Appendix J Noise Study



Meridian South Campus

NOISE IMPACT ANALYSIS

MARCH JOINT POWERS AUTHORITY (MARCH JPA)

PREPARED BY:

Bill Lawson, PE, INCE blawson@urbanxroads.com (949) 336-5979

JULY 30, 2020



TABLE OF CONTENTS

		OF CONTENTS	
		DICES	
		EXHIBITS	
		TABLES	
		ABBREVIATED TERMS	
EX	ECUT	IVE SUMMARY	1
	Off-S	ite Traffic Noise Analysis	1
		ational Noise Analysis	
	Cons	truction Noise and Vibration Analysis	2
1	IN	TRODUCTION	5
	1.1	Site Location	5
	1.2	Project Description	
2	FU	JNDAMENTALS	9
_		Range of Noise	
	2.1	Noise Descriptors	
	2.2	Sound Propagation	
	2.4	Noise Control	
	2.5	Noise Barrier Attenuation	
	2.6	Land Use Compatibility With Noise	
	2.7	Community Response to Noise	
	2.8	Vibration	13
3	RE	GULATORY SETTING	15
	3.1	Federal Regulations	15
	3.2	State of California Noise Requirements	
	3.3	State of California Green Building Standards Code	
	3.4	March JPA Noise/Air Quality Element	16
	3.5	Operational Noise Standards	20
	3.6	Construction Noise Standards	21
	3.7	Vibration Standards	
	3.8	March Air Reserve Base/Inland Port Airport Land Use Compatibility	23
4	SIG	GNIFICANCE CRITERIA	
	4.1	CEQA Guidelines Not Further Analyzed	
	4.2	Noise-Sensitive Receivers	27
	4.3	Non-Noise-Sensitive Receivers	29
	4.4	Significance Criteria Summary	29
5	EX	(ISTING NOISE LEVEL MEASUREMENTS	33
	5.1	Measurement Procedure and Criteria	33
	5.2	Noise Measurement Locations	33
6	М	ETHODS AND PROCEDURES	39
	6.1	FHWA Traffic Noise Prediction Model	39
	6.2	Off-Site Traffic Noise Prediction Model Inputs	
	6.3	Vibration Assessment	



7	OF	F-SITE OPERATIONAL TRANSPORTATION NOISE IMPACTS	49
	7.1	Traffic Noise Contours	49
	7.2	Existing Project Traffic Noise Level Increase	57
	7.3	Opening Year Cumulative 2024 Project Traffic Noise Level Increase	58
	7.4	Horizon Year 2040 Project Traffic Noise Level Increase	58
8	SEI	NSITIVE RECEIVER LOCATIONS	65
9	OP	PERATIONAL NOISE IMPACTS	69
	9.1	Operational Noise Standards	69
	9.2	Operational Noise Sources	70
	9.3	Reference Noise Levels	_
	9.4	CadnaA Noise Prediction Model	75
	9.5	Project Operational Noise Levels	75
	9.6	Project Operational Noise Level Compliance	
	9.7	Project Operational Noise Level Contributions	
	9.8	Reflection	
	9.9	Operational Noise Abatement Measures	85
	9.10	Operational Vibration Impacts	85
10	со со	NSTRUCTION IMPACTS	87
	10.1	Construction Noise Standards	87
	10.2	Construction Noise Levels	
	10.3	Construction Reference Noise Levels	
	10.4	Daytime Construction Noise Analysis	
	10.5	Nighttime Construction Noise Analysis	
	10.6	Construction Noise Thresholds of Significance	
	10.7	Construction Vibration Impacts	
	10.9	Construction Noise and Vibration Abatement Measures	110
11	L RE	FERENCES	113
1-) (E	RTIFICATION	115



APPENDICES

APPENDIX 3.1:	MARCH JPA DEVELOPMENT CODE
APPENDIX 3.2:	CITY OF RIVERSIDE MUNICIPAL CODE
APPENDIX 3.3:	COUNTY OF RIVERSIDE MUNICIPAL CODE
APPENDIX 5.1:	STUDY AREA PHOTOS
APPENDIX 5.2:	NOISE LEVEL MEASUREMENT WORKSHEETS
APPENDIX 7.1:	OFF-SITE TRAFFIC NOISE CONTOURS
APPENDIX 9.1:	REFERENCE DISTRIBUTION/WAREHOUSE NOISE SOURCE PHOTOS
VDDENIDIA 0 3.	OPERATIONAL CADNAA NOISE PREDICTION MODEL INDUITS

LIST OF EXHIBITS

EXHIBIT 1-A: PRELIMINARY SITE PLAN	8
EXHIBIT 2-A: TYPICAL NOISE LEVELS	
EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION	14
EXHIBIT 3-A: STATE LAND USE COMPATIBILITY	19
EXHIBIT 3-B: RC ALUCP SUPPORTING COMPATIBILITY CRITERIA: NOISE	25
EXHIBIT 3-C: MARB/IPA FUTURE AIRPORT NOISE CONTOURS	
EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS	
EXHIBIT 8-A: RECEIVER LOCATIONS	68
EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS	
EXHIBIT 10-A: CONSTRUCTION NOISE SOURCE LOCATIONS	
EXHIBIT 10-B: NIGHTTIME PROJECT CONSTRUCTION ACTIVITIES	



LIST OF TABLES

TABLE 3-1: OPERATIONAL NOISE STANDARDS	21
TABLE 3-2: CONSTRUCTION NOISE STANDARDS	22
TABLE 3-3: VIBRATION NOISE STANDARDS	
TABLE 4-1: SIGNIFICANCE OF NOISE IMPACTS AT NOISE-SENSITIVE RECEIVERS	28
TABLE 4-2: SIGNIFICANCE CRITERIA SUMMARY	
TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS	37
TABLE 6-1: OFF-SITE ROADWAY PARAMETERS	40
TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES	41
TABLE 6-3: TIME OF DAY VEHICLE SPLITS	43
TABLE 6-4: EXISTING WITHOUT PROJECT VEHICLE MIX	
TABLE 6-5: EXISTING WITH PROJECT CONDITIONS VEHICLE MIX	
TABLE 6-6: OPENING YEAR CUMULATIVE 2024 WITH PROJECT VEHICLE MIX	45
TABLE 6-7: HORIZON YEAR 2040 WITH PROJECT VEHICLE MIX	46
TABLE 6-8: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT	48
TABLE 7-1: EXISTING WITHOUT PROJECT NOISE CONTOURS	50
TABLE 7-2: EXISTING WITH PROJECT CONDITIONS NOISE CONTOURS	51
TABLE 7-3: OYC (2024) WITHOUT PROJECT NOISE CONTOURS	52
TABLE 7-4: OYC (2024) WITH PROJECT NOISE CONTOURS	54
TABLE 7-5: HY (2040) WITHOUT PROJECT NOISE CONTOURS	55
TABLE 7-6: HY (2040) WITH PROJECT NOISE CONTOURS	56
TABLE 7-7: EXISTING PROJECT TRAFFIC NOISE LEVEL INCREASES	59
TABLE 7-8: OYC (2024) PROJECT TRAFFIC NOISE LEVEL INCREASES	61
TABLE 7-9: HY (2040) PROJECT TRAFFIC NOISE LEVEL INCREASES	
TABLE 9-1: HOURLY AVERAGE NOISE LEVEL MEASUREMENTS	72
TABLE 9-2: PERCENTILE REFERENCE NOISE LEVEL MEASUREMENTS	72
TABLE 9-3: DAYTIME PROJECT OPERATIONAL NOISE LEVELS	76
TABLE 9-4: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS	78
TABLE 9-5: OPERATIONAL NOISE LEVEL COMPLIANCE (DAYTIME)	81
TABLE 9-6: OPERATIONAL NOISE LEVEL COMPLIANCE (NIGHTTIME)	82
TABLE 9-7: PROJECT OPERATIONAL NOISE LEVEL CONTRIBUTIONS (DAYTIME)	
TABLE 9-8: PROJECT OPERATIONAL NOISE LEVEL CONTRIBUTIONS (NIGHTTIME)	
TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS	
TABLE 10-2: GRUBBING/LAND CLEARING EQUIPMENT NOISE LEVELS	92
TABLE 10-3: GRADING/EXCAVATION EQUIPMENT NOISE LEVELS	93
TABLE 10-4: DRAINAGE/UTILITIES/SUB GRADE EQUIPMENT NOISE LEVELS	94
TABLE 10-5: PAVING EQUIPMENT NOISE LEVELS	
TABLE 10-6: SITE PREPARATION EQUIPMENT NOISE LEVELS	96
TABLE 10-7: GRADING EQUIPMENT NOISE LEVELS	97
TABLE 10-8: BUILDING CONSTRUCTION EQUIPMENT NOISE LEVELS	98
TABLE 10-9: ARCHITECTURAL COATING EQUIPMENT NOISE LEVELS	99
TABLE 10-10: PAVING EQUIPMENT NOISE LEVELS	
TABLE 10-11: DAYTIME CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY	
TABLE 10-12: DAYTIME CONSTRUCTION EQUIPMENT MAXIMUM NOISE LEVEL SUMMARY	
TABLE 10-13: NIGHTTIME CONCRETE POUR EQUIPMENT NOISE LEVELS	
TABLE 10-14: DAYTIME CONSTRUCTION NOISE LEVEL COMPLIANCE	
TABLE 10-15: NIGHTTIME CONSTRUCTION NOISE LEVEL COMPLIANCE	



TABLE 10-16:	DAYTIME TEMPORARY CONSTRUCTION NOISE LEVEL INCREASES	108
TABLE 10-17:	NIGHTTIME TEMPORARY CONSTRUCTION NOISE LEVEL INCREASES	109
TABLE 10-18:	CONSTRUCTION EQUIPMENT VIBRATION LEVELS	111

LIST OF ABBREVIATED TERMS

(1) Reference

ADT Average Daily Traffic

ANSI American National Standards Institute

ANFO Ammonium Nitrate Fuel Oil
Calveno California Vehicle Noise

CEQA California Environmental Quality Act

CFR Code of Federal Regulations

CNEL Community Noise Equivalent Level

dBA A-weighted decibels

EPA Environmental Protection Agency
FHWA Federal Highway Administration
FTA Federal Transit Administration

Hz Hertz

I-215 Interstate 215

INCE Institute of Noise Control Engineering

 $\begin{array}{lll} L_{eq} & & \text{Equivalent continuous (average) sound level} \\ L_{max} & & \text{Maximum level measured over the time interval} \\ L_{min} & & \text{Minimum level measured over the time interval} \\ \text{MARB/IPA} & & \text{March Air Reserve Base/Inland Port Airport} \end{array}$

MJPA March Joint Powers Authority

mph Miles per hour

OPR Office of Planning and Research

PPV Peak Particle Velocity
Project Meridian South Campus

REMEL Reference Energy Mean Emission Level

RMS Root-mean-square VdB Vibration Decibels



This page intentionally left blank



EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the noise exposure and the necessary noise mitigation measures, if any, for the proposed Meridian South Campus development and Village West Drive Extension ("Project"). The Project site is located on the south side of Van Buren Boulevard between Barton Street and Village West Drive within the jurisdiction of the March Joint Powers Authority (March JPA). This study has been prepared consistent with applicable March JPA noise standards, and significance criteria based on guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) Because the proposed Project involves a shift in land uses as compared to the 2003 EIR Phase III, for the purposes of this noise study, the net change in noise levels is considered the "Project". The "without Project" condition will reflect the 2003 EIR Phase III and the "with Project" conditions will reflect the net change in noise levels due to the shift in mix of uses. This noise study provides noise analysis for both "without Project" and "with Project" conditions in order to provide an appropriate comparative analysis.

OFF-SITE TRAFFIC NOISE ANALYSIS

Traffic generated by the operation of the Project will influence the traffic noise levels in surrounding off-site areas. To quantify the off-site traffic noise increases on the surrounding off-site areas, the changes in traffic noise levels on 48 roadway segments surrounding the Project site were calculated based on the change in the average daily traffic (ADT) volumes. The traffic noise levels provided in this analysis are based on the traffic forecasts found in the *Meridian South Campus Traffic Impact Analysis* prepared by Urban Crossroads, Inc. (2)

Consistent with the Project traffic impact analysis, because the proposed Project involves a shift in land uses as compared to the 2003 EIR Phase III, for the purposes of this noise study, the net change in noise levels is considered the "Project". The "without Project" condition will reflect the 2003 EIR Phase III and the "with Project" conditions will reflect the net change in noise levels due to the shift in mix of uses. This noise study provides noise analysis for both "without Project" and "with Project" conditions in order to provide an appropriate comparative analysis. The analysis shows that the unmitigated Project-related traffic noise level increases under all "with Project" traffic scenarios are considered *less than significant* impacts at land uses adjacent to the study area roadway segments.

OPERATIONAL NOISE ANALYSIS

Using reference noise levels to represent the expected operational noise sources from the Meridian South Campus site, this analysis estimates the Project-related stationary-source noise levels at nearby sensitive receiver locations. The typical activities associated with the proposed Meridian South Campus are anticipated to include truck activities, roof-top air conditioning, parking lot vehicle movements and dog park activity. Since detailed site plans are not available to support this Specific Plan Noise Impact Analysis, the operational noise analysis assumes all Project operational activity is occurring continuously near the Project site boundaries. This conservative approach overstates reality, since the Project operational activities will occur at



different locations throughout the Project site and vary throughout the daytime and nighttime hours.

Although the Project site is located within the March JPA jurisdiction, noise-sensitive receivers potentially impacted by operational noise activities are also located in the City of Riverside and the County of Riverside. Therefore, to accurately describe the potential Project-related operational noise level contributions, this analysis presents the appropriate operational noise standards for each jurisdiction adjacent to the Project site. The operational noise analysis shows that the Project-related stationary-source noise levels due to the truck activities, roof-top air conditioning, parking lot vehicle movements and dog park activity will satisfy the March JPA, City of Riverside, and County of Riverside noise level standards at the sensitive receiver locations near the Project site.

Further, this analysis demonstrates that the Project will not contribute an operational noise level impact to the existing ambient noise environment at any of the sensitive receiver locations. Therefore, the operational noise level impacts associated with the proposed 24-hour seven days per week Project activities, such as the truck activities, roof-top air conditioning, parking lot vehicle movements and dog park activity, will be *less than significant*.

OPERATIONAL NOISE ABATEMENT MEASURES

The normal operation of the Project will not exceed the March JPA Development Code standards for stationary-source noise impacts. (3) To further reduce potential operational noise levels received at nearby noise-sensitive receiver locations, it is recommended that the Lead Agency require the following as Project Conditions of Approval:

- All on-site operating equipment under the control of the building user that is used in outdoor
 areas (including but not limited to trucks, tractors, forklifts, and hostlers), shall be operated with
 properly functioning and well-maintained mufflers.
- Maintain quality pavement conditions on the property that are free of vertical deflection (i.e. speed bumps) to minimize truck noise.
- The truck access gates and loading docks within the truck court on the Project site shall be posted with signs which state:
 - o Truck drivers shall turn off engines when not in use;
 - o Diesel trucks servicing the Project shall not idle for more than five (5) minutes; and
 - o Post telephone numbers of the building facilities manager to report idling violations.

CONSTRUCTION NOISE AND VIBRATION ANALYSIS

Construction noise represents a short-term increase on the ambient noise levels. Construction-related noise impacts are expected to create temporary and intermittent high-level noise conditions at receivers surrounding the Project site when certain activities occur at the Project site boundary. To analyze noise impacts originating from the construction of the Project, noise from construction activities are typically limited to the hours of operation established under a jurisdiction's Code. To accurately describe the potential Project-related construction noise level contributions to the existing noise environment, this analysis presents the appropriate



construction noise standards for each jurisdiction adjacent to the Project site including: the March JPA, City of Riverside, and the County of Riverside.

DAYTIME CONSTRUCTION NOISE LEVELS

Using sample reference noise levels to represent the planned construction activities of the Project site, this analysis estimates the Project-related construction noise levels at nearby sensitive receiver locations. The results of the construction noise analysis show that the unmitigated construction noise levels will satisfy City of Riverside and County of Riverside construction daytime noise level thresholds at the nearby sensitive receiver locations. Therefore, daytime Project-related construction activities will result in a *less than significant* noise level impact.

NIGHTTIME CONCRETE POUR NOISE LEVELS

Additional analysis is provided for nighttime concrete pour activity anticipated at the Project site. Based on reference noise level measurements taken by Urban Crossroads, Inc. for a nighttime concrete pour, the Project-related concrete pour equipment noise levels will satisfy the City of Riverside and County of Riverside nighttime exterior noise level limits at the nearby sensitive receiver locations within each jurisdiction. Therefore, the construction noise levels due to nighttime concrete pouring activity at the Project site will result in a *less than significant* impact.

TEMPORARY CONSTRUCTION NOISE LEVEL INCREASES

Further, to describe the temporary, short-term Project construction noise level contributions to the existing ambient noise environment, the Project construction noise levels were combined with the existing ambient noise levels measurements at the off-site receiver locations. A temporary noise level increase of 12 dBA L_{eq} is considered a potentially significant impact based on the Caltrans *substantial* noise level increase criteria which is used to assess the Project-construction noise level increases. (4) The Project will contribute unmitigated, worst-case construction noise level increases approaching 10.3 dBA L_{eq} during the daytime hours, and up to 4.2 dBA L_{eq} during the nighttime hours at the closest sensitive receiver locations which will not exceed the 12 dBA L_{eq} significance threshold. Therefore, based on the results of this analysis, all nearby sensitive receiver locations will experience *less than significant* impacts due to Project construction noise level increases. The construction noise analysis presents a conservative, worst-case approach with the highest noise-level-producing equipment for each stage of Project construction operating at the at the edge of the Project site.

CONSTRUCTION VIBRATION LEVELS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. This analysis shows the construction vibration levels in RMS are expected to range from 0.00 to 0.01 in/sec (RMS) at the five receiver locations. The March JPA and the City of Riverside General Plans and Municipal Codes do not identify specific vibration level standards. Based on the County of Riverside vibration standards of 0.01 in/sec (RMS), the proposed Project



construction activities will not include or require equipment, facilities, or activities that would result in a *barely perceptible* human response (annoyance), and therefore, impacts due to vibration are considered *less than significant*.

CONSTRUCTION NOISE AND VIBRATION ABATEMENT MEASURES

Though construction noise is temporary, intermittent and of short duration, and will not present any long-term impacts, the following noise abatement measures would reduce the potential construction equipment noise level increases to the nearby noise-sensitive residential land uses:

- Prior to approval of grading plans and/or issuance of building permits, plans shall include a note indicating that noise-generating Project construction activities shall only occur between the hours of 7:00 a.m. to 7:00 p.m. (March Joint Powers Authority, Development Code, Chapter 9.10 Performance Standards, Section 9.10.030). The Project construction supervisor shall ensure compliance with the permitted construction hours. (3)
- During all Project site construction, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards (March JPA General Plan Noise/Air Quality Element, Policy 3.8). (5) The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receivers nearest the Project site.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receivers nearest the Project site (i.e., to the center) during all Project construction.
- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment (between the hours of 7:00 a.m. to 7:00 p.m.). The contractor shall prepare a haul route exhibit and shall design delivery routes to minimize the exposure of sensitive land uses or residential dwellings to delivery truck-related noise.



1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Meridian South Campus and Village West Drive Extension ("Project"). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, describes the local regulatory setting, provides the study methods and procedures for traffic noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term operational and short-term construction noise impacts.

1.1 SITE LOCATION

The proposed Meridian South Campus site is located on the south side of Van Buren Boulevard between Barton Street and Village West Drive within the jurisdiction of the March JPA. The Project site is partially developed and located within the southwestern portion of the March JPA jurisdiction. More specifically, the Project site is located in the southern portion of the Meridian South Campus Specific Plan area, south of Van Buren Boulevard, west of Village West Drive, and east of Barton Street, in unincorporated Riverside County, California. Interstate (I) 215 is located approximately one mile east of the Project site. The Village West Drive extension component of the Project is located to the east and south of South Campus.

1.2 PROJECT DESCRIPTION

The March Business Center Specific Plan and Final Focused Environmental Impact Report (SCH#2002071089), which guides land use decisions within a 1,290-acre portion of the planning area, was adopted and certified in 2003. Within the March Business Center Specific Plan, two separate "campuses" were identified, along with the potential for a possible third campus. The two identified campuses include the North Campus and South Campus. The South Campus components of the March Business Center Specific Plan have been analyzed under both California Environmental Quality Act (CEQA) and National Environmental Protection Agency (NEPA) in the following documents:

- Final Environmental Impact Statement: Disposal of Portions of March Air Force Base (February 1996)
- Final Environmental Impact Report for the March Air Force Base Redevelopment Project (June 1996)
- Redevelopment Plan for the March Air Force Base Redevelopment Project (June 1996)
- March Joint Powers Authority Development Code (July 1997)
- General Plan of the March Joint Powers Authority (September 1999)
- Master Environmental Impact Report for the General Plan of the March Joint Powers Authority (September 1999)
- March Business Center Specific Plan (February 2003)
- March JPA General Plan Amendment (February 2003)
- March Business Center Focused Environmental Impact Report (February 2003)



- March Business Center Design Guidelines (November 2003)
- Addenda to the certified 2003 EIR, including:
 - Meridian South Campus Specific Plan Amendment Parcel Delivery Terminal Project (September 2017)
 - Meridian South Campus Specific Plan Amendment Land Swap Addendum (September 2018)

PROPOSED PROJECT

The square footage calculated based on maximum allowable floor area ratio (FAR) for each land use type is shown below:

- Office 388.011 thousand square feet (TSF)
- Commercial 221.394 TSF
- Grocery Store 61.336 TSF
- Business Park 1.764.180 TSF
- High Cube Warehouse 800.000 TSF
- High Cube Cold Storage Warehouse 700.000 TSF
- Warehousing 274.437 TSF
- Dog Park 6.2 Acres

At the time this study was prepared, the Grocery Store component was assumed to consist of 61,336 sf. However, the current site plan for the Grocery Store component reflects a 44,200 sf grocery store with 17,136 sf of shops/general commercial retail space (total of 61,336 sf of commercial retail use). For the purposes of this study, the 61,336 sf of Grocery Store use results in a higher trip generation and is therefore more conservative as opposed to evaluating the 44,200 sf Grocery Store and 17,136 sf of commercial retail space. The higher off-site Project traffic impacts have been evaluated for the purposes of this study in order to account for any minor changes that may occur to the building area as part of the final design.

VILLAGE WEST DRIVE EXTENSION

The improved portions of Village West Drive currently terminate at Lemay Drive to the south. The proposed Project would include improvements to and the extension of Village West Drive to provide a through connection between Van Buren Boulevard to the north and Nandina Avenue to the south. The improved Village West Drive would require the removal of an abandoned water tank currently owned by Western Municipal Water District that formerly served March Air Force Base, followed by the construction of two through lanes, a center striped median, and a bike lane. Sidewalks would also be provided on either side of the roadway.

BUILT/ENTITLED

The following uses that are built or entitled, but not yet occupied and operational will also be included as part of the Proposed Project scenarios:

• Amazon (Building A) - 1,000.000 TSF



- Parcel Delivery (Building B) 1,000.000 TSF
- Parking Lot 61.0 Acres
- Building C (Warehousing) 500.000 TSF
- Commercial (Parcel 72) 15,485 TSF¹

Exhibit 1-A shows the Project site plan with the proposed uses. At the time this noise study was prepared, the tenants of the Project were unknown. This noise study is intended to describe emission impacts associated with the expected typical 24-hour, seven day per week operational activities at the Project site.

Consistent with the *Meridian South Campus Traffic Impact Analysis* (TIA) prepared by Urban Crossroads, Inc., this noise study is intended to evaluate the net change in potential impacts associated with Phase III of the 2003 Focused EIR (referred to herein as the 2003 EIR Phase III) to the currently proposed Project. (2) Because the proposed Project involves a shift in land uses as compared to the 2003 EIR Phase III, for the purposes of this noise study, the net change in noise levels is considered the "Project". The "without Project" condition will reflect the 2003 EIR Phase III and the "with Project" conditions will reflect the net change in noise levels due to the shift in mix of uses. This noise study provides noise analysis for both "without Project" and "with Project" conditions in order to provide an appropriate comparative analysis.



At the time this study was prepared, the commercial square footage of Parcel 72 was assumed to consist of 15,485 sf. However, the actual square footage for Parcel 72 is 14,267 sf. For the purposes of this study, the 15,485 sf of commercial use results in a higher trip generation and consequently higher emissions (therefore more conservative) as opposed to evaluating the 14,267 sf of commercial use.

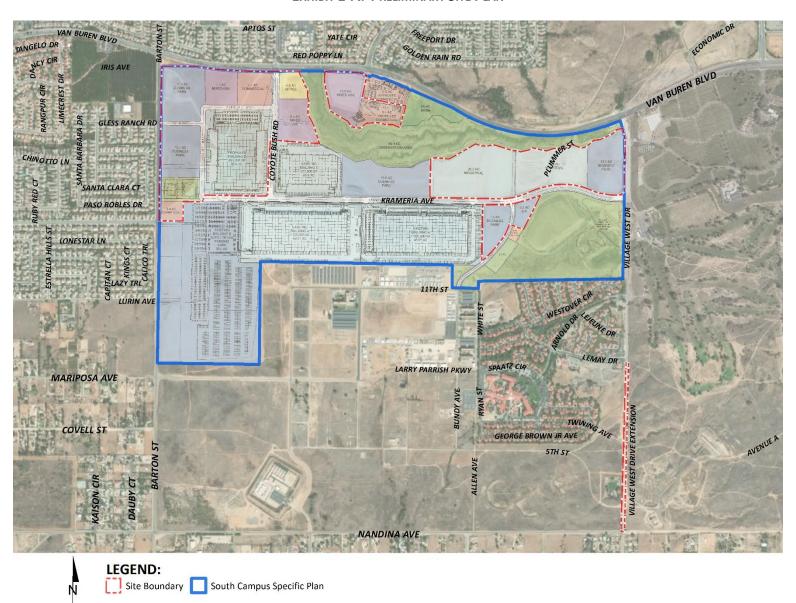


EXHIBIT 1-A: PRELIMINARY SITE PLAN



2 FUNDAMENTALS

Noise is simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

EXHIBIT 2-A: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE	
THRESHOLD OF PAIN		140			
NEAR JET ENGINE		130	INTOLERABLE OR		
		120	DEAFENING	HEARING LOSS	
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110			
LOUD AUTO HORN		100			
GAS LAWN MOWER AT 1m (3 ft)		90	VERY NOISY		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80			
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD	SPEECH INTERFERENCE	
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60	LOUD		
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	SLEEP	
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		DISTURBANCE	
QUIET SUBURBAN NIGHTTIME	LIBRARY	30			
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20	FAINT		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	NO EFFECT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0	VERT FAIRT		

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (6) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA at approximately 100 feet, which can cause serious discomfort. (7) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.



2.2 Noise Descriptors

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most commonly used figure is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in Aweighted decibels (dBA). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the "average" noise levels within the environment.

To describe the time-varying character of environmental noise, the statistical or percentile noise descriptors L_{50} , L_{25} , L_8 and L_2 , are commonly used. The percentile noise descriptors are the noise levels equaled or exceeded during 50 percent, 25 percent, 8 percent and 2 percent of a stated time. Sound levels associated with the L_2 and L_8 typically describe transient or short-term events, while levels associated with the L_{50} describe the steady state (or median) noise conditions. The March JPA relies on the percentile noise levels to describe the stationary source noise level limits. While the L_{50} describes the noise levels occurring 50 percent of the time, the L_{eq} accounts for the total energy (average) observed for the entire hour.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The March JPA relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 SOUND PROPAGATION

When sound propagates over a distance, it changes in level and frequency content. The way noise reduces with distance depends on the following factors.

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (6)



2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (8)

2.3.3 ATMOSPHERIC EFFECTS

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (6)

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an "out of sight, out of mind" effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby residents. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The FHWA does not consider the planting of vegetation to be a noise abatement measure. (8)

2.4 Noise Control

Noise control is the process of obtaining an acceptable noise environment for an observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to these three elements.

2.5 Noise Barrier Attenuation

Effective noise barriers can reduce noise levels by up to 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or



receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the path of the noise source. (8)

2.6 LAND USE COMPATIBILITY WITH NOISE

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (9)

2.7 COMMUNITY RESPONSE TO NOISE

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon everyone's susceptibility to noise and personal attitudes about noise. Several factors are related to the level of community annoyance including:

- Fear associated with noise producing activities;
- Socio-economic status and educational level;
- Perception that those affected are being unfairly treated;
- Attitudes regarding the usefulness of the noise-producing activity;
- Belief that the noise source can be controlled.

Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Another twenty-five percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. (10) Surveys have shown that about ten percent of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. (10) Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. A change of 3 dBA are considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (8)



2.8 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Assessment*, vibration is the periodic oscillation of a medium or object. (11) The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment and/or activities.

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-C illustrates common vibration sources and the human and structural response to ground-borne vibration.



Velocity Typical Sources Level* (50 ft from source) Human/Structural Response 100 Threshold, minor cosmetic damage Blasting from construction projects fragile buildings Bulldozers and other heavy tracked construction equipment Difficulty with tasks such as 90 reading a VDT screen Commuter rail, upper range 80 Residential annoyance, infrequent Rapid transit, upper range events (e.g. commuter rail) Commuter rail, typical Residential annoyance, frequent Bus or truck over bump events (e.g. rapid transit) Rapid transit, typical Limit for vibration sensitive equipment. Approx. threshold for Bus or truck, typical human perception of vibration 60 Typical background vibration 50

EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION

* RMS Vibration Velocity Level in VdB relative to 10-6 inches/second

Source: Federal Transit Administration (FTA) Transit Noise Impact and Vibration Assessment.



3 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

3.1 FEDERAL REGULATIONS

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under Title 40 of the Code of Federal Regulations, Part 205, Subpart B. (12) The federal truck pass-by noise standard is 80 dBA at 50 feet from the vehicle pathway centerline, under specified test procedures. These controls are implemented through regulatory controls on truck manufacturers. There are no comparable standards for vibration, which tend to be specific to the roadway surface, the vehicle load, and other factors.

In 1972, the Noise Control Act (42 U.S.C. Section 4901 et seq.) was passed by Congress to promote noise environments in support of public health and welfare. It also established the U.S. Environmental Protection Agency (USEPA) Office of Noise Abatement and Control to coordinate federal noise control activities. The USEPA established guidelines for noise levels that would be considered safe for community exposure without the risk of adverse health or welfare effects. The USEPA found that to prevent hearing loss over the lifetime of a receiver, the yearly average Leq should not exceed 70 dBA, and the Ldn should not exceed 55 dBA in outdoor activity areas or 45 dBA indoors to prevent interference and annoyance. However, in 1982, the USEPA phased out the office's funding as part of a shift in federal noise control policy to transfer the primary responsibility of regulating noise to state and local governments.

3.2 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research (OPR). (13) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a Project be analyzed, including environmental noise impacts.



3.3 STATE OF CALIFORNIA GREEN BUILDING STANDARDS CODE

The State of California's Green Building Standards Code contains mandatory measures for non-residential building construction in Section 5.507 on Environmental Comfort. (14) These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when non-residential structures are developed in areas where the exterior noise levels exceed 65 dBA CNEL, such as within a noise contour of an airport, freeway, railroad, and other areas where noise contours are not readily available. If the development falls within an airport or freeway 65 dBA CNEL noise contour, the combined sound transmission class (STC) rating of the wall and roof-ceiling assemblies must be at least 50. For those developments in areas where noise contours are not readily available and the noise level exceeds 65 dBA Leq for any hour of operation, a wall and roof-ceiling combined STC rating of 45, and exterior windows with a minimum STC rating of 40 are required (Section 5.507.4.1.1).

3.4 March JPA Noise/Air Quality Element

The March JPA General Plan is currently being updated, so both the draft (yet to be approved) General Plan Update 2030 and adopted General Plan 1999 policies are described in this section in relation to the Project. The Noise/Air Quality Element of each version of the General Plan identify several goals and policies to protect and enhance the quality of life for those who live and work in the March JPA jurisdiction. (15) (5) The Noise Element provides policy guidance which addresses the generation, mitigation, avoidance, and the control of excessive noise.

3.4.1 GENERAL PLAN UPDATE 2030

To reduce noise levels within the March JPA jurisdiction, the General Plan Update 2030 Noise/Air Quality Element contains the following three goals:

- 3.4.2.1 Reduction of noise impacts through proper land use planning.
- 3.4.2.2 Analyze noise impacts caused by transportation.
- 3.4.2.3 Minimize noise impacts attributable to civilian aviation.

The noise policies specified in the March JPA Noise/Air Quality Element provide the guidelines necessary to satisfy these goals. The policies are provided below:

- Policy 1a The MJPA will use the State Land Use Compatibility matrix (Figure III-1 of this Element) as the standard when approving future Projects to ensure the reduction of potential noise impacts.
- Policy 1b 60 dBA CNEL is established as the acceptable outdoor noise exposure level for schools, libraries, churches, hospitals, nursing homes and other medical facilities, and parks.
- Policy 1c 65 dBA CNEL is established as the acceptable outdoor noise exposure level for transient lodging.
- Policy 1d Indoor noise exposure levels of 45 dBA CNEL shall be maintained for all hospitals, nursing homes and other medical facilities, and transient lodging.
- Policy 1e 70 dBA CNEL is the established acceptable outdoor noise exposure level for office buildings, businesses, commercial, professional, and mixed-use development.



- Policy 1f 70 dBA CNEL is the established outdoor noise exposure level for golf courses, cemeteries, industrial, manufacturing, warehouse/distribution, and public facilities.
- Policy 1g Land uses that are particularly sensitive to noise (such as schools, libraries, day care, residential uses, medical facilities, etc.) shall not be approved in areas that exceed the acceptable limits on noise as set forth in Figure III-1: State Land Use Compatibility of this Element.
- Policy 1h The MJPA shall encourage site design that places structures such that noise generating uses are buffered from other developments, either through distance, human-made buffers, or other means.
- Policy 1i Noise generating facilities shall be located in areas with compatible noise generating land uses (i.e., airport noise contour areas) to minimize land use incompatibilities, noise abatement and the necessity of extensive mitigation measures.
- Policy 2a Noise impacts resulting from traffic shall be minimized through the use of sound attenuation measures such as berms, walls, or a combination thereof.
- Policy 2b Truck routes shall be established and not located near areas where there are sensitive receivers that may be impacted.
- Policy 2c Trucking operations shall be limited to appropriate routes, times and speeds.
- Policy 2d The March JPA shall evaluate noise sensitivity and noise generation when considering transportation improvement Projects. If necessary, these impacts shall be mitigated to acceptable levels.
- Policy 2e Appropriate muffling systems for construction equipment and operations shall be required, as necessary.
- Policy 3a March JPA shall adhere to the adopted 2005 AICUZ and draft Joint Land Use Plan criteria (or more current document) and promote the use of newer and quieter aircraft.
- Policy 3b March JPA shall analyze noise impacts associated with General Aviation as a component of the environmental review for the General Aviation ramp.
- Policy 3c At a future date when the market demand and likely development of aviation facilities is known beyond speculation, March JPA shall prepare a comprehensive environmental analysis of noise impacts as part of a CEQA review for the build-out of the 21,000 annual operation civilian operations at March Inland Port.

LAND USE COMPATIBILITY

The noise criteria identified in the March JPA General Plan Update 2030 Noise/Air Quality Element (Figure III-1) are guidelines to evaluate the land use compatibility of transportation-related noise. The compatibility criteria, shown on Exhibit 3-A, provides the March JPA with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels. The *State Land Use Compatibility* guidelines indicate that industrial and manufacturing land uses, such as the Project, are considered *normally acceptable* with noise levels below 70 dBA CNEL and *conditionally acceptable* with noise levels of less than 75 dBA CNEL.

3.4.2 Adopted General Plan 1999

The adopted March JPA General Plan includes the following goals in the Noise/Air Quality Element:



- 1 Ensure that land uses are protected from excessive and unwanted noise.
- 2 Minimize incompatible noise level exposures throughout the Planning Area, and where possible, mitigate the effect of noise incompatibilities to provide a safe and health environment.
- Work toward the reduction of noise impacts from vehicular traffic, and aviation and rail operations.

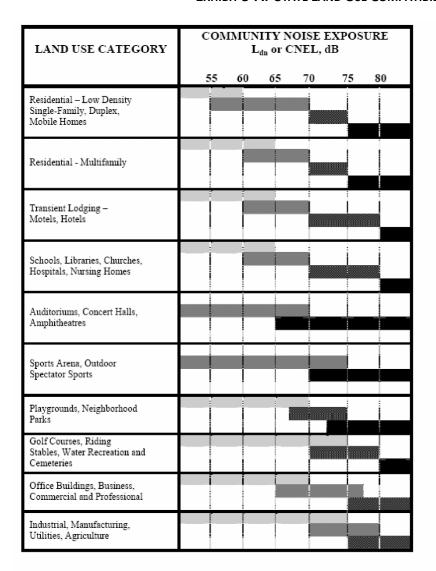
The noise policies specified in the March JPA Noise/Air Quality Element provide the guidelines necessary to satisfy these goals. The policies are provided below:

- Policy 1.1 Establish acceptable limits of noise for various land uses throughout the March JPA Planning Area. Future development that could increase ambient noise levels shall be required to mitigate the anticipated noise increase, to the extent possible.
- Policy 1.2 Noise sensitive uses (such as schools, libraries, hospitals, medical facilities, residential uses, etc.) shall be discouraged in areas where noise levels exceed acceptable limits.
- Policy 1.3 Encourage good acoustical design in new construction.
- Policy 1.4 Provide buffer areas between noise sources and other developments, where practical.
- Policy 2.1 Avoid placing noise sensitive land uses in proximity to areas devoted to noise generating facilities such as areas of aviation related activities, industrial parks, transportation facilities, and other noise generating land uses.
- Policy 2.2 Noise generating facilities shall be located in areas with compatible noise generating land uses (i.e., airport noise contour areas) to minimize land use incompatibilities, noise abatement and mitigation measures needed.
- Policy 2.3 Noise sensitive land uses shall not be located in areas influenced by noise generating land uses, in particular the noise contours associated with the joint use airfield, unless appropriate mitigation is utilized.
- Policy 2.4 March JPA shall evaluate noise sensitivity and noise generation when considering land use Projects and transportation improvement Projects, and where appropriate mitigation measures shall be employed.
- Policy 2.5 March JPA shall utilize and comply with the CALTRANS standards for noise compatibility for aviation generated noise to proposed land use development.
- Policy 3.1 Include mitigating measures such as landscaping, berming and site orientation, in the design of Projects located near noise generating sources such as arterial roadways.
- Policy 3.2 Coordinate with adjacent cities and county agencies for noise abatement.
- Policy 3.3 Adhere to the adopted AICUZ and Comprehensive Land Use Plan standards and promote the use of newer and quieter aircraft and support equipment.
- Policy 3.4 Where appropriate, noise mitigation measures shall be incorporated in the design and approval of development on property located adjacent to aviation and rail facilities.
- Policy 3.5 Where appropriate, development in areas adjacent to freeways, arterial streets, and other noise source shall be designed to reduce the potential for noise impacts.
- Policy 3.6 Regulate the use of local streets by trucks, trailers, and construction vehicles, to the extent possible.
- Policy 3.7 Limit trucking operations to appropriate routes, times and speeds.
- Policy 3.8 Appropriate muffling systems for construction equipment and operations shall be required, as necessary.
- Policy 3.9 March JPA shall encourage and facilitate the use of mass transit services and alternative transportation systems to minimize dependence of the automobile within



the Planning Area, thereby minimizing the level of noise generated by surface transportation.

EXHIBIT 3-A: STATE LAND USE COMPATIBILITY



LEGEND



Normally Acceptable

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.



Conditionally Acceptable

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.



Normally Unacceptable

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.



Clearly Unacceptable

New construction or development should generally not be undertaken.

CONSIDERATIONS IN DETERMINATION OF NOISE-COMPATIBLE LAND USE

A. NORMALIZED NOISE EXPOSURE INFORMATION DESIRED

Where sufficient data exists, evaluate land use suitability with respect to a "normalized" value of CNEL or $L_{\rm dr}$. Normalized values are obtained by adding or subtracting the constants described in Table 1 to the measured or calculated value of CNEL or $L_{\rm dr}$.

B. NOISE SOURCE CHARACTERISTICS

The land use-noise compatibility recommendations should be reviewed in relation to the specific source of the noise. For example, aircraft and railroad noise is normally made up of higher single noise events than auto traffic but occurs less frequently. Therefore, different sources yielding the same composite noise exposure do not necessarily create the same noise environment. The State Aeronautics Act uses 65 dB CNEL as the criterion which airports must eventually meet to protect existing residential communities from unacceptable exposure to aircraft noise. In order to facilitate the purposes of the Act, one of which is to encourage land uses compatible with the 65 dB CNEL criterion wherever possible, and in order to facilitate the ability of airports to comply with the Act,

residential uses located in Community Noise Exposure Areas greater than 65 dB should be discouraged and considered located within normally unacceptable areas.

C. SUITABLE INTERIOR ENVIRONMENTS

One objective of locating residential units relative to a known noise source is to maintain a suitable interior noise environment at no greater than 45 dB CNEL of L_{dir}. This requirement, coupled with the measured or calculated noise reduction performance of the type of structure under consideration, should govern the minimum acceptable distance to a noise source.

D. ACCEPTABLE OUTDOOR ENVIRONMENTS

Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. When this is the case, more restrictive standards for land use compatibility, typically below the maximum considered "normally acceptable" for that land use category, may be appropriate.

Source: March JPA General Plan Update 2030 Noise/Air Quality Element, Figure III-1.



3.5 OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the Meridian South Campus Project, stationary-source (operational) noise such as the expected truck activities, roof-top air conditioning, parking lot vehicle movements and dog park activity are typically evaluated against standards established under a jurisdiction's Municipal Code. Although the Project site is located within the March JPA, noise-sensitive receivers potentially impacted by operational noise activities are also located in the City of Riverside and the County of Riverside jurisdictions. Therefore, to accurately describe the potential Project-related operational noise level contributions, this analysis presents the appropriate operational noise standards for each jurisdiction adjacent to the Project site. The March JPA, City of Riverside, and the County of Riverside operational noise level standards are shown on Table 3-1.

3.5.1 March JPA Operational Noise Standards

The March JPA Development Code, Chapter 9.10 *Performance Standards*, Section 9.10.140 identifies the exterior stationary-source noise level standards for commercial and industrial land uses. Based on Section 9.10.140 of the Development Code, the exterior noise level shall not exceed 55 dBA L_{eq} at any time. (3) The March JPA Development Code is included in Appendix 3.1.

3.5.2 CITY OF RIVERSIDE OPERATIONAL NOISE STANDARDS

The noise regulations included in the City of Riverside Municipal Code, Title 7 *Noise Control*, provide standards for determining and mitigating non-transportation or stationary-source noise impacts from operations at private properties. For the noise-sensitive residential land uses in the Project study area, Table 7.25.010A of the Municipal Code identifies a daytime (7:00 a.m. to 10:00 p.m.) noise level standard of 55 dBA L₅₀ and a nighttime (10:00 p.m. to 7:00 a.m.) noise level standard of 45 dBA L₅₀. (16) Section 7.25.010 (A) indicates that these standards cannot be exceeded plus 5 dBA for a cumulative period of 30 minutes in any hour, as well as plus 5 dBA cannot be exceeded for a cumulative period of more than 15 minutes in any hour, or the standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour, or the standard plus 15 dBA for a cumulative period of more than 1 minute in any hour, or the standard plus 20 dBA for any period of time. No standards have been included for interior noise levels. Standard construction practices that comply with the exterior noise levels generally result in acceptable interior noise levels. The City of Riverside exterior noise standards for noise-sensitive residential land uses are shown on Table 3-1. The City of Riverside Municipal Code *Noise Control* standards are shown on Table 3-1 and included in Appendix 3.2.

3.5.3 COUNTY OF RIVERSIDE OPERATIONAL NOISE STANDARDS

The County of Riverside has set exterior noise limits to control community noise impacts from non-transportation noise sources (such as playgrounds, trash compactors, air-conditioning units, etc.). Policy N 4.1 of the Noise Element sets an exterior noise limit not to be exceeded for a cumulative period of more than ten minutes in any hour of 65 dBA L_{eq} for daytime hours of 7:00 a.m. to 10:00 p.m., and 45 dBA L_{eq} during the noise-sensitive nighttime hours of 10:00 p.m. to 7:00 a.m. (17) These stationary-source noise level standards are consistent with the County of



Riverside Office of Industrial Hygiene guidelines for noise studies within the County. (18) The County of Riverside stationary-source (operational) noise standards are shown on Table 3-1.

TABLE 3-1: OPERATIONAL NOISE STANDARDS

	Land Use	Time Period	Exterior Noise Level Standards (dBA) ¹					
Jurisdiction			L _{eq} (Average)	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)
March JPA ²	Residential	Anytime	55	-	-	-	-	-
City of	Residential	Daytime	-	60	60	65	70	75
Riverside ³		Nighttime	ı	50	50	55	60	65
County of Riverside ⁴	Residential	Daytime	65	-	-	-	-	-
		Nighttime	45	-	-	-	-	-

¹ L_{eq} represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. The percent noise level is the level exceeded "n" percent of the time during the measurement period. L₅₀ is the noise level exceeded 50% of the time.

3.6 CONSTRUCTION NOISE STANDARDS

To analyze noise impacts originating from the construction of the Project, noise from construction activities are typically limited to the hours of operation established under a jurisdiction's Code. To accurately describe the potential Project-related construction noise level contributions to the existing noise environment, this analysis presents the appropriate construction noise standards for each jurisdiction adjacent to the Project site including: the March JPA, City of Riverside, and the County of Riverside. However, the permitted hours of construction for the March JPA are the only applicable hour restrictions for the Project since the construction activity will be within the March JPA jurisdiction.

3.6.1 March JPA Construction Noise Standards

The March JPA Development Code, Section 9.10.030 *Exemptions*, states that construction activities are considered exempt from the noise performance standards if they occur within the permitted hours of 7:00 a.m. to 7:00 p.m. The March JPA Development Code does not identify a specific noise level standard for construction activity. The March JPA Development Code construction noise standards are shown on Table 3-2 and included in Appendix 3.1.



² Source: March Joint Powers Authority, Development Code, Chapter 9.10 Performance Standards, Section 9.10.140 (Appendix 3.1).

³ Source: City of Riverside Municipal Code, Title 7 Noise Control, Section 7.25.010 (A) (Appendix 3.2).

⁴ Source: County of Riverside General Plan Noise Element, Table N-2.

[&]quot;Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

3.6.2 CITY OF RIVERSIDE CONSTRUCTION NOISE STANDARDS

The City of Riverside Municipal Code, Section 7.35.020(G), states that construction activities are limited to the hours of 7:00 a.m. to 7:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on Saturdays, with no activities allowed on Sundays or federal holidays. (16) The land uses in the Project study area with the potential to be impacted by Project-related construction noise levels include noise-sensitive residential land use. Based on the City of Riverside Municipal Code, Table 7.25.010A *Exterior Noise Standards*, residential land uses have an anytime noise level standard of 75 dBA L_{max} during the daytime hours, and 65 dBA L_{max} during the nighttime hours for construction noise levels. The City of Riverside Municipal Code construction noise standards are shown on Table 3-2 and included in Appendix 3.2.

3.6.3 COUNTY OF RIVERSIDE CONSTRUCTION NOISE STANDARDS

Section 9.52.020(I) of the County's Noise Regulation ordinance, provided in Appendix 3.3, indicates that noise associated with any private construction activity located within one-quarter of a mile from an inhabited dwelling is considered exempt between the hours of 6:00 a.m. and 6:00 p.m., during the months of June through September, and 7:00 a.m. and 6:00 p.m., during the months of October through May. (19) Neither the County's General Plan nor County Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers, which would allow for a quantified determination of what CEQA constitutes a substantial temporary or periodic noise increase.

To allow for a quantified determination of what the Noise Regulation Ordinance constitutes as noise that may jeopardize the health, safety or general welfare of Riverside County residents and degrade their quality of life due to Project construction activity, relevant quantified stationary source noise standards established in the General Plan, Policy N 4.1, are used in this analysis to assess the Project construction noise levels at nearby sensitive receivers. Therefore, the daytime noise level standard of 65 dBA L_{eq} and nighttime noise level standard of 45 dBA L_{eq} are used to evaluate the potential Project-related construction noise impacts. (17)

TABLE 3-2: CONSTRUCTION NOISE STANDARDS

Jurisdiction	Land	Permitted Hours of	Construction Noise Level Limit at Receiving Use ¹		
	Use Construction Activity		Daytime	Nighttime	
March JPA ²	n/a	7:00 a.m. to 7:00 p.m.	n/a		
City of Riverside ³	Residential	7:00 a.m. to 7:00 p.m. on weekdays; 8:00 a.m. to 5:00 p.m. on Saturdays; no work on Sundays or federal holidays	75 dBA L _{max}	65 dBA L _{max}	
County of Riverside ⁴	Residential	6:00 a.m. to 6:00 p.m. June to September; 7:00 a.m. to 6:00 p.m. October to May	65 dBA L _{eq}	45 dBA L _{eq}	



3.7 VIBRATION STANDARDS

The March JPA and the City of Riverside General Plans and Municipal Codes do not identify specific vibration level standards. Therefore, the impacts due to vibration are assessed based on vibration level limits identified in the County of Riverside General Plan Noise Element. Vibration levels with peak particle velocity (PPV) of 0.787 inches per second are considered readily perceptible and PPV above 0.1968 in/sec are considered annoying to people in buildings. Further, County of Riverside General Plan Policy 16.3 identifies a motion velocity perception threshold for vibration due to passing trains of 0.01 inches per second (in/sec) over the range of one to 100 Hz. (17) For the purposes of this analysis, the perception threshold of 0.01 in/sec shall be used to assess the potential impacts due to Project construction at nearby sensitive receiver locations. The vibration standards are shown on Table 3-3.

Typically, the human response at the perception threshold for vibration includes annoyance in residential areas as previously shown on Exhibit 2-B, when vibration levels expressed in vibration decibels (VdB) approach 75 VdB. The County of Riverside, however, identifies a vibration perception threshold of 0.01 in/sec. For vibration levels expressed in velocity, the human body responds to the average vibration amplitude often described as the root-mean-square (RMS). The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a one-second period. As with airborne sound, the RMS velocity is often expressed in decibel notation as vibration decibels (VdB), which serves to reduce the range of numbers used to describe human response to vibration. Therefore, the vibration standard of 0.01 in/sec in RMS velocity levels is used in this analysis to assess the human perception of vibration levels due to Project-related construction activities.

TABLE 3-3: VIBRATION NOISE STANDARDS

Jurisdiction	Root-Mean-Square (RMS) Velocity (in/sec)
March JPA	n/a
City of Riverside	n/a
County of Riverside ¹	0.01

¹ Source: County of Riverside General Plan Noise Element, Policy N 16.3.

3.8 MARCH AIR RESERVE BASE/INLAND PORT AIRPORT LAND USE COMPATIBILITY

The March Air Reserve Base/Inland Port Airport (MARB/IPA) is located just over one mile east of the Project site. The *Riverside County Airport Land Use Compatibility Plan Policy Document* (RC ALUCP) includes the policies for determining the land use compatibility of the Project since it is



¹Thresholds based on the City of Riverside and County of Riverside noise level standard for non-transportation noise sources (Table 3-1).

² Source: March Joint Powers Authority, Development Code, Chapter 9.10 Performance Standards, Section 9.10.030 (Appendix 3.1).

³ Source: City of Riverside Municipal Code, Section 7.35.020(G), Table 7.25.010A (Appendix 3.2).

⁴ Source: County of Riverside County Code, Section 9.52.020 (I) (Appendix 3.3).

[&]quot;Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

[&]quot;n/a" = The General Plan and Municipal Code do not identify specific vibration level standards.

located within 1 miles of an airport runway. Policy 4.1.5 *Noise Exposure for Other Land Uses* of the RC ALUCP requires that land uses, such as the business park (mixed use) and industrial land use of the Project site, demonstrate compatibility with the acceptable noise levels on Table 2B. The Table 2B *Supporting Compatibility Criteria: Noise* matrix is shown on Exhibit 3-B and indicates that *clearly compatible* business park (mixed use) land uses experience exterior noise levels below 55 dBA CNEL, while industrial land uses experience *clearly compatible* exterior noise levels below 60 dBA CNEL. *Normally acceptable* noise levels for business park (mixed use) land uses range from 55 to 60 dBA CNEL, and from 60 to 65 dBA CNEL for industrial land uses. (20) *Marginally acceptable* noise levels at business park (mixed use) land uses range from 60 to 70 dBA CNEL, and from 65 to 70 dBA CNEL for industrial land uses. For *marginally acceptable* noise levels: *the indicated noise exposure will cause moderate interference with outdoor activities and with indoor activities when windows are open. The land use is acceptable on the conditions that outdoor activities are minimal and construction features which provide sufficient noise attenuation are used (e.g. installation of air conditioning so that windows can be kept closed). <i>Under other circumstances, the land use should be discouraged*. (20)

The noise contour boundaries used to determine the potential aircraft-related noise impacts at the Project site are found on Exhibit MA-4 of the RC ALUCP and are presented on Exhibit 3-C of this report. Based on the RC ALUCP noise level contours for the MARB/IPA, the Project is entirely located outside the 60 dBA CNEL noise level contour boundaries and is considered *normally acceptable*. Outdoor activities at the business park (mixed use) land use within the Project site are expected to be minimal and include employees traveling from their vehicles to the office buildings within the site. Therefore, based on the RC ALUCP compatibility criteria, *conventional construction methods will eliminate noise intrusions above 60 dBA CNEL upon indoor activities and thus is allowed under the RC ALUCP*. (20)



EXHIBIT 3-B: RC ALUCP SUPPORTING COMPATIBILITY CRITERIA: NOISE

CNEL (dB)

Land Use Category	50–55	55–60	60–65	65–70	70–75
Residential *					
single-family, nursing homes, mobile homes	++	0	_		
multi-family, apartments, condominiums	++	+	0		
Public					
schools, libraries, hospitals	+	0	_		
churches, auditoriums, concert halls	+	0	0	_	
transportation, parking, cemeteries	++	++	++	+	0
Commercial and Industrial					
offices, retail trade	++	+	0	0	_
service commercial, wholesale trade, warehousing, light industrial	++	++	+	0	0
general manufacturing, utilities, extractive industry	++	++	++	+	+
Agricultural and Recreational					
cropland	++	++	++	++	+
livestock breeding	++	+	0	0	_
parks, playgrounds, zoos	++	+	+	0	_
golf courses, riding stables, water recreation	++	++	+	0	0
outdoor spectator sports	++	+	+	0	_
amphitheaters	+	0	-		

Land Use Acceptability		Interpretation/Comments
++	Clearly Acceptable	The activities associated with the specified land use can be carried out with essentially no interference from the noise exposure.
+	Normally Acceptable	Noise is a factor to be considered in that slight interference with outdoor activities may occur. Conventional construction methods will eliminate most noise intrusions upon indoor activities.
0	Marginally Acceptable	The indicated noise exposure will cause moderate interference with outdoor activities and with indoor activities when windows are open. The land use is acceptable on the conditions that outdoor activities are minimal and construction features which provide sufficient noise attenuation are used (e.g., installation of air conditioning so that windows can be kept closed). Under other circumstances, the land use should be discouraged.
-	Normally Unacceptable	Noise will create substantial interference with both outdoor and indoor activities. Noise intrusion upon indoor activities can be mitigated by requiring special noise insulation construction. Land uses which have conventionally constructed structures and/or involve outdoor activities which would be disrupted by noise should generally be avoided.
	Clearly Unacceptable	Unacceptable noise intrusion upon land use activities will occur. Adequate structural noise insulation is not practical under most circumstances. The indicated land use should be avoided unless strong overriding factors prevail and it should be prohibited if outdoor activities are involved.

^{*} Subtract 5 dB for low-activity outlying airports (Chiriaco Summit and Desert Center)

Source: Riverside County Airport Land Use Compatibility Plan, Table 2B.



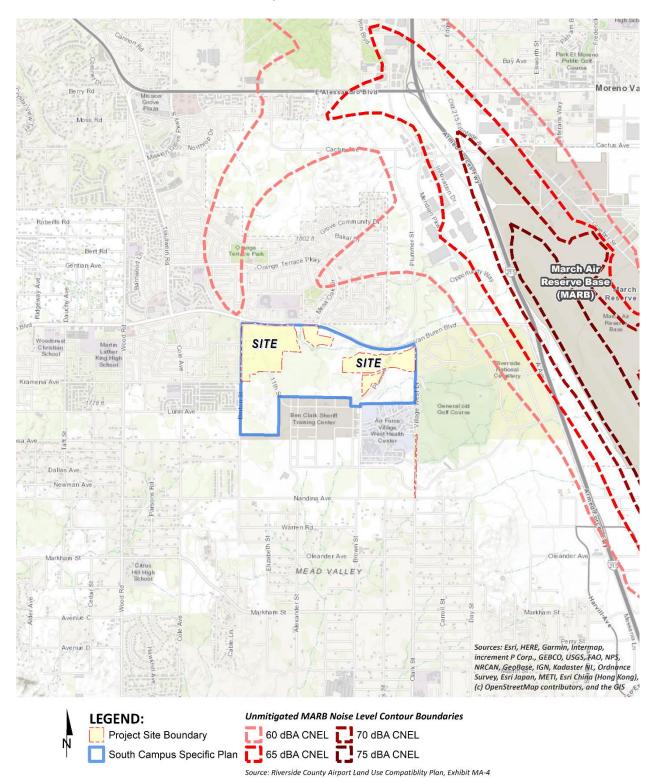


EXHIBIT 3-C: MARB/IPA FUTURE AIRPORT NOISE CONTOURS



4 SIGNIFICANCE CRITERIA

The following significance criteria are based on currently adopted guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) For the purposes of this report, impacts would be potentially significant if the Project results in or causes:

- A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- B. Generation of excessive ground-borne vibration or ground-borne noise levels?
- C. For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

While the CEQA Guidelines and the March JPA General Plan provide direction on noise compatibility and establish noise standards by land use type that are sufficient to assess the significance of noise impacts they do not define the levels at which increases are considered substantial for use under CEQA Significance Criteria A.

4.1 CEQA GUIDELINES NOT FURTHER ANALYZED

The closest airport which would require additional noise analysis under CEQA Significance Criteria C is the March Air Reserve Base/Inland Port Airport (MARB/IPA) which is located just over one mile east of the Project site. As previously indicated in Section 3.7, the noise contour boundaries of MARB/IPA are presented on Exhibit 3-B of this report and show that the Project is considered normally acceptable land use since it is located outside of the 60 dBA CNEL contour. Moreover, Table MA-2 of the MARB/IPA LUCP indicates that no uses are prohibited in this area except for highly noise-sensitive outdoor nonresidential uses (e.g., sports stadiums, concert halls), and therefore, impacts are considered less than significant and no further noise analysis is provided under CEQA Significance Criteria C.

4.2 Noise-Sensitive Receivers

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes that there is no single noise increase that renders the noise impact significant. (21) Unfortunately, there is no completely satisfactory way to measure the subjective effects of noise or of the corresponding human reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called ambient environment.



4.2.1 SUBSTANTIAL PERMANENT NOISE LEVEL INCREASES

In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. The Federal Interagency Committee on Noise (FICON) (22) developed guidance to be used for the assessment of Project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level (Leq.).

As previously stated, the approach used in this noise study recognizes that there is no single noise increase that renders the noise impact significant, based on a 2020 California Court of Appeal ruling in King and Gardiner Farms, LLC v. County of Kern. (21) For example, if the ambient noise environment is quiet (<60 dBA) and the new noise source greatly increases the noise levels, an impact may occur if the noise criteria may be exceeded. Therefore, for this analysis, FICON identifies a readily perceptible 5 dBA or greater Project-related noise level increase is considered a significant impact when the noise criteria for a given land use is exceeded. Per the FICON, in areas where the without Project noise levels range from 60 to 65 dBA, a 3 dBA barely perceptible noise level increase appears to be appropriate for most people. When the without Project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact if the noise criteria for a given land use is exceeded, since it likely contributes to an existing noise exposure exceedance. Table 4-1 below provides a summary of the potential noise impact significance criteria, based on guidance from FICON.

TABLE 4-1: SIGNIFICANCE OF NOISE IMPACTS AT NOISE-SENSITIVE RECEIVERS

Without Project Noise Level	Potential Significant Impact
< 60 dBA	5 dBA or more
60 - 65 dBA	3 dBA or more
> 65 dBA	1.5 dBA or more

Federal Interagency Committee on Noise (FICON), 1992.

4.2.2 Substantial Temporary of Periodic Noise Level Increases

Due to the temporary, short-term nature of noise-generating construction activities, the temporary noise level increases over the existing ambient conditions must be considered under CEQA Significance Threshold A. Therefore, the Caltrans *Traffic Noise Analysis Protocol* 12 dBA Leq *substantial* noise level increase threshold is used in this analysis to assess temporary noise level increases. (4) If the Project-related construction noise levels generate a temporary noise level increase above the existing ambient noise levels of up to 12 dBA Leq, then the Project construction noise level increases will be considered a potentially significant impact. Although the Caltrans recommendations were specifically developed to assess traffic noise impacts, the 12 dBA Leq



substantial noise level increase threshold is used in California to address noise level increases with the potential to exceed existing conditions. (4)

4.3 Non-Noise-Sensitive Receivers

The March JPA General Plan Update 2030 Noise/Air Quality Element, Policy 1f is used to establish the satisfactory noise levels of significance for non-noise-sensitive land uses in the Project study area. While not yet adopted, the March JPA General Plan Update 2030 Noise/Air Quality Element contains specific land use compatibility criteria for different land uses, while the currently adopted 1999 General Plan does not identify any noise compatibility criteria. Therefore, the noise study relies on the specific land use compatibility criteria and noise policies outlined in the draft 2030 General Plan Update. As indicated in Policy 1f, the exterior noise level criteria for non-noise-sensitive land use, such as industrial use, is 70 dBA CNEL. Noise levels greater than 70 dBA CNEL are considered *conditionally acceptable* per the *State Land Use Compatibility* matrix, previously shown on Exhibit 3-A.

To determine if Project-related traffic noise level increases are significant at off-site non-noise-sensitive land uses, a *readily perceptible* 5 dBA and *barely perceptible* 3 dBA criteria are used. When the without Project noise levels at the non-noise-sensitive land uses are below the *normally acceptable* 70 dBA CNEL compatibility criteria, a *readily perceptible* 5 dBA or greater noise level increase is considered a significant impact. When the without Project noise levels are greater than the *normally acceptable* 70 dBA CNEL land use compatibility criteria, a *barely perceptible* 3 dBA or greater noise level increase is considered a significant impact since the noise level criteria is already exceeded. The noise level increases used to determine significant impacts for non-noise-sensitive land uses is generally consistent with the FICON noise level increase thresholds for noise-sensitive land uses but instead rely on the March JPA General Plan Noise/Air Quality Element, Policy 1f 70 dBA CNEL exterior noise level criteria.

4.4 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-2 shows the significance criteria summary matrix.

OFF-SITE TRAFFIC NOISE

- When the noise levels at existing and future noise-sensitive land uses (e.g. residential, etc.):
 - o are less than 60 dBA and the Project creates a *readily perceptible* 5 dBA or greater Project-related noise level increase; or
 - o range from 60 to 65 dBA and the Project creates a *barely perceptible* 3 dBA or greater Project-related noise level increase; or
 - o already exceed 65 dBA, and the Project creates a community noise level increase of greater than 1.5 dBA (FICON, 1992).
- When the noise levels at existing and future non-noise-sensitive land uses (e.g. industrial, etc.):
 - are less than the March JPA General Plan Noise/Air Quality Element, Policy 1f, 70 dBA and the Project creates a readily perceptible 5 dBA or greater Project-related noise level increase; or



 are greater than the March JPA General Plan Noise/Air Quality Element, Policy 1f, 70 dBA and the Project creates a *barely perceptible* 3 dBA or greater Project-related noise level increase.

OPERATIONAL NOISE

- If Project-related operational (stationary-source) noise levels:
 - exceed the exterior 55 dBA L_{eq} noise level standards at nearby sensitive residential land uses within the March Joint Powers Authority jurisdiction (March JPA Development Code, Section 9.10.140); or
 - o exceed the exterior 55 dBA L_{50} daytime or 45 dBA L_{50} nighttime noise level standards for sensitive residential land uses. These standards shall not be exceeded plus 5 dBA for a cumulative period of 30 minutes (L_{50}), or plus 5 dBA cannot be exceeded for a cumulative period of more than 15 minutes (L_{25}) in any hour, or the standard plus 10 dBA for a cumulative period of more than 5 minutes (L_{8}) in any hour, or the standard plus 15 dBA for a cumulative period of more than 1 minute (L_{2}) in any hour, or the standard plus 20 dBA at any time (L_{max}) (City of Riverside Municipal Code, Section 7.25.010 (A)); or
 - exceed the exterior 65 dBA L_{eq} daytime or 45 dBA L_{eq} nighttime noise level standards at nearby sensitive receiver locations in the County of Riverside (County of Riverside General Plan Noise Element, Table N-2).
- If the existing ambient noise levels at the nearby noise-sensitive receivers near the Project site:
 - o are less than 60 dBA and the Project creates a *readily perceptible* 5 dBA or greater Project-related noise level increase; or
 - o range from 60 to 65 dBA and the Project creates a *barely perceptible* 3 dBA or greater Project-related noise level increase; or
 - already exceed 65 dBA, and the Project creates a community noise level increase of greater than 1.5 dBA (FICON, 1992).

CONSTRUCTION NOISE AND VIBRATION

- If Project-related construction activities:
 - o occur at any time other than the permitted hours of 7:00 a.m. to 7:00 p.m. (March JPA Development Code, Section 9.10.030) unless otherwise permitted; or
 - create noise levels which exceed the City of Riverside 75 dBA L_{max} daytime or 65 dBA L_{max} nighttime acceptable noise level threshold at the nearby sensitive receiver locations in the City of Riverside (City of Riverside Municipal Code, Section 7.25.010 (A));
 - create noise levels which exceed the County of Riverside 65 dBA L_{eq} daytime or 45 dBA L_{eq} nighttime acceptable noise level threshold at the nearby sensitive receiver locations in the County of Riverside (Based on the County of Riverside General Plan, Policy N 4.1); or
 - generate temporary Project construction-related noise level increases which exceed the 12 dBA L_{eq} substantial noise level increase threshold at noise-sensitive receiver locations (Caltrans, Traffic Noise Analysis Protocol).
- If short-term Project generated construction vibration levels exceed the County of Riverside acceptable vibration standard of 0.01 in/sec (RMS) at sensitive receiver locations (County of Riverside General Plan, Policy N 16.3).



TABLE 4-2: SIGNIFICANCE CRITERIA SUMMARY

Amalus's	land lies	In unit aliable	Condition(s)	Significan	ce Criteria
Analysis	Land Use	Jurisdiction	Condition(s)	Daytime	Nighttime
			If ambient is < 60 dBA CNEL	≥ 5 dBA CNEL F	Project increase
e E	Noise- Sensitive ¹	All	If ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase	
Off-Site	Sensitive		If ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL	Project increase
Ö	Non-Noise-	All	If ambient is < 70 dBA CNEL	≥ 5 dBA CNEL F	Project increase
	Sensitive ²	All	If ambient is > 70 dBA CNEL	≥ 3 dBA CNEL F	Project increase
				55 di	BA L _{eq}
			≥ 30 Minutes L ₅₀	60	50
			≥ 15 Minutes L ₂₅	60	50
		-	≥ 5 Minutes L ₈	65	55
onal	Noise- Sensitive		≥ 1 Minute L ₂	70	60
Operational			Anytime L _{max}	75	65
Ope		County of Riverside ⁵	Noise Level Threshold	65 dBA L _{eq}	45 dBA L _{eq}
			If ambient is < 60 dBA L _{eq}	≥ 5 dBA CNEL Project increase	
		All ¹	If ambient is 60 - 65 dBA L _{eq}	≥ 3 dBA CNEL F	Project increase
			If ambient is > 65 dBA L _{eq}	≥ 1.5 dBA CNEL	Project increase
		March JPA	Permitted hours betwe	een 7:00 a.m. to 7:	00 p.m. ⁶
tion		City of Riverside	Noise Level Threshold ⁷	75 dBA L _{max}	65 dBA L _{max}
Construction	Noise- Sensitive	County of Riverside	Noise Level Threshold ⁸	65 dBA L _{eq}	45 dBA L _{eq}
		A.II	Noise Level Increase ⁹	12 dBA L _{eq}	n/a
		All	Vibration Level Threshold ¹⁰	0.01 in/	sec RMS
¹ Source: FIC	ON 1002			,	

¹ Source: FICON, 1992.



² Based on the land use compatibility criteria found in the March JPA General Plan Noise Element, Figure III-1.

³ Source: March Joint Powers Authority, Development Code, Chapter 9.10 Performance Standards, Section 9.10.140 (Appendix 3.1).

⁴ Source: City of Riverside Municipal Code, Title 7 Noise Control, Table 7.25.010A Exterior Noise Standards (Appendix 3.2).

⁵ Source: County of Riverside General Plan Noise Element, Table N-2.

⁶ Source: March Joint Powers Authority, Development Code, Chapter 9.10 Performance Standards, Section 9.10.030 (Appendix 3.1).

⁷ Source: City of Riverside Municipal Code, Section 7.25.010 (A) (Appendix 3.2).

⁸ Threshold based on the County of Riverside noise level standard for non-transportation noise sources (Table 3-1).

 $^{^{\}rm 9}$ Source: Caltrans Traffic Noise Analysis Protocol, May 2011.

 $^{^{\}rm 10}$ Source: County of Riverside General Plan Noise Element, Policy N 16.3.

[&]quot;Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

This page intentionally left blank



5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at ten locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Wednesday, September 4th, 2019. Appendix 5.1 includes study area photos.

5.1 Measurement Procedure and Criteria

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (23)

5.2 Noise Measurement Locations

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources. (6) Further, FTA guidance states, that it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the Project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community. (11)

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. (11) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts.



Cityof Riverside **△**IJ 12 VAN BUREN BLVD 110 13.7 AG BUSINESS PARK 18.5 AC INDUSTRIAL 28.3 AC INDUSTRIAL 19/ March/IPA VILLAGE WEST DRIVE EXTENSION Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community NANDINA AVE **LEGEND:** Site Boundary March JPA N South Campus Specific Plan City of Riverside Measurement Locations Riverside County

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels.

The noise measurements presented below focus on the average or equivalent sound levels (L_{eq}). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location. Appendix 5.2 provides a summary of the existing hourly ambient noise levels described below:

- Location L1 represents the noise levels north of Project site on Gumtree Lane and Aptos Street
 near Amelia Earhart middle school in the City of Riverside. The noise levels at this location
 consist primarily of traffic noise from Gumtree Lane and Aptos Street as well as parking lot
 vehicle movements from Amelia Earhart Middle School. The noise level measurements
 collected show an overall 24-hour exterior noise level of 58.0 dBA CNEL. The energy
 (logarithmic) average daytime noise level was calculated at 50.4 dBA Leq with an average
 nighttime noise level of 51.3 dBA Leq.
- Location L2 represents the noise levels north of Project site on Coyote Bush Boulevard and Van Buren Boulevard in the City of Riverside. The ambient noise levels at this location consist primarily of traffic noise from Van Buren Boulevard and Coyote Bush Boulevard. The noise level measurements collected show an overall 24-hour exterior noise level of 78.8 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 73.8 dBA L_{eq} with an average nighttime noise level of 71.6 dBA L_{eq}.
- Location L3 represents the noise levels north of the Project site on Golden Rain Road near
 existing single-family homes in the City of Riverside. The noise level measurements collected
 show an overall 24-hour exterior noise level of 61.2 dBA CNEL. The energy (logarithmic)
 average daytime noise level was calculated at 58.2 dBA L_{eq} with an average nighttime noise
 level of 53.3 dBA L_{eq}. The noise levels at this location consist primarily of traffic noise from
 Golden Rain Road.
- Location L4 represents the noise levels on Krameria Avenue and Bundy Avenue near existing
 vacant land planned for industrial land use in the City of Riverside. The noise level
 measurements collected show an overall 24-hour exterior noise level of 66.2 dBA CNEL. The
 energy (logarithmic) average daytime noise level was calculated at 60.7 dBA L_{eq} with an
 average nighttime noise level of 59.3 dBA L_{eq}. The noise levels at this location consist primarily
 of traffic from Krameria Avenue and Bundy Avenue.
- Location L5 represents the noise levels east of the Project site on Village West Drive near General Old Golf Course and Riverside National Cemetery in the County of Riverside. The 24hour CNEL indicates that the overall exterior noise level is 58.1 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 54.4 dBA L_{eq} with an average nighttime noise level of 50.1 dBA L_{eq}. Traffic on Village West Drive represents the primary source of noise at this location.
- Location L6 represents the noise levels on White Street near the northwest corner of Altavita
 Village apartment complex in the March JPA. The ambient noise levels at this location consist
 primarily of traffic noise from Bundy Avenue as well as parking lot vehicle movements from
 ChargePoint Charging Station. The noise level measurements collected show an overall 24-



- hour exterior noise level of 53.3 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 49.6 dBA L_{eq} with an average nighttime noise level of 45.1 dBA L_{eq} .
- Location L7 represents the noise levels southwest of 12th Street and Davis Avenue near Ben Clark Public Safety Training Center in the March JPA. The ambient noise levels at this location consist primarily of traffic noise from 12th Street and Davis Avenue. The noise level measurements collected show an overall 24-hour exterior noise level of 52.7 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 50.0 dBA L_{eq} with an average nighttime noise level of 43.3 dBA L_{eq}.
- Location L8 represents the noise levels south of Project site on Larry Parrish Parkway near existing vacant land with General Plan land use designation for public facility use in the March JPA. The ambient noise levels at this location consist primarily of traffic noise from Larry Parrish Parkway. The noise level measurements collected show an overall 24-hour exterior noise level of 59.9 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 56.7 dBA Leq with an average nighttime noise level of 51.7 dBA Leq.
- Location L9 represents the noise levels west of the Project site on Barton Street and Lurin Avenue near existing single-family homes land in the City of Riverside. The 24-hour CNEL indicates that the overall exterior noise level is 78.0 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 74.2 dBA L_{eq} with an average nighttime noise level of 70.5 dBA L_{eq}. Traffic on Barton Street and Lurin Avenue represents the primary source of noise at this location.
- Location L10 represents the noise levels west of Project site on Barton Street and Gless Ranch
 Road near existing single-family homes and orange farm land in the City of Riverside. The 24hour CNEL indicates that the overall exterior noise level is 69.9 dBA CNEL. The energy
 (logarithmic) average daytime noise level was calculated at 65.9 dBA L_{eq} with an average
 nighttime noise level of 62.4 dBA L_{eq}. Traffic on Barton Street and Gless Ranch Road
 represents the primary source of noise at this location.

Table 5-1 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L₁, L₂, L₅, L₈, L₂₅, L₅₀, L₉₀, L₉₅, and L₉₉ percentile noise levels observed during the daytime and nighttime periods.

The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with surface streets. This includes the auto and heavy truck activities on study area roadway segments near the noise level measurement locations. The 24-hour existing noise level measurement results are shown on Table 5-1.



TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS

Location ¹ Jurisdiction		Description	Noise	Average Level L _{eq}) ²	CNEL
			Daytime	Nighttime	
L1	City of Riverside	Located north of Project site on Gumtree Lane and Aptos Street near Amelia Earhart middle school.	50.4	51.3	58.0
L2	City of Riverside	Located north of project site on Coyote Bush Boulevard and Van Buren Boulevard.	73.8	71.6	78.8
L3	City of Riverside	Located north of Project site on Golden Rain Road near existing single-family homes.	58.2	53.3	61.2
L4	City of Riverside	Located on Krameria Avenue and Bundy Avenue near existing vacant land.	60.7	59.3	66.2
L5	County of Riverside	Located east of the Project site on Village West Drive near General Old Golf Course and Riverside National Cemetery.	54.4	50.1	58.1
L6	March JPA	Located on White Street near the northwest corner of Altavita Village apartment complex.	49.6	45.1	53.3
L7	March JPA	Located southwest of 12th Street and Davis Avenue near Ben Clark Public Safety Training Center.	50.0	43.3	52.7
L8	March JPA	Located south of Project site on Larry Parrish Parkway near existing vacant land.	56.7	51.7	59.9
L9	City of Riverside	Located west of the Project site on Barton Street and Lurin Avenue near existing single- family homes.	74.2	70.5	78.0
L10	City of Riverside	Located west of Project site on Barton Street and Gless Ranch Road near existing single-family homes and orange farm.	65.9	62.4	69.9

 $^{^{\}rm 1}\,\mbox{See}$ Exhibit 5-A for the noise level measurement locations.



 $^{^2}$ Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2. "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

This page intentionally left blank



6 METHODS AND PROCEDURES

The following section outlines the methods and procedures used to model and analyze the future traffic noise environment.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The expected roadway noise level increases from vehicular traffic were calculated by Urban Crossroads, Inc. using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (24) The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California, the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. (25) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period. Research conducted by Caltrans has shown that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis. (26)

This methodology is consistent with the County of Riverside Office of Industrial Hygiene Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures, which specifically requires the FHWA RD-77-108 model to be used in analysis within the County's jurisdiction. (18)

6.2 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-1 presents the roadway parameters used to assess the Project's off-site transportation noise impacts. Table 6-1 identifies the 48 study area roadway segments, the distance from the centerline to adjacent receiving land use based on the functional roadway classifications per the March JPA, City of Riverside, County of Riverside, and City of Moreno Valley General Plan Circulation Elements, and the posted vehicle speeds. The ADT volumes used in this study are presented on Table 6-2 and obtained from the *Meridian South Campus Traffic Impact Analysis* prepared by Urban Crossroads, Inc., for the following traffic scenarios:

- Existing (2019)
- Existing plus Project (E+P) (net change in trips of proposed Project compared to the 2003 EIR Phase III) (E+P)
- Opening Year Cumulative (2024) Without Project
- Opening Year Cumulative (2024) With Proposed Project (Revised Specific Plan land uses)
- Horizon Year (2040) Without Project
- Horizon Year (2040) With Proposed Project (Revised Specific Plan land uses)



Consistent with *Meridian South Campus Traffic Impact Analysis* prepared by Urban Crossroads, Inc. (2) the off-site traffic noise analysis maintains a peak hour to average daily traffic (peak-to-daily) relationship of approximately 7.73%.

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Receiving Land Use ¹	Distance from Centerline to Receiving Land Use (Feet) ²	Posted Vehicle Speed (mph)
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	44'	45
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	44'	40
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	60'	50
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	60'	50
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	55'	50
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	55'	50
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	55'	50
8	Barton St.	n/o Van Buren Bl.	Residential	44'	40
9	Barton St.	s/o Van Buren Bl.	Residential	44'	40
10	Barton St.	n/o Krameria Av.	Commercial/Residential	44'	40
11	Barton St.	s/o Krameria Av.	Residential	44'	40
12	Barton St.	s/o Lurin Av.	Residential	44'	40
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	33'	25
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	55'	45
15	Village West Dr.	n/o Krameria Av.	Business Park	56'	40
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	39'	40
17	Meridian Pkwy.	s/o Allesandro Bl.	Industrial/Business Park	56'	45
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	56'	45
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	56'	45
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	56'	45
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	56'	45
22	Day St.	n/o Cottonwood Av.	Residential/Office	44'	40
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	44'	40
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	60'	55
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	60'	55
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	60'	55
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	60'	45
28	Alessandro Bl.	w/o Day St.	Commercial	67'	45
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	67'	45
30	Cactus Av.	w/o Innovation Dr.	Business Park	60'	45
31	Cactus Av.	e/o Innovation Dr.	Business Park	60'	45
32	Cactus Av.	w/o Elsworth St.	Business Park	67'	50
33	Cactus Av.	e/o Elsworth St.	Business Park	67'	50
34	Cactus Av.	w/o Graham St.	Business Park	67'	50
35	Cactus Av.	e/o Graham St.	Business Park	67'	50
36	Van Buren Bl.	w/o Wood Rd.	Commercial	60'	50
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	60'	50
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	60'	50
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	60'	55
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	60'	55

ID	Roadway	Segment	Receiving Land Use ¹	Distance from Centerline to Receiving Land Use (Feet) ²	Posted Vehicle Speed (mph)
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	60'	55
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	55'	55
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	55'	55
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	55'	55
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	125'	65
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	125'	65
47	I-215 Fwy.	s/o Cactus Av.	Business Park	125'	65
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	125'	65

¹ Sources: March JPA General Plan Land Use Map, Figure II-3, City of Riverside General Plan Land Use Policy Map, Figure LU-10, and the City of Moreno Valley General Plan Land Use Map, Figure 2-2.

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

				Avera	ge Daily T	raffic Volu	umes ¹	
ID	Roadway	Segment	Existing		Openin Cumulat	_	Horizon Year 2040	
			Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Wood Rd.	n/o Van Buren Bl.	12,963	12,972	14,313	14,322	16,532	16,541
2	Wood Rd.	s/o Van Buren Bl.	17,647	17,656	19,484	19,492	23,526	23,535
3	Trautwein Rd.	n/o Canyon Crest Dr.	14,943	14,996	17,015	17,069	31,685	31,739
4	Trautwein Rd.	s/o Canyon Crest Dr.	479	550	1,333	1,404	20,674	20,745
5	Trautwein Rd.	s/o Alessandro Bl.	36,613	36,711	44,338	44,436	46,195	46,293
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	36,018	36,143	43,937	44,062	52,300	52,425
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	24,171	24,305	30,855	30,989	31,173	31,307
8	Barton St.	n/o Van Buren Bl.	4,852	4,869	6,115	6,132	23,448	23,466
9	Barton St.	s/o Van Buren Bl.	11,734	11,761	18,244	18,270	19,565	19,592
10	Barton St.	n/o Krameria Av.	10,881	10,908	15,727	15,754	16,526	16,553
11	Barton St.	s/o Krameria Av.	10,260	10,286	16,609	16,636	21,696	21,723
12	Barton St.	s/o Lurin Av.	10,091	10,118	15,172	15,198	20,444	20,471
13	Coyote Bush Rd.	n/o Van Buren Bl.	1,708	1,726	2,514	2,531	3,118	3,136
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	7,581	7,599	9,755	9,772	9,789	9,807
15	Village West Dr.	n/o Krameria Av.	4,661	6,834	19,602	21,775	27,528	29,674
16	Village West Dr.	s/o Krameria Av.	1,488	1,506	8,241	8,259	19,670	19,715
17	Meridian Pkwy.	s/o Allesandro Bl.	20,377	20,422	27,621	27,665	30,320	30,364
18	Meridian Pkwy.	n/o Cactus Av.	19,600	19,654	26,891	26,945	29,518	29,571
19	Meridian Pkwy.	s/o Cactus Av.	16,379	16,468	25,247	25,336	27,614	27,704
20	Meridian Pkwy.	n/o Opportunity Way	16,651	16,740	24,817	24,906	27,141	27,230
21	Meridian Pkwy.	n/o Van Buren Bl.	10,503	10,592	18,480	18,569	19,724	19,813
22	Day St.	n/o Cottonwood Av.	10,365	10,383	13,632	13,650	30,729	30,747
23	Day St.	s/o Cottonwood Av.	7,769	7,796	9,496	9,522	28,387	28,414
24	Alessandro Bl.	w/o Mission Grove Pkwy.	46,485	46,512	55,133	55,160	67,330	67,357
25	Alessandro Bl.	e/o Mission Grove Pkwy.	49,202	49,219	58,787	58,804	68,765	68,783
26	Alessandro Bl.	e/o Meridian Pkwy.	44,182	44,200	55,281	55,299	69,657	69,675



² Distance to adjacent land use is based upon the right-of-way distances for each functional roadway classification provided in the General Plan Circulation Elements.

				Avera	age Daily T	raffic Volu	umes ¹	
ID	Roadway	Segment	Exist	Existing		ng Year ive 2024	Horizon Year 2040	
			Without Project	With Project	Without Project	With Project	Without Project	With Project
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	35,971	36,033	46,715	46,777	62,947	63,009
28	Alessandro Bl.	w/o Day St.	29,951	30,013	38,215	38,277	48,149	48,211
29	Alessandro Bl.	e/o Day St.	29,744	29,780	38,003	38,039	47,488	47,524
30	Cactus Av.	w/o Innovation Dr.	15,577	15,595	26,482	26,500	29,036	29,054
31	Cactus Av.	e/o Innovation Dr.	19,653	19,671	31,417	31,434	34,464	34,482
32	Cactus Av.	w/o Elsworth St.	43,936	44,069	58,468	58,601	62,699	62,832
33	Cactus Av.	e/o Elsworth St.	42,759	42,883	55,952	56,077	61,453	61,578
34	Cactus Av.	w/o Graham St.	46,821	46,937	59,940	60,056	65,840	65,956
35	Cactus Av.	e/o Graham St.	40,546	40,635	52,302	52,391	57,439	57,527
36	Van Buren Bl.	w/o Wood Rd.	39,524	39,640	48,470	48,586	53,003	53,119
37	Van Buren Bl.	e/o Wood Rd.	37,118	37,252	45,813	45,947	50,080	50,214
38	Van Buren Bl.	w/o Barton St.	34,815	35,092	45,041	45,317	47,553	47,830
39	Van Buren Bl.	e/o Barton St.	33,068	33,345	43,238	43,515	43,929	44,206
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	31,904	32,660	46,981	47,736	50,736	51,491
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	31,824	32,562	48,906	49,644	51,895	52,633
42	Van Buren Bl.	w/o Meridian Pkwy.	37,208	40,118	56,107	59,018	62,199	65,083
43	Van Buren Bl.	e/o Meridian Pkwy.	31,529	34,350	61,936	64,758	67,030	69,825
44	Van Buren Bl.	e/o Opportunity Way	34,862	37,683	65,868	68,690	71,356	74,150
45	I-215 Fwy.	n/o Alessandro Bl.	83,110	84,866	105,230	106,986	150,230	151,986
46	I-215 Fwy.	s/o Alessandro Bl.	82,410	84,192	111,960	113,742	156,910	158,692
47	I-215 Fwy.	s/o Cactus Av.	78,890	80,788	113,300	115,198	157,560	159,458
48	I-215 Fwy.	s/o Van Buren Bl.	86,610	87,533	121,180	122,103	161,320	162,216

¹ Source: Meridian South Campus Traffic Impact Analysis, Urban Crossroads, Inc., April 2020.

Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits. The daily Project truck trip-ends were assigned to the individual off-site study area roadway segments based on the Project truck trip distribution percentages documented in the *Traffic Impact Analysis*. Using the Project truck trips in combination with the Project trip distribution, Urban Crossroads, Inc. calculated the number of additional Project truck trips and vehicle mix percentages for each of the study area roadway segments. Table 6-4 shows the traffic flow by vehicle type (vehicle mix) used for all without Project traffic scenarios, and Tables 6-5 to 6-9 show the vehicle mixes used for the with Project traffic scenarios.



TABLE 6-3: TIME OF DAY VEHICLE SPLITS

Vehicle Type		Time of Day Splits ¹				
	Daytime	Evening	Nighttime	Day Splits		
Autos	71.11%	10.94%	17.95%	100.00%		
Medium Trucks	73.64%	7.72%	18.64%	100.00%		
Heavy Trucks	75.56%	6.69%	17.75%	100.00%		

¹ Source: Based on existing 24-hour classification counts by vehicle type taken on 8/20/2019 on Van Buren Boulevard between Orange Terrace Parkway and Village West Drive (Meridian South Campus Traffic Impact Analysis, Urban Crossroads, Inc., April 2020). "Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

According to the *Meridian South Campus Traffic Impact Analysis* prepared by Urban Crossroads, Inc., the Meridian South Campus trip generation is based on the net change in potential traffic impacts associated with Phase III of the March Business Center Specific Plan and Final Focused Environmental Impact Report (EIR) (SCH#2002071089) and <u>March Business Center Traffic Impact Analysis</u>, (Kimley-Horn and Associates, February 2003) (referred to hereafter as the "2003 EIR Phase III") to the currently proposed Project. For analytical purposes the "without project" conditions include traffic associated with the 2003 EIR Phase III and the "with project" conditions will reflect the modified Specific Plan as currently proposed in order to provide an evaluation of the net change.

To quantify the off-site noise levels, the Project related truck trips were added to the heavy truck category in the FHWA noise prediction model. The addition of the Project related truck trips increases the percentage of heavy trucks in the vehicle mix. This approach recognizes that the FHWA noise prediction model is significantly influenced by the number of heavy trucks in the vehicle mix. Due to the added Project truck trips, the change in Project traffic volumes and the distributions of trucks on the study area road segments, the percentage of autos, medium trucks and heavy trucks will vary for each of the traffic scenarios. This explains why the existing and future traffic volumes and vehicle mixes vary between seemingly identical study area roadway segments.

The 3,284 daily Project truck trip-ends were assigned to the 48 individual off-site study area roadway segments based on the Project truck trip distribution percentages documented in the *Traffic Impact Analysis*. Using the Project truck trips in combination with the Project trip distribution, Urban Crossroads, Inc. calculated the number of additional Project truck trips and vehicle mix percentages for each of the study area roadway segments. Table 6-4 shows the traffic flow by vehicle type (vehicle mix) used for all without Project traffic scenarios (Existing plus 2003 EIR Phase III), and Tables 6-5 to 6-7 show the vehicle mixes used for the with Project traffic scenarios.



TABLE 6-4: EXISTING WITHOUT PROJECT VEHICLE MIX

Classification		Total % Traffic Flow ¹		Total
Classification	Autos	Medium Trucks	Heavy Trucks	Total
All Segments	91.42%	4.64%	3.94%	100.00%

¹ Source: Based on existing 24-hour classification counts by vehicle type taken on 8/20/2019 on Van Buren Boulevard between Orange Terrace Parkway and Village West Drive (Meridian South Campus Traffic Impact Analysis, Urban Crossroads, Inc., April 2020).

TABLE 6-5: EXISTING WITH PROJECT CONDITIONS VEHICLE MIX

				With P	roject ¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
1	Wood Rd.	n/o Van Buren Bl.	91.43%	4.64%	3.94%	100.00%
2	Wood Rd.	s/o Van Buren Bl.	91.42%	4.64%	3.94%	100.00%
3	Trautwein Rd.	n/o Canyon Crest Dr.	91.45%	4.62%	3.93%	100.00%
4	Trautwein Rd.	s/o Canyon Crest Dr.	92.53%	4.04%	3.43%	100.00%
5	Trautwein Rd.	s/o Alessandro Bl.	91.44%	4.63%	3.93%	100.00%
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	91.45%	4.62%	3.93%	100.00%
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	91.47%	4.61%	3.92%	100.00%
8	Barton St.	n/o Van Buren Bl.	91.45%	4.62%	3.93%	100.00%
9	Barton St.	s/o Van Buren Bl.	91.44%	4.63%	3.93%	100.00%
10	Barton St.	n/o Krameria Av.	91.44%	4.63%	3.93%	100.00%
11	Barton St.	s/o Krameria Av.	91.44%	4.63%	3.93%	100.00%
12	Barton St.	s/o Lurin Av.	91.44%	4.63%	3.93%	100.00%
13	Coyote Bush Rd.	n/o Van Buren Bl.	91.51%	4.59%	3.90%	100.00%
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	91.44%	4.63%	3.93%	100.00%
15	Village West Dr.	n/o Krameria Av.	66.14%	7.64%	26.22%	100.00%
16	Village West Dr.	s/o Krameria Av.	91.52%	4.59%	3.89%	100.00%
17	Meridian Pkwy.	s/o Allesandro Bl.	91.44%	4.63%	3.93%	100.00%
18	Meridian Pkwy.	n/o Cactus Av.	91.44%	4.63%	3.93%	100.00%
19	Meridian Pkwy.	s/o Cactus Av.	91.47%	4.61%	3.92%	100.00%
20	Meridian Pkwy.	n/o Opportunity Way	91.47%	4.62%	3.92%	100.00%
21	Meridian Pkwy.	n/o Van Buren Bl.	91.49%	4.60%	3.91%	100.00%
22	Day St.	n/o Cottonwood Av.	91.43%	4.63%	3.93%	100.00%
23	Day St.	s/o Cottonwood Av.	91.45%	4.62%	3.93%	100.00%
24	Alessandro Bl.	w/o Mission Grove Pkwy.	91.42%	4.64%	3.94%	100.00%
25	Alessandro Bl.	e/o Mission Grove Pkwy.	91.42%	4.64%	3.94%	100.00%
26	Alessandro Bl.	e/o Meridian Pkwy.	91.42%	4.64%	3.94%	100.00%
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	91.43%	4.63%	3.93%	100.00%
28	Alessandro Bl.	w/o Day St.	91.44%	4.63%	3.93%	100.00%
29	Alessandro Bl.	e/o Day St.	91.43%	4.63%	3.94%	100.00%
30	Cactus Av.	w/o Innovation Dr.	91.43%	4.63%	3.94%	100.00%
31	Cactus Av.	e/o Innovation Dr.	91.43%	4.64%	3.94%	100.00%
32	Cactus Av.	w/o Elsworth St.	91.28%	4.65%	4.06%	100.00%
33	Cactus Av.	e/o Elsworth St.	91.28%	4.65%	4.07%	100.00%
34	Cactus Av.	w/o Graham St.	91.29%	4.65%	4.06%	100.00%
35	Cactus Av.	e/o Graham St.	91.26%	4.66%	4.08%	100.00%
36	Van Buren Bl.	w/o Wood Rd.	91.45%	4.63%	3.93%	100.00%



				With Project ¹				
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²		
37	Van Buren Bl.	e/o Wood Rd.	91.45%	4.62%	3.93%	100.00%		
38	Van Buren Bl.	w/o Barton St.	91.49%	4.60%	3.91%	100.00%		
39	Van Buren Bl.	e/o Barton St.	91.49%	4.60%	3.91%	100.00%		
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	90.15%	4.77%	5.08%	100.00%		
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	90.14%	4.77%	5.09%	100.00%		
42	Van Buren Bl.	w/o Meridian Pkwy.	86.08%	5.26%	8.66%	100.00%		
43	Van Buren Bl.	e/o Meridian Pkwy.	85.16%	5.37%	9.47%	100.00%		
44	Van Buren Bl.	e/o Opportunity Way	85.71%	5.31%	8.98%	100.00%		
45	I-215 Fwy.	n/o Alessandro Bl.	89.71%	4.85%	5.45%	100.00%		
46	I-215 Fwy.	s/o Alessandro Bl.	89.70%	4.85%	5.46%	100.00%		
47	I-215 Fwy.	s/o Cactus Av.	89.55%	4.86%	5.59%	100.00%		
48	I-215 Fwy.	s/o Van Buren Bl.	90.69%	4.72%	4.59%	100.00%		

 $^{^1}$ Source: Meridian South Campus Traffic Impact Analysis, Urban Crossroads, Inc., April 2020. 2 Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-6: OPENING YEAR CUMULATIVE 2024 WITH PROJECT VEHICLE MIX

				With P	roject ¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
1	Wood Rd.	n/o Van Buren Bl.	91.43%	4.64%	3.94%	100.00%
2	Wood Rd.	s/o Van Buren Bl.	91.42%	4.64%	3.94%	100.00%
3	Trautwein Rd.	n/o Canyon Crest Dr.	91.45%	4.63%	3.93%	100.00%
4	Trautwein Rd.	s/o Canyon Crest Dr.	91.86%	4.40%	3.74%	100.00%
5	Trautwein Rd.	s/o Alessandro Bl.	91.44%	4.63%	3.93%	100.00%
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	91.44%	4.63%	3.93%	100.00%
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	91.46%	4.62%	3.92%	100.00%
8	Barton St.	n/o Van Buren Bl.	91.44%	4.63%	3.93%	100.00%
9	Barton St.	s/o Van Buren Bl.	91.43%	4.63%	3.93%	100.00%
10	Barton St.	n/o Krameria Av.	91.43%	4.63%	3.93%	100.00%
11	Barton St.	s/o Krameria Av.	91.43%	4.63%	3.93%	100.00%
12	Barton St.	s/o Lurin Av.	91.44%	4.63%	3.93%	100.00%
13	Coyote Bush Rd.	n/o Van Buren Bl.	91.48%	4.61%	3.91%	100.00%
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	91.44%	4.63%	3.93%	100.00%
15	Village West Dr.	n/o Krameria Av.	83.49%	5.58%	10.93%	100.00%
16	Village West Dr.	s/o Krameria Av.	91.44%	4.63%	3.93%	100.00%
17	Meridian Pkwy.	s/o Allesandro Bl.	91.43%	4.63%	3.93%	100.00%
18	Meridian Pkwy.	n/o Cactus Av.	91.44%	4.63%	3.93%	100.00%
19	Meridian Pkwy.	s/o Cactus Av.	91.45%	4.62%	3.93%	100.00%
20	Meridian Pkwy.	n/o Opportunity Way	91.45%	4.62%	3.93%	100.00%
21	Meridian Pkwy.	n/o Van Buren Bl.	91.46%	4.62%	3.92%	100.00%
22	Day St.	n/o Cottonwood Av.	91.43%	4.63%	3.93%	100.00%
23	Day St.	s/o Cottonwood Av.	91.44%	4.63%	3.93%	100.00%
24	Alessandro Bl.	w/o Mission Grove Pkwy.	91.42%	4.64%	3.94%	100.00%
25	Alessandro Bl.	e/o Mission Grove Pkwy.	91.42%	4.64%	3.94%	100.00%
26	Alessandro Bl.	e/o Meridian Pkwy.	91.42%	4.64%	3.94%	100.00%
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	91.43%	4.63%	3.93%	100.00%



				With P	roject¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
28	Alessandro Bl.	w/o Day St.	91.43%	4.63%	3.93%	100.00%
29	Alessandro Bl.	e/o Day St.	91.43%	4.64%	3.94%	100.00%
30	Cactus Av.	w/o Innovation Dr.	91.43%	4.64%	3.94%	100.00%
31	Cactus Av.	e/o Innovation Dr.	91.42%	4.64%	3.94%	100.00%
32	Cactus Av.	w/o Elsworth St.	91.32%	4.65%	4.03%	100.00%
33	Cactus Av.	e/o Elsworth St.	91.31%	4.65%	4.04%	100.00%
34	Cactus Av.	w/o Graham St.	91.32%	4.65%	4.03%	100.00%
35	Cactus Av.	e/o Graham St.	91.30%	4.65%	4.05%	100.00%
36	Van Buren Bl.	w/o Wood Rd.	91.44%	4.63%	3.93%	100.00%
37	Van Buren Bl.	e/o Wood Rd.	91.44%	4.63%	3.93%	100.00%
38	Van Buren Bl.	w/o Barton St.	91.47%	4.61%	3.92%	100.00%
39	Van Buren Bl.	e/o Barton St.	91.47%	4.61%	3.91%	100.00%
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	90.55%	4.73%	4.72%	100.00%
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	90.58%	4.73%	4.69%	100.00%
42	Van Buren Bl.	w/o Meridian Pkwy.	87.79%	5.06%	7.15%	100.00%
43	Van Buren Bl.	e/o Meridian Pkwy.	88.10%	5.03%	6.87%	100.00%
44	Van Buren Bl.	e/o Opportunity Way	88.29%	5.01%	6.70%	100.00%
45	I-215 Fwy.	n/o Alessandro Bl.	90.06%	4.80%	5.13%	100.00%
46	I-215 Fwy.	s/o Alessandro Bl.	90.14%	4.79%	5.06%	100.00%
47	I-215 Fwy.	s/o Cactus Av.	90.11%	4.80%	5.10%	100.00%
48	I-215 Fwy.	s/o Van Buren Bl.	90.90%	4.70%	4.40%	100.00%

 $^{^{1}}$ Source: Meridian South Campus Traffic Impact Analysis, Urban Crossroads, Inc., April 2020.

TABLE 6-7: HORIZON YEAR 2040 WITH PROJECT VEHICLE MIX

				With P	roject¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
1	Wood Rd.	n/o Van Buren Bl.	91.42%	4.64%	3.94%	100.00%
2	Wood Rd.	s/o Van Buren Bl.	91.42%	4.64%	3.94%	100.00%
3	Trautwein Rd.	n/o Canyon Crest Dr.	91.43%	4.63%	3.93%	100.00%
4	Trautwein Rd.	s/o Canyon Crest Dr.	91.45%	4.62%	3.93%	100.00%
5	Trautwein Rd.	s/o Alessandro Bl.	91.44%	4.63%	3.93%	100.00%
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	91.44%	4.63%	3.93%	100.00%
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	91.46%	4.62%	3.92%	100.00%
8	Barton St.	n/o Van Buren Bl.	91.43%	4.64%	3.94%	100.00%
9	Barton St.	s/o Van Buren Bl.	91.43%	4.63%	3.93%	100.00%
10	Barton St.	n/o Krameria Av.	91.43%	4.63%	3.93%	100.00%
11	Barton St.	s/o Krameria Av.	91.43%	4.63%	3.94%	100.00%
12	Barton St.	s/o Lurin Av.	91.43%	4.63%	3.93%	100.00%
13	Coyote Bush Rd.	n/o Van Buren Bl.	91.47%	4.61%	3.92%	100.00%
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	91.44%	4.63%	3.93%	100.00%
15	Village West Dr.	n/o Krameria Av.	85.59%	5.34%	9.07%	100.00%
16	Village West Dr.	s/o Krameria Av.	91.44%	4.63%	3.93%	100.00%
17	Meridian Pkwy.	s/o Allesandro Bl.	91.43%	4.63%	3.93%	100.00%
18	Meridian Pkwy.	n/o Cactus Av.	91.44%	4.63%	3.93%	100.00%



² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

				With P	roject ¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
19	Meridian Pkwy.	s/o Cactus Av.	91.45%	4.63%	3.93%	100.00%
20	Meridian Pkwy.	n/o Opportunity Way	91.45%	4.62%	3.93%	100.00%
21	Meridian Pkwy.	n/o Van Buren Bl.	91.46%	4.62%	3.92%	100.00%
22	Day St.	n/o Cottonwood Av.	91.42%	4.64%	3.94%	100.00%
23	Day St.	s/o Cottonwood Av.	91.43%	4.64%	3.94%	100.00%
24	Alessandro Bl.	w/o Mission Grove Pkwy.	91.42%	4.64%	3.94%	100.00%
25	Alessandro Bl.	e/o Mission Grove Pkwy.	91.42%	4.64%	3.94%	100.00%
26	Alessandro Bl.	e/o Meridian Pkwy.	91.42%	4.64%	3.94%	100.00%
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	91.43%	4.64%	3.94%	100.00%
28	Alessandro Bl.	w/o Day St.	91.43%	4.63%	3.93%	100.00%
29	Alessandro Bl.	e/o Day St.	91.43%	4.64%	3.94%	100.00%
30	Cactus Av.	w/o Innovation Dr.	91.43%	4.64%	3.94%	100.00%
31	Cactus Av.	e/o Innovation Dr.	91.42%	4.64%	3.94%	100.00%
32	Cactus Av.	w/o Elsworth St.	91.33%	4.65%	4.03%	100.00%
33	Cactus Av.	e/o Elsworth St.	91.32%	4.65%	4.03%	100.00%
34	Cactus Av.	w/o Graham St.	91.33%	4.65%	4.02%	100.00%
35	Cactus Av.	e/o Graham St.	91.31%	4.65%	4.04%	100.00%
36	Van Buren Bl.	w/o Wood Rd.	91.44%	4.63%	3.93%	100.00%
37	Van Buren Bl.	e/o Wood Rd.	91.44%	4.63%	3.93%	100.00%
38	Van Buren Bl.	w/o Barton St.	91.47%	4.61%	3.92%	100.00%
39	Van Buren Bl.	e/o Barton St.	91.47%	4.61%	3.92%	100.00%
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	90.62%	4.72%	4.66%	100.00%
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	90.63%	4.72%	4.65%	100.00%
42	Van Buren Bl.	w/o Meridian Pkwy.	88.12%	5.02%	6.85%	100.00%
43	Van Buren Bl.	e/o Meridian Pkwy.	88.34%	5.00%	6.66%	100.00%
44	Van Buren Bl.	e/o Opportunity Way	88.52%	4.98%	6.50%	100.00%
45	I-215 Fwy.	n/o Alessandro Bl.	90.46%	4.76%	4.78%	100.00%
46	I-215 Fwy.	s/o Alessandro Bl.	90.51%	4.75%	4.74%	100.00%
47	I-215 Fwy.	s/o Cactus Av.	90.47%	4.75%	4.78%	100.00%
48	I-215 Fwy.	s/o Van Buren Bl.	91.02%	4.69%	4.29%	100.00%

¹ Source: Meridian South Campus Traffic Impact Analysis, Urban Crossroads, Inc., April 2020.

6.3 VIBRATION ASSESSMENT

This analysis focuses on the potential ground-borne vibration associated with vehicular traffic and construction activities. Ground-borne vibration levels from automobile traffic are generally overshadowed by vibration generated by heavy trucks that roll over the same uneven roadway surfaces. However, due to the rapid drop-off rate of ground-borne vibration and the short duration of the associated events, vehicular traffic-induced ground-borne vibration is rarely perceptible beyond the roadway right-of-way, and rarely results in vibration levels that cause damage to buildings in the vicinity.

However, while vehicular traffic is rarely perceptible, construction has the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used. Ground vibration levels associated with various types of construction



 $^{^{\}rm 2}\,\text{Total}$ of vehicle mix percentage values rounded to the nearest one-hundredth.

equipment are summarized on Table 6-8. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the human response (annoyance) using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

TABLE 6-8: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large bulldozer	0.089

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment.



7 OFF-SITE OPERATIONAL TRANSPORTATION NOISE IMPACTS

To assess the off-site transportation CNEL noise level impacts associated with the operation of the proposed Project, noise contours were developed based on the *Meridian South Campus Traffic Impact Analysis*. (2) Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. Noise contours were developed for the following traffic scenarios:

- Existing (2019)
- Existing plus Project (E+P) (net change in trips of proposed Project compared to the 2003 EIR Phase III) (E+P)
- Opening Year Cumulative (2024) Without Project
- Opening Year Cumulative (2024) With Proposed Project (Revised Specific Plan land uses)
- Horizon Year (2040) Without Project
- Horizon Year (2040) With Proposed Project (Revised Specific Plan land uses)

Consistent with the Project traffic impact analysis, this noise study evaluates the net change in potential traffic impacts associated with Phase III of the March Business Center Specific Plan and Final Focused Environmental Impact Report (EIR) (SCH#2002071089) and March Business Center Traffic Impact Analysis, (Kimley-Horn and Associates, February 2003) (referred to hereafter as the "2003 EIR Phase III") to the currently proposed Project. For analytical purposes the "without project" conditions include traffic associated with the 2003 EIR Phase III and the "with project" conditions will reflect the modified Specific Plan as currently proposed in order to provide an evaluation of the net change.

7.1 TRAFFIC NOISE CONTOURS

Noise contours were used to assess the Project's incremental traffic-related noise impacts at receiving land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area.

Tables 7-1 through 7-6 present a summary of the exterior traffic noise levels, without barrier attenuation, for the 48 study area roadway segments analyzed from the without Project conditions (2003 EIR Phase III) to the with Project conditions (reflecting the modified Specific Plan as currently proposed) in each of the three timeframes: Existing, Opening Year Cumulative (OYC) 2024, and Horizon Year (HY) 2040 conditions. Appendix 7.1 includes a summary of the traffic noise level contours for each of the six traffic scenarios.



TABLE 7-1: EXISTING WITHOUT PROJECT NOISE CONTOURS

	Poad		Receiving	CNEL at	Distance to Contour from Centerline (Feet)		
ID	Road	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	73.3	73	157	337
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	73.6	76	164	353
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	73.7	106	228	490
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	58.7	RW	RW	RW
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	77.4	171	368	793
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	77.3	169	364	784
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	75.6	129	279	601
8	Barton St.	n/o Van Buren Bl.	Residential	68.0	RW	69	149
9	Barton St.	s/o Van Buren Bl.	Residential	71.8	58	125	269
10	Barton St.	n/o Krameria Av.	Commercial/Residential	71.5	55	119	256
11	Barton St.	s/o Krameria Av.	Residential	71.2	53	114	246
12	Barton St.	s/o Lurin Av.	Residential	71.1	52	113	243
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	60.8	RW	RW	38
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	69.6	RW	111	240
15	Village West Dr.	n/o Krameria Av.	Business Park	66.2	RW	67	144
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	63.3	RW	RW	65
17	Meridian Pkwy.	s/o Allesandro Bl.	Industrial/Business Park	73.6	98	210	453
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	73.5	95	205	442
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	72.7	84	182	392
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	72.7	85	184	396
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	70.7	63	135	291
22	Day St.	n/o Cottonwood Av.	Residential/Office	71.9	59	127	274
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	70.7	49	105	226
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	79.5	258	555	1196
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	79.7	268	577	1242
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	79.3	249	537	1156
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	76.5	164	353	761
28	Alessandro Bl.	w/o Day St.	Commercial	75.1	147	316	682
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	75.1	146	315	678
30	Cactus Av.	w/o Innovation Dr.	Business Park	73.4	101	217	467
31	Cactus Av.	e/o Innovation Dr.	Business Park	74.4	118	253	546
32	Cactus Av.	w/o Elsworth St.	Business Park	77.7	219	473	1019
33	Cactus Av.	e/o Elsworth St.	Business Park	77.6	216	464	1000
34	Cactus Av.	w/o Graham St.	Business Park	78.0	229	493	1063
35	Cactus Av.	e/o Graham St.	Business Park	77.4	208	448	966
36	Van Buren Bl.	w/o Wood Rd.	Commercial	77.9	202	435	938
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	77.6	194	418	900
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	77.4	186	400	862
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	78.0	205	442	953
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	77.9	200	432	931
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	77.8	200	431	929
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	79.5	237	511	1101
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	78.8	212	458	986
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	79.2	227	489	1055



			Receiving	CNEL at	Distance to Contour from Centerline (Feet)		
ID	Road	Segment		Land Use (dBA) ²	70 dBA	65 dBA	60 dBA
				(UDA)	CNEL	CNEL	CNEL
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	78.4	454	978	2107
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	78.4	451	972	2095
47	I-215 Fwy.	s/o Cactus Av.	Business Park	78.2	438	944	2035
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	78.6	466	1005	2165

¹ Sources: March JPA General Plan Land Use Map, Figure II-3, City of Riverside General Plan Land Use Policy Map, Figure LU-10, and the City of Moreno Valley General Plan Land Use Map, Figure 2-2.

TABLE 7-2: EXISTING WITH PROJECT CONDITIONS NOISE CONTOURS

i	2	Sogmont	Receiving	CNEL at		nce to Co enterline	
ID	Road	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	73.3	73	157	337
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	73.6	76	164	353
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	73.7	106	228	491
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	59.0	RW	RW	RW
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	77.4	171	368	793
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	77.3	169	364	785
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	75.6	130	279	602
8	Barton St.	n/o Van Buren Bl.	Residential	68.0	RW	69	149
9	Barton St.	s/o Van Buren Bl.	Residential	71.8	58	125	269
10	Barton St.	n/o Krameria Av.	Commercial/Residential	71.5	55	119	256
11	Barton St.	s/o Krameria Av.	Residential	71.2	53	114	246
12	Barton St.	s/o Lurin Av.	Residential	71.1	52	113	243
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	60.9	RW	RW	38
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	69.6	RW	111	240
15	Village West Dr.	n/o Krameria Av.	Business Park	73.9	101	219	471
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	63.4	RW	RW	65
17	Meridian Pkwy.	s/o Allesandro Bl.	Industrial/Business Park	73.6	98	211	454
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	73.5	95	205	442
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	72.7	85	182	392
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	72.8	85	184	397
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	70.8	63	136	292
22	Day St.	n/o Cottonwood Av.	Residential/Office	71.9	59	127	274
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	70.7	49	105	227
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	79.5	258	555	1196
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	79.7	268	577	1242
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	79.3	249	537	1156
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	76.6	164	353	761
28	Alessandro Bl.	w/o Day St.	Commercial	75.1	147	317	682
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	75.1	146	315	679
30	Cactus Av.	w/o Innovation Dr.	Business Park	73.4	101	217	467



² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

	Road	Segment	Receiving	CNEL at	Distance to Contour from Centerline (Feet)		
ID			Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
31	Cactus Av.	e/o Innovation Dr.	Business Park	74.4	118	253	546
32	Cactus Av.	w/o Elsworth St.	Business Park	77.8	222	478	1031
33	Cactus Av.	e/o Elsworth St.	Business Park	77.7	218	470	1012
34	Cactus Av.	w/o Graham St.	Business Park	78.1	231	499	1074
35	Cactus Av.	e/o Graham St.	Business Park	77.5	211	454	978
36	Van Buren Bl.	w/o Wood Rd.	Commercial	77.9	202	436	939
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	77.6	194	418	900
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	77.4	186	401	864
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	78.0	206	443	955
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	78.5	220	475	1023
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	78.5	220	474	1021
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	81.7	331	712	1534
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	81.3	310	667	1437
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	81.5	322	694	1494
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	79.1	505	1087	2343
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	79.1	502	1082	2332
47	I-215 Fwy.	s/o Cactus Av.	Business Park	78.9	492	1061	2285
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	78.9	489	1055	2272

¹ Sources: March JPA General Plan Land Use Map, Figure II-3, City of Riverside General Plan Land Use Policy Map, Figure LU-10, and the City of Moreno Valley General Plan Land Use Map, Figure 2-2.

TABLE 7-3: OYC (2024) WITHOUT PROJECT NOISE CONTOURS

	Road	Segment	Receiving	CNEL at	Distance to Contour from Centerline (Feet)		
ID			Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	73.7	78	167	360
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	74.0	81	175	377
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	74.3	115	248	535
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	63.2	RW	RW	98
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	78.2	194	418	901
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	78.2	193	415	895
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	76.6	152	328	707
8	Barton St.	n/o Van Buren Bl.	Residential	69.0	RW	81	174
9	Barton St.	s/o Van Buren Bl.	Residential	73.7	78	168	361
10	Barton St.	n/o Krameria Av.	Commercial/Residential	73.1	70	152	327
11	Barton St.	s/o Krameria Av.	Residential	73.3	73	157	339
12	Barton St.	s/o Lurin Av.	Residential	72.9	69	148	319
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	62.5	RW	RW	49
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	70.7	61	132	284
15	Village West Dr.	n/o Krameria Av.	Business Park	72.4	81	175	376
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	70.8	44	95	204



² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

		_	Receiving	CNEL at		nce to Co Centerline	
ID	Road	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
17	Meridian Pkwy.	s/o Allesandro Bl.	Industrial/Business Park	74.9	120	258	555
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	74.8	118	253	546
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	74.6	113	243	523
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	74.5	111	240	517
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	73.2	92	197	425
22	Day St.	n/o Cottonwood Av.	Residential/Office	73.1	71	153	329
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	71.5	56	120	259
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	80.2	289	622	1340
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	80.5	301	649	1399
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	80.2	289	623	1342
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	77.7	195	420	906
28	Alessandro Bl.	w/o Day St.	Commercial	76.2	173	372	802
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	76.1	172	371	799
30	Cactus Av.	w/o Innovation Dr.	Business Park	75.7	143	309	666
31	Cactus Av.	e/o Innovation Dr.	Business Park	76.4	161	346	746
32	Cactus Av.	w/o Elsworth St.	Business Park	79.0	266	572	1232
33	Cactus Av.	e/o Elsworth St.	Business Park	78.8	258	556	1197
34	Cactus Av.	w/o Graham St.	Business Park	79.1	270	582	1253
35	Cactus Av.	e/o Graham St.	Business Park	78.5	247	531	1144
36	Van Buren Bl.	w/o Wood Rd.	Commercial	78.8	232	499	1075
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	78.6	223	480	1035
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	78.5	220	475	1023
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	79.2	246	529	1140
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	79.5	259	559	1204
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	79.7	267	574	1237
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	81.3	312	672	1448
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	81.7	333	718	1547
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	82.0	347	748	1612
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	79.4	531	1144	2465
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	79.7	554	1193	2569
47	I-215 Fwy.	s/o Cactus Av.	Business Park	79.7	558	1202	2590
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	80.0	584	1257	2709

¹ Sources: March JPA General Plan Land Use Map, Figure II-3, City of Riverside General Plan Land Use Policy Map, Figure LU-10, and the City of Moreno Valley General Plan Land Use Map, Figure 2-2.



² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-4: OYC (2024) WITH PROJECT NOISE CONTOURS

			Receiving	CNEL at		nce to Co Centerline	
ID	Road	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	73.7	78	167	361
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	74.0	81	175	377
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	74.3	115	248	535
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	63.3	RW	RW	99
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	78.2	194	418	901
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	78.2	193	416	896
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	76.6	153	329	708
8	Barton St.	n/o Van Buren Bl.	Residential	69.0	RW	81	174
9	Barton St.	s/o Van Buren Bl.	Residential	73.7	78	168	361
10	Barton St.	n/o Krameria Av.	Commercial/Residential	73.1	70	152	327
11	Barton St.	s/o Krameria Av.	Residential	73.3	73	157	339
12	Barton St.	s/o Lurin Av.	Residential	72.9	69	148	319
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	62.5	RW	RW	49
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	70.7	61	132	284
15	Village West Dr.	n/o Krameria Av.	Business Park	75.8	136	292	629
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	70.8	44	95	204
17	Meridian Pkwy.	s/o Allesandro Bl.	Industrial/Business Park	74.9	120	258	556
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	74.8	118	253	546
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	74.6	113	243	523
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	74.5	111	240	518
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	73.2	92	197	425
22	Day St.	n/o Cottonwood Av.	Residential/Office	73.1	71	153	329
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	71.5	56	120	259
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	80.2	289	622	1340
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	80.5	301	649	1399
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	80.2	289	623	1343
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	77.7	195	421	906
28	Alessandro Bl.	w/o Day St.	Commercial	76.2	173	372	802
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	76.1	172	371	799
30	Cactus Av.	w/o Innovation Dr.	Business Park	75.7	143	309	666
31	Cactus Av.	e/o Innovation Dr.	Business Park	76.4	161	346	746
32	Cactus Av.	w/o Elsworth St.	Business Park	79.0	268	577	1243
33	Cactus Av.	e/o Elsworth St.	Business Park	78.8	260	561	1208
34	Cactus Av.	w/o Graham St.	Business Park	79.1	272	587	1264
35	Cactus Av.	e/o Graham St.	Business Park	78.5	249	536	1155
36	Van Buren Bl.	w/o Wood Rd.	Commercial	78.8	232	499	1075
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	78.6	223	481	1036
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	78.5	221	476	1025
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	79.2	246	530	1141
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	80.0	277	597	1286
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	80.1	284	612	1318
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	82.9	396	852	1836
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	83.2	414	893	1923
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	83.4	427	920	1982



ID	Road	Sagment	egment Receiving Land Use ¹	Segment	CNEL at Receiving	from C	, ,
	Noau	Segment		Land Use (dBA) ²	70 dBA	65 dBA	60 dBA
					CNEL	CNEL	CNEL
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	80.0	578	1246	2685
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	80.2	600	1293	2785
47	I-215 Fwy.	s/o Cactus Av.	Business Park	80.3	606	1306	2814
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	80.3	604	1302	2804

¹ Sources: March JPA General Plan Land Use Map, Figure II-3, City of Riverside General Plan Land Use Policy Map, Figure LU-10, and the City of Moreno Valley General Plan Land Use Map, Figure 2-2.

TABLE 7-5: HY (2040) WITHOUT PROJECT NOISE CONTOURS

ID	Road Segment Receiving		CNEL at		nce to Co Centerline		
טו	noau	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	74.3	85	184	397
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	74.8	92	199	428
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	77.0	174	376	809
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	75.1	131	283	609
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	78.4	199	430	926
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	78.9	217	467	1005
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	76.7	153	331	712
8	Barton St.	n/o Van Buren Bl.	Residential	74.8	92	198	427
9	Barton St.	s/o Van Buren Bl.	Residential	74.0	81	176	378
10	Barton St.	n/o Krameria Av.	Commercial/Residential	73.3	73	157	338
11	Barton St.	s/o Krameria Av.	Residential	74.5	87	188	405
12	Barton St.	s/o Lurin Av.	Residential	74.2	84	181	389
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	63.5	RW	RW	56
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	70.7	61	132	284
15	Village West Dr.	n/o Krameria Av.	Business Park	73.9	102	219	472
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	74.5	78	169	364
17	Meridian Pkwy.	s/o Allesandro Bl.	Industrial/Business Park	75.4	127	274	591
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	75.2	125	269	580
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	74.9	120	258	555
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	74.9	118	255	549
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	73.5	96	206	444
22	Day St.	n/o Cottonwood Av.	Residential/Office	76.6	122	263	566
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	76.3	116	249	537
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	81.1	330	711	1531
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	81.2	335	721	1553
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	81.2	337	727	1566
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	79.0	238	513	1105
28	Alessandro Bl.	w/o Day St.	Commercial	77.2	202	434	935
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	77.1	200	430	927
30	Cactus Av.	w/o Innovation Dr.	Business Park	76.1	152	329	708



² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

			Receiving	CNEL at	Distance to Contour from Centerline (Feet)			
ID	Road	Segment	Segment Land Use ¹ Land (dB.		70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
31	Cactus Av.	e/o Innovation Dr.	Business Park	76.8	171	368	793	
32	Cactus Av.	w/o Elsworth St.	Business Park	79.3	278	599	1291	
33	Cactus Av.	e/o Elsworth St.	Business Park	79.2	274	591	1274	
34	Cactus Av.	w/o Graham St.	Business Park	79.5	287	619	1334	
35	Cactus Av.	e/o Graham St.	Business Park	78.9	262	565	1218	
36	Van Buren Bl.	w/o Wood Rd.	Commercial	79.2	246	529	1141	
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	78.9	237	510	1098	
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	78.7	229	493	1061	
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	79.2	248	535	1152	
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	79.9	273	588	1268	
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	80.0	277	597	1287	
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	81.8	334	720	1551	
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	82.1	351	757	1631	
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	82.4	366	789	1700	
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	81.0	673	1451	3126	
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	81.2	693	1494	3218	
47	I-215 Fwy.	s/o Cactus Av.	Business Park	81.2	695	1498	3227	
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	81.3	706	1521	3278	

¹ Sources: March JPA General Plan Land Use Map, Figure II-3, City of Riverside General Plan Land Use Policy Map, Figure LU-10, and the City of Moreno Valley General Plan Land Use Map, Figure 2-2.

TABLE 7-6: HY (2040) WITH PROJECT NOISE CONTOURS

			Receiving	CNEL at	Distance to Contour from Centerline (Feet)			
ID	Road	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	74.3	86	184	397	
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	74.8	92	199	428	
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	77.0	174	376	810	
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	75.1	131	283	609	
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	Commercial/Residential 78.4		430	926	
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	78.9	217	467	1006	
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	76.7	154	331	713	
8	Barton St.	n/o Van Buren Bl.	Residential	74.8	92	198	427	
9	Barton St.	s/o Van Buren Bl.	Residential	74.0	82	176	378	
10	Barton St.	n/o Krameria Av.	Commercial/Residential	73.3	73	157	338	
11	Barton St.	s/o Krameria Av.	Residential	74.5	87	188	405	
12	Barton St.	s/o Lurin Av.	Residential	74.2	84	181	390	
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	63.5	RW	RW	56	
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	70.7	61	132	284	
15	Village West Dr.	n/o Krameria Av.	Business Park	76.5	152	327	706	
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	74.5	78	169	364	



² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

	Dead		Receiving	CNEL at	Distance to Contour from Centerline (Feet)			
ID	Road	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
17	Meridian Pkwy.	s/o Allesandro Bl.	Industrial/Business Park	75.4	127	274	591	
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	75.2	125	270	581	
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	74.9	120	258	556	
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	74.9	118	255	549	
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	73.5	96	206	444	
22	Day St.	n/o Cottonwood Av.	Residential/Office	76.6	122	263	566	
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	76.3	116	249	537	
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	81.1	330	711	1531	
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	81.2	335	721	1553	
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	81.3	337	727	1566	
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	79.0	238	513	1105	
28	Alessandro Bl.	w/o Day St.	Commercial	77.2	202	434	936	
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	77.1	200	430	927	
30	Cactus Av.	w/o Innovation Dr.	Business Park	76.1	153	329	708	
31	Cactus Av.	e/o Innovation Dr.	Business Park	76.8	171	368	794	
32	Cactus Av.	w/o Elsworth St.	Business Park	79.3	280	604	1302	
33	Cactus Av.	e/o Elsworth St.	Business Park	79.2	277	596	1285	
34	Cactus Av.	w/o Graham St.	Business Park	79.5	290	624	1344	
35	Cactus Av.	e/o Graham St.	Business Park	79.0	265	570	1229	
36	Van Buren Bl.	w/o Wood Rd.	Commercial	79.2	246	530	1141	
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	78.9	237	510	1099	
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	78.7	229	493	1063	
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	79.3	249	535	1154	
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	80.3	290	625	1348	
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	80.4	294	634	1366	
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	83.2	415	895	1928	
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	83.4	431	928	1999	
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	83.6	444	957	2061	
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	81.4	716	1542	3322	
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	81.5	735	1583	3411	
47	I-215 Fwy.	s/o Cactus Av.	Business Park	81.6	739	1591	3429	
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	81.5	725	1562	3365	

¹ Sources: March JPA General Plan Land Use Map, Figure II-3, City of Riverside General Plan Land Use Policy Map, Figure LU-10, and the City of Moreno Valley General Plan Land Use Map, Figure 2-2.

7.2 EXISTING PROJECT TRAFFIC NOISE LEVEL INCREASE

An analysis of Existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report for informational purposes and to fully analyze all the traffic scenarios identified in the *Meridian South Campus Traffic Impact Analysis* prepared by Urban Crossroads, Inc. This condition is provided solely for informational purposes and will not occur, since the Project will not be fully developed and occupied under Existing conditions. Therefore, no mitigation measures are considered to reduce the Existing with Project condition traffic noise



² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

level increases. The long-range conditions under Opening Year Cumulative 2024 and Horizon Year 2040 scenarios represent the expected cumulative conditions without and with Project traffic, and are therefore, used to determine the significance of the Project off-site traffic noise level increases on the study area roadway segments.

Table 7-1 shows the Existing without Project noise levels. The Existing without Project exterior noise levels are expected to range from 58.7 to 79.7 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows that the Existing with Project conditions traffic noise levels will range from 59.0 to 81.7 dBA CNEL. Table 7-7 shows that the Project off-site traffic noise level will experience a noise level increase ranging from 0.0 to 7.7 dBA CNEL on the study area roadway segments.

7.3 OPENING YEAR CUMULATIVE 2024 PROJECT TRAFFIC NOISE LEVEL INCREASE

Table 7-3 presents the Opening Year Cumulative 2024 without Project conditions CNEL noise levels. The Opening Year Cumulative 2024 without Project exterior noise levels are expected to range from 62.5 to 82.0 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-4 shows the Opening Year Cumulative 2024 with Project conditions will range from 62.5 to 83.4 dBA CNEL. Table 7-8 shows that the Project off-site traffic noise level increase ranging from 0.0 to 3.4 dBA CNEL.

Based on the 5 dBA CNEL increase significance criteria when without Project noise levels are below 60 dBA CNEL and 3 dBA CNEL increase criteria when without Project noise levels already exceed 60 dBA CNEL, one of the 48 study area roadway segments, identified below, are shown to experience *potentially significant* off-site traffic noise level increases due to the proposed Project truck trip distribution under Opening Year Cumulative 2024 with Project conditions.

Village West Drive north of Krameria Avenue (Segment #15). A review of the Project study area indicates that there are no existing or future noise-sensitive receivers located adjacent to this roadway segment that will experience a change in the off-site Project related traffic noise levels. Therefore, the off-site traffic noise level contributions for the Opening Year Cumulative 2024 with Project conditions are considered less than significant and no mitigation is required.

7.4 Horizon Year 2040 Project Traffic Noise Level Increase

Table 7-5 presents the Horizon Year 2040 without Project conditions CNEL noise levels. The Horizon Year 2040 without Project exterior noise levels are expected to range from 63.5 to 82.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography.

Table 7-6 shows the Horizon Year 2040 with Project conditions will range from 63.5 to 83.6 dBA CNEL. Table 7-9 shows that the Project off-site traffic noise level increase ranging from 0.0 to 2.6 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-2, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.



TABLE 7-7: EXISTING PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Sagment	Receiving		L at Receired Use (dB	_	Noise- Sensitive	Thre	eshold ²
ID	Noau	Segment	Land Use ¹	Without Project	With Project	Project Addition	Land Use?	Limit	Exceeded?
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	73.3	73.3	0.0	Yes	1.5	No
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	73.6	73.6	0.0	Yes	1.5	No
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	73.7	73.7	0.0	Yes	1.5	No
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	58.7	59.0	0.3	Yes	5.0	No
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	77.4	77.4	0.0	Yes	1.5	No
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	77.3	77.3	0.0	Yes	1.5	No
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	75.6	75.6	0.0	Yes	1.5	No
8	Barton St.	n/o Van Buren Bl.	Residential	68.0	68.0	0.0	Yes	1.5	No
9	Barton St.	s/o Van Buren Bl.	Residential	71.8	71.8	0.0	Yes	1.5	No
10	Barton St.	n/o Krameria Av.	Commercial/Residential	71.5	71.5	0.0	Yes	1.5	No
11	Barton St.	s/o Krameria Av.	Residential	71.2	71.2	0.0	Yes	1.5	No
12	Barton St.	s/o Lurin Av.	Residential	71.1	71.1	0.0	Yes	1.5	No
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	60.8	60.9	0.1	Yes	3.0	No
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	69.6	69.6	0.0	Yes	1.5	No
15	Village West Dr.	n/o Krameria Av.	Business Park	66.2	73.9	7.7	No	5.0	Yes
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	63.3	63.4	0.1	No	5.0	No
17	Meridian Pkwy.	s/o Allesandro Bl.	Industrial/Business Park	73.6	73.6	0.0	No	3.0	No
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	73.5	73.5	0.0	No	3.0	No
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	72.7	72.7	0.0	No	3.0	No
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	72.7	72.8	0.1	No	3.0	No
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	70.7	70.8	0.1	No	3.0	No
22	Day St.	n/o Cottonwood Av.	Residential/Office	71.9	71.9	0.0	No	3.0	No
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	70.7	70.7	0.0	Yes	1.5	No
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	79.5	79.5	0.0	Yes	1.5	No
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	79.7	79.7	0.0	Yes	1.5	No
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	79.3	79.3	0.0	No	3.0	No
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	76.5	76.6	0.1	No	3.0	No
28	Alessandro Bl.	w/o Day St.	Commercial	75.1	75.1	0.0	No	3.0	No
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	75.1	75.1	0.0	Yes	1.5	No
30	Cactus Av.	w/o Innovation Dr.	Business Park	73.4	73.4	0.0	No	3.0	No



ID	Pond	Road Segment			CNEL at Receiving Land Use (dBA) ¹			Threshold ²	
וט	NOdu	Segment	Land Use ¹	Without Project	With Project	Project Addition	Land Use?	Limit	Exceeded?
31	Cactus Av.	e/o Innovation Dr.	Business Park	74.4	74.4	0.0	No	3.0	No
32	Cactus Av.	w/o Elsworth St.	Business Park	77.7	77.8	0.1	No	3.0	No
33	Cactus Av.	e/o Elsworth St.	Business Park	77.6	77.7	0.1	No	3.0	No
34	Cactus Av.	w/o Graham St.	Business Park	78.0	78.1	0.1	No	3.0	No
35	Cactus Av.	e/o Graham St.	Business Park	77.4	77.5	0.1	No	3.0	No
36	Van Buren Bl.	w/o Wood Rd.	Commercial	77.9	77.9	0.0	No	3.0	No
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	77.6	77.6	0.0	Yes	1.5	No
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	77.4	77.4	0.0	Yes	1.5	No
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	78.0	78.0	0.0	Yes	1.5	No
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	77.9	78.5	0.6	Yes	1.5	No
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	77.8	78.5	0.7	Yes	1.5	No
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	79.5	81.7	2.2	No	3.0	No
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	78.8	81.3	2.5	No	3.0	No
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	79.2	81.5	2.3	No	3.0	No
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	78.4	79.1	0.7	No	3.0	No
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	78.4	79.1	0.7	No	3.0	No
47	I-215 Fwy.	s/o Cactus Av.	Business Park	78.2	78.9	0.7	No	3.0	No
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	78.6	78.9	0.3	No	3.0	No

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use. ² Significance Criteria (Section 4).



TABLE 7-8: OYC (2024) PROJECT TRAFFIC NOISE LEVEL INCREASES

2	Dood	Comment	Receiving		L at Recei	_	Noise- Sensitive	Threshold ²	
ID	Road	Segment	Land Use ¹	Without Project	With Project	Project Addition	Land Use?	Limit	Exceeded?
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	73.7	73.7	0.0	Yes	1.5	No
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	74.0	74.0	0.0	Yes	1.5	No
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	74.3	74.3	0.0	Yes	1.5	No
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	63.2	63.3	0.1	Yes	3.0	No
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	78.2	78.2	0.0	Yes	1.5	No
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	78.2	78.2	0.0	Yes	1.5	No
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	76.6	76.6	0.0	Yes	1.5	No
8	Barton St.	n/o Van Buren Bl.	Residential	69.0	69.0	0.0	Yes	1.5	No
9	Barton St.	s/o Van Buren Bl.	Residential	73.7	73.7	0.0	Yes	1.5	No
10	Barton St.	n/o Krameria Av.	Commercial/Residential	73.1	73.1	0.0	Yes	1.5	No
11	Barton St.	s/o Krameria Av.	Residential	73.3	73.3	0.0	Yes	1.5	No
12	Barton St.	s/o Lurin Av.	Residential	72.9	72.9	0.0	Yes	1.5	No
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	62.5	62.5	0.0	Yes	3.0	No
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	70.7	70.7	0.0	Yes	1.5	No
15	Village West Dr.	n/o Krameria Av.	Business Park	72.4	75.8	3.4	No	3.0	Yes
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	70.8	70.8	0.0	No	3.0	No
17	Meridian Pkwy.	s/o Allesandro Bl.	Industrial/Business Park	74.9	74.9	0.0	No	3.0	No
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	74.8	74.8	0.0	No	3.0	No
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	74.6	74.6	0.0	No	3.0	No
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	74.5	74.5	0.0	No	3.0	No
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	73.2	73.2	0.0	No	3.0	No
22	Day St.	n/o Cottonwood Av.	Residential/Office	73.1	73.1	0.0	No	3.0	No
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	71.5	71.5	0.0	Yes	1.5	No
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	80.2	80.2	0.0	Yes	1.5	No
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	80.5	80.5	0.0	Yes	1.5	No
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	80.2	80.2	0.0	No	3.0	No
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	77.7	77.7	0.0	No	3.0	No
28	Alessandro Bl.	w/o Day St.	Commercial	76.2	76.2	0.0	No	3.0	No
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	76.1	76.1	0.0	Yes	1.5	No
30	Cactus Av.	w/o Innovation Dr.	Business Park	75.7	75.7	0.0	No	3.0	No



ID	Road	Sagment	Receiving		EL at Received of the second Electrical Elec	_	Noise- Sensitive	Thre	eshold ²
טו	NOAU	Segment	Land Use ¹	Without Project	With Project	Project Addition	Land Use?	Limit	Exceeded?
31	Cactus Av.	e/o Innovation Dr.	Business Park	76.4	76.4	0.0	No	3.0	No
32	Cactus Av.	w/o Elsworth St.	Business Park	79.0	79.0	0.0	No	3.0	No
33	Cactus Av.	e/o Elsworth St.	Business Park	78.8	78.8	0.0	No	3.0	No
34	Cactus Av.	w/o Graham St.	Business Park	79.1	79.1	0.0	No	3.0	No
35	Cactus Av.	e/o Graham St.	Business Park	78.5	78.5	0.0	No	3.0	No
36	Van Buren Bl.	w/o Wood Rd.	Commercial	78.8	78.8	0.0	No	3.0	No
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	78.6	78.6	0.0	Yes	1.5	No
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	78.5	78.5	0.0	Yes	1.5	No
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	79.2	79.2	0.0	Yes	1.5	No
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	79.5	80.0	0.5	Yes	1.5	No
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	79.7	80.1	0.4	Yes	1.5	No
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	81.3	82.9	1.6	No	3.0	No
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	81.7	83.2	1.5	No	3.0	No
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	82.0	83.4	1.4	No	3.0	No
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	79.4	80.0	0.6	No	3.0	No
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	79.7	80.2	0.5	No	3.0	No
47	I-215 Fwy.	s/o Cactus Av.	Business Park	79.7	80.3	0.6	No	3.0	No
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	80.0	80.3	0.3	No	3.0	No

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use. ² Significance Criteria (Section 4).



TABLE 7-9: HY (2040) PROJECT TRAFFIC NOISE LEVEL INCREASES

2	Dood	Comment	Receiving		L at Recei	_	Noise- Sensitive	Thre	eshold ²
ID	Road	Segment	Land Use ¹	Without Project	With Project	Project Addition	Land Use?	Limit	Exceeded?
1	Wood Rd.	n/o Van Buren Bl.	Commercial/Residential	74.3	74.3	0.0	Yes	1.5	No
2	Wood Rd.	s/o Van Buren Bl.	Commercial/Residential	74.8	74.8	0.0	Yes	1.5	No
3	Trautwein Rd.	n/o Canyon Crest Dr.	Residential	77.0	77.0	0.0	Yes	1.5	No
4	Trautwein Rd.	s/o Canyon Crest Dr.	Residential	75.1	75.1	0.0	Yes	1.5	No
5	Trautwein Rd.	s/o Alessandro Bl.	Commercial/Residential	78.4	78.4	0.0	Yes	1.5	No
6	Trautwein Rd.	n/o Orange Terrace Pkwy.	Residential	78.9	78.9	0.0	Yes	1.5	No
7	Trautwein Rd.	s/o Orange Terrace Pkwy.	Residential	76.7	76.7	0.0	Yes	1.5	No
8	Barton St.	n/o Van Buren Bl.	Residential	74.8	74.8	0.0	Yes	1.5	No
9	Barton St.	s/o Van Buren Bl.	Residential	74.0	74.0	0.0	Yes	1.5	No
10	Barton St.	n/o Krameria Av.	Commercial/Residential	73.3	73.3	0.0	Yes	1.5	No
11	Barton St.	s/o Krameria Av.	Residential	74.5	74.5	0.0	Yes	1.5	No
12	Barton St.	s/o Lurin Av.	Residential	74.2	74.2	0.0	Yes	1.5	No
13	Coyote Bush Rd.	n/o Van Buren Bl.	Residential	63.5	63.5	0.0	Yes	3.0	No
14	Orange Terrace Pkwy.	n/o Van Buren Bl.	Residential	70.7	70.7	0.0	Yes	1.5	No
15	Village West Dr.	n/o Krameria Av.	Business Park	73.9	76.5	2.6	No	3.0	No
16	Village West Dr.	s/o Krameria Av.	Park/Open Space	74.5	74.5	0.0	No	3.0	No
17	Meridian Pkwy.	s/o Allesandro Bl.	Industrial/Business Park	75.4	75.4	0.0	No	3.0	No
18	Meridian Pkwy.	n/o Cactus Av.	Industrial/Business Park	75.2	75.2	0.0	No	3.0	No
19	Meridian Pkwy.	s/o Cactus Av.	Industrial/Business Park	74.9	74.9	0.0	No	3.0	No
20	Meridian Pkwy.	n/o Opportunity Way	Industrial	74.9	74.9	0.0	No	3.0	No
21	Meridian Pkwy.	n/o Van Buren Bl.	Industrial	73.5	73.5	0.0	No	3.0	No
22	Day St.	n/o Cottonwood Av.	Residential/Office	76.6	76.6	0.0	No	3.0	No
23	Day St.	s/o Cottonwood Av.	Business Park/Residential	76.3	76.3	0.0	Yes	1.5	No
24	Alessandro Bl.	w/o Mission Grove Pkwy.	Commercial/Residential	81.1	81.1	0.0	Yes	1.5	No
25	Alessandro Bl.	e/o Mission Grove Pkwy.	Institutional/Residential	81.2	81.2	0.0	Yes	1.5	No
26	Alessandro Bl.	e/o Meridian Pkwy.	Industrial	81.2	81.3	0.1	No	3.0	No
27	Alessandro Bl.	w/o Old 215 Frontage Rd.	Business Park	79.0	79.0	0.0	No	3.0	No
28	Alessandro Bl.	w/o Day St.	Commercial	77.2	77.2	0.0	No	3.0	No
29	Alessandro Bl.	e/o Day St.	Business Park/Residential	77.1	77.1	0.0	Yes	1.5	No
30	Cactus Av.	w/o Innovation Dr.	Business Park	76.1	76.1	0.0	No	3.0	No



ID	Road	Sagmont	Receiving		L at Receired Use (dB	_	Noise- Sensitive	Threshold ²	
וט	NOAU	Segment	Land Use ¹	Without Project	With Project	Project Addition	Land Use?	Limit	Exceeded?
31	Cactus Av.	e/o Innovation Dr.	Business Park	76.8	76.8	0.0	No	3.0	No
32	Cactus Av.	w/o Elsworth St.	Business Park	79.3	79.3	0.0	No	3.0	No
33	Cactus Av.	e/o Elsworth St.	Business Park	79.2	79.2	0.0	No	3.0	No
34	Cactus Av.	w/o Graham St.	Business Park	79.5	79.5	0.0	No	3.0	No
35	Cactus Av.	e/o Graham St.	Business Park	78.9	79.0	0.1	No	3.0	No
36	Van Buren Bl.	w/o Wood Rd.	Commercial	79.2	79.2	0.0	No	3.0	No
37	Van Buren Bl.	e/o Wood Rd.	Commercial/Residential	78.9	78.9	0.0	Yes	1.5	No
38	Van Buren Bl.	w/o Barton St.	Commercial/Residential	78.7	78.7	0.0	Yes	1.5	No
39	Van Buren Bl.	e/o Barton St.	Business Park/Residential	79.2	79.3	0.1	Yes	1.5	No
40	Van Buren Bl.	w/o Orange Terrace Pkwy.	Business Park/Residential	79.9	80.3	0.4	Yes	1.5	No
41	Van Buren Bl.	e/o Orange Terrace Pkwy.	Business Park/Residential	80.0	80.4	0.4	Yes	1.5	No
42	Van Buren Bl.	w/o Meridian Pkwy.	Public Facilities	81.8	83.2	1.4	No	3.0	No
43	Van Buren Bl.	e/o Meridian Pkwy.	Public Facilities	82.1	83.4	1.3	No	3.0	No
44	Van Buren Bl.	e/o Opportunity Way	Public Facilities	82.4	83.6	1.2	No	3.0	No
45	I-215 Fwy.	n/o Alessandro Bl.	Business Park	81.0	81.4	0.4	No	3.0	No
46	I-215 Fwy.	s/o Alessandro Bl.	Business Park	81.2	81.5	0.3	No	3.0	No
47	I-215 Fwy.	s/o Cactus Av.	Business Park	81.2	81.6	0.4	No	3.0	No
48	I-215 Fwy.	s/o Van Buren Bl.	Public Facilities	81.3	81.5	0.2	No	3.0	No

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use. ² Significance Criteria (Section 4).



8 SENSITIVE RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, the following sensitive receiver locations, as shown on Exhibit 8-A, were identified as representative locations for analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

To describe the potential off-site Project noise levels, four receiver locations in the vicinity of the Project site were identified. All distances are measured from the Project site boundary to the outdoor living areas (e.g., private backyards) or at the building façade, whichever is closer to the Project site. The selection of receiver locations is based on FHWA guidelines and is consistent with additional guidance provided by Caltrans and the FTA, as previously described in Section 5.2. Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. Distance is measured in a straight line from the Project boundary to each receiver location.

- R1: Location R1 represents the existing private outdoor living area (backyard) at 20137 Sedona Drive in the City of Riverside. This residence is approximately 161 feet north of the Project site that includes an existing 6-foot high perimeter wall. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.
- R2: Location R2 represents the existing private outdoor living area (backyard) at 20531 Red Poppy Lane in the City of Riverside. This residence is approximately 173 feet north of the Project site that includes an existing 6-foot high perimeter wall. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.
- R3: Location R3 represents the existing private outdoor living area (backyard) at 20675 Golden Rain Road in the City of Riverside. This residence is approximately 729 feet north of the Project site that includes an existing 6-foot high perimeter wall. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.
- R4: Location R4 represents the existing private outdoor living area (backyard) at 20893 Golden Rain Road in the City of Riverside. This residence is approximately 1,452 feet north of the Project site. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.



- R5: Location R5 represents Riverside National Cemetery on the east side of Village West Drive at about 385 feet from the Project site in the County of Riverside. A 24-hour noise measurement near this location, L5, is used to describe the existing ambient noise environment.
- R6: Location R6 represents the existing residence at the end of Charles Gabriel Circle, approximately 1,362 feet southeast of the Project site in the March JPA. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R6 is placed at the residential building façade. A 24-hour noise measurement near this location, L5, is used to describe the existing ambient noise environment.
- R7: Location R7 represents the existing residence at the end of Thomas White Drive, approximately 687 feet southeast of the Project site in the March JPA. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R7 is placed at the residential building façade. A 24-hour noise measurement near this location, L6, is used to describe the existing ambient noise environment.
- R8: Location R8 represents the Ben Clark Training Center at 16902 Bundy Avenue, approximately 812 feet south of the Project site in the March JPA. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R8 is placed at the building façade. A 24-hour noise measurement near this location, L6, is used to describe the existing ambient noise environment.
- R9: Location R9 represents the existing private outdoor living area (backyard) at 19992 Krameria Avenue in the City of Riverside. This residence is approximately 117 feet west of the Project site that includes an existing 6-foot high perimeter wall. A 24-hour noise measurement was taken near this location, L9, to describe the existing ambient noise environment.
- R10: Location R10 represents the existing private outdoor living area (backyard) at 9180 San Miguel Court in the City of Riverside. This residence is approximately 126 feet west of the Project site that includes an existing 6-foot high perimeter wall. A 24-hour noise measurement was taken near this location, L10, to describe the existing ambient noise environment.
- R11: Location R11 represents an existing Warehouse (Building C) located approximately 207 feet east of the Project site in March JPA. Location R11 has been placed at the existing building façade, and conservatively represents the location of where a worker could likely be located for a minimum 1-hour duration. The nearest 24-hour noise level measurement taken near this location, L4, is used to describe the existing ambient noise environment.
- R12: Location R12 represents the approved Commercial Parcel 72 located 213 feet north of the Project site in the March JPA where future workers could be located. The nearest 24-hour noise level measurement taken near this location, L2, is used to describe the existing ambient noise environment.
- R13: Location R13 represents the Amazon (Building A) warehouse located roughly 294 feet south of the Area C and 247 feet west of Area D in the March JPA. Location R13 has been placed at the existing building façade, and conservatively represents the location of where a worker could likely be located for a minimum 1-hour duration. The nearest 24-hour noise level measurement taken near this location, L4, is used to describe the existing ambient noise environment.



- R14: Location R14 represents the existing private outdoor living area (backyard) at the end of Westover Circle in the March JPA. This residence is approximately 1,422 feet south of the Project site. The nearest 24-hour noise level measurement taken near this location, L5, is used to describe the existing ambient noise environment.
- R15: Location R15 represents residents of the Westmont Village retirement living community. Location R15 is placed at the nearest building façade approximately 81 feet west of the construction activities associated with the Village West Drive Extension at the corner of Lemay Drive and Village West Drive in the March JPA. The nearest 24-hour noise level measurement taken near this location, L5, is used to describe the existing ambient noise environment. Like R15, L5 receives traffic noise from Village West Drive.



Cityof Riversida ₽R3 ⊕R4 W BUREN BLVD R10 207 RAI 18.5 AC INDUSTRIAL R14 R March/IPA WEST DRIVE EXTENSION Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community NANDINA AVE **LEGEND:** Site Boundary March JPA Receiver Locations N South Campus Specific Plan Distance from receiver to Project site boundary (in feet) City of Riverside Riverside County Existing 6-foot High Barrier

EXHIBIT 8-A: RECEIVER LOCATIONS



9 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at the nearby receiver locations, identified in Section 8, resulting from the operation of the proposed Meridian South Campus Project. Exhibit 9-A identifies the representative receiver locations and noise source locations used to assess the operational noise levels.

9.1 OPERATIONAL NOISE STANDARDS

Although the Project site is located within the March JPA, noise-sensitive receivers potentially impacted by operational noise activities are also located in the City of Riverside and the County of Riverside jurisdictions. Therefore, to accurately describe the potential Project-related operational noise level contributions, this analysis presents the appropriate operational noise standards for each jurisdiction adjacent to the Project site. The March JPA, City of Riverside, and County of Riverside operational noise level standards are shown on Table 3-1 of this report.

9.1.1 March JPA Operational Noise Standards

The March JPA Development Code, Chapter 9.10 *Performance Standards*, Section 9.10.140 identifies the exterior stationary-source noise level standards for commercial and industrial land uses. Based on Section 9.10.140 of the Development Code, the exterior noise level shall not exceed 55 dBA Leq at any time. (3)

9.1.2 CITY OF RIVERSIDE OPERATIONAL NOISE STANDARDS

The noise regulations included in the City of Riverside Municipal Code, Title 7 *Noise Control*, provide standards for determining and mitigating non-transportation or stationary-source noise impacts from operations at private properties. For noise-sensitive residential land uses in the Project study area, Table 7.25.010A of the Municipal Code identifies a daytime (7:00 a.m. to 10:00 p.m.) noise level standard of 55 dBA L₅₀ and a nighttime (10:00 p.m. to 7:00 a.m.) noise level standard of 45 dBA L₅₀. (16) Section 7.25.010 (A) indicates that these standards shall apply plus 5 dBA for a cumulative period of 30 minutes in any hour, as well as plus 5 dBA cannot be exceeded for a cumulative period of more than 15 minutes in any hour, or the standard plus 10 dBA for a cumulative period of more than 1 minutes in any hour, or the standard plus 20 dBA for any period of time.

9.1.3 COUNTY OF RIVERSIDE OPERATIONAL NOISE STANDARDS

The County of Riverside has set exterior noise limits to control community noise impacts from non-transportation noise sources (such as playgrounds, trash compactors, air-conditioning units, etc.). Policy N 4.1 of the Noise Element sets an exterior noise limit not to be exceeded for a cumulative period of more than ten minutes in any hour of 65 dBA L_{eq} for daytime hours of 7:00 a.m. to 10:00 p.m., and 45 dBA L_{eq} during the noise-sensitive nighttime hours of 10:00 p.m. to 7:00 a.m. (17) These stationary-source noise level standards are consistent with the County of Riverside Office of Industrial Hygiene guidelines for noise studies within the County. (18)



9.2 OPERATIONAL NOISE SOURCES

At the time this noise analysis was prepared, the future tenants of the proposed Project were unknown. To present the potential worst-case noise conditions, this analysis assumes the Project would be operational 24 hours per day, seven days per week. The Project business operations would primarily be conducted within the enclosed buildings, except for traffic movement, parking, as well as loading and unloading of trucks at designated loading bays. The on-site Project-related noise sources are expected to include: truck activities, roof-top air conditioning, parking lot vehicle movements and dog park activity. This noise analysis is intended to describe noise level impacts associated with the expected typical warehouse and distribution storage activities at the Project site.

9.3 REFERENCE NOISE LEVELS

Since the future tenants of the proposed Project are unknown, the Project's operational noise levels were estimated based on reference noise level measurements of similar operational activities. The reference noise levels are intended to describe the expected operational noise sources that may include truck activities, roof-top air conditioning, parking lot vehicle movements and dog park activity. To estimate the Project off-site operational noise impacts associated with the Meridian South Campus, the following reference noise level measurements were collected from existing logistics warehouse operations containing similar operational noise sources. Table 9-1 presents the hourly average $L_{\rm eq}$ noise levels used to assess compliance with the March JPA and County of Riverside operational noise level limits. Table 9-2 provides the percentile noise levels to demonstrate compliance with the City of Riverside operational limits for the same reference noise level measurements. Appendix 9.1 includes reference noise source photos for each location.



R12 -R10 RIL MB RMB MarchIPA NANDINA AVE **LEGEND**: Site Boundary Receiver Locations Parking Lot M Truck Activities South Campus Specific Plan Existing 6-foot High Barrier Roof-Top Air Conditioning Unit Nog Park

EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS



TABLE 9-1: HOURLY AVERAGE NOISE LEVEL MEASUREMENTS

Naise Course	Duration	Ref. Distance	Noise Source	Min./Hour		Referen Level (c	Sound Power	
Noise Source	(hh:mm:ss)	(Feet)	Height (Feet)	Day	Night	@ Ref. Dist.	@ 50 Feet	Level (dBA) ⁵
Truck Activities ¹	00:14:00	30'	8'	60'	60'	70.1	65.7	99.5
Roof-Top Air Conditioning Units ²	96:00:00	5'	5'	39'	28'	77.2	57.2	88.9
Parking Lot Vehicle Movements ³	01:00:00	10'	5'	60'	60'	52.2	41.7	73.4
Dog Park ⁴	00:15:00	5'	4'	60'	0'	62.8	42.8	74.5

¹ Highest reference noise level measurement (truck unloading/docking, entry gate & truck movement, and truck idle/reefer activity).

TABLE 9-2: PERCENTILE REFERENCE NOISE LEVEL MEASUREMENTS

		Ref.	Noise	Reference Noise Level (dBA)						
Noise Source	Duration (hh:mm:ss)	Distance (Feet)	Source Height (Feet)	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)		
Truck Activities ¹	00:14:00	30'	8'	69.6	70.9	71.9	73.7	80.6		
Roof-Top Air Conditioning Units ²	96:00:00	5'	5'	74.4	76.1	77.4	77.7	78.2		
Parking Lot Vehicle Movements ³	01:00:00	10'	5'	49.0	50.0	55.0	61.0	71.9		
Dog Park⁴	00:15:00	5'	4'	58.5	61.0	65.2	72.6	78.6		

¹ Highest reference noise level measurement (truck unloading/docking, entry gate & truck movement, and truck idle/reefer activity).

9.3.1 MEASUREMENT PROCEDURES

The reference noise level measurements presented in this section were collected using a Larson Davis LxT Type 1 precisions sound level meter (serial number 01146). The LxT sound level meter was calibrated using a Larson-Davis calibrator, Model CAL 200, was programmed in "slow" mode to record noise levels in "A" weighted form and was located at approximately five feet above the ground elevation for each measurement. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (23)



² As measured by Urban Crossroads, Inc. on 7/27/2015 at the Santee Walmart located at 170 Town Center Parkway.

³ As measured by Urban Crossroads, Inc. on 5/17/2017 at the Panasonic Avionics Corporation parking lot in the City of Lake Forest.

⁴ As measured by Urban Crossroads, Inc. on 10/8/2014 at the La Paws Dog Park in Mission Viejo, CA.

⁵ Calculated using the CadnaA noise model at the reference distance to the noise source.

² As measured by Urban Crossroads, Inc. on 7/27/2015 at the Santee Walmart located at 170 Town Center Parkway.

³ As measured by Urban Crossroads, Inc. on 5/17/2017 at the Panasonic Avionics Corporation parking lot in the City of Lake Forest.

⁴ As measured by Urban Crossroads, Inc. on 10/8/2014 at the La Paws Dog Park in Mission Viejo, CA.

9.3.2 TRUCK ACTIVITIES

While the specific noise levels at the Project site will depend on the actual tenant, the intensity and the daytime / nighttime hours of operation, a reference noise level of $65.7 \, dBA \, L_{eq}$ at 50 feet is used to describe the peak Project operational noise activity since it represents similar operational characteristics. The reference noise levels are intended to describe noise level impacts associated with the expected typical warehouse and distribution storage operations at the Project site. This analysis assumes that the Project buildings would be operational 24 hours per day, seven days per week. In addition, this analysis considers several reference noise level measurements to describe the worst-case truck activities and may conservatively overstate the actual noise levels due to tenant operations at the Project site.

TRUCK UNLOADING/DOCKING ACTIVITY

Short-term reference noise level measurements were collected on Wednesday, January 7th, 2015, by Urban Crossroads, Inc. at the Motivational Fulfillment & Logistics Services distribution facility located at 6810 Bickmore Avenue in the City of Chino. The noise level measurements represent the typical weekday dry goods logistics warehouse operation in a single building, of roughly 285,000 square feet, with a loading dock area on the western side of the building façade. The unloading/docking activity noise level measurement was taken over a fifteen-minute period and represents multiple noise sources taken from the center of loading dock activities generating a reference noise level of 62.8 dBA L_{eq} at a uniform reference distance of 50 feet. At this location, the noise sources associated with employees unloading a docked truck container included the squeaking of the truck's shocks when weight was removed from the truck, employees playing music over a radio, as well as a forklift horn and backup alarm. In addition, during the noise level measurement, a truck entered the loading dock area and proceeded to reverse and dock in a nearby loading bay, adding truck engine, idling, and air brakes noise, in addition to on-going idling of an already docked truck.

ENTRY GATE & TRUCK MOVEMENTS

The entry gate activity noise level measurement was taken at the southern entry gate over a 15-minute period and represents multiple noise sources producing a reference noise level of 56.0 dBA L_{eq} at a uniform distance of 50 feet. The noise sources included at this measurement location account for the rattling and squeaking during normal opening and closing operations, the gate closure equipment, truck engines idling outside the entry gate, and background forklift backup alarm noise.

TRUCK IDLE/REEFER ACTIVITY

To describe the cold storage loading dock activities, a reference noise level measurement was collected to represent the truck idling/reefer activity on Wednesday, January 7th, 2015, at the Nature's Best distribution facility located at 16081 Fern Avenue in the City of Chino. During the fourteen-minute truck idling/reefer activity reference noise level measurement, approximately 20 delivery trucks were docked, idling, or parked in the northern loading dock area. The truck idling/reefer activity reference noise level measurement was taken in the center of the loading



dock activity area and represents multiple concurrent noise sources resulting in a combined noise level of 65.7 dBA L_{eq} at a uniform distance of 50 feet. Specifically, the truck idling/reefer activity reference noise level measurement represents one truck located approximately 30 feet from the noise level meter with another truck passing by to park roughly 20 feet away, both with their engines idling. Throughout the reference noise level measurement, a separate docked and running reefer truck was located approximately 50 feet east of the measurement location. Additional background noise sources included truck pass-by noise, truck drivers talking to each other next to docked trucks, and air brake release noise when trucks parked.

9.3.3 ROOF-TOP AIR CONDITIONING UNITS

To assess the impacts created by the roof-top air conditioning units at the Project buildings, reference noise levels measurements were taken over a four-day total duration at the Santee Walmart on July 27^{th} , 2015. Located at 170 Town Center Parkway in the City of Santee, the noise level measurements describe mechanical roof-top air conditioning units on the roof of an existing Walmart store, with additional roof-top units operating in the background. The reference noise level represents Lennox SCA120 series 10-ton model packaged air conditioning units. At 5 feet from the closest roof-top air conditioning unit, the highest exterior noise level from all four days of the measurement period was measured at 77.2 dBA L_{eq} . Using the uniform reference distance of 50 feet, the noise level is 57.2 dBA L_{eq} . The operating conditions of the reference noise level measurement reflect peak summer cooling requirements with measured temperatures approaching 96 degrees Fahrenheit (°F) with average daytime temperatures of 82°F. The roof-top air condition units were observed to operate the most during the daytime hours for a total of 39 minutes per hour. The noise attenuation provided by a parapet wall is not reflected in this reference noise level measurement.

9.3.4 PARKING LOT VEHICLE MOVEMENTS

To determine the noise levels associated with parking lot vehicle movements, Urban Crossroads collected reference noise level measurements over a 24-hour period on May 17^{th} , 2017 at the parking lot for the Panasonic Avionics Corporation in the City of Lake Forest. The peak hour of activity measured over the 24-hour noise level measurement period occurred between 12:00 p.m. to 1:00 p.m., or the typical lunch hour for employees working in the area. The measured reference noise level at 50 feet from parking lot vehicle movements was measured at 41.7 dBA L_{eq} . The parking lot noise levels are mainly due to cars pulling in and out of spaces during peak lunch hour activity and employees talking.

9.3.5 DOG PARK

To describe the potential noise level impacts associated with the Project's dog parks, a reference noise level measurement was collected on Wednesday, October 8th, 2014 at La Paws Dog Park in the City of Mission Viejo. The reference noise levels collected at the La Paws Dog Park are expected to reflect the noise level activities at both a large and small dog park within Project site. The reference noise level measurement at the large dog park includes people talking, dogs running, playing fetch, chasing each other, growling, barking and dog owners talking on cell phones. As observed during the noise level measurement, the dual entry gate of the La Paws



Dog Park was identified as a key source of noise when opened and closed due to metal hinges squeaking and the metal to metal contact with the gate and its closure. As shown on Table 9-1, at 5 feet from the noise source, a reference noise level of 62.8 dBA L_{eq} was measured. The dog park activities are limited to the daytime hours with no nighttime activity.

9.4 CADNAA NOISE PREDICTION MODEL

To fully describe the exterior operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels.

Using the ISO 9613 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source. Consistent with the ISO 9613 protocol, the CadnaA noise prediction model relies on the reference sound power level (PWL) to describe individual noise sources. While sound pressure levels (e.g. Leq) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (PWL) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish as a result of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment.

The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. Hard site conditions are used in the operational noise analysis which result in noise levels that attenuate (or decrease) at a rate of 6 dBA for each doubling of distance from a point source. A default ground attenuation factor of 1.0 was used in the CadnaA noise analysis to account for hard site conditions. Appendix 9.1 includes the detailed noise model.

9.5 PROJECT OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include truck activities, roof-top air conditioning, parking lot vehicle movements and dog park activity, Urban Crossroads, Inc. calculated the operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Tables 9-3 shows the Project operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 35.7 to 53.1 dBA $L_{\rm eq}$. Table 9-4 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 35.5 to 53.0 dBA $L_{\rm eq}$. The differences between the daytime and nighttime noise levels is largely related to the duration of noise activity (Table 9-1).



TABLE 9-3: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

				Hourly	Operational	Noise Level	s (dBA)³	
Recei Locat		Noise Sources ²	Leq (Average)	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)
		Truck Activities	43.2	42.7	44.5	44.2	45.0	50.1
		Roof-Top Air Conditioning Unit	38.2	37.7	39.5	39.2	40.0	45.1
R1		Parking Lot Vehicle Movement	32.1	31.6	33.4	33.1	33.9	39.0
		Dog Park	14.8	14.3	16.1	15.8	16.6	21.7
		Combined Noise Level:	44.6	44.1	45.9	45.6	46.4	51.5
		Truck Activities	39.9	39.4	41.2	40.9	41.7	46.8
		Roof-Top Air Conditioning Unit	41.3	40.8	42.6	42.3	43.1	48.2
R2	City of Riverside	Parking Lot Vehicle Movement	34.0	33.5	35.3	35.0	35.8	40.9
		Dog Park	11.0	10.5	12.3	12.0	12.8	17.9
	iver	Combined Noise Level:	44.1	43.6	45.4	45.1	45.9	51.0
	of R	Truck Activities	41.7	41.2	43.0	42.7	43.5	48.6
	City	Roof-Top Air Conditioning Unit	35.9	35.4	37.2	36.9	37.7	42.8
R3		Parking Lot Vehicle Movement	32.6	32.1	33.9	33.6	34.4	39.5
		Dog Park	13.3	12.8	14.6	14.3	15.1	20.2
		Combined Noise Level:	43.1	42.6	44.4	44.1	44.9	50.0
		Truck Activities	40.4	39.9	41.7	41.4	42.2	47.3
		Roof-Top Air Conditioning Unit	32.7	32.2	34.0	33.7	34.5	39.6
R4		Parking Lot Vehicle Movement	27.3	26.8	28.6	28.3	29.1	34.2
		Dog Park	9.7	9.2	11.0	10.7	11.5	16.6
		Combined Noise Level:	41.3	40.8	42.6	42.3	43.1	48.2
		Truck Activities	41.7	41.2	43.0	42.7	43.5	48.6
	0)	Roof-Top Air Conditioning Unit	35.8	35.3	37.1	36.8	37.6	42.7
R5	side	Parking Lot Vehicle Movement	32.2	31.7	33.5	33.2	34.0	39.1
	Riverside Co.	Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
	4	Combined Noise Level:	43.1	42.6	44.4	44.1	44.9	50.0
		Truck Activities	40.8	40.3	42.1	41.8	42.6	47.7
		Roof-Top Air Conditioning Unit	31.8	31.3	33.1	32.8	33.6	38.7
R6		Parking Lot Vehicle Movement	26.6	26.1	27.9	27.6	28.4	33.5
	4	Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
	March JPA	Combined Noise Level:	41.5	41.0	42.8	42.5	43.3	48.4
	larch	Truck Activities	44.2	43.7	45.5	45.2	46.0	51.1
	Σ	Roof-Top Air Conditioning Unit	34.3	33.8	35.6	35.3	36.1	41.2
R7		Parking Lot Vehicle Movement	27.8	27.3	29.1	28.8	29.6	34.7
		Dog Park	10.7	10.2	12.0	11.7	12.5	17.6
		Combined Noise Level:	44.7	44.2	46.0	45.7	46.5	51.6



_				Hourly	Operational	Noise Level	s (dBA)³	
Recei Locat		Noise Sources ²	Leq (Average)	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)
		Truck Activities	42.0	41.5	43.3	43.0	43.8	48.9
	JPA	Roof-Top Air Conditioning Unit	32.2	31.7	33.5	33.2	34.0	39.1
R8	March JPA	Parking Lot Vehicle Movement	26.3	25.8	27.6	27.3	28.1	33.2
	Ma	Dog Park	11.9	11.4	13.2	12.9	13.7	18.8
		Combined Noise Level:	42.5	42.0	43.8	43.5	44.3	49.4
		Truck Activities	41.1	40.6	42.4	42.1	42.9	48.0
		Roof-Top Air Conditioning Unit	43.6	43.1	44.9	44.6	45.4	50.5
R9	a)	Parking Lot Vehicle Movement	30.5	30.0	31.8	31.5	32.3	37.4
	City of Riverside	Dog Park	33.3	32.8	34.6	34.3	35.1	40.2
		Combined Noise Level:	45.9	45.4	47.2	46.9	47.7	52.8
	of F	Truck Activities	45.1	44.6	46.4	46.1	46.9	52.0
	City	Roof-Top Air Conditioning Unit	37.3	36.8	38.6	38.3	39.1	44.2
R10		Parking Lot Vehicle Movement	32.3	31.8	33.6	33.3	34.1	39.2
		Dog Park	20.4	19.9	21.7	21.4	22.2	27.3
		Combined Noise Level:	46.0	45.5	47.3	47.0	47.8	52.9
		Truck Activities	52.7	52.2	54.0	53.7	54.5	59.6
		Roof-Top Air Conditioning Unit	41.6	41.1	42.9	42.6	43.4	48.5
R11		Parking Lot Vehicle Movement	35.7	35.2	37.0	36.7	37.5	42.6
		Dog Park	21.8	21.3	23.1	22.8	23.6	28.7
		Combined Noise Level:	53.1	52.6	54.4	54.1	54.9	60.0
		Truck Activities	43.0	42.5	44.3	44.0	44.8	49.9
	IPA	Roof-Top Air Conditioning Unit	41.6	41.1	42.9	42.6	43.4	48.5
R12	March JPA	Parking Lot Vehicle Movement	36.1	35.6	37.4	37.1	37.9	43.0
	Ma	Dog Park	14.4	13.9	15.7	15.4	16.2	21.3
		Combined Noise Level:	45.9	45.4	47.2	46.9	47.7	52.8
] [Truck Activities	48.9	48.4	50.2	49.9	50.7	55.8
		Roof-Top Air Conditioning Unit	38.5	38.0	39.8	39.5	40.3	45.4
R13		Parking Lot Vehicle Movement	34.2	33.7	35.5	35.2	36.0	41.1
		Dog Park	12.7	12.2	14.0	13.7	14.5	19.6
		Combined Noise Level:	49.4	48.9	50.7	50.4	51.2	56.3



				Hourly	Operational	Noise Level	s (dBA)³	
Recei Locat		Noise Sources ²	Leq (Average)	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)
		Truck Activities	39.5	39.0	40.8	40.5	41.3	46.4
		Roof-Top Air Conditioning Unit	30.9	30.4	32.2	31.9	32.7	37.8
R14		Parking Lot Vehicle Movement	26.1	25.6	27.4	27.1	27.9	33.0
	ch JPA	Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	40.2	39.7	41.5	41.2	42.0	47.1
	March	Truck Activities	35.0	34.5	36.3	36.0	36.8	41.9
	2	Roof-Top Air Conditioning Unit	26.6	26.1	27.9	27.6	28.4	33.5
R15		Parking Lot Vehicle Movement	21.1	20.6	22.4	22.1	22.9	28.0
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	35.7	35.2	37.0	36.7	37.5	42.6

TABLE 9-4: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

	•			Hourly (Operational	Noise Level	s (dBA)³	
Recei Locat	_	Noise Sources ²	Leq (Average)	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)
		Truck Activities	43.2	42.7	44.5	44.2	45.0	50.1
		Roof-Top Air Conditioning Unit	35.8	35.3	37.1	36.8	37.6	42.7
R1		Parking Lot Vehicle Movement	32.1	31.6	33.4	33.1	33.9	39.0
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	44.2	43.7	45.5	45.2	46.0	51.1
		Truck Activities	39.9	39.4	41.2	40.9	41.7	46.8
	City of Riverside	Roof-Top Air Conditioning Unit	38.9	38.4	40.2	39.9	40.7	45.8
R2		Parking Lot Vehicle Movement	34.0	33.5	35.3	35.0	35.8	40.9
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
	iver	Combined Noise Level:	43.0	42.5	44.3	44.0	44.8	49.9
	of R	Truck Activities	41.7	41.2	43.0	42.7	43.5	48.6
	City	Roof-Top Air Conditioning Unit	33.5	33.0	34.8	34.5	35.3	40.4
R3		Parking Lot Vehicle Movement	32.6	32.1	33.9	33.6	34.4	39.5
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	42.8	42.3	44.1	43.8	44.6	49.7
		Truck Activities	40.4	39.9	41.7	41.4	42.2	47.3
		Roof-Top Air Conditioning Unit	30.3	29.8	31.6	31.3	32.1	37.2
R4		Parking Lot Vehicle Movement	27.3	26.8	28.6	28.3	29.1	34.2
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	41.0	40.5	42.3	42.0	42.8	47.9



_				Hourly (Operational	Noise Level	s (dBA)³	
Recei Locat		Noise Sources ²	Leq (Average)	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)
		Truck Activities	41.7	41.2	43.0	42.7	43.5	48.6
	CO	Roof-Top Air Conditioning Unit	33.4	32.9	34.7	34.4	35.2	40.3
R5	Riverside Co.	Parking Lot Vehicle Movement	32.2	31.7	33.5	33.2	34.0	39.1
	liver	Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	42.7	42.2	44.0	43.7	44.5	49.6
		Truck Activities	40.8	40.3	42.1	41.8	42.6	47.7
		Roof-Top Air Conditioning Unit	29.4	28.9	30.7	30.4	31.2	36.3
R6		Parking Lot Vehicle Movement	26.6	26.1	27.9	27.6	28.4	33.5
	∢	Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
	March JPA	Combined Noise Level:	41.3	40.8	42.6	42.3	43.1	48.2
	larc	Truck Activities	44.2	43.7	45.5	45.2	46.0	51.1
	2	Roof-Top Air Conditioning Unit	31.9	31.4	33.2	32.9	33.7	38.8
R7		Parking Lot Vehicle Movement	27.8	27.3	29.1	28.8	29.6	34.7
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	44.5	44.0	45.8	45.5	46.3	51.4
		Truck Activities	42.0	41.5	43.3	43.0	43.8	48.9
	JPA	Roof-Top Air Conditioning Unit	29.8	29.3	31.1	30.8	31.6	36.7
R8	March JPA	Parking Lot Vehicle Movement	26.3	25.8	27.6	27.3	28.1	33.2
	Ma	Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	42.4	41.9	43.7	43.4	44.2	49.3
		Truck Activities	41.1	40.6	42.4	42.1	42.9	48.0
		Roof-Top Air Conditioning Unit	41.2	40.7	42.5	42.2	43.0	48.1
R9		Parking Lot Vehicle Movement	30.5	30.0	31.8	31.5	32.3	37.4
	side	Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
	Riverside	Combined Noise Level:	44.3	43.8	45.6	45.3	46.1	51.2
		Truck Activities	45.1	44.6	46.4	46.1	46.9	52.0
	City of	Roof-Top Air Conditioning Unit	34.9	34.4	36.2	35.9	36.7	41.8
R10		Parking Lot Vehicle Movement	32.3	31.8	33.6	33.3	34.1	39.2
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	45.7	45.2	47.0	46.7	47.5	52.6
		Truck Activities	52.7	52.2	54.0	53.7	54.5	59.6
	JPA	Roof-Top Air Conditioning Unit	39.2	38.7	40.5	40.2	41.0	46.1
R11	March JPA	Parking Lot Vehicle Movement	35.7	35.2	37.0	36.7	37.5	42.6
	Ma	Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	53.0	52.5	54.3	54.0	54.8	59.9



				Hourly (Operational	Noise Level	s (dBA)³	
Recei Locat	_	Noise Sources ²	Leq (Average)	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)
		Truck Activities	43.0	42.5	44.3	44.0	44.8	49.9
		Roof-Top Air Conditioning Unit	39.1	38.6	40.4	40.1	40.9	46.0
R12		Parking Lot Vehicle Movement	36.1	35.6	37.4	37.1	37.9	43.0
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	45.1	44.6	46.4	46.1	46.9	52.0
		Truck Activities	48.9	48.4	50.2	49.9	50.7	55.8
	March JPA	Roof-Top Air Conditioning Unit	36.1	35.6	37.4	37.1	37.9	43.0
R13		Parking Lot Vehicle Movement	34.2	33.7	35.5	35.2	36.0	41.1
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	49.3	48.8	50.6	50.3	51.1	56.2
	larc	Truck Activities	39.5	39.0	40.8	40.5	41.3	46.4
	2	Roof-Top Air Conditioning Unit	28.5	28.0	29.8	29.5	30.3	35.4
R14		Parking Lot Vehicle Movement	26.1	25.6	27.4	27.1	27.9	33.0
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	40.0	39.5	41.3	41.0	41.8	46.9
		Truck Activities	35.0	34.5	36.3	36.0	36.8	41.9
		Roof-Top Air Conditioning Unit	24.2	23.7	25.5	25.2	26.0	31.1
R15		Parking Lot Vehicle Movement	21.1	20.6	22.4	22.1	22.9	28.0
		Dog Park	0.0	0.0	0.0	0.0	0.0	0.0
		Combined Noise Level:	35.5	35.0	36.8	36.5	37.3	42.4

9.6 Project Operational Noise Level Compliance

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level. Tables 9-5 shows that the daytime operational noise levels associated with Meridian South Campus Project will satisfy the noise level thresholds at all nearby receiver locations. Therefore, the daytime operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.



TABLE 9-5: OPERATIONAL NOISE LEVEL COMPLIANCE (DAYTIME)

			Noise Le	vel at Recei	ver Location	ns (dBA)²		
Receiver Location ¹	Jurisdiction	Leq (Average)	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)	Threshold Exceeded? ³
R1		_4	44.1	45.9	45.6	46.4	51.5	No
R2	City of	_4	43.6	45.4	45.1	45.9	51.0	No
R3	Riverside	_4	42.6	44.4	44.1	44.9	50.0	No
R4		_4	40.8	42.6	42.3	43.1	48.2	No
R5	Riverside Co.	43.1	_4	_4	_4	_4	_4	No
R6		41.5	_4	_4	_4	_4	_4	No
R7	March JPA	44.7	_4	_4	_4	_4	_4	No
R8	31.7	42.5	_4	_4	_4	_4	_4	No
R9	City of	_4	45.4	47.2	46.9	47.7	52.8	No
R10	Riverside	_4	45.5	47.3	47.0	47.8	52.9	No
R11		53.1	_4	_4	_4	_4	_4	No
R12		45.9	_4	_4	_4	_4	_4	No
R13	March JPA	49.4	_4	_4	_4	_4	_4	No
R14		40.2	_4	_4	_4	_4	_4	No
R15		35.7	_4	_4	_4	_4	_4	No

¹ See Exhibit 9-A for the receiver and noise source locations.

Tables 9-6 shows that the nighttime operational noise levels associated with Meridian South Campus Project will satisfy the noise level thresholds at all nearby receiver locations. Therefore, the nighttime operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.



 $^{^{\}rm 2}$ Estimated Project stationary source noise levels as shown on Table 9-3.

³ Do the estimated Project operational noise source activities exceed the noise level standards (See Table 3-1)?

⁴ Standards not applicable (See Table 3-1)

[&]quot;Daytime" = 7:00 a.m. to 10:00 p.m.

TABLE 9-6: OPERATIONAL NOISE LEVEL COMPLIANCE (NIGHTTIME)

			Noise Le	vel at Recei	ver Location	ns (dBA)²		
Receiver Location ¹	Jurisdiction	Leq (Average)	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)	Threshold Exceeded? ³
R1		_4	43.7	45.5	45.2	46.0	51.1	No
R2	City of	_4	42.5	44.3	44.0	44.8	49.9	No
R3	Riverside	_4	42.3	44.1	43.8	44.6	49.7	No
R4		_4	40.5	42.3	42.0	42.8	47.9	No
R5	Riverside Co.	42.7	_4	_4	_4	_4	_4	No
R6		41.3	_4	_4	_4	_4	_4	No
R7	March JPA	44.5	_4	_4	_4	_4	_4	No
R8	31.7	42.4	_4	_4	_4	_4	_4	No
R9	City of	_4	43.8	45.6	45.3	46.1	51.2	No
R10	Riverside	_4	45.2	47.0	46.7	47.5	52.6	No
R11		53.0	_4	_4	_4	_4	_4	No
R12		45.1	_4	_4	_4	_4	_4	No
R13	March JPA	49.3	_4	_4	_4	_4	_4	No
R14		40.0	_4	_4	_4	_4	_4	No
R15		35.5	_4	_4	_4	_4	_4	No

¹ See Exhibit 9-A for the receiver and noise source locations.

9.7 PROJECT OPERATIONAL NOISE LEVEL CONTRIBUTIONS

Although the proposed Project is defined as the net change in impacts as compared to the 2003 EIR Phase III, for the purposes of analyzing project operations, this noise study evaluates the proposed South Campus Specific Plan compared to the existing ambient noise levels. To describe the Project operational noise level contributions, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearby receiver locations potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. (6) Instead, they must be logarithmically added using the following base equation:

$$SPL_{Total} = 10log_{10}[10^{SPL1/10} + 10^{SPL2/10} + ... 10^{SPLn/10}]$$

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describe the Project noise level contributions to the existing ambient noise environment. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime and nighttime ambient conditions are presented on



² Estimated Project stationary source noise levels as shown on Table 9-4.

³ Do the estimated Project operational noise source activities exceed the noise level standards (See Table 3-1)?

⁴ Standards not applicable (See Table 3-1)

[&]quot;Nighttime" = 10:00 p.m. to 7:00 a.m.

Tables 9-7 and 9-8, respectively. As indicated on Tables 9-7 and 9-8, the Project will generate an unmitigated daytime and nighttime operational noise level increases ranging from 0.0 to 2.7 dBA L_{eq} at the nearby receiver locations. Project-related operational noise level contributions will satisfy the operational noise level increase significance criteria presented in Table 4-2, the increases at the sensitive receiver locations will be *less than significant*.

TABLE 9-7: PROJECT OPERATIONAL NOISE LEVEL CONTRIBUTIONS (DAYTIME)

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Incremental Threshold ⁷	Incremental Threshold Exceeded? ⁷
R1	44.6	L2	73.8	73.8	0.0	1.5	No
R2	44.1	L2	73.8	73.8	0.0	1.5	No
R3	43.1	L3	58.2	58.3	0.1	5.0	No
R4	41.3	L3	58.2	58.3	0.1	5.0	No
R5	43.1	L5	54.4	54.7	0.3	5.0	No
R6	41.5	L5	54.4	54.6	0.2	5.0	No
R7	44.7	L6	49.6	50.8	1.2	5.0	No
R8	42.5	L6	49.6	50.4	0.8	5.0	No
R9	45.9	L9	74.2	74.2	0.0	1.5	No
R10	46.0	L10	65.9	65.9	0.0	1.5	No
R11	53.1	L4	60.7	61.4	0.7	3.0	No
R12	45.9	L2	73.8	73.8	0.0	1.5	No
R13	49.4	L4	60.7	61.0	0.3	3.0	No
R14	40.2	L5	54.4	54.6	0.2	5.0	No
R15	35.7	L5	54.4	54.5	0.1	5.0	No

¹ See Exhibit 9-A for the sensitive receiver locations.



² Total daytime Project operational noise levels as shown on Table 9-3.

³ Reference noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed daytime ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance Criteria as defined in Section 4.

TABLE 9-8: PROJECT OPERATIONAL NOISE LEVEL CONTRIBUTIONS (NIGHTTIME)

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Incremental Threshold ⁷	Incremental Threshold Exceeded? ⁷
R1	44.2	L2	71.6	71.6	0.0	1.5	No
R2	43.0	L2	71.6	71.6	0.0	1.5	No
R3	42.8	L3	53.3	53.7	0.4	5.0	No
R4	41.0	L3	53.3	53.5	0.2	5.0	No
R5	42.7	L5	50.1	50.8	0.7	5.0	No
R6	41.3	L5	50.1	50.6	0.5	5.0	No
R7	44.5	L6	45.1	47.8	2.7	5.0	No
R8	42.4	L6	45.1	47.0	1.9	5.0	No
R9	44.3	L9	70.5	70.5	0.0	1.5	No
R10	45.7	L10	62.4	62.5	0.1	3.0	No
R11	53.0	L4	59.3	60.2	0.9	5.0	No
R12	45.1	L2	71.6	71.6	0.0	1.5	No
R13	49.3	L4	59.3	59.7	0.4	5.0	No
R14	40.0	L5	50.1	50.5	0.4	5.0	No
R15	35.5	L5	50.1	50.2	0.1	5.0	No

¹ See Exhibit 9-A for the sensitive receiver locations.

9.8 REFLECTION

Field studies conducted by the FHWA have shown that the reflection from barriers and buildings does not substantially increase noise levels. (8) If all the noise striking a structure was reflected back to a given receiving point, the increase would be theoretically limited to 3 dBA. Further, not all the acoustical energy is reflected back to same point. Some of the energy would go over the structure, some is reflected to points other than the given receiving point, some is scattered by ground coverings (e.g., grass and other plants), and some is blocked by intervening structures and/or obstacles (e.g., the noise source itself). Additionally, some of the reflected energy is lost due to the longer path that the noise must travel. FHWA measurements made to quantify reflective increases in traffic noise have not shown an increase of greater than 1-2 dBA; an increase that is not perceptible to the average human ear.



² Total nighttime Project operational noise levels as shown on Table 9-4.

³ Reference noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed nighttime ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance Criteria as defined in Section 4.

9.9 OPERATIONAL NOISE ABATEMENT MEASURES

The normal operation of the Project will not exceed the March JPA Development Code standards for stationary-source noise impacts. (3) To further reduce potential operational noise levels received at nearby noise-sensitive receiver locations, it is recommended that the Lead Agency require the following as Project Conditions of Approval:

- All on-site operating equipment under the control of the building user that is used in outdoor
 areas (including but not limited to trucks, tractors, forklifts, and hostlers), shall be operated with
 properly functioning and well-maintained mufflers.
- Maintain quality pavement conditions on the property that are free of vertical deflection (i.e. speed bumps) to minimize truck noise.
- The truck access gates and loading docks within the truck court on the Project site shall be posted with signs which state:
 - Truck drivers shall turn off engines when not in use;
 - o Diesel trucks servicing the Project shall not idle for more than five (5) minutes; and
 - Post telephone numbers of the building facilities manager to report idling violations.

9.10 OPERATIONAL VIBRATION IMPACTS

To assess the potential vibration impacts from truck haul trips associated with operational activities, the County of Riverside threshold for vibration of 0.01 in/sec RMS is used. Truck vibration levels are dependent on vehicle characteristics, load, speed, and pavement conditions. According to the FTA *Transit Noise Impact and Vibration Assessment*, (11) trucks rarely create vibration that exceeds 70 VdB or 0.003 in/sec RMS (27) (unless there are bumps due to frequent potholes in the road). Trucks transiting on site will be travelling at very low speeds so it is expected that delivery truck vibration impacts at nearby homes will satisfy the County of Riverside vibration threshold of 0.01 in/sec RMS, and therefore, will be *less than significant*.



This page intentionally left blank



10 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 10-A shows the construction noise source locations in relation to the nearby sensitive receiver locations previously described in Section 8. The construction noise levels include the barrier attenuation provided the existing barriers as shown on Exhibit 10-A.

10.1 CONSTRUCTION NOISE STANDARDS

To analyze noise impacts originating from the construction of the Meridian South Campus Project, noise from construction activities are typically limited to the hours of operation established under a jurisdiction's Code. To accurately describe the potential Project-related construction noise level contributions to the existing noise environment, this analysis presents the appropriate construction noise standards for each jurisdiction adjacent to the Project site including: the March JPA, City of Riverside, and the County of Riverside.

10.1.1 March JPA Construction Noise Standards

The March JPA Development Code, Section 9.10.030 *Exemptions*, states that construction activities are considered exempt from the noise performance standards if they occur within the permitted hours of 7:00 a.m. to 7:00 p.m. The March JPA Development Code does not identify a specific noise level standard for construction activity.

10.1.2 CITY OF RIVERSIDE CONSTRUCTION NOISE STANDARDS

The City of Riverside Municipal Code, Section 7.35.010 (B) (5), states that construction activities are limited to the hours of 7:00 a.m. to 7:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on Saturdays, with no activities allowed on Sundays or federal holidays. (16) The land uses in the Project study area with the potential to be impacted by Project-related construction noise levels include noise-sensitive residential land use. Based on the City of Riverside Municipal Code, Table 7.25.010A *Exterior Noise Standards*, residential land uses have an anytime noise level standard of 75 dBA L_{max} during the daytime hours, and 65 dBA L_{max} during the nighttime hours for construction noise levels. The City of Riverside Municipal Code construction noise standards are shown on Table 3-2 and included in Appendix 3.2.



Cityof Riverside ⊕R4 AN BUREN BLVD REC an R13 R MarchIPA NANDINA AVE **LEGEND:** Construction Activity Existing 6-foot High Barrier N Receiver Locations Distance from receiver to Project site boundary (in feet)

EXHIBIT 10-A: CONSTRUCTION NOISE SOURCE LOCATIONS



10.1.3 COUNTY OF RIVERSIDE CONSTRUCTION NOISE STANDARDS

Section 9.52.020 of the County's Noise Regulation ordinance, provided in Appendix 3.3, indicates that noise associated with any private construction activity located within one-quarter of a mile from an inhabited dwelling is considered exempt between the hours of 6:00 a.m. and 6:00 p.m., during the months of June through September, and 7:00 a.m. and 6:00 p.m., during the months of October through May. (19) Neither the County's General Plan nor County Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers, which would allow for a quantified determination of what CEQA constitutes a *substantial temporary or periodic noise increase*.

To allow for a quantified determination of what the Noise Regulation Ordinance constitutes as noise that may jeopardize the health, safety or general welfare of Riverside County residents and degrade their quality of life due to Project construction activity, relevant quantified stationary source noise standards established in the General Plan, Policy N 4.1, are used in this analysis to assess the Project construction noise levels at nearby sensitive receivers. Therefore, the daytime noise level standard of 65 dBA L_{eq} and nighttime noise level standard of 45 dBA L_{eq} are used to evaluate the potential Project-related construction noise impacts. (17)

10.2 CONSTRUCTION NOISE LEVELS

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that when combined can reach high levels. The number and mix of construction equipment is expected to occur in the following stages, for both the Village West Drive extension and the Meridian South Campus based on the Meridian South Campus Air Quality Impact Analysis for the Project: (28)

Village West Drive Extension

- Grubbing/Land Clearing
- Grading/Excavation
- Drainage/Utilities/Sub grade
- Paving

Meridian South Campus

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

This construction noise analysis was prepared using reference noise level measurements taken by Urban Crossroads, Inc. to describe the typical construction activity noise levels for each stage of Project construction. The construction reference noise level measurements represent a list of typical construction activity noise levels. Noise levels generated by heavy construction equipment can range from approximately 68 dBA to in excess of 80 dBA when measured at 50 feet. However, these noise levels diminish with distance from the construction site at a rate of 6



dBA per doubling of distance. For example, a noise level of 80 dBA measured at 50 feet from the noise source to the receiver would be reduced to 74 dBA at 100 feet from the source to the receiver, and would be further reduced to 68 dBA at 200 feet from the source to the receiver.

10.3 Construction Reference Noise Levels

To describe the Project construction noise levels, measurements were collected for similar activities at several construction sites. Table 10-1 provides a summary of the construction reference noise level measurements. Since the reference noise levels were collected at varying distances of 30 feet and 50 feet, all construction noise level measurements presented on Table 10-1 have been adjusted for consistency to describe a uniform reference distance of 50 feet.

TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

ID	Noise Source	Reference Distance From Source	Reference Noise Levels @ Reference Distance		Reference Noise Levels @ 50 Feet ⁹	
		(Feet)	dBA L _{eq}	dBA L _{max}	dBA L _{eq}	dBA L _{max}
1	Truck Pass-Bys & Dozer Activity ¹	30'	63.6	68.1	59.2	63.7
2	Backhoe Activity ¹	30'	68.6	76.4	64.2	72.0
3	Construction Vehicle Maintenance Activities ²	30'	71.9	74.8	67.5	70.4
4	Foundation Trenching ²	30'	72.6	74.9	68.2	70.5
5	Rough Grading Activities ²	30'	77.9	84.8	73.5	80.4
6	Water Truck Pass-By & Backup Alarm ³	30'	76.3	82.3	71.9	77.9
7	Concrete Mixer Truck Movements ⁴	50'	71.2	73.1	71.2	73.1
8	Concrete Paver Activities ⁴	30'	70.0	75.7	65.6	71.3
9	Concrete Mixer Pour & Paving Activities⁴	30'	70.3	76.3	65.9	71.9
10	Concrete Mixer Backup Alarms & Air Brakes ⁴	50'	71.6	78.8	71.6	78.8
11	Concrete Mixer Pour Activities ⁴	50'	67.7	79.2	67.7	79.2
12	Demolition Activity ⁵	50'	67.9	81.6	67.9	81.6
13	Air Compressors ⁶	10'	79.2	81.0	65.2	67.0
14	Generator ⁷	50'	64.9	67.0	64.9	67.0
15	Crane ⁸	30'	66.7	69.6	62.3	65.2

¹As measured by Urban Crossroads, Inc. on 10/14/15 at a business park construction site located at the northwest corner of Barranca Parkway and Alton Parkway in the City of Irvine.



² As measured by Urban Crossroads, Inc. on 10/20/15 at a construction site located in Rancho Mission Viejo.

³ As measured by Urban Crossroads, Inc. on 10/30/15 during grading operations in an industrial construction site located in the City of Ontario.

⁴ Reference noise level measurements were collected from a nighttime concrete pour at an industrial construction site, located at 27334 San Bernardino Avenue in the City of Redlands, between 1:00 a.m. to 2:00 a.m. on 7/1/15.

⁵ As measured by Urban Crossroads, Inc. on 9/9/16 during the demolition of an existing paved parking lot at 41 Corporate Park in Irvine.

⁶ As measured by Urban Crossroads, Inc. on 9/16/2015 at the Giant RV Parts and Service Center (41150 Juniper Street in the City of Murrieta).

⁷ As measured by Urban Crossroads, Inc. on 7/14/2012 at the Dollar General Store (700 South San Jacinto Avenue in the City of San Jacinto).

⁸ As measured by Urban Crossroads, Inc. on 5/18/2017 at the 260 E. Baker Street in the City of Costa Mesa.

⁹ Reference noise levels are calculated at 50 feet using a drop off rate of 6 dBA per doubling of distance (point source).

10.4 Daytime Construction Noise Analysis

Tables 10-2 to 10-10 show the daytime Project construction stages and the reference construction noise levels used for each stage. Tables 10-11 and 10-12 provide a summary of the daytime noise levels from each stage of construction at each of the sensitive receiver locations in dBA L_{eq} and dBA L_{max}, respectively. Based on the reference construction noise levels, the Project-related daytime construction noise levels when the peak reference noise level is operating at a single point nearest the sensitive receiver location will range from 44.2 to 64.3 dBA L_{eq} and 52.3 to 72.4 dBA L_{max}. Table 10-3 shows the worst-case, combined noise level of all grading equipment during the grading stage of Project construction to present a conservative approach. As such, the analysis of the grading stage is presented as a worst-case construction noise level with all equipment operating simultaneously from a single point during the grading activities. In reality, this will not occur since all the equipment cannot operate from a single point closest to the sensitive receiver locations but is presented herein to provide a conservative analysis.



TABLE 10-2: GRUBBING/LAND CLEARING EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA Leq)	Reference Noise Level @ 50 Feet (dBA Lmax)
Rough Grading Activities	73.5	80.4
Backhoe	64.2	72.0
Water Truck Pass-By & Backup Alarm	71.9	77.9
Construction Vehicle Maintenance Activities	67.5	70.4
Peak Reference Noise Level at 50 Feet:	73.5	80.4

Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA Leq)	Construction Noise Level (dBA Lmax)
R1	161'	-10.2	-5.0	58.3	65.2
R2	173'	-10.8	-5.0	57.7	64.6
R3	729'	-23.3	0.0	50.2	57.1
R4	1,452'	-29.3	0.0	44.2	51.1
R5	378'	-17.6	0.0	55.9	62.8
R6	1,362'	-28.7	0.0	44.8	51.7
R7	687'	-22.8	-5.0	45.7	52.6
R8	812'	-24.2	-5.0	44.3	51.2
R9	117'	-7.4	-5.0	61.1	68.0
R10	126'	-8.0	-5.0	60.5	67.4
R11	207'	-12.3	0.0	61.2	68.1
R12	213'	-12.6	0.0	60.9	67.8
R13	294'	-15.4	0.0	58.1	65.0
R14	1,422'	-29.1	0.0	44.4	51.3
R15	81'	-4.2	-5.0	64.3	71.2

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.



² Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-3: GRADING/EXCAVATION EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA Leq)	Reference Noise Level @ 50 Feet (dBA Lmax)
Rough Grading Activities	73.5	80.4
Water Truck Pass-By & Backup Alarm	71.9	77.9
Construction Vehicle Maintenance Activities	67.5	70.4
Peak Reference Noise Level at 50 Feet:	73.5	80.4

Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA Leq)	Construction Noise Level (dBA Lmax)
R1	161'	-10.2	-5.0	58.3	65.2
R2	173'	-10.8	-5.0	57.7	64.6
R3	729'	-23.3	0.0	50.2	57.1
R4	1,452'	-29.3	0.0	44.2	51.1
R5	378'	-17.6	0.0	55.9	62.8
R6	1,362'	-28.7	0.0	44.8	51.7
R7	687'	-22.8	-5.0	45.7	52.6
R8	812'	-24.2	-5.0	44.3	51.2
R9	117'	-7.4	-5.0	61.1	68.0
R10	126'	-8.0	-5.0	60.5	67.4
R11	207'	-12.3	0.0	61.2	68.1
R12	213'	-12.6	0.0	60.9	67.8
R13	294'	-15.4	0.0	58.1	65.0
R14	1,422'	-29.1	0.0	44.4	51.3
R15	81'	-4.2	-5.0	64.3	71.2

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.



² Distance from the nearest point of construction activity to the nearest receiver.

 $^{^{\}rm 3}$ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-4: DRAINAGE/UTILITIES/SUB GRADE EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA Leq)	Reference Noise Level @ 50 Feet (dBA Lmax)
Air Compressors	65.2	67.0
Generator	64.9	67.0
Crane	62.3	65.2
Backhoe	64.2	72.0
Peak Reference Noise Level at 50 Feet:	65.2	72.0

Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA Leq)	Construction Noise Level (dBA Lmax)
R1	161'	-10.2	-5.0	50.0	56.8
R2	173'	-10.8	-5.0	49.4	56.2
R3	729'	-23.3	0.0	41.9	48.7
R4	1,452'	-29.3	0.0	35.9	42.7
R5	378'	-17.6	0.0	47.6	54.4
R6	1,362'	-28.7	0.0	36.5	43.3
R7	687'	-22.8	-5.0	37.4	44.2
R8	812'	-24.2	-5.0	36.0	42.8
R9	117'	-7.4	-5.0	52.8	59.6
R10	126'	-8.0	-5.0	52.2	59.0
R11	207'	-12.3	0.0	52.9	59.7
R12	213'	-12.6	0.0	52.6	59.4
R13	294'	-15.4	0.0	49.8	56.6
R14	1,422'	-29.1	0.0	36.1	42.9
R15	81'	-4.2	-5.0	56.0	62.8

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.



² Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-5: PAVING EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA Leq)	Reference Noise Level @ 50 Feet (dBA Lmax)
Concrete Mixer Truck Movements	71.2	73.1
Concrete Paver Activities	65.6	71.3
Concrete Mixer Pour & Paving Activities	65.9	71.9
Concrete Mixer Backup Alarms & Air Brakes	71.6	78.8
Concrete Mixer Pour Activities	67.7	79.2
Peak Reference Noise Level at 50 Feet:	71.6	79.2

Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA Leq)	Construction Noise Level (dBA Lmax)
R1	161'	-10.2	-5.0	56.4	64.0
R2	173'	-10.8	-5.0	55.8	63.4
R3	729'	-23.3	0.0	48.3	55.9
R4	1,452'	-29.3	0.0	42.3	49.9
R5	378'	-17.6	0.0	54.0	61.6
R6	1,362'	-28.7	0.0	42.9	50.5
R7	687'	-22.8	-5.0	43.8	51.4
R8	812'	-24.2	-5.0	42.4	50.0
R9	117'	-7.4	-5.0	59.2	66.8
R10	126'	-8.0	-5.0	58.6	66.2
R11	207'	-12.3	0.0	59.3	66.9
R12	213'	-12.6	0.0	59.0	66.6
R13	294'	-15.4	0.0	56.2	63.8
R14	1,422'	-29.1	0.0	42.5	50.1
R15	81'	-4.2	-5.0	62.4	70.0

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.



 $^{^{\}rm 2}$ Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-6: SITE PREPARATION EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})	Reference Noise Level @ 50 Feet (dBA L _{max})
Demolition Activity	67.9	81.6
Truck Pass-Bys & Dozer Activity	59.2	63.7
Backhoe	64.2	72.0
Construction Vehicle Maintenance Activities	67.5	70.4
Peak Reference Noise Level at 50 Feet:	67.9	81.6

Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA L _{eq})	Construction Noise Level (dBA L _{max})
R1	161'	-10.2	-5.0	52.7	66.4
R2	173'	-10.8	-5.0	52.1	65.8
R3	729'	-23.3	0.0	44.6	58.3
R4	1,452'	-29.3	0.0	38.6	52.3
R5	378'	-17.6	0.0	50.3	64.0
R6	1,362'	-28.7	0.0	39.2	52.9
R7	687'	-22.8	-5.0	40.1	53.8
R8	812'	-24.2	-5.0	38.7	52.4
R9	117'	-7.4	-5.0	55.5	69.2
R10	126'	-8.0	-5.0	54.9	68.6
R11	207'	-12.3	0.0	55.6	69.3
R12	213'	-12.6	0.0	55.3	69.0
R13	294'	-15.4	0.0	52.5	66.2
R14	1,422'	-29.1	0.0	38.8	52.5
R15	81'	-4.2	-5.0	58.7	72.4

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.



² Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-7: GRADING EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})	Reference Noise Level @ 50 Feet (dBA L _{max})
Rough Grading Activities	73.5	80.4
Water Truck Pass-By & Backup Alarm	71.9	77.9
Construction Vehicle Maintenance Activities	67.5	70.4
Peak Reference Noise Level at 50 Feet:	73.5	80.4

Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA L _{eq})	Construction Noise Level (dBA L _{max})
R1	161'	-10.2	-5.0	58.3	65.2
R2	173'	-10.8	-5.0	57.7	64.6
R3	729'	-23.3	0.0	50.2	57.1
R4	1,452'	-29.3	0.0	44.2	51.1
R5	378'	-17.6	0.0	55.9	62.8
R6	1,362'	-28.7	0.0	44.8	51.7
R7	687'	-22.8	-5.0	45.7	52.6
R8	812'	-24.2	-5.0	44.3	51.2
R9	117'	-7.4	-5.0	61.1	68.0
R10	126'	-8.0	-5.0	60.5	67.4
R11	207'	-12.3	0.0	61.2	68.1
R12	213'	-12.6	0.0	60.9	67.8
R13	294'	-15.4	0.0	58.1	65.0
R14	1,422'	-29.1	0.0	44.4	51.3
R15	81'	-4.2	-5.0	64.3	71.2

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.



² Distance from the nearest point of construction activity to the nearest receiver.

 $^{^{\}rm 3}$ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-8: BUILDING CONSTRUCTION EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA _{Leq)}	Reference Noise Level @ 50 Feet (dBA L _{max})
Foundation Trenching	68.2	70.5
Backhoe	64.2	72.0
Construction Vehicle Maintenance Activities	67.5	70.4
Generator	64.9	67.0
Crane	62.3	65.2
Peak Reference Noise Level at 50 Feet:	68.2	72.0

Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA L _{eq})	Construction Noise Level (dBA L _{max})
R1	161'	-10.2	-5.0	53.0	56.8
R2	173'	-10.8	-5.0	52.4	56.2
R3	729'	-23.3	0.0	44.9	48.7
R4	1,452'	-29.3	0.0	38.9	42.7
R5	378'	-17.6	0.0	50.6	54.4
R6	1,362'	-28.7	0.0	39.5	43.3
R7	687'	-22.8	-5.0	40.4	44.2
R8	812'	-24.2	-5.0	39.0	42.8
R9	117'	-7.4	-5.0	55.8	59.6
R10	126'	-8.0	-5.0	55.2	59.0
R11	207'	-12.3	0.0	55.9	59.7
R12	213'	-12.6	0.0	55.6	59.4
R13	294'	-15.4	0.0	52.8	56.6
R14	1,422'	-29.1	0.0	39.1	42.9
R15	81'	-4.2	-5.0	59.0	62.8

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.



 $^{^{\}rm 2}$ Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-9: ARCHITECTURAL COATING EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA Leq) 65.2			
Air Compressors	65.2	67.0		
Generator	64.9	67.0		
Crane	62.3	65.2		
Peak Reference Noise Level at 50 Feet:	65.2	67.0		

Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA L _{eq})	Construction Noise Level (dBA L _{max})
R1	161'	-10.2	-5.0	50.0	51.8
R2	173'	-10.8	-5.0	49.4	51.2
R3	729'	-23.3	0.0	41.9	43.7
R4	1,452'	-29.3	0.0	35.9	37.7
R5	378'	-17.6	0.0	47.6	49.4
R6	1,362'	-28.7	0.0	36.5	38.3
R7	687'	-22.8	-5.0	37.4	39.2
R8	812'	-24.2	-5.0	36.0	37.8
R9	117'	-7.4	-5.0	52.8	54.6
R10	126'	-8.0	-5.0	52.2	54.0
R11	207'	-12.3	0.0	52.9	54.7
R12	213'	-12.6	0.0	52.6	54.4
R13	294'	-15.4	0.0	49.8	51.6
R14	1,422'	-29.1	0.0	36.1	37.9
R15	81'	-4.2	-5.0	56.0	57.8

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.



² Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-10: PAVING EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})	Reference Noise Level @ 50 Feet (dBA L _{max})
Concrete Mixer Truck Movements	71.2	73.1
Concrete Paver Activities	65.6	71.3
Concrete Mixer Pour & Paving Activities	65.9	71.9
Concrete Mixer Backup Alarms & Air Brakes	71.6	78.8
Concrete Mixer Pour Activities	67.7	79.2
Peak Reference Noise Level at 50 Feet:	71.6	79.2

Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA L _{eq})	Construction Noise Level (dBA L _{max})
R1	161'	-10.2	-5.0	56.4	64.0
R2	173'	-10.8	-5.0	55.8	63.4
R3	729'	-23.3	0.0	48.3	55.9
R4	1,452'	-29.3	0.0	42.3	49.9
R5	378'	-17.6	0.0	54.0	61.6
R6	1,362'	-28.7	0.0	42.9	50.5
R7	687'	-22.8	-5.0	43.8	51.4
R8	812'	-24.2	-5.0	42.4	50.0
R9	117'	-7.4	-5.0	59.2	66.8
R10	126'	-8.0	-5.0	58.6	66.2
R11	207'	-12.3	0.0	59.3	66.9
R12	213'	-12.6	0.0	59.0	66.6
R13	294'	-15.4	0.0	56.2	63.8
R14	1,422'	-29.1	0.0	42.5	50.1
R15	81'	-4.2	-5.0	62.4	70.0

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.



 $^{^{\}rm 2}$ Distance from the nearest point of construction activity to the nearest receiver.

 $^{^{\}rm 3}$ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-11: DAYTIME CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

	Village	West Drive I	Extension (dB	A Leq)			Construction S	tage (dBA Le	q)	
Receiver Location ¹	Grubbing / Clearing	Grading / Excavation	Drainage / Utilities	Paving	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Peak Activity ²
R1	58.3	58.3	50.0	56.4	52.7	58.3	53.0	56.4	50.0	58.3
R2	57.7	57.7	49.4	55.8	52.1	57.7	52.4	55.8	49.4	57.7
R3	50.2	50.2	41.9	48.3	44.6	50.2	44.9	48.3	41.9	50.2
R4	44.2	44.2	35.9	42.3	38.6	44.2	38.9	42.3	35.9	44.2
R5	55.9	55.9	47.6	54.0	50.3	55.9	50.6	54.0	47.6	55.9
R6	44.8	44.8	36.5	42.9	39.2	44.8	39.5	42.9	36.5	44.8
R7	45.7	45.7	37.4	43.8	40.1	45.7	40.4	43.8	37.4	45.7
R8	44.3	44.3	36.0	42.4	38.7	44.3	39.0	42.4	36.0	44.3
R9	61.1	61.1	52.8	59.2	55.5	61.1	55.8	59.2	52.8	61.1
R10	60.5	60.5	52.2	58.6	54.9	60.5	55.2	58.6	52.2	60.5
R11	61.2	61.2	52.9	59.3	55.6	61.2	55.9	59.3	52.9	61.2
R12	60.9	60.9	52.6	59.0	55.3	60.9	55.6	59.0	52.6	60.9
R13	58.1	58.1	49.8	56.2	52.5	58.1	52.8	56.2	49.8	58.1
R14	44.4	44.4	36.1	42.5	38.8	44.4	39.1	42.5	36.1	44.4
R15	64.3	64.3	56.0	62.4	58.7	64.3	59.0	62.4	56.0	64.3

¹ Noise receiver locations are shown on Exhibit 10-A.



² Estimated construction noise levels during peak operating conditions.

TABLE 10-12: DAYTIME CONSTRUCTION EQUIPMENT MAXIMUM NOISE LEVEL SUMMARY

	Village	West Drive E	xtension (dBA	\ Lmax)		C	Construction St	age (dBA Lma	ax)	
Receiver Location ¹	Grubbing / Clearing	Grading / Excavation	Drainage / Utilities	Paving	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Peak Activity ²
R1	65.2	65.2	56.8	64.0	66.4	65.2	56.8	64.0	51.8	66.4
R2	64.6	64.6	56.2	63.4	65.8	64.6	56.2	63.4	51.2	65.8
R3	57.1	57.1	48.7	55.9	58.3	57.1	48.7	55.9	43.7	58.3
R4	51.1	51.1	42.7	49.9	52.3	51.1	42.7	49.9	37.7	52.3
R5	62.8	62.8	54.4	61.6	64.0	62.8	54.4	61.6	49.4	64.0
R6	51.7	51.7	43.3	50.5	52.9	51.7	43.3	50.5	38.3	52.9
R7	52.6	52.6	44.2	51.4	53.8	52.6	44.2	51.4	39.2	53.8
R8	51.2	51.2	42.8	50.0	52.4	51.2	42.8	50.0	37.8	52.4
R9	68.0	68.0	59.6	66.8	69.2	68.0	59.6	66.8	54.6	69.2
R10	67.4	67.4	59.0	66.2	68.6	67.4	59.0	66.2	54.0	68.6
R11	68.1	68.1	59.7	66.9	69.3	68.1	59.7	66.9	54.7	69.3
R12	67.8	67.8	59.4	66.6	69.0	67.8	59.4	66.6	54.4	69.0
R13	65.0	65.0	56.6	63.8	66.2	65.0	56.6	63.8	51.6	66.2
R14	51.3	51.3	42.9	50.1	52.5	51.3	42.9	50.1	37.9	52.5
R15	71.2	71.2	62.8	70.0	72.4	71.2	62.8	70.0	57.8	72.4

¹ Noise receiver locations are shown on Exhibit 10-A.



² Estimated construction noise levels during peak operating conditions.

10.5 NIGHTTIME CONSTRUCTION NOISE ANALYSIS

Project construction may include nighttime concrete pour activities. Nighttime concrete pours are typically conducted when construction occurs during the summer months due to the warmer daytime weather conditions which can interfere with the concrete drying process. This construction noise analysis of the potential nighttime concrete pour activities was prepared using reference noise level measurements collected by Urban Crossroads, Inc. to describe the typical construction activity noise levels during nighttime concrete pour construction activities. Table 10-13 shows the nighttime pour reference construction noise levels at each of the sensitive receiver locations. Exhibit 10-B shows the location of the nighttime concrete pour activities, generally around the proposed buildings and truck courts within the Project site, and the distance to each receiver location. Based on the reference nighttime concrete pour reference equipment noise levels, the noise levels at the nearby sensitive receiver locations will range from 36.2 to 59.1 dBA Leq and 43.8 to 66.7 dBA Lmax.



TABLE 10-13: NIGHTTIME CONCRETE POUR EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})	Reference Noise Level @ 50 Feet (dBA L _{max})
Concrete Mixer Truck Movements	71.2	73.1
Concrete Paver Activities	65.6	71.3
Concrete Mixer Pour & Paving Activities	65.9	71.9
Concrete Mixer Backup Alarms & Air Brakes	71.6	78.8
Concrete Mixer Pour Activities	67.7	79.2
Peak Reference Noise Level at 50 Feet:	71.6	79.2

Receiver Location	Distance To Construction Activity (Feet) ²	Distance Attenuation (dBA) ³	Estimated Noise Barrier Attenuation (dBA)	Construction Noise Level (dBA L _{eq})	Construction Noise Level (dBA L _{max})
R1	284'	-15.1	-5.0	51.5	59.1
R2	851'	-24.6	-5.0	42.0	49.6
R3	1,646'	-30.3	0.0	41.3	48.9
R4	1,404'	-29.0	0.0	42.6	50.2
R5	463'	-19.3	0.0	52.3	59.9
R6	1,440'	-29.2	0.0	42.4	50.0
R7	643'	-22.2	-5.0	44.4	52.0
R8	812'	-24.2	-5.0	42.4	50.0
R9	648'	-22.3	-5.0	44.3	51.9
R10	228'	-13.2	-5.0	53.4	61.0
R11	210'	-12.5	0.0	59.1	66.7
R12	1,271'	-28.1	0.0	43.5	51.1
R13	247'	-13.9	0.0	57.7	65.3
R14	1,503'	-29.6	0.0	42.0	49.6
R15	2,944'	-35.4	0.0	36.2	43.8

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.



 $^{^{2}}$ Distance from the nearest point of construction activity (building foundation and truck court) to the nearest receiver.

 $^{^{\}rm 3}$ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

Cityof Riverside ⊕R4 AN BUREN BLVD R10 RIL ME 2247 March JPA WEST DRIVE EXTENSION NANDINA AVE **LEGEND:** Nighttime Concrete Pour Activity Receiver Locations South Campus Specific Plan Existing 6-foot High Barrier Distance from receiver to construction activity (in feet)

EXHIBIT 10-B: NIGHTTIME PROJECT CONSTRUCTION ACTIVITIES



10.6 CONSTRUCTION NOISE THRESHOLDS OF SIGNIFICANCE

The analysis presented below is separated into an evaluation of construction noise level compliance with local regulations and an analysis of temporary, short-term noise level increases due to Project construction activities.

10.6.1 CONSTRUCTION NOISE LEVEL COMPLIANCE

The construction noise analysis shows that the highest construction noise levels will occur when construction activities take place at the edge of the Project site. Table 10-14 shows the unmitigated peak daytime construction noise levels at the nearby sensitive receiver locations will range from 44.2 to 64.3 dBA L_{eq} and 52.3 to 72.4 dBA L_{max} and will satisfy the daytime construction noise level thresholds for each jurisdiction at the nearby sensitive receiver locations.

TABLE 10-14: DAYTIME CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location ¹	Closest Distance to	Peak Construction Activity Noise Levels ²		y Noise	Thres	shold ³	Threshold Exceeded? ⁴	
	Receiver		dBA Leq	dBA Lmax	dBA Leq	dBA Lmax	dBA Leq	dBA Lmax
R1	161'		58.3	66.4	-	75	1	No
R2	173'	City of	57.7	65.8	-	75	1	No
R3	729'	Riverside	50.2	58.3	-	75	-	No
R4	1,452'		44.2	52.3	-	75	-	No
R5	378'	Riverside Co.	55.9	64.0	65	-	No	-
R6	1,362'		44.8	52.9	65	-	No	-
R7	687'	March JPA	45.7	53.8	65	-	No	-
R8	812'	31.7	44.3	52.4	65	-	No	-
R9	117'	City of	61.1	69.2	-	75	-	No
R10	126'	Riverside	60.5	68.6	-	75	-	No
R11	207'		61.2	69.3	-	-	-	No
R12	213'		60.9	69.0	-	-	-	No
R13	294'	March JPA	58.1	66.2	-	-	-	No
R14	1,422'		44.4	52.5	65	-	No	-
R15	81'		64.3	72.4	65	-	No	-

¹ Noise receiver locations are shown on Exhibit 10-A.

Table 10-15 shows the unmitigated peak nighttime construction noise levels at the nearby sensitive receiver locations will range from 36.2 to 59.1 dBA L_{eq} and 43.8 to 66.7 dBA L_{max} and will satisfy the nighttime construction noise level thresholds for each jurisdiction at the nearby sensitive receiver locations. Receiver location R5 representing the Riverside National Cemetery is shown to exceed the County of Riverside nighttime noise standards. However, this location does not include any noise sensitive receivers that will be impacted during the nighttime hours.



² Estimated construction noise levels during peak operating conditions, as shown on Tables 10-7 and 10-8.

³ Construction noise standards as shown on Table 3-2.

⁴ Do the estimated Project construction noise levels meet the construction noise level thresholds?

Therefore, the construction of the Project will result in a *less than significant* noise impact at the nearby sensitive receiver locations during peak construction activity.

TABLE 10-15: NIGHTTIME CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location ¹	Closest Distance to	Jurisdiction	Peak Construction Activity Noise Levels ²		Threshold ³		Threshold Exceeded? ⁴	
	Receiver		dBA Leq	dBA Lmax	dBA Leq	dBA Lmax	dBA Leq	dBA Lmax
R1	284'		51.5	59.1	1	65	1	No
R2	851'	City of	42.0	49.6	1	65	1	No
R3	1,646'	Riverside	41.3	48.9	-	65	-	No
R4	1,404'		42.6	50.2	-	65	-	No
R5	463'	Riverside Co.	52.3	59.9	45	-	Yes	-
R6	1,440'		42.4	50.0	45	-	No	-
R7	643'	March JPA	44.4	52.0	45	-	No	-
R8	812'	31.7	42.4	50.0	45	-	No	-
R9	648'	City of	44.3	51.9	-	65	-	No
R10	228'	Riverside	53.4	61.0	-	65	-	No
R11	210'		59.1	66.7	-	-	-	No
R12	1,271'		43.5	51.1	-	-	-	No
R13	247'	March JPA	57.7	65.3	-	-	-	No
R14	1,503'		42.0	49.6	45	-	No	-
R15	2,944'		36.2	43.8	45	-	No	-

¹ Noise receiver locations are shown on Exhibit 10-B.

10.6.2 TEMPORARY CONSTRUCTION NOISE LEVEL INCREASES

To describe the temporary Project construction noise level contributions to the existing ambient noise environment, the Project construction noise levels were combined with the existing ambient noise levels measurements at the off-site receiver locations. The difference between the combined Project-construction and ambient noise levels are used to describe the construction noise level contributions. Temporary noise level increases that would be experienced at sensitive receiver locations when Project construction-source noise is added to the ambient daytime and nighttime conditions are presented on Tables 10-16 and 10-17, respectively. A temporary noise level increase of 12 dBA is considered a potentially significant impact based on the Caltrans substantial noise level increase criteria which is used to assess the Project-construction noise level increases. (4)



² Estimated construction noise levels during peak nighttime operating conditions, as shown on Table 10-9.

³ Construction noise standards as shown on Table 3-2.

⁴ Do the estimated Project construction noise levels meet the construction noise level thresholds?

As indicated in Table 10-16, the Project will contribute, worst-case construction noise level increases ranging from 0.1 to 10.3 dBA L_{eq} during the daytime hours at the closest sensitive receiver locations. Table 10-17 shows the Project will contribute, worst-case construction noise level increases approaching 4.2 dBA L_{eq} during the nighttime hours at the closest sensitive receiver locations. Since the worst-case temporary noise level increases of up to 10.3 dBA L_{eq} during Project construction will satisfy the Caltrans *substantial* 12 dBA L_{eq} noise level increase significance threshold, the construction noise level increases are considered *less than significant* temporary noise impacts.

TABLE 10-16: DAYTIME TEMPORARY CONSTRUCTION NOISE LEVEL INCREASES

Receiver Location ¹	Distance to Receiver	Peak Project Construction Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Temporary Worst-Case Project Contribution ⁶	Threshold Exceeded? ⁷
R1	161'	58.3	L2	73.8	73.9	0.1	No
R2	173'	57.7	L2	73.8	73.9	0.1	No
R3	729'	50.2	L3	58.2	58.8	0.6	No
R4	1,452'	44.2	L3	58.2	58.4	0.2	No
R5	378'	55.9	L5	54.4	58.2	3.8	No
R6	1,362'	44.8	L5	54.4	54.8	0.4	No
R7	687'	45.7	L6	49.6	51.1	1.5	No
R8	812'	44.3	L6	49.6	50.7	1.1	No
R9	117'	61.1	L9	74.2	74.4	0.2	No
R10	126'	60.5	L10	65.9	67.0	1.1	No
R11	207'	61.2	L4	60.7	63.9	3.2	No
R12	213'	60.9	L2	73.8	74.0	0.2	No
R13	294'	58.1	L4	60.7	62.6	1.9	No
R14	1,422'	44.4	L5	54.4	54.8	0.4	No
R15	81'	64.3	L5	54.4	64.7	10.3	No

¹ Noise receiver locations are shown on Exhibit 10-A.



² Peak unmitigated Project construction noise levels as shown on Table 10-10.

³ Ambient noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed daytime ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient conditions plus the Project construction activities.

⁶ The temporary noise level increase expected with the addition of the proposed Project activities.

 $^{^{7}}$ Based on the 12 dBA temporary increase significance criteria as defined in Section 4.

TABLE 10-17: NIGHTTIME TEMPORARY CONSTRUCTION NOISE LEVEL INCREASES

Receiver Location ¹	Distance to Receiver	Peak Project Construction Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Temporary Worst-Case Project Contribution ⁶	Threshold Exceeded? ⁷
R1	284'	51.5	L2	71.6	71.6	0.0	No
R2	851'	42.0	L2	71.6	71.6	0.0	No
R3	1,646'	41.3	L3	53.3	53.6	0.3	No
R4	1,404'	42.6	L3	53.3	53.7	0.4	No
R5	463'	52.3	L5	50.1	54.3	4.2	No
R6	1,440'	42.4	L5	50.1	50.8	0.7	No
R7	643'	44.4	L6	45.1	47.8	2.7	No
R8	812'	42.4	L6	45.1	47.0	1.9	No
R9	648'	44.3	L9	70.5	70.5	0.0	No
R10	228'	53.4	L10	62.4	62.9	0.5	No
R11	210'	59.1	L4	59.3	62.2	2.9	No
R12	1,271'	43.5	L2	71.6	71.6	0.0	No
R13	247'	57.7	L4	59.3	61.6	2.3	No
R14	1,503'	42.0	L5	50.1	50.7	0.6	No
R15	2,944'	36.2	L5	50.1	50.3	0.2	No

¹ Noise receiver locations are shown on Exhibit 10-B.

10.7 CONSTRUCTION VIBRATION IMPACTS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. The proposed Project's construction activities most likely to cause vibration impacts are:

- Heavy Construction Equipment: Although all heavy mobile construction equipment has the
 potential of causing at least some perceptible vibration while operating close to building, the
 vibration is usually short-term and is not of sufficient magnitude to cause building damage. It is
 not expected that heavy equipment such as large bulldozers would operate close enough to any
 residences to cause a vibration impact.
- Trucks: Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes generally eliminates the problem.



² Peak Project construction noise levels as shown on Table 10-11.

³ Ambient noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed nighttime ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient conditions plus the Project construction activities.

 $^{^{\}rm 6}$ The temporary noise level increase expected with the addition of the proposed Project activities.

 $^{^{7}}$ Based on the 12 dBA temporary increase significance criteria as defined in Section 4.

Ground-borne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration. Construction activities that would have the potential to generate low levels of ground-borne vibration within the Project site include grading and paving. Using the vibration source level of construction equipment provided on Table 6-8 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration impacts. Table 10-18 presents the expected Project related vibration levels at the 15 receiver locations.

Based on the reference vibration levels provided by the FTA, a large bulldozer represents the peak source of vibration with a reference velocity of 0.089 in/sec (PPV) at 25 feet. At distances ranging from 81 to 1,422 feet from the Project site, construction vibration velocity levels are expected to range from 0.00 to 0.15 in/sec (PPV), as shown on Table 10-18. To assess the human perception of vibration levels in PPV, the velocities are converted to RMS vibration levels based on the Caltrans *Transportation and Construction Vibration Guidance Manual* conversion factor of 0.71. Table 10-18 shows the construction vibration levels in RMS are expected to range from 0.00 to 0.01 in/sec (RMS). Based on the County of Riverside vibration standard of 0.01 in/sec RMS, the construction-related vibration impacts are considered *less than significant*.

Further, vibration levels at the site of the closest sensitive receiver are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating at the Project site perimeter. Moreover, construction at the Project site will be restricted to daytime hours consistent with March JPA requirements thereby eliminating potential vibration impacts during the sensitive nighttime hours.

10.9 Construction Noise and Vibration Abatement Measures

Though construction noise is temporary, intermittent and of short duration, and will not present any long-term impacts, the following practices would reduce any noise level increases produced by the construction equipment to the nearby noise-sensitive residential land uses:

- Prior to approval of grading plans and/or issuance of building permits, plans shall include a note indicating that noise-generating Project construction activities shall only occur between the hours of 7:00 a.m. to 7:00 p.m. (March Joint Powers Authority, Development Code, Chapter 9.10 Performance Standards, Section 9.10.030). The Project construction supervisor shall ensure compliance with the permitted construction hours. (3)
- During all Project site construction, the construction contractors shall equip all construction
 equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with
 manufacturers' standards (March JPA General Plan Noise/Air Quality Element, Policy 3.8). (5) The
 construction contractor shall place all stationary construction equipment so that emitted noise is
 directed away from the noise sensitive receptors nearest the Project site.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receivers nearest the Project site (i.e., to the center) during all Project construction.
- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment (between the hours of 7:00 a.m. to 7:00 p.m.). The contractor shall



prepare a haul route exhibit and shall design delivery routes to minimize the exposure of sensitive land uses or residential dwellings to delivery truck-related noise.

TABLE 10-18: CONSTRUCTION EQUIPMENT VIBRATION LEVELS

	To Const. Activity (Feet)		Receiver	RMS				
Receiver Location ¹		Small Bulldozer	Jack- hammer	Loaded Trucks	Large Bulldozer	Peak Vibration (PPV)	Velocity Levels (in/sec) ³	Threshold Exceeded? ⁴
R1	161'	0.000	0.002	0.005	0.005	0.005	0.00	No
R2	173'	0.000	0.002	0.004	0.005	0.005	0.00	No
R3	729'	0.000	0.000	0.000	0.001	0.001	0.00	No
R4	1,452'	0.000	0.000	0.000	0.000	0.000	0.00	No
R5	378'	0.000	0.001	0.001	0.002	0.002	0.00	No
R6	1,362'	0.000	0.000	0.000	0.000	0.000	0.00	No
R7	687'	0.000	0.000	0.001	0.001	0.001	0.00	No
R8	812'	0.000	0.000	0.000	0.000	0.000	0.00	No
R9	117'	0.000	0.003	0.008	0.009	0.009	0.01	No
R10	126'	0.000	0.003	0.007	0.008	0.008	0.01	No
R11	207'	0.000	0.001	0.003	0.004	0.004	0.00	No
R12	213'	0.000	0.001	0.003	0.004	0.004	0.00	No
R13	294'	0.000	0.001	0.002	0.002	0.002	0.00	No
R14	1,422'	0.000	0.000	0.000	0.000	0.000	0.00	No
R15	81'	0.001	0.006	0.013	0.015	0.015	0.01	No

¹Receiver locations are shown on Exhibit 8-A.



² Based on the Vibration Source Levels of Construction Equipment included on Table 6-8.

³ Vibration levels in PPV are converted to RMS velocity using a 0.71 conversion factor identified in the Caltrans Transportation and Construction Vibration Guidance Manual, September 2013.

 $^{^{4}}$ Does the peak vibration exceed the maximum acceptable vibration threshold shown on Table 3-3?

This page intentionally left blank



11 REFERENCES

- 1. **State of California.** *California Environmental Quality Act, Appendix G.* 2018.
- 2. **Urban Crossroads, Inc.** *Meridian South Campus Traffic Impact Analysis.* April 2020.
- 3. March Joint Powers Authority. Development Code, Chapter 9.10 Performance Standards.
- 4. **California Department of Transportation.** *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects.* May 2011.
- 5. March Joint Powers Authority. General Plan Update 2030 Noise/Air Quality Element. March 2010.
- 6. **California Department of Transportation Environmental Program.** *Technical Noise Supplement A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA: s.n., September 2013.
- 7. Environmental Protection Agency Office of Noise Abatement and Control. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. March 1974. EPA/ONAC 550/9/74-004.
- 8. U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch. *Highway Traffic Noise Analysis and Abatement Policy and Guidance*. December 2011.
- 9. **U.S. Department of Transportation, Federal Highway Administration.** *Highway Traffic Noise in the United States, Problem and Response.* April 2000. p. 3.
- 10. U.S. Environmental Protection Agency Office of Noise Abatement and Control. Noise Effects Handbook-A Desk Reference to Health and Welfare Effects of Noise. October 1979 (revised July 1981). EPA 550/9/82/106.
- 11. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment.* September 2018.
- 12. U.S. Government Publishing Office. Code of Federal Regulations, Title 40, Part 205, Subpart B.
- 13. Office of Planning and Research. State of California General Plan Guidelines. 2018.
- 14. State of California. 2016 California Green Building Standards Code. January 2017.
- 15. March Joint Powers Authority. General Plan Noise/Air Quality Element. 1999.
- 16. City of Riverside. Municipal Code, Title 7 Noise Control.
- 17. **County of Riverside.** *General Plan Noise Element.* December 2015.
- 18. **County of Riverside, Office of Industrial Hygiene.** *Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures.* April 2015.
- 19. **County of Riverside.** Municipal Code, Title 9 Public, Peace, Morals and Welfare, Chapter 9.52 Noise Regulation.
- 20. —. Airport Land Use Compatibility Plan. October 2004.
- 21. **California Court of Appeal.** *King and Gardiner Farms, LLC v. County of Kern (2020)* . 45 Cal.App.5th 814, 893,
- 22. **Federal Interagency Committee on Noise.** *Federal Agency Review of Selected Airport Noise Analysis Issues.* August 1992.
- 23. American National Standards Institute (ANSI). Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013.



- 24. **U.S. Department of Transportation, Federal Highway Administration.** *FHWA Highway Traffic Noise Prediction Model.* December 1978. FHWA-RD-77-108.
- 25. California Department of Transportation Environmental Program, Office of Environmental Engineering. Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction. September 1995. TAN 95-03.
- 26. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report.* June 1995. FHWA/CA/TL-95/23.
- 27. —. Transportation and Construction Vibration Guidance Manual. September 2019.
- 28. **Urban Crossroads, Inc.** *Meridian South Campus Air Quality Impact Analysis*. December 2019.



12 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Meridian South Campus Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 336-5979.

Bill Lawson, P.E., INCE
Principal
URBAN CROSSROADS, INC.
260 E. Baker Street, Suite 200
Costa Mesa, CA 92626
(949) 336-5979
blawson@urbanxroads.com



EDUCATION

Master of Science in Civil and Environmental Engineering
California Polytechnic State University, San Luis Obispo • December, 1993

Bachelor of Science in City and Regional Planning California Polytechnic State University, San Luis Obispo • June, 1992

PROFESSIONAL REGISTRATIONS

PE – Registered Professional Traffic Engineer – TR 2537 • January, 2009

AICP – American Institute of Certified Planners – 013011 • June, 1997–January 1, 2012

PTP – Professional Transportation Planner • May, 2007 – May, 2013

INCE – Institute of Noise Control Engineering • March, 2004

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America ITE – Institute of Transportation Engineers

PROFESSIONAL CERTIFICATIONS

Certified Acoustical Consultant – County of Orange • February, 2011 FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013



This page intentionally left blank



APPENDIX 3.1:

MARCH JPA DEVELOPMENT CODE



This page intentionally left blank



CHAPTER 9.10

PERFORMANCE STANDARDS

	I ERFORMANCE STANDAR
Sections:	
9.10.010	Purpose and Intent
9.10.020	Applicability
9.10.030	Exemptions
9.10.040	Administration
9.10.050	Air Quality
9.10.060	Electrical or Electronic Interference
9.10.070	Fire and Explosive Hazards
9.10.080	Liquid and Solid Wastes
9.10.090	Radioactive Wastes
9.10.100	Heat and Cold
9.10.110	Light and Glare
9.10.120	Maintenance of Open Areas
9.10.130	Mechanical and Electrical Equipment
9.10.140	Noise and Sound
9.10.150	Odors
9.10.160	Outdoor Storage, Trash Areas, and Service Areas
9.10.170	Vibration

Section 9.10.010 Purpose and Intent

The purpose and intent of this Chapter is to explicitly describe the location, configuration, design, amenities, operation, and other standards for proposed development projects that may impact the surrounding neighborhood. The performance standards set maximum tolerance limits on certain adverse effects created by any use or development of land.

Section 9.10.020 Applicability

Applicability

These performance standards shall apply to all land uses, in all districts, unless specifically stated otherwise in this Title. All uses shall be subject to these performance standards, the General Development Standards of Chapter 9.08, the Specific Use Development Standards of Chapter 9.09, the requirements of the underlying district, and all other requirements of this Title.

Section 9.10.030 Exemptions

Exemptions

The following uses or activities are exempt from the provisions of this Chapter.

- 1. Emergency equipment, vehicles, devices, and activities.
- 2. Temporary construction, maintenance, or demolition activities between the hours of 7:00 a.m. and 7:00 p.m.

Section 9.10.040 Administration

The standards of this Chapter shall be enforced by the department or agency having enforcement authority over the subject matter. Upon discovery of any potential violation of these standards, the appropriate department or agency shall investigate and initiate corrective action as deemed necessary.

Section 9.10.050 Air Quality

No operation or activity otherwise permitted under this Title shall cause the emission of any smoke, fly ash, dust, fumes, vapors, gases or other forms of air pollution which exceeds the requirements of the South Coast Air Quality Management District or the requirements of any Air Quality Plan or General Plan Air Quality Element adopted by the March JPA.

Section 9.10.060 Electrical or Electronic Interference

No operation or activity otherwise permitted under this Title shall cause any source of electrical or electronic disturbance that adversely affects persons or the operation of equipment on other property and is not in conformance with the regulations of the Federal Communication Commission.

Section 9.10.070 Fire and Explosive Hazards

An operation or activity otherwise permitted under this Title involving the storage of flammable or explosive materials shall be provided with adequate safety devices against the hazard of fire and explosion and adequate fire-fighting and fire suppression equipment and devices in accordance with the requirements of the Uniform Fire Code. Open fire burning of waste material is prohibited. Closed system incineration of waste material, where such activity is otherwise permitted under this Title and is required for research, medical or similar uses, may be permitted subject to the requirements of the California Department of Health and South Coast Air Quality Management District or other requirements of any Air Quality Plan or General Plan Air Quality Element adopted by the March JPA.

Section 9.10.080 Liquid and Solid Wastes

No operation or action otherwise permitted under this Title shall discharge at any point into any public street, public sewer, private sewage disposal system, stream, body of water or into the ground, any materials which can contaminate any water supply, interfere with bacterial processes in sewage treatment, or otherwise cause the emission of dangerous or offensive elements, except in accordance with standards approved by the California Department of Public Health or other governmental agency having jurisdiction over liquid and solid waste.

Section 9.10.090 Radioactive Wastes

No operation or activities otherwise permitted under this Title shall be permitted which result at any time in the release or emission of any fissionable or radioactive materials into the atmosphere, the ground, groundwater or sewage systems except as provided by and in accordance with State law. Any such operation or activity which handles, tests, transports, stores or in any way uses fissionable or radioactive material shall prepare a study addressing the probability of the release of such material and implement all recommendations identified by the study.

Section 9.10.100 Heat and Cold

No operation or activity otherwise permitted under this Title shall emit heat or cold which would cause a temperature increase or decrease on any adjacent property in excess of 10 degrees Fahrenheit, whether the change is in the air, on the ground, or in any structure, or in any body of water.

Section 9.10.110 Light and Glare

No operation, activity, sign, or lighting fixture shall create illumination which exceeds 0.5 foot-candles minimum maintained on any adjacent property, whether the illumination is direct or indirect light from the source. All lighting shall be designed to project downward and shall not create glare on adjacent properties.

Section 9.10.120 Maintenance of Open Areas

Except as otherwise provided in this Title, all open areas shall be landscaped, surfaced, or treated and maintained permanently in a dust-free, weed-free condition.

Section 9.10.130 Mechanical and Electrical Equipment

All mechanical and electrical equipment, including air conditioners, antennas, pumps, transformers, and heating and ventilating equipment shall be located, operated and screened in a manner that does not disturb adjacent uses and activities. In addition, all central building electrical controlling equipment and switching facilities shall be located within the building for all commercial, industrial and business facilities.

Section 9.10.140 Noise and Sound

Unless otherwise specified in Chapter 9.08, General Development Standards, or Chapter 9.09, Specific Use Development Standards, all commercial and industrial uses shall be operated so that noise created by any loudspeaker, bells, gongs, buzzers, or other noise attention or attracting devices shall not exceed 55 dBA at any one time beyond the boundaries of the property.

Section 9.10.150 Odors

No operation or activity shall be permitted which emits odorous gases or other odorous matter in such quantities as to be dangerous, injurious, noxious, or otherwise objectionable to a level that is detectable with or without the aid of instruments at or beyond the lot line of the property containing said operation or activity.

Section 9.10.160 Outdoor Storage, Trash Areas, and Service Areas

All storage areas for storage of maintenance equipment or vehicles or refuse, and all collection areas and service areas, shall be enclosed or effectively screened from public view with a fence, wall, landscaping, berming or a combination thereof. Doors to trash enclosures shall be closed at all times except when the enclosure is being accessed for refuse disposal or pick-up. The screening requirements of Section 9.08.150 are also referenced and not intended to be superseded hereby.

Section 9.10.170 Vibration

No vibration shall be permitted which can be felt at or beyond the property line.

APPENDIX 3.2:

CITY OF RIVERSIDE MUNICIPAL CODE



This page intentionally left blank



Title 7 - NOISE CONTROL

Chapter 7.05 - POLICY AND INTENT

7.05.010 - Policy and intent.

It shall be the policy of the City to maintain and preserve the quiet atmosphere of the City, to implement programs aimed at retaining ambient noise levels throughout the City, and to mitigate noise conflicts.

It is determined that certain noise levels are detrimental to the public health, safety and welfare and are contrary to the public interest. Therefore, the City Council declares that creating, maintaining, causing or allowing to create, maintain or cause any noise in a manner not in conformity with the provisions of this title, is a public nuisance and shall be punishable as such.

In order to control unnecessary, excessive and/or annoying noise in the City, it is declared to be the policy of the City to prohibit such noise generated by the sources specified in this title. It shall be the goal of the City to minimize noise levels and mitigate the effects of noise to provide a safe and healthy living environment.

(Ord. 7489 § 1, 2019; Ord. 6273 § 1 (part), 1996)

Chapter 7.10 - DEFINITIONS

7.10.010 - Definitions generally.

For the purposes of this title, the words and phrases defined in this chapter shall have the meanings respectively ascribed to them by this chapter.

(Ord. 7489 § 3, 2019)

7.10.015 - A-weighted sound level.

A-weighted sound level" means the sound pressure level in decibels as measured on a sound-level meter using the A-weighing network. The level is designated dB(A) or dBA.

(Ord. 7489 § 4, 2019; Ord. 6273 § 1(part), 1996)

7.10.020 - Agricultural property.

"Agricultural property" means a parcel of real property which is developed for agricultural and incidental residential purposes which is located within any permitted zone.

(Ord. 6273 § 1(part), 1996)

7.10.025 - Ambient noise level.

"Ambient noise level" means the all-encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding an alleged offensive noise, at the location and approximate time at which the comparison with the offensive noise is to be made. The ambient noise level constitutes the normal or existing level of environmental noise at a given location.

(Ord. 6273 § 1(part), 1996)

7.10.030 - Commercial purpose.

"Commercial purpose" means the use, operation or maintenance of any sound amplification equipment for the purpose of advertising any business, goods or services, or for the purposes of attracting the attention of the public, or soliciting patronage of customers to any performance, show, entertainment, exhibition or event, or for the purpose of demonstrating such sound equipment.

(Ord. 6273 § 1(part), 1996)

7.10.035 - Construction.

"Construction" means any site preparation including grading, building, fabricating, assembly, substantial repair, alteration, blasting, jack hammering, pile drivers and the like.

(Ord. 7489 § 5, 2019; Ord. 6273 § 1(part), 1996)

7.10.036 - Community & Economic Development Director.

"Community & Economic Development Director" means the duly appointed and acting head of the Community & Economic Development Department and/or his/her designee.

(Ord. 7489 § 6, 2019)

7.10.040 - Community support land use category.

"Community support land use category" means areas developed with schools, libraries, fire stations, hospitals and similar uses in any zone.

(Ord. 6273 § 1(part), 1996)

7.10.045 - Cumulative period.

"Cumulative period" means a total period of time composed of time segments which may be continuous or discontinuous.

(Ord. 6273 § 1(part), 1996)

7.10.050 - Decibel (dB).

"Decibel (dB)" means a unit for measuring amplitude of a sound, equal to 20 times the logarithm to the base ten of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

(Ord. 7489 § 7, 2019; Ord. 6273 § 1(part), 1996)

7.10.055 - Demolition.

"Demolition" means any dismantling, intentional destruction or removal of structures, site improvements, landscaping or utilities.

(Ord. 6273 § 1(part), 1996)

7.10.060 - Emergency.

"Emergency" means any occurrence or set of circumstances involving actual or imminent physical trauma or property damage which demands immediate action.

(Ord. 6273 § 1(part), 1996)

7.10.065 - Emergency work.

"Emergency work" means work made necessary to restore property to a safe condition following a physical trauma or property damage caused by an emergency or work necessary to prevent or minimize damage from a potential emergency.

(Ord. 6273 § 1(part), 1996)

7.10.070 - Fixed noise source.

"Fixed noise source" means a stationary device which creates sounds from a fixed location, including residential, agricultural, industrial and commercial machinery and equipment, pumps fans, compressors, air conditioners and refrigeration devices.

(Ord. 6273 § 1(part), 1996)

7.10.075 - Grading.

"Grading" means any excavating and/or filling of earth material to prepare a site for construction or the placement of improvements.

(Ord. 6273 § 1(part), 1996)

7.10.080 - Impulsive sound.

"Impulsive sound" means sound of short duration, usually less than one second, with an abrupt onset and rapid decay. Examples include explosions, drum beats, drop-forge impacts, fire crackers, discharge of firearms and one object striking another.

(Ord. 6273 § 1(part), 1996)

7.10.085 - Industrial land use category.

"Industrial land use category" means any area occupied by land uses whose primary operation involves warehousing, manufacturing, assembling, distributing, packaging or processing goods in the BMP, I, and AIR zones.

(Ord. 6273 § 1(part), 1996)

7.10.090 - Intrusive noise.

"Intrusive noise" means a noise which intrudes over and above the existing ambient noise. The relative intrusiveness of the sound depends upon its amplitude, duration, frequency and time of occurrence, tonal or informational content as well as its relationship to the prevailing ambient noise level.

(Ord. 6273 § 1(part), 1996)

7.10.095 - Minor maintenance.

"Minor maintenance" means work required to keep property used for residential purposes in an existing state.

(Ord. 6273 § 1(part), 1996)

7.10.100 - Mobile noise source.

"Mobile noise source" means any noise source other than a fixed noise source.

(Ord. 6273 § 1(part), 1996)

7.10.105 - Motor vehicle.

"Motor vehicle" means any self-propelled vehicle as defined in the California Vehicle Code, including all on-highway types of motor vehicles subject to registration under said code, and all off-highway type motor vehicles subject to identification under said code.

(Ord. 6273 § 1(part), 1996)

7.10.110 - Muffler or sound dissipative device.

"Muffler or sound dissipative device" means a device for abating the sound of escaping gases from an internal combustion engine.

(Ord. 7489 § 8, 2019; Ord. 6273 § 1(part), 1996)

7.10.115 - Noise.

"Noise" means any sound which exceeds the appropriate actual or presumed ambient noise level or which annoys or tends to disturb humans or which causes or tends to cause an adverse psychological or physiological effect on humans.

(Ord. 6273 § 1(part), 1996)

7.10.120 - Noise Control Officer.

"Noise Control Officer" means the City official(s) or duly authorized representative(s) with the responsibility to enforce the noise ordinance.

(Ord. 6273 § 1(part), 1996)

7.10.125 - Noise disturbance.

"Noise disturbance" means any sound which, as judged by a City police officer or code enforcement officer, annoys or disturbs a reasonable person of normal sensitivities or exceeds a standard set forth in this title.

(Ord. 7489 § 9, 2019; Ord. 6273 § 1(part), 1996)

7.10.130 - Noise source.

"Noise source" means a disturbance causing operation which originates from noise generating mechanism. An example of a noise source is the combination of a motor, pump and compressor.

(Ord. 6273 § 1(part), 1996)

7.10.135 - Noise zone.

"Noise zone" means defined areas of generally consistent land use where the ambient noise levels are generally similar within a range of five decibels.

(Ord. 6273 § 1(part), 1996)

7.10.140 - Nonurban land use category.

"Nonurban land use category" means vacant land or land primarily for agricultural production containing ten acres or more.

(Ord. 6273 § 1(part), 1996)

7.10.145 - Office/commercial land use category.

"Office/commercial land use category" means areas developed with office and/or commercial uses in the O, CRC, CR-NC, CR, and CG zones.

(Ord. 6967 § 2, 2007; Ord. 6273 § 1(part), 1996)

7.10.150 - Person.

"Person" means any individual, association, partnership or corporation and includes any officer, employee, department, agency or instrumentality of a State or any political subdivision of a State.

(Ord. 6273 § 1(part), 1996)

7.10.155 - Powered model vehicle.

"Powered model vehicle" means airborne, waterborne or land-borne vehicles such as model airplanes, model boats, and model vehicles of any type or size which are not designed for carrying persons or property and which can be propelled in any form other than manpower or wind power.

(Ord. 6273 § 1(part), 1996)

7.10.160 - Public recreation facility land use category.

"Public recreation facility land use category" means areas developed with public parks and other public recreational facilities.

(Ord. 6273 § 1(part), 1996)

7.10.165 - Public right-of-way.

"Public right-of-way" means any street, avenue, boulevard, highway, sidewalk or alley or similar place which is owned or controlled by a government entity.

(Ord. 6273 § 1(part), 1996)

7.10.170 - Public space.

"Public space" means any real property or structures which are owned or controlled by a government entity.

(Ord. 6273 § 1(part), 1996)

7.10.175 - Residential land use category.

"Residential land use category" means areas primarily used for residential purposes in the RE, RA-5, RR, RC, R-1-1-1/2 acre, R-1-13000, R-1-10500, R-1-8500, R-1-7000, R-3-2500, R-3-4000, R-3-3000, R-3-2000, R-3-1500, and R-4 zones.

(Ord. 6967, § 2, 2007; Ord. 6273 § 1(part), 1996)

7.10.180 - Sound.

"Sound" means an oscillation in pressure, particle displacement, particle velocity or other physical parameter, in a medium with internal forces that causes compression and rarefaction of that medium. The description of sound may include any characteristic of such sound, including duration, intensity and frequency.

(Ord. 6273 § 1(part), 1996)

7.10.185 - Sound amplifying equipment.

"Sound amplifying equipment" means any device for the amplification of the human voice, or music, or any other sound, excluding devices in motor vehicles when heard only by the occupants of the vehicle, excluding warning devices on authorized emergency vehicles or horns or other warning devices on any vehicle used only for traffic safety purposes.

(Ord. 6273 § 1(part), 1996)

7.10.190 - Sound level.

"Sound level" means the weighted sound pressure level obtained by the use of a sound level meter and frequency weighing network, such as A, B or C, as specified in American National Standards Institute

specifications for sound level meter ANSI S1.4-1971 or the latest approved revision thereof. If the frequency weighing method used is not stated, the A-weighing shall apply.

(Ord. 6273 § 1(part), 1996)

7.10.195 - Sound level meter.

"Sound level meter" means an instrument, including a microphone, an amplifier, an output meter, and frequency weighing networks for the measurement of sound levels which satisfies the requirements for S2A meters in American National Standards Institute specifications for sound level meters, S1.4-1971, or the most recent revision thereof.

(Ord. 6273 § 1(part), 1996)

7.10.200 - Sound pressure.

"Sound pressure" means the instantaneous difference between the actual pressure and the average or barometric pressure at a given point in space, as produced by sound energy.

(Ord. 6273 § 1(part), 1996)

7.10.205 - Sound pressure level.

"Sound pressure level" means 20 times the logarithm to the base ten of the ratio of the pressure of this sound to the reference pressure, which reference pressure shall be explicitly stated.

(Ord. 7489 § 10, 2019; Ord. 6273 § 1(part), 1996)

7.10.210 - Supplementary definitions of technical terms.

Definitions of technical terms not defined herein shall be obtained from the American National Standard, "Acoustical Terminology" S1.1-1961 (R-1971) or the latest revision thereof.

(Ord. 6273 § 1 (part), 1996)

Chapter 7.15 - ADMINISTRATION AND ENFORCEMENT

7.15.005 - Administration and enforcement.

- A. The noise regulation shall be enforced by the Code Enforcement Division of the Community & Economic Development Department and/or the Riverside Police Department.
- B. It shall be the responsibility of the Code Enforcement Division and/or the Riverside Police Department to enforce the provisions of this title and to perform all other functions required by this title. Such duties shall include, but not be limited to investigating potential violations, issuing warning notices and citations, and providing evidence to the City Attorney for legal action.
- C. A violation of these regulations may be prosecuted as a misdemeanor or as an infraction. Each day a violation occurs shall constitute a separate offense and shall be punishable as such. However, nothing in these regulations shall prevent any code compliance officer or his duly authorized representatives from efforts to obtain voluntary compliance by way of warning, notice or education.

(Ord. 7489 § 11, 2019; Ord. 7341 § 6, 2016; Ord. 6959 § 1, 2007; Ord. 6844 § 15, 2006; Ord. 6273 § 1 (part), 1996)

7.15.010 - Fines and penalties.

- A. Any violation of this title shall be subject to fines as set forth in Chapter 1.17 of the Riverside Municipal Code.
- B. The civil fines and criminal penalties imposed shall be in addition to any other fines and/or penalties imposed for violation of local, State, and/or Federal law.

(Ord. 7489 § 13, 2019)

7.15.015 - Responsible parties.

Persons responsible for violations of this title shall include the person, persons, entity, or entities responsible for the noise disturbance including, but not limited to, the property owner, business operations, renters, or lessees on whose premises the noise originates.

(Ord. 7489 § 14, 2019)

Chapter 7.20 - SOUND LEVEL MEASUREMENT

7.20.010 - Sound level measurement.

Except as provided by Chapter 17.35, General Noise Regulations, any sound or noise level measurement made to enforce this title shall be measured with a sound level meter using the A-weighting scale at slow response. The exterior noise level shall be measured at the position or positions along the complainant's property line closest to the noise source or where the noise level is highest. If the complaint concerns an interior source, noise measurements shall be made at a point at least four feet from the wall, ceiling or floor nearest the noise source with windows opened or closed as would be normal for the season.

(Ord. 7489 § 15, 2019; Ord. 6273 § 1 (part), 1996)

Chapter 7.23 - AMBIENT SOUND LEVELS[1]

Footnotes:

--- (1) ---

Editor's note— Ord. 7489 § 16, adopted Nov. 5, 2019, amended the title of Ch. 7.23 from "Ambient Noise Levels" to "Ambient Sound Levels," as set out herein.

7.23.010 - Ambient sound levels.

Title 7 - Noise Control of the Riverside Municipal Code shall be consistent with Title 24 of the California Code of Regulations as may be amended from time to time.

(Ord. 7489 § 17, 2019; Ord. 6967 § 3, 2007)

7.23.020 - Mixed use development.

Where a new development proposal includes a mix of residential and nonresidential uses within the same project, the interior ambient noise standard for the residential component of the project may be increased by five decibels.

(Ord. 7489 § 18, 2019; Ord. 6967 § 3, 2007)

7.23.030 - Infill single-family residential development.

Where a new development proposal includes an infill single-family residential use, the interior ambient noise standard for the proposal may be increased by five decibels.

(Ord. 7489 § 19, 2019; Ord. 6967 § 3, 2007)

Chapter 7.25 - NUISANCE EXTERIOR SOUND LEVEL LIMITS

7.25.010 - Exterior sound level limits.

- A. Unless a variance has been granted as provided in this title, it shall be unlawful for any person to cause or allow the creation of any noise which exceeds the following:
 - 1. The exterior noise standard of the applicable land use category, up to five decibels, for a cumulative period of more than 30 minutes in any hour; or
 - 2. The exterior noise standard of the applicable land use category, plus five decibels, for a cumulative period of more than 15 minutes in any hour; or
 - 3. The exterior noise standard of the applicable land use category, plus ten decibels, for a cumulative period of more than five minutes in any hour; or
 - 4. The exterior noise standard of the applicable land use category, plus 15 decibels, for the cumulative period of more than one minute in any hour; or
 - 5. The exterior noise standard for the applicable land use category, plus 20 decibels or the maximum measured ambient noise level, for any period of time.
- B. If the measured ambient noise level exceeds that permissible within any of the first four noise limit categories, the allowable noise exposure standard shall be increased in five decibel increments in each category as appropriate to encompass the ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.
- C. If possible, the ambient noise level shall be measured at the same location along the property line with the alleged offending noise source inoperative. If for any reason the alleged offending noise source cannot be shut down, then the ambient noise must be estimated by performing a measurement in the same general area of the source but at a sufficient distance that the offending noise is inaudible. If the measurement location is on the boundary between two different districts, the noise shall be the arithmetic mean of the two districts.
- D. Where the intruding noise source is an air-conditioning unit or refrigeration system which was installed prior to the effective date of this title, the exterior noise level when measured at the property line shall not exceed 60 dBA for units installed before 1-1-80 and 55 dBA for units installed after 1-1-80.

Table 7.25.010A

Exterior Noise Standards					
Land Use Category	Time Period	Noise Level			
Residential	Night (10:00 p.m. to 7:00 a.m.) Day (7:00 a.m. to 10:00 p.m.)	45 dBA 55 dBA			
Office/commercial	Any time	65 dBA			
Industrial	Any time	70 dBA			
Community support	Any time	60 dBA			
Public recreation facility	Any time	65 dBA			
Nonurban	Any time	70 dBA			

Table 7.25.010.B

Land Use Category/Zoning Matrix				
Land Use Category	Underlying Zone			
Residential	RE, RA-5, RR, RC, R-1-1/2 acre, R-1-13000, R-1-10500, R-1-8500, R-1-7000, R-3-2500, R-3-4000, R-3-3000, R-3-2000, R-3-1500, R-4			
Office/commercial	O, CRC, CR-NC, CR, CG			
Industrial	BMP, I, AIR			
Community support	Any permitted zone			
Nonurban	Any permitted zone			

(Ord. 7489 § 20, 21(Exh. A), 2019; Ord. 6967 § 5, 2007; Ord. 6273 § 1 (part), 1996)

Chapter 7.30 - NUISANCE INTERIOR SOUND LEVEL LIMITS

7.30.015 - Interior sound level limits.

- A. No person shall operate or cause to be operated, any source of sound indoors which causes the noise level, when measured inside another dwelling unit, school or hospital, to exceed:
 - 1. The interior noise standard for the applicable land category area, up to five decibels, for a cumulative period of more than five minutes in any hour;
 - 2. The interior noise standard for the applicable land use category, plus five decibels, for a cumulative period of more than one minute in any hour;
 - 3. The interior noise standard for the applicable land use category, plus ten decibels or the maximum measured ambient noise level, for any period of time.
- B. If the measured interior ambient noise level exceeds that permissible within the first two noise limit categories in this section, the allowable noise exposure standard shall be increased in five decibel increments in each category as appropriate to reflect the interior ambient noise level. In the event the interior ambient noise level exceeds the third noise limit category, the maximum allowable interior noise level under said category shall be increased to reflect the maximum interior ambient noise level
- C. The interior noise standard for various land use districts shall apply, unless otherwise specifically indicated, within structures located in designated zones with windows opened or closed as is typical of the season.

Table 7.30.015

Interior Noise Standard										
Land Use Category	Time Period	Noise Level								
Residential	Night (10 p.m. to 7 a.m.) Day (7 a.m. to 10 p.m.)	35 dBA 45 dBA								
School	7 a.m. to 10 p.m. (while school is in session)	45 dBA								
Hospital	Any time	45 dBA								

(Ord. 7489 § 22, 23(Exh. B), 2019; Ord. 6273 § 1 (part), 1996)

Chapter 7.35 - GENERAL NOISE REGULATIONS

7.35.010 - General noise regulations.

- A. It is unlawful for any person to make, continue, or cause to be made or continued any noise disturbance. The factors which should be considered in determining whether a violation of this section exists, include the following:
 - 1. The sound level of the objectionable noise.
 - 2. The sound level of the ambient noise.
 - 3. The proximity of the noise to dwelling units, hospital, hotels and the like.
 - 4. The zoning of the area.
 - 5. The population density of the area.
 - 6. The time of day or night.
 - 7. The duration of the noise.
 - 8. Whether the noise is recurrent, intermittent, or constant.
 - 9. Whether the noise is produced by a commercial or noncommercial activity.
 - 10. Whether the nature of the noise is usual or unusual.
 - 11. Whether the noise is natural or unnatural.
- B. It is unlawful for any person to make, continue, or cause to be made or continued any noise disturbance.
- C. Any noise plainly audible through partitions common to two dwelling units within a building shall be prohibited.

(Ord. 7489 § 24, 2019; Ord. 7341 §6, 2016; Ord. 6959 §2, 2007; Ord. 6328 § 1, 1996; Ord. 6273 § 1 (part), 1996)

7.35.020 - Exemptions.

The following activities shall be exempt from the provisions of this title:

- A. *Emergency work*. The provisions of this title shall not apply to the emission of sound for the purpose of alerting persons to the existence of an emergency or in the performance of emergency work.
- B. School events. Sanctioned school activities conducted on public or private school grounds including but not limited to school athletic and entertainment events are exempted from the provisions of this chapter conducted between the hours of 7:00 a.m. and 11:00 p.m.
- C. Federal or State preempted activities. The provisions of this Chapter shall not apply to any other activity the noise level of which is regulated by state or federal law.
- D. *Minor maintenance to residential property*. The provisions of this title shall not apply to noise sources associated with minor maintenance to property used for residential purposes, provided the activities take place between the hours of 7:00 a.m. and 10:00 p.m.
- E. Right-of-way construction. The provisions of this title shall not apply to any work performed in the City right-of-ways when, in the opinion of the Public Works Director or his designee, such work will create traffic congestion and/or hazardous or unsafe conditions.
- F. Public health, welfare and safety activities. The provisions of this title shall not apply to construction maintenance and repair operations conducted by public agencies and/or utility companies or their contractors which are deemed necessary to serve the best interests of the public and to protect the public health, welfare and safety, including but not limited to, trash collection, street sweeping, debris and limb removal, removal of downed wires, restoring electrical service, repairing traffic signals, unplugging sewers, vacuuming catch basins,

- repairing of damaged poles, removal of abandoned vehicles, repairing of water hydrants and mains, gas lines, oil lines, sewers, storm drains, roads, sidewalks, etc.
- G. Construction. Noise sources associated with construction, repair, remodeling, or grading of any real property; provided a permit has been obtained from the City as required; and provided said activities do not take place between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, between the hours of 5:00 p.m. and 8:00 a.m. on Saturdays, or at any time on Sunday or a federal holiday.
- H. Warning devices. Warning devices necessary for the protection of public safety, as for example fire, police, and ambulance sirens, including the testing of such devices, are exempted from the provisions of this title.
- I. Agriculture. Any agricultural activity, operation, or facility, or appurtenances thereof (e.g., wind machines), conducted or maintained for commercial purposes, and in a manner consistent with proper and accepted customs and standards as allowed under California Civil Code Section 3482 as amended from time to time.

(Ord. 7489 § 25, 2019; Ord. 7341 § 6, 2016; Ord. 6917 § 1, 2006; Ord. 6328 § 2, 1996; Ord. 6273 § 1 (part), 1996)

Chapter 7.40 - VARIANCE PROCEDURE

7.40.010 - Variance procedure.

- A. The Community & Economic Development Director is authorized to grant variances for exemption from any provision of this title, and may limit area of applicability, noise levels, time limits, and other terms and conditions determined appropriate to protect the public health, safety, and welfare. The provisions of this section shall in no way affect the duty to obtain any permit or license required by law for such activities.
- B. Any person seeking a variance pursuant to this section shall file an application with the Community & Economic Development Director. The application shall be signed by the property owner or owner's representative using forms supplied by the Community & Economic Development Department-Planning Division. The application shall contain information which demonstrates that bringing the source of the sound or activity into compliance with this title would constitute an unreasonable hardship to the applicant, the community, or other persons. The Community & Economic Development Director may require additional information if it is necessary to make a determination regarding the variance request. The application shall be accompanied by a fee established by resolution of the City Council.
- C. A separate application shall be filed for each noise source; provided, however, several mobile sources under common ownership or several fixed sources on a single property may be combined into one application. Any person who claims to be adversely affected by the allowance of the variance may file a statement with the Community & Economic Development Director containing any information to support his claim. If the Community & Economic Development Director determines that a sufficient controversy exists regarding a variance application, the variance may be set for public hearing before the Planning Commission.
- D. Public notice of the consideration of a proposed variance from the standards of this title shall be provided by the Community & Economic Development Director by mailing such notice to property owners within 300 feet of the exterior boundaries of the property under consideration. The notice shall invite interested persons to notify the Planning Division of any concerns or comments within ten days of the date of the notice.
- E. In determining whether to grant or deny the application, the Community & Economic Development Director or the Planning Commission shall consider comments received from property owners within 300 feet, hardship on the applicant, the community, or other persons affected and property affected

and any other adverse impacts. The requested variance may be granted in whole or in part and upon such terms and conditions as it deems necessary if, from the facts presented on the application, the Community & Economic Development Director or the Planning Commission finds that:

- 1. The strict application of the provisions of this title would result in practical difficulties or unnecessary hardships inconsistent with the general purpose of this Title; 2. There are exceptional circumstances or conditions applicable to the property involved or to the intended use or development of the property that do not apply generally to other property in the same zone or neighborhood;
- 3. The granting of such variance will not be materially detrimental to the public welfare or injurious to the property or improvements in the zone or neighborhood in which the property is located;
- 4. The granting of such variance will not be contrary to the objectives of any part of the adopted General Plan.
- F. A variance shall be granted by a notice to the applicant containing all the necessary conditions, including any time limits on the permitted activity. The variance shall not become effective until all the conditions are agreed to by the applicant. Noncompliance with any condition of the variance shall terminate the variance and subject the person holding it to those provisions of this title for which the variance was granted.
- G. A variance shall be valid for a period not exceeding one year after the date on which it was granted. Applications for extensions of the time limits specified in variances or for the modification of other substantial conditions shall be treated like applications for initial variances.
- H. In the event the Community & Economic Development Director does not approve an application for a variance within ten days after the application is filed it shall be placed on the agenda of the next regularly scheduled Planning Commission, unless the Commission refers the matter to the City Council.

(Ord. 7489 § 26, 2019; Ord. 7341 § 6, 2016; Ord. 6967 § 7, 2007; Ord. 6462 § 8-10, 1999; Ord. 6273 § 1 (part), 1996)

7.40.020 - Appeals.

Any person aggrieved by the approval or disapproval of a variance, may appeal the decision of the Community & Economic Development Director or Planning Commission to the City Council within ten days after the date of such approval or disapproval. The City Council shall hold a hearing thereon, upon notice to the applicant, considering the same criteria presented to the Community & Economic Development Director.

(Ord. 7489 § 27, 2019; Ord. 6462 § 11, 1999; Ord. 6273 § 1 (part), 1996)

Chapter 7.45 - SEVERABILITY

7.45.010 - Severability.

If any section, subsection, sentence, clause or phrase in this title is for any reason held to be invalid or unconstitutional by decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this title. The City Council hereby declares that it would have passed this title and each section, subsection, clause or phrase thereof irrespective of the fact that any one or more other sections, subsections, clauses or phrases may be declared invalid or unconstitutional.

(Ord. 6328 § 3, 1996)

APPENDIX 3.3:

COUNTY OF RIVERSIDE MUNICIPAL CODE



This page intentionally left blank



Chapter 9.52 - NOISE REGULATION

Sections:

9.52.010 - Intent.

At certain levels, sound becomes noise and may jeopardize the health, safety or general welfare of Riverside County residents and degrade their quality of life. Pursuant to its police power, the board of supervisors declares that noise shall be regulated in the manner described in this chapter. This chapter is intended to establish county-wide standards regulating noise. This chapter is not intended to establish thresholds of significance for the purpose of any analysis required by the California Environmental Quality Act and no such thresholds are established.

(Ord. 847 § 1, 2006)

9.52.020 - Exemptions.

Sound emanating from the following sources is exempt from the provisions of this chapter:

- A. Facilities owned or operated by or for a governmental agency;
- B. Capital improvement projects of a governmental agency;
- C. The maintenance or repair of public properties;
- D. Public safety personnel in the course of executing their official duties, including, but not limited to, sworn peace officers, emergency personnel and public utility personnel. This exemption includes, without limitation, sound emanating from all equipment used by such personnel, whether stationary or mobile;
- E. Public or private schools and school-sponsored activities:
- F. Agricultural operations on land designated "Agriculture" in the Riverside County general plan, or land zoned A-I (light agriculture), A-P (light agriculture with poultry), A-2 (heavy agriculture), A-D (agriculture-dairy) or C/V (citrus/vineyard), provided such operations are carried out in a manner consistent with accepted industry standards. This exemption includes, without limitation, sound emanating from all equipment used during such operations, whether stationary or mobile;
- G. Wind energy conversion systems (WECS), provided such systems comply with the WECS noise provisions of Riverside County Ordinance No. 348;
- H. Private construction projects located one-quarter of a mile or more from an inhabited dwelling;
- I. Private construction projects located within one-quarter of a mile from an inhabited dwelling, provided that:
 - Construction does not occur between the hours of six p.m. and six a.m. during the months
 of June through September, and
 - 2. Construction does not occur between the hours of six p.m. and seven a.m. during the months of October through May;
- J. Property maintenance, including, but not limited to, the operation of lawnmowers, leaf blowers, etc., provided such maintenance occurs between the hours of seven a.m. and eight p.m.;
- K. Motor vehicles, other than off-highway vehicles. This exemption does not include sound emanating from motor vehicle sound systems;
- L. Heating and air conditioning equipment;
- M. Safety, warning and alarm devices, including, but not limited to, house and car alarms, and other warning devices that are designed to protect the public health, safety, and welfare;

N. The discharge of firearms consistent with all state laws.

(Ord. 847 § 2, 2006)

9.52.030 - Definitions.

As used in this chapter, the following terms shall have the following meanings:

"Audio equipment" means a television, stereo, radio, tape player, compact disc player, mp3 player, I-POD or other similar device.

"Decibel (dB)" means a unit for measuring the relative amplitude of a sound equal approximately to the smallest difference normally detectable by the human ear, the range of which includes approximately one hundred thirty (130) decibels on a scale beginning with zero decibels for the faintest detectable sound. Decibels are measured with a sound level meter using different methodologies as defined below:

- 1. "A-weighting (dBA)" means the standard A-weighted frequency response of a sound level meter, which de-emphasizes low and high frequencies of sound in a manner similar to the human ear for moderate sounds.
- "Maximum sound level (L max)" means the maximum sound level measured on a sound level meter.

"Governmental agency" means the United States, the state of California, Riverside County, any city within Riverside County, any special district within Riverside County or any combination of these agencies.

"Land use permit" means a discretionary permit issued by Riverside County pursuant to Riverside County Ordinance No. 348.

"Motor vehicle" means a vehicle that is self-propelled.

"Motor vehicle sound system" means a stereo, radio, tape player, compact disc player, mp3 player, I-POD or other similar device.

"Noise" means any loud, discordant or disagreeable sound.

"Occupied property" means property upon which is located a residence, business or industrial or manufacturing use.

"Off-highway vehicle" means a motor vehicle designed to travel over any terrain.

"Public or private school" means an institution conducting academic instruction at the preschool, elementary school, junior high school, high school, or college level.

"Public property" means property owned by a governmental agency or held open to the public, including, but not limited to, parks, streets, sidewalks, and alleys.

"Sensitive receptor" means a land use that is identified as sensitive to noise in the noise element of the Riverside County general plan, including, but not limited to, residences, schools, hospitals, churches, rest homes, cemeteries or public libraries.

"Sound-amplifying equipment" means a loudspeaker, microphone, megaphone or other similar device.

"Sound level meter" means an instrument meeting the standards of the American National Standards Institute for Type 1 or Type 2 sound level meters or an instrument that provides equivalent data.

(Ord. 847 § 3, 2006)

9.52.040 - General sound level standards.

No person shall create any sound, or allow the creation of any sound, on any property that causes the exterior sound level on any other occupied property to exceed the sound level standards set forth in Table 1.

TABLE 1 Sound Level Standards (Db L $_{max}$)

GENERAL PLAN	GENERAL PLAN LAND	GENERAL PLAN LAND		MAXIMUM DECIBEL LEVEL			
FOUNDATION COMPONENT	USE DESIGNATION	USE DESIGNATION NAME	DENSITY	7 am— 10 pm	10 pm—7 am		
	EDR	Estate Density Residential	2 AC	55	45		
	VLDR	Very Low Density Residential	1 AC	55	45		
	LDR	Low Density Residential	1/2 AC	55	45		
	MDR	Medium Density Residential	2—5	55	45		
Community	MHDR	Medium High Density Residential	5—8	55	45		
Development	HDR	High Density Residential	8—14	55	45		
	VHDR	Very High Density Residential	14—20	55	45		
	H'TDR	Highest Density Residential	20+	55	45		
	CR	Retail Commercial		65	55		
	СО	Office Commercial		65	55		
	СТ	Tourist Commercial		65	55		

	CC	Community Center		65	55
	LI	Light Industrial		75	55
	HI	Heavy Industrial		75	75
	ВР	Business Park		65	45
	PF	Public Facility		65	45
		Specific Plan-Residential		55	45
		Specific Plan-Commercial		65	55
	SP	Specific Plan-Light Industrial		75	55
		Specific Plan-Heavy Industrial		75	75
	EDR	Estate Density Residential	2 AC	55	45
Rural Community	VLDR	Very Low Density Residential	1 AC	55	45
	LDR	Low Density Residential	1/2 AC	55	45
	RR	Rural Residential	5 AC	45	45
Rural	RM	Rural Mountainous	10 AC	45	45
	RD	Rural Desert	10 AC	45	45
Agriculture	AG	Agriculture	10 AC	45	45
Open Space	С	Conservation		45	45
5 pc., 3 pace	СН	Conservation Habitat		45	45

REC	Recreation		45	45
RUR	Rural	20 AC	45	45
W	Watershed		45	45
MR	Mineral Resources		75	45

(Ord. 847 § 4, 2006)

9.52.050 - Sound level measurement methodology.

Sound level measurements may be made anywhere within the boundaries of an occupied property. The actual location of a sound level measurement shall be at the discretion of the enforcement officials identified in Section 9.52.080 of this chapter. Sound level measurements shall be made with a sound level meter. Immediately before a measurement is made, the sound level meter shall be calibrated utilizing an acoustical calibrator meeting the standards of the American National Standards Institute. Following a sound level measurement, the calibration of the sound level meter shall be re-verified. Sound level meters and calibration equipment shall be certified annually.

(Ord. 847 § 5, 2006)

9.52.060 - Special sound sources standards.

The general sound level standards set forth in Section 9.52.040 of this chapter apply to sound emanating from all sources, including the following special sound sources, and the person creating, or allowing the creation of, the sound is subject to the requirements of that section. The following special sound sources are also subject to the following additional standards, the failure to comply with which constitutes separate violations of this chapter:

A. Motor Vehicles.

- 1. Off-Highway Vehicles.
 - a. No person shall operate an off-highway vehicle unless it is equipped with a USDA-qualified spark arrester and a constantly operating and properly maintained muffler. A muffler is not considered constantly operating and properly maintained if it is equipped with a cutout, bypass or similar device.
 - b. No person shall operate an off-highway vehicle unless the noise emitted by the vehicle is not more than ninety-six (96) dBA if the vehicle was manufactured on or after January 1, 1986 or is not more than one hundred one (101) dBA if the vehicle was manufactured before January 1, 1986. For purposes of this subsection, emitted noise shall be measured a distance of twenty (20) inches from the vehicle tailpipe using test procedures established by the Society of Automotive Engineers under Standard J-1287.
- 2. Sound Systems. No person shall operate a motor vehicle sound system, whether affixed to the vehicle or not, between the hours of ten p.m. and eight a.m., such that the sound system is audible to the human ear inside any inhabited dwelling. No person shall operate

a motor vehicle sound system, whether affixed to the vehicle or not, at any other time such that the sound system is audible to the human ear at a distance greater than one hundred (100) feet from the vehicle.

- B. Power Tools and Equipment. No person shall operate any power tools or equipment between the hours of ten p.m. and eight a.m. such that the power tools or equipment are audible to the human ear inside an inhabited dwelling other than a dwelling in which the power tools or equipment may be located. No person shall operate any power tools or equipment at any other time such that the power tools or equipment are audible to the human ear at a distance greater than one hundred (100) feet from the power tools or equipment.
- C. Audio Equipment. No person shall operate any audio equipment, whether portable or not, between the hours of ten p.m. and eight a.m. such that the equipment is audible to the human ear inside an inhabited dwelling other than a dwelling in which the equipment may be located. No person shall operate any audio equipment, whether portable or not, at any other time such that the equipment is audible to the human ear at a distance greater than one hundred (100) feet from the equipment.
- D. Sound-Amplifying Equipment and Live Music. No person shall install, use or operate sound-amplifying equipment, or perform, or allow to be performed, live music unless such activities comply with the following requirements. To the extent that these requirements conflict with any conditions of approval attached to an underlying land use permit, these requirements shall control:
 - 1. Sound-amplifying equipment or live music is prohibited between the hours of ten p.m. and eight a.m.
 - 2. Sound emanating from sound-amplifying equipment or live music at any other time shall not be audible to the human ear at a distance greater than two hundred (200) feet from the equipment or music.

(Ord. 847 § 6, 2006)

9.52.070 - Exceptions.

Exceptions may be requested from the standards set forth in Section 9.52.040 or 9.52.060 of this chapter and may be characterized as construction-related, single-event or continuous-events exceptions.

- A. Application and Processing.
 - Construction-Related Exceptions. An application for a construction-related exception shall be made to and considered by the director of building and safety on forms provided by the building and safety department and shall be accompanied by the appropriate filing fee. No public hearing is required.
 - 2. Single-Event Exceptions. An application for a single-event exception shall be made to and considered by the planning director on forms provided by the planning department and shall be accompanied by the appropriate filing fee. No public hearing is required.
 - 3. Continuous-Events Exceptions. An application for a continuous-events exception shall be made to the planning director on forms provided by the planning department and shall be accompanied by the appropriate filing fee. Upon receipt of an application for a continuous-events exception, the planning director shall set the matter for public hearing before the planning commission, notice of which shall be given as provided in Section 18.26c of Riverside County Ordinance No. 348. Notwithstanding the above, an application for a continuous-events exception that is associated with an application for a land use permit shall be processed concurrently with the land use permit in the same manner that the land use permit is required to be processed.

- B. Requirements for Approval. The appropriate decisionmaking body or officer shall not approve an exception application unless the applicant demonstrates that the activities described in the application would not be detrimental to the health, safety or general welfare of the community. In determining whether activities are detrimental to the health, safety or general welfare of the community, the appropriate decisionmaking body or officer shall consider such factors as the proposed duration of the activities and their location in relation to sensitive receptors. If an exception application is approved, reasonable conditions may be imposed to minimize the public detriment, including, but not limited to, restrictions on sound level, sound duration and operating hours.
- C. Appeals. The director of building and safety's decision on an application for a construction-related exception is considered final. The planning director's decision on an application for a single-event exception is considered final. After making a decision on an application for a continuous-events exception, the appropriate decisionmaking body or officer shall mail notice of the decision to the applicant. Within ten (10) calendar days after the mailing of such notice, the applicant or an interested person may appeal the decision to the board of supervisors. Upon receipt of an appeal and payment of the appropriate appeal fee, the clerk of the board shall set the matter for hearing not less than five days nor more than thirty (30) days thereafter and shall give written notice of the hearing in the same manner as notice of the hearing was given by the appropriate hearing officer or body. The board of supervisors shall render its decision within thirty (30) days after the appeal hearing is closed.
- D. Effect of a Pending Continuous-Events Exception Application. For a period of one hundred eighty (180) days from the effective date of this chapter, no person creating any sound prohibited by this chapter shall be considered in violation of this chapter if the sound is related to a use that is operating pursuant to an approved land use permit, if an application for a continuous-events exception has been filed to sanction the sound and if a decision on the application is pending.

(Ord. 847 § 7, 2006)

9.52.080 - Enforcement.

The Riverside County sheriff and code enforcement shall have the primary responsibility for enforcing this chapter; provided, however, the sheriff and code enforcement may be assisted by the public health department. Violations shall be prosecuted as described in Section 9.52.100 of this chapter, but nothing in this chapter shall prevent the sheriff, code enforcement or the department of public health from engaging in efforts to obtain voluntary compliance by means of warnings, notices, or educational programs.

(Ord. 847.1 § 1, 2007: Ord. 847 § 8, 2006)

9.52.090 - Duty to cooperate.

No person shall refuse to cooperate with, or obstruct, the enforcement officials identified in Section 9.52.080 of this chapter when they are engaged in the process of enforcing the provisions of this chapter. This duty to cooperate may require a person to extinguish a sound source so that it can be determined whether sound emanating from the source violates the provisions of this chapter.

(Ord. 847 § 9, 2006)

9.52.100 - Violations and penalties.

Any person who violates any provision of this chapter once or twice within a one hundred eighty (180) day period shall be guilty of an infraction. Any person who violates any provision of this chapter more than twice within a one hundred eighty (180) day period shall be guilty of a misdemeanor. Each day a violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such. Penalties shall not exceed the following amounts:

- A. For the first violation within a one hundred eighty (180) day period, the minimum mandatory fine shall be five hundred dollars (\$500.00).
- B. For the second violation within a one hundred eighty (180) day period, the minimum mandatory fine shall be seven hundred fifty dollars (\$750.00).
- C. For any further violations within a one hundred eighty (180) day period, the minimum mandatory fine shall be one thousand dollars (\$1,000.00) or imprisonment in the county jail for a period not exceeding six months, or both.

(Ord. 847 § 10, 2006)

APPENDIX 5.1:

STUDY AREA PHOTOS



This page intentionally left blank





L1_East 33, 52' 23.080000", 117, 18' 39.400000"



L1_North 33, 52' 23.080000", 117, 18' 39.400000"



L1_South 33, 52' 23.080000", 117, 18' 39.400000"



L1_West 33, 52' 23.080000", 117, 18' 39.400000"



L2_East 33, 52' 23.080000", 117, 18' 39.400000"



L2_North 33, 52' 23.080000", 117, 18' 39.400000"



L2_South 33, 52' 23.080000", 117, 18' 39.400000"



L2_West 33, 52' 23.080000", 117, 18' 39.400000"



L3_East 33, 52' 23.080000", 117, 18' 39.400000"



L3_North 33, 52' 23.080000", 117, 18' 39.400000"



L3_South 33, 52' 23.080000", 117, 18' 39.400000"



L3_West 33, 52' 23.080000", 117, 18' 39.400000"



L4_East 33, 52' 23.080000", 117, 18' 39.400000"



L4_North
33, 52' 23.080000", 117, 18' 39.400000"



L4_South 33, 52' 23.080000", 117, 18' 39.400000"



L4_West 33, 52' 23.080000", 117, 18' 39.400000"



L5_East 33, 52' 47.020000", 117, 17' 15.820000"



L5_North 33, 52' 47.480000", 117, 17' 15.900000"



L5_South 33, 52' 46.930000", 117, 17' 15.790000"



L5_West 33, 52' 47.030000", 117, 17' 15.820000"



L6_East 33, 52' 23.080000", 117, 18' 39.400000"



L6_North 33, 52' 23.080000", 117, 18' 39.400000"



L6_South 33, 52' 23.080000", 117, 18' 39.400000"



L6_West 33, 52' 23.080000", 117, 18' 39.400000"



L7_East 33, 52' 46.970000", 117, 17' 15.870000"



L7_North 33, 52' 46.970000", 117, 17' 15.870000"



L7_South
33, 52' 46.970000", 117, 17' 15.870000"



L7_West 33, 52' 46.970000", 117, 17' 15.870000"



L8_East 33, 52' 23.130000", 117, 18' 39.400000"



L8_North 33, 52' 41.290000", 117, 18' 8.880000"



L8_South 33, 52' 23.200000", 117, 18' 39.420000"



L8_West 33, 52' 23.080000", 117, 18' 39.400000"



L9_East 33, 52' 23.080000", 117, 18' 39.400000"



L9_North
33, 52' 23.080000", 117, 18' 39.400000"



L9_South 33, 52' 23.080000", 117, 18' 39.400000"



L9_West 33, 52' 23.080000", 117, 18' 39.400000"



L10_East 33, 52' 23.080000", 117, 18' 39.400000"



L10_North 33, 52' 23.080000", 117, 18' 39.400000"



L10_South 33, 52' 23.080000", 117, 18' 39.400000"



L10_West 33, 52' 23.080000", 117, 18' 39.400000"

This page intentionally left blank



APPENDIX 5.2:

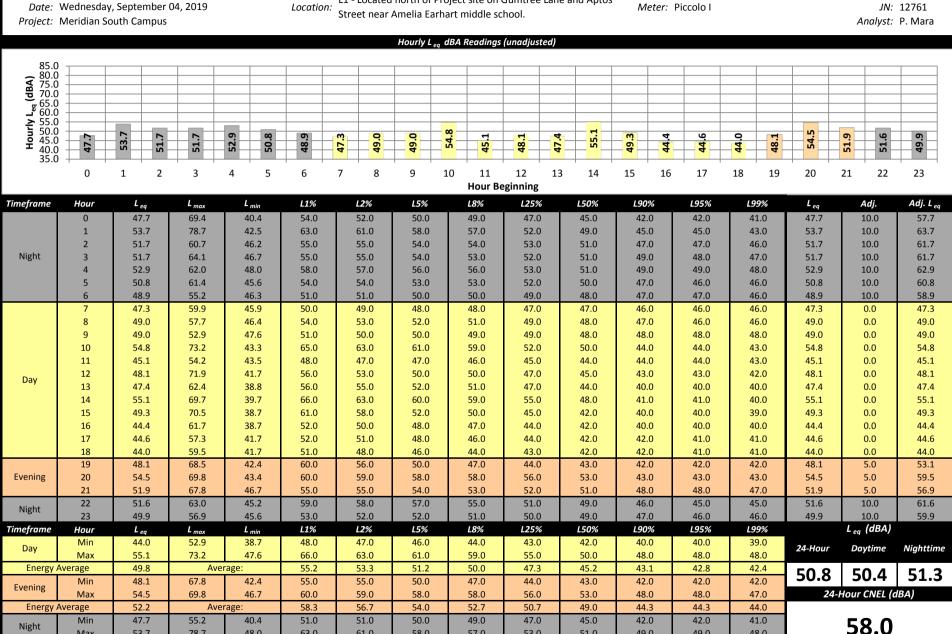
NOISE LEVEL MEASUREMENT WORKSHEETS



This page intentionally left blank



L1 - Located north of Project site on Gumtree Lane and Aptos





57.0

53.1

53.0

51.0

51.0

49.2

49.0

46.6

49.0

46.1

48.0

45.3

58.0

53.8

78.7

Average:

48.0

63.0

55.8

61.0

55.0

Max

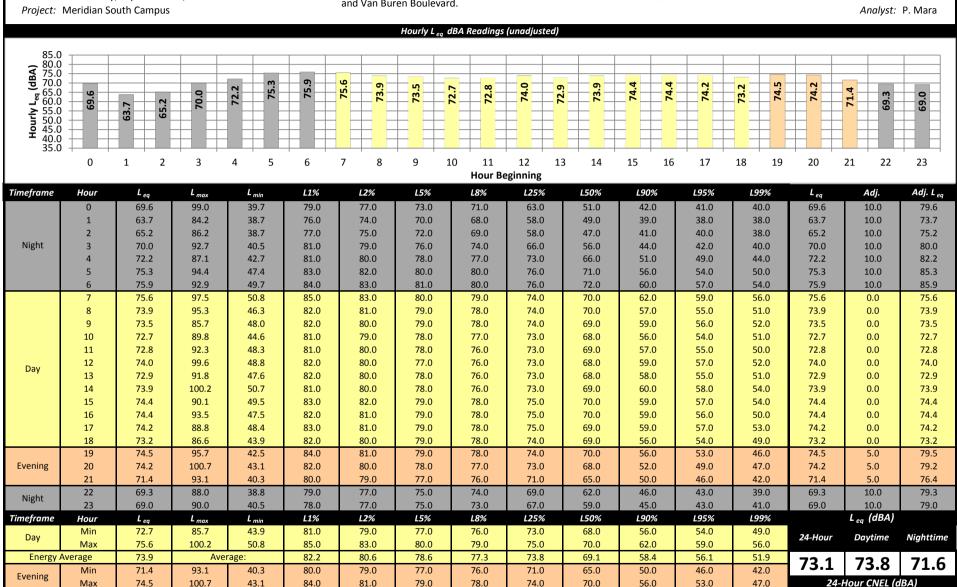
Energy Average

53.7

51.3

L2 - Located north of project site on Coyote Bush Boulevard Location:

Date: Wednesday, September 04, 2019 Meter: Piccolo I JN: 12761 and Van Buren Boulevard.





78.8

77.0

68.0

80.0

74.0

72.7

58.0

76.0

67.3

67.7

47.0

72.0

59.2

52.7

39.0

60.0

47.1

49.3

38.0

57.0

45.2

45.0

38.0

54.0

42.7

84.2

99.0

Average:

Average:

38.7

49.7

82.0

76.0

84.0

79.8

80.0

74.0

83.0

78.2

78.0

70.0

81.0

75.6

73.6

63.7

75.9

71.6

Energy Average

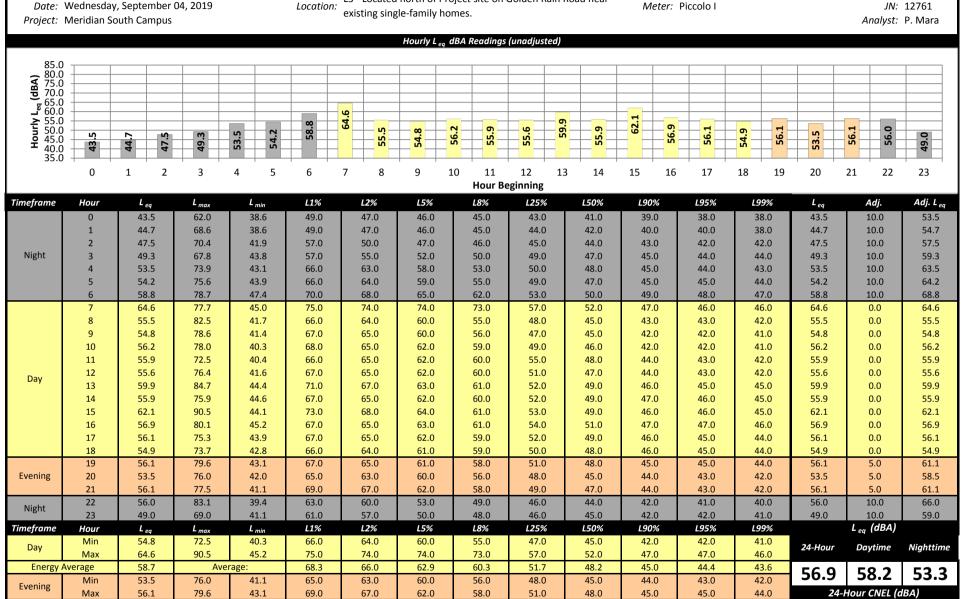
Energy Average

Night

Min

Max

L3 - Located north of Project site on Golden Rain Road near Location:





61.2

57.3

45.0

62.0

50.3

49.3

43.0

53.0

47.2

46.7

41.0

50.0

45.3

44.3

39.0

49.0

43.3

43.7

38.0

48.0

42.7

42.7

38.0

47.0

41.9

62.0

83.1

Average:

Average:

38.6

47.4

67.0

49.0

70.0

59.8

65.0

47.0

68.0

56.8

61.0

46.0

65.0

52.9

55.4

43.5

58.8

53.3

Energy Average

Energy Average

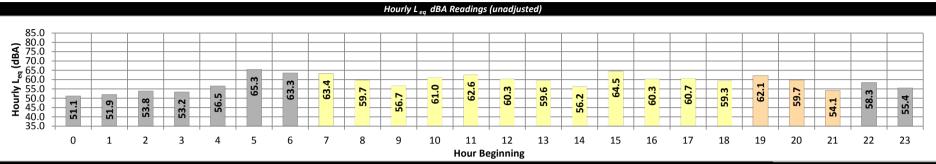
Night

Min

Max

L4 - Located on Krameria Avenue and Bundy Avenue near Location:

Date: Wednesday, September 04, 2019 Meter: Piccolo I existing vacant land. Project: Meridian South Campus



	nour beginning															
Timeframe	Hour	L_{eq}	L max	L min	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L _{eq}
	0	51.1	75.9	39.0	63.0	56.0	47.0	45.0	42.0	41.0	39.0	39.0	39.0	51.1	10.0	61.1
	1	51.9	81.3	39.1	62.0	59.0	54.0	47.0	43.0	42.0	40.0	40.0	39.0	51.9	10.0	61.9
	2	53.8	79.7	40.8	64.0	59.0	51.0	47.0	44.0	43.0	42.0	42.0	41.0	53.8	10.0	63.8
Night	3	53.2	75.9	41.0	65.0	62.0	56.0	52.0	47.0	45.0	43.0	43.0	42.0	53.2	10.0	63.2
	4	56.5	84.3	42.0	67.0	65.0	60.0	58.0	51.0	46.0	44.0	43.0	42.0	56.5	10.0	66.5
	5	65.3	90.4	45.1	76.0	72.0	67.0	64.0	55.0	50.0	47.0	46.0	45.0	65.3	10.0	75.3
	6	63.3	89.9	45.2	74.0	71.0	66.0	64.0	55.0	51.0	47.0	46.0	46.0	63.3	10.0	73.3
	7	63.4	92.4	42.5	73.0	69.0	65.0	63.0	54.0	49.0	45.0	44.0	43.0	63.4	0.0	63.4
	8	59.7	85.1	39.1	71.0	67.0	62.0	58.0	49.0	44.0	41.0	41.0	40.0	59.7	0.0	59.7
	9	56.7	78.7	39.1	70.0	66.0	61.0	58.0	48.0	43.0	40.0	39.0	39.0	56.7	0.0	56.7
	10	61.0	87.2	39.0	73.0	68.0	62.0	58.0	49.0	44.0	40.0	39.0	39.0	61.0	0.0	61.0
	11	62.6	92.1	39.1	71.0	68.0	64.0	61.0	52.0	45.0	41.0	40.0	39.0	62.6	0.0	62.6
Day	12	60.3	82.6	39.2	74.0	70.0	64.0	61.0	52.0	46.0	42.0	41.0	40.0	60.3	0.0	60.3
/	13	59.6	80.9	40.8	72.0	69.0	64.0	61.0	53.0	48.0	43.0	42.0	41.0	59.6	0.0	59.6
	14	56.2	77.7	40.5	67.0	64.0	60.0	58.0	53.0	49.0	44.0	43.0	42.0	56.2	0.0	56.2
	15	64.5	92.8	40.8	73.0	70.0	65.0	62.0	54.0	49.0	44.0	43.0	42.0	64.5	0.0	64.5
	16	60.3	86.2	40.5	71.0	67.0	62.0	60.0	54.0	49.0	44.0	43.0	41.0	60.3	0.0	60.3
	17	60.7	83.4	39.2	71.0	68.0	65.0	63.0	56.0	50.0	43.0	42.0	41.0	60.7	0.0	60.7
	18	59.3	83.6	40.9	70.0	67.0	63.0	61.0	53.0	48.0	44.0	43.0	42.0	59.3	0.0	59.3
	19	62.1	83.8	40.6	75.0	73.0	67.0	62.0	51.0	45.0	42.0	41.0	40.0	62.1	5.0	67.1
Evening	20	59.7	88.1	39.1	70.0	65.0	58.0	55.0	48.0	43.0	40.0	39.0	39.0	59.7	5.0	64.7
	21	54.1	73.9	39.1	67.0	64.0	59.0	56.0	47.0	44.0	42.0	41.0	40.0	54.1	5.0	59.1
Night	22	58.3	80.6	39.1	71.0	67.0	60.0	57.0	48.0	44.0	41.0	40.0	39.0	58.3	10.0	68.3
Time frame	23	55.4	84.1	39.1	66.0	62.0	57.0	54.0	46.0	43.0	41.0	41.0	40.0	55.4	10.0	65.4
Timeframe	Hour	L _{eq} 56.2	L _{max} 77.7	L _{min} 39.0	L1% 67.0	L2% 64.0	60.0	L8% 58.0	L25% 48.0	L50%	L90%	L95% 39.0	L99% 39.0		L _{eq} (dBA)	
Day	Min Max	64.5	92.8	42.5	74.0	70.0	65.0	63.0	48.0 56.0	43.0 50.0	40.0 45.0	44.0	43.0	24-Hour	Daytime	Nighttime
Energy	Average	61.0		rage:	71.3	67.8	63.1	60.3	52.3	47.0	42.6	41.7	40.8			
Lifelgy	Min	54.1	73.9	39.1	67.0	64.0	58.0	55.0	47.0	43.0	40.0	39.0	39.0	60.3	60.7	59.3
Evening	Max	62.1	73.9 88.1	40.6	75.0	73.0	67.0	62.0	51.0	45.0 45.0	40.0	41.0	40.0		Hour CNEL (d	
Fnergy	Average	59.7		rage:	70.7	67.3	61.3	57.7	48.7	44.0	41.3	40.3	39.7	24-	TOUT CIVEL (U	ibaj
Lifelgy	Min	51.1	75.9	39.0	62.0	56.0	47.0	45.0	42.0	41.0	39.0	39.0	39.0		cc	
Night	Max	65.3	90.4	45.2	76.0	72.0	67.0	64.0	55.0	51.0	47.0	46.0	46.0		66.2	
Energy	Average	59.3		rage:	67.6	63.7	57.6	54.2	47.9	45.0	42.7	42.2	41.4	1		
2.10.67		33.3	7.00		57.0	03.7	37.0	J-T.Z	47.5	43.0	72.7	72.2	71.7			



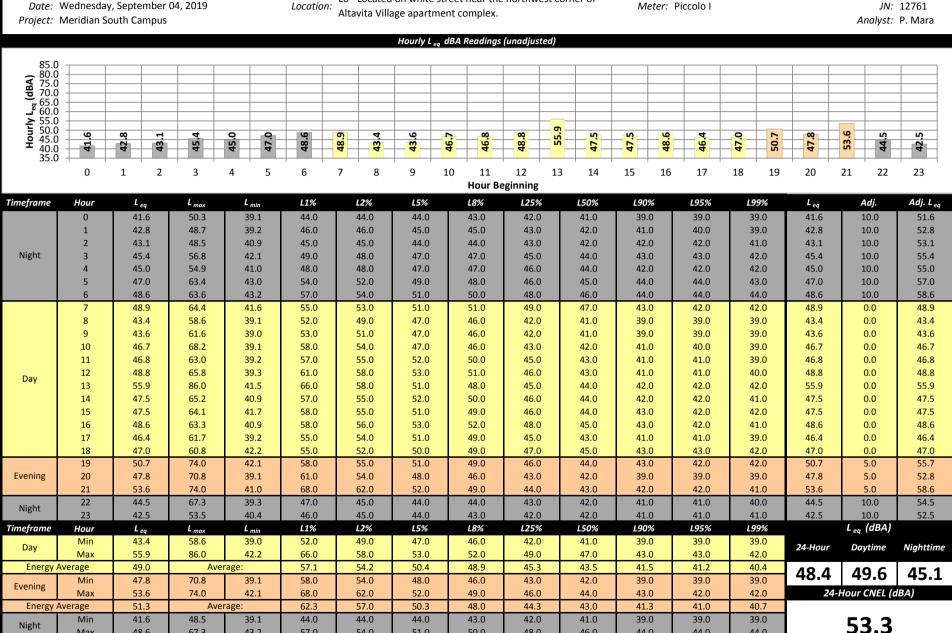
JN: 12761

Analyst: P. Mara

24-Hour Noise Level Measurement Summary L5 - Located east of the Project site on Village West Drive Date: Wednesday, September 04, 2019 Location: Meter: Piccolo I JN: 12761 near General Old Golf Course and Riverside National Project: Meridian South Campus Analyst: P. Mara Cemetery. Hourly Lea dBA Readings (unadjusted) 80.0 75.0 70.0 65.0 60.0 55.0 50.0 45.0 28 53.3 56. 48.8 57 œ S. 45. 40.0 2 7 8 9 10 12 19 20 22 0 1 3 6 11 13 14 15 16 17 18 21 23 **Hour Beginning** L1% L2% L5% L25% L50% L95% **Timeframe** Hour L eq L max L min L8% L90% L99% L eq Adj. Adj. L eq 56.0 0 46.0 64.9 40.7 53.0 50.0 48.0 47.0 45.0 44.0 43.0 42.0 41.0 46.0 10.0 1 47.2 60.4 42.5 51.0 50.0 50.0 49.0 48.0 46.0 44.0 43.0 43.0 47.2 10.0 57.2 2 46.3 66.4 42.0 51.0 49.0 48.0 47.0 46.0 45.0 43.0 43.0 42.0 46.3 10.0 56.3 Night 3 49.8 71.1 44.0 54.0 53.0 49.0 49.0 46.0 45.0 49.8 10.0 59.8 51.0 51.0 46.0 4 49.3 68.7 44.7 57.0 55.0 52.0 50.0 48.0 47.0 46.0 45.0 45.0 49.3 10.0 59.3 5 53.0 67.7 46.8 61.0 60.0 57.0 55.0 52.0 51.0 48.0 48.0 47.0 53.0 10.0 63.0 6 55.1 76.2 49.4 63.0 61.0 58.0 56.0 53.0 52.0 50.0 50.0 50.0 55.1 10.0 65.1 66.5 42.4 59.0 57.0 55.0 52.0 49.0 44.0 43.0 51.8 0.0 51.8 51.8 60.0 43.0 8 48.8 65.2 40.6 59.0 58.0 40.0 48.8 54.0 52.0 46.0 44.0 43.0 42.0 48.8 0.0 9 51.2 74.5 39.2 63.0 60.0 55.0 52.0 45.0 42.0 40.0 39.0 39.0 51.2 0.0 51.2 10 50.4 72.5 38.6 63.0 59.0 54.0 52.0 45.0 42.0 39.0 39.0 39.0 50.4 0.0 50.4 11 49.0 69.2 37.8 60.0 58.0 54.0 52.0 46.0 43.0 40.0 39.0 39.0 49.0 49.0 0.0 12 52.1 76.4 39.3 63.0 61.0 56.0 53.0 47.0 44.0 41.0 40.0 39.0 52.1 0.0 52.1 Day 13 58.7 85.4 40.4 70.0 63.0 56.0 54.0 49.0 46.0 43.0 42.0 41.0 58.7 0.0 58.7 60.0 14 53.3 78.3 40.8 63.0 56.0 54.0 51.0 48.0 45.0 44.0 43.0 53.3 0.0 53.3 15 57.7 82.0 41.4 69.0 65.0 60.0 58.0 52.0 49.0 45.0 44.0 42.0 57.7 0.0 57.7 16 56.6 85.1 39.5 63.0 62.0 59.0 57.0 53.0 49.0 43.0 42.0 40.0 56.6 0.0 56.6 17 37.7 37.0 51.6 74.5 63.0 61.0 57.0 54.0 47.0 43.0 39.0 39.0 51.6 0.0 51.6 18 83.0 57.0 42.0 55.4 41.8 64.0 62.0 55.0 50.0 47.0 44.0 43.0 55.4 0.0 55.4 19 56.0 73.4 39.5 69.0 66.0 61.0 59.0 50.0 45.0 40.0 40.0 40.0 56.0 5.0 61.0 Evening 20 45.8 61.6 37.8 57.0 54.0 50.0 48.0 44.0 42.0 39.0 39.0 37.0 45.8 5.0 50.8 57.2 78.5 41.2 71.0 66.0 58.0 53.0 46.0 44.0 43.0 42.0 42.0 5.0 62.2 21 57.2 22 62.5 40.7 55.0 40.0 10.0 46.1 53.0 49.0 48.0 45.0 43.0 41.0 41.0 46.1 56.1 Night 23 45.7 62.6 40.3 53.0 51.0 48.0 47.0 45.0 44.0 41.0 41.0 40.0 45.7 10.0 55.7 Lea (dBA) L2% L5% L8% L25% L50% L90% L95% Timeframe Hour L_{eq} L_{max} L_{min} L1% L99% Min 48.8 37.7 59.0 58.0 54.0 52.0 45.0 42.0 39.0 39.0 37.0 24-Hour Day Daytime Nighttime Max 58.7 85.4 42.4 70.0 65.0 60.0 58.0 53.0 49.0 45.0 44.0 43.0 54.3 63.3 56.3 54.0 45.5 42.2 40.3 **Energy Average** Average: 60.7 48.6 41.3 53.3 50.1 54.4 45.8 61.6 37.8 57.0 54.0 50.0 48.0 44.0 42.0 39.0 39.0 37.0 Min Evening 24-Hour CNEL (dBA) 42.0 Max 57.2 78.5 41.2 71.0 66.0 61.0 59.0 50.0 45.0 43.0 42.0 55.1 Average: 65.7 62.0 56.3 53.3 46.7 43.7 40.7 40.3 39.7 **Energy Average** Min 45.7 60.4 40.3 51.0 49.0 48.0 47.0 45.0 43.0 41.0 41.0 40.0 58.1 Night 58.0 56.0 50.0 50.0 50.0 Max 55.1 76.2 49.4 63.0 61.0 53.0 52.0 **Energy Average** 50.1 Average: 55.3 53.6 51.2 50.0 47.9 46.8 44.7 44.3 43.7



L6 - Located on white street near the northwest corner of Location:





50.0

45.7

48.0

44.2

46.0

43.1

44.0

41.9

44.0

41.8

44.0

41.2

54.0

47.4

51.0

46.1

67.3

Average:

43.2

57.0

48.4

Max

Energy Average

48.6

45.1

Location: L7 - Located southwest of 12th Street and Davis Avenue near

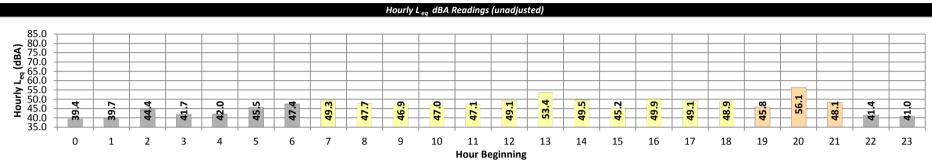
Date: Wednesday, September 04, 2019

Project: Meridian South Campus

Location: Location: Ben Clark Public Safety Training Center.

Meter: Piccolo I

JN: 12761 Analyst: P. Mara

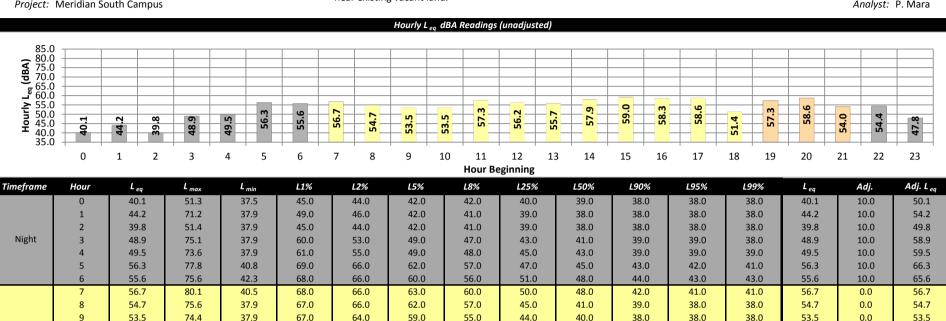


									-511111115								
Timeframe	Hour	L eq	L max	L min	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}	
	0	39.4	57.7	36.5	44.0	42.0	40.0	39.0	39.0	39.0	38.0	36.0	36.0	39.4	10.0	49.4	
	1	39.7	52.0	36.5	46.0	43.0	41.0	41.0	39.0	39.0	36.0	36.0	36.0	39.7	10.0	49.7	
	2	44.4	65.9	37.0	56.0	52.0	44.0	43.0	42.0	40.0	39.0	39.0	38.0	44.4	10.0	54.4	
Night	3	41.7	57.5	39.3	48.0	45.0	43.0	43.0	41.0	41.0	39.0	39.0	39.0	41.7	10.0	51.7	
	4	42.0	52.7	39.3	49.0	48.0	45.0	44.0	41.0	40.0	39.0	39.0	39.0	42.0	10.0	52.0	
	5	45.5	61.7	41.3	52.0	49.0	47.0	47.0	45.0	44.0	42.0	42.0	42.0	45.5	10.0	55.5	
	6	47.4	66.8	41.9	55.0	52.0	50.0	49.0	47.0	45.0	43.0	42.0	42.0	47.4	10.0	57.4	
	7	49.3	67.0	44.9	57.0	55.0	52.0	50.0	48.0	47.0	46.0	46.0	45.0	49.3	0.0	49.3	
	8	47.7	63.0	43.1	57.0	54.0	51.0	49.0	46.0	45.0	44.0	44.0	43.0	47.7	0.0	47.7	
	9	46.9	64.1	42.2	57.0	54.0	50.0	48.0	45.0	44.0	43.0	43.0	42.0	46.9	0.0	46.9	
	10	47.0	61.4	41.3	57.0	55.0	51.0	49.0	45.0	44.0	43.0	43.0	42.0	47.0	0.0	47.0	
	11	47.1	63.5	39.5	57.0	55.0	52.0	50.0	45.0	43.0	41.0	41.0	40.0	47.1	0.0	47.1	
Day	12	49.1	65.4	39.5	61.0	58.0	54.0	51.0	47.0	45.0	41.0	41.0	39.0	49.1	0.0	49.1	
Day	13	53.4	74.3	39.5	67.0	64.0	56.0	53.0	47.0	44.0	41.0	41.0	40.0	53.4	0.0	53.4	
	14	49.5	68.3	41.1	61.0	58.0	54.0	51.0	46.0	45.0	42.0	42.0	41.0	49.5	0.0	49.5	
	15	45.2	58.6	41.2	52.0	49.0	47.0	46.0	45.0	44.0	42.0	42.0	41.0	45.2	0.0	45.2	
	16	49.9	62.7	41.6	58.0	56.0	54.0	53.0	50.0	47.0	43.0	43.0	42.0	49.9	0.0	49.9	
	17	49.1	66.8	39.5	58.0	57.0	54.0	52.0	48.0	46.0	41.0	41.0	40.0	49.1	0.0	49.1	
	18	48.9	67.8	38.8	62.0	60.0	54.0	48.0	43.0	41.0	39.0	39.0	39.0	48.9	0.0	48.9	
	19	45.8	67.2	36.5	55.0	53.0	49.0	47.0	42.0	41.0	39.0	39.0	37.0	45.8	5.0	50.8	
Evening	20	56.1	76.9	37.4	70.0	68.0	57.0	49.0	42.0	41.0	39.0	39.0	38.0	56.1	5.0	61.1	
	21	48.1	67.7	39.2	61.0	58.0	50.0	48.0	44.0	42.0	39.0	39.0	39.0	48.1	5.0	53.1	
Night	22	41.4	55.3	36.5	50.0	48.0	45.0	44.0	41.0	39.0	39.0	37.0	36.0	41.4	10.0	51.4	
, in the second	23	41.0	51.7	36.5	48.0	47.0	45.0	43.0	40.0	39.0	39.0	39.0	37.0	41.0	10.0	51.0	
Timeframe	Hour	L eq	L max	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%		L _{eq} (dBA)		
Day	Min	45.2	58.6	38.8	52.0	49.0	47.0	46.0	43.0	41.0	39.0	39.0	39.0	24-Hour	Daytime	Nighttime	
	Max	53.4	74.3	44.9	67.0	64.0	56.0	53.0	50.0	47.0	46.0	46.0	45.0		ŕ		
Energy /		49.1		rage:	58.7	56.3	52.4	50.0	46.3	44.6	42.2	42.2	41.2	48.4	50.0	43.3	
Evening	Min	45.8	67.2	36.5	55.0	53.0	49.0	47.0	42.0	41.0	39.0	39.0	37.0				
-	Max	56.1	76.9	39.2	70.0	68.0	57.0	49.0	44.0	42.0	39.0	39.0	39.0	24-	Hour CNEL ((BA)	
Energy /		52.3		rage:	62.0	59.7	52.0	48.0	42.7	41.3	39.0	39.0	38.0				
Night	Min	39.4	51.7	36.5	44.0	42.0	40.0	39.0	39.0	39.0	36.0	36.0	36.0		52.7		
Enorm	Max	47.4	66.8	41.9	56.0	52.0	50.0	49.0	47.0	45.0	43.0	42.0	42.0	<i>52.7</i>			
Energy /	Average	43.3	Ave	rage:	49.8	47.3	44.4	43.7	41.7	40.7	39.3	38.8	38.3				



L8 - Located south of Project site on Larry Parrish Parkway Location:

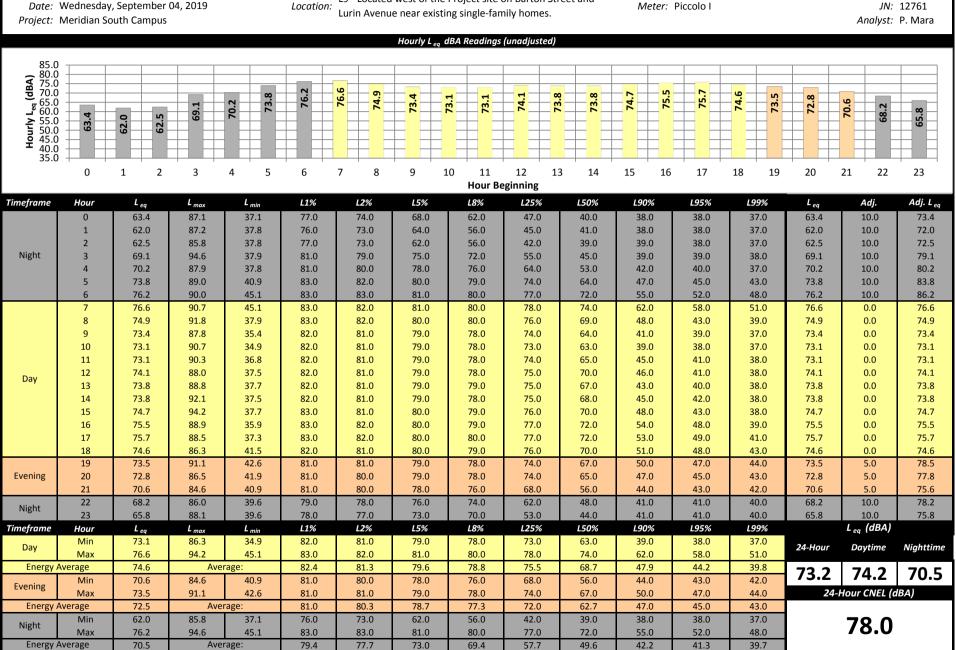
Date: Wednesday, September 04, 2019 JN: 12761 Meter: Piccolo I near existing vacant land. Project: Meridian South Campus Analyst: P. Mara



	0	40.1	51.3	37.5	45.0	44.0	42.0	42.0	40.0	39.0	38.0	38.0	38.0	40.1	10.0	50.1
	1	44.2	71.2	37.9	49.0	46.0	42.0	41.0	39.0	38.0	38.0	38.0	38.0	44.2	10.0	54.2
	2	39.8	51.4	37.9	45.0	44.0	42.0	41.0	39.0	38.0	38.0	38.0	38.0	39.8	10.0	49.8
Night	3	48.9	75.1	37.9	60.0	53.0	49.0	47.0	43.0	41.0	39.0	39.0	38.0	48.9	10.0	58.9
	4	49.5	73.6	37.9	61.0	55.0	49.0	48.0	45.0	43.0	39.0	39.0	39.0	49.5	10.0	59.5
	5	56.3	77.8	40.8	69.0	66.0	62.0	57.0	47.0	45.0	43.0	42.0	41.0	56.3	10.0	66.3
	6	55.6	75.6	42.3	68.0	66.0	60.0	56.0	51.0	48.0	44.0	43.0	43.0	55.6	10.0	65.6
	7	56.7	80.1	40.5	68.0	66.0	63.0	60.0	50.0	48.0	42.0	41.0	41.0	56.7	0.0	56.7
	8	54.7	75.6	37.9	67.0	66.0	62.0	57.0	45.0	41.0	39.0	38.0	38.0	54.7	0.0	54.7
	9	53.5	74.4	37.9	67.0	64.0	59.0	55.0	44.0	40.0	38.0	38.0	38.0	53.5	0.0	53.5
	10	53.5	74.7	37.8	68.0	65.0	57.0	52.0	42.0	39.0	38.0	38.0	38.0	53.5	0.0	53.5
	11	57.3	84.5	37.8	68.0	67.0	62.0	59.0	46.0	41.0	38.0	38.0	38.0	57.3	0.0	57.3
Day	12	56.2	74.4	37.9	69.0	67.0	63.0	60.0	47.0	41.0	38.0	38.0	38.0	56.2	0.0	56.2
Day	13	55.7	79.6	37.9	68.0	66.0	61.0	57.0	46.0	42.0	39.0	39.0	38.0	55.7	0.0	55.7
	14	57.9	80.0	38.0	70.0	67.0	64.0	60.0	48.0	43.0	39.0	39.0	38.0	57.9	0.0	57.9
	15	59.0	87.1	39.7	69.0	67.0	64.0	61.0	49.0	45.0	41.0	41.0	39.0	59.0	0.0	59.0
	16	58.3	77.9	37.9	70.0	69.0	66.0	62.0	51.0	47.0	41.0	40.0	38.0	58.3	0.0	58.3
	17	58.6	81.5	37.9	71.0	68.0	64.0	62.0	50.0	45.0	39.0	39.0	38.0	58.6	0.0	58.6
	18	51.4	73.4	39.5	65.0	59.0	53.0	50.0	45.0	43.0	41.0	41.0	39.0	51.4	0.0	51.4
	19	57.3	76.1	39.6	69.0	67.0	61.0	59.0	51.0	45.0	41.0	41.0	40.0	57.3	5.0	62.3
Evening	20	58.6	75.9	42.8	68.0	65.0	61.0	60.0	60.0	55.0	51.0	49.0	44.0	58.6	5.0	63.6
	21	54.0	71.7	39.7	60.0	60.0	60.0	60.0	54.0	47.0	41.0	41.0	40.0	54.0	5.0	59.0
Night	22	54.4	61.1	37.9	60.0	60.0	59.0	59.0	57.0	43.0	39.0	38.0	38.0	54.4	10.0	64.4
, i	23	47.8	73.3	37.9	58.0	52.0	45.0	44.0	42.0	41.0	39.0	39.0	38.0	47.8	10.0	57.8
Timeframe	Hour	L _{eq}	L max	L min	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%		L _{eq} (dBA)	
Day	Min	51.4	73.4	37.8	65.0	59.0	53.0	50.0	42.0	39.0	38.0	38.0	38.0	24-Hour	Daytime	Nighttime
,	Max	59.0	87.1	40.5	71.0	69.0	66.0	62.0	51.0	48.0	42.0	41.0	41.0			
Energy A		56.6		rage:	68.3	65.9	61.5	57.9	46.9	42.9	39.4	39.2	38.4	55.4	56.7	51.7
Evening	Min	54.0	71.7	39.6	60.0	60.0	60.0	59.0	51.0	45.0	41.0	41.0	40.0			
ŭ	Max	58.6	76.1	42.8	69.0	67.0	61.0	60.0	60.0	55.0	51.0	49.0	44.0	24-1	Hour CNEL (d	IBA)
Energy A		57.0		rage:	65.7	64.0	60.7	59.7	55.0	49.0	44.3	43.7	41.3			
Night	Min	39.8	51.3	37.5	45.0	44.0	42.0	41.0	39.0	38.0	38.0	38.0	38.0		59.9	
, and the second	Max	56.3	77.8	42.3	69.0	66.0	62.0	59.0	57.0	48.0	44.0	43.0	43.0		33.3	
Energy A	Average	51.7	Ave	rage:	57.2	54.0	50.0	48.3	44.8	41.8	39.7	39.3	39.0			



L9 - Located west of the Project site on Barton Street and Location:





24-Hour Noise Level Measurement Summary L10 - Located west of Project site on Barton Street and Glass Date: Wednesday, September 04, 2019 Location: Meter: Piccolo I JN: 12761 Ranch Road near existing single family homes and orange Project: Meridian South Campus Analyst: P. Mara farm. Hourly Lea dBA Readings (unadjusted) 80.0 75.0 70.0 65.0 60.0 55.0 50.0 45.0 65. 40.0 2 7 8 9 10 12 13 15 18 19 20 22 23 0 1 3 5 6 11 14 16 17 21 **Hour Beginning** L1% L2% L5% L25% L50% L90% L95% L99% **Timeframe** Hour L eq L max L min L8% L eq Adj. Adj. L eq 0 56.9 78.0 39.8 70.0 67.0 62.0 57.0 51.0 47.0 45.0 41.0 40.0 56.9 10.0 66.9 1 57.5 86.2 40.4 68.0 65.0 58.0 55.0 52.0 51.0 50.0 49.0 43.0 57.5 10.0 67.5 2 55.2 78.1 40.3 68.0 65.0 57.0 53.0 50.0 48.0 45.0 43.0 40.0 55.2 10.0 65.2 Night 3 62.3 91.1 41.6 72.0 70.0 66.0 64.0 53.0 50.0 48.0 46.0 62.3 10.0 72.3 51.0 44.5 4 61.5 81.6 73.0 71.0 68.0 66.0 57.0 52.0 49.0 48.0 46.0 61.5 10.0 71.5 5 64.5 81.5 45.0 75.0 73.0 70.0 69.0 64.0 56.0 50.0 49.0 46.0 64.5 10.0 74.5 6 67.6 84.9 46.8 77.0 75.0 73.0 72.0 67.0 62.0 52.0 51.0 49.0 67.6 10.0 77.6 69.3 91.0 42.8 78.0 76.0 74.0 73.0 65.0 53.0 51.0 45.0 69.3 0.0 69.3 69.0 8 66.3 82.7 38.5 75.0 74.0 72.0 40.0 0.0 71.0 66.0 60.0 44.0 42.0 66.3 66.3 9 65.8 93.2 39.1 75.0 73.0 70.0 69.0 63.0 55.0 43.0 41.0 40.0 65.8 0.0 65.8 10 63.1 82.0 38.4 73.0 72.0 69.0 68.0 62.0 54.0 43.0 41.0 39.0 63.1 0.0 63.1 11 63.5 81.2 38.5 73.0 72.0 69.0 68.0 63.0 56.0 43.0 41.0 63.5 0.0 45.0 63.5 12 64.1 80.2 40.3 72.0 71.0 70.0 68.0 64.0 59.0 48.0 46.0 44.0 64.1 0.0 64.1 Day 13 65.8 89.9 41.8 76.0 74.0 70.0 69.0 64.0 59.0 48.0 46.0 44.0 65.8 0.0 65.8 14 65.5 88.5 42.5 76.0 74.0 71.0 69.0 65.0 59.0 48.0 46.0 44.0 65.5 0.0 65.5 15 67.0 93.6 41.2 77.0 74.0 71.0 70.0 65.0 60.0 47.0 45.0 43.0 67.0 0.0 67.0 16 66.2 90.3 39.5 75.0 73.0 71.0 70.0 66.0 61.0 47.0 44.0 41.0 66.2 0.0 66.2 17 72.0 67.4 85.2 38.5 76.0 74.0 71.0 68.0 63.0 48.0 45.0 42.0 67.4 0.0 67.4 18 42.5 75.0 73.0 72.0 50.0 45.0 0.0 66.3 83.3 71.0 67.0 61.0 48.0 66.3 66.3 19 65.4 81.5 43.9 74.0 73.0 71.0 70.0 66.0 60.0 51.0 49.0 45.0 65.4 5.0 70.4 Evening 20 65.4 85.8 42.2 75.0 73.0 71.0 70.0 65.0 59.0 47.0 45.0 43.0 65.4 5.0 70.4 63.4 81.8 44.1 73.0 72.0 70.0 69.0 46.0 46.0 45.0 63.4 5.0 68.4 21 61.0 53.0 22 60.6 78.7 43.3 71.0 70.0 44.0 44.0 10.0 70.6 68.0 66.0 56.0 48.0 45.0 60.6 Night 23 90.6 38.5 69.0 66.0 62.0 50.0 45.0 41.0 40.0 39.0 61.1 10.0 61.1 71.0 71.1 Lea (dBA) L1% L2% L5% L25% L50% L90% L95% L99% Timeframe Hour L_{eq} L_{max} L min L8% Min 63.1 80.2 38.4 72.0 71.0 69.0 68.0 62.0 54.0 43.0 41.0 39.0 Daytime 24-Hour Day Nighttime Max 69.3 93.6 42.8 78.0 76.0 74.0 73.0 69.0 65.0 53.0 51.0 45.0 75.1 73.3 70.9 69.8 59.3 47.0 44.8 42.3 **Energy Average** 66.2 Average: 65.2 64.9 65.9 62.4 63.4 81.5 42.2 73.0 72.0 70.0 69.0 61.0 53.0 46.0 45.0 43.0 Min Evening 24-Hour CNEL (dBA) 45.0 Max 65.4 85.8 44.1 75.0 73.0 71.0 70.0 66.0 60.0 51.0 49.0 64.8 Average: 74.0 72.7 70.7 69.7 64.0 57.3 48.0 46.7 44.3 **Energy Average** Min 55.2 78.0 38.5 68.0 65.0 57.0 53.0 50.0 45.0 41.0 40.0 39.0 69.9 Night 73.0 72.0 67.0 62.0 52.0 51.0 49.0 Max 67.6 91.1 46.8 77.0 75.0



62.7

55.6

51.1

47.4

45.9

43.7

Average:

71.7

69.4

65.3

62.4

Energy Average

APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE CONTOURS



This page intentionally left blank



	FHW	/A-RD-77-108	HIGH	HWAY	NOISE P	REDICTI	ON MO	DDEL					
Road Nam	io: Existing (20 le: Wood Rd. nt: n/o Van Bur	,						Meridia 12761	an South C	ampus			
SITE	SPECIFIC IN	PUT DATA				N	IOISE	MODE	L INPUT	S			
Highway Data					Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	12,963 vehicle	es					Autos:	15				
Peak Hour	Percentage:	7.73%			Me	edium Tru	ucks (2	Axles):	15				
Peak H	lour Volume:	1,002 vehicle	s		He	eavy Truc	cks (3+	Axles):	15				
Ve	hicle Speed:	45 mph		-	Vehicle	Mix							
Near/Far La	ne Distance:	36 feet				icleType		Day	Evening	Night	Daily		
Site Data						- /	Autos:	71.1%	10.9%	18.0%	91.42%		
Rai	rrier Height:	0.0 feet			M	edium Ti	rucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-W		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94%		
Centerline Dis	st. to Barrier:	44.0 feet		ł	Noise Source Elevations (in feet)								
Centerline Dist.	to Observer:	44.0 feet		-	110/36 0	Auto		.000	.01)				
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck:		297					
Observer Height (Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	iustment	: 0.0		
Pad Elevation: 0.0 feet							juoumom	. 0.0					
Ros	ad Elevation:	0.0 feet		Lane Equivalent Distance (in feet)									
I	Road Grade:	0.0%				Autos	s: 40	.460					
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 40	.241					
	Right View:	90.0 degree	es		Hea	vy Truck	s: 40).262					
FHWA Noise Mode	el Calculations	;											
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten		
Autos:	68.46	-2.22		1.2		-1.20		-4.61		000	0.000		
Medium Trucks:	79.45	-15.16		1.3		-1.20		-4.87		000	0.000		
Heavy Trucks:	84.25	-15.87		1.3	31	-1.20		-5.50	0.0	000	0.000		
Unmitigated Noise	•												
,,	Leq Peak Hou	- 1 - 7		Leq E	vening		Night		Ldn		NEL		
Autos:	66.		65.2		63.1		60		67.8		68.2		
Medium Trucks:	64.	-	63.4		59.6		58		66.0		66.3		
Heavy Trucks: Vehicle Noise:	68. 71.		67.6 70.5		63.1		62 65	-	69.9 73.0	-	70.2 73.3		
Centerline Distance								-		-	. 5.0		
Centernine Distant	e io Noise Co	mour (iii reet	,	70	dBA	65	dBA	6	60 dBA	55	dBA		
			Ldn:		70		15	0	323	,	696		
		C	NEL:		73		15	7	337		727		

Friday, April 24, 2020	, 2020	24,	April	Friday,
------------------------	--------	-----	-------	---------

	FHV	VA-RD-77-108	HIGH	WAY NO	DISE P	REDICT	ION MO	DDEL			
	o: Existing (20 e: Trautwein F nt: n/o Canyon	Rd.					t Name: lumber:		an South C	ampus	
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Peak H	Percentage: our Volume: hicle Speed:	14,943 vehicle 7.73% 1,155 vehicle 50 mph 72 feet			Me He ehicle i	edium Ti eavy Tru Mix icleType	rucks (2 icks (3+	Autos: Axles):	15 15	Night	Daily 91.42%
	rier Height:	0.0 feet				edium 1 Heavy 1	rucks:	73.6%	7.7%	18.6% 17.8%	4.64%
Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0 Lane Equivalent Distance (in feet) Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.076							
FHWA Noise Mode VehicleType	el Calculation REMEL	s Traffic Flow	Diet	tance	Einito	Road	Fres	nol	Barrier Atte	on Por	m Atten
Autos: Medium Trucks: Heavy Trucks:	70.20 81.00 85.38	-2.06 -15.00 -15.71		0.13 0.15 0.15	rime	-1.20 -1.20 -1.20	ries	-4.69 -4.88 -5.34	0.0 0.0 0.0	000	0.000 0.000 0.000
Unmitigated Noise											
Autos: Medium Trucks:	Leq Peak Hou 67 64 68	.1	65.9 63.9 67.7	Leq Eve	63.8 60.2 63.2		Night 61 59 62	.2	68.6 66.5	5	68.9 66.8
Heavy Trucks:_ Vehicle Noise:	71	.9	70.9		67.4		66		70.1 73.4		70.0
Centerline Distanc	e to Noise Co	ontour (in feet)	70 -11	24	65	dD A	Τ.	en alba		AD A
		C	Ldn: NEL:	70 d£	101 106	65	dBA 21 22	8	60 dBA 469 490		1,011 1,057

	FHW	A-RD-77-108	HIGHW	VAY N	OISE P	REDICTI	ON MC	DEL									
Road Nan	rio: Existing (20 ne: Wood Rd. ent: s/o Van Bure						Name: umber:		n South C	ampus							
SITE	SPECIFIC IN	PUT DATA				N	OISE	MODE	L INPUT	= 15) 15 15 15 15 16 17 18.0% 91.42%							
Highway Data				S	ite Cor	ditions (Hard =	= 10, So	ft = 15)								
Average Daily	Traffic (Adt):	17,647 vehicle	s					Autos:	15								
Peak Hour	Percentage:	7.73%			Ме	edium Tru	icks (2	Axles):	15								
Peak H	Hour Volume:	1,364 vehicles	3		He	eavy Truc	ks (3+	Axles):	15								
Ve	ehicle Speed:	40 mph		V	Vehicle Mix												
Near/Far La	ne Distance:	36 feet				icleType		Dav	Evening	Niaht	Dailv						
Site Data							utos:	71.1%			91.42						
Ra	rrier Heiaht:	0.0 feet			M	ledium Tr	ucks:	73.6%	7.7%	18.6%	4.649						
Barrier Type (0-W		0.0				Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.94						
Centerline Di	. ,	44.0 feet			laina C	ource Ele	nicotio :	o (in fo	.041								
Centerline Dist.	to Observer:	44.0 feet			ioise si				ei)								
Barrier Distance	to Observer:	0.0 feet			A 4 15:	Autos m Trucks		.000									
Observer Height	(Above Pad):	5.0 feet						.004	Grade Ad	liustmont							
P	ad Elevation:	0.0 feet			неа	vy Trucks	i: 8	.004	Grade Au	justinent	. 0.0						
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in f	eet)								
	Road Grade:	0.0%				Autos	: 40	.460									
	Left View:	-90.0 degree	es		Mediu	m Trucks	: 40	.241									
	Right View:	90.0 degree	es		Hea	vy Trucks	3: 40	.262									
FHWA Noise Mod	el Calculations																
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atter						
Autos:	66.51	-0.37		1.28	3	-1.20		-4.61	0.0	000	0.00						
Medium Trucks:	77.72	-13.31		1.31		-1.20		-4.87	0.0	000	0.00						
Heavy Trucks:	82.99	-14.02		1.31		-1.20		-5.50	0.0	000	0.00						
Unmitigated Nois	e Levels (witho	ut Topo and	barrier	attenu	uation)												
VehicleType	Leq Peak Hour			Leq Ev		Leq I			Ldn		NEL						
Autos:		=	65.1		63.0		60.		67.7		68						
Medium Trucks:		-	63.5		59.7		58.	-	66.1		66						
Heavy Trucks:		-	68.2		63.7		63.		70.		70						
Vehicle Noise:	71.	8	70.8		67.2		65.	9	73.3	3	73						
Centerline Distan	ce to Noise Co	ntour (in feet,)	70 -	ID 4	05.	/D 4	1 0	10 -ID 4		-/0.4						
			I dn	70 d		65 (_	0 dBA		dBA						
			Ldn:		73		157		338		72						
		Ci	VEL:		76		164	7	353		76						

FH	IWA-RD-77-108 H	HIGHWAY	NOISE P	REDICT	ION MO	DEL			
Scenario: Existing (2 Road Name: Trautwein Road Segment: s/o Canyo	Rd.		Project Name: Meridian South Campus Job Number: 12761						
SITE SPECIFIC I	NPUT DATA						L INPUTS	6	
Highway Data			Site Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily Traffic (Adt):	479 vehicles			-6: T		Autos:			
Peak Hour Percentage: Peak Hour Volume:	7.73% 37 vehicles		1		ucks (2 / cks (3+ /				
Vehicle Speed:	50 mph				CKS (3+)	ixies).	. 10		
Near/Far Lane Distance:	72 feet		Vehicle						
	72 1661		Veh	icleType		Day	Evening	Night	Daily
Site Data					Autos:	71.1%		18.0%	
Barrier Height:	0.0 feet			edium 7		73.6%		18.6%	-
Barrier Type (0-Wall, 1-Berm):	0.0		1	Heavy 7	rucks:	75.6%	6.7%	17.8%	3.94%
Centerline Dist. to Barrier:	60.0 feet		Noise So	ource E	levation	(in f	eet)		
Centerline Dist. to Observer:	60.0 feet			Auto		000	,		
Barrier Distance to Observer:	0.0 feet		Mediu	m Truck		297			
Observer Height (Above Pad):	5.0 feet		Hear	y Truck	s: 8.0	004	Grade Adj	ustmen	t: 0.0
Pad Elevation:	0.0 feet		Lana Familia I and Biotana a (in face)						
Road Elevation:	0.0 feet		Lane Equivalent Distance (in feet)						
Road Grade:				Auto					
Left View:	-90.0 degrees			m Truck					
Right View:	90.0 degrees	;	Hear	y Truck	s: 48.)94			
FHWA Noise Model Calculation	ns								
VehicleType REMEL	Traffic Flow	Distance		Road	Fresn		Barrier Atte		rm Atten
Autos: 70.2			13	-1.20		-4.69	0.0		0.000
Medium Trucks: 81.0			15	-1.20		-4.88	0.0		0.000
Heavy Trucks: 85.3	8 -30.66	0.	15	-1.20		-5.34	0.0	00	0.000
Unmitigated Noise Levels (wit			,						
VehicleType Leq Peak Ho			Evening		Night		Ldn		NEL
		1.0	48.9 45.2		46.2		53.6		54.0
		9.0			44.3		51.6		51.9
		2.8 6.0	48.3 52.5		47.7 51.1		55.1 58.5		55.4 58.7
Centerline Distance to Noise C	Contour (in feet)								
Brotaines to Holde C		70) dBA	65	dBA		60 dBA	55	dBA
	Le	dn:	10		22		47		102
	CNE	EL:	11		23		49		107

	FH\	VA-RD-77-108	HIGH	WAY N	IOISE P	REDICT	ION MC	DEL				
Road Nan	io: Existing (20 ne: Trautwein F nt: s/o Alessar	Rd.			Project Name: Meridian South Campus Job Number: 12761							
SITE	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS							
Highway Data					Site Cor							
Average Daily	Traffic (Adt):	36,613 vehicle	es					Autos:	: 15			
Peak Hour	Percentage:	7.73%			Me	dium Tr	ucks (2	Axles).	15			
Peak F	lour Volume:	2,830 vehicles	s		He	avy Tru	cks (3+	Axles).	15			
Ve	hicle Speed:	50 mph		-	Vehicle	Miv						
Near/Far La	ne Distance:	48 feet				icleType		Dav	Evening	Night	Daily	
Site Data					*01.		Autos:	71.19		18.0%		
Po-	rrier Height:	0.0 feet			М	edium T	rucks:	73.6%	6 7.7%	18.6%		
Barrier Type (0-W		0.0 feet				Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%	
Centerline Di		55.0 feet		L					1			
Centerline Dist.	to Observer:	55.0 feet		μ.	Noise S			•	eet)			
Barrier Distance	to Observer:	0.0 feet				Auto		.000				
Observer Height	(Above Pad):	5.0 feet				m Truck		.297	Grade Ad	livotmon	4.00	
P	ad Elevation:	0.0 feet			Hea	/y Truck	s: 8	.004	Grade Ad	jusunen	ι. υ.υ	
Road Elevation: 0.0 feet Lane Equivalent Distance (in feet)												
	Road Grade:	0.0%				Auto	s: 49	.739				
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 49	.561				
	Right View:	90.0 degree	es		Hea	ry Truck	s: 49	.578				
FHWA Noise Mod	el Calculation	s										
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten	
Autos:	70.20	1.83		-0.0	7	-1.20		-4.67	0.0	000	0.000	
Medium Trucks:	81.00	-11.11		-0.0		-1.20		-4.87		000	0.000	
Heavy Trucks:	85.38	-11.82		-0.0	5	-1.20		-5.38	0.0	000	0.000	
Unmitigated Noise			_	er atten	uation)			,		,		
VehicleType	Leq Peak Hou			Leq E	vening	Leq	Night		Ldn		NEL	
Autos:	70		69.6		67.5		64.	-	72.	-	72.6	
Medium Trucks:	68		67.6		63.9		62.	-	70.2	_	70.5	
Heavy Trucks:			71.4		66.9		66.	_	73.8		74.0	
Vehicle Noise:	75	.6	74.6		71.1		69.	7	77.	1	77.4	
Centerline Distant	ce to Noise Co	ontour (in feet)	70	-10.4	05	-10.4		CO -/D4		/D.4	
			Lelen	70 0	dBA	65	dBA		60 dBA		dBA	
			Ldn: NFI:		163		35	-	758		1,634	
		Ci	IVEL:		171		36	5	793	•	1,708	

Friday, April 24, 20	020
----------------------	-----

	FHI	WA-RD-77-108	HIGH	A YAWF	IOISE P	REDICT	TON M	ODEL					
	o: Existing (2) e: Trautwein I et: s/o Orange	Rd.	<i>i</i> .				t Name. Vumber		an South C	ampus			
	SPECIFIC IN	IPUT DATA							L INPUT	S	nt Daily 0% 91.42% 6% 4.64% 8% 3.94% ent: 0.0 0.00 0.000 CNEL 70.8		
Highway Data					Site Cor	ditions	(Hard	= 10, S	oft = 15)				
Average Daily	Traffic (Adt):	24,171 vehicl	es					Autos.	15				
Peak Hour	Percentage:	7.73%			Me	edium T	rucks (2	Axles).	15				
Peak H	our Volume:	1,868 vehicle	s		He	eavy Tru	icks (3+	Axles).	15				
Vel	nicle Speed:	50 mph			Vehicle Mix								
Near/Far Lar	ne Distance:	48 feet		F	Veh	icleTyp	е	Day	Evening	Night	Daily		
Site Data							Autos:	71.19	10.9%	18.0%	91.429		
Bar	rier Height:	0.0 feet			M	edium 1	rucks:	73.6%	7.7%	18.6%	4.649		
Barrier Type (0-Wa	-	0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%		
Centerline Dis	t. to Barrier:	55.0 feet			Noise S	ource E	levatio	ns (in f	eet)				
Centerline Dist. t		55.0 feet		Ī		Auto		0.000	,				
Barrier Distance t		0.0 feet			Mediu	m Truci	ks: 2	2.297					
Observer Height (5.0 feet			Hea	vy Truci	ks: 8	3.004	Grade Adj	iustment	0.0		
	d Elevation:	0.0 feet		-			4 Di-4-	/!	f4)				
Road Elevation: 0.0 feet					Lane Eq	Auto		9.739	ieei)				
r	Road Grade:	0.0% -90.0 degre			Modiu	m Truci		9.561					
	Right View:	90.0 degre				vy Truci		9.578					
FHWA Noise Mode	l Calculation	s											
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	snel	Barrier Atte	en Ber	m Atten		
Autos:	70.20	0.03		-0.0	7	-1.20		-4.67	0.0	000	0.00		
Medium Trucks:	81.00	-12.92	2	-0.0	5	-1.20		-4.87	0.0	000	0.00		
Heavy Trucks:	85.38	-13.63	3	-0.0	5	-1.20		-5.38	0.0	000	0.00		
Unmitigated Noise	Levels (with	out Topo and	barri	er atten	uation)								
	Leq Peak Ho			Leq E	vening		Night		Ldn				
Autos:		9.0	67.8		65.7		63		70.5				
Medium Trucks:		3.8	65.8		62.1		61		68.4		68.		
Heavy Trucks:).5	69.6		65.1		64		72.0		72.		
Vehicle Noise:		3.8	72.8		69.3		67	.9	75.3	3	75.		
Centerline Distanc	e to Noise C	ontour (in fee	t)	70 (-ID 4	0.5	dBA		50 dBA		dBA		
			I dn:	70 (124	65	26 26		50 aBA 575		<i>aBA</i> 1.239		
		,	Lan:		124		26		575 601		1,239		

	FH\	WA-RD-77-108	HIGHV	WAY NO	DISE P	REDICTI	ON MC	DEL									
Road Nar	rio: Existing (2) me: Trautwein l ent: n/o Orange	Rd.					Name: umber:		an South C	ampus							
	SPECIFIC IN	NPUT DATA							L INPUT	S							
Highway Data				S	ite Cor	ditions (Hard =	10, Sc	ft = 15)								
Average Daily	Traffic (Adt):	36,018 vehicle	es					Autos:	15								
Peak Hou	r Percentage:	7.73%			Me	edium Tru	icks (2	Axles):	15								
Peak	Hour Volume:	2,784 vehicle	S		He	eavy Truc	ks (3+	Axles):	15								
V	ehicle Speed:	50 mph		v	ehicle	Mix											
Near/Far L	ane Distance:	48 feet		Ė		icleType		Day	Evening	Night	Daily						
Site Data						A	utos:	71.1%	10.9%	18.0%	91.42						
R:	arrier Height:	0.0 feet			M	ledium Tr	ucks:	73.6%	7.7%	18.6%	4.649						
Barrier Type (0-V		0.0				Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.94						
Centerline D	list. to Barrier:	55.0 feet		N	loise S	ource Ele	evation	s (in fe	et)								
Centerline Dist	. to Observer:	55.0 feet		H		Autos		000	,								
Barrier Distance	to Observer:	0.0 feet			Madiu	m Trucks		297									
Observer Height	(Above Pad):	5.0 feet				vy Trucks	-	004	Grade Ad	liustment	: 0.0						
F	Pad Elevation:	0.0 feet								,	- 0.0						
Ro	oad Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in t	eet)								
	Road Grade:	0.0%				Autos	: 49	.739									
	Left View:	-90.0 degre	es			m Trucks		.561									
	Right View:	90.0 degree	es		Hea	vy Trucks	3: 49	.578									
FHWA Noise Mod																	
VehicleType	REMEL	Traffic Flow	Dista	ance		Road	Fresi		Barrier Att	en Ber	m Atter						
Autos				-0.07		-1.20		-4.67		000	0.00						
Medium Trucks				-0.05		-1.20		-4.87		000	0.00						
Heavy Trucks	: 85.38	-11.89		-0.05		-1.20		-5.38	0.0	000	0.00						
Unmitigated Nois								_									
VehicleType Autos	Leq Peak Ho	ur Leq Day	69.5	Leq Ev	ening 67.4	Leq I	vignt 64	_	Ldn 72.	-	NEL 72						
								-		_							
Medium Trucks		3.6 2.2	67.6		63.8		62. 66.	-	70.: 73.:	_	70						
Heavy Trucks Vehicle Noise		5.5	71.3 74.5		71.1		69.		73.		73 77						
Centerline Distan	ce to Noise C	ontour (in feet)														
		(70 di	BA	65 0	BA.	6	0 dBA	55	dBA						
			Ldn:		162		348	3	750)	1,61						
		С	NEL:		169		364	ļ	784		1,68						

FHV	VA-RD-77-108 H	IGHWAY	NOISE P	REDICTI	ON MODEL					
Scenario: Existing (20 Road Name: Barton St. Road Segment: n/o Van Bur	,		Project Name: Meridian South Campus Job Number: 12761							
SITE SPECIFIC IN	PUT DATA					EL INPUTS				
Highway Data			Site Cor	nditions (Hard = 10,	Soft = 15)				
Average Daily Traffic (Adt):	4,852 vehicles				Auto	s: 15				
Peak Hour Percentage:	7.73%				cks (2 Axles					
Peak Hour Volume:	375 vehicles		He	eavy Truc	ks (3+ Axles	s): 15				
Vehicle Speed:	40 mph		Vehicle	Miv						
Near/Far Lane Distance:	36 feet			icleType	Day	Evening	Night Daily			
Site Data					utos: 71.1		18.0% 91.42%			
Barrier Height:	0.0 feet		M	ledium Tr	ucks: 73.6	3% 7.7%	18.6% 4.64%			
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy Tr	ucks: 75.6	6.7%	17.8% 3.94%			
Centerline Dist. to Barrier:	44.0 feet		M-1 0			f4)				
Centerline Dist. to Observer:	44.0 feet		Noise S	Autos	vations (in	reet)				
Barrier Distance to Observer:	0.0 feet		11	m Trucks						
Observer Height (Above Pad):	5.0 feet			vy Trucks		Grado Adii	ıstment: 0.0			
Pad Elevation:	0.0 feet		i ica	vy Trucks	. 0.004	Grade Adje	istincht. 0.0			
Road Elevation:	0.0 feet		Lane Eq	uivalent	Distance (i	n feet)				
Road Grade:	0.0%			Autos	: 40.460					
Left View:	-90.0 degrees			m Trucks						
Right View:	90.0 degrees		Hea	vy Trucks	: 40.262					
FHWA Noise Model Calculations	i									
VehicleType REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Atte	n Berm Atten			
Autos: 66.51	-5.97	1.3		-1.20	-4.6					
Medium Trucks: 77.72	-18.92		31	-1.20	-4.8					
Heavy Trucks: 82.99	-19.63	1.3	31	-1.20	-5.5	0.00	0.000			
Unmitigated Noise Levels (with		_								
VehicleType Leq Peak Hou			vening	Leq I	0	Ldn	CNEL			
Autos: 60			57.3		54.7	62.1	62.5			
Medium Trucks: 58			54.1		53.2	60.5	60.8			
Heavy Trucks: 63 Vehicle Noise: 66			58.1 61.6		57.5 60.3	64.9	65.2 68.0			
Centerline Distance to Noise Co			51.0		00.0	01.1	30.0			
Centernie Distance to Noise Co	mour (m reet)	70	dBA	65 0	IBA .	60 dBA	55 dBA			
	Lo		31		66	143	308			
	CNE		32		69	149	322			

	FH\	WA-RD-77-108	HIGH	HWAY	NOISE P	REDICT	ION M	ODEL				
Road Nar	rio: Existing (2) ne: Barton St. ent: s/o Van Bu	•			Project Name: Meridian South Campus Job Number: 12761							
SITE	SPECIFIC IN	NPUT DATA				N	IOISE	MODE	L INPUT	s		
Highway Data					Site Cor	ditions	(Hard:	= 10, Sc	oft = 15)			
Average Daily	Traffic (Adt):	11,734 vehicle	es					Autos:	15			
Peak Hou	r Percentage:	7.73%			Me	edium Tri	ucks (2	Axles):	15			
Peak I	Hour Volume:	907 vehicle	s		He	eavy Truc	cks (3+	Axles):	15			
Ve	ehicle Speed:	40 mph		-	Vehicle	Mix						
Near/Far La	ane Distance:	36 feet		ł		icleType	,	Dav	Evening	Night	Dailv	
Site Data							Autos:	71.1%		18.0%	91.42%	
Rs	arrier Height:	0.0 feet			M	edium T	rucks:	73.6%	7.7%	18.6%	4.64%	
Barrier Type (0-V		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94%	
,, ,	ist. to Barrier:	44.0 feet			Noise S	ouroo El	los rodio	no (in f	004)			
Centerline Dist.	to Observer:	44.0 feet		-	Noise 3				eet)			
Barrier Distance	to Observer:	0.0 feet			14	Auto m Truck		2.000				
Observer Height	(Above Pad):	5.0 feet				m Truck vy Truck		3.004	Grade Ad	liuetman	t: 0.0	
F	Pad Elevation:	0.0 feet			пеа	vy Truck	S. C	5.004	Orade Ad	justinon	. 0.0	
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	Dista	nce (in	feet)			
	Road Grade:	0.0%				Auto	s: 40	0.460				
	Left View:	-90.0 degre	es			m Truck		0.241				
	Right View:	90.0 degre	es		Hea	vy Truck	s: 40	0.262				
FHWA Noise Mod	lel Calculation	ıs										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	snel	Barrier Att	en Be	rm Atten	
Autos.		-2.14		1.2	28	-1.20		-4.61	0.0	000	0.000	
Medium Trucks.	77.72	-15.08		1.3	31	-1.20		-4.87	0.0	000	0.000	
Heavy Trucks.	82.99	-15.79		1.3	31	-1.20		-5.50	0.0	000	0.000	
Unmitigated Nois	e Levels (with	out Topo and	barrie	er attei	nuation)			_		,		
VehicleType	Leq Peak Ho			Leq E	vening		Night		Ldn		NEL	
Autos.	-	1.4	63.3		61.2		58		65.9		66.3	
Medium Trucks.		2.7	61.7		58.0		57		64.3	-	64.6	
Heavy Trucks. Vehicle Noise		7.3	66.4		61.9 65.4		61		68.8 71.9		69.0 71.8	
					03.4		04	s.1	71.	J	/ 1.6	
Centerline Distan	ce to Noise C	ontour (in feet)	70	dBA	65	dBA	1 .	60 dBA	FI	5 dBA	
			Ldn:	, 0	56		12	_	258		555	
		С	NEL:		58		12	-	269		580	

Friday, April 24, 20	020
----------------------	-----

	FH'	WA-RD-77-10	08 HIG	HWAY I	NOISE P	REDICT	TION MOI	DEL				
	o: Existing (2) e: Barton St. nt: s/o Kramer	,					t Name: N Number: 1		n South Ca	ampus		
SITE S	SPECIFIC II	NPUT DATA	١				NOISE N	IODEL	INPUTS	5		
Highway Data					Site Cor	nditions	(Hard =	10, So	ft = 15)			
Average Daily	Traffic (Adt):	10,260 vehi	cles				,	Autos:	15			
Peak Hour	Percentage:	7.73%			Me	edium T	rucks (2 A	xles):	15			
Peak H	our Volume:	793 vehic	les		H	eavy Tru	icks (3+ A	xles):	15			
Vel	hicle Speed:	40 mph		ŀ	Vehicle	Miv						
Near/Far Lar	ne Distance:	36 feet		ŀ		icleTyp	P	Day	Evening	Night	Daily	
Site Data					*01			71.1%	10.9%	18.0%		
Pos	rier Heiaht:	0.0 feet			N	ledium ī	Trucks:	73.6%	7.7%	18.6%		
Barrier Type (0-W		0.0				Heavy T	Trucks:	75.6%	6.7%	17.8%	3.94%	
Centerline Dis		44.0 feet										
Centerline Dist.		44.0 feet		-	Noise S		levations	•	et)			
Barrier Distance		0.0 feet				Auto		000				
Observer Height (5.0 feet				ım Truci		97				
	ad Elevation:	0.0 feet			Hea	vy Truci	ks: 8.0	004	Grade Adj	ustment	: 0.0	
	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distanc	e (in fe	eet)			
F	Road Grade:	0.0%		Ī		Auto	os: 40.4	160				
	Left View:	-90.0 degr	ees		Mediu	m Truci	ks: 40.2	241				
	Right View:	90.0 degr	ees		Hea	vy Truci	ks: 40.2	262				
FHWA Noise Mode	el Calculation	ıs										
VehicleType	REMEL	Traffic Flow	/ Di	stance	Finite	Road	Fresn	el l	Barrier Atte	en Bei	m Atten	
Autos:	66.51	-2.7	2	1.2	28	-1.20		-4.61	0.0	00	0.000	
Medium Trucks:	77.72	-15.6	7	1.3	31	-1.20		-4.87	0.0	00	0.000	
Heavy Trucks:	82.99	-16.3	88	1.3	31	-1.20		-5.50	0.0	00	0.000	
Unmitigated Noise	•											
,,	Leq Peak Ho			Leq E	vening		Night		Ldn		NEL	
Autos:		3.9	62.7		60.6		58.0		65.4		65.7	
Medium Trucks:		2.2	61.2		57.4		56.4		63.8		64.0	
Heavy Trucks:		5.7	65.8		61.3		60.8		68.2		68.4	
Vehicle Noise:		9.4	68.5		64.8		63.6		70.9)	71.2	
Centerline Distanc	e to Noise C	ontour (in fe	et)	70	dBA	e.	i dBA	-	0 dBA	FE	dBA	
			I dn:	10	и <i>Б</i> А 51	00	109		236	33	508	
					51 109			236		530		
	CNEL:						3 114			246		

	FHV	/A-RD-77-108	HIGH	NAY N	OISE PE	REDICTI	ON MO	DDEL			
Scenario: Exist Road Name: Barto Road Segment: n/o K	n St.	,						Meridia 12761	an South C	ampus	
SITE SPECIF	IC IN	PUT DATA				N	OISE	MODE	L INPUT	S	
Highway Data				S	ite Con	ditions	(Hard :	= 10, Sc	oft = 15)		
Average Daily Traffic (A	Adt):	10,881 vehicle	es					Autos:	15		
Peak Hour Percent	age:	7.73%			Me	dium Tru	ıcks (2	Axles):	15		
Peak Hour Volu	ıme:	841 vehicles	3		He	avy Truc	ks (3+	Axles):	15		
Vehicle Sp		40 mph		ν	ehicle l	Mix					
Near/Far Lane Dista	nce:	36 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						- /	lutos:	71.1%	10.9%	18.0%	91.42
Barrier Hei	aht:	0.0 feet			Me	edium Tr	ucks:	73.6%	7.7%	18.6%	4.64
Barrier Type (0-Wall, 1-Be	rm):	0.0			F	leavy Tr	ucks:	75.6%	6.7%	17.8%	3.949
Centerline Dist. to Ba		44.0 feet		٨	loise Sc	urce Ele	evatio	ns (in fe	eet)		
Centerline Dist. to Obse		44.0 feet				Autos	s: 0	.000			
Barrier Distance to Obse		0.0 feet			Mediui	m Trucks	s: 2	.297			
Observer Height (Above F	,	5.0 feet			Heav	y Trucks	s: 8	.004	Grade Ad	justment	: 0.0
Pad Eleva		0.0 feet		,	ono Fa	uivalent	Dieter	200 (in	foot)		
Road Eleva Road Gr		0.0 feet		-	ane Eq	Autos		460	ieei)		
Left V		0.0%			Modiu	m Trucks		.241			
Right V		-90.0 degree				y Trucks).262			
FHWA Noise Model Calcu	lations	3									
VehicleType REM	EL	Traffic Flow	Dist	ance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atter
Autos:	66.51	-2.47		1.28	1	-1.20		-4.61	0.0	000	0.00
Medium Trucks:	77.72	-15.41		1.31		-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	82.99	-16.12		1.31		-1.20		-5.50	0.0	000	0.00
Unmitigated Noise Levels	•										
VehicleType Leq Pe		, ,	_	Leq Ev		Leq	Night		Ldn		NEL
Autos:	64		63.0		60.9		58	_	65.0	-	66
Medium Trucks:	62		61.4		57.6		56		64.0	-	64
Heavy Trucks:	67		66.1		61.6		61		68.4		68
Vehicle Noise:	69		68.7		65.1		63	.8	71.	2	71
)								
Centerline Distance to No	ise Co	ntour (in reet,		70 d	BA	65.	1BA	-	60 dBA	55	dBA
Centerline Distance to No	ise Co	, ,	Ldn:	70 d	BA 53	65 (dBA 11		60 dBA 245		dBA 52

	FH\	WA-RD-77-108	HIGHWAY	NOISE P	REDICT	ON MOI	DEL		
Road Nam	io: Existing (20 ne: Barton St. nt: s/o Lurin A	,				Name: N umber: 1		n South Can	npus
	SPECIFIC IN	IPUT DATA						LINPUTS	
Highway Data				Site Cor	ditions	(Hard =	10, So	ft = 15)	
Average Daily	Traffic (Adt):	10,091 vehicle	es				Autos:	15	
	Percentage:	7.73%			edium Tr			15	
Peak H	lour Volume:	780 vehicles	3	He	eavy True	cks (3+ A	xles):	15	
	hicle Speed:	40 mph		Vehicle	Mix				
Near/Far La	ne Distance:	36 feet		Veh	icleType		Day	Evening N	light Daily
Site Data						Autos:	71.1%	10.9%	18.0% 91.42%
Bai	rrier Height:	0.0 feet		M	ledium T	rucks:	73.6%	7.7%	18.6% 4.64%
Barrier Type (0-W		0.0			Heavy T	rucks:	75.6%	6.7%	17.8% 3.94%
Centerline Dis	st. to Barrier:	44.0 feet		Noise S	ource El	evations	(in fe	et)	
Centerline Dist.	to Observer:	44.0 feet		710,00	Auto		100	oi,	
Barrier Distance	to Observer:	0.0 feet		Mediu	m Truck		97		
Observer Height (,	5.0 feet		Hea	vy Truck	s: 8.0	104	Grade Adjus	tment: 0.0
	ad Elevation:	0.0 feet							
	ad Elevation:	0.0 feet		Lane Eq				eet)	
	Road Grade:	0.0%			Auto				
	Left View:	-90.0 degree			m Truck				
	Right View:	90.0 degree	es	Hea	vy Truck	s: 40.2	262		
FHWA Noise Mode	el Calculation	s							
VehicleType	REMEL	Traffic Flow	Distance	e Finite	Road	Fresn	el l	Barrier Atten	Berm Atten
Autos:	66.51	-2.79	1	.28	-1.20		-4.61	0.000	0.000
Medium Trucks:	77.72			.31	-1.20		-4.87	0.000	
Heavy Trucks:	82.99	-16.45	1	.31	-1.20		-5.50	0.000	0.000
Unmitigated Noise									
	Leq Peak Hou	, ,		Evening	,	Night		Ldn	CNEL
Autos:			62.6	60.5		57.9		65.3	65.7
Medium Trucks:			61.1	57.3		56.4		63.7	63.9
Heavy Trucks: Vehicle Noise:			65.8 68.4	61.3 64.8		60.7		68.1 70.9	68.3 71.1
				04.0	<u> </u>	03.3		70.9	71.1
Centerline Distance	e to Noise Co	ontour (in feet		0 dBA	65	dBA	6	0 dBA	55 dBA
			Ldn:	50	0.0	108		233	502 502
			VEL:	52		113		243	524
		0.						2.10	02.

	FHW	A-RD-77-108	HIG	HWAY	NOISE P	REDICT	ION MC	DEL			
Road Nam	io: Existing (201 ne: Coyote Bush nt: n/o Van Bure	Rd.					t Name: Number:		an South C	ampus	8
	SPECIFIC INI	PUT DATA							L INPUT	s	
Highway Data					Site Cor	nditions	(Hard =	: 10, S	oft = 15)		
Average Daily	Traffic (Adt):	1,708 vehicle	es					Autos.	15		
Peak Hour	Percentage:	7.73%			Me	edium Ti	rucks (2	Axles).	15		
Peak H	lour Volume:	132 vehicle	S		He	eavy Tru	icks (3+	Axles).	15		
Ve	hicle Speed:	25 mph			Vehicle	Mix					
Near/Far La	ne Distance:	12 feet				nicleType	9	Day	Evening	Nigh	t Daily
Site Data							Autos:	71.19	10.9%	18.0	% 91.42%
Rai	rrier Height:	0.0 feet			N	fedium 7	rucks:	73.6%	7.7%	18.6	% 4.64%
Barrier Type (0-W		0.0				Heavy 7	rucks:	75.6%	6.7%	17.8	% 3.94%
Centerline Dis	st. to Barrier:	33.0 feet			Noise S	ource E	levation	s (in f	eet)		
Centerline Dist.	to Observer:	33.0 feet				Auto		.000	,		
Barrier Distance	to Observer:	0.0 feet			Medii	ım Truck		297			
Observer Height ((Above Pad):	5.0 feet				vy Truci		.004	Grade Ad	iustme	ent: 0.0
Pa	ad Elevation:	0.0 feet									
Ros	ad Elevation:	0.0 feet			Lane Eq	luivalen	t Distan	ce (in	feet)		
ı	Road Grade:	0.0%				Auto		.833			
	Left View:	-90.0 degre	es			ım Truck		.562			
	Right View:	90.0 degre	es		Hea	vy Truck	rs: 32	.589			
FHWA Noise Mode	el Calculations										
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	nel	Barrier Att	en E	Berm Atten
Autos:	58.73	-8.47			64	-1.20		-4.52		000	0.000
Medium Trucks:	70.80	-21.41			69	-1.20		-4.86		000	0.000
Heavy Trucks:	77.97	-22.12		2.	69	-1.20		-5.69	0.0	000	0.000
Unmitigated Noise						1				,	
VehicleType	Leq Peak Hour			Leq I	Evening		Night		Ldn		CNEL
Autos:	51.		50.5		48.4		45.		53.	_	53.6
Medium Trucks:	50.		49.9		46.1		45.	-	52.		52.7
Heavy Trucks: Vehicle Noise:	57.3 59.		56.4 58.1		51.9 54.3		51. 53.	_	58. 60.	-	59.0 60.8
Centerline Distance					01.0	-					
Centernile Distant	SE TO MOISE COI	nour (III leet	,	70	dBA	65	dBA		60 dBA		55 dBA
			Ldn:		8		17	7	36	i	78
		С	NEL:		8		17	7	38		81

	FHW	/A-RD-77-108	HIGH	HWAY N	IOISE PI	REDICT	ION M	ODEL			
Road Nam	io: Existing (20 ne: Village Wes nt: n/o Krameri	t Dr.				.,		: Meridi: : 12761	an South C	ampus	
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Con	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	4,661 vehicle	s					Autos:	15		
Peak Hour	Percentage:	7.73%			Me	edium Tr	ucks (2	Axles):	15		
Peak H	lour Volume:	360 vehicles	3		He	eavy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	40 mph			Vehicle I	Miv					
Near/Far La	ne Distance:	44 feet		-		icleType	,	Day	Evening	Night	Daily
Site Data							Autos:	71.1%	10.9%	18.0%	91.42%
Par	rrier Heiaht:	0.0 feet			М	edium T	rucks:	73.6%	7.7%	18.6%	4.64%
Barrier Type (0-W		0.0			1	Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%
Centerline Dis	st. to Barrier:	56.0 feet			Noise So	ouroo E	lovestio	na (in f	0041		
Centerline Dist.	to Observer:	56.0 feet		· ·	voise 30	Auto		0.000	eet)		
Barrier Distance	to Observer:	0.0 feet			A de elle	Auto m Truck					
Observer Height ((Above Pad):	5.0 feet						2.297	Crada Ad	i rotmon	
Pa	ad Elevation:	0.0 feet			Heat	vy Truck	S: 6	3.004	Grade Ad	usunem	. 0.0
Roa	ad Elevation:	0.0 feet		1	Lane Eq	uivalen	Dista	nce (in	feet)		
	Road Grade:	0.0%				Auto	s: 5	1.740			
	Left View:	-90.0 degree	s		Mediu	m Truck	s: 5	1.568			
	Right View:	90.0 degree	s		Heav	vy Truck	s: 5	1.585			
FHWA Noise Mode	el Calculations	;									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	snel	Barrier Att	en Bei	rm Atten
Autos:	66.51	-6.15		-0.3	3	-1.20		-4.67	0.0	000	0.000
Medium Trucks:	77.72	-19.09		-0.3	0	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	82.99	-19.80		-0.3	1	-1.20		-5.37	0.0	000	0.000
Unmitigated Noise	e Levels (witho	out Topo and	barri	er atten	uation)						
VehicleType	Leq Peak Hou	r Leq Day		Leq E	vening	Leq	Night		Ldn	С	NEL
Autos:	58.	-	57.7		55.6		53		60.3	-	60.7
Medium Trucks:	57.		56.1		52.3		51		58.7		59.0
Heavy Trucks:	61.		8.06		56.3		55		63.1		63.4
Vehicle Noise:	64.	4	63.4		59.8		58	.5	65.9	9	66.2
Centerline Distanc	ce to Noise Co	ntour (in feet)		-	10.4						10.4
			L	70 (65	dBA	_	60 dBA		dBA
			Ldn:		30		6		138		298
		CI	VEL:		31		6	7	144		311

Average Daily Traffic (Adt): 7,581 vehicles Peak Hour Percentage: 7,73% Medium Trucks (2 Axles): 15		FH\	WA-RD-77-108	HIGH	WAY N	DISE P	REDICT	ION M	ODEL			
Highway Data	Road Name	e: Orange Tei	race Pkwy.				.,			an South C	ampus	
Autos: 15 Autos: 15 Autos: 15 Peak Hour Percentage: 7,73% Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15		PECIFIC IN	IPUT DATA								S	
Peak Hour Percentage:	Highway Data				s	ite Cor	ditions	(Hard	= 10, Sc	oft = 15)		
Peak Hour Volume: Vehicle Speed:	Average Daily 1	raffic (Adt):	7,581 vehicl	es								
Vehicle Speed: 45 mph Vehicle Mix Vehicle Type Day Evening Night Dai Autos: 71.1% 10.9% 18.0% 18.0% 48.6%	Peak Hour I	Percentage:	7.73%					,				
Near/Far Lane Distance:	Peak Ho	our Volume:	586 vehicle	S		He	eavy Tru	cks (3+	- Axles):	15		
Site Data	Vel	nicle Speed:	45 mph		v	ehicle	Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Centerline Dist. Centerline	Near/Far Lar	e Distance:	48 feet		Ė	Veh	icleType	9	Day	Evening	Night	Daily
Barrier Tegent Same regent Same regent	Site Data							Autos:	71.1%	10.9%	18.0%	91.429
Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Dasrier: 55.0 feet	Ran	rier Heiaht	0.0 feet			M	edium 7	rucks:	73.6%	7.7%	18.6%	4.649
Centerline Dist. to Observer: 55,0 feet Barrier Distance to Observer: 0.0 feet Barrier Distance to Observer: 0.0 feet Pad Elevation: 0.0 feet Pad Elevation: 0.0 feet Road Grade: 0.0% Autos: 49,739	Barrier Type (0-Wa	all, 1-Berm):	0.0				Heavy 7	rucks:	75.6%	6.7%	17.8%	3.949
Barrier Distance to Observer: 0.0 feet Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Grade: 0.0% Consider Road Grade: 0.0% C					N	oise S	ource E	levatio	ns (in fe	eet)		
Diserver Height (Above Pad):							Auto	s: (0.000			
Pad Elevation: 0.0 feet						Mediu	m Truck	(S: 2	2.297			
Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees Heavy Trucks: 49.518 Heavy Trucks: 49.578 Heavy Tru		,				Hea	v Truck	s: 8	3.004	Grade Ad	ljustmen	t: 0.0
Road Grade: 0.0%					-							
Left View: Right View: 90.0 degrees Right View: 90.0 degrees Medium Trucks: 49.561					L	ane Eq				reet)		
FHWA Noise Mode Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten Medium Trucks: 84.25 -18.20 -0.05 -1.20 -4.67 0.000 0.01	F											
FHWA Noise Model Calculations Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten Autos: 68.46 4.55 -0.07 -1.20 -4.67 0.000												
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten Autos: 68.46 -4.55 -0.07 -1.20 -4.67 0.000 0.0 Medium Trucks: 79.45 -17.49 -0.05 -1.20 -5.38 0.000 0.0 Heavy Trucks: 84.25 -18.20 -0.05 -1.20 -5.38 0.000 0.0 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 62.6 61.5 59.4 55.9 55.0 62.3 66 Medium Trucks: 60.7 59.7 55.9 55.0 62.3 6 Vehicle Noise: 67.8 66.8 63.3 61.9 69.3 6 Centerline Distance to Noise Contour (in feet)		Right View:	90.0 degre	es		Hea	y Truck	(S: 49	9.578			
Autos: 68.46	FHWA Noise Mode											
Medium Trucks: 79.45								Fres				
Heavy Trucks: 84.25												0.00
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 62.6 61.5 59.4 56.8 64.1 6.0 Medium Trucks: 60.7 59.7 55.9 55.0 62.3 6.0 Heavy Trucks: 64.8 63.9 59.4 58.9 66.3 6.0 Vehicle Noise: 67.8 66.8 63.3 61.9 69.3 6 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA												0.00
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 62.6 61.5 59.4 56.8 64.1 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.6 6.3 6.2 6.3 6.6 6.3 6.3 6.9 69.3 6.6 Vehicle Noise: 67.8 66.8 63.3 61.9 69.3 6 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA							-1.20		-5.38	0.0	000	0.00
Autos: 62.6 61.5 59.4 56.8 64.1 6 Medium Trucks: 60.7 59.7 55.9 55.0 62.3 6 Heavy Trucks: 64.8 63.9 59.4 58.9 66.3 6 Vehicle Noise: 67.8 66.8 63.3 61.9 69.3 6 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA	-								-			
Medium Trucks: 60.7 59.7 55.9 55.0 62.3 6 Heavy Trucks: 64.8 63.9 59.4 58.9 66.3 6 Eventicle Noise: 67.8 66.8 63.3 61.9 69.3 6 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA	,,				Leq Ev				_			
Heavy Trucks: 64.8 63.9 59.4 58.9 66.3 6 Vehicle Noise: 67.8 66.8 63.3 61.9 69.3 6 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA												64
Vehicle Noise: 67.8 66.8 63.3 61.9 69.3 6 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA											-	62
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA												66
70 dBA 65 dBA 60 dBA 55 dBA						63.3		61	.9	69.	3	69
	Centerline Distanc	e to Noise Co	ontour (in feet)	70 di	BA	65	dBA		SO dBA	54	5 dBA
Ldn: 49 106 229 4				Ldn:	. 0 0	49			_	229		494
			C						-			516

Friday, April 24, 2020

FHW	/A-RD-77-108 H	HIGHWAY	NOISE P	REDICT	ION MOI	DEL				
Scenario: Existing (20 Road Name: Village Wes Road Segment: s/o Krameria	t Dr.				t Name: N lumber: 1		an South Ca	ampus		
SITE SPECIFIC IN	PUT DATA			ı	NOISE N	IODE	L INPUTS	5		
Highway Data			Site Con	ditions	(Hard =	10, Sc	oft = 15)			
Average Daily Traffic (Adt):	1,488 vehicles	5			,	Autos:	15			
Peak Hour Percentage:	7.73%		Me	edium Tr	ucks (2 A	xles):	15			
Peak Hour Volume:	115 vehicles		He	avy Tru	cks (3+ A	xles):	15			
Vehicle Speed:	40 mph		Vehicle Mix							
Near/Far Lane Distance:	24 feet			icleType	,	Dav	Evening	Night	Daily	
Site Data					Autos:	71.1%	10.9%	18.0%	91.42%	
Barrier Height:	0.0 feet		М	edium T	rucks:	73.6%	7.7%	18.6%	4.64%	
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%	
Centerline Dist. to Barrier:	39.0 feet		Noise So	roo F	lovotione	/in fe	2041			
Centerline Dist. to Observer:	39.0 feet		NOISE SC	Auto		•	et)			
Barrier Distance to Observer:	0.0 feet		Modiu	m Truck		97				
Observer Height (Above Pad):	5.0 feet			vy Truck		104	Grade Adji	uetmant	. n n	
Pad Elevation:	0.0 feet		i icai	y IIuck	.s. 0.0	104	Oracio Auji	ustment	. 0.0	
Road Elevation:	0.0 feet		Lane Eq	uivalen	t Distanc	e (in i	feet)			
Road Grade:	0.0%			Auto	s: 37.4	143				
Left View:	-90.0 degrees	3		m Truck						
Right View:	90.0 degrees	3	Hear	y Truck	s: 37.2	229				
FHWA Noise Model Calculations										
VehicleType REMEL	Traffic Flow	Distance	Finite	Road	Fresn	_	Barrier Atte	en Ber	m Atten	
Autos: 66.51	-11.11		.78	-1.20		-4.58	0.0		0.000	
Medium Trucks: 77.72	-24.05		.82	-1.20		4.87	0.0		0.000	
Heavy Trucks: 82.99	-24.76	1	.82	-1.20		-5.57	0.0	00	0.000	
Unmitigated Noise Levels (without	-		,							
VehicleType Leq Peak Hou			Evening		Night		Ldn		VEL	
Autos: 56.		4.8	52.7		50.1		57.5		57.9	
Medium Trucks: 54.		3.3	49.5		48.6		55.9		56.1	
Heavy Trucks: 58. Vehicle Noise: 61.		8.0 0.6	53.4 57.0		52.9 55.7		60.3		60.5	
Centerline Distance to Noise Co	ntour (in feet)									
	(1001)	70) dBA	65	dBA	6	60 dBA	55	dBA	
	L	dn:	13		29		62		134	
	CNI	EL:	14		30		65		140	

	FH	WA-RD-77-108	HIGH	WAY N	IOISE P	REDICT	ION MC	DEL			
Road Na	ario: Existing (2 me: Meridian P ent: s/o Allesar	kwy.					Name: lumber:		an South C	ampus	
SITI	SPECIFIC II	NPUT DATA				N	IOISE	MODE	L INPUT	s	
Highway Data					Site Cor	ditions	(Hard =	: 10, Sc	oft = 15)		
Average Dail	y Traffic (Adt):	20,377 vehicle	es					Autos:	15		
Peak Hou	ır Percentage:	7.73%			Me	edium Tr	ucks (2	Axles):	15		
Peak	Hour Volume:	1,575 vehicle	s		He	eavy Tru	cks (3+	Axles):	15		
١	ehicle Speed:	45 mph			Vehicle	Miv					
Near/Far L	.ane Distance:	44 feet		H.		icleType		Dav	Evening	Night	Daily
Site Data							Autos:	71.1%		18.09	
	arrier Height:	0.0 feet			М	edium T	rucks:	73.6%	7.7%	18.69	6 4.64%
Barrier Type (0-		0.0 reet				Heavy T	rucks:	75.6%	6.7%	17.89	6 3.94%
,,,,	Dist. to Barrier:	56.0 feet		L							
	t. to Observer:	56.0 feet		1	Noise S			•	eet)		
Barrier Distanc	e to Observer:	0.0 feet				Auto		.000			
Observer Heigh	t (Above Pad):	5.0 feet				m Truck		.297	0		1:00
	Pad Elevation:	0.0 feet			Hea	vy Truck	s: 8	.004	Grade Ad	justmer	it: 0.0
R	oad Elevation:	0.0 feet		1	Lane Eq	uivalen	Distan	ce (in	feet)		
	Road Grade:	0.0%				Auto	s: 51	.740			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 51	.568			
	Right View:	90.0 degre	es		Hea	vy Truck	s: 51	.585			
FHWA Noise Mo	del Calculation	ıs									
VehicleType	REMEL	Traffic Flow		tance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Auto		-0.25		-0.3	3	-1.20		-4.67	0.0	000	0.000
Medium Trucks	3: 79.45	-13.20		-0.3	0	-1.20		-4.87	0.0	000	0.000
Heavy Trucks	84.25	-13.91		-0.3	1	-1.20		-5.37	0.0	000	0.000
Unmitigated Noi			barrie	r atten	uation)						
VehicleType	Leq Peak Ho		_	Leq E			Night		Ldn		CNEL
Auto		5.7	65.5		63.4		60.	-	68.2	_	68.5
Medium Trucks		1.7	63.7		60.0		59.		66.	-	66.6
Heavy Trucks		3.8	67.9		63.4		62.	-	70.3		70.5
Vehicle Noise		1.8	70.9		67.3		66.	υ	73.	3	73.6
Centerline Dista	nce to Noise C	ontour (in feet)	70 0	AD A	65	dBA		60 dBA		5 dBA
			Ldn:	700	лом 94	1 00	и <i>Б</i> А 201		434	_	935
		0	NFI:		98		210		454		933
		C	*LL.		90		210	,	400	'	911

Friday, April 24, 2	020
---------------------	-----

	FH\	WA-RD-77-108 I	IIGHWA	Y NOISE F	PREDICT	ION MO	DEL				
Road Nam	o: Existing (20 e: Meridian Pl nt: s/o Cactus	kwy.		Project Name: Meridian South Campus Job Number: 12761							
SITE	SPECIFIC IN	IPUT DATA			N	IOISE N	/IODEI	INPUTS	i		
Highway Data				Site Co	nditions	(Hard =	10, So	ft = 15)			
	Traffic (Adt): Percentage: our Volume:	16,379 vehicles 7.73% 1,266 vehicles	3		ledium Tr leavy Tru	ucks (2 A	,	15 15 15			
Ve	hicle Speed:	45 mph		Vehicle	Mix						
Near/Far Lai	ne Distance:	44 feet			hicleType	,	Dav	Evening	Night	Daily	
Site Data							71.1%	10.9%	18.0%	91.42%	
Rai	rier Height:	0.0 feet		/	∕ledium T	rucks:	73.6%	7.7%	18.6%	4.64%	
Barrier Type (0-W	all, 1-Berm):	0.0			Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%	
Centerline Dis		56.0 feet		Noise S	Source E	levations	s (in fe	et)			
Centerline Dist.		56.0 feet			Auto	s: 0.0	000				
Barrier Distance		0.0 feet		Medi	um Truck	s: 2.2	297				
Observer Height (Above Pad): ad Flevation:	5.0 feet 0.0 feet		Hea	vy Truck	s: 8.0	004	Grade Adju	ustment:	0.0	
	ad Elevation:	0.0 feet		I ane Fi	quivalen	t Distanc	e (in f	eet)			
	Road Grade:	0.0%		24.70 2	Auto			001)			
,	Left View:	-90.0 degrees		Madi	um Truck						
	Right View:	90.0 degrees			avy Truck						
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distanc	ce Finite	e Road	Fresn	el l	Barrier Atte	n Ben	m Atten	
Autos:	68.46	-1.20	-	0.33	-1.20		-4.67	0.00	00	0.000	
Medium Trucks:	79.45	-14.15	-	0.30	-1.20		-4.87	0.00	00	0.000	
Heavy Trucks:	84.25	-14.86	-	0.31	-1.20		-5.37	0.00	00	0.000	
Unmitigated Noise	Levels (with	out Topo and b	arrier at	tenuation)							
,,	Leq Peak Hou			q Evening		Night		Ldn	CI	IEL	
Autos:	65		4.6	62.	-	59.8		67.2		67.6	
Medium Trucks:	63		2.8	59.	-	58.1		65.4		65.7	
Heavy Trucks:	67		7.0	62.	-	62.0		69.3		69.6	
Vehicle Noise:	70).9 6	9.9	66.	4	65.0)	72.4		72.7	
Centerline Distanc	e to Noise Co	ontour (in feet)		70 -/04	05	-ID 4		0.404		-(D.4	
		,		70 dBA		dBA	6	0 dBA	55	dBA	
		_	dn:	81		174		375		808	
		CN	EL:	84		182		392		844	

	FH\	WA-RD-77-108	HIGH	NAY N	OISE P	REDICTI	ON MC	DEL			
Road Nan	rio: Existing (2) ne: Meridian P nt: n/o Cactus	kwy.					Name: umber:		an South C	ampus	
SITE	SPECIFIC IN	IPUT DATA				N	OISE	MODE	L INPUT	S	
Highway Data				S	ite Cor	nditions ((Hard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	19,600 vehicle	es					Autos:	15		
Peak Hour	Percentage:	7.73%			Me	edium Tru	ıcks (2	Axles):	15		
Peak F	lour Volume:	1,515 vehicle	s		He	eavy Truc	ks (3+	Axles):	15		
Ve	ehicle Speed:	45 mph		v	/ehicle	Mix					
Near/Far La	ne Distance:	44 feet		F		icleType		Day	Evening	Night	Daily
Site Data						A	lutos:	71.1%	10.9%	18.0%	91.429
Ra	rrier Height:	0.0 feet			M	ledium Tr	ucks:	73.6%	7.7%	18.6%	4.649
Barrier Type (0-W		0.0				Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.949
Centerline Di	ist. to Barrier:	56.0 feet		۸	loise S	ource Ele	evation	s (in fe	eet)		
Centerline Dist.	to Observer:	56.0 feet		-	.0.00	Autos		.000	,,,,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Trucks		.297			
Observer Height	(Above Pad):	5.0 feet				vy Trucks		.004	Grade Ad	liustmen	t: 0.0
P	ad Elevation:	0.0 feet								,	. 0.0
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distar	ce (in	feet)		
	Road Grade:	0.0%				Autos	s: 51	.740			
	Left View:	-90.0 degre	es			m Trucks		.568			
	Right View:	90.0 degre	es		Hea	vy Trucks	s: 51	.585			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow		ance		Road	Fres		Barrier Att	en Be	rm Atten
Autos:				-0.33		-1.20		-4.67		000	0.00
Medium Trucks:				-0.30		-1.20		-4.87		000	0.00
Heavy Trucks:	84.25	-14.08		-0.31		-1.20		-5.37	0.0	000	0.00
Unmitigated Nois								,			
VehicleType	Leq Peak Ho			Leq Ev		Leq I			Ldn		NEL
Autos:		3.5	65.4		63.2		60.	-	68.0	-	68
Medium Trucks:	-	1.6	63.6		59.8		58.	-	66.2	_	66
Heavy Trucks: Vehicle Noise:		3.7 1.7	67.8 70.7		63.3		62.	-	70.1		70 73
					01.2		00.	0	73.2	_	73
Centerline Distan	ce to Noise C	ontour (in feet)	70 d	IBA	65.0	dBA		60 dBA	55	dBA
			Ldn:		91	1 200	19		423		91
		С	NEL:		95		20		442		952

FH	WA-RD-77-108 H	HIGHWAY	NOISE P	REDICT	ION MC	DEL					
Scenario: Existing (2 Road Name: Meridian F Road Segment: n/o Opport	kwy.				Name: lumber:		an South Ca	ampus			
SITE SPECIFIC II	NPUT DATA						L INPUTS	6			
Highway Data			Site Con	ditions	(Hard =	= 10, Sc	oft = 15)				
Average Daily Traffic (Adt):	16,651 vehicles	3	Autos: 15								
Peak Hour Percentage:	7.73%		1	edium Tr	,						
Peak Hour Volume:	1,287 vehicles		He	eavy Tru	cks (3+	Axles):	15				
Vehicle Speed:	45 mph		Vehicle Mix								
Near/Far Lane Distance:	44 feet		Veh	icleType	,	Day	Evening	Night	Daily		
Site Data					Autos:	71.1%	10.9%	18.0%	91.42%		
Barrier Height:	0.0 feet		М	ledium T	rucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%		
Centerline Dist. to Barrier:	56.0 feet		Noise So	ource F	lovation	ne (in f	oot)				
Centerline Dist. to Observer:	56.0 feet		110/30 00	Auto		.000	001)				
Barrier Distance to Observer:	0.0 feet		Madiu	m Truck		.000					
Observer Height (Above Pad):	5.0 feet			vy Truck		.004	Grade Adj	ustment	: 0.0		
Pad Elevation:	0.0 feet										
Road Elevation:	0.0 feet		Lane Eq				feet)				
Road Grade:	0.0%			Auto		.740					
Left View:	-90.0 degrees	3		m Truck		.568					
Right View:	90.0 degrees	3	Hear	vy Truck	s: 51	.585					
FHWA Noise Model Calculation	ıs										
VehicleType REMEL	Traffic Flow	Distance	Finite	Road	Fres	nel	Barrier Atte	en Ber	m Atten		
Autos: 68.46		-0.	33	-1.20		-4.67	0.0	00	0.000		
Medium Trucks: 79.45		-0.		-1.20		-4.87	0.0		0.000		
Heavy Trucks: 84.25	-14.79	-0.	31	-1.20		-5.37	0.0	00	0.000		
Unmitigated Noise Levels (with			,			_					
VehicleType Leq Peak Ho	, ,		Evening	,	Night		Ldn		NEL		
		4.6	62.5		59.		67.3		67.7		
		2.9	59.1		58.		65.5		65.7		
,		7.1	62.6 66.4		62. 65.	-	69.4 72.5		69.7 72.7		
Centerline Distance to Noise C						-	72.0				
Centerline Distance to Noise C	omour (III leet)	70) dBA	65	dBA	Τ.	60 dBA	55	dBA		
	L	dn:	82		176	3	379		817		
	CN	EL:	85		184	1	396		854		

	FH\	WA-RD-77-108	HIGH	WAY	NOISE P	REDICT	ION MO	DDEL			
Road Nar	rio: Existing (20 ne: Meridian Pl ent: n/o Van Bu	kwy.						Meridia 12761	an South C	ampus	
SITE	SPECIFIC IN	IPUT DATA				N	IOISE	MODE	L INPUT	S	
Highway Data					Site Cor	ditions	(Hard :	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	10,503 vehicle	es					Autos:	15		
Peak Hou	r Percentage:	7.73%			Me	edium Tri	ucks (2	Axles):	15		
Peak I	Hour Volume:	812 vehicle	s		He	eavy Truc	cks (3+	Axles):	15		
Ve	ehicle Speed:	45 mph		ŀ	Vehicle	Mix					
Near/Far La	ane Distance:	44 feet		f		icleType	,	Day	Evening	Night	Daily
Site Data							Autos:	71.1%		18.0%	91.42%
Rs	arrier Height:	0.0 feet			М	edium T	rucks:	73.6%	7.7%	18.6%	4.64%
Barrier Type (0-V		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94%
Centerline D	ist. to Barrier:	56.0 feet		-	Noise S	ourco El	lovatio	ne (in f	not)		
Centerline Dist.	to Observer:	56.0 feet		-	NOISE S	Auto:		0.000	oei)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		2.297			
Observer Height	(Above Pad):	5.0 feet				vy Truck		1.297	Grade Ad	liustmen	t· n n
Pad Elevation: 0.0 feet					пеа	vy Truck	S. C	0.004	Orade Ad	jusuriori	. 0.0
Ro	Road Elevation: 0.0 feet					uivalent	Distar	nce (in	feet)		
	Road Grade:	0.0%				Auto	s: 51	1.740			
	Left View:	-90.0 degre	es			m Truck		1.568			
	Right View:	90.0 degre	es		Hea	vy Truck	s: 51	1.585			
FHWA Noise Mod	lel Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	en Be	rm Atten
Autos.		-3.13		-0.3	33	-1.20		-4.67	0.0	000	0.000
Medium Trucks.	79.45	-16.08		-0.3	30	-1.20		-4.87	0.0	000	0.000
Heavy Trucks.	84.25	-16.79		-0.3	31	-1.20		-5.37	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atter	nuation)						
VehicleType	Leq Peak Ho			Leg E	vening		Night		Ldn		NEL
Autos.		3.8	62.6		60.5		57		65.3		65.7
Medium Trucks.	-	1.9	60.9		57.1		56		63.	-	63.7
Heavy Trucks		3.0	65.1					67.7			
Vehicle Noise.	65	9.0	68.0		64.4		63	.1	70.	5	70.7
Centerline Distan	ce to Noise C	ontour (in feet)	70	dBA	65	dBA		60 dBA	E.F.	i dBA
			Ldn:	70	60		13	_	279		601
		С	NEL:		63		13	-	278		628
					30			-	0.		-20

Friday, April 24, 20	020
----------------------	-----

	FHWA	-RD-77-108 HIG	HWAY N	OISE P	REDICT	ION MOI	DEL					
Scenario: Road Name: Road Segment:		*		Project Name: Meridian South Campus Job Number: 12761								
	PECIFIC INP	UT DATA		NOISE MODEL INPUTS								
Highway Data			S	ite Cor	ditions	(Hard =	10, So	ft = 15)				
	ercentage: ir Volume:	7,769 vehicles 7.73% 601 vehicles				rucks (2 A rucks (3+ A	,	15 15 15				
	cle Speed:	40 mph	V	'ehicle	Mix							
Near/Far Lane	Distance:	50 feet		Veh	icleType	9	Day	Evening	Night	Daily		
Site Data							71.1%	10.9%	18.0%	91.42%		
Barri	er Height:	0.0 feet			ledium 7		73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-Wall	l, 1-Berm):	0.0			Heavy 1	rucks:	75.6%	6.7%	17.8%	3.94%		
Centerline Dist.	to Barrier:	44.0 feet		loise S	nurce F	levations	in fo	of)				
Centerline Dist. to	Observer:	44.0 feet		10/36 0	Auto		000	<i>(</i> 1)				
Barrier Distance to	Observer:	0.0 feet		Mediu	m Truck		297					
Observer Height (Al	oove Pad):	5.0 feet			vy Truck			Grade Adji	ustment	0.0		
Pad	Elevation:	0.0 feet										
	Elevation:	0.0 feet	L	ane Eq		t Distanc	_	eet)				
Ro		0.0%			Auto							
		-90.0 degrees			m Truck							
F	Right View:	90.0 degrees		Hea	vy Truci	rs: 36.0	332					
FHWA Noise Model	Calculations											
VehicleType			istance		Road	Fresn		Barrier Atte	en Ber	m Atten		
Autos:	66.51	-3.93	1.94		-1.20		-4.61	0.0		0.000		
Medium Trucks:	77.72	-16.88	1.98		-1.20		-4.87	0.0		0.000		
Heavy Trucks:	82.99	-17.59	1.98		-1.20		-5.50	0.0	00	0.000		
Unmitigated Noise L	•	t Topo and barr	ier attenı	ıation)								
.,	eq Peak Hour	Leq Day	Leq Ev			Night		Ldn		VEL		
Autos:	63.3	62.2		60.1		57.4		64.8		65.2		
Medium Trucks:	61.6	60.6		56.8		55.9		63.2		63.5		
Heavy Trucks:	66.2	65.3		60.8		60.3		67.6		67.9		
Vehicle Noise:	68.9	67.9		64.3		63.0	1	70.4		70.7		
Centerline Distance	to Noise Cont	tour (in feet)	70	D4	-	-/D.4	_	0 -10.4		-10.4		
		I dn:	70 d	BA 47	65	dBA 101	6	0 dBA 217	55	dBA 467		
		Lan: CNFI:		47		101		217		467 488		
		CNEL:		49		105		226		468		

		VA-RD-77-108									
	o: Existing (20	119)							n South C	ampus	
Road Name		and Au				JOD IN	umber.	12761			
Road Segmen	t: n/o Cottonw	7000 AV.									
	PECIFIC IN	PUT DATA							L INPUT	S	
Highway Data				S	ite Con	ditions (Hard:	= 10, Sc	ft = 15)		
Average Daily	Fraffic (Adt):	10,365 vehicle	es					Autos:	15		
Peak Hour		7.73%				edium Tru					
Peak H	our Volume:	801 vehicles	S		He	avy Truc	ks (3+	Axles):	15		
	nicle Speed:	40 mph		V	ehicle	Mix					
Near/Far Lar	e Distance:	50 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						Α.	utos:	71.1%	10.9%	18.0%	91.42
Rar	rier Heiaht:	0.0 feet			М	edium Tr	ucks:	73.6%	7.7%	18.6%	4.64
Barrier Type (0-W	all, 1-Berm):	0.0				Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.94
Centerline Dis		44.0 feet		٨	loise So	ource Ele	evatio	ns (in fe	et)		
Centerline Dist.		44.0 feet				Autos	:: C	0.000			
Barrier Distance t		0.0 feet			Mediu	m Trucks	3: 2	.297			
Observer Height (,	5.0 feet			Hear	vy Trucks	s: 8	3.004	Grade Ad	justment	0.0
	d Elevation:	0.0 feet					D/	//			
	d Elevation:	0.0 feet		L	ane Eq	uivalent			eet)		
F	Road Grade:	0.0%				Autos		3.551			
	Left View:	-90.0 degree				m Trucks		3.308			
	Right View:	90.0 degree	es		Heat	y Trucks	s: 3t	5.332			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow	Dis	tance		Road	Fres		Barrier Att		m Atter
Autos:	66.51	-2.68		1.94		-1.20		-4.61		000	0.00
Medium Trucks:	77.72	-15.62		1.98		-1.20		-4.87		000	0.00
Heavy Trucks:	82.99	-16.33		1.98		-1.20		-5.50	0.0	000	0.00
Unmitigated Noise VehicleType	Leveis (with Leg Peak Hou		_	Leg Ev		Leg I	light	_	l dn		NEL
Autos:	64		63.4	LUYLV	61.3	_	58 58	7	66.1		66
Medium Trucks:	62		61.9		58.1		57		64.5		64
Heavy Trucks:	67		66.5		62.0		61	-	68.9	-	69
Vehicle Noise:	70		69.2		65.6		64		71.6		71
Centerline Distanc	e to Noise Co	ntour (in feet)								
				70 a	IBA .	65 (i0 dBA	55	dBA
			Ldn:		57		12	2	263		56
			NFI:				12				

Friday, April 24, 2020

	FHV	VA-RD-77-108	HIGHWA	AY N	OISE PI	REDICT	ION MO	DEL							
Road Nar	rio: Existing (20 me: Alessandro ent: w/o Mission	BI.					t Name: lumber:		an South C	ampus					
	SPECIFIC IN	IPUT DATA							L INPUTS	6	r Daily % 91.42% % 4.64% % 3.94%				
Highway Data				S	ite Con	ditions	(Hard =	10, S	oft = 15)						
Average Daily	Traffic (Adt):	46,485 vehicle	es					Autos.							
	r Percentage:	7.73%					ucks (2								
	Hour Volume:	3,593 vehicles	3		He	avy Tru	cks (3+.	Axles).	: 15						
	ehicle Speed:	55 mph		ν	ehicle l	Wix									
Near/Far La	ane Distance:	72 feet			Veh	icleType	9	Day	Evening	Night	Daily				
Site Data							Autos:	71.19	6 10.9%	18.09	6 91.42%				
Ba	arrier Height:	0.0 feet			M	edium 7	rucks:	73.69	6 7.7%	18.69	6 4.64%				
Barrier Type (0-V		0.0			1	Heavy 7	rucks:	75.6%	6.7%	17.89	6 3.94%				
	ist. to Barrier:	60.0 feet			Inina Ca	voo E	levation	o (in f	0.041						
Centerline Dist.	to Observer:	60.0 feet		^	ioise sc	Auto		000	eel)						
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297							
Observer Height (Above Pad): 5.0 feet						vy Truck		004	Grade Adj	ustmer	nt: 0 0				
Pad Elevation: 0.0 feet					77001	y much		004	Orado riaj	00011101	n. 0.0				
Ro	ad Elevation:	0.0 feet	L	ane Eq	uivalen	t Distan	ce (in	feet)							
	Road Grade:	0.0%				Auto		.260							
	Left View:	-90.0 degree	es			m Truck		.076							
	Right View:	90.0 degree	es		Heav	y Truck	rs: 48	.094							
FHWA Noise Mod	lel Calculation:	s													
VehicleType	REMEL	Traffic Flow	Distan	ce	Finite	Road	Fresi	nel	Barrier Atte	en Be	erm Atten				
Autos:		2.46		0.13		-1.20		-4.69	0.0						
Medium Trucks:		-10.49		0.15		-1.20		-4.88	0.0						
Heavy Trucks:	86.40	-11.20		0.15	5	-1.20		-5.34	0.0	00	0.000				
Unmitigated Nois															
VehicleType	Leq Peak Hou			eq Ev	ening	Leq	Night		Ldn						
Autos:			72.0		69.9		67.		74.7						
Medium Trucks:			69.9		66.1		65.		72.5						
Heavy Trucks: Vehicle Noise:			73.3 76.7		68.7 73.3		68.: 71.:		75.6 79.2		75.8				
Centerline Distan	ce to Noise Co	ontour (in feet))												
z zz z rotari		(111 1001)		70 d	IBA .	65	dBA		60 dBA	5	5 dBA				
			Ldn:		246		531		1,144		2,464				
		CI	VEL:		258		555	5	1,196		2,577				

	FHV	/A-RD-77-108	HIGH	1 YAW	NOISE P	REDICT	ION MO	DDEL			
	e: Existing (20 e: Alessandro t: e/o Mission	BI.						Meridia 12761	an South C	ampus	
SITE S	PECIFIC IN	PUT DATA				N	IOISE	MODE	L INPUT	S	
Highway Data					Site Cor	ditions	(Hard :	= 10, Sc	oft = 15)		
Average Daily T	raffic (Adt):	49,202 vehicle	es					Autos:	15		
Peak Hour F	Percentage:	7.73%			Me	edium Tri	ucks (2	Axles):	15		
Peak Ho	ur Volume:	3,803 vehicles	s		He	eavy Truc	cks (3+	Axles):	15		
Veh	icle Speed:	55 mph			Vehicle	Mix					
Near/Far Lan	e Distance:	72 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	71.1%		18.0%	91.42%
Rarr	ier Height:	0.0 feet			М	edium T	rucks:	73.6%	7.7%	18.6%	4.64%
Barrier Type (0-Wa		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94%
,, ,	Centerline Dist. to Barrier: 60.0 feet						lovatio	ns (in f	not)		
Centerline Dist. to	Observer:	60.0 feet			Noise 3	Auto		0.000	eel)		
Barrier Distance to	Observer:	0.0 feet			Modiu	m Truck		2.297			
Observer Height (A	lbove Pad):	5.0 feet				vy Truck		1.297	Grade Ad	iustmeni	- 0.0
Pad Elevation: 0.0 feet										dourion	. 0.0
Road	d Elevation:	0.0 feet			Lane Eq	uivalent	Distar	nce (in	feet)		
R	oad Grade:	0.0%				Auto	s: 48	3.260			
	Left View:	-90.0 degree	es			m Truck		3.076			
	Right View:	90.0 degree	es		Hea	vy Truck	s: 48	3.094			
FHWA Noise Model	Calculations	3									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	en Bei	rm Atten
Autos:	71.78	2.70		0.1	-	-1.20		-4.69		000	0.000
Medium Trucks:	82.40	-10.24		0.1	-	-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-10.95		0.1	5	-1.20		-5.34	0.0	000	0.000
Unmitigated Noise	•										
	eq Peak Hou			Leq E	vening		Night		Ldn		NEL
Autos:	73.		72.3		70.1		67		74.9		75.3
Medium Trucks:	71.		70.1		66.3		65		72.		73.0
Heavy Trucks: Vehicle Noise:	74. 77.		73.5 76.9					76.1 79.7			
					70.0						
Centerline Distance	e to Noise Co	mour (in reet		70	dBA	65	dBA		60 dBA	55	dBA
			Ldn:		256		55	1	1,188		2,559
		C	NEL:		268		57	7	1,242		2,676

Friday, April 24, 20	020
----------------------	-----

	FHV	VA-RD-77-108	HIGHWA	AY NO	DISE P	REDICT	TION MO	DEL					
	o: Existing (20 e: Alessandro t: w/o Old 215	BI.			Project Name: Meridian South Campus Job Number: 12761								
	PECIFIC IN	PUT DATA			NOISE MODEL INPUTS								
Highway Data				Si	ite Cor	nditions	(Hard =	10, Sc	oft = 15)				
	Percentage: our Volume:	35,971 vehicle 7.73% 2,781 vehicles					rucks (2) icks (3+)	,	15				
	icle Speed:	45 mph 72 feet		Ve	ehicle	Mix							
Near/Far Lan		Ver	nicleTyp	е	Day	Evening	Night	Daily					
Site Data							Autos:	71.1%	10.9%	18.0%	91.42%		
Barı	rier Height:	0.0 feet				ledium T		73.6%		18.6%			
Barrier Type (0-Wa			Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%					
Centerline Dis	t. to Barrier:	60.0 feet		M	nisa S	ource F	levation	e (in fa	not)				
Centerline Dist. t	o Observer:	60.0 feet		/**	0/36 0	Auto		000					
Barrier Distance to	o Observer:	0.0 feet			Mediu	ım Truci		297					
Observer Height (A			vy Truci		004	Grade Adj	ustmen	: 0.0					
Pa	d Elevation:	0.0 feet											
Roa	d Elevation:	0.0 feet		Lá	ane Eq		t Distan	_	feet)				
R	Road Grade:	0.0%				Auto		260					
	Left View:	-90.0 degree				ım Truci		076					
	Right View:	90.0 degree	es .		Hea	vy Truci	ks: 48.	094					
FHWA Noise Mode	l Calculation:	s											
VehicleType	REMEL	Traffic Flow	Distan		Finite	Road	Fresr		Barrier Atte	en Be	rm Atten		
Autos:	68.46	2.21		0.13		-1.20		-4.69	0.0		0.000		
Medium Trucks:	79.45	-10.73		0.15		-1.20		-4.88	0.0		0.000		
Heavy Trucks:	84.25	-11.44		0.15		-1.20		-5.34	0.0	100	0.000		
Unmitigated Noise	•		barrier a	ttenu	ation)								
	Leq Peak Hou			eq Eve			Night		Ldn		NEL		
Autos:	69		68.4		66.3		63.7		71.1		71.5		
Medium Trucks:	67		66.7		62.9		62.0		69.3		69.5		
Heavy Trucks:	71		70.9		66.4		65.8		73.2		73.5		
Vehicle Noise:	74		73.8		70.2	!	68.9)	76.3	}	76.5		
Centerline Distance	e to Noise Co	ntour (in feet)		70 4		05	-10.4		20 -(D4		-104		
			l dn:	70 dE	3A 157	65	dBA 338		60 dBA 729	55	1.570		
			Lan: VFI :		164		353		729 761		1,639		
		Ci	VLL.		104		333		701		1,039		

		40)							0 " -							
Scenario: Exis Road Name: Ales						Project N			n South C	ampus						
Road Name: Ales Road Seament: e/o						JOD IVU	mber:	12/01								
SITE SPECI	FIC IN	PUT DATA							L INPUT	S	t Daily % 91.42% 4.64% 3.94%					
Highway Data				S	ite Con	ditions (F										
Average Daily Traffic		44,182 vehicle	es					Autos:	15							
Peak Hour Percer		7.73%				dium Truc			15							
Peak Hour Vo.		3,415 vehicles	S		He	avy Truck	s (3+.	Axles):	15							
Vehicle S		55 mph		ν	ehicle I	Viix										
Near/Far Lane Dist	ance:	72 feet			Vehi	icleType		Day	Evening	Night	Daily					
Site Data						Au	ıtos:	71.1%	10.9%	18.0%	91.429					
Barrier He	eiaht.	0.0 feet			Me	edium Tru	cks:	73.6%	7.7%	18.6%	4.64					
Barrier Type (0-Wall, 1-B		0.0			F	Heavy Tru	cks:	75.6%	6.7%	17.8%	3.949					
Centerline Dist. to Ba	arrier:	60.0 feet		Λ	loise So	urce Ele	vation	s (in fe	eet)							
Centerline Dist. to Obs		60.0 feet				Autos:		000								
Barrier Distance to Obs	erver:	0.0 feet			Mediur	m Trucks:		297								
Observer Height (Above	,	5.0 feet			Heav	y Trucks:	8	004	Grade Ad	justment	: 0.0					
Pad Elev		0.0 feet		_												
Road Elevation: 0.0 feet					ane Equ	uivalent L			eet)							
Road G		0.0%				Autos:		.260								
	View:	-90.0 degree				m Trucks:		.076								
Right	View:	90.0 degree	es		Heav	y Trucks:	48	.094								
FHWA Noise Model Calc																
VehicleType REN		Traffic Flow	Dist	ance	Finite		Fresi		Barrier Att	_						
Autos:	71.78	2.24		0.13		-1.20		-4.69		000						
Medium Trucks:	82.40	-10.71		0.15		-1.20		-4.88		000						
Heavy Trucks:	86.40	-11.42		0.15		-1.20		-5.34	0.0	000	0.00					
Unmitigated Noise Level	_															
	eak Hou	., .,	_	Leq Ev		Leq N	_		Ldn		NEL					
Autos:	72.		71.8		69.7		67.		74.4		74					
Medium Trucks:	70.	-	69.6		65.9		64.	-	72.2	-	72					
Heavy Trucks:	73.		73.0		68.5		68.	-	75.4		75					
Vehicle Noise:	77.		76.5		73.1		71.	0	79.0	J	79					
Centerline Distance to N	oise Co	ntour (in feet)	70 d	DΛ	65 dl	RA	- 6	i0 dBA	55	dBA					
Contornio Dictance to 11																
Contornio Diotanio to 11			I dn:	70 0	238	00 01	513		1.106		2.38					

FH	WA-RD-77-108 H	IIGHWAY	NOISE PI	REDICT	ION MOI	DEL								
Scenario: Existing (2 Road Name: Alessandr Road Segment: w/o Day S	o Bl.		Project Name: Meridian South Campus Job Number: 12761											
SITE SPECIFIC I	NPUT DATA						L INPUTS	i	t Daily 10% 91.42% 33% 4.64% 33% 3.94%					
Highway Data			Site Con	ditions	(Hard =	10, Sc	oft = 15)							
Average Daily Traffic (Adt):	29,951 vehicles				A	Autos:	15							
Peak Hour Percentage:	7.73%		Ме	edium Ti	rucks (2 A	xles):	15							
Peak Hour Volume:	2,315 vehicles		He	avy Tru	icks (3+ A	xles):	15							
Vehicle Speed:	45 mph		Vehicle	Mix					_					
Near/Far Lane Distance:	82 feet			icleType	9 .	Day	Evening	Night Da	aily					
Site Data					Autos:	71.1%	10.9%	18.0% 91.	42%					
Barrier Height:	0.0 feet		М	edium 7	rucks:	73.6%	7.7%	18.6% 4.	64%					
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy 7	rucks:	75.6%	6.7%	17.8% 3.	94%					
Centerline Dist. to Barrier:	67.0 feet		Noise S	urce F	levations	(in fa	oot)		-					
Centerline Dist. to Observer:	67.0 feet		740/36 00	Auto		•	.01)		-					
Barrier Distance to Observer:	0.0 feet		Mediu	m Truck										
Observer Height (Above Pad):			vy Truck			Grade Adii	stment: 0.0							
Pad Elevation:			•											
Road Elevation:	0.0 feet		Lane Eq		t Distanc		feet)							
Road Grade:	0.0%			Auto										
Left View:	-90.0 degrees			m Truck										
Right View:	90.0 degrees		Hear	y Truck	rs: 53.0)76								
FHWA Noise Model Calculation	าร													
VehicleType REMEL	Traffic Flow	Distance	Finite	Road	Fresn	el	Barrier Atte	n Berm At	ten					
Autos: 68.4	1.42	-0.	51	-1.20		-4.71	0.0	0 0	.000					
Medium Trucks: 79.4		-0.		-1.20		-4.88	0.0							
Heavy Trucks: 84.2	5 -12.24	-0.	49	-1.20		-5.29	0.0	00 0	.000					
Unmitigated Noise Levels (with														
VehicleType Leq Peak Ho			Evening		Night		Ldn							
		7.0	64.9		62.3		69.7							
		5.2	61.5		60.5		67.8		68.1					
		9.4	64.9		64.4 67.5		71.8 74.8		72.0 75.1					
			00.0		07.0		74.0							
Centerline Distance to Noise C	ontour (in feet)	70	dBA	65	dBA	6	60 dBA	55 dBA	-					
	Lo	dn:	141	- 50	303		653		406					
	CNEL:				316		682		468					

	FH'	WA-RD-77-10	B HIGI	HWAY	NOISE P	REDICTI	ON MC	DDEL								
Road Na	rio: Existing (2 me: Alessandro ent: e/o Day St.	BI.					Name: umber:		an South C	ampus						
SITE	SPECIFIC II	NPUT DATA				N	OISE	MODE	L INPUT	S	Daily 91.42% 4.64% 3.94%					
Highway Data					Site Cor	ditions	(Hard =	= 10, Sc	oft = 15)							
Average Daily	/ Traffic (Adt):	29,744 vehic	les					Autos:	15							
Peak Hou	r Percentage:	7.73%			Me	dium Tru	ıcks (2	Axles):	15							
Peak	Hour Volume:	2,299 vehicle	es		He	avy Truc	cks (3+	Axles):	15							
V	ehicle Speed:	45 mph		ŀ	Vehicle	Mix										
Near/Far L	ane Distance:	82 feet		1		icleType		Dav	Evening	Night	Dailv					
Site Data							lutos:	71.1%		18.0%	91.42%					
R:	arrier Height:	0.0 feet			М	edium Ti	ucks:	73.6%	7.7%	18.6%	4.64%					
Barrier Type (0-1	Vall, 1-Berm):	0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94%					
	ist. to Barrier:	67.0 feet			Noise S	ource El	evation	ıs (in fe	eet)							
Centerline Dist		67.0 feet				Autos	s: 0	.000								
Barrier Distance		0.0 feet			Mediu	m Truck	s: 2	.297								
Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet					Hear	vy Trucks	s: 8	.004	Grade Ad	justment	: 0.0					
Ro	oad Elevation:	0.0 feet			Lane Eq				reet)							
	Road Grade:	0.0%				Auto		.226								
	Left View:	-90.0 degre				m Truck		.059								
	Right View:	90.0 degre	es		Hea	y Truck:	s: 53	.076								
FHWA Noise Mod																
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atten					
Autos				-0.5		-1.20		-4.71		000	0.000					
Medium Trucks				-0.4		-1.20		-4.88		000	0.000					
Heavy Trucks				-0.4		-1.20		-5.29	0.0	000	0.000					
Unmitigated Nois								1		_						
VehicleType	Leq Peak Ho			Leq E	vening	_	Night		Ldn		NEL					
Autos		3.1	67.0		64.9		62. 60.		69.0		70.0					
Medium Trucks		5.2 1.3	65.2 69.4		61.4 64.9		64	-	67.8 71.8	-	68.1 72.0					
Heavy Trucks Vehicle Noise		3.3	72.3		68.8		67.		74.8		75.1					
Centerline Distar	ce to Noise C	ontour (in fee	t)													
				70	dBA	65	dBA	(60 dBA	55	dBA					
			Ldn:		140		30	1	650		1,399					
		C	NEL:		146		31	5	678		1,462					

Friday, April 24, 20	020
----------------------	-----

	FHWA	-RD-77-108 HIG	HWAY N	OISE P	REDICTION	IOM N	DEL			
Road Name	: Existing (2019 : Cactus Av. : e/o Innovation	•			Project Na Job Num			n South C	ampus	
	PECIFIC INP	JT DATA						INPUTS	S	
Veh	Percentage: 7 our Volume: 1, icle Speed:	0,653 vehicles 7.73% 519 vehicles 45 mph		Ме	editions (Ha edium Truck eavy Trucks Mix	ks (2 A	Autos: ixles):	15 15 15 15		
Near/Far Lan	e Distance:	80 feet		Veh	icleType		Day	Evening	Night	Daily
Barrier Type (0-Wa	. ,	0.0 feet 0.0			Aut edium Truc Heavy Truc	ks:	71.1% 73.6% 75.6%	10.9% 7.7% 6.7%	18.0% 18.6% 17.8%	4.64%
	o Observer: o Observer: above Pad): d Elevation:	60.0 feet 60.0 feet 0.0 feet 5.0 feet 0.0 feet		Mediu Hea	Autos: m Trucks: ry Trucks:	0.0 2.2 8.0	000 297 004	Grade Adj	ustment	: 0.0
R	Left View:	0.0 feet 0.0% -90.0 degrees 90.0 degrees		Mediu	uivalent Di Autos: m Trucks: ry Trucks:	45.0 44.8 44.8	303	<i></i>		
FHWA Noise Model		raffic Flow D	istance	Fig. it.	Road	Fresn	-1 1	Barrier Atte	0	m Atten
VehicleType Autos: Medium Trucks: Heavy Trucks:	68.46 79.45 84.25	-0.41 -13.36 -14.07	0.58 0.61 0.61	3 I	-1.20 -1.20 -1.20		-4.69 -4.88 -5.34	0.0 0.0 0.0	000	0.000 0.000 0.000
Unmitigated Noise	Levels (withou	t Topo and barr	ier atteni	uation)						
VehicleType L	eq Peak Hour	Leq Day	Leq Ev	ening	Leq Nig	ght		Ldn	C	NEL
Autos: Medium Trucks: Heavy Trucks:	67.4 65.5 69.6	66.3 64.5 68.7		64.2 60.7 64.2		61.5 59.8 63.7		68.9 67.1 71.1		69.0 67.4 71.0
Vehicle Noise:	72.6	71.6		68.1		66.7		74.1		74.4
Centerline Distance	to Noise Cont	our (in feet)								
Diotano		(001)	70 d	IBA	65 dB.	Α	6	0 dBA	55	dBA
		Ldn: CNEL:		113 118		242 253		522 546		1,125 1,176

	FHW.	A-RD-77-108	HIGH	WAY N	IOISE PI	REDICT	ION M	ODEL						
Scenario: Existing Road Name: Cactus Road Segment: w/o Inn	Av.	,				.,		: Meridia : 12761	an South C	ampus				
SITE SPECIFIC	INP	UT DATA							L INPUT	S				
Highway Data					Site Con	ditions	(Hard	= 10, Sc	oft = 15)					
Average Daily Traffic (Ad	t): 1	5,577 vehicle	es					Autos:	15					
Peak Hour Percentag	e:	7.73%			Me	edium Tr	ucks (2	Axles):	15					
Peak Hour Volum	e: 1	,204 vehicles	S		He	avy Tru	cks (3+	- Axles):	15					
Vehicle Spee	d:	45 mph		-	Vehicle	Mix								
Near/Far Lane Distanc	e:	80 feet		H	Veh	icleType	9	Day	Evening	Night	Daily			
Site Data							Autos:	71.1%	10.9%	18.0%	91.42			
Barrier Heigh	ıt.	0.0 feet			Medium Trucks: 73.6% 7.7% 18.						4.64			
Barrier Type (0-Wall, 1-Bern	n):	0.0			1	Heavy T	rucks:	75.6%	6.7%	17.8%	3.94			
Centerline Dist. to Barrie		60.0 feet		7	Noise Source Elevations (in feet)									
Centerline Dist. to Observe		60.0 feet				Auto	s: (0.000						
Barrier Distance to Observe		0.0 feet			Mediu	m Truck	s: 2	2.297						
Observer Height (Above Pa	,	5.0 feet			Hear	y Truck	s: 8	3.004	Grade Ad	justmen	t: 0.0			
Pad Elevation		0.0 feet		-										
Road Elevation		0.0 feet		μ.	Lane Eq				reet)					
Road Grad		0.0%				Auto		5.000						
Left Vie		-90.0 degree				m Truck		4.803						
Right Vie	W:	90.0 degree	es		Hear	y Truck	'S: 44	4.822						
FHWA Noise Model Calcula					_									
VehicleType REMEL	_	Traffic Flow	Dis	tance		Road	Fres		Barrier Att		rm Atter			
	.46	-1.42		0.5		-1.20		-4.69		000	0.00			
	.45	-14.37		0.6		-1.20		-4.88		000	0.00			
,	.25	-15.08		0.6		-1.20		-5.34	0.0	000	0.00			
Unmitigated Noise Levels (1						
VehicleType Leq Peak Autos:	66.4		65.3	Leq E	vening 63.2	_	Night 60		Ldn 67.5	_	NEL 68			
Autos: Medium Trucks:	64.5		63.5		59.7		58		66.		66			
Heavy Trucks:	68.6		67.7		63.2		62		70.0		70			
Vehicle Noise:	71.6		70.6		67.1		65		73.		73			
	e Con	tour (in feet)											
Centerline Distance to Noise								т.			-104			
Centerline Distance to Noise				70 (dBA	65	dBA		60 dBA	55	dBA			
Centerline Distance to Nois			Ldn:	70 (dBA 96	65	<i>dBA</i> 20		6U aBA 447		96			

	FHW	/A-RD-77-108	HIGHW	AY N	OISE PI	REDICT	ION M	ODEL					
Road Nam	io: Existing (20 e: Cactus Av. nt: w/o Elsworth	•					Name lumber		an South C	ampus			
	SPECIFIC IN	PUT DATA							L INPUT	s			
Highway Data	T 77 (4.14)	40.000 111		3	ite Con	aitions	(Hard	= 10, S Autos	oft = 15)				
Average Daily	l raffic (Adt): Percentage:	43,936 vehicle 7.73%	es		Me	dium Tr	uoko (3						
		3.396 vehicles			Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15								
	hicle Speed:	50 mph	•				UNO (OT	AAICS	. 10				
Near/Far I a		82 feet		ν	ehicle i								
	io Diotarioo.	02 1001			Veh	icleType		Day	Evening	Night	Daily		
Site Data				_			Autos:	71.19		18.0%			
	rier Height:	0.0 feet			Medium Trucks: 73.6% 7.7% 18.6%								
Barrier Type (0-W		0.0			Heavy Trucks: 75.6% 6.7% 17.8% 3.94								
Centerline Dis		67.0 feet		٨	loise So	ource El	evatio	ns (in f	eet)				
Centerline Dist.		67.0 feet			Autos: 0.000								
Barrier Distance		0.0 feet			Mediu	m Truck	s: 2	2.297					
Observer Height (,	5.0 feet 0.0 feet			Hear	y Truck	s: 8	3.004	Grade Ad	justmen	: 0.0		
	ad Elevation: ad Elevation:	0.0 feet			ano Ea	uivalen	Dieta	aco (in	foot)				
	ad Elevation: Road Grade:	0.0 feet 0.0%			ane Eq	Auto		3.226	ieet)				
,	l eft View:	-90.0 degree			Modiu	m Truck		3.059					
	Right View:	90.0 degree				vy Truck		3.076					
			,,,		77001	,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0. 0.	7.070					
FHWA Noise Mode													
VehicleType Autos:	REMEL 70.20	Traffic Flow 2.63	Distar	-0.51		Road -1.20	Fres	-4.71	Barrier Att		rm Atten 0.000		
Medium Trucks:	81.00	-10.32		-0.51		-1.20		-4.71		000	0.000		
Heavy Trucks:	85.38	-10.32		-0.49		-1.20		-5.29		000	0.000		
Unmitigated Noise						-1.20		0.23	0.0		0.000		
	Leg Peak Hou				ening	Lea	Night		Ldn	С	NEL		
Autos:	71.		70.0		67.9		65	.2	72.6	3	73.0		
Medium Trucks:	69.	0	68.0		64.2		63	.3	70.6	3	70.8		
Heavy Trucks:	72.	7	71.8		67.3		66	.7	74.	1	74.4		
Vehicle Noise:	75.	9	74.9		71.5		70	.1	77.4	1	77.7		
Centerline Distanc	e to Noise Co.	ntour (in feet)										
			L	70 d		65	dBA		60 dBA		dBA		
			Ldn: NFI:		210 219		45 47		975		2,100		
		Ci	VEL:		219		47	3	1,019		2,195		

	FH\	VA-RD-77-108	HIGH	WAY N	IOISE P	REDICT	ION MC	DEL							
	o: Existing (20 e: Cactus Av.	,					: Name: lumber:		an South C	ampus					
	SPECIFIC IN						IOISE	MODE	L INPUT	c					
Highway Data	SPECIFIC III	IFUI DATA			Site Cor					<u> </u>					
Average Daily	Traffic (Adt):	42,759 vehicle	25					Autos.							
,	Percentage:	7.73%			Me	edium Tr	ucks (2								
	our Volume:	3.305 vehicles	s			eavy Tru									
Vel	hicle Speed:	50 mph		L.	Vehicle										
Near/Far Lar	ne Distance:	82 feet		H				Day	Evening	Nicelas	Daily				
Site Data				-	VehicleType Day Evening Night Autos: 71.1% 10.9% 18.0										
						edium T		73.6%		18.6%					
	rier Height:	0.0 feet 0.0				Heavy T		75.6%		17.8%					
Barrier Type (0-W	. ,	0.0 67.0 feet								11.07	0.017				
	Centerline Dist. to Observer: 67.0 feet						Noise Source Elevations (in feet)								
Barrier Distance		0.0 feet				Auto		.000							
	Observer Height (Above Pad): 5.0 feet							.297							
	d Elevation:	0.0 feet			Hear	vy Truck	s: 8	.004	Grade Ad	justmen	t: 0.0				
Roa	d Elevation:	0.0 feet		1	Lane Eq	uivalen	t Distan	ce (in	feet)						
F	Road Grade:	0.0%				Auto	s: 53	.226							
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 53	.059							
	Right View:	90.0 degree	es		Hea	vy Truck	s: 53	.076							
FHWA Noise Mode	l Calculation	s													
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten				
Autos:	70.20	2.51		-0.5		-1.20		-4.71		000	0.000				
Medium Trucks:	81.00	-10.44		-0.4	-	-1.20		-4.88		000	0.000				
Heavy Trucks:	85.38	-11.15		-0.4	9	-1.20		-5.29	0.0	000	0.000				
Unmitigated Noise	•									1 -					
,,	Leq Peak Hou			Leq E	vening		Night		Ldn		NEL				
Autos: Medium Trucks:	71 68		69.8 67.9		67.7 64.1		65. 63.		72.5 70.5	-	72.9 70.7				
Heavy Trucks:	72		71.6		67.1		66.	_	70.:	-	70.7				
Vehicle Noise:	75		74.8		71.4		70.	-	77.3		77.0				
Centerline Distance	e to Noise Co	ntour (in feet)												
Contenine Distant	J 110/36 OC	Jui (iii ieet		70 (dBA	65	dBA		60 dBA	55	dBA				
			Ldn:		206		444	1	957	-	2,062				
		C	NEL:		216		464	Į.	1,000		2,155				

Friday, April 24, 2020	, 2020	24,	April	Friday,
------------------------	--------	-----	-------	---------

Road Name: Cactus Av. Road Segment: e/o Graham St. SITE SPECIFIC INPUT DATA MOISE M Site Conditions (Hard =	12761 MODEL		ampus									
Highway Data Site Conditions (Hard =			Project Name: Meridian South Campus Job Number: 12761									
,			s									
	10, 501	ft = 15)										
Tronago Bany Tramo (Taty. 10,010 Vollado	Autos:	15										
Peak Hour Percentage: 7.73% Medium Trucks (2 A	,	15										
Peak Hour Volume: 3,134 vehicles Heavy Trucks (3+ A	Axles):	15										
Vehicle Speed: 50 mph Vehicle Mix												
Near/Far Lane Distance: 82 feet VehicleType	Day	Evening	Night	Daily								
Site Data Autos:	71.1%	10.9%	18.0%	91.429								
Barrier Height: 0.0 feet Medium Trucks:	73.6%	7.7%	18.6%	4.649								
Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks:	75.6%	6.7%	17.8%	3.949								
Centerline Dist. to Barrier: 67.0 feet Noise Source Elevations	s (in fe	et)										
	000											
	297											
	004	Grade Adj	justment	. 0.0								
Pad Elevation: 0.0 feet Road Flevation: 0.0 feet Lane Equivalent Distance	oo (in fe	204)										
	226	eel)										
71000 07000	.059											
	.076											
FHWA Noise Model Calculations												
VehicleType REMEL Traffic Flow Distance Finite Road Fresh	nel E	Barrier Atte	en Bei	rm Atten								
Autos: 70.20 2.28 -0.51 -1.20	-4.71	0.0	000	0.00								
Medium Trucks: 81.00 -10.67 -0.49 -1.20	-4.88	0.0	000	0.00								
Heavy Trucks: 85.38 -11.38 -0.49 -1.20	-5.29	0.0	000	0.00								
Unmitigated Noise Levels (without Topo and barrier attenuation)	1											
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night		Ldn		NEL								
Autos: 70.8 69.6 67.5 64.9	-	72.3	-	72.								
Medium Trucks: 68.6 67.6 63.9 62.9	-	70.2	-	70.								
Heavy Trucks: 72.3 71.4 66.9 66.4		73.8		74.								
Vehicle Noise: 75.6 74.6 71.1 69.7	/	77.1	ı	77.								
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA		0 dBA	FF	dBA								
I dn: 199 429		924		1.990								
CNFI: 208 448		966		2.080								
O14LE. 200 440		500		2,000								

0	1: (00	40)							0 11 0		
Scenario: Exi		19)							an South C	ampus	
Road Name: Cad Road Seament: w/o		· C+				JOD IVI	umber:	12761			
SITE SPEC	IFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Con	ditions (Hard :				
Average Daily Traffic		46,821 vehicle	s					Autos:			
Peak Hour Percei		7.73%				dium Tru					
Peak Hour Vo		3,619 vehicles	3		He	avy Truc	ks (3+	Axles):	15		
Vehicle S		50 mph			Vehicle	Wix					
Near/Far Lane Dis	ance:	82 feet		l	Veh	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	71.1%	10.9%	18.0%	91.429
Barrier H	eiaht:	0.0 feet			М	edium Tr	ucks:	73.6%	7.7%	18.6%	4.64
Barrier Type (0-Wall, 1-E		0.0				Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.94
Centerline Dist. to B		67.0 feet			Noise So	ource Ele	evatio	ns (in fe	eet)		
Centerline Dist. to Obs		67.0 feet				Autos	: O	.000			
Barrier Distance to Obs		0.0 feet			Mediu	m Trucks		.297			
Observer Height (Above		5.0 feet				y Trucks		.004	Grade Ad	justment	: 0.0
Pad Elev		0.0 feet									
Road Elev		0.0 feet			Lane Eq				feet)		
Road (0.0%				Autos		3.226			
	View:	-90.0 degree				m Trucks		3.059			
Right	View:	90.0 degree	es		Hear	y Trucks	8: 53	3.076			
FHWA Noise Model Cald	ulations	3									
,,, .	MEL	Traffic Flow	D	istance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atter
Autos:	70.20	2.90		-0.		-1.20		-4.71		000	0.00
Medium Trucks:	81.00	-10.04		-0.4		-1.20		-4.88		000	0.00
Heavy Trucks:	85.38	-10.75		-0.4	49	-1.20		-5.29	0.0	000	0.00
Unmitigated Noise Leve	_		barr	ier atte	nuation)						
	eak Hou	, ,	_		vening	Leq I			Ldn	_	NEL
Autos:	71.		70.2		68.1		65		72.9	-	73
Medium Trucks:	69.		68.3		64.5		63		70.9	-	71
Heavy Trucks:	72.	-	72.0		67.5		67		74.4		74.
Vehicle Noise:	76.	.2	75.2	<u> </u>	71.8		70	.3	77.7	7	78
Centerline Distance to N	oise Co	ntour (in feet))								
					dBA	65 (60 dBA		dBA
			Ldn:		219		47		1,017		2,19
		CI	VFI:		229		49	3	1.063		2,29

Friday, April 24, 2020

	FH	WA-RD-77-10	B HIGHV	NAY N	OISE PI	REDICTI	ON MOI	DEL					
Road Nan	io: Existing (2) ne: Van Buren nt: w/o Wood	BI.					Name: N umber: 1		an South Car	mpus			
SITE	SPECIFIC IN	IPUT DATA				N	OISE N	IODE	L INPUTS				
Highway Data				S	Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	39.524 vehic	les				,	Autos:	15				
	Percentage:	7.73%			Me	dium Tru	icks (2 A	xles):	15				
Peak F	lour Volume:	3,055 vehicle	es		He	avy Truc	ks (3+ A	xles):	15				
Ve	hicle Speed:	50 mph		1/	'ehicle l	Miss							
Near/Far La	ne Distance:	72 feet		V		icleType		Day	Evening I	Vight	Daily		
Site Data					Ven			71.1%		18.0%	91.42%		
					M	edium Tı		73.6%		18.6%	4.64%		
	rrier Height:	0.0 feet 0.0				Heavy Tr		75.6%		17.8%	3.94%		
Barrier Type (0-W Centerline Di		0.0 60.0 feet											
Centerline Di		60.0 feet		٨	Noise Source Elevations (in feet)								
Barrier Distance		Autos: 0.000											
Observer Height		Mediu	m Trucks	s: 2.2	97								
	ad Elevation:	5.0 feet 0.0 feet			Heav	y Trucks	s: 8.0	104	Grade Adjus	stment:	0.0		
	ad Elevation:	0.0 feet		L	ane Ea	uivalent	Distanc	e (in	feet)				
	Road Grade:	0.0%				Autos			,				
	Left View:	-90.0 degre	es		Mediu	m Trucks	s: 48.0	76					
	Right View:	90.0 degre			Heav	y Trucks	s: 48.0	94					
FHWA Noise Mod	el Calculation	s											
VehicleType	REMEL	Traffic Flow	Dista			Road	Fresn		Barrier Atter	_	m Atten		
Autos:	70.20			0.13		-1.20		-4.69	0.00		0.000		
Medium Trucks:				0.15		-1.20		-4.88	0.00		0.000		
Heavy Trucks:				0.15		-1.20		-5.34	0.00	0	0.000		
Unmitigated Nois					_								
VehicleType	Leq Peak Ho		,	Leq Ev		Leq	Night		Ldn	CI	VEL		
Autos:		1.3	70.1		68.0		65.4		72.8		73.2		
Medium Trucks:		9.2	68.2		64.4		63.5		70.8		71.0		
Heavy Trucks:		2.8	71.9		67.4		66.9		74.3		74.5		
Vehicle Noise:		3.1	75.1		71.7		70.3		77.6		77.9		
Centerline Distan	ce to Noise C	ontour (in fee	t)										
			L	70 d		65 ((60 dBA	55	dBA		
		_	Ldn:		193		417		897		1,934		
			NEL:		202		435		938		2,021		

	FHW	A-RD-77-108	HIGH	IWAY I	NOISE P	REDICT	ION M	DDEL					
Scenario: E Road Name: V Road Segment: e	/an Buren B	si.						Meridia 12761	an South C	ampus			
SITE SPE	CIFIC IN	PUT DATA							L INPUT	S			
Highway Data					Site Cor	ditions	(Hard:	= 10, Sc	oft = 15)				
Average Daily Traf	fic (Adt):	37,118 vehicle	es					Autos:	15				
Peak Hour Per	centage:	7.73%			Me	edium Tr	ucks (2	Axles):	15				
Peak Hour	Volume:	2,869 vehicles	S		He	eavy Tru	cks (3+	Axles):	15				
Vehicle	Speed:	50 mph		-	Vehicle	Mix							
Near/Far Lane D	Distance:	72 feet		ŀ	Veh	icleType	,	Day	Evening	Night	Daily		
Site Data							Autos:	71.1%	10.9%	18.0%	91.42%		
Rarrier	Height:	0.0 feet			M	edium T	rucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-Wall,		0.0			Heavy Trucks: 75.6% 6.7% 17.8% 3.9								
Centerline Dist. to	Barrier:	60.0 feet		-	Noise Source Elevations (in feet)								
Centerline Dist. to O	bserver:	60.0 feet		-	NOISE S	Auto		0.000	<i>(</i>				
Barrier Distance to O	bserver:	0.0 feet			Medium Trucks: 2.297								
Observer Height (Abo	ve Pad):	5.0 feet				vy Truck		1.004	Grade Ad	iustmeni	: 0.0		
Pad E	levation:	0.0 feet			•				douriorii	. 0.0			
Road E	levation:	0.0 feet			Lane Eq	uivalen	t Distai	nce (in	feet)				
Road	d Grade:	0.0%				Auto	s: 48	3.260					
L	eft View:	-90.0 degrees			Medium Trucks: 48.076								
Rig	ght View:	90.0 degree	es		Hea	vy Truck	s: 48	3.094					
FHWA Noise Model Ca	alculations												
, , ,	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	en Bei	m Atten		
Autos:	70.20	1.89		0.1	.13 -1.20			-4.69		000	0.000		
Medium Trucks:	81.00	-11.05		0.1	-	-1.20		-4.88		000	0.000		
Heavy Trucks:	85.38	-11.76		0.1	15	-1.20		-5.34	0.0	000	0.000		
Unmitigated Noise Le	•												
	Peak Hour			Leq E	vening		Night		Ldn		NEL		
Autos:	71.	-	69.9		67.8		65		72.		72.9		
Medium Trucks:	68.	-	67.9		64.1		63	-	70.	-	70.8		
Heavy Trucks: Vehicle Noise:	72.i		71.7 74.9		67.2 71.4		66 70		74.0		74.3 77.6		
Centerline Distance to)										
Contenine Distance IC	, 11013E COI	nour (iii ieel	, 	70	dBA	65	dBA		60 dBA	55	dBA		
			Ldn:		185		39	9	861		1,854		
		C	NEL:		194		41	8	900		1,938		

Friday, April 24, 2	020
---------------------	-----

	FHV	VA-RD-77-108	HIGHWA	AY NO	ISE P	REDICT	ION MO	ODEL			
	Existing (20 Van Buren e/o Barton	BI.					t Name: Jumber:		an South C	ampus	
	PECIFIC IN	PUT DATA							L INPUT	S	
	. ,	33,068 vehicle 7.73% 2,556 vehicles 55 mph			Ме Не	edium Tr eavy Tru	ucks (2	Autos: Axles):	15		
Near/Far Lane		72 feet		Ve	hicle			D	I Commission	N.E. and a d	D-16
Site Data						icleType ledium T	Autos:	71.1% 73.6%		Night 18.0% 18.6%	
Barrier Type (0-Wai Centerline Dist.		0.0 feet 0.0				Heavy T		75.6%		17.8%	
Road Ro F FHWA Noise Model	Observer: bove Pad): I Elevation: I Elevation: pad Grade: Left View: Right View:	90.0 degree	0.0 feet 5.0 feet 0.0 feet 0.0 feet		Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustm Lane Equivalent Distance (in feet) Autos: 48.260 Medium Trucks: 48.076 Heavy Trucks: 48.094						
VehicleType Autos:	71.78	Traffic Flow 0.98	Distan	0.13	Finite	Road -1.20	Fres	-4.69	Barrier Att	en Bei 000	m Atten 0.00
Medium Trucks: Heavy Trucks:	82.40 86.40	-11.97 -12.68		0.15 0.15		-1.20 -1.20 -1.20		-4.88 -5.34	0.0	000	0.00
Unmitigated Noise L	Levels (with	out Topo and	barrier a	ttenua	ation)						
,,, .	eq Peak Hou			eq Eve		,	Night		Ldn		NEL
Autos:	71		70.5		68.4		65		73.2	-	73.
Medium Trucks:	69		68.4		64.6		63		71.0	-	71.
Heavy Trucks: Vehicle Noise:	72 76		71.8 75.2		67.3 71.8		66 70		74.1 77.7		74. 78.
Centerline Distance	to Noise Co	ntour (in feet)									
		,		70 dE	3A	65	dBA		60 dBA	55	dBA
			Ldn:		196		42	3	911		1,964
		CI	IEL:		205		44	2	953		2,053

	FH\	WA-RD-77-108	HIGHV	VAY NO	OISE P	REDICTI	ON MC	DEL			
Road Nar	rio: Existing (20 ne: Van Buren ent: w/o Barton	BI.					Name: umber:		an South C	Campus	
	SPECIFIC IN	NPUT DATA							L INPUT	S	
Highway Data				S	ite Cor	ditions	(Hard =	: 10, Sc	ft = 15)		
Average Daily	Traffic (Adt):	34,815 vehicle	es					Autos:	15		
Peak Hou	r Percentage:	7.73%			Me	edium Tru	icks (2	Axles):	15		
Peak I	Hour Volume:	2,691 vehicles	S		He	avy Truc	ks (3+	Axles):	15		
Ve	ehicle Speed:	50 mph		v	ehicle	Mix					
Near/Far La	ane Distance:	72 feet		F		icleType		Day	Evening	Night	Daily
Site Data						-	lutos:	71.1%	10.9%	18.0%	91.429
Ra	arrier Height:	0.0 feet			Medium Trucks: 73				7.7%	18.6%	4.649
Barrier Type (0-V		0.0				Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.949
Centerline D	ist. to Barrier:	60.0 feet		N	loise S	ource Ele	evation	s (in fe	et)		
Centerline Dist.	to Observer:	60.0 feet		H		Autos		.000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Trucks		297			
Observer Height	(Above Pad):	5.0 feet				vy Trucks		004	Grade Ad	liustment	: 0.0
F	Pad Elevation:	0.0 feet				•				,	
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalent			eet)		
	Road Grade:	0.0%				Autos		.260			
	Left View:	-90.0 degree				m Trucks		.076			
	Right View:	90.0 degree	es		Hea	y Trucks	s: 48	.094			
FHWA Noise Mod											
VehicleType	REMEL	Traffic Flow	Dista			Road	Fresi		Barrier Att		m Atter
Autos:				0.13		-1.20		-4.69		000	0.00
Medium Trucks:				0.15		-1.20		-4.88		000	0.00
Heavy Trucks:	85.38	-12.04		0.15	i	-1.20		-5.34	0.0	000	0.00
Unmitigated Nois											
VehicleType	Leq Peak Hou			Leq Ev		_	Night		Ldn	_	NEL
Autos: Medium Trucks:			69.6 67.6		67.5 63.8		64. 62.	-	72.: 70.:	_	72 70
Heavy Trucks:			71.4		66.9		66	-	70	_	70
Vehicle Noise:			74.6		71.1		69.	-	77.		77
Centerline Distan	ce to Noise Co	ontour (in feet)								
				70 di	BA	65 (dBA	6	0 dBA	55	dBA
			Ldn:		178		383	3	825	5	1,77
		C	NEL:		186		400)	862	2	1,85

Friday, April 24, 2020

	FHWA-RD-77-10	8 HIGHWAY	' NOISE P	REDICTION	N MODEL					
Scenario: Existing Road Name: Van Bui Road Segment: wlo Ora	en Bl.	/y.			ame: Merid nber: 12761	ian South Can	npus			
SITE SPECIFIC	INPUT DATA		NOISE MODEL INPUTS							
Highway Data			Site Conditions (Hard = 10, Soft = 15)							
Average Daily Traffic (Ad		eles			Autos					
Peak Hour Percentag				edium Truck						
Peak Hour Volum		es	He	eavy Trucks	(3+ Axles)	: 15				
Vehicle Spee			Vehicle	Mix						
Near/Far Lane Distanc	e: 72 feet		Veh	icleType	Day	Evening N	light Daily			
Site Data				Aut	tos: 71.19	6 10.9%	18.0% 91.42%			
Barrier Heigh	t: 0.0 feet		M	ledium Truc	ks: 73.69	% 7.7% ·	18.6% 4.64%			
Barrier Type (0-Wall, 1-Bern				Heavy Truc	ks: 75.69	6.7%	17.8% 3.94%			
Centerline Dist. to Barrie	er: 60.0 feet		Maisa S	ource Eleva	ations (in t	foot)				
Centerline Dist. to Observe	er: 60.0 feet		NOISE SI	Autos:	0.000	eer)				
Barrier Distance to Observe	Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet				2.297					
Observer Height (Above Pac			m Trucks: vy Trucks:	8.004	Grade Adjus	tment: 0.0				
Pad Elevatio										
Road Elevatio	n: 0.0 feet		Lane Eq	uivalent Di		feet)				
Road Grad				Autos:	48.260					
Left Vie	w: -90.0 degr	ees		m Trucks:	48.076					
Right Vie	v: 90.0 degr	ees	Hea	vy Trucks:	48.094					
FHWA Noise Model Calculat	ions									
VehicleType REMEL	Traffic Flow	Distance	e Finite		Fresnel	Barrier Atten	Berm Atten			
Autos: 71	.78 0.8	2 0	.13	-1.20	-4.69	0.000	0.000			
	.40 -12.1		.15	-1.20	-4.88					
Heavy Trucks: 86	.40 -12.8	3 0	.15	-1.20	-5.34	0.000	0.000			
Unmitigated Noise Levels (v										
VehicleType Leq Peak			Evening	Leq Nig		Ldn	CNEL			
Autos:	71.5	70.4	68.3		65.6	73.0	73.4			
Medium Trucks:	69.2	68.2	64.5		63.5	70.8	71.1			
Heavy Trucks: Vehicle Noise:	72.5 76.1	71.6 75.1	67.1 71.7		66.6 70.2	74.0 77.6	74.2 77.9			
Centerline Distance to Noise	Contour (in fee	at)								
CoC. IIII DISTAINCE TO NOISE	, comour (mi lee	,	0 dBA	65 dB.	Ά	60 dBA	55 dBA			
		Ldn:	192		413	890	1,917			
	CNEL:				200 432 931					

	FHV	VA-RD-77-108	HIGH	WAY I	NOISE P	REDICT	ION M	DDEL					
Road Nan	rio: Existing (20 ne: Van Buren ent: e/o Orange	BI.			Project Name: Meridian South Campus Job Number: 12761								
SITE	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS								
Highway Data					Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	31,824 vehicle	es					Autos:	15				
Peak Hour	Percentage:	7.73%			Me	edium Tr	ucks (2	Axles):	15				
Peak H	lour Volume:	2,460 vehicle	s		He	eavy Tru	cks (3+	Axles):	15				
Ve	ehicle Speed:	55 mph		H	Vehicle	Mix							
Near/Far La	ane Distance:	72 feet		ŀ		icleType	,	Dav	Evening	Night	Daily		
Site Data							Autos:	71.1%		18.0%			
Ra	rrier Height:	0.0 feet			М	ledium T	rucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-W		0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%		
Centerline Di		60.0 feet		-	Maiaa C	ouroo E	lovestio	no (in f	2041				
Centerline Dist. to Observer: 60.0 feet					Noise Source Elevations (in feet) Autos: 0.000								
Barrier Distance to Observer: 0.0 feet					Modiu	Auto m Truck		2.297					
Observer Height (Above Pad): 5.0 feet						vy Truck		1.297	Grade Ad	livetmant	. 0 0		
Pad Elevation: 0.0 feet					пеа	vy Truck	S. C	0.004	Orade Ad	justinoni	. 0.0		
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distai	nce (in :	feet)				
	Road Grade:	0.0%				Auto	s: 48	3.260					
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 48	3.076					
	Right View:	90.0 degree	es		Hea	vy Truck	s: 48	3.094					
FHWA Noise Mod	el Calculation	s											
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten		
Autos:	71.78	0.81		0.1	3	-1.20		-4.69	0.0	000	0.000		
Medium Trucks:	82.40	-12.13		0.1	5	-1.20		-4.88	0.0	000	0.000		
Heavy Trucks:	86.40	-12.84		0.1	5	-1.20		-5.34	0.0	000	0.000		
Unmitigated Nois	e Levels (with	out Topo and	barri	er atter	nuation)								
VehicleType	Leq Peak Hou	, ,		Leq E	vening		Night		Ldn		NEL		
Autos:			70.4		68.3		65		73.0		73.4		
Medium Trucks:		-	68.2		64.4		63		70.8	-	71.		
Heavy Trucks: Vehicle Noise:			71.6 75.1		67.1 71.6		66		74.0 77.0		74.2		
					71.6		70	.∠	77.0	ט	17.8		
Centerline Distan	ce to Noise Co	ontour (in feet)	70	dBA	e e	dBA	-	60 dBA	FF	dBA		
			Ldn:	70	ава 191	05					1.914		
		С	NEL:		191 412 200 431		-	888 929		2,001			
	CIVEL.						+0		323		2,001		

Friday, April 24, 20	020
----------------------	-----

F	HWA-RD-77-108	HIGHWA	Y NOISE P	REDICTIO	OM MC	DEL						
Scenario: Existing (Road Name: Van Bure Road Segment: e/o Merid	n Bl.		Project Name: Meridian South Campus Job Number: 12761									
SITE SPECIFIC	INPUT DATA						LINPUTS	5				
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume:	7.73% 2,437 vehicle		М	nditions (i edium Truc eavy Truck	cks (2 .	Autos: Axles):	15 15 15 15					
Vehicle Speed: Near/Far Lane Distance:			Vehicle Mix									
	75 1661		Vel	nicleType		Day	Evening	Night	Daily			
Site Data Barrier Height: Barrier Type (0-Wall, 1-Berm).				Ai Iedium Tru Heavy Tru		71.1% 73.6% 75.6%	7.7%	18.0% 18.6% 17.8%	91.42% 4.64% 3.94%			
Centerline Dist. to Barrier.	55.0 feet		Noise S	ource Ele	vation	s (in fe	et)					
Centerline Dist. to Observer Barrier Distance to Observer Observer Height (Above Pad) Pad Elevation. Road Elevation. Road Grade. Left View	0.0 feet 5.0 feet 0.0 feet 0.0 feet 0.0%		Hea	Autos: Im Trucks. Vy Trucks. Iuivalent I Autos: Im Trucks.	: 2. : 8. Distan : 41.	000 297 004 ce (in f 446 232	Grade Adj	ustment	0.0			
Right View.	90.0 degre			vy Trucks.		253						
VehicleType REMEL	Traffic Flow	Distanc	e Finite	Road	Fresi	nel	Barrier Atte	en Ber	m Atten			
Autos: 71.7			1.12	-1.20		-4.67	0.0	_	0.000			
Medium Trucks: 82.4 Heavy Trucks: 86.4			1.15 1.15	-1.20 -1.20		-4.87 -5.38	0.0		0.000			
Unmitigated Noise Levels (wi	thout Topo and	barrier at	tenuation)									
VehicleType Leq Peak H	our Leq Day		g Evening	Leq N	light		Ldn		VEL			
	72.5	71.3	69.2		66.	-	74.0		74.			
	70.2	69.2	65.4		64.	-	71.8		72.			
	73.5	72.6 76.0	68.1 72.6		67. 71.		74.9 78.5		75.: 78.:			
			72.0)	/1.	1	78.0	'	78.			
Centerline Distance to Noise	Contour (in feet		70 dBA	65 d	ID A		0 dBA		dBA			
		I dn:	203	65 a	BA 438	_	943	55	2.032			
	С	NEL:	212		458		986		2,125			

	FH\	WA-RD-77-108	HIGH	WAY NO	DISE PF	REDICTION	ом ио	DEL					
	o: Existing (20 e: Van Buren t: w/o Meridia	BI.			Project Name: Meridian South Campus Job Number: 12761								
	PECIFIC IN	IPUT DATA							L INPUT	S			
Highway Data				Si	te Con	ditions (l	Hard =	10, Sc	oft = 15)				
Average Daily 1	Fraffic (Adt):	37,208 vehicle	es					Autos:					
Peak Hour I	Percentage:	7.73%			Medium Trucks (2 Axles): 15								
	our Volume:	2,876 vehicles	3		He	avy Truci	ks (3+ /	4xles):	15				
	nicle Speed:	55 mph		V	ehicle I	Лix							
Near/Far Lar	e Distance:	73 feet			Vehi	cleType		Day	Evening	Night	Daily		
Site Data						A	utos:	71.1%	10.9%	18.0%	91.42		
Bar	rier Heiaht:	0.0 feet			Me	edium Tru	ıcks:	73.6%	7.7%	18.6%	4.64		
Barrier Type (0-Wa		0.0			F	leavy Tru	ıcks:	75.6%	6.7%	17.8%	3.94		
Centerline Dis		55.0 feet		N	oise So	urce Ele	vation	s (in fe	eet)				
Centerline Dist. t		55.0 feet				Autos.	: 0.	000					
Barrier Distance t		0.0 feet			Mediur	n Trucks.	: 2.	297					
Observer Height (Above Pad): 5.0 feet					Heav	y Trucks.	: 8.	004	Grade Ad	justmen	0.0		
Pad Elevation: 0.0 feet							n						
	d Elevation:	0.0 feet		Lè	ine Equ	ıivalent l			reet)				
F	Road Grade:	0.0%				Autos.		446					
	Left View: Right View:	-90.0 degree				n Trucks. y Trucks.		232 253					
FHWA Noise Mode	l Calculation	•											
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresi	nel	Barrier Att	en Be	m Atter		
Autos:	71.78			1.12		-1.20		-4.67		000	0.00		
Medium Trucks:	82.40	-11.46		1.15		-1.20		-4.87	0.0	000	0.00		
Heavy Trucks:	86.40	-12.17		1.15		-1.20		-5.38	0.0	000	0.00		
Unmitigated Noise	Levels (with	out Topo and	barrie	r attenu	ation)								
VehicleType	Leq Peak Hou	ır Leq Day		Leg Eve	ening	Leq N	light		Ldn		NEL		
Autos:			72.0		69.9		67.3		74.7		75		
Medium Trucks:	70		69.9		66.1		65.2	-	72.	-	72		
Heavy Trucks:	74		73.3		68.8		68.2		75.6		75		
Vehicle Noise:	77	7.7	76.7		73.3		71.9	9	79.2	2	79		
Centerline Distanc	e to Noise Co	ontour (in feet))	70 dE	24	65 d	ID A	-	SO dBA		dBA		
			I dn:	7 U GE	227	63 a	<i>BA</i> 489		1,053				
			Lan: VFI :		227		489 511		1,053		2,26		
		Ci	VLL.		23/		511		1,101		2,37		

Friday, April 24, 2020

	FHW	A-RD-77-108	HIGHWA'	NOISE P	REDICT	ION MOD	EL				
Road Nam	io: Existing (20 ne: Van Buren E nt: e/o Opportu	BI.		Project Name: Meridian South Campus Job Number: 12761							
	SPECIFIC IN	PUT DATA		NOISE MODEL INPUTS							
Highway Data				Site Conditions (Hard = 10, Soft = 15)							
Average Daily	Traffic (Adt):	34,862 vehicle	es			A	Autos:	15			
Peak Hour	Percentage:	7.73%		Me	edium Tr	ucks (2 A	xles):	15			
Peak H	lour Volume:	2,695 vehicles	3	He	eavy Tru	cks (3+ A	xles):	15			
	hicle Speed:	55 mph		Vehicle	Mix						
Near/Far La	ne Distance:	73 feet			icleType) <i>L</i>	Day	Evening	Night I	Daily	
Site Data						Autos: 7	71.1%	10.9%	18.0% 9	1.42%	
Rai	rrier Height:	0.0 feet		M	ledium T	rucks: 7	73.6%	7.7%	18.6%	4.64%	
Barrier Type (0-W		0.0			Heavy T	rucks: T	75.6%	6.7%	17.8%	3.94%	
Centerline Di		55.0 feet		Noise C	ouroo E	levations	(in fo	-04l			
Centerline Dist.	to Observer:	55.0 feet		Noise 3	Auto		•	ei)			
Barrier Distance to Observer: 0.0 feet				Modis	m Truck						
Observer Height (Above Pad): 5.0 feet					vy Truck			Grade Adju	otmont: 0	n	
Pa		Tica	vy Truck	.s. 0.0	04	Отаче Ачји	Stricin. 0	.0			
Roa	ad Elevation:	0.0 feet		Lane Eq	uivalen	t Distanc	e (in f	eet)			
	Road Grade:	0.0%			Auto	s: 41.4	46				
	Left View:	-90.0 degree	es		m Truck		32				
	Right View:	90.0 degree	es	Hea	vy Truck	s: 41.2	53				
FHWA Noise Mode	el Calculations			1							
VehicleType	REMEL	Traffic Flow	Distance		Road	Fresne	_	Barrier Attei			
Autos:	71.78	1.21		.12	-1.20		4.67	0.00		0.000	
Medium Trucks:	82.40	-11.74		.15	-1.20		4.87	0.00		0.000	
Heavy Trucks:	86.40	-12.45	1	.15	-1.20	-	-5.38	0.00	00	0.000	
Unmitigated Noise	•										
VehicleType	Leq Peak Hour			Evening		Night		Ldn	CNE		
Autos:	72.		71.8	69.6		67.0		74.4		74.8	
Medium Trucks:	70.	-	69.6	65.8		64.9		72.2		72.5	
Heavy Trucks: Vehicle Noise:	73.º 77.		73.0 76.4	68.5 73.0		68.0 71.6		75.4 78.9		75.6 79.2	
Centerline Distance	ce to Noise Co	ntour (in feet	1							$\overline{}$	
Zamania ziotaria		(377000)		0 dBA	65	dBA	6	0 dBA	55 dE	iA.	
			Ldn:	217		468		1,009		2,173	
	CNEL:				227 489 1,055				2,272		

	FH'	WA-RD-77-108	HIGH	WAY I	NOISE P	REDICTI	ON M	DDEL					
Road Nan	rio: Existing (2 ne: I-215 Fwy. ent: n/o Alessa	•			Project Name: Meridian South Campus Job Number: 12761								
SITE	SPECIFIC II	NPUT DATA			NOISE MODEL INPUTS								
Highway Data					Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	83,110 vehicle	es					Autos:	15				
Peak Hour	Percentage:	7.73%			Me	edium Tru	ucks (2	Axles):	15				
Peak F	lour Volume:	6,424 vehicle	s		He	eavy Truc	cks (3+	Axles):	15				
Ve	ehicle Speed:	65 mph		ŀ	Vehicle	Miv							
Near/Far La	ane Distance:	130 feet		-		icleType		Dav	Evening	Night	Dailv		
Site Data							Autos:	71.1%		18.0%	91.42%		
Ra	rrier Height:	0.0 feet			М	edium Ti	rucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-V		0.0				Heavy Tr	rucks:	75.6%	6.7%	17.8%	3.94%		
,, ,	ist. to Barrier:	125.0 feet		-	Maica S	ourco El	ovatio	ne (in f	not)				
Centerline Dist. to Observer: 125.0 feet					Noise Source Elevations (in feet) Autos: 0.000								
Barrier Distance to Observer: 0.0 feet					Modiu	m Truck:		2.297					
Observer Height (Above Pad): 5.0 feet						vy Truck:		1.297	Grade Ad	livetman	t- n n		
Pad Elevation: 0.0 feet					пеа	vy Truck	s. c	0.004	Orade Ad	justinon	. 0.0		
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distar	nce (in	feet)				
	Road Grade:	0.0%				Auto	s: 106	888.6					
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 106	6.805					
	Right View:	90.0 degre	es		Hea	vy Truck	s: 106	3.813					
FHWA Noise Mod	el Calculation	ıs											
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	en Be	rm Atten		
Autos:		4.25		-5.0)5	-1.20		-4.79	0.0	000	0.000		
Medium Trucks:	84.86	-8.69		-5.0)5	-1.20		-4.88	0.0	000	0.000		
Heavy Trucks:	88.18	-9.40		-5.0)5	-1.20		-5.11	0.0	000	0.000		
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atter	nuation)								
VehicleType	Leq Peak Ho			Leq E	vening		Night		Ldn		NEL		
Autos:		2.5	71.4		69.3		66		74.0		74.4		
Medium Trucks:	-	9.9	68.9		65.1		64	-	71.	-	71.8		
Heavy Trucks:		2.5	71.6		67.1		66		74.0		74.2		
Vehicle Noise:		6.6	75.6		72.3		70	./	78.	1	78.4		
Centerline Distan	ce to Noise C	ontour (in feet)	70	dBA	65	dBA		60 dBA	5.6	i dBA		
			Ldn:	70	434	1 001	93	_	2.013		4.336		
		С	NEL:		454 978 2.107				4,538				
									, ,		,		

Friday, April	24,	2020
---------------	-----	------

	FHWA-F	RD-77-108 HIGH	HWAY N	DISE P	REDICT	TION MOD	DEL				
Scenario: I Road Name: I Road Segment: s				Project Name: Meridian South Campus Job Number: 12761							
SITE SPI	ECIFIC INPUT	Γ DATA			ı	NOISE N	IODEL	INPUTS	;		
Highway Data			S	ite Cor	ditions	(Hard =	10, Soft	t = 15)			
Average Daily Tra Peak Hour Pei Peak Hour	centage: 7.7	190 vehicles 73% 98 vehicles		Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15							
Vehicl	e Speed: 6	55 mph	v	ehicle	Miv						
Near/Far Lane I	Distance: 13	30 feet	ľ		icleType	e l	Dav E	Evening	Night	Daily	
Site Data							71.1%	10.9%	18.0%		
Rarrio	r Height:	0.0 feet		M	ledium 7	Frucks:	73.6%	7.7%	18.6%	4.64%	
Barrier Type (0-Wall,	1-Berm):	0.0			Heavy 7	rucks:	75.6%	6.7%	17.8%	3.94%	
Centerline Dist. t		5.0 feet	۸	oise S	ource E	levations	(in fee	t)			
Centerline Dist. to 0	Observer: 12	5.0 feet	F		Auto		•	-/			
Barrier Distance to 0		Medium Trucks: 2.297									
Observer Height (Abo			vy Truck			Grade Adju	ıstment	0.0			
Pad E	levation:										
Road E	levation:	0.0 feet	L	ane Eq	uivalen	t Distanc		et)			
		0%			Auto						
_		0.0 degrees 0.0 degrees			m Truck vy Truck						
FHWA Noise Model C											
		ffic Flow Dis	stance	Finite	Road	Fresn	ol R	arrier Atte	n Ber	m Atten	
Autos:	74.55	4.03	-5.05		-1.20		4.79	0.0	_	0.00	
Medium Trucks:	84.86	-8.92	-5.05		-1.20		-4.88	0.0		0.00	
Heavy Trucks:	88.18	-9.63	-5.05		-1.20		-5.11	0.0	00	0.000	
Unmitigated Noise Le	vels (without 1	Topo and barri	er attenu	ation)							
VehicleType Lee	q Peak Hour	Leq Day	Leq Ev	ening	Leq	Night	L	_dn	CI	VEL	
Autos:	72.3	71.2		69.1		66.4		73.8		74.:	
Medium Trucks:	69.7	68.7		64.9		64.0		71.3		71.	
Heavy Trucks:	72.3	71.4		66.9		66.4		73.8		74.	
Vehicle Noise:	76.4	75.4		72.1		70.5		77.9		78.:	
Centerline Distance to	o Noise Conto	ur (in feet)									
		L	70 d		65	dBA	60	dBA	55	dBA	
		Ldn:		419		902		1,944		4,188	
		CNEL:		438		944		2,035		4,383	

	FHV	VA-RD-77-108	HIGHV	VAY N	OISE PI	REDICTI	ON MO	DEL					
Scenario Road Name Road Segment		,			Project Name: Meridian South Campus Job Number: 12761								
	PECIFIC IN	IPUT DATA							L INPUT	S			
Highway Data				S	ite Con	ditions (Hard =	10, Sc	oft = 15)				
Average Daily T	raffic (Adt):	82,410 vehicle	es					Autos:	15				
Peak Hour F	Percentage:	7.73%			Me	dium Tru	icks (2 A	Axles):	15				
Peak Ho	ur Volume:	6,370 vehicle	s		He	avy Truc	ks (3+ A	Axles):	15				
Veh	icle Speed:	65 mph		ν	ehicle l	Wix							
Near/Far Lan	e Distance:	130 feet			Veh	icleType		Day	Evening	Night	Daily		
Site Data						A	utos:	71.1%	10.9%	18.0%	91.429		
Barr	ier Height:	0.0 feet			М	edium Tr	ucks:	73.6%	7.7%	18.6%	4.649		
Barrier Type (0-Wa		0.0			1	Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.949		
Centerline Dist	to Barrier:	125.0 feet		٨	loise Sr	ource Ele	vation	s (in fe	eet)				
Centerline Dist. to	Observer:	125.0 feet		-	0.00 00	Autos		000	,,,,				
Barrier Distance to	Observer:	0.0 feet			Madiu	m Trucks		297					
Observer Height (A	bove Pad):	5.0 feet				v Trucks		004	Grade Ad	iustment	: 0.0		
	d Elevation:	0.0 feet				,							
	d Elevation:	0.0 feet		L	ane Eq	uivalent		•	feet)				
R	oad Grade:	0.0%					: 106.						
	Left View:	-90.0 degre				m Trucks							
	Right View:	90.0 degre	es		Heav	y Trucks	: 106.	813					
FHWA Noise Model	Calculation	s											
VehicleType	REMEL	Traffic Flow	Dista			Road	Fresn		Barrier Att	en Ber	m Atten		
Autos:	74.55	4.22		-5.05		-1.20		-4.79		000	0.00		
Medium Trucks:	84.86	-8.73		-5.05		-1.20		-4.88		000	0.00		
Heavy Trucks:	88.18	-9.44		-5.05		-1.20		-5.11	0.0	000	0.00		
Unmitigated Noise	•									_			
,,	eq Peak Hou			Leq Ev		Leq I			Ldn	_	NEL		
Autos:	72		71.4		69.2		66.6		74.0	-	74		
Medium Trucks:	69 72		68.9 71.6		65.1 67.1		64.2 66.6		71.5 74.0	-	71.		
Heavy Trucks: Vehicle Noise:	72		75.5		72.2		70.7		74.0		74. 78.		
, 0, 110, 0, 1, 10, 100.							. 5.1		. 0.		. 0		
O)										
Centerline Distance	to Noise Co	nnour (iii ieet	<u> </u>	70 d	BA	65 c	lBA	6	60 dBA	55	dBA		
Centerline Distance	to Noise Co	ontour (in leet	Ldn:	70 d	<i>BA</i> 431	65 d	<i>BA</i> 929		60 dBA 2.001		dBA 4,312		

	FH\	WA-RD-77-108	HIGHWAY	NOISE P	REDICTION	ом ис	DEL				
Road Nam	io: Existing (2) ne: I-215 Fwy. nt: s/o Van Bu			Project Name: Meridian South Campus Job Number: 12761							
	SPECIFIC IN	IPUT DATA		NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15)							
Highway Data				Site Cor	nditions (Hard =	10, Sc	oft = 15)			
Average Daily	. ,	86,610 vehicle	es				Autos:	15			
	Percentage:	7.73%			edium Tru						
	lour Volume:	6,695 vehicles	8	H	eavy Truc	KS (3+ /	qxies):	15			
	hicle Speed:	65 mph		Vehicle	Mix						
Near/Far La	ne Distance:	130 feet		Veh	nicleType	Evening	Night	Daily			
Site Data						utos:	71.1%		18.0%	91.42%	
Ba	rrier Height:	0.0 feet			1edium Tr		73.6%		18.6%	4.64%	
Barrier Type (0-W	/all, 1-Berm):	0.0			Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.94%	
Centerline Di	st. to Barrier:	125.0 feet		Noise S	ource Ele	vation	s (in fe	eet)			
Centerline Dist.		125.0 feet			Autos		000	,			
Barrier Distance to Observer: 0.0 feet				Mediu	ım Trucks	: 2.	297				
Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet				Hea	vy Trucks	: 8.	004	Grade Adju	stment:	0.0	
		I one Fe	ivalant	Dioton	no (in	foot)					
	ad Elevation: Road Grade:	0.0 feet 0.0%		Lane Eq	uivalent Autos		_	eet)			
	l eft View:			Modiu	m Trucks						
	Right View:	-90.0 degree			vy Trucks						
				7700	vy maono	. 100.	0.0				
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow	Distance		Road	Fresr		Barrier Atter	_	m Atten	
Autos:				5.05	-1.20		-4.79	0.00		0.000	
Medium Trucks:				5.05 5.05	-1.20 -1.20		-4.88 -5.11	0.00		0.000	
Heavy Trucks:					-1.20		-5.11	0.00	,,,	0.000	
Unmitigated Noise	e Levels (with Leg Peak Ho					Under		Ldn		VEL	
VehicleType Autos:			71.6	Evening 69.5	Leq N	vignt 66.8	2	74.2	Ci	VEL 74.6	
Medium Trucks:			69.1	65.3		64.4		71.7		72.0	
Heavy Trucks:			71.8	67.3		66.8		74.2		74.4	
Vehicle Noise:			75.8	72.5		70.9		78.3		78.6	
Centerline Distant	ce to Noise C	ontour (in feet)							$\neg \neg$	
				'0 dBA	65 d	IBΑ	(60 dBA	55	dBA	
			Ldn:	446		960		2,069		4,457	
	CNEL:				466 1,005 2,165					4,665	

	FHV	VA-RD-77-108	HIGH	HWAY I	NOISE P	REDICT	ION M	DDEL					
Road Nam	io: E+P (Propo le: Wood Rd. nt: n/o Van Bur	,			Project Name: Meridian South Campus Job Number: 12761								
SITE	SPECIFIC IN	PUT DATA			NOISE MODEL INPUTS								
Highway Data					Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	12,972 vehicle	es					Autos:	15				
Peak Hour	Percentage:	7.73%			Me	edium Tr	ucks (2	Axles):	15				
Peak H	our Volume:	1,003 vehicle	s		He	eavy Tru	cks (3+	Axles):	15				
Ve	hicle Speed:	45 mph		ŀ	Vehicle	Mix							
Near/Far La	ne Distance:	36 feet				icleType	,	Day	Evening	Night	Daily		
Site Data							Autos:	71.1%	10.9%	18.0%	91.43%		
Rai	rrier Heiaht:	0.0 feet			M	edium T	rucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-W		0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%		
Centerline Dis	st. to Barrier:	44.0 feet		ŀ	Noise S	ourco El	lovatio	ne (in f	not)				
Centerline Dist.	to Observer:	44.0 feet		-	NOISE S	Auto		0.000	<i>(</i>				
Barrier Distance to Observer: 0.0 feet					Modiu	m Truck		297					
Observer Height (Above Pad): 5.0 feet						vy Truck		1.297	Grade Ad	liustment	. 0 0		
Pad Elevation: 0.0 feet						•				juoumom	0.0		
Ros	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distai	nce (in :	feet)				
I	Road Grade:	0.0%				Auto	s: 40	0.460					
	Left View:	-90.0 degree	es			m Truck).241					
	Right View:	90.0 degree	es		Hea	vy Truck	s: 40	0.262					
FHWA Noise Mode	el Calculations	5											
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten		
Autos:	68.46	-2.21		1.2	28	-1.20		-4.61	0.0	000	0.000		
Medium Trucks:	79.45	-15.16		1.3		-1.20		-4.87		000	0.000		
Heavy Trucks:	84.25	-15.87		1.3	31	-1.20		-5.50	0.0	000	0.000		
Unmitigated Noise	Levels (with	out Topo and	barri	er atter	nuation)			_					
,,	Leq Peak Hou			Leq E	vening		Night		Ldn		NEL		
Autos:	66		65.2		63.1		60		67.8		68.2		
Medium Trucks:	64		63.4		59.6		58		66.0	-	66.3		
Heavy Trucks: Vehicle Noