	20.0	29.9

**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier143	point1083	1083	24.0	29.2
R784(K1769)	294	62.7	9.4	7	2.4	Barrier143	point1082	1082	22.0	60.9
						Barrier143	point1083	1083	24.0	52.7
						Barrier143	point1085	1085	22.0	51.7
						Barrier143	point1081	1081	20.0	50.5
						Barrier143	point1080	1080	18.0	47.9
						Barrier143	point1084	1084	22.0	46.9
						Barrier143	point1086	1086	20.0	46.5
						Barrier143	point1087	1087	20.0	41.8
						Barrier143	point1077	1077	16.0	34.2
						Barrier143	point1078	1078	18.0	33.7
R785(K2083)	295	68.4	10.4	7	3.4	Barrier143	point1082	1082	22.0	63.1
						Barrier143	point1084	1084	22.0	61.9
						Barrier143	point1083	1083	24.0	61.5
						Barrier143	point1085	1085	22.0	60.5
						Barrier143	point1081	1081	20.0	57.6
						Barrier143	point1080	1080	24.0	48.1
						Barrier143	point1086	1086	20.0	46.7
						Barrier143	point1078	1078	24.0	37.8
						Barrier143	point1077	1077	16.0	34.9
						Barrier143	point1079	1079	24.0	9.1
R787(K2122)	299	62.8	7.5	7	0.5	Barrier143	point1079	1079	18.0	60.2
						Barrier143	point1078	1078	18.0	57.4
						Barrier143	point1080	1080	18.0	52.3
						Barrier143	point1077	1077	16.0	48.3
						Barrier143	point1084	1084	22.0	38.8
						Barrier143	point1082	1082	22.0	37.9
						Barrier143	point1087	1087	20.0	35.8
						Barrier143	point1085	1085	22.0	34.5
						Barrier143	point1083	1083	24.0	34.2
						Barrier143	point1081	1081	20.0	31.8
R788(K1722B)	300	66.6	5.6	7	-1.4	Barrier143	point1077	1077	16.0	59.7
						Barrier143	point1078	1078	18.0	58.5
						Barrier143	point1079	1079	18.0	53.2
						Barrier143	point1080	1080	18.0	36.6
						Barrier143	point1087	1087	20.0	29.8

**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier143	point1085	1085	22.0	28.9
						Barrier143	point1084	1084	22.0	27.4
						Barrier143	point1086	1086	20.0	27.2
						Barrier143	point1082	1082	22.0	27.1
						Barrier143	point1083	1083	24.0	25.7
R797(K2124)	311	63.0	7.3	7	0.3	Barrier143	point1079	1079	18.0	60.4
						Barrier143	point1078	1078	18.0	58.3
						Barrier143	point1080	1080	18.0	51.6
						Barrier143	point1077	1077	16.0	43.7
						Barrier143	point1087	1087	20.0	37.1
						Barrier143	point1082	1082	22.0	36.9
						Barrier143	point1084	1084	22.0	36.9
						Barrier143	point1083	1083	24.0	33.5
						Barrier143	point1085	1085	22.0	31.7
						Barrier143	point1086	1086	20.0	31.0
R800(K2086)	314	65.5	9.9	7	2.9	Barrier143	point1085	1085	22.0	62.3
						Barrier143	point1084	1084	22.0	60.0
						Barrier143	point1083	1083	24.0	55.3
						Barrier143	point1086	1086	20.0	53.7
						Barrier143	point1082	1082	22.0	53.7
						Barrier143	point1080	1080	18.0	44.8
						Barrier143	point1081	1081	20.0	44.6
						Barrier143	point1078	1078	18.0	33.2
						Barrier143	point1077	1077	16.0	32.0
						Barrier143	point1079	1079	18.0	30.6
R808(K2109)	322	55.9	5.5	7	-1.5	Barrier143	point1080	1080	18.0	54.6
						Barrier143	point1085	1085	22.0	42.9
						Barrier143	point1081	1081	20.0	41.6
						Barrier143	point1082	1082	22.0	41.5
						Barrier143	point1086	1086	20.0	41.0
						Barrier143	point1087	1087	20.0	40.7
						Barrier143	point1079	1079	18.0	37.9
						Barrier143	point1078	1078	18.0	37.0
						Barrier143	point1084	1084	22.0	36.5
						Barrier143	point1083	1083	24.0	35.9
R811(K2095)	325	61.6	9.0	7	2.0	Barrier143	point1082	1082	22.0	59.4

**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier143	point1084	1084	22.0	52.9
						Barrier143	point1085	1085	22.0	49.9
						Barrier143	point1081	1081	20.0	48.5
						Barrier143	point1083	1083	24.0	48.0
						Barrier143	point1080	1080	18.0	47.9
						Barrier143	point1086	1086	20.0	46.9
						Barrier143	point1087	1087	20.0	42.4
						Barrier143	point1077	1077	16.0	35.0
						Barrier143	point1078	1078	18.0	33.5
R813(K2114)	327	61.8	6.9	7	-0.1	Barrier143	point1079	1079	18.0	58.4
						Barrier143	point1078	1078	18.0	54.1
						Barrier143	point1077	1077	16.0	52.9
						Barrier143	point1080	1080	18.0	44.6
						Barrier143	point1087	1087	20.0	36.7
						Barrier143	point1085	1085	22.0	35.1
						Barrier143	point1086	1086	20.0	34.1
						Barrier143	point1082	1082	22.0	33.0
						Barrier143	point1083	1083	24.0	30.8
						Barrier143	point1084	1084	22.0	29.3
R814(K2125)	328	61.4	6.5	7	-0.5	Barrier143	point1079	1079	18.0	58.1
						Barrier143	point1078	1078	18.0	55.1
						Barrier143	point1080	1080	18.0	53.4
						Barrier143	point1077	1077	16.0	46.3
						Barrier143	point1087	1087	20.0	40.8
						Barrier143	point1086	1086	20.0	40.2
						Barrier143	point1085	1085	22.0	39.9
						Barrier143	point1082	1082	22.0	37.0
						Barrier143	point1084	1084	22.0	31.9
						Barrier143	point1081	1081	20.0	31.8
R819(K2088)	334	66.8	8.5	7	1.5	Barrier143	point1085	1085	22.0	63.6
						Barrier143	point1084	1084	22.0	61.8
						Barrier143	point1086	1086	20.0	55.6
						Barrier143	point1083	1083	24.0	53.7
						Barrier143	point1082	1082	22.0	52.8
						Barrier143	point1080	1080	18.0	46.5
						Barrier143	point1081	1081	20.0	45.4



**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier143	point1087	1087	20.0	45.0
						Barrier143	point1077	1077	16.0	32.7
						Barrier143	point1078	1078	18.0	32.7
R820(K2138)	335	64.0	5.4	7	-1.6	Barrier143	point1078	1078	18.0	60.6
						Barrier143	point1079	1079	18.0	56.3
						Barrier143	point1077	1077	16.0	55.3
						Barrier143	point1080	1080	18.0	46.1
						Barrier143	point1087	1087	20.0	37.8
						Barrier143	point1085	1085	22.0	36.1
						Barrier143	point1086	1086	20.0	34.7
						Barrier143	point1082	1082	22.0	32.8
						Barrier143	point1083	1083	24.0	30.7
						Barrier143	point1084	1084	22.0	30.4
R821(K1722A)	336	63.9	1.8	7	-5.2	Barrier143	point1077	1077	16.0	55.5
						Barrier143	point1078	1078	18.0	54.0
						Barrier143	point1079	1079	18.0	52.0
						Barrier143	point1080	1080	18.0	41.9
						Barrier143	point1087	1087	20.0	35.5
						Barrier143	point1085	1085	22.0	34.0
						Barrier143	point1086	1086	20.0	33.5
						Barrier143	point1084	1084	22.0	31.5
						Barrier143	point1082	1082	22.0	31.0
						Barrier143	point1083	1083	24.0	28.7
R823(K1722)	338	65.3	3.3	7	-3.7	Barrier143	point1078	1078	18.0	61.8
						Barrier143	point1079	1079	18.0	56.2
						Barrier143	point1077	1077	16.0	56.1
						Barrier143	point1080	1080	18.0	43.4
						Barrier143	point1087	1087	20.0	37.2
						Barrier143	point1085	1085	22.0	36.4
						Barrier143	point1086	1086	20.0	34.3
						Barrier143	point1084	1084	22.0	33.1
						Barrier143	point1082	1082	22.0	31.9
						Barrier143	point1083	1083	24.0	28.6
R824(K2099)	339	59.2	9.5	7	2.5	Barrier143	point1082	1082	22.0	57.0
						Barrier143	point1084	1084	22.0	48.8
						Barrier143	point1085	1085	22.0	48.6

**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier143	point1081	1081	20.0	46.6
						Barrier143	point1080	1080	18.0	46.4
						Barrier143	point1086	1086	20.0	45.2
						Barrier143	point1083	1083	24.0	44.7
						Barrier143	point1087	1087	20.0	43.4
						Barrier143	point1077	1077	16.0	34.6
						Barrier143	point1079	1079	18.0	33.6
R825(K2127)	340	58.8	7.3	7	0.3	Barrier143	point1080	1080	18.0	56.7
						Barrier143	point1085	1085	22.0	47.6
						Barrier143	point1079	1079	18.0	45.6
						Barrier143	point1087	1087	20.0	44.7
						Barrier143	point1086	1086	20.0	44.0
						Barrier143	point1078	1078	18.0	43.0
						Barrier143	point1084	1084	22.0	42.8
						Barrier143	point1077	1077	16.0	40.7
						Barrier143	point1082	1082	22.0	39.1
						Barrier143	point1083	1083	24.0	35.2
R826(K2144)	341	64.6	4.4	7	-2.6	Barrier143	point1078	1078	18.0	62.2
						Barrier143	point1077	1077	16.0	55.9
						Barrier143	point1079	1079	18.0	54.9
						Barrier143	point1080	1080	18.0	45.0
						Barrier143	point1087	1087	20.0	35.5
						Barrier143	point1085	1085	22.0	34.6
						Barrier143	point1086	1086	20.0	33.3
						Barrier143	point1082	1082	22.0	32.4
						Barrier143	point1084	1084	22.0	31.2
						Barrier143	point1083	1083	24.0	30.1
R827(K2109C)	342	57.0	7.4	7	0.4	Barrier143	point1080	1080	18.0	55.3
						Barrier143	point1081	1081	20.0	50.0
						Barrier143	point1082	1082	22.0	45.0
						Barrier143	point1079	1079	18.0	38.2
						Barrier143	point1078	1078	18.0	36.7
						Barrier143	point1077	1077	16.0	36.1
						Barrier143	point1084	1084	22.0	33.2
						Barrier143	point1083	1083	24.0	33.0
						Barrier143	point1085	1085	22.0	31.7

**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier143	point1087	1087	20.0	30.9
R828(K1720)	343	65.3	3.5	7	-3.5	Barrier143	point1078	1078	18.0	62.0
						Barrier143	point1077	1077	16.0	56.6
						Barrier143	point1079	1079	18.0	56.2
						Barrier143	point1080	1080	18.0	43.9
						Barrier143	point1087	1087	20.0	36.9
						Barrier143	point1085	1085	22.0	34.7
						Barrier143	point1086	1086	20.0	34.5
						Barrier143	point1082	1082	22.0	31.9
						Barrier143	point1084	1084	22.0	30.9
						Barrier143	point1083	1083	24.0	28.5
R838(K2109F)	354	56.5	8.3	7	1.3	Barrier143	point1082	1082	22.0	52.2
						Barrier143	point1081	1081	20.0	51.0
						Barrier143	point1080	1080	18.0	49.7
						Barrier143	point1083	1083	24.0	40.8
						Barrier143	point1085	1085	22.0	40.6
						Barrier143	point1087	1087	20.0	40.1
						Barrier143	point1086	1086	20.0	39.3
						Barrier143	point1084	1084	22.0	38.6
						Barrier143	point1079	1079	18.0	38.4
						Barrier143	point1078	1078	18.0	34.6
R840(K2109A)	356	55.4	6.1	7	-0.9	Barrier143	point1080	1080	18.0	51.5
						Barrier143	point1081	1081	20.0	46.8
						Barrier143	point1082	1082	22.0	46.3
						Barrier143	point1078	1078	18.0	43.0
						Barrier143	point1079	1079	18.0	42.9
						Barrier143	point1077	1077	16.0	41.6
						Barrier143	point1087	1087	20.0	40.6
						Barrier143	point1085	1085	22.0	40.3
						Barrier143	point1086	1086	20.0	39.3
						Barrier143	point1084	1084	22.0	38.3
R841(K30)	357	60.8	4.3	7	-2.7	Barrier143	point1079	1079	18.0	57.5
						Barrier143	point1078	1078	18.0	56.4
						Barrier143	point1077	1077	16.0	49.5
						Barrier143	point1080	1080	18.0	46.7
						Barrier143	point1087	1087	20.0	41.5

**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier143	point1085	1085	22.0	39.3
						Barrier143	point1086	1086	20.0	36.9
						Barrier143	point1084	1084	22.0	35.5
						Barrier143	point1082	1082	22.0	32.5
						Barrier143	point1083	1083	24.0	31.3
R845(K2103)	361	59.9	7.1	7	0.1	Barrier143	point1082	1082	22.0	54.9
						Barrier143	point1085	1085	22.0	53.9
						Barrier143	point1084	1084	22.0	51.1
						Barrier143	point1080	1080	18.0	49.3
						Barrier143	point1081	1081	20.0	47.4
						Barrier143	point1087	1087	20.0	46.7
						Barrier143	point1086	1086	20.0	46.4
						Barrier143	point1083	1083	24.0	46.3
						Barrier143	point1079	1079	18.0	35.1
						Barrier143	point1078	1078	18.0	33.7
R850(K1721)	366	61.2	4.7	7	-2.3	Barrier143	point1079	1079	18.0	57.2
						Barrier143	point1078	1078	18.0	56.1
						Barrier143	point1077	1077	16.0	52.7
						Barrier143	point1080	1080	18.0	46.1
						Barrier143	point1087	1087	20.0	41.1
						Barrier143	point1086	1086	20.0	37.2
						Barrier143	point1085	1085	22.0	36.2
						Barrier143	point1084	1084	22.0	34.0
						Barrier143	point1082	1082	22.0	32.4
						Barrier143	point1083	1083	24.0	31.2
R851(K2094)	367	67.6	7.3	7	0.3	Barrier143	point1085	1085	22.0	64.7
						Barrier143	point1084	1084	22.0	62.8
						Barrier143	point1086	1086	20.0	56.9
						Barrier143	point1082	1082	22.0	51.7
						Barrier143	point1083	1083	24.0	51.7
						Barrier143	point1087	1087	20.0	47.7
						Barrier143	point1080	1080	18.0	46.0
						Barrier143	point1081	1081	20.0	45.7
						Barrier143	point1077	1077	16.0	33.7
						Barrier143	point1078	1078	18.0	32.3
R852(K2109D)	368	54.1	5.3	7	-1.7	Barrier143	point1080	1080	18.0	51.0

**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier143	point1087	1087	20.0	43.1
						Barrier143	point1085	1085	22.0	41.6
						Barrier143	point1082	1082	22.0	41.2
						Barrier143	point1079	1079	18.0	40.7
						Barrier143	point1086	1086	20.0	40.7
						Barrier143	point1078	1078	18.0	40.0
						Barrier143	point1083	1083	24.0	39.9
						Barrier143	point1077	1077	16.0	38.9
						Barrier143	point1084	1084	22.0	38.0
R860(K2097)	376	67.3	7.2	7	0.2	Barrier143	point1085	1085	22.0	65.4
						Barrier143	point1084	1084	22.0	60.5
						Barrier143	point1086	1086	20.0	56.4
						Barrier143	point1082	1082	22.0	50.4
						Barrier143	point1087	1087	20.0	49.8
						Barrier143	point1083	1083	24.0	49.5
						Barrier143	point1081	1081	20.0	44.6
						Barrier143	point1080	1080	18.0	44.3
						Barrier143	point1077	1077	16.0	33.5
						Barrier143	point1078	1078	18.0	32.2
R864(K2117)	381	59.3	6.1	7	-0.9	Barrier143	point1085	1085	22.0	54.2
						Barrier143	point1082	1082	22.0	53.1
						Barrier143	point1086	1086	20.0	50.2
						Barrier143	point1084	1084	22.0	49.6
						Barrier143	point1080	1080	18.0	47.8
						Barrier143	point1087	1087	20.0	47.1
						Barrier143	point1081	1081	20.0	46.1
						Barrier143	point1083	1083	24.0	43.8
						Barrier143	point1079	1079	18.0	36.0
						Barrier143	point1078	1078	18.0	34.3
R870(K2102)	387	66.4	7.1	7	0.1	Barrier143	point1085	1085	22.0	64.9
						Barrier143	point1084	1084	22.0	57.2
						Barrier143	point1086	1086	20.0	56.5
						Barrier143	point1087	1087	20.0	51.7
						Barrier143	point1083	1083	24.0	47.1
						Barrier143	point1082	1082	22.0	45.3
						Barrier143	point1080	1080	18.0	43.0

**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier143	point1081	1081	20.0	42.9
						Barrier143	point1077	1077	16.0	32.9
						Barrier143	point1079	1079	18.0	32.6
R871(K2120)	388	58.8	5.5	7	-1.5	Barrier143	point1085	1085	22.0	55.3
						Barrier143	point1082	1082	22.0	51.6
						Barrier143	point1084	1084	22.0	49.4
						Barrier143	point1080	1080	18.0	46.9
						Barrier143	point1087	1087	20.0	46.8
						Barrier143	point1086	1086	20.0	46.4
						Barrier143	point1081	1081	20.0	44.0
						Barrier143	point1083	1083	24.0	41.6
						Barrier143	point1079	1079	18.0	35.0
						Barrier143	point1078	1078	18.0	33.7
R872(KV2147)	389	54.1	8.1	7	1.1	Barrier143	point1082	1082	22.0	49.3
						Barrier143	point1081	1081	20.0	47.7
						Barrier143	point1080	1080	18.0	44.9
						Barrier143	point1087	1087	20.0	41.7
						Barrier143	point1083	1083	24.0	40.2
						Barrier143	point1085	1085	22.0	39.6
						Barrier143	point1086	1086	20.0	38.9
						Barrier143	point1078	1078	18.0	37.2
						Barrier143	point1077	1077	16.0	36.8
						Barrier143	point1084	1084	22.0	36.5
R873(K2107)	390	66.3	6.9	7	-0.1	Barrier143	point1085	1085	22.0	64.9
						Barrier143	point1086	1086	20.0	56.5
						Barrier143	point1084	1084	22.0	56.5
						Barrier143	point1087	1087	20.0	52.2
						Barrier143	point1082	1082	22.0	46.2
						Barrier143	point1083	1083	24.0	45.9
						Barrier143	point1080	1080	18.0	44.0
						Barrier143	point1081	1081	20.0	43.6
						Barrier143	point1079	1079	18.0	32.7
						Barrier143	point1077	1077	16.0	32.4
R876(K2128)	393	58.1	5.5	7	-1.5	Barrier143	point1085	1085	22.0	54.8
						Barrier143	point1082	1082	22.0	50.6
						Barrier143	point1087	1087	20.0	49.4

**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier143	point1080	1080	18.0	46.4
						Barrier143	point1086	1086	20.0	44.6
						Barrier143	point1084	1084	22.0	44.5
						Barrier143	point1081	1081	20.0	43.7
						Barrier143	point1083	1083	24.0	40.3
						Barrier143	point1079	1079	18.0	34.2
						Barrier143	point1078	1078	18.0	32.9
R878(K2141)	395	74.3	2.5	7	-4.5	Barrier143	point1086	1086	20.0	71.5
						Barrier143	point1085	1085	22.0	70.3
						Barrier143	point1087	1087	20.0	61.1
						Barrier143	point1084	1084	22.0	53.4
						Barrier143	point1082	1082	22.0	51.0
						Barrier143	point1080	1080	18.0	46.7
						Barrier143	point1081	1081	20.0	46.5
						Barrier143	point1083	1083	24.0	43.1
						Barrier143	point1079	1079	18.0	27.7
						Barrier143	point1078	1078	18.0	27.2
R879(K2121)	396	66.7	6.1	7	-0.9	Barrier143	point1085	1085	22.0	65.0
						Barrier143	point1086	1086	20.0	57.8
						Barrier143	point1084	1084	22.0	56.8
						Barrier143	point1087	1087	20.0	53.4
						Barrier143	point1080	1080	18.0	46.9
						Barrier143	point1082	1082	22.0	46.2
						Barrier143	point1081	1081	20.0	45.7
						Barrier143	point1083	1083	24.0	43.1
						Barrier143	point1079	1079	18.0	35.1
						Barrier143	point1078	1078	18.0	33.4
R881(K2130)	398	58.2	4.6	7	-2.4	Barrier143	point1085	1085	22.0	53.7
						Barrier143	point1086	1086	20.0	52.7
						Barrier143	point1082	1082	22.0	49.6
						Barrier143	point1087	1087	20.0	46.4
						Barrier143	point1080	1080	18.0	46.2
						Barrier143	point1084	1084	22.0	43.9
						Barrier143	point1081	1081	20.0	43.0
						Barrier143	point1083	1083	24.0	39.1
						Barrier143	point1079	1079	18.0	33.6

**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier143	point1077	1077	16.0	32.3
R885(K2126)	402	66.5	6.0	7	-1.0	Barrier143	point1085	1085	22.0	64.8
						Barrier143	point1086	1086	20.0	57.6
						Barrier143	point1084	1084	22.0	56.2
						Barrier143	point1087	1087	20.0	54.1
						Barrier143	point1082	1082	22.0	50.8
						Barrier143	point1081	1081	20.0	48.0
						Barrier143	point1080	1080	18.0	47.0
						Barrier143	point1083	1083	24.0	42.6
						Barrier143	point1079	1079	18.0	34.5
						Barrier143	point1078	1078	18.0	32.7
R887(K2113)	404	58.0	4.5	7	-2.5	Barrier143	point1085	1085	22.0	55.2
						Barrier143	point1086	1086	20.0	49.4
						Barrier143	point1082	1082	22.0	48.8
						Barrier143	point1080	1080	18.0	45.9
						Barrier143	point1087	1087	20.0	45.0
						Barrier143	point1081	1081	20.0	43.6
						Barrier143	point1084	1084	22.0	43.3
						Barrier143	point1083	1083	24.0	38.6
						Barrier143	point1079	1079	18.0	33.5
						Barrier143	point1077	1077	16.0	32.5
R890(K2131)	407	66.0	6.1	7	-0.9	Barrier143	point1085	1085	22.0	64.3
						Barrier143	point1086	1086	20.0	57.8
						Barrier143	point1084	1084	22.0	54.5
						Barrier143	point1087	1087	20.0	54.3
						Barrier143	point1082	1082	22.0	47.5
						Barrier143	point1080	1080	18.0	44.7
						Barrier143	point1081	1081	20.0	44.2
						Barrier143	point1083	1083	24.0	41.2
						Barrier143	point1079	1079	18.0	33.5
						Barrier143	point1078	1078	18.0	32.5
R891(K2140)	408	56.8	5.0	7	-2.0	Barrier143	point1085	1085	22.0	54.1
						Barrier143	point1082	1082	22.0	48.0
						Barrier143	point1086	1086	20.0	46.5
						Barrier143	point1080	1080	18.0	45.5
						Barrier143	point1087	1087	20.0	43.4



**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier143	point1081	1081	20.0	43.4
						Barrier143	point1084	1084	22.0	42.5
						Barrier143	point1083	1083	24.0	37.7
						Barrier143	point1077	1077	16.0	33.0
						Barrier143	point1079	1079	18.0	32.8
R894(K2111)	411	65.6	6.0	7	-1.0	Barrier143	point1085	1085	22.0	63.8
						Barrier143	point1086	1086	20.0	57.7
						Barrier143	point1084	1084	22.0	55.4
						Barrier143	point1087	1087	20.0	54.4
						Barrier143	point1082	1082	22.0	43.0
						Barrier143	point1083	1083	24.0	39.8
						Barrier143	point1080	1080	18.0	39.1
						Barrier143	point1081	1081	20.0	37.2
						Barrier143	point1088	1088	20.0	33.4
						Barrier143	point1079	1079	18.0	31.9
R896(K2142)	413	56.3	4.8	7	-2.2	Barrier143	point1085	1085	22.0	53.2
						Barrier143	point1082	1082	22.0	46.9
						Barrier143	point1087	1087	20.0	46.0
						Barrier143	point1080	1080	18.0	45.1
						Barrier143	point1086	1086	20.0	45.1
						Barrier143	point1081	1081	20.0	43.7
						Barrier143	point1084	1084	22.0	41.9
						Barrier143	point1083	1083	24.0	36.9
						Barrier143	point1088	1088	20.0	33.3
						Barrier143	point1077	1077	16.0	32.8
R897(K2139)	414	65.1	6.0	7	-1.0	Barrier143	point1085	1085	22.0	63.1
						Barrier143	point1086	1086	20.0	57.4
						Barrier143	point1084	1084	22.0	54.4
						Barrier143	point1087	1087	20.0	54.3
						Barrier143	point1088	1088	20.0	42.4
						Barrier143	point1080	1080	18.0	42.3
						Barrier143	point1082	1082	22.0	41.2
						Barrier143	point1081	1081	20.0	39.4
						Barrier143	point1083	1083	24.0	38.5
						Barrier143	point1079	1079	18.0	34.7
M-47(K2141)	670	58.9	4.5	7	-2.5	Barrier143	point1088	1088	20.0	54.3

**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier143	point1087	1087	20.0	52.2
						Barrier143	point1086	1086	20.0	51.1
						Barrier143	point1085	1085	22.0	50.0
						Barrier143	point1084	1084	22.0	38.9
						Barrier143	point1080	1080	18.0	38.3
						Barrier143	point1082	1082	22.0	37.1
						Barrier143	point1081	1081	20.0	35.7
						Barrier143	point1077	1077	16.0	30.3
						Barrier143	point1079	1079	18.0	29.8
Receiver672	672	66.5	4.1	7	-2.9	Barrier143	point1085	1085	22.0	64.0
						Barrier143	point1086	1086	20.0	60.7
						Barrier143	point1087	1087	20.0	55.9
						Barrier143	point1084	1084	22.0	53.1
						Barrier143	point1082	1082	22.0	47.4
						Barrier143	point1081	1081	20.0	46.6
						Barrier143	point1088	1088	20.0	45.5
						Barrier143	point1080	1080	18.0	44.4
						Barrier143	point1083	1083	24.0	37.5
						Barrier143	point1077	1077	16.0	31.6



RESULTS: BARRIER-SEGMENT DESCRIPTIONS

BSB

PEC												8 August 2023
ZR												TNM 2.5

RESULTS: BARRIER-SEGMENT DESCRIPTIONS

PROJECT/CONTRACT: BSB  
 RUN: KY W Barrier B18 20'  
 BARRIER DESIGN: 18-24'

Barriers		Segments											
Name	Type	Name	No.	Heights	Average	Second Point	Length	If Wall	Area	On Struc?	Important Reflections?	If Berm Volume	Cost
				First Point	ft	ft	ft	ft	sq ft			cu yd	\$
Barrier143	W	point1077	1077	16.00	16.00	16.00	368	5885					188318
		point1078	1078	18.00	18.00	18.00	368	6615					211695
		point1079	1079	18.00	18.00	18.00	456	8214					262863
		point1080	1080	18.00	18.00	18.00	887	15958					510647
		point1081	1081	20.00	20.00	20.00	212	4234					135475
		point1082	1082	22.00	22.00	22.00	400	8791					281323
		point1083	1083	24.00	24.00	24.00	195	4686					149938
		point1084	1084	22.00	22.00	22.00	238	5244					167821
		point1085	1085	22.00	22.00	22.00	370	8130					260145
		point1086	1086	20.00	20.00	20.00	209	4182					133820
1722C	W	point1038	1038	20.00	20.00	20.00	55	1099					0
		point1039	1039	20.00	20.00	20.00	62	1231					0
		point1040	1040	20.00	20.00	20.00	52	1038					0
		point1041	1041	20.00	20.00	20.00	37	747					0
		point1042	1042	20.00	20.00	20.00	26	511					0
1722C	W	point1034	1034	20.00	20.00	20.00	2	41					0
		point1035	1035	20.00	20.00	20.00	2	50					0
		point1036	1036	20.00	20.00	20.00	1	14					0
1722B	W	point1029	1029	20.00	20.00	20.00	55	1101					0
		point1030	1030	20.00	20.00	20.00	62	1249					0
		point1031	1031	20.00	20.00	20.00	52	1037					0

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

		point1032	1032	20.00	20.00	20.00	68	1357				0
2109F	W	point1020	1020	20.00	20.00	20.00	58	1168				0
		point1021	1021	20.00	20.00	20.00	45	891				0
		point1022	1022	20.00	20.00	20.00	48	950				0
		point1023	1023	20.00	20.00	20.00	27	539				0
		point1024	1024	20.00	20.00	20.00	24	474				0
		point1025	1025	20.00	20.00	20.00	42	835				0
		point1026	1026	20.00	20.00	20.00	24	488				0
		point1027	1027	20.00	20.00	20.00	40	803				0
2109E	W	point1014	1014	20.00	20.00	20.00	104	2075				0
		point1015	1015	20.00	20.00	20.00	23	451				0
		point1016	1016	20.00	20.00	20.00	27	533				0
		point1017	1017	20.00	20.00	20.00	92	1841				0
		point1018	1018	20.00	20.00	20.00	50	991				0
2109B	W	point1008	1008	20.00	20.00	20.00	46	924				0
		point1009	1009	20.00	20.00	20.00	84	1670				0
		point1010	1010	20.00	20.00	20.00	36	726				0
		point1011	1011	20.00	20.00	20.00	27	541				0
		point1012	1012	20.00	20.00	20.00	63	1252				0
2109C	W	point1003	1003	20.00	20.00	20.00	46	926				0
		point1004	1004	20.00	20.00	20.00	69	1387				0
		point1005	1005	20.00	20.00	20.00	43	868				0
		point1006	1006	20.00	20.00	20.00	78	1554				0
2144	W	point997	997	10.00	10.00	10.00	39	388				0
		point998	998	10.00	10.00	10.00	39	388				0
		point999	999	10.00	10.00	10.00	63	626				0
		point1000	1000	10.00	10.00	10.00	38	381				0
		point1001	1001	10.00	10.00	10.00	24	240				0
2141	W	point974	974	20.00	20.00	20.00	130	2608				0
		point975	975	20.00	20.00	20.00	105	2108				0
		point976	976	20.00	20.00	20.00	23	461				0
		point977	977	20.00	20.00	20.00	25	495				0
		point978	978	20.00	20.00	20.00	32	631				0

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

		point979	979	20.00	20.00	20.00	51	1021				0
		point980	980	20.00	20.00	20.00	44	872				0
		point981	981	20.00	20.00	20.00	213	4257				0
		point982	982	20.00	20.00	20.00	30	603				0
		point983	983	20.00	20.00	20.00	77	1535				0
		point984	984	20.00	20.00	20.00	53	1058				0
		point985	985	20.00	20.00	20.00	65	1306				0
		point986	986	20.00	20.00	20.00	38	752				0
		point987	987	20.00	20.00	20.00	120	2408				0
		point988	988	20.00	20.00	20.00	37	734				0
		point989	989	20.00	20.00	20.00	103	2060				0
		point990	990	20.00	20.00	20.00	126	2517				0
		point991	991	20.00	20.00	20.00	19	381				0
		point992	992	20.00	20.00	20.00	237	4731				0
		point993	993	20.00	20.00	20.00	77	1550				0
		point994	994	20.00	20.00	20.00	39	784				0
		point995	995	20.00	20.00	20.00	129	2585				0
2139	W	point967	967	20.00	20.00	20.00	34	682				0
		point968	968	20.00	20.00	20.00	33	651				0
		point969	969	20.00	20.00	20.00	16	322				0
		point970	970	20.00	20.00	20.00	6	128				0
		point971	971	20.00	20.00	20.00	14	284				0
		point972	972	20.00	20.00	20.00	27	533				0
2138	W	point962	962	20.00	20.00	20.00	51	1022				0
		point963	963	20.00	20.00	20.00	30	604				0
		point964	964	20.00	20.00	20.00	52	1039				0
		point965	965	20.00	20.00	20.00	31	614				0
2131	W	point955	955	20.00	20.00	20.00	32	631				0
		point956	956	20.00	20.00	20.00	41	817				0
		point957	957	20.00	20.00	20.00	17	341				0
		point958	958	20.00	20.00	20.00	8	156				0
		point959	959	20.00	20.00	20.00	15	305				0
		point960	960	20.00	20.00	20.00	49	971				0
2126	W	point948	948	10.00	10.00	10.00	15	152				0
		point949	949	10.00	10.00	10.00	39	394				0

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

		point950	950	10.00	10.00	10.00	36	361				0
		point951	951	10.00	10.00	10.00	28	284				0
		point952	952	10.00	10.00	10.00	21	205				0
		point953	953	10.00	10.00	10.00	11	106				0
2124	W	point941	941	10.00	10.00	10.00	7	70				0
		point942	942	10.00	10.00	10.00	37	365				0
		point943	943	10.00	10.00	10.00	33	330				0
		point944	944	10.00	10.00	10.00	60	595				0
		point945	945	10.00	10.00	10.00	39	390				0
		point946	946	10.00	10.00	10.00	22	215				0
2122	W	point928	928	10.00	10.00	10.00	21	211				0
		point929	929	10.00	10.00	10.00	13	130				0
		point930	930	10.00	10.00	10.00	16	157				0
		point931	931	10.00	10.00	10.00	42	425				0
		point932	932	10.00	10.00	10.00	14	144				0
		point933	933	10.00	10.00	10.00	12	120				0
		point934	934	10.00	10.00	10.00	12	124				0
		point935	935	10.00	10.00	10.00	11	111				0
		point936	936	10.00	10.00	10.00	19	186				0
		point937	937	10.00	10.00	10.00	48	477				0
		point938	938	10.00	10.00	10.00	18	176				0
		point939	939	10.00	10.00	10.00	9	90				0
2121	W	point923	923	10.00	10.00	10.00	31	308				0
		point924	924	10.00	10.00	10.00	25	255				0
		point925	925	10.00	10.00	10.00	31	311				0
		point926	926	10.00	10.00	10.00	32	319				0
2119	W	point916	916	20.00	20.00	20.00	40	808				0
		point917	917	20.00	20.00	20.00	20	408				0
		point918	918	20.00	20.00	20.00	8	155				0
		point919	919	20.00	20.00	20.00	34	671				0
		point920	920	20.00	20.00	20.00	34	680				0
		point921	921	20.00	20.00	20.00	56	1120				0
2114	W	point909	909	10.00	10.00	10.00	6	63				0
		point910	910	10.00	10.00	10.00	8	83				0

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

		point911	911	10.00	10.00	10.00	28	283				0
		point912	912	10.00	10.00	10.00	39	392				0
		point913	913	10.00	10.00	10.00	36	358				0
		point914	914	10.00	10.00	10.00	30	298				0
2111	W	point900	900	10.00	10.00	10.00	13	132				0
		point901	901	10.00	10.00	10.00	13	131				0
		point902	902	10.00	10.00	10.00	21	213				0
		point903	903	10.00	10.00	10.00	38	376				0
		point904	904	10.00	10.00	10.00	12	124				0
		point905	905	10.00	10.00	10.00	4	39				0
		point906	906	10.00	10.00	10.00	22	224				0
		point907	907	10.00	10.00	10.00	23	230				0
2109	W	point894	894	10.00	10.00	10.00	61	615				0
		point895	895	10.00	10.00	10.00	45	452				0
		point896	896	10.00	10.00	10.00	33	326				0
		point897	897	10.00	10.00	10.00	52	520				0
		point898	898	10.00	10.00	10.00	25	251				0
2108	W	point886	886	10.00	10.00	10.00	13	131				0
		point887	887	10.00	10.00	10.00	43	432				0
		point888	888	10.00	10.00	10.00	27	270				0
		point889	889	10.00	10.00	10.00	10	96				0
		point890	890	10.00	10.00	10.00	8	81				0
		point891	891	10.00	10.00	10.00	34	340				0
		point892	892	10.00	10.00	10.00	22	224				0
2107	W	point881	881	10.00	10.00	10.00	14	142				0
		point882	882	10.00	10.00	10.00	13	128				0
		point883	883	10.00	10.00	10.00	15	149				0
		point884	884	10.00	10.00	10.00	13	127				0
2106	W	point876	876	10.00	10.00	10.00	70	697				0
		point877	877	10.00	10.00	10.00	28	277				0
		point878	878	10.00	10.00	10.00	69	690				0
		point879	879	10.00	10.00	10.00	33	326				0
2105	W	point867	867	20.00	20.00	20.00	30	600				0



**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

		point868	868	20.00	20.00	20.00	50	990				0
		point869	869	20.00	20.00	20.00	17	334				0
		point870	870	20.00	20.00	20.00	27	536				0
		point871	871	20.00	20.00	20.00	43	867				0
		point872	872	20.00	20.00	20.00	36	715				0
		point873	873	20.00	20.00	20.00	8	153				0
		point874	874	20.00	20.00	20.00	40	803				0
2104	W	point859	859	20.00	20.00	20.00	27	547				0
		point860	860	20.00	20.00	20.00	7	140				0
		point861	861	20.00	20.00	20.00	32	641				0
		point862	862	20.00	20.00	20.00	40	792				0
		point863	863	20.00	20.00	20.00	82	1642				0
		point864	864	20.00	20.00	20.00	50	1002				0
		point865	865	20.00	20.00	20.00	23	460				0
2102	W	point852	852	10.00	10.00	10.00	34	344				0
		point853	853	10.00	10.00	10.00	46	460				0
		point854	854	10.00	10.00	10.00	21	206				0
		point855	855	10.00	10.00	10.00	8	78				0
		point856	856	10.00	10.00	10.00	14	135				0
		point857	857	10.00	10.00	10.00	39	394				0
2101	W	point845	845	10.00	10.00	10.00	4	38				0
		point846	846	10.00	10.00	10.00	20	205				0
		point847	847	10.00	10.00	10.00	36	355				0
		point848	848	10.00	10.00	10.00	62	620				0
		point849	849	10.00	10.00	10.00	36	360				0
		point850	850	10.00	10.00	10.00	41	413				0
2099	W	point838	838	10.00	10.00	10.00	32	324				0
		point839	839	10.00	10.00	10.00	34	342				0
		point840	840	10.00	10.00	10.00	33	331				0
		point841	841	10.00	10.00	10.00	21	206				0
		point842	842	10.00	10.00	10.00	4	39				0
		point843	843	10.00	10.00	10.00	14	140				0
2097	W	point827	827	10.00	10.00	10.00	50	502				0
		point828	828	10.00	10.00	10.00	23	233				0

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

		point829	829	10.00	10.00	10.00	23	226				0
		point830	830	10.00	10.00	10.00	18	180				0
		point831	831	10.00	10.00	10.00	29	290				0
		point832	832	10.00	10.00	10.00	13	131				0
		point833	833	10.00	10.00	10.00	7	67				0
		point834	834	10.00	10.00	10.00	16	156				0
		point835	835	10.00	10.00	10.00	7	71				0
		point836	836	10.00	10.00	10.00	15	145				0
2095	W	point819	819	10.00	10.00	10.00	6	64				0
		point820	820	10.00	10.00	10.00	32	316				0
		point821	821	10.00	10.00	10.00	22	222				0
		point822	822	10.00	10.00	10.00	6	64				0
		point823	823	10.00	10.00	10.00	9	86				0
		point824	824	10.00	10.00	10.00	30	295				0
		point825	825	10.00	10.00	10.00	24	241				0
2094	W	point814	814	10.00	10.00	10.00	39	393				0
		point815	815	10.00	10.00	10.00	34	343				0
		point816	816	10.00	10.00	10.00	41	407				0
		point817	817	10.00	10.00	10.00	34	336				0
2091	W	point807	807	10.00	10.00	10.00	37	373				0
		point808	808	10.00	10.00	10.00	33	327				0
		point809	809	10.00	10.00	10.00	20	204				0
		point810	810	10.00	10.00	10.00	31	307				0
		point811	811	10.00	10.00	10.00	63	629				0
		point812	812	10.00	10.00	10.00	57	569				0
2088	W	point800	800	10.00	10.00	10.00	38	378				0
		point801	801	10.00	10.00	10.00	41	406				0
		point802	802	10.00	10.00	10.00	25	252				0
		point803	803	10.00	10.00	10.00	9	89				0
		point804	804	10.00	10.00	10.00	12	118				0
		point805	805	10.00	10.00	10.00	32	323				0
2087	W	point792	792	10.00	10.00	10.00	12	117				0
		point793	793	10.00	10.00	10.00	24	241				0
		point794	794	10.00	10.00	10.00	37	366				0

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

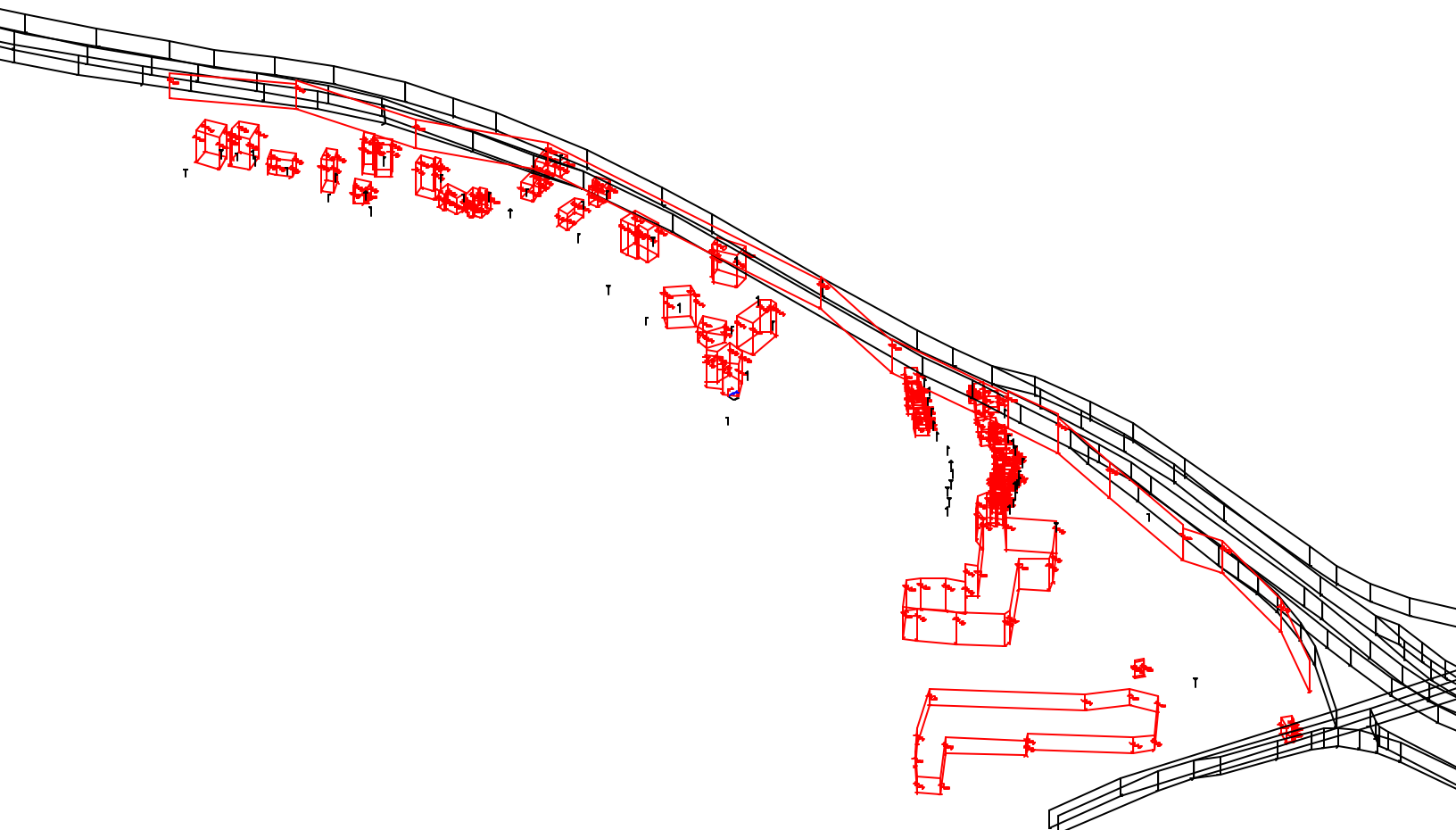
**BSB**

		point795	795	10.00	10.00	10.00	33	331				0
		point796	796	10.00	10.00	10.00	6	64				0
		point797	797	10.00	10.00	10.00	9	85				0
		point798	798	10.00	10.00	10.00	17	174				0
2086	W	point783	783	10.00	10.00	10.00	11	106				0
		point784	784	10.00	10.00	10.00	7	74				0
		point785	785	10.00	10.00	10.00	35	349				0
		point786	786	10.00	10.00	10.00	58	584				0
		point787	787	10.00	10.00	10.00	31	311				0
		point788	788	10.00	10.00	10.00	28	281				0
		point789	789	10.00	10.00	10.00	12	121				0
		point790	790	10.00	10.00	10.00	22	215				0
2085	W	point778	778	10.00	10.00	10.00	59	593				0
		point779	779	10.00	10.00	10.00	33	327				0
		point780	780	10.00	10.00	10.00	59	590				0
		point781	781	10.00	10.00	10.00	32	323				0
2083	W	point765	765	10.00	10.00	10.00	34	337				0
		point766	766	10.00	10.00	10.00	39	392				0
		point767	767	10.00	10.00	10.00	25	249				0
		point768	768	10.00	10.00	10.00	6	60				0
		point769	769	10.00	10.00	10.00	11	107				0
		point770	770	10.00	10.00	10.00	12	125				0
		point771	771	10.00	10.00	10.00	12	117				0
		point772	772	10.00	10.00	10.00	77	768				0
		point773	773	10.00	10.00	10.00	24	236				0
		point774	774	10.00	10.00	10.00	31	314				0
		point775	775	10.00	10.00	10.00	40	403				0
		point776	776	10.00	10.00	10.00	23	228				0
1769	W	point652	652	10.00	10.00	10.00	32	316				0
		point653	653	10.00	10.00	10.00	42	419				0
		point654	654	10.00	10.00	10.00	32	316				0
		point655	655	10.00	10.00	10.00	43	426				0
1767	W	point644	644	10.00	10.00	10.00	5	52				0
		point645	645	10.00	10.00	10.00	39	393				0

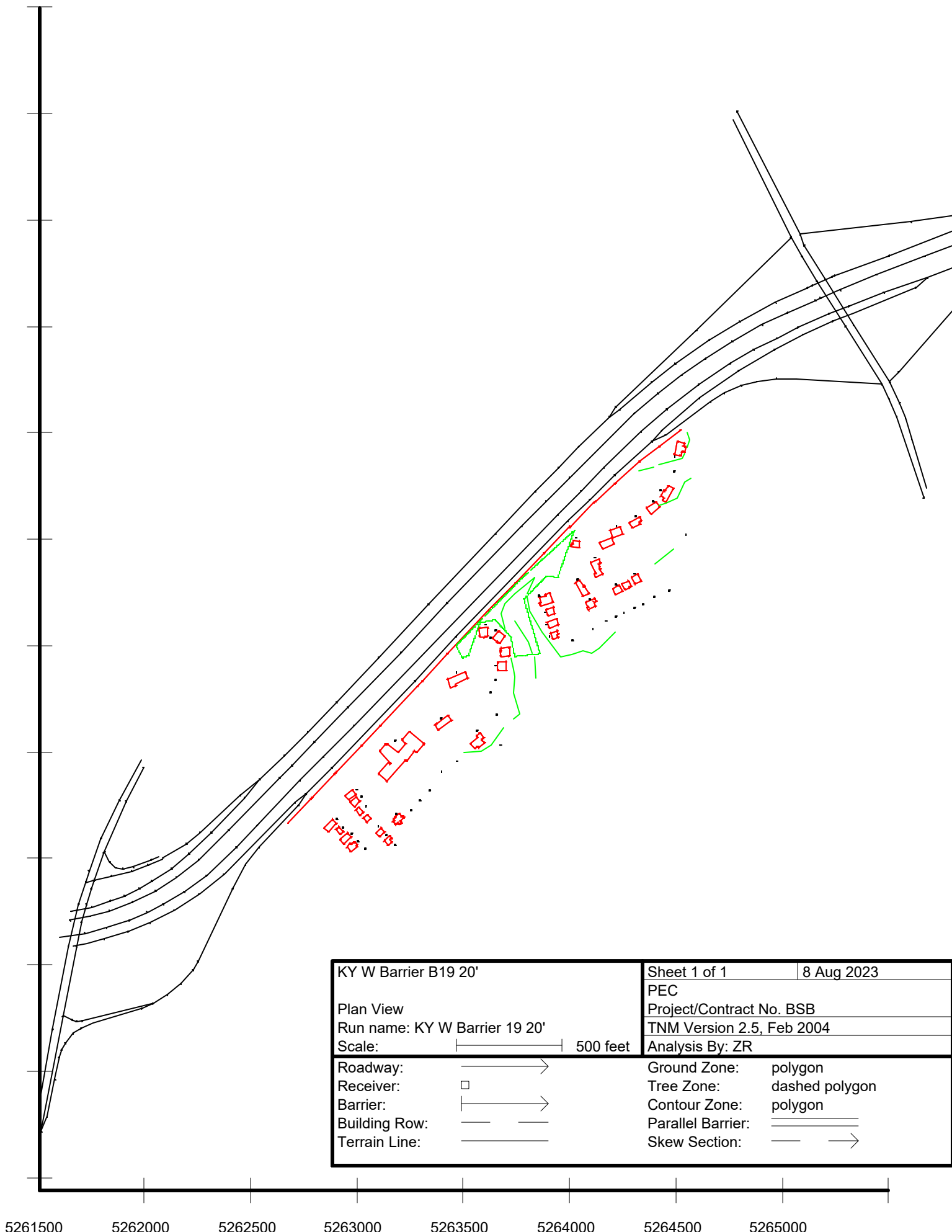
**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**









**BSB**

		point646	646	10.00	10.00	10.00	22	218				0
		point647	647	10.00	10.00	10.00	15	150				0
		point648	648	10.00	10.00	10.00	36	359				0
		point649	649	10.00	10.00	10.00	26	256				0
		point650	650	10.00	10.00	10.00	51	512				0
1754	W	point630	630	10.00	10.00	10.00	78	780				0
		point631	631	10.00	10.00	10.00	119	1187				0
		point632	632	10.00	10.00	10.00	401	4012				0
		point633	633	10.00	10.00	10.00	180	1801				0
		point634	634	10.00	10.00	10.00	102	1019				0
		point635	635	10.00	10.00	10.00	114	1139				0
		point636	636	10.00	10.00	10.00	62	620				0
		point637	637	10.00	10.00	10.00	181	1810				0
		point638	638	10.00	10.00	10.00	209	2092				0
		point639	639	10.00	10.00	10.00	30	305				0
		point640	640	10.00	10.00	10.00	272	2720				0
		point641	641	10.00	10.00	10.00	55	545				0
		point642	642	10.00	10.00	10.00	171	1710				0
1745	W	point622	622	10.00	10.00	10.00	6	60				0
		point623	623	10.00	10.00	10.00	24	242				0
		point624	624	10.00	10.00	10.00	6	65				0
		point625	625	10.00	10.00	10.00	20	204				0
		point626	626	10.00	10.00	10.00	30	300				0
		point627	627	10.00	10.00	10.00	45	445				0
		point628	628	10.00	10.00	10.00	17	175				0
1743	W	point617	617	10.00	10.00	10.00	8	83				0
		point618	618	10.00	10.00	10.00	24	240				0
		point619	619	10.00	10.00	10.00	9	92				0
		point620	620	10.00	10.00	10.00	25	246				0



KY W Barrier B18 20'		Sheet 1 of 1	8 Aug 2023
Barrier View-18-24'		PEC	
Run name: 20-22		Project/Contract No. BSB	
Scale: <DNA - due to perspective>		TNM Version 2.5, Feb 2004	
Analysis By: ZR			
Roadway:	—————>	Ground Zone:	polygon
Receiver:	□	Tree Zone:	dashed polygon
Barrier:	┆—————>	Contour Zone:	polygon
Building Row:	— — — — —	Parallel Barrier:	=====
Terrain Line:	—————	Skew Section:	— — — — —>



KY W Barrier B19 20'		Sheet 1 of 1	8 Aug 2023
Plan View		PEC	
Run name: KY W Barrier 19 20'		Project/Contract No. BSB	
Scale: 		TNM Version 2.5, Feb 2004	
		Analysis By: ZR	
Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

5261500      5262000      5262500      5263000      5263500      5264000      5264500      5265000

**RESULTS: SOUND LEVELS**

**BSB**

PEC								8 August 2023					
ZR								TNM 2.5					
								Calculated with TNM 2.5					
<b>RESULTS: SOUND LEVELS</b>													
<b>PROJECT/CONTRACT:</b>				<b>BSB</b>									
<b>RUN:</b>				<b>KY W Barrier B19 20'</b>									
<b>BARRIER DESIGN:</b>				<b>20'</b>									
<b>ATMOSPHERICS:</b>				<b>68 deg F, 50% RH</b>									
				<b>Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.</b>									

Receiver													
Name	No.	#DUs	Existing LAeq1h	No Barrier			Increase over existing			With Barrier			
				LAeq1h Calculated	Crit'n		Calculated	Crit'n	Sub'l Inc	Type Impact	Calculated LAeq1h	Noise Reduction Calculated	Goal
			dBA	dBA	dBA								
			dBA	dBA	dBA								
R774(K1346)	283	1	0.0	67.5	66	67.5	10	Snd Lvl	61.5	6.0	8	-2.0	
M-41(K1318)	287	1	0.0	75.8	66	75.8	10	Snd Lvl	75.3	0.5	8	-7.5	
R780(K1383)	290	1	0.0	73.1	66	73.1	10	Snd Lvl	62.4	10.7	8	2.7	
M-44(K75)	296	1	0.0	73.5	66	73.5	10	Snd Lvl	63.5	10.0	8	2.0	
M-42(K1348)	302	1	0.0	68.9	66	68.9	10	Snd Lvl	55.7	13.2	8	5.2	
R790(K1360)	304	1	0.0	73.9	66	73.9	10	Snd Lvl	62.6	11.3	8	3.3	
R791(K1365)	305	1	0.0	71.1	66	71.1	10	Snd Lvl	61.5	9.6	8	1.6	
R792(K1421)	306	1	0.0	77.3	66	77.3	10	Snd Lvl	69.1	8.2	8	0.2	
R794(KV1318)	308	1	0.0	70.9	66	70.9	10	Snd Lvl	65.2	5.7	8	-2.3	
R795(K74)	309	1	0.0	70.4	66	70.4	10	Snd Lvl	61.2	9.2	8	1.2	
R796(K1341)	310	1	0.0	74.7	66	74.7	10	Snd Lvl	62.9	11.8	8	3.8	
R799(K1391)	313	1	0.0	70.2	66	70.2	10	Snd Lvl	60.3	9.9	8	1.9	
R802(K1331)	316	1	0.0	73.1	66	73.1	10	Snd Lvl	66.0	7.1	8	-0.9	
R805(K78)	319	1	0.0	73.9	66	73.9	10	Snd Lvl	62.9	11.0	8	3.0	
R807(K1336)	321	1	0.0	73.3	66	73.3	10	Snd Lvl	63.6	9.7	8	1.7	
R809(K71)	323	1	0.0	67.7	66	67.7	10	Snd Lvl	59.9	7.8	8	-0.2	
R812(K1386)	326	1	0.0	65.7	66	65.7	10	----	57.8	7.9	8	-0.1	
R815(K73)	330	1	0.0	65.9	66	65.9	10	----	57.8	8.1	8	0.1	
R816(K1372)	331	1	0.0	63.4	66	63.4	10	----	57.2	6.2	8	-1.8	
R817(K1395)	332	1	0.0	70.1	66	70.1	10	Snd Lvl	60.3	9.8	8	1.8	
R830(K68)	345	1	0.0	67.5	66	67.5	10	Snd Lvl	59.5	8.0	8	0.0	
M-45(K1484)	347	1	0.0	76.5	66	76.5	10	Snd Lvl	66.2	10.3	8	2.3	
R832(K1362)	348	1	0.0	61.7	66	61.7	10	----	56.4	5.3	8	-2.7	
R833(K1370)	349	1	0.0	62.7	66	62.7	10	----	56.9	5.8	8	-2.2	

**RESULTS: SOUND LEVELS**

**BSB**

R834(K1402)	350	1	0.0	68.5	66	68.5	10	Snd Lvl	58.9	9.6	8	1.6
R835(K1446)	351	1	0.0	71.7	66	71.7	10	Snd Lvl	62.7	9.0	8	1.0
R836(K67)	352	1	0.0	67.2	66	67.2	10	Snd Lvl	59.9	7.3	8	-0.7
R842(K1353)	358	1	0.0	59.3	66	59.3	10	----	56.5	2.8	8	-5.2
R843(K1406)	359	1	0.0	65.2	66	65.2	10	----	57.2	8.0	8	0.0
R846(K1396)	362	1	0.0	62.8	66	62.8	10	----	55.6	7.2	8	-0.8
R847(K1403)	363	1	0.0	64.5	66	64.5	10	----	56.4	8.1	8	0.1
R849(K1397)	365	1	0.0	61.3	66	61.3	10	----	55.1	6.2	8	-1.8
R854(K1460)	370	1	0.0	65.3	66	65.3	10	----	58.8	6.5	8	-1.5
R855(K1392)	371	1	0.0	60.5	66	60.5	10	----	55.1	5.4	8	-2.6
R856(K1394)	372	1	0.0	61.0	66	61.0	10	----	55.0	6.0	8	-2.0
R857(K1193)	373	1	0.0	71.3	66	71.3	10	Snd Lvl	61.2	10.1	8	2.1
R858(K1379)	374	1	0.0	59.2	66	59.2	10	----	55.4	3.8	8	-4.2
R859(K1385)	375	1	0.0	58.6	66	58.6	10	----	54.9	3.7	8	-4.3
R861(K1390)	377	1	0.0	58.2	66	58.2	10	----	54.4	3.8	8	-4.2
R862(K1449)	378	1	0.0	65.7	66	65.7	10	----	58.8	6.9	8	-1.1
R867(K1196)	384	1	0.0	69.4	66	69.4	10	Snd Lvl	60.1	9.3	8	1.3
R868(KV1492)	385	1	0.0	63.2	66	63.2	10	----	57.7	5.5	8	-2.5
R869(K1492)	386	1	0.0	65.6	66	65.6	10	----	60.7	4.9	8	-3.1
R874(K1473)	391	1	0.0	54.8	66	54.8	10	----	50.6	4.2	8	-3.8
R875(K1203)	392	1	0.0	68.6	66	68.6	10	Snd Lvl	59.7	8.9	8	0.9
R877(K40)	394	1	0.0	64.8	66	64.8	10	----	60.0	4.8	8	-3.2
R880(K1202)	397	1	0.0	64.5	66	64.5	10	----	59.0	5.5	8	-2.5
R882(K1211)	399	1	0.0	70.7	66	70.7	10	Snd Lvl	60.5	10.2	8	2.2
R883(K1209)	400	1	0.0	67.2	66	67.2	10	Snd Lvl	58.9	8.3	8	0.3
R884(K1213)	401	1	0.0	69.1	66	69.1	10	Snd Lvl	58.0	11.1	8	3.1
R886(K1206)	403	1	0.0	64.6	66	64.6	10	----	58.5	6.1	8	-1.9
R888(K1218)	405	1	0.0	67.2	66	67.2	10	Snd Lvl	57.2	10.0	8	2.0
R889(K36)	406	1	0.0	65.5	66	65.5	10	----	58.9	6.6	8	-1.4
R892(K1216)	409	1	0.0	65.5	66	65.5	10	----	58.7	6.8	8	-1.2
R893(K1220)	410	1	0.0	64.8	66	64.8	10	----	56.4	8.4	8	0.4
R895(K1219)	412	1	0.0	58.6	66	58.6	10	----	54.0	4.6	8	-3.4
R898(K1224)	415	1	0.0	63.8	66	63.8	10	----	59.3	4.5	8	-3.5
R899(K1223)	416	1	0.0	63.6	66	63.6	10	----	59.6	4.0	8	-4.0
R900(K1222)	417	1	0.0	59.4	66	59.4	10	----	56.2	3.2	8	-4.8
M-44b(K75)	671	1	0.0	75.3	66	75.3	10	Snd Lvl	62.3	13.0	8	5.0
<b>Dwelling Units</b>		<b># DUs</b>	<b>Noise Reduction</b>									
			<b>Min</b>	<b>Avg</b>	<b>Max</b>							
			<b>dB</b>	<b>dB</b>	<b>dB</b>							
All Selected		60	0.5	7.5	13.2							
All Impacted		30	0.5	9.2	13.2							



**RESULTS: SOUND LEVELS**

**BSB**

All that meet NR Goal		27	8.0	9.9	13.2								
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**RESULTS: BARRIER DESCRIPTIONS**

**BSB**

PEC										
ZR										

8 August 2023

TNM 2.5

**RESULTS: BARRIER DESCRIPTIONS**

<b>PROJECT/CONTRACT:</b>	<b>BSB</b>
<b>RUN:</b>	<b>KY W Barrier B19 20'</b>
<b>BARRIER DESIGN:</b>	<b>20'</b>

<b>Barriers</b>										
Name	Type	Heights along Barrier			Length	If Wall	If Berm	Top	Run:Rise	Cost
		Min	Avg	Max						
		ft	ft	ft	ft	sq ft	cu yd	ft	ft:ft	\$
Barrier142; Prop Barrier B8	W	16.00	19.95	24.00	2617	52206				1670599
1484	W	10.00	10.00	10.00	816	8160				0
1460	W	10.00	10.00	10.00	229	2292				0
1446	W	10.00	10.00	10.00	212	2124				0
1421	W	10.00	10.00	10.00	266	2658				0
1402	W	20.00	20.00	20.00	133	2667				0
1395	W	20.00	20.00	20.00	154	3071				0
1391	W	20.00	20.00	20.00	137	2736				0
1386	W	20.00	20.00	20.00	182	3637				0
1383	W	10.00	10.00	10.00	209	2094				0
1372	W	20.00	20.00	20.00	129	2577				0
1370	W	20.00	20.00	20.00	131	2625				0
1365	W	10.00	10.00	10.00	208	2082				0
1362	W	20.00	20.00	20.00	138	2760				0
1360	W	20.00	20.00	20.00	248	4966				0
1348	W	20.00	20.00	20.00	184	3673				0
1346	W	20.00	20.00	20.00	135	2702				0
1341	W	20.00	20.00	20.00	174	3473				0
1336	W	10.00	10.00	10.00	169	1692				0
1331	W	10.00	10.00	10.00	220	2200				0
1318	W	10.00	10.00	10.00	216	2158				0
1220	W	20.00	20.00	20.00	151	3012				0
1219	W	20.00	20.00	20.00	131	2620				0

**RESULTS: BARRIER DESCRIPTIONS****BSB**

1218	W	20.00	20.00	20.00	150	2999				0
1216	W	20.00	20.00	20.00	114	2278				0
1213	W	20.00	20.00	20.00	100	1994				0
1211	W	20.00	20.00	20.00	166	3311				0
1209	W	20.00	20.00	20.00	103	2057				0
1203	W	20.00	20.00	20.00	108	2153				0
1196	W	20.00	20.00	20.00	132	2633				0
1193	W	20.00	20.00	20.00	143	2853				0
78	W	10.00	10.00	10.00	167	1666				0
75	W	20.00	20.00	20.00	166	3320				0
74	W	10.00	10.00	10.00	164	1640				0
73	W	10.00	10.00	10.00	169	1686				0
71	W	10.00	10.00	10.00	162	1616				0
36	W	10.00	10.00	10.00	187	1868				0
									<b>Total Cost:</b>	<b>1670599</b>



**RESULTS: BARRIER DESIGN**

M-44(K75)	296	63.5	10.0	8
M-42(K1348)	302	55.7	13.2	8
R790(K1360)	304	62.6	11.3	8

**BSB**

	Barrier142; Prop Barrier B8	PT11	1065	20.0	57.0
	Barrier142; Prop Barrier B8	PT10	1064	20.0	53.3
	Barrier142; Prop Barrier B8	PT13	1067	20.0	52.5
	Barrier142; Prop Barrier B8	PT15	1069	20.0	49.0
	Barrier142; Prop Barrier B8	PT17	1071	20.0	46.7
	Barrier142; Prop Barrier B8	PT6	1060	20.0	44.3
	Barrier142; Prop Barrier B8	PT7	1061	20.0	44.0
	Barrier142; Prop Barrier B8	PT18	1072	20.0	42.9
	Barrier142; Prop Barrier B8	PT9	1063	20.0	42.8
2.0	Barrier142; Prop Barrier B8	PT10	1064	20.0	59.1
	Barrier142; Prop Barrier B8	PT11	1065	20.0	57.4
	Barrier142; Prop Barrier B8	PT9	1063	20.0	55.3
	Barrier142; Prop Barrier B8	PT7	1061	20.0	52.0
	Barrier142; Prop Barrier B8	PT12	1066	20.0	51.6
	Barrier142; Prop Barrier B8	PT13	1067	20.0	47.3
	Barrier142; Prop Barrier B8	PT6	1060	20.0	46.2
	Barrier142; Prop Barrier B8	PT8	1062	20.0	44.2
	Barrier142; Prop Barrier B8	PT15	1069	20.0	44.1
	Barrier142; Prop Barrier B8	PT17	1071	20.0	42.6
5.2	Barrier142; Prop Barrier B8	PT15	1069	20.0	52.7
	Barrier142; Prop Barrier B8	PT17	1071	20.0	49.4
	Barrier142; Prop Barrier B8	PT16	1070	20.0	42.0
	Barrier142; Prop Barrier B8	PT10	1064	20.0	41.5
	Barrier142; Prop Barrier B8	PT13	1067	20.0	40.7
	Barrier142; Prop Barrier B8	PT11	1065	20.0	40.6
	Barrier142; Prop Barrier B8	PT12	1066	20.0	39.8
	Barrier142; Prop Barrier B8	PT18	1072	20.0	39.0
	Barrier142; Prop Barrier B8	PT9	1063	20.0	37.5
	Barrier142; Prop Barrier B8	PT7	1061	20.0	34.7
3.3	Barrier142; Prop Barrier B8	PT13	1067	20.0	56.5
	Barrier142; Prop Barrier B8	PT12	1066	20.0	55.1
	Barrier142; Prop Barrier B8	PT15	1069	20.0	54.7
	Barrier142; Prop Barrier B8	PT17	1071	20.0	52.7
	Barrier142; Prop Barrier B8	PT11	1065	20.0	52.4
	Barrier142; Prop Barrier B8	PT10	1064	20.0	51.7
	Barrier142; Prop Barrier B8	PT7	1061	20.0	48.3

**RESULTS: BARRIER DESIGN**

R791(K1365)	305	61.5	9.6	8
R792(K1421)	306	69.1	8.2	8
R794(KV1318)	308	65.2	5.7	8
R795(K74)	309	61.2	9.2	8

**BSB**

	Barrier142; Prop Barrier B8	PT18	1072	20.0	46.8
	Barrier142; Prop Barrier B8	PT9	1063	20.0	43.5
	Barrier142; Prop Barrier B8	PT5	1059	20.0	43.3
1.6	Barrier142; Prop Barrier B8	PT12	1066	20.0	55.4
	Barrier142; Prop Barrier B8	PT13	1067	20.0	54.4
	Barrier142; Prop Barrier B8	PT11	1065	20.0	52.9
	Barrier142; Prop Barrier B8	PT15	1069	20.0	51.5
	Barrier142; Prop Barrier B8	PT10	1064	20.0	50.9
	Barrier142; Prop Barrier B8	PT17	1071	20.0	49.4
	Barrier142; Prop Barrier B8	PT7	1061	20.0	48.6
	Barrier142; Prop Barrier B8	PT18	1072	20.0	48.2
	Barrier142; Prop Barrier B8	PT9	1063	20.0	44.5
	Barrier142; Prop Barrier B8	PT19	1073	20.0	43.4
0.2	Barrier142; Prop Barrier B8	PT9	1063	20.0	66.0
	Barrier142; Prop Barrier B8	PT10	1064	20.0	63.9
	Barrier142; Prop Barrier B8	PT7	1061	20.0	59.5
	Barrier142; Prop Barrier B8	PT8	1062	20.0	54.8
	Barrier142; Prop Barrier B8	PT11	1065	20.0	53.8
	Barrier142; Prop Barrier B8	PT12	1066	20.0	49.6
	Barrier142; Prop Barrier B8	PT6	1060	20.0	48.9
	Barrier142; Prop Barrier B8	PT13	1067	20.0	45.7
	Barrier142; Prop Barrier B8	PT15	1069	20.0	42.7
	Barrier142; Prop Barrier B8	PT17	1071	20.0	42.1
-2.3	Barrier142; Prop Barrier B8	PT19	1073	20.0	56.7
	Barrier142; Prop Barrier B8	PT18	1072	20.0	56.5
	Barrier142; Prop Barrier B8	PT20	1074	20.0	55.0
	Barrier142; Prop Barrier B8	PT17	1071	20.0	52.7
	Barrier142; Prop Barrier B8	PT15	1069	20.0	51.5
	Barrier142; Prop Barrier B8	PT10	1064	20.0	51.2
	Barrier142; Prop Barrier B8	PT13	1067	20.0	50.4
	Barrier142; Prop Barrier B8	PT12	1066	20.0	50.1
	Barrier142; Prop Barrier B8	PT9	1063	20.0	49.8
	Barrier142; Prop Barrier B8	PT11	1065	20.0	48.5
1.2	Barrier142; Prop Barrier B8	PT10	1064	20.0	57.6
	Barrier142; Prop Barrier B8	PT11	1065	20.0	56.5
	Barrier142; Prop Barrier B8	PT12	1066	20.0	50.6

**RESULTS: BARRIER DESIGN**

R796(K1341)	310	62.9	11.8	8
R799(K1391)	313	60.3	9.9	8
R802(K1331)	316	66.0	7.1	8

**BSB**

	Barrier142; Prop Barrier B8	PT13	1067	20.0	46.2
	Barrier142; Prop Barrier B8	PT15	1069	20.0	43.4
	Barrier142; Prop Barrier B8	PT6	1060	20.0	42.8
	Barrier142; Prop Barrier B8	PT7	1061	20.0	42.7
	Barrier142; Prop Barrier B8	PT17	1071	20.0	42.0
	Barrier142; Prop Barrier B8	PT18	1072	20.0	41.4
	Barrier142; Prop Barrier B8	PT9	1063	20.0	40.6
3.8	Barrier142; Prop Barrier B8	PT17	1071	20.0	56.2
	Barrier142; Prop Barrier B8	PT15	1069	20.0	56.0
	Barrier142; Prop Barrier B8	PT18	1072	20.0	55.2
	Barrier142; Prop Barrier B8	PT13	1067	20.0	54.6
	Barrier142; Prop Barrier B8	PT12	1066	20.0	52.5
	Barrier142; Prop Barrier B8	PT11	1065	20.0	49.5
	Barrier142; Prop Barrier B8	PT19	1073	20.0	48.5
	Barrier142; Prop Barrier B8	PT20	1074	20.0	46.4
	Barrier142; Prop Barrier B8	PT16	1070	20.0	43.1
	Barrier142; Prop Barrier B8	PT14	1068	20.0	41.0
1.9	Barrier142; Prop Barrier B8	PT11	1065	20.0	56.1
	Barrier142; Prop Barrier B8	PT10	1064	20.0	53.4
	Barrier142; Prop Barrier B8	PT12	1066	20.0	52.3
	Barrier142; Prop Barrier B8	PT9	1063	20.0	50.2
	Barrier142; Prop Barrier B8	PT7	1061	20.0	48.6
	Barrier142; Prop Barrier B8	PT13	1067	20.0	46.8
	Barrier142; Prop Barrier B8	PT15	1069	20.0	41.9
	Barrier142; Prop Barrier B8	PT8	1062	20.0	41.5
	Barrier142; Prop Barrier B8	PT6	1060	20.0	37.8
	Barrier142; Prop Barrier B8	PT5	1059	20.0	35.3
-0.9	Barrier142; Prop Barrier B8	PT18	1072	20.0	59.6
	Barrier142; Prop Barrier B8	PT19	1073	20.0	58.5
	Barrier142; Prop Barrier B8	PT17	1071	20.0	55.5
	Barrier142; Prop Barrier B8	PT20	1074	20.0	53.9
	Barrier142; Prop Barrier B8	PT15	1069	20.0	53.5
	Barrier142; Prop Barrier B8	PT10	1064	20.0	52.5
	Barrier142; Prop Barrier B8	PT13	1067	20.0	52.5
	Barrier142; Prop Barrier B8	PT12	1066	20.0	51.6
	Barrier142; Prop Barrier B8	PT9	1063	20.0	51.5

**RESULTS: BARRIER DESIGN**

RESULTS: BARRIER DESIGN					BSB					
						Barrier142; Prop Barrier B8	PT11	1065	20.0	51.3
R805(K78)	319	62.9	11.0	8	3.0	Barrier142; Prop Barrier B8	PT18	1072	20.0	57.2
						Barrier142; Prop Barrier B8	PT17	1071	20.0	55.9
						Barrier142; Prop Barrier B8	PT15	1069	20.0	54.4
						Barrier142; Prop Barrier B8	PT13	1067	20.0	53.2
						Barrier142; Prop Barrier B8	PT12	1066	20.0	51.4
						Barrier142; Prop Barrier B8	PT20	1074	20.0	50.2
						Barrier142; Prop Barrier B8	PT19	1073	20.0	48.6
						Barrier142; Prop Barrier B8	PT11	1065	20.0	43.3
						Barrier142; Prop Barrier B8	PT10	1064	20.0	43.0
						Barrier142; Prop Barrier B8	PT16	1070	20.0	41.2
R807(K1336)	321	63.6	9.7	8	1.7	Barrier142; Prop Barrier B8	PT18	1072	20.0	58.1
						Barrier142; Prop Barrier B8	PT17	1071	20.0	55.0
						Barrier142; Prop Barrier B8	PT19	1073	20.0	53.5
						Barrier142; Prop Barrier B8	PT15	1069	20.0	53.2
						Barrier142; Prop Barrier B8	PT13	1067	20.0	52.2
						Barrier142; Prop Barrier B8	PT20	1074	20.0	51.0
						Barrier142; Prop Barrier B8	PT12	1066	20.0	50.9
						Barrier142; Prop Barrier B8	PT11	1065	20.0	49.5
						Barrier142; Prop Barrier B8	PT10	1064	20.0	45.1
						Barrier142; Prop Barrier B8	PT9	1063	20.0	41.6
R809(K71)	323	59.9	7.8	8	-0.2	Barrier142; Prop Barrier B8	PT10	1064	20.0	55.8
						Barrier142; Prop Barrier B8	PT9	1063	20.0	53.8
						Barrier142; Prop Barrier B8	PT11	1065	20.0	52.2
						Barrier142; Prop Barrier B8	PT12	1066	20.0	46.8
						Barrier142; Prop Barrier B8	PT5	1059	20.0	45.7
						Barrier142; Prop Barrier B8	PT6	1060	20.0	44.2
						Barrier142; Prop Barrier B8	PT7	1061	20.0	42.2
						Barrier142; Prop Barrier B8	PT13	1067	20.0	41.2
						Barrier142; Prop Barrier B8	PT3	1057	20.0	40.7
						Barrier142; Prop Barrier B8	PT8	1062	20.0	40.5
R812(K1386)	326	57.8	7.9	8	-0.1	Barrier142; Prop Barrier B8	PT11	1065	20.0	52.0
						Barrier142; Prop Barrier B8	PT12	1066	20.0	49.9
						Barrier142; Prop Barrier B8	PT10	1064	20.0	49.0
						Barrier142; Prop Barrier B8	PT15	1069	20.0	47.7
						Barrier142; Prop Barrier B8	PT9	1063	20.0	47.5



**RESULTS: BARRIER DESIGN**

RESULTS: BARRIER DESIGN					BSB					
						Barrier142; Prop Barrier B8	PT7	1061	20.0	44.5
						Barrier142; Prop Barrier B8	PT13	1067	20.0	44.4
						Barrier142; Prop Barrier B8	PT8	1062	20.0	40.0
						Barrier142; Prop Barrier B8	PT18	1072	20.0	38.5
						Barrier142; Prop Barrier B8	PT17	1071	20.0	37.8
R815(K73)	330	57.8	8.1	8	0.1	Barrier142; Prop Barrier B8	PT10	1064	20.0	54.9
						Barrier142; Prop Barrier B8	PT9	1063	20.0	52.3
						Barrier142; Prop Barrier B8	PT7	1061	20.0	46.9
						Barrier142; Prop Barrier B8	PT11	1065	20.0	43.0
						Barrier142; Prop Barrier B8	PT8	1062	20.0	42.9
						Barrier142; Prop Barrier B8	PT12	1066	20.0	41.3
						Barrier142; Prop Barrier B8	PT15	1069	20.0	36.2
						Barrier142; Prop Barrier B8	PT5	1059	20.0	35.6
						Barrier142; Prop Barrier B8	PT6	1060	20.0	35.6
						Barrier142; Prop Barrier B8	PT13	1067	20.0	34.9
R816(K1372)	331	57.2	6.2	8	-1.8	Barrier142; Prop Barrier B8	PT12	1066	20.0	51.2
						Barrier142; Prop Barrier B8	PT11	1065	20.0	48.4
						Barrier142; Prop Barrier B8	PT15	1069	20.0	47.4
						Barrier142; Prop Barrier B8	PT10	1064	20.0	46.3
						Barrier142; Prop Barrier B8	PT18	1072	20.0	44.9
						Barrier142; Prop Barrier B8	PT9	1063	20.0	43.9
						Barrier142; Prop Barrier B8	PT7	1061	20.0	43.9
						Barrier142; Prop Barrier B8	PT19	1073	20.0	41.3
						Barrier142; Prop Barrier B8	PT20	1074	20.0	40.2
						Barrier142; Prop Barrier B8	PT17	1071	20.0	40.1
R817(K1395)	332	60.3	9.8	8	1.8	Barrier142; Prop Barrier B8	PT11	1065	20.0	55.1
						Barrier142; Prop Barrier B8	PT12	1066	20.0	54.0
						Barrier142; Prop Barrier B8	PT10	1064	20.0	54.0
						Barrier142; Prop Barrier B8	PT9	1063	20.0	50.6
						Barrier142; Prop Barrier B8	PT7	1061	20.0	47.1
						Barrier142; Prop Barrier B8	PT3	1057	20.0	42.6
						Barrier142; Prop Barrier B8	PT8	1062	20.0	42.0
						Barrier142; Prop Barrier B8	PT13	1067	20.0	42.0
						Barrier142; Prop Barrier B8	PT5	1059	20.0	41.7
						Barrier142; Prop Barrier B8	PT2	1056	20.0	37.4
R830(K68)	345	59.5	8.0	8	-0.0	Barrier142; Prop Barrier B8	PT10	1064	20.0	55.4

**RESULTS: BARRIER DESIGN**

M-45(K1484)	347	66.2	10.3	8
R832(K1362)	348	56.4	5.3	8
R833(K1370)	349	56.9	5.8	8

**BSB**

	Barrier142; Prop Barrier B8	PT9	1063	20.0	51.6
	Barrier142; Prop Barrier B8	PT11	1065	20.0	50.9
	Barrier142; Prop Barrier B8	PT7	1061	20.0	50.5
	Barrier142; Prop Barrier B8	PT5	1059	20.0	45.1
	Barrier142; Prop Barrier B8	PT12	1066	20.0	45.1
	Barrier142; Prop Barrier B8	PT6	1060	20.0	45.0
	Barrier142; Prop Barrier B8	PT13	1067	20.0	41.4
	Barrier142; Prop Barrier B8	PT15	1069	20.0	40.3
	Barrier142; Prop Barrier B8	PT17	1071	20.0	39.1
2.3	Barrier142; Prop Barrier B8	PT7	1061	20.0	63.0
	Barrier142; Prop Barrier B8	PT6	1060	20.0	60.5
	Barrier142; Prop Barrier B8	PT5	1059	20.0	54.7
	Barrier142; Prop Barrier B8	PT9	1063	20.0	54.0
	Barrier142; Prop Barrier B8	PT10	1064	20.0	52.6
	Barrier142; Prop Barrier B8	PT8	1062	20.0	49.7
	Barrier142; Prop Barrier B8	PT11	1065	20.0	46.5
	Barrier142; Prop Barrier B8	PT3	1057	20.0	45.5
	Barrier142; Prop Barrier B8	PT12	1066	20.0	44.2
	Barrier142; Prop Barrier B8	PT1	1055	20.0	40.9
-2.7	Barrier142; Prop Barrier B8	PT13	1067	20.0	47.9
	Barrier142; Prop Barrier B8	PT11	1065	20.0	47.6
	Barrier142; Prop Barrier B8	PT18	1072	20.0	46.5
	Barrier142; Prop Barrier B8	PT10	1064	20.0	44.8
	Barrier142; Prop Barrier B8	PT17	1071	20.0	44.5
	Barrier142; Prop Barrier B8	PT7	1061	20.0	43.4
	Barrier142; Prop Barrier B8	PT15	1069	20.0	42.6
	Barrier142; Prop Barrier B8	PT19	1073	20.0	40.9
	Barrier142; Prop Barrier B8	PT9	1063	20.0	40.8
	Barrier142; Prop Barrier B8	PT12	1066	20.0	40.2
-2.2	Barrier142; Prop Barrier B8	PT11	1065	20.0	48.7
	Barrier142; Prop Barrier B8	PT12	1066	20.0	47.5
	Barrier142; Prop Barrier B8	PT18	1072	20.0	47.1
	Barrier142; Prop Barrier B8	PT15	1069	20.0	46.1
	Barrier142; Prop Barrier B8	PT10	1064	20.0	45.8
	Barrier142; Prop Barrier B8	PT13	1067	20.0	44.7
	Barrier142; Prop Barrier B8	PT9	1063	20.0	43.4

**RESULTS: BARRIER DESIGN**

R834(K1402)	350	58.9	9.6	8
R835(K1446)	351	62.7	9.0	8
R836(K67)	352	59.9	7.3	8
R842(K1353)	358	56.5	2.8	8

**BSB**

	Barrier142; Prop Barrier B8	PT7	1061	20.0	43.3
	Barrier142; Prop Barrier B8	PT20	1074	20.0	42.1
	Barrier142; Prop Barrier B8	PT19	1073	20.0	40.5
1.6	Barrier142; Prop Barrier B8	PT11	1065	20.0	53.7
	Barrier142; Prop Barrier B8	PT10	1064	20.0	53.5
	Barrier142; Prop Barrier B8	PT12	1066	20.0	51.4
	Barrier142; Prop Barrier B8	PT9	1063	20.0	49.1
	Barrier142; Prop Barrier B8	PT7	1061	20.0	43.4
	Barrier142; Prop Barrier B8	PT5	1059	20.0	42.8
	Barrier142; Prop Barrier B8	PT6	1060	20.0	41.3
	Barrier142; Prop Barrier B8	PT13	1067	20.0	39.9
	Barrier142; Prop Barrier B8	PT8	1062	20.0	39.4
	Barrier142; Prop Barrier B8	PT3	1057	20.0	39.1
1.0	Barrier142; Prop Barrier B8	PT7	1061	20.0	59.0
	Barrier142; Prop Barrier B8	PT9	1063	20.0	56.9
	Barrier142; Prop Barrier B8	PT8	1062	20.0	51.3
	Barrier142; Prop Barrier B8	PT6	1060	20.0	51.3
	Barrier142; Prop Barrier B8	PT10	1064	20.0	50.9
	Barrier142; Prop Barrier B8	PT5	1059	20.0	47.5
	Barrier142; Prop Barrier B8	PT3	1057	20.0	42.7
	Barrier142; Prop Barrier B8	PT11	1065	20.0	42.7
	Barrier142; Prop Barrier B8	PT15	1069	20.0	41.9
	Barrier142; Prop Barrier B8	PT17	1071	20.0	41.1
-0.7	Barrier142; Prop Barrier B8	PT10	1064	20.0	55.1
	Barrier142; Prop Barrier B8	PT7	1061	20.0	53.2
	Barrier142; Prop Barrier B8	PT11	1065	20.0	51.0
	Barrier142; Prop Barrier B8	PT12	1066	20.0	48.6
	Barrier142; Prop Barrier B8	PT9	1063	20.0	48.0
	Barrier142; Prop Barrier B8	PT6	1060	20.0	45.8
	Barrier142; Prop Barrier B8	PT13	1067	20.0	45.5
	Barrier142; Prop Barrier B8	PT5	1059	20.0	44.2
	Barrier142; Prop Barrier B8	PT15	1069	20.0	43.9
	Barrier142; Prop Barrier B8	PT8	1062	20.0	42.7
-5.2	Barrier142; Prop Barrier B8	PT17	1071	20.0	45.2
	Barrier142; Prop Barrier B8	PT12	1066	20.0	45.0
	Barrier142; Prop Barrier B8	PT5	1059	20.0	39.9

**RESULTS: BARRIER DESIGN**

RESULTS: BARRIER DESIGN					BSB					
						Barrier142; Prop Barrier B8	PT10	1064	20.0	38.9
						Barrier142; Prop Barrier B8	PT15	1069	20.0	38.8
						Barrier142; Prop Barrier B8	PT20	1074	20.0	38.5
						Barrier142; Prop Barrier B8	PT18	1072	20.0	38.5
						Barrier142; Prop Barrier B8	PT19	1073	20.0	37.7
						Barrier142; Prop Barrier B8	PT9	1063	20.0	37.4
						Barrier142; Prop Barrier B8	PT11	1065	20.0	37.0
R843(K1406)	359	57.2	8.0	8	-0.0	Barrier142; Prop Barrier B8	PT10	1064	20.0	49.6
						Barrier142; Prop Barrier B8	PT13	1067	20.0	49.0
						Barrier142; Prop Barrier B8	PT12	1066	20.0	48.5
						Barrier142; Prop Barrier B8	PT9	1063	20.0	47.1
						Barrier142; Prop Barrier B8	PT15	1069	20.0	46.8
						Barrier142; Prop Barrier B8	PT7	1061	20.0	44.8
						Barrier142; Prop Barrier B8	PT5	1059	20.0	44.0
						Barrier142; Prop Barrier B8	PT11	1065	20.0	44.0
						Barrier142; Prop Barrier B8	PT6	1060	20.0	43.5
						Barrier142; Prop Barrier B8	PT17	1071	20.0	40.9
R846(K1396)	362	55.6	7.2	8	-0.8	Barrier142; Prop Barrier B8	PT10	1064	20.0	48.1
						Barrier142; Prop Barrier B8	PT11	1065	20.0	47.4
						Barrier142; Prop Barrier B8	PT12	1066	20.0	46.8
						Barrier142; Prop Barrier B8	PT13	1067	20.0	44.5
						Barrier142; Prop Barrier B8	PT15	1069	20.0	43.2
						Barrier142; Prop Barrier B8	PT5	1059	20.0	43.0
						Barrier142; Prop Barrier B8	PT7	1061	20.0	42.9
						Barrier142; Prop Barrier B8	PT6	1060	20.0	41.6
						Barrier142; Prop Barrier B8	PT9	1063	20.0	41.0
						Barrier142; Prop Barrier B8	PT18	1072	20.0	39.0
R847(K1403)	363	56.4	8.1	8	0.1	Barrier142; Prop Barrier B8	PT12	1066	20.0	51.1
						Barrier142; Prop Barrier B8	PT13	1067	20.0	48.1
						Barrier142; Prop Barrier B8	PT10	1064	20.0	46.1
						Barrier142; Prop Barrier B8	PT11	1065	20.0	45.3
						Barrier142; Prop Barrier B8	PT5	1059	20.0	43.4
						Barrier142; Prop Barrier B8	PT6	1060	20.0	42.8
						Barrier142; Prop Barrier B8	PT9	1063	20.0	42.2
						Barrier142; Prop Barrier B8	PT7	1061	20.0	41.6
						Barrier142; Prop Barrier B8	PT15	1069	20.0	39.2

**RESULTS: BARRIER DESIGN**

RESULTS: BARRIER DESIGN					BSB					
						Barrier142; Prop Barrier B8	PT19	1073	20.0	38.2
R849(K1397)	365	55.1	6.2	8	-1.8	Barrier142; Prop Barrier B8	PT13	1067	20.0	48.2
						Barrier142; Prop Barrier B8	PT10	1064	20.0	47.3
						Barrier142; Prop Barrier B8	PT11	1065	20.0	44.7
						Barrier142; Prop Barrier B8	PT9	1063	20.0	42.5
						Barrier142; Prop Barrier B8	PT5	1059	20.0	42.4
						Barrier142; Prop Barrier B8	PT15	1069	20.0	41.4
						Barrier142; Prop Barrier B8	PT7	1061	20.0	41.3
						Barrier142; Prop Barrier B8	PT12	1066	20.0	41.2
						Barrier142; Prop Barrier B8	PT6	1060	20.0	40.5
						Barrier142; Prop Barrier B8	PT18	1072	20.0	38.7
R854(K1460)	370	58.8	6.5	8	-1.5	Barrier142; Prop Barrier B8	PT9	1063	20.0	51.8
						Barrier142; Prop Barrier B8	PT10	1064	20.0	51.5
						Barrier142; Prop Barrier B8	PT7	1061	20.0	51.2
						Barrier142; Prop Barrier B8	PT11	1065	20.0	48.9
						Barrier142; Prop Barrier B8	PT12	1066	20.0	47.3
						Barrier142; Prop Barrier B8	PT8	1062	20.0	46.8
						Barrier142; Prop Barrier B8	PT13	1067	20.0	44.5
						Barrier142; Prop Barrier B8	PT15	1069	20.0	43.1
						Barrier142; Prop Barrier B8	PT6	1060	20.0	42.3
						Barrier142; Prop Barrier B8	PT17	1071	20.0	42.2
R855(K1392)	371	55.1	5.4	8	-2.6	Barrier142; Prop Barrier B8	PT12	1066	20.0	46.0
						Barrier142; Prop Barrier B8	PT10	1064	20.0	45.1
						Barrier142; Prop Barrier B8	PT9	1063	20.0	43.9
						Barrier142; Prop Barrier B8	PT13	1067	20.0	42.9
						Barrier142; Prop Barrier B8	PT15	1069	20.0	42.6
						Barrier142; Prop Barrier B8	PT18	1072	20.0	42.3
						Barrier142; Prop Barrier B8	PT5	1059	20.0	41.8
						Barrier142; Prop Barrier B8	PT11	1065	20.0	40.7
						Barrier142; Prop Barrier B8	PT6	1060	20.0	39.8
						Barrier142; Prop Barrier B8	PT7	1061	20.0	39.6
R856(K1394)	372	55.0	6.0	8	-2.0	Barrier142; Prop Barrier B8	PT13	1067	20.0	47.3
						Barrier142; Prop Barrier B8	PT10	1064	20.0	46.6
						Barrier142; Prop Barrier B8	PT12	1066	20.0	43.7
						Barrier142; Prop Barrier B8	PT9	1063	20.0	43.4
						Barrier142; Prop Barrier B8	PT5	1059	20.0	42.1

**RESULTS: BARRIER DESIGN**

RESULTS: BARRIER DESIGN					BSB					
						Barrier142; Prop Barrier B8	PT11	1065	20.0	40.9
						Barrier142; Prop Barrier B8	PT7	1061	20.0	40.5
						Barrier142; Prop Barrier B8	PT6	1060	20.0	40.5
						Barrier142; Prop Barrier B8	PT18	1072	20.0	38.7
						Barrier142; Prop Barrier B8	PT17	1071	20.0	37.6
R857(K1193)	373	61.2	10.1	8	2.1	Barrier142; Prop Barrier B8	PT5	1059	20.0	57.1
						Barrier142; Prop Barrier B8	PT6	1060	20.0	54.1
						Barrier142; Prop Barrier B8	PT7	1061	20.0	53.7
						Barrier142; Prop Barrier B8	PT3	1057	20.0	52.9
						Barrier142; Prop Barrier B8	PT9	1063	20.0	43.6
						Barrier142; Prop Barrier B8	PT10	1064	20.0	43.3
						Barrier142; Prop Barrier B8	PT4	1058	20.0	43.3
						Barrier142; Prop Barrier B8	PT8	1062	20.0	40.9
						Barrier142; Prop Barrier B8	PT1	1055	20.0	39.3
						Barrier142; Prop Barrier B8	PT11	1065	20.0	37.5
R858(K1379)	374	55.4	3.8	8	-4.2	Barrier142; Prop Barrier B8	PT18	1072	20.0	44.2
						Barrier142; Prop Barrier B8	PT17	1071	20.0	43.3
						Barrier142; Prop Barrier B8	PT13	1067	20.0	42.3
						Barrier142; Prop Barrier B8	PT9	1063	20.0	41.8
						Barrier142; Prop Barrier B8	PT11	1065	20.0	41.6
						Barrier142; Prop Barrier B8	PT10	1064	20.0	41.1
						Barrier142; Prop Barrier B8	PT5	1059	20.0	40.6
						Barrier142; Prop Barrier B8	PT12	1066	20.0	38.8
						Barrier142; Prop Barrier B8	PT6	1060	20.0	38.4
						Barrier142; Prop Barrier B8	PT7	1061	20.0	38.3
R859(K1385)	375	54.9	3.7	8	-4.3	Barrier142; Prop Barrier B8	PT17	1071	20.0	43.8
						Barrier142; Prop Barrier B8	PT9	1063	20.0	42.8
						Barrier142; Prop Barrier B8	PT18	1072	20.0	42.6
						Barrier142; Prop Barrier B8	PT11	1065	20.0	42.6
						Barrier142; Prop Barrier B8	PT10	1064	20.0	41.6
						Barrier142; Prop Barrier B8	PT5	1059	20.0	41.1
						Barrier142; Prop Barrier B8	PT12	1066	20.0	39.6
						Barrier142; Prop Barrier B8	PT7	1061	20.0	38.7
						Barrier142; Prop Barrier B8	PT13	1067	20.0	38.4
						Barrier142; Prop Barrier B8	PT15	1069	20.0	38.4
R861(K1390)	377	54.4	3.8	8	-4.2	Barrier142; Prop Barrier B8	PT10	1064	20.0	43.8

**RESULTS: BARRIER DESIGN**

R862(K1449)	378	58.8	6.9	8
R867(K1196)	384	60.1	9.3	8
R868(KV1492)	385	57.7	5.5	8

**BSB**

	Barrier142; Prop Barrier B8	PT9	1063	20.0	43.6
	Barrier142; Prop Barrier B8	PT12	1066	20.0	42.8
	Barrier142; Prop Barrier B8	PT11	1065	20.0	41.5
	Barrier142; Prop Barrier B8	PT5	1059	20.0	41.4
	Barrier142; Prop Barrier B8	PT6	1060	20.0	39.6
	Barrier142; Prop Barrier B8	PT7	1061	20.0	39.1
	Barrier142; Prop Barrier B8	PT18	1072	20.0	38.8
	Barrier142; Prop Barrier B8	PT19	1073	20.0	38.5
	Barrier142; Prop Barrier B8	PT17	1071	20.0	38.3
-1.1	Barrier142; Prop Barrier B8	PT10	1064	20.0	53.2
	Barrier142; Prop Barrier B8	PT7	1061	20.0	52.4
	Barrier142; Prop Barrier B8	PT11	1065	20.0	49.8
	Barrier142; Prop Barrier B8	PT9	1063	20.0	48.5
	Barrier142; Prop Barrier B8	PT12	1066	20.0	47.7
	Barrier142; Prop Barrier B8	PT8	1062	20.0	45.7
	Barrier142; Prop Barrier B8	PT13	1067	20.0	45.0
	Barrier142; Prop Barrier B8	PT15	1069	20.0	42.7
	Barrier142; Prop Barrier B8	PT6	1060	20.0	39.2
	Barrier142; Prop Barrier B8	PT1	1055	20.0	38.0
1.3	Barrier142; Prop Barrier B8	PT5	1059	20.0	56.3
	Barrier142; Prop Barrier B8	PT6	1060	20.0	54.0
	Barrier142; Prop Barrier B8	PT7	1061	20.0	52.7
	Barrier142; Prop Barrier B8	PT3	1057	20.0	46.2
	Barrier142; Prop Barrier B8	PT9	1063	20.0	43.8
	Barrier142; Prop Barrier B8	PT10	1064	20.0	43.6
	Barrier142; Prop Barrier B8	PT4	1058	20.0	42.1
	Barrier142; Prop Barrier B8	PT1	1055	20.0	39.9
	Barrier142; Prop Barrier B8	PT8	1062	20.0	39.1
	Barrier142; Prop Barrier B8	PT11	1065	20.0	38.9
-2.5	Barrier142; Prop Barrier B8	PT7	1061	20.0	53.5
	Barrier142; Prop Barrier B8	PT10	1064	20.0	46.7
	Barrier142; Prop Barrier B8	PT9	1063	20.0	46.6
	Barrier142; Prop Barrier B8	PT11	1065	20.0	46.3
	Barrier142; Prop Barrier B8	PT12	1066	20.0	46.0
	Barrier142; Prop Barrier B8	PT13	1067	20.0	43.5
	Barrier142; Prop Barrier B8	PT15	1069	20.0	42.1

**RESULTS: BARRIER DESIGN**

R869(K1492)	386	60.7	4.9	8
R874(K1473)	391	50.6	4.2	8
R875(K1203)	392	59.7	8.9	8
R877(K40)	394	60.0	4.8	8

**BSB**

	Barrier142; Prop Barrier B8	PT6	1060	20.0	42.0
	Barrier142; Prop Barrier B8	PT17	1071	20.0	41.3
	Barrier142; Prop Barrier B8	PT5	1059	20.0	40.3
-3.1	Barrier142; Prop Barrier B8	PT7	1061	20.0	54.7
	Barrier142; Prop Barrier B8	PT9	1063	20.0	53.5
	Barrier142; Prop Barrier B8	PT10	1064	20.0	47.9
	Barrier142; Prop Barrier B8	PT1	1055	20.0	47.8
	Barrier142; Prop Barrier B8	PT11	1065	20.0	47.6
	Barrier142; Prop Barrier B8	PT8	1062	20.0	47.5
	Barrier142; Prop Barrier B8	PT12	1066	20.0	46.6
	Barrier142; Prop Barrier B8	PT6	1060	20.0	46.3
	Barrier142; Prop Barrier B8	PT5	1059	20.0	44.4
	Barrier142; Prop Barrier B8	PT3	1057	20.0	44.0
-3.8	Barrier142; Prop Barrier B8	PT10	1064	20.0	41.5
	Barrier142; Prop Barrier B8	PT9	1063	20.0	39.6
	Barrier142; Prop Barrier B8	PT7	1061	20.0	39.5
	Barrier142; Prop Barrier B8	PT12	1066	20.0	39.1
	Barrier142; Prop Barrier B8	PT11	1065	20.0	38.6
	Barrier142; Prop Barrier B8	PT13	1067	20.0	38.5
	Barrier142; Prop Barrier B8	PT18	1072	20.0	35.1
	Barrier142; Prop Barrier B8	PT17	1071	20.0	34.6
	Barrier142; Prop Barrier B8	PT6	1060	20.0	33.8
	Barrier142; Prop Barrier B8	PT15	1069	20.0	33.7
0.9	Barrier142; Prop Barrier B8	PT5	1059	20.0	55.3
	Barrier142; Prop Barrier B8	PT6	1060	20.0	53.6
	Barrier142; Prop Barrier B8	PT7	1061	20.0	51.1
	Barrier142; Prop Barrier B8	PT1	1055	20.0	49.3
	Barrier142; Prop Barrier B8	PT9	1063	20.0	44.4
	Barrier142; Prop Barrier B8	PT10	1064	20.0	43.8
	Barrier142; Prop Barrier B8	PT3	1057	20.0	42.9
	Barrier142; Prop Barrier B8	PT8	1062	20.0	39.0
	Barrier142; Prop Barrier B8	PT11	1065	20.0	38.9
	Barrier142; Prop Barrier B8	PT12	1066	20.0	36.9
-3.2	Barrier142; Prop Barrier B8	PT9	1063	20.0	52.3
	Barrier142; Prop Barrier B8	PT7	1061	20.0	51.2
	Barrier142; Prop Barrier B8	PT3	1057	20.0	49.1



**RESULTS: BARRIER DESIGN**

RESULTS: BARRIER DESIGN					BSB					
						Barrier142; Prop Barrier B8	PT10	1064	20.0	48.3
						Barrier142; Prop Barrier B8	PT1	1055	20.0	46.8
						Barrier142; Prop Barrier B8	PT6	1060	20.0	46.8
						Barrier142; Prop Barrier B8	PT8	1062	20.0	46.6
						Barrier142; Prop Barrier B8	PT11	1065	20.0	46.3
						Barrier142; Prop Barrier B8	PT12	1066	20.0	46.2
						Barrier142; Prop Barrier B8	PT5	1059	20.0	46.0
R880(K1202)	397	59.0	5.5	8	-2.5	Barrier142; Prop Barrier B8	PT9	1063	20.0	50.2
						Barrier142; Prop Barrier B8	PT5	1059	20.0	50.0
						Barrier142; Prop Barrier B8	PT7	1061	20.0	49.7
						Barrier142; Prop Barrier B8	PT3	1057	20.0	49.4
						Barrier142; Prop Barrier B8	PT10	1064	20.0	47.9
						Barrier142; Prop Barrier B8	PT6	1060	20.0	46.1
						Barrier142; Prop Barrier B8	PT12	1066	20.0	45.6
						Barrier142; Prop Barrier B8	PT1	1055	20.0	44.8
						Barrier142; Prop Barrier B8	PT11	1065	20.0	44.7
						Barrier142; Prop Barrier B8	PT13	1067	20.0	43.0
R882(K1211)	399	60.5	10.2	8	2.2	Barrier142; Prop Barrier B8	PT1	1055	20.0	55.9
						Barrier142; Prop Barrier B8	PT5	1059	20.0	54.2
						Barrier142; Prop Barrier B8	PT3	1057	20.0	54.2
						Barrier142; Prop Barrier B8	PT6	1060	20.0	44.8
						Barrier142; Prop Barrier B8	PT7	1061	20.0	44.8
						Barrier142; Prop Barrier B8	PT2	1056	20.0	44.6
						Barrier142; Prop Barrier B8	PT10	1064	20.0	42.1
						Barrier142; Prop Barrier B8	PT4	1058	20.0	40.5
						Barrier142; Prop Barrier B8	PT9	1063	20.0	39.6
						Barrier142; Prop Barrier B8	PT11	1065	20.0	36.7
R883(K1209)	400	58.9	8.3	8	0.3	Barrier142; Prop Barrier B8	PT5	1059	20.0	54.3
						Barrier142; Prop Barrier B8	PT6	1060	20.0	53.0
						Barrier142; Prop Barrier B8	PT7	1061	20.0	49.4
						Barrier142; Prop Barrier B8	PT9	1063	20.0	44.6
						Barrier142; Prop Barrier B8	PT10	1064	20.0	44.2
						Barrier142; Prop Barrier B8	PT1	1055	20.0	42.8
						Barrier142; Prop Barrier B8	PT3	1057	20.0	42.7
						Barrier142; Prop Barrier B8	PT8	1062	20.0	39.1
						Barrier142; Prop Barrier B8	PT11	1065	20.0	38.7

**RESULTS: BARRIER DESIGN**

RESULTS: BARRIER DESIGN					BSB					
						Barrier142; Prop Barrier B8	PT18	1072	20.0	38.7
R884(K1213)	401	58.0	11.1	8	3.1	Barrier142; Prop Barrier B8	PT3	1057	20.0	53.4
						Barrier142; Prop Barrier B8	PT5	1059	20.0	51.7
						Barrier142; Prop Barrier B8	PT1	1055	20.0	47.8
						Barrier142; Prop Barrier B8	PT7	1061	20.0	46.3
						Barrier142; Prop Barrier B8	PT6	1060	20.0	44.4
						Barrier142; Prop Barrier B8	PT2	1056	20.0	43.9
						Barrier142; Prop Barrier B8	PT10	1064	20.0	43.6
						Barrier142; Prop Barrier B8	PT9	1063	20.0	41.7
						Barrier142; Prop Barrier B8	PT4	1058	20.0	40.2
						Barrier142; Prop Barrier B8	PT11	1065	20.0	39.5
R886(K1206)	403	58.5	6.1	8	-1.9	Barrier142; Prop Barrier B8	PT5	1059	20.0	51.7
						Barrier142; Prop Barrier B8	PT7	1061	20.0	48.4
						Barrier142; Prop Barrier B8	PT3	1057	20.0	48.2
						Barrier142; Prop Barrier B8	PT10	1064	20.0	47.2
						Barrier142; Prop Barrier B8	PT9	1063	20.0	46.9
						Barrier142; Prop Barrier B8	PT6	1060	20.0	45.2
						Barrier142; Prop Barrier B8	PT12	1066	20.0	44.9
						Barrier142; Prop Barrier B8	PT1	1055	20.0	43.4
						Barrier142; Prop Barrier B8	PT11	1065	20.0	42.7
						Barrier142; Prop Barrier B8	PT13	1067	20.0	42.5
R888(K1218)	405	57.2	10.0	8	2.0	Barrier142; Prop Barrier B8	PT3	1057	20.0	52.3
						Barrier142; Prop Barrier B8	PT5	1059	20.0	48.6
						Barrier142; Prop Barrier B8	PT1	1055	20.0	48.6
						Barrier142; Prop Barrier B8	PT7	1061	20.0	47.0
						Barrier142; Prop Barrier B8	PT6	1060	20.0	44.9
						Barrier142; Prop Barrier B8	PT10	1064	20.0	43.4
						Barrier142; Prop Barrier B8	PT2	1056	20.0	42.5
						Barrier142; Prop Barrier B8	PT9	1063	20.0	42.2
						Barrier142; Prop Barrier B8	PT4	1058	20.0	39.6
						Barrier142; Prop Barrier B8	PT11	1065	20.0	38.2
R889(K36)	406	58.9	6.6	8	-1.4	Barrier142; Prop Barrier B8	PT5	1059	20.0	52.9
						Barrier142; Prop Barrier B8	PT1	1055	20.0	48.3
						Barrier142; Prop Barrier B8	PT7	1061	20.0	47.7
						Barrier142; Prop Barrier B8	PT3	1057	20.0	47.5
						Barrier142; Prop Barrier B8	PT6	1060	20.0	47.2

**RESULTS: BARRIER DESIGN**

RESULTS: BARRIER DESIGN					BSB					
						Barrier142; Prop Barrier B8	PT10	1064	20.0	44.2
						Barrier142; Prop Barrier B8	PT9	1063	20.0	44.2
						Barrier142; Prop Barrier B8	PT12	1066	20.0	41.8
						Barrier142; Prop Barrier B8	PT13	1067	20.0	41.3
						Barrier142; Prop Barrier B8	PT15	1069	20.0	40.6
R892(K1216)	409	58.7	6.8	8	-1.2	Barrier142; Prop Barrier B8	PT5	1059	20.0	52.6
						Barrier142; Prop Barrier B8	PT6	1060	20.0	51.6
						Barrier142; Prop Barrier B8	PT1	1055	20.0	50.1
						Barrier142; Prop Barrier B8	PT7	1061	20.0	48.2
						Barrier142; Prop Barrier B8	PT9	1063	20.0	44.6
						Barrier142; Prop Barrier B8	PT10	1064	20.0	43.3
						Barrier142; Prop Barrier B8	PT13	1067	20.0	40.6
						Barrier142; Prop Barrier B8	PT3	1057	20.0	40.3
						Barrier142; Prop Barrier B8	PT15	1069	20.0	39.5
						Barrier142; Prop Barrier B8	PT8	1062	20.0	39.3
R893(K1220)	410	56.4	8.4	8	0.4	Barrier142; Prop Barrier B8	PT3	1057	20.0	51.1
						Barrier142; Prop Barrier B8	PT7	1061	20.0	47.6
						Barrier142; Prop Barrier B8	PT5	1059	20.0	46.2
						Barrier142; Prop Barrier B8	PT1	1055	20.0	44.8
						Barrier142; Prop Barrier B8	PT6	1060	20.0	44.0
						Barrier142; Prop Barrier B8	PT10	1064	20.0	41.9
						Barrier142; Prop Barrier B8	PT9	1063	20.0	41.5
						Barrier142; Prop Barrier B8	PT2	1056	20.0	41.2
						Barrier142; Prop Barrier B8	PT15	1069	20.0	39.0
						Barrier142; Prop Barrier B8	PT4	1058	20.0	38.5
R895(K1219)	412	54.0	4.6	8	-3.4	Barrier142; Prop Barrier B8	PT6	1060	20.0	48.7
						Barrier142; Prop Barrier B8	PT7	1061	20.0	45.9
						Barrier142; Prop Barrier B8	PT5	1059	20.0	45.1
						Barrier142; Prop Barrier B8	PT9	1063	20.0	42.3
						Barrier142; Prop Barrier B8	PT10	1064	20.0	42.2
						Barrier142; Prop Barrier B8	PT8	1062	20.0	38.0
						Barrier142; Prop Barrier B8	PT12	1066	20.0	37.4
						Barrier142; Prop Barrier B8	PT11	1065	20.0	37.4
						Barrier142; Prop Barrier B8	PT1	1055	20.0	36.8
						Barrier142; Prop Barrier B8	PT13	1067	20.0	35.1
R898(K1224)	415	59.3	4.5	8	-3.5	Barrier142; Prop Barrier B8	PT3	1057	20.0	49.8

**RESULTS: BARRIER DESIGN**

R899(K1223)	416	59.6	4.0	8
R900(K1222)	417	56.2	3.2	8
M-44b(K75)	671	62.3	13.0	8

**BSB**

	Barrier142; Prop Barrier B8	PT7	1061	20.0	47.4
	Barrier142; Prop Barrier B8	PT5	1059	20.0	43.3
	Barrier142; Prop Barrier B8	PT9	1063	20.0	43.2
	Barrier142; Prop Barrier B8	PT1	1055	20.0	42.9
	Barrier142; Prop Barrier B8	PT6	1060	20.0	42.4
	Barrier142; Prop Barrier B8	PT10	1064	20.0	42.2
	Barrier142; Prop Barrier B8	PT2	1056	20.0	39.8
	Barrier142; Prop Barrier B8	PT13	1067	20.0	39.5
	Barrier142; Prop Barrier B8	PT15	1069	20.0	38.6
-4.0	Barrier142; Prop Barrier B8	PT3	1057	20.0	49.3
	Barrier142; Prop Barrier B8	PT6	1060	20.0	48.1
	Barrier142; Prop Barrier B8	PT7	1061	20.0	47.1
	Barrier142; Prop Barrier B8	PT1	1055	20.0	45.0
	Barrier142; Prop Barrier B8	PT5	1059	20.0	43.1
	Barrier142; Prop Barrier B8	PT10	1064	20.0	40.8
	Barrier142; Prop Barrier B8	PT9	1063	20.0	39.7
	Barrier142; Prop Barrier B8	PT2	1056	20.0	39.2
	Barrier142; Prop Barrier B8	PT11	1065	20.0	37.0
	Barrier142; Prop Barrier B8	PT4	1058	20.0	36.8
-4.8	Barrier142; Prop Barrier B8	PT5	1059	20.0	45.2
	Barrier142; Prop Barrier B8	PT6	1060	20.0	44.7
	Barrier142; Prop Barrier B8	PT7	1061	20.0	43.2
	Barrier142; Prop Barrier B8	PT12	1066	20.0	42.2
	Barrier142; Prop Barrier B8	PT10	1064	20.0	41.9
	Barrier142; Prop Barrier B8	PT13	1067	20.0	40.0
	Barrier142; Prop Barrier B8	PT9	1063	20.0	39.8
	Barrier142; Prop Barrier B8	PT15	1069	20.0	39.6
	Barrier142; Prop Barrier B8	PT17	1071	20.0	38.7
	Barrier142; Prop Barrier B8	PT11	1065	20.0	38.6
5.0	Barrier142; Prop Barrier B8	PT10	1064	20.0	61.0
	Barrier142; Prop Barrier B8	PT11	1065	20.0	55.0
	Barrier142; Prop Barrier B8	PT12	1066	20.0	47.3
	Barrier142; Prop Barrier B8	PT13	1067	20.0	41.9
	Barrier142; Prop Barrier B8	PT15	1069	20.0	39.5
	Barrier142; Prop Barrier B8	PT17	1071	20.0	39.4
	Barrier142; Prop Barrier B8	PT18	1072	20.0	39.3

**RESULTS: BARRIER DESIGN**


	<b>BSB</b>			
Barrier142; Prop Barrier B8	PT19	1073	20.0	39.2
Barrier142; Prop Barrier B8	PT20	1074	20.0	38.8
Barrier142; Prop Barrier B8	PT9	1063	20.0	37.5


**RESULTS: BARRIER DESIGN**

**BSB**

Total Cost, All Barriers (including additional cost(s))					\$1670599					

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

PEC													8 August 2023
ZR													TNM 2.5

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**PROJECT/CONTRACT:** BSB  
**RUN:** KY W Barrier B19 20'  
**BARRIER DESIGN:** 20'

Barriers		Segments											
Name	Type	Name	No.	Heights			Length	If Wall				If Berm	Cost
				First Point	Average	Second Point		Area	On Struc?	Important Reflections?		Volume	
				ft	ft	ft	ft	sq ft				cu yd	\$
Barrier142; Prop Barrier B8	W	PT1	1055	20.00	20.00	20.00	160	3197					102312
		PT2	1056	20.00	18.00	16.00	9	166					5310
		PT3	1057	20.00	20.00	20.00	155	3098					99134
		PT4	1058	20.00	22.00	24.00	9	203					6491
		PT5	1059	20.00	20.00	20.00	172	3437					109993
		PT6	1060	20.00	20.00	20.00	128	2561					81942
		PT7	1061	20.00	20.00	20.00	256	5121					163885
		PT8	1062	20.00	20.00	20.00	33	665					21275
		PT9	1063	20.00	20.00	20.00	174	3485					111507
		PT10	1064	20.00	20.00	20.00	281	5629					180135
		PT11	1065	20.00	20.00	20.00	182	3649					116772
		PT12	1066	20.00	20.00	20.00	192	3833					122661
		PT13	1067	20.00	20.00	20.00	168	3366					107722
		PT14	1068	20.00	20.00	20.00	6	113					3620
		PT15	1069	20.00	20.00	20.00	159	3182					101824
		PT16	1070	20.00	20.00	20.00	6	128					4098
		PT17	1071	20.00	20.00	20.00	129	2578					82488
		PT18	1072	20.00	20.00	20.00	155	3103					99283
		PT19	1073	20.00	20.00	20.00	116	2321					74265
		PT20	1074	20.00	19.00	18.00	125	2371					75883
1484	W	point559	559	10.00	10.00	10.00	88	879					0
		point560	560	10.00	10.00	10.00	55	549					0
		point561	561	10.00	10.00	10.00	26	258					0
		point562	562	10.00	10.00	10.00	52	524					0
		point563	563	10.00	10.00	10.00	67	673					0

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

		point564	564	10.00	10.00	10.00	7	68				0
		point565	565	10.00	10.00	10.00	4	35				0
		point566	566	10.00	10.00	10.00	43	430				0
		point567	567	10.00	10.00	10.00	76	761				0
		point568	568	10.00	10.00	10.00	6	57				0
		point569	569	10.00	10.00	10.00	7	67				0
		point570	570	10.00	10.00	10.00	71	708				0
		point571	571	10.00	10.00	10.00	52	517				0
		point572	572	10.00	10.00	10.00	134	1339				0
		point573	573	10.00	10.00	10.00	5	53				0
		point574	574	10.00	10.00	10.00	59	593				0
		point575	575	10.00	10.00	10.00	11	107				0
		point576	576	10.00	10.00	10.00	54	542				0
1460	W	point510	510	10.00	10.00	10.00	30	297				0
		point511	511	10.00	10.00	10.00	21	213				0
		point512	512	10.00	10.00	10.00	7	71				0
		point513	513	10.00	10.00	10.00	46	456				0
		point514	514	10.00	10.00	10.00	29	286				0
		point515	515	10.00	10.00	10.00	15	152				0
		point516	516	10.00	10.00	10.00	12	120				0
		point517	517	10.00	10.00	10.00	35	354				0
		point518	518	10.00	10.00	10.00	19	191				0
		point519	519	10.00	10.00	10.00	15	152				0
1446	W	point478	478	10.00	10.00	10.00	7	68				0
		point479	479	10.00	10.00	10.00	29	287				0
		point480	480	10.00	10.00	10.00	77	773				0
		point481	481	10.00	10.00	10.00	30	297				0
		point482	482	10.00	10.00	10.00	70	699				0
1421	W	point435	435	10.00	10.00	10.00	7	74				0
		point436	436	10.00	10.00	10.00	66	655				0
		point437	437	10.00	10.00	10.00	30	299				0
		point438	438	10.00	10.00	10.00	92	924				0
		point439	439	10.00	10.00	10.00	44	440				0
		point440	440	10.00	10.00	10.00	27	266				0
1402	W	point398	398	20.00	20.00	20.00	13	266				0



**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

		point399	399	20.00	20.00	20.00	7	139				0
		point400	400	20.00	20.00	20.00	17	345				0
		point401	401	20.00	20.00	20.00	37	732				0
		point402	402	20.00	20.00	20.00	30	605				0
		point403	403	20.00	20.00	20.00	29	579				0
1395	W	point393	393	20.00	20.00	20.00	31	611				0
		point394	394	20.00	20.00	20.00	50	990				0
		point395	395	20.00	20.00	20.00	28	552				0
		point396	396	20.00	20.00	20.00	46	918				0
1391	W	point388	388	20.00	20.00	20.00	32	640				0
		point389	389	20.00	20.00	20.00	38	760				0
		point390	390	20.00	20.00	20.00	32	631				0
		point391	391	20.00	20.00	20.00	35	706				0
1386	W	point379	379	20.00	20.00	20.00	46	921				0
		point380	380	20.00	20.00	20.00	25	492				0
		point381	381	20.00	20.00	20.00	7	148				0
		point382	382	20.00	20.00	20.00	14	282				0
		point383	383	20.00	20.00	20.00	40	796				0
		point384	384	20.00	20.00	20.00	23	452				0
		point385	385	20.00	20.00	20.00	13	255				0
		point386	386	20.00	20.00	20.00	15	291				0
1383	W	point369	369	10.00	10.00	10.00	6	59				0
		point370	370	10.00	10.00	10.00	60	604				0
		point371	371	10.00	10.00	10.00	45	447				0
		point372	372	10.00	10.00	10.00	22	217				0
		point373	373	10.00	10.00	10.00	7	68				0
		point374	374	10.00	10.00	10.00	33	330				0
		point375	375	10.00	10.00	10.00	24	236				0
		point376	376	10.00	10.00	10.00	5	54				0
		point377	377	10.00	10.00	10.00	8	79				0
1372	W	point364	364	20.00	20.00	20.00	29	577				0
		point365	365	20.00	20.00	20.00	36	711				0
		point366	366	20.00	20.00	20.00	29	577				0
		point367	367	20.00	20.00	20.00	36	711				0

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

1370	W	point357	357	20.00	20.00	20.00	6	121					0
		point358	358	20.00	20.00	20.00	10	192					0
		point359	359	20.00	20.00	20.00	28	555					0
		point360	360	20.00	20.00	20.00	33	666					0
		point361	361	20.00	20.00	20.00	30	604					0
		point362	362	20.00	20.00	20.00	24	487					0
1365	W	point349	349	10.00	10.00	10.00	28	280					0
		point350	350	10.00	10.00	10.00	25	249					0
		point351	351	10.00	10.00	10.00	73	729					0
		point352	352	10.00	10.00	10.00	30	298					0
		point353	353	10.00	10.00	10.00	39	385					0
		point354	354	10.00	10.00	10.00	6	60					0
		point355	355	10.00	10.00	10.00	8	81					0
1362	W	point344	344	20.00	20.00	20.00	36	716					0
		point345	345	20.00	20.00	20.00	34	671					0
		point346	346	20.00	20.00	20.00	35	707					0
		point347	347	20.00	20.00	20.00	33	666					0
1360	W	point332	332	20.00	20.00	20.00	11	210					0
		point333	333	20.00	20.00	20.00	11	215					0
		point334	334	20.00	20.00	20.00	22	439					0
		point335	335	20.00	20.00	20.00	43	863					0
		point336	336	20.00	20.00	20.00	54	1078					0
		point337	337	20.00	20.00	20.00	8	166					0
		point338	338	20.00	20.00	20.00	17	340					0
		point339	339	20.00	20.00	20.00	37	743					0
		point340	340	20.00	20.00	20.00	26	514					0
		point341	341	20.00	20.00	20.00	6	121					0
		point342	342	20.00	20.00	20.00	14	277					0
1348	W	point321	321	20.00	20.00	20.00	32	649					0
		point322	322	20.00	20.00	20.00	60	1190					0
		point323	323	20.00	20.00	20.00	33	653					0
		point324	324	20.00	20.00	20.00	59	1181					0
1346	W	point314	314	20.00	20.00	20.00	37	747					0

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

		point315	315	20.00	20.00	20.00	32	645				0
		point316	316	20.00	20.00	20.00	31	617				0
		point317	317	20.00	20.00	20.00	19	385				0
		point318	318	20.00	20.00	20.00	5	92				0
		point319	319	20.00	20.00	20.00	11	216				0
1341	W	point309	309	20.00	20.00	20.00	50	1002				0
		point310	310	20.00	20.00	20.00	39	779				0
		point311	311	20.00	20.00	20.00	50	1007				0
		point312	312	20.00	20.00	20.00	34	684				0
1336	W	point283	283	10.00	10.00	10.00	53	534				0
		point284	284	10.00	10.00	10.00	33	331				0
		point285	285	10.00	10.00	10.00	53	526				0
		point286	286	10.00	10.00	10.00	30	300				0
1331	W	point269	269	10.00	10.00	10.00	30	300				0
		point270	270	10.00	10.00	10.00	28	280				0
		point271	271	10.00	10.00	10.00	8	76				0
		point272	272	10.00	10.00	10.00	31	311				0
		point273	273	10.00	10.00	10.00	18	184				0
		point274	274	10.00	10.00	10.00	13	130				0
		point275	275	10.00	10.00	10.00	18	184				0
		point276	276	10.00	10.00	10.00	74	736				0
1318	W	point222	222	10.00	10.00	10.00	13	127				0
		point223	223	10.00	10.00	10.00	15	150				0
		point224	224	10.00	10.00	10.00	32	325				0
		point225	225	10.00	10.00	10.00	62	623				0
		point226	226	10.00	10.00	10.00	31	309				0
		point227	227	10.00	10.00	10.00	23	232				0
		point228	228	10.00	10.00	10.00	14	144				0
		point229	229	10.00	10.00	10.00	25	246				0
1220	W	point121	121	20.00	20.00	20.00	17	334				0
		point122	122	20.00	20.00	20.00	5	94				0
		point123	123	20.00	20.00	20.00	24	476				0
		point124	124	20.00	20.00	20.00	27	547				0
		point125	125	20.00	20.00	20.00	40	795				0

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

		point126	126	20.00	20.00	20.00	5	92				0
		point127	127	20.00	20.00	20.00	6	120				0
		point128	128	20.00	20.00	20.00	16	311				0
		point129	129	20.00	20.00	20.00	5	106				0
		point130	130	20.00	20.00	20.00	7	135				0
1219	W	point114	114	20.00	20.00	20.00	13	269				0
		point115	115	20.00	20.00	20.00	13	262				0
		point116	116	20.00	20.00	20.00	15	297				0
		point117	117	20.00	20.00	20.00	36	729				0
		point118	118	20.00	20.00	20.00	28	567				0
		point119	119	20.00	20.00	20.00	25	496				0
1218	W	point109	109	20.00	20.00	20.00	27	538				0
		point110	110	20.00	20.00	20.00	48	962				0
		point111	111	20.00	20.00	20.00	27	538				0
		point112	112	20.00	20.00	20.00	48	962				0
1216	W	point95	95	20.00	20.00	20.00	25	509				0
		point96	96	20.00	20.00	20.00	31	629				0
		point97	97	20.00	20.00	20.00	25	496				0
		point98	98	20.00	20.00	20.00	32	644				0
1213	W	point90	90	20.00	20.00	20.00	31	615				0
		point91	91	20.00	20.00	20.00	19	382				0
		point92	92	20.00	20.00	20.00	31	615				0
		point93	93	20.00	20.00	20.00	19	382				0
1211	W	point85	85	20.00	20.00	20.00	27	538				0
		point86	86	20.00	20.00	20.00	55	1103				0
		point87	87	20.00	20.00	20.00	27	546				0
		point88	88	20.00	20.00	20.00	56	1125				0
1209	W	point80	80	20.00	20.00	20.00	24	489				0
		point81	81	20.00	20.00	20.00	27	539				0
		point82	82	20.00	20.00	20.00	24	489				0
		point83	83	20.00	20.00	20.00	27	539				0
1203	W	point75	75	20.00	20.00	20.00	32	644				0

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

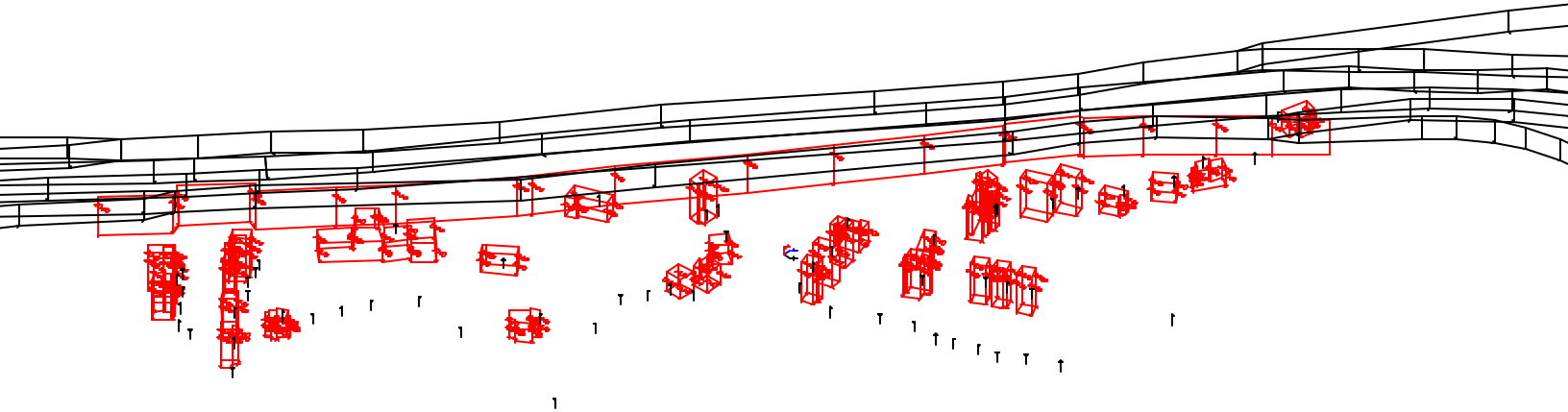
**BSB**

		point76	76	20.00	20.00	20.00	21	425				0
		point77	77	20.00	20.00	20.00	33	652				0
		point78	78	20.00	20.00	20.00	22	432				0
1196	W	point59	59	20.00	20.00	20.00	29	580				0
		point60	60	20.00	20.00	20.00	36	715				0
		point61	61	20.00	20.00	20.00	30	602				0
		point62	62	20.00	20.00	20.00	37	736				0
1193	W	point49	49	20.00	20.00	20.00	29	583				0
		point50	50	20.00	20.00	20.00	42	844				0
		point51	51	20.00	20.00	20.00	29	583				0
		point52	52	20.00	20.00	20.00	42	844				0
78	W	point42	42	10.00	10.00	10.00	11	105				0
		point43	43	10.00	10.00	10.00	10	96				0
		point44	44	10.00	10.00	10.00	19	190				0
		point45	45	10.00	10.00	10.00	53	534				0
		point46	46	10.00	10.00	10.00	30	300				0
		point47	47	10.00	10.00	10.00	44	441				0
75	W	point35	35	20.00	20.00	20.00	14	271				0
		point36	36	20.00	20.00	20.00	41	812				0
		point37	37	20.00	20.00	20.00	40	802				0
		point38	38	20.00	20.00	20.00	41	823				0
		point39	39	20.00	20.00	20.00	26	522				0
		point40	40	20.00	20.00	20.00	5	91				0
74	W	point28	28	10.00	10.00	10.00	39	386				0
		point29	29	10.00	10.00	10.00	41	410				0
		point30	30	10.00	10.00	10.00	28	283				0
		point31	31	10.00	10.00	10.00	5	47				0
		point32	32	10.00	10.00	10.00	11	111				0
		point33	33	10.00	10.00	10.00	40	403				0
73	W	point21	21	10.00	10.00	10.00	41	410				0
		point22	22	10.00	10.00	10.00	15	145				0
		point23	23	10.00	10.00	10.00	4	40				0
		point24	24	10.00	10.00	10.00	26	265				0

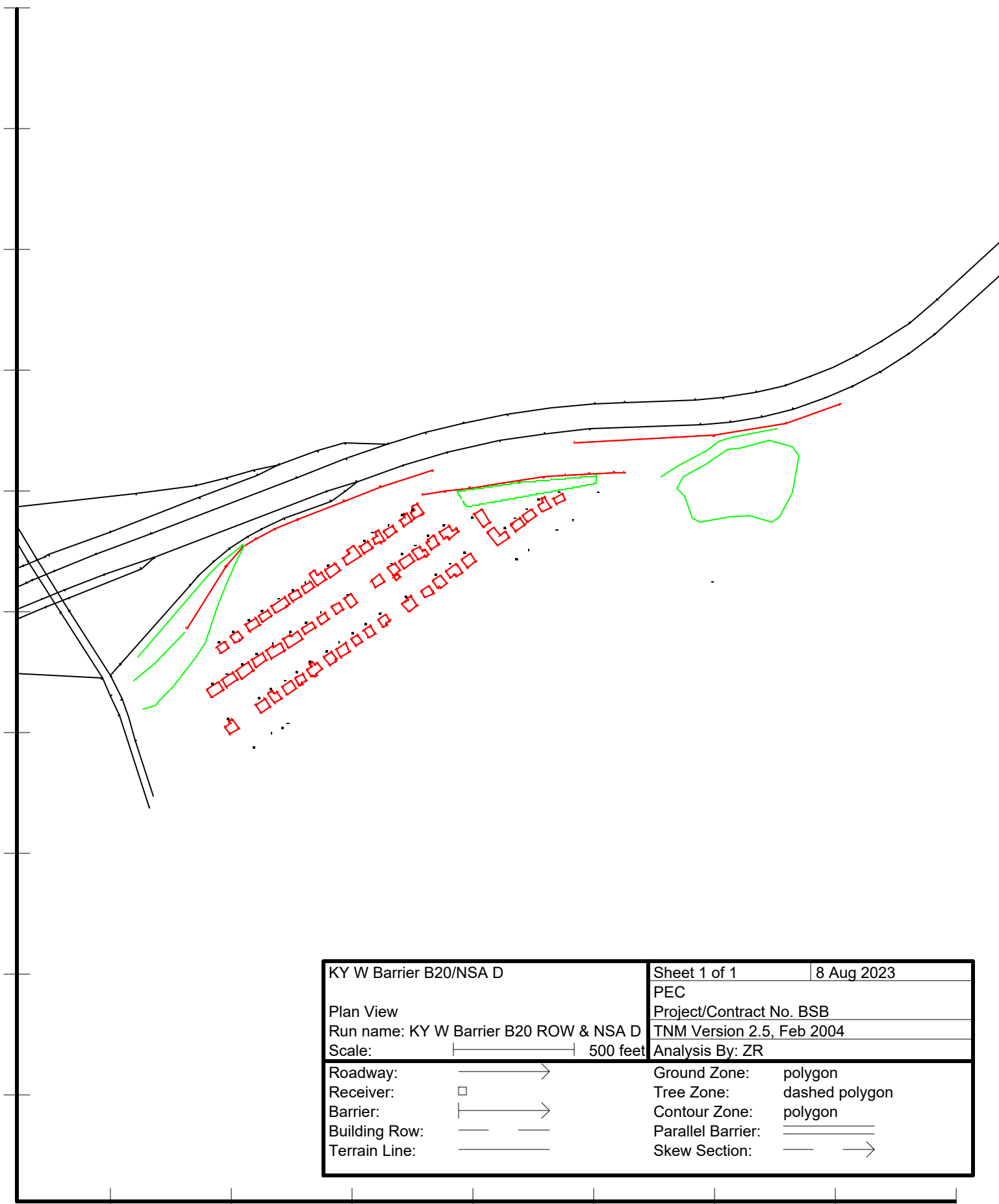
**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**









		point25	25	10.00	10.00	10.00	42	415				0
		point26	26	10.00	10.00	10.00	41	410				0
71	W	point16	16	10.00	10.00	10.00	41	405				0
		point17	17	10.00	10.00	10.00	40	395				0
		point18	18	10.00	10.00	10.00	41	410				0
		point19	19	10.00	10.00	10.00	41	405				0
36	W	point1	1	10.00	10.00	10.00	25	245				0
		point2	2	10.00	10.00	10.00	5	53				0
		point3	3	10.00	10.00	10.00	15	152				0
		point4	4	10.00	10.00	10.00	7	67				0
		point5	5	10.00	10.00	10.00	7	68				0
		point6	6	10.00	10.00	10.00	20	202				0
		point7	7	10.00	10.00	10.00	13	135				0
		point8	8	10.00	10.00	10.00	11	110				0
		point9	9	10.00	10.00	10.00	12	120				0
		point10	10	10.00	10.00	10.00	10	96				0
		point11	11	10.00	10.00	10.00	26	262				0
		point12	12	10.00	10.00	10.00	12	120				0
		point13	13	10.00	10.00	10.00	6	64				0
		point14	14	10.00	10.00	10.00	17	174				0



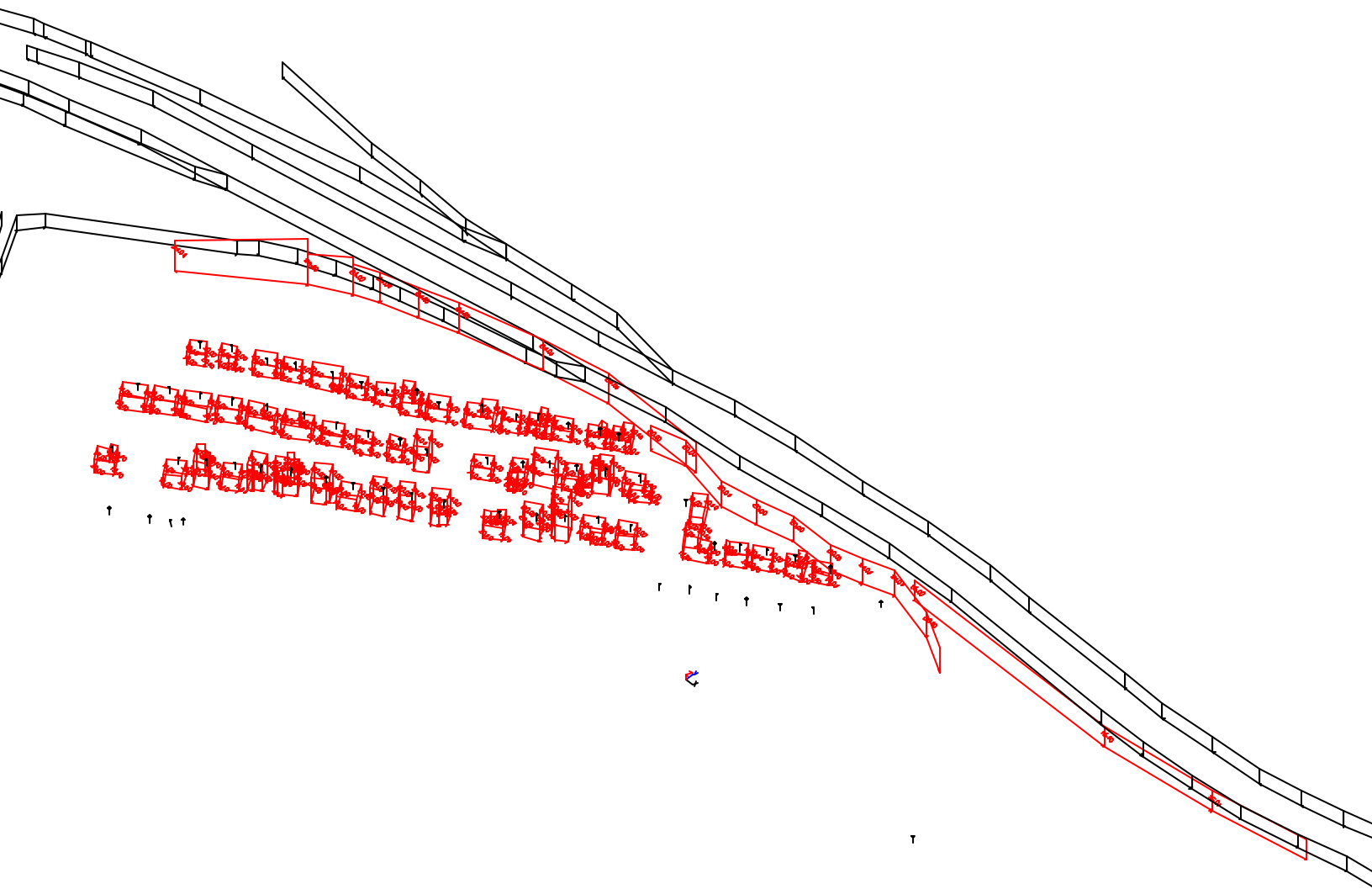
KY W Barrier B19 20'		Sheet 1 of 1	8 Aug 2023
Barrier View-20'		PEC	
Run name: KY W Barrier 19 20'		Project/Contract No. BSB	
Scale: <DNA - due to perspective>		TNM Version 2.5, Feb 2004	
		Analysis By: ZR	
Roadway:	—————>	Ground Zone:	polygon
Receiver:	□	Tree Zone:	dashed polygon
Barrier:	—————>	Contour Zone:	polygon
Building Row:	— — — —	Parallel Barrier:	=====
Terrain Line:	—————	Skew Section:	— — —>



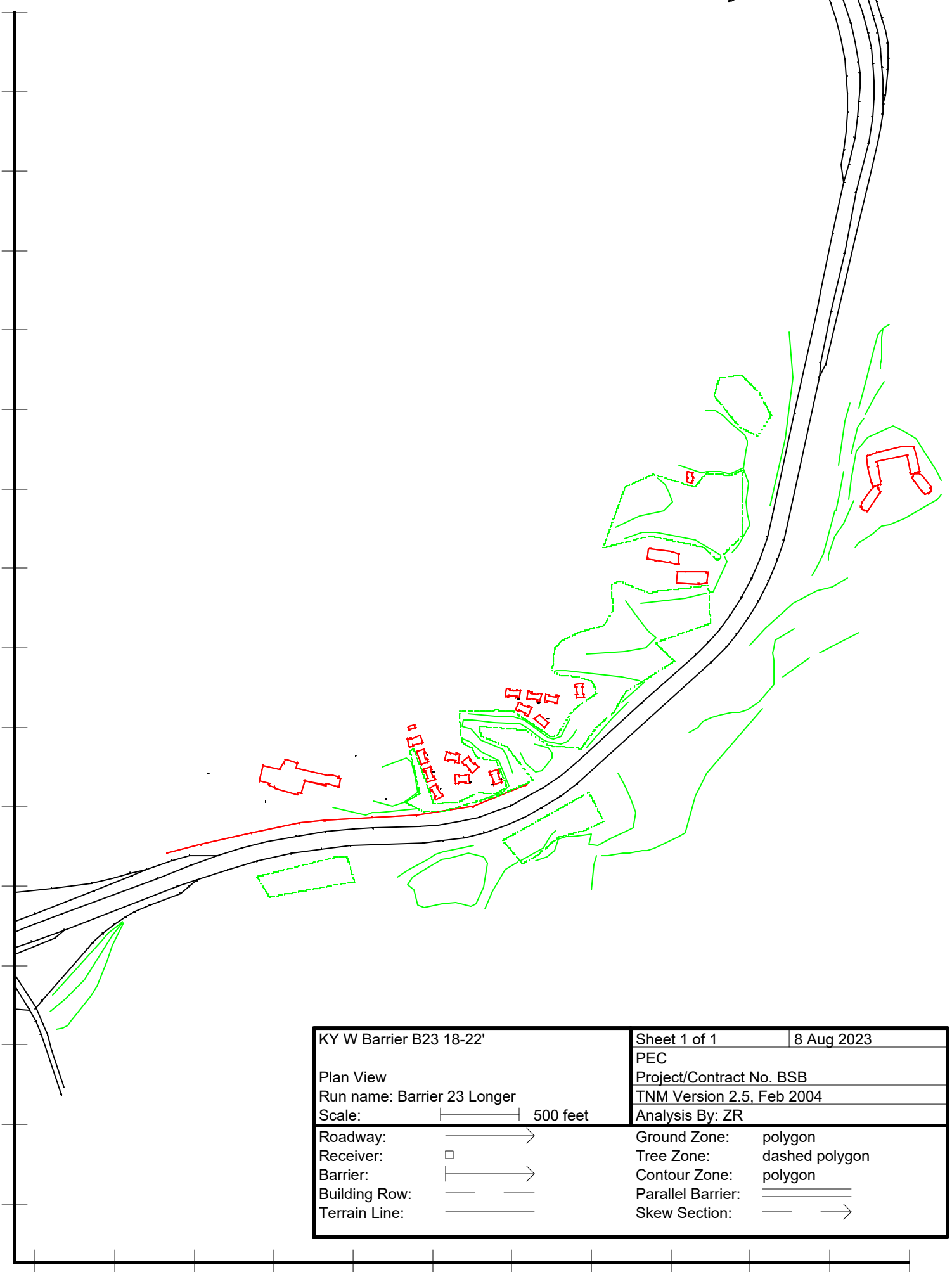
5265000      5265500      5266000      5266500      5267000      5267500      5268000      5268500









KY W Barrier B20/NSA D		Sheet 1 of 1	8 Aug 2023
Plan View		PEC	
Run name: KY W Barrier B20 ROW & NSA D		Project/Contract No. BSB	
Scale:  500 feet		TNM Version 2.5, Feb 2004	
		Analysis By: ZR	
Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	





KY W Barrier B20/NSA D		Sheet 1 of 1	8 Aug 2023
Barrier View-unsaved		PEC	
Run name: KY W Barrier B20 ROW & NSA D		Project/Contract No. BSB	
Scale: <DNA - due to perspective>		TNM Version 2.5, Feb 2004	
		Analysis By: ZR	
Roadway:	—————>	Ground Zone:	polygon
Receiver:	□	Tree Zone:	dashed polygon
Barrier:	┆—————>	Contour Zone:	polygon
Building Row:	— — — —	Parallel Barrier:	=====
Terrain Line:	—————	Skew Section:	— — —>



KY W Barrier B23 18-22'		Sheet 1 of 1	8 Aug 2023
Plan View		PEC	
Run name: Barrier 23 Longer		Project/Contract No. BSB	
Scale: 		TNM Version 2.5, Feb 2004	
		Analysis By: ZR	
Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

00 5265500 5266000 5266500 5267000 5267500 5268000 5268500 5269000 5269500 5270000 5270500

**RESULTS: SOUND LEVELS**

**BSB**

<b>PEC</b>									<b>8 August 2023</b>				
<b>ZR</b>									<b>TNM 2.5</b>				
									<b>Calculated with TNM 2.5</b>				
<b>RESULTS: SOUND LEVELS</b>													
<b>PROJECT/CONTRACT:</b>		<b>BSB</b>											
<b>RUN:</b>		<b>KY W Barrier B23 18-22'</b>											
<b>BARRIER DESIGN:</b>		<b>18' Longer</b>											
<b>ATMOSPHERICS:</b>		<b>68 deg F, 50% RH</b>											
										<b>Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.</b>			

<b>Receiver</b>													
<b>Name</b>	<b>No.</b>	<b>#DUs</b>	<b>Existing</b>	<b>No Barrier</b>	<b>Crit'n</b>	<b>Increase over existing</b>		<b>Type Impact</b>	<b>With Barrier</b>				
			<b>LAeq1h</b>	<b>LAeq1h</b>		<b>Calculated</b>	<b>Crit'n</b>		<b>Calculated</b>	<b>Noise Reduction</b>	<b>Goal</b>	<b>Calculated minus Goal</b>	
			<b>Calculated</b>	<b>Calculated</b>		<b>Calculated</b>	<b>Sub'l Inc</b>		<b>LAeq1h</b>	<b>Calculated</b>	<b>Goal</b>	<b>Calculated</b>	
			<b>dBA</b>	<b>dBA</b>	<b>dBA</b>	<b>dB</b>	<b>dB</b>		<b>dBA</b>	<b>dB</b>	<b>dB</b>	<b>dB</b>	
R460(K1532)	398	1	0.0	49.2	66	49.2	10	----	48.2	1.0	8	-7.0	
R465(K1502)	403	1	0.0	42.2	66	42.2	10	----	41.6	0.6	8	-7.4	
R468(K1545)	406	1	0.0	49.9	66	49.9	10	----	48.8	1.1	8	-6.9	
R473(K1506)	411	1	0.0	47.9	66	47.9	10	----	46.8	1.1	8	-6.9	
M-36(K1573)	414	1	0.0	68.9	66	68.9	10	Snd Lvl	60.8	8.1	8	0.1	
R476(K1520)	415	1	0.0	50.7	66	50.7	10	----	49.7	1.0	8	-7.0	
R477(K1560)	416	1	0.0	51.1	66	51.1	10	----	48.5	2.6	8	-5.4	
R481(K1509)	421	1	0.0	54.8	66	54.8	10	----	54.8	0.0	8	-8.0	
R487(K1533)	427	1	0.0	51.9	66	51.9	10	----	51.8	0.1	8	-7.9	
R493(K1559)	433	1	0.0	54.8	66	54.8	10	----	50.8	4.0	8	-4.0	
R494(K1568)	434	1	0.0	54.7	66	54.7	10	----	51.1	3.6	8	-4.4	
R507(K1564)	449	1	0.0	63.5	66	63.5	10	----	58.0	5.5	8	-2.5	
R509(K1573)	451	1	0.0	69.2	66	69.2	10	Snd Lvl	63.7	5.5	8	-2.5	
R515(K1569)	457	1	0.0	66.3	66	66.3	10	Snd Lvl	58.3	8.0	8	0.0	
M-35(K1503)	464	1	0.0	73.2	66	73.2	10	Snd Lvl	66.2	7.0	8	-1.0	
R523(K1578)	466	1	0.0	60.7	66	60.7	10	----	55.5	5.2	8	-2.8	
R525(K1570)	468	1	0.0	73.3	66	73.3	10	Snd Lvl	61.8	11.5	8	3.5	
R902	655	1	0.0	72.8	66	72.8	10	Snd Lvl	62.0	10.8	8	2.8	
R903	656	1	0.0	67.5	66	67.5	10	Snd Lvl	63.7	3.8	8	-4.2	
R904	657	1	0.0	52.0	66	52.0	10	----	49.8	2.2	8	-5.8	
<b>Dwelling Units</b>		<b># DUs</b>	<b>Noise Reduction</b>										
			<b>Min</b>	<b>Avg</b>	<b>Max</b>								
			<b>dB</b>	<b>dB</b>	<b>dB</b>								

**RESULTS: SOUND LEVELS****BSB**

All Selected		20	0.0	4.1	11.5								
All Impacted		7	3.8	7.8	11.5								
All that meet NR Goal		4	8.0	9.6	11.5								

**RESULTS: BARRIER DESCRIPTIONS**

**BSB**

PEC										
ZR										

8 August 2023

TNM 2.5

**RESULTS: BARRIER DESCRIPTIONS**

<b>PROJECT/CONTRACT:</b>	<b>BSB</b>
<b>RUN:</b>	<b>KY W Barrier B23 18-22'</b>
<b>BARRIER DESIGN:</b>	<b>18' Longer</b>

Barriers										
Name	Type	Heights along Barrier			Length	If Wall Area	If Berm Volume	Top Width	Run:Rise	Cost
		Min	Avg	Max						
		ft	ft	ft	ft	sq ft	cu yd	ft	ft:ft	\$
Barrier261	W	18.00	19.75	22.00	2316	45759				1464284
1533	W	30.00	30.00	30.00	254	7609				0
1578	W	30.00	30.00	30.00	300	8990				0
1573	W	30.00	30.00	30.00	1372	41167				0
1570	W	30.00	30.00	30.00	316	9486				0
1569	W	30.00	30.00	30.00	320	9605				0
1568	W	30.00	30.00	30.00	300	8996				0
1564	W	30.00	30.00	30.00	317	9508				0
1560	W	30.00	30.00	30.00	289	8681				0
1559	W	30.00	30.00	30.00	316	9465				0
1545	W	30.00	30.00	30.00	285	8544				0
1532	W	10.00	10.00	10.00	122	1221				0
1520	W	30.00	30.00	30.00	317	9499				0
1509	W	30.00	30.00	30.00	292	8761				0
1506	W	30.00	30.00	30.00	304	9115				0
1503	W	30.00	30.00	30.00	299	8960				0
1502	W	30.00	30.00	30.00	302	9072				0
									Total Cost:	1464284

**RESULTS: BARRIER DESIGN**

**BSB**

PEC																			8 August 2023
ZR																			TNM 2.5
																			Calculated with TNM 2.5

**RESULTS: BARRIER DESIGN**

<b>PROJECT/CONTRACT:</b>	<b>BSB</b>
<b>RUN:</b>	<b>KY W Barrier B23 18-22'</b>
<b>BARRIER DESIGN:</b>	<b>18' Longer</b>

<b>ATMOSPHERICS:</b>	<b>68 deg F, 50% RH</b>
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**Selected Receivers**

Name	No.	Noise Reduction				Barrier Reviewed	Important Segments			Partial LAeq1h
		Calc LAeq1h	Calc	Goal	Calc-Goal		Name	No.	Height	
		dBA	dB	dB	dB					
R460(K1532)	398	48.2	1.0	8	-7.0	Barrier261	point1743	1743	20.0	40.0
						Barrier261	point1738	1738	20.0	38.1
						Barrier261	point1739	1739	20.0	37.8
						Barrier261	point1737	1737	18.0	36.4
						Barrier261	point1740	1740	20.0	35.9
						Barrier261	point1744	1744	18.0	35.2
						Barrier261	point1741	1741	22.0	33.0
						Barrier261	point1742	1742	20.0	26.6
R465(K1502)	403	41.6	0.6	8	-7.4	Barrier261	point1744	1744	18.0	33.3
						Barrier261	point1738	1738	20.0	31.4
						Barrier261	point1739	1739	20.0	31.3
						Barrier261	point1743	1743	20.0	27.9
						Barrier261	point1740	1740	20.0	25.9
						Barrier261	point1741	1741	22.0	25.2
						Barrier261	point1742	1742	20.0	22.6
						Barrier261	point1737	1737	18.0	8.8
R468(K1545)	406	48.8	1.1	8	-6.9	Barrier261	point1743	1743	20.0	42.2
						Barrier261	point1744	1744	18.0	36.9
						Barrier261	point1739	1739	20.0	30.7
						Barrier261	point1738	1738	20.0	29.8
						Barrier261	point1740	1740	20.0	27.3

**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier261	point1741	1741	22.0	26.1
						Barrier261	point1742	1742	20.0	24.8
						Barrier261	point1737	1737	18.0	22.8
R473(K1506)	411	46.8	1.1	8	-6.9	Barrier261	point1744	1744	18.0	39.6
						Barrier261	point1743	1743	20.0	33.6
						Barrier261	point1739	1739	20.0	32.5
						Barrier261	point1741	1741	22.0	29.4
						Barrier261	point1740	1740	20.0	29.1
						Barrier261	point1738	1738	20.0	27.6
						Barrier261	point1742	1742	20.0	26.1
						Barrier261	point1737	1737	18.0	12.8
M-36(K1573)	414	60.8	8.1	8	0.1	Barrier261	point1739	1739	20.0	55.9
						Barrier261	point1738	1738	20.0	54.9
						Barrier261	point1737	1737	18.0	53.9
						Barrier261	point1740	1740	20.0	51.6
						Barrier261	point1741	1741	22.0	48.6
						Barrier261	point1742	1742	20.0	38.7
						Barrier261	point1743	1743	20.0	36.1
						Barrier261	point1744	1744	18.0	26.7
R476(K1520)	415	49.7	1.0	8	-7.0	Barrier261	point1739	1739	20.0	42.4
						Barrier261	point1744	1744	18.0	39.8
						Barrier261	point1740	1740	20.0	38.4
						Barrier261	point1738	1738	20.0	33.3
						Barrier261	point1741	1741	22.0	28.5
						Barrier261	point1743	1743	20.0	24.5
						Barrier261	point1737	1737	18.0	22.0
						Barrier261	point1742	1742	20.0	20.4
R477(K1560)	416	48.5	2.6	8	-5.4	Barrier261	point1743	1743	20.0	44.8
						Barrier261	point1744	1744	18.0	42.3
						Barrier261	point1739	1739	20.0	34.1
						Barrier261	point1740	1740	20.0	30.0
						Barrier261	point1738	1738	20.0	28.9
						Barrier261	point1741	1741	22.0	27.8
						Barrier261	point1742	1742	20.0	27.1
						Barrier261	point1737	1737	18.0	10.9
R481(K1509)	421	54.8	0.0	8	-8.0	Barrier261	point1744	1744	18.0	37.1

**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier261	point1739	1739	20.0	35.9
						Barrier261	point1740	1740	20.0	35.5
						Barrier261	point1741	1741	22.0	31.9
						Barrier261	point1743	1743	20.0	31.0
						Barrier261	point1742	1742	20.0	27.0
						Barrier261	point1738	1738	20.0	25.7
						Barrier261	point1737	1737	18.0	9.2
R487(K1533)	427	51.8	0.1	8	-7.9	Barrier261	point1744	1744	18.0	33.3
						Barrier261	point1743	1743	20.0	24.9
						Barrier261	point1740	1740	20.0	24.6
						Barrier261	point1741	1741	22.0	24.3
						Barrier261	point1739	1739	20.0	23.8
						Barrier261	point1742	1742	20.0	20.7
						Barrier261	point1738	1738	20.0	10.3
						Barrier261	point1737	1737	18.0	-1.9
R493(K1559)	433	50.8	4.0	8	-4.0	Barrier261	point1744	1744	18.0	48.1
						Barrier261	point1743	1743	20.0	44.3
						Barrier261	point1742	1742	20.0	40.5
						Barrier261	point1740	1740	20.0	39.6
						Barrier261	point1741	1741	22.0	37.2
						Barrier261	point1739	1739	20.0	22.0
						Barrier261	point1738	1738	20.0	19.2
						Barrier261	point1737	1737	18.0	13.6
R494(K1568)	434	51.1	3.6	8	-4.4	Barrier261	point1743	1743	20.0	48.0
						Barrier261	point1744	1744	18.0	46.1
						Barrier261	point1740	1740	20.0	35.6
						Barrier261	point1741	1741	22.0	31.7
						Barrier261	point1742	1742	20.0	28.5
						Barrier261	point1739	1739	20.0	15.6
						Barrier261	point1738	1738	20.0	11.9
						Barrier261	point1737	1737	18.0	6.2
R507(K1564)	449	58.0	5.5	8	-2.5	Barrier261	point1744	1744	18.0	54.9
						Barrier261	point1743	1743	20.0	47.7
						Barrier261	point1741	1741	22.0	36.3
						Barrier261	point1742	1742	20.0	29.0
						Barrier261	point1740	1740	20.0	20.4



**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier261	point1739	1739	20.0	15.4
						Barrier261	point1738	1738	20.0	10.6
						Barrier261	point1737	1737	18.0	6.2
R509(K1573)	451	63.7	5.5	8	-2.5	Barrier261	point1741	1741	22.0	60.7
						Barrier261	point1740	1740	20.0	58.2
						Barrier261	point1742	1742	20.0	56.1
						Barrier261	point1743	1743	20.0	48.5
						Barrier261	point1744	1744	18.0	37.6
						Barrier261	point1739	1739	20.0	29.0
						Barrier261	point1738	1738	30.0	21.8
						Barrier261	point1737	1737	30.0	4.5
R515(K1569)	457	58.3	8.0	8	0.0	Barrier261	point1744	1744	18.0	56.9
						Barrier261	point1743	1743	20.0	52.1
						Barrier261	point1742	1742	20.0	29.9
						Barrier261	point1741	1741	22.0	28.2
						Barrier261	point1740	1740	20.0	8.8
						Barrier261	point1739	1739	30.0	1.2
						Barrier261	point1737	1737	30.0	-5.6
						Barrier261	point1738	1738	30.0	-11.2
M-35(K1503)	464	66.2	7.0	8	-1.0	Barrier261	point1744	1744	18.0	61.1
						Barrier261	point1743	1743	20.0	29.8
						Barrier261	point1742	1742	20.0	28.6
						Barrier261	point1741	1741	22.0	23.2
R523(K1578)	466	55.5	5.2	8	-2.8	Barrier261	point1744	1744	18.0	52.2
						Barrier261	point1743	1743	20.0	51.9
						Barrier261	point1741	1741	22.0	35.5
						Barrier261	point1742	1742	20.0	31.3
						Barrier261	point1740	1740	20.0	16.0
						Barrier261	point1739	1739	30.0	6.1
						Barrier261	point1737	1737	30.0	-1.2
						Barrier261	point1738	1738	30.0	-4.5
R525(K1570)	468	61.8	11.5	8	3.5	Barrier261	point1744	1744	18.0	61.4
						Barrier261	point1743	1743	20.0	49.4
						Barrier261	point1742	1742	20.0	44.5
						Barrier261	point1741	1741	22.0	33.1
						Barrier261	point1740	1740	30.0	5.3

**RESULTS: BARRIER DESIGN**

**BSB**

						Barrier261	point1738	1738	30.0	0.3
						Barrier261	point1737	1737	30.0	-0.5
						Barrier261	point1739	1739	30.0	-4.2
R902	655	62.0	10.8	8	2.8	Barrier261	point1739	1739	20.0	59.9
						Barrier261	point1740	1740	20.0	54.4
						Barrier261	point1738	1738	20.0	53.9
						Barrier261	point1741	1741	22.0	49.2
						Barrier261	point1742	1742	20.0	36.1
						Barrier261	point1743	1743	20.0	34.2
						Barrier261	point1737	1737	18.0	33.8
						Barrier261	point1744	1744	18.0	26.5
R903	656	63.7	3.8	8	-4.2	Barrier261	point1737	1737	18.0	56.5
						Barrier261	point1738	1738	20.0	51.0
						Barrier261	point1739	1739	20.0	49.3
						Barrier261	point1740	1740	20.0	46.0
						Barrier261	point1741	1741	22.0	44.3
						Barrier261	point1742	1742	20.0	36.7
						Barrier261	point1743	1743	20.0	30.7
						Barrier261	point1744	1744	18.0	29.0
R904	657	49.8	2.2	8	-5.8	Barrier261	point1741	1741	22.0	45.3
						Barrier261	point1740	1740	20.0	40.6
						Barrier261	point1742	1742	20.0	39.5
						Barrier261	point1737	1737	18.0	39.3
						Barrier261	point1738	1738	20.0	38.6
						Barrier261	point1739	1739	20.0	34.8
						Barrier261	point1743	1743	20.0	31.9
						Barrier261	point1744	1744	18.0	30.3

**RESULTS: BARRIER DESIGN**

**BSB**

Total Cost, All Barriers (including additional cost(s))						\$1464284				

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

											8 August 2023
PEC											TNM 2.5
ZR											

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**PROJECT/CONTRACT: BSB**  
**RUN: KY W Barrier B23 18-22'**  
**BARRIER DESIGN: 18' Longer**

Barriers		Segments					Length		If Wall		If Berm		Cost
Name	Type	Name	No.	Heights	Average	Second Point	ft	Area	On Struc?	Important Reflections?	Volume	\$	
				First Point	ft	ft	ft	sq ft			cu yd		
				ft	ft	ft	ft	sq ft			cu yd	\$	
Barrier261	W	point1737	1737	18.00	18.00	18.00	223	4012				128386	
		point1738	1738	20.00	20.00	20.00	327	6535				209126	
		point1739	1739	20.00	20.00	20.00	311	6219				199007	
		point1740	1740	20.00	20.00	20.00	155	3103				99285	
		point1741	1741	22.00	22.00	22.00	299	6586				210740	
		point1742	1742	20.00	20.00	20.00	279	5574				178355	
		point1743	1743	20.00	20.00	20.00	362	7234				231492	
		point1744	1744	18.00	18.00	18.00	361	6497				207892	
1533	W	point1717	1717	30.00	30.00	30.00	44	1324				0	
		point1718	1718	30.00	30.00	30.00	88	2637				0	
		point1719	1719	30.00	30.00	30.00	45	1338				0	
		point1720	1720	30.00	30.00	30.00	77	2310				0	
1578	W	point1250	1250	30.00	30.00	30.00	8	235				0	
		point1251	1251	30.00	30.00	30.00	17	525				0	
		point1252	1252	30.00	30.00	30.00	51	1523				0	
		point1253	1253	30.00	30.00	30.00	16	491				0	
		point1254	1254	30.00	30.00	30.00	8	250				0	
		point1255	1255	30.00	30.00	30.00	48	1441				0	
		point1256	1256	30.00	30.00	30.00	8	255				0	
		point1257	1257	30.00	30.00	30.00	18	553				0	
		point1258	1258	30.00	30.00	30.00	51	1515				0	
		point1259	1259	30.00	30.00	30.00	16	491				0	
		point1260	1260	30.00	30.00	30.00	8	229				0	
		point1261	1261	30.00	30.00	30.00	49	1482				0	

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

1573	W	point1226	1226	30.00	30.00	30.00	83	2478				0
		point1227	1227	30.00	30.00	30.00	135	4039				0
		point1228	1228	30.00	30.00	30.00	11	328				0
		point1229	1229	30.00	30.00	30.00	81	2441				0
		point1230	1230	30.00	30.00	30.00	52	1546				0
		point1231	1231	30.00	30.00	30.00	13	400				0
		point1232	1232	30.00	30.00	30.00	12	357				0
		point1233	1233	30.00	30.00	30.00	59	1757				0
		point1234	1234	30.00	30.00	30.00	10	295				0
		point1235	1235	30.00	30.00	30.00	216	6480				0
		point1236	1236	30.00	30.00	30.00	33	983				0
		point1237	1237	30.00	30.00	30.00	75	2256				0
		point1238	1238	30.00	30.00	30.00	26	766				0
		point1239	1239	30.00	30.00	30.00	46	1375				0
		point1240	1240	30.00	30.00	30.00	107	3201				0
		point1241	1241	30.00	30.00	30.00	106	3165				0
		point1242	1242	30.00	30.00	30.00	67	2008				0
		point1243	1243	30.00	30.00	30.00	10	309				0
		point1244	1244	30.00	30.00	30.00	39	1175				0
		point1245	1245	30.00	30.00	30.00	10	295				0
		point1246	1246	30.00	30.00	30.00	149	4482				0
		point1247	1247	30.00	30.00	30.00	10	306				0
		point1248	1248	30.00	30.00	30.00	24	726				0
1570	W	point1213	1213	30.00	30.00	30.00	7	204				0
		point1214	1214	30.00	30.00	30.00	22	662				0
		point1215	1215	30.00	30.00	30.00	56	1677				0
		point1216	1216	30.00	30.00	30.00	24	707				0
		point1217	1217	30.00	30.00	30.00	7	204				0
		point1218	1218	30.00	30.00	30.00	44	1306				0
		point1219	1219	30.00	30.00	30.00	7	212				0
		point1220	1220	30.00	30.00	30.00	22	659				0
		point1221	1221	30.00	30.00	30.00	55	1648				0
		point1222	1222	30.00	30.00	30.00	22	651				0
		point1223	1223	30.00	30.00	30.00	8	247				0
		point1224	1224	30.00	30.00	30.00	44	1306				0
1569	W	point1200	1200	30.00	30.00	30.00	23	675				0

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

		point1201	1201	30.00	30.00	30.00	8	240				0
		point1202	1202	30.00	30.00	30.00	43	1276				0
		point1203	1203	30.00	30.00	30.00	8	255				0
		point1204	1204	30.00	30.00	30.00	23	691				0
		point1205	1205	30.00	30.00	30.00	56	1666				0
		point1206	1206	30.00	30.00	30.00	23	675				0
		point1207	1207	30.00	30.00	30.00	9	257				0
		point1208	1208	30.00	30.00	30.00	44	1305				0
		point1209	1209	30.00	30.00	30.00	8	240				0
		point1210	1210	30.00	30.00	30.00	22	660				0
		point1211	1211	30.00	30.00	30.00	56	1665				0
1568	W	point1187	1187	30.00	30.00	30.00	9	266				0
		point1188	1188	30.00	30.00	30.00	17	499				0
		point1189	1189	30.00	30.00	30.00	51	1528				0
		point1190	1190	30.00	30.00	30.00	16	479				0
		point1191	1191	30.00	30.00	30.00	7	218				0
		point1192	1192	30.00	30.00	30.00	47	1423				0
		point1193	1193	30.00	30.00	30.00	8	233				0
		point1194	1194	30.00	30.00	30.00	18	546				0
		point1195	1195	30.00	30.00	30.00	52	1561				0
		point1196	1196	30.00	30.00	30.00	16	489				0
		point1197	1197	30.00	30.00	30.00	8	251				0
		point1198	1198	30.00	30.00	30.00	50	1504				0
1564	W	point1174	1174	30.00	30.00	30.00	8	233				0
		point1175	1175	30.00	30.00	30.00	26	785				0
		point1176	1176	30.00	30.00	30.00	56	1666				0
		point1177	1177	30.00	30.00	30.00	24	721				0
		point1178	1178	30.00	30.00	30.00	7	212				0
		point1179	1179	30.00	30.00	30.00	42	1253				0
		point1180	1180	30.00	30.00	30.00	7	202				0
		point1181	1181	30.00	30.00	30.00	23	690				0
		point1182	1182	30.00	30.00	30.00	55	1645				0
		point1183	1183	30.00	30.00	30.00	26	775				0
		point1184	1184	30.00	30.00	30.00	7	202				0
		point1185	1185	30.00	30.00	30.00	37	1124				0
1560	W	point1160	1160	30.00	30.00	30.00	7	223				0

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

		point1161	1161	30.00	30.00	30.00	22	650				0
		point1162	1162	30.00	30.00	30.00	48	1442				0
		point1163	1163	30.00	30.00	30.00	88	2647				0
		point1164	1164	30.00	30.00	30.00	49	1461				0
		point1165	1165	30.00	30.00	30.00	23	693				0
		point1166	1166	30.00	30.00	30.00	9	270				0
		point1167	1167	30.00	30.00	30.00	43	1295				0
1559	W	point1147	1147	30.00	30.00	30.00	7	212				0
		point1148	1148	30.00	30.00	30.00	23	698				0
		point1149	1149	30.00	30.00	30.00	55	1657				0
		point1150	1150	30.00	30.00	30.00	22	671				0
		point1151	1151	30.00	30.00	30.00	8	229				0
		point1152	1152	30.00	30.00	30.00	43	1292				0
		point1153	1153	30.00	30.00	30.00	7	215				0
		point1154	1154	30.00	30.00	30.00	22	671				0
		point1155	1155	30.00	30.00	30.00	55	1657				0
		point1156	1156	30.00	30.00	30.00	23	686				0
		point1157	1157	30.00	30.00	30.00	8	227				0
		point1158	1158	30.00	30.00	30.00	42	1250				0
1545	W	point1118	1118	30.00	30.00	30.00	61	1817				0
		point1119	1119	30.00	30.00	30.00	7	218				0
		point1120	1120	30.00	30.00	30.00	23	703				0
		point1121	1121	30.00	30.00	30.00	55	1652				0
		point1122	1122	30.00	30.00	30.00	23	703				0
		point1123	1123	30.00	30.00	30.00	7	218				0
		point1124	1124	30.00	30.00	30.00	61	1827				0
		point1125	1125	30.00	30.00	30.00	47	1405				0
1532	W	point1106	1106	10.00	10.00	10.00	21	207				0
		point1107	1107	10.00	10.00	10.00	40	402				0
		point1108	1108	10.00	10.00	10.00	21	206				0
		point1109	1109	10.00	10.00	10.00	41	406				0
1520	W	point1093	1093	30.00	30.00	30.00	8	248				0
		point1094	1094	30.00	30.00	30.00	21	638				0
		point1095	1095	30.00	30.00	30.00	55	1659				0
		point1096	1096	30.00	30.00	30.00	22	658				0

**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

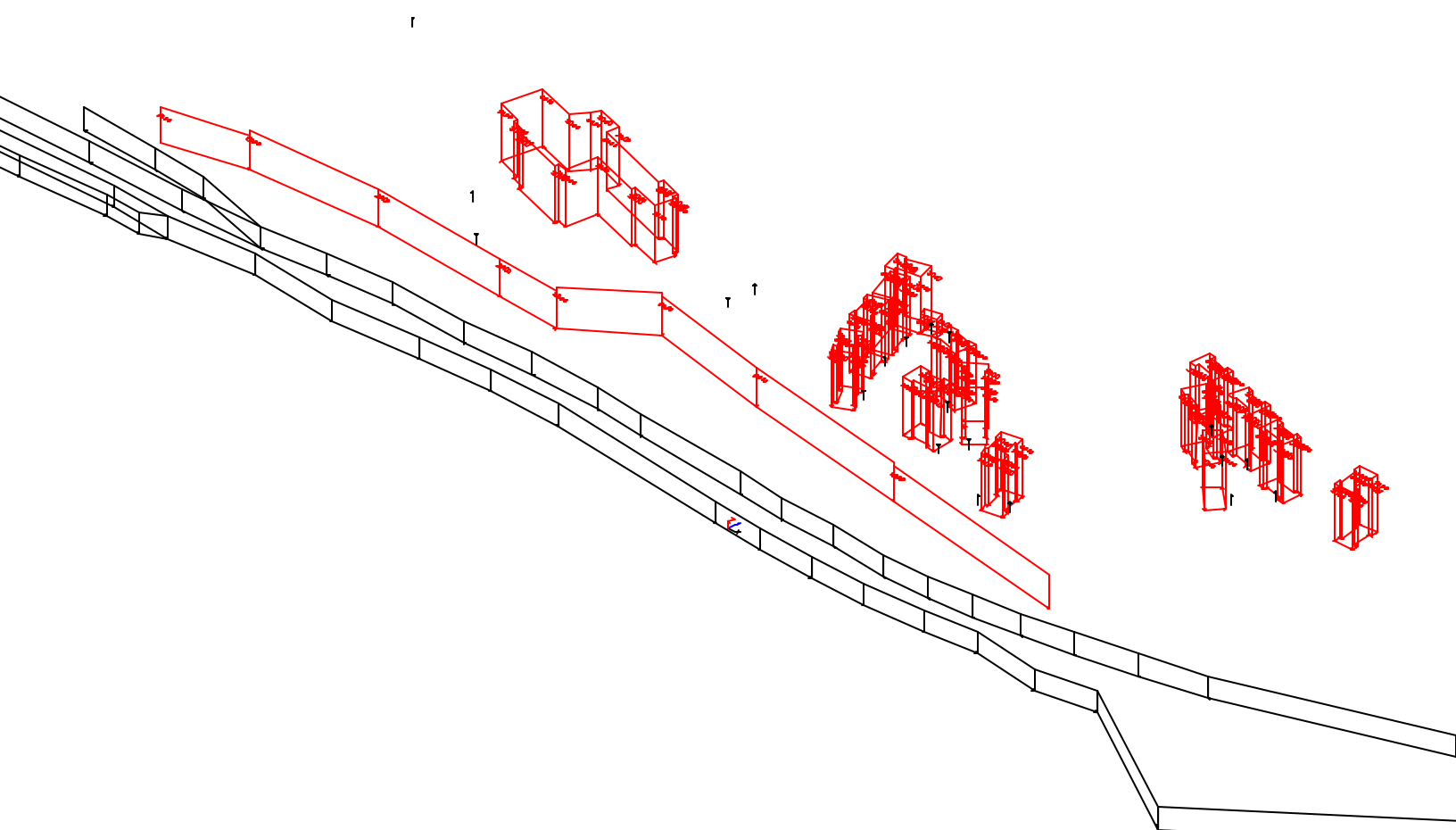
		point1097	1097	30.00	30.00	30.00	6	195				0
		point1098	1098	30.00	30.00	30.00	44	1332				0
		point1099	1099	30.00	30.00	30.00	9	262				0
		point1100	1100	30.00	30.00	30.00	21	632				0
		point1101	1101	30.00	30.00	30.00	55	1665				0
		point1102	1102	30.00	30.00	30.00	22	672				0
		point1103	1103	30.00	30.00	30.00	7	215				0
		point1104	1104	30.00	30.00	30.00	44	1324				0
1509	W	point1080	1080	30.00	30.00	30.00	8	226				0
		point1081	1081	30.00	30.00	30.00	17	514				0
		point1082	1082	30.00	30.00	30.00	50	1513				0
		point1083	1083	30.00	30.00	30.00	17	497				0
		point1084	1084	30.00	30.00	30.00	8	227				0
		point1085	1085	30.00	30.00	30.00	49	1468				0
		point1086	1086	30.00	30.00	30.00	8	229				0
		point1087	1087	30.00	30.00	30.00	16	481				0
		point1088	1088	30.00	30.00	30.00	48	1428				0
		point1089	1089	30.00	30.00	30.00	17	501				0
		point1090	1090	30.00	30.00	30.00	8	242				0
		point1091	1091	30.00	30.00	30.00	48	1436				0
1506	W	point1067	1067	30.00	30.00	30.00	8	229				0
		point1068	1068	30.00	30.00	30.00	17	521				0
		point1069	1069	30.00	30.00	30.00	52	1551				0
		point1070	1070	30.00	30.00	30.00	18	539				0
		point1071	1071	30.00	30.00	30.00	10	291				0
		point1072	1072	30.00	30.00	30.00	47	1424				0
		point1073	1073	30.00	30.00	30.00	9	259				0
		point1074	1074	30.00	30.00	30.00	18	533				0
		point1075	1075	30.00	30.00	30.00	51	1533				0
		point1076	1076	30.00	30.00	30.00	19	568				0
		point1077	1077	30.00	30.00	30.00	9	259				0
		point1078	1078	30.00	30.00	30.00	47	1409				0
1503	W	point1054	1054	30.00	30.00	30.00	7	211				0
		point1055	1055	30.00	30.00	30.00	18	525				0
		point1056	1056	30.00	30.00	30.00	51	1521				0
		point1057	1057	30.00	30.00	30.00	17	510				0



**RESULTS: BARRIER-SEGMENT DESCRIPTIONS**

**BSB**

		point1058	1058	30.00	30.00	30.00	9	272				0
		point1059	1059	30.00	30.00	30.00	49	1476				0
		point1060	1060	30.00	30.00	30.00	9	255				0
		point1061	1061	30.00	30.00	30.00	17	497				0
		point1062	1062	30.00	30.00	30.00	51	1521				0
		point1063	1063	30.00	30.00	30.00	16	484				0
		point1064	1064	30.00	30.00	30.00	7	212				0
		point1065	1065	30.00	30.00	30.00	49	1476				0
1502	W	point1040	1040	30.00	30.00	30.00	25	745				0
		point1041	1041	30.00	30.00	30.00	8	242				0
		point1042	1042	30.00	30.00	30.00	18	533				0
		point1043	1043	30.00	30.00	30.00	52	1549				0
		point1044	1044	30.00	30.00	30.00	18	530				0
		point1045	1045	30.00	30.00	30.00	9	259				0
		point1046	1046	30.00	30.00	30.00	49	1457				0
		point1047	1047	30.00	30.00	30.00	8	244				0
		point1048	1048	30.00	30.00	30.00	18	545				0
		point1049	1049	30.00	30.00	30.00	50	1515				0
		point1050	1050	30.00	30.00	30.00	18	530				0
		point1051	1051	30.00	30.00	30.00	8	227				0
		point1052	1052	30.00	30.00	30.00	23	696				0



KY W Barrier B23 18-22'		Sheet 1 of 1	8 Aug 2023
		PEC	
Barrier View-18' Longer		Project/Contract No. BSB	
Run name: Barrier 23 Longer		TNM Version 2.5, Feb 2004	
Scale: <DNA - due to perspective>		Analysis By: ZR	
Roadway:	—————>	Ground Zone:	polygon
Receiver:	□	Tree Zone:	dashed polygon
Barrier:	┆—————>	Contour Zone:	polygon
Building Row:	— — — —	Parallel Barrier:	=====
Terrain Line:	—————	Skew Section:	— — — —>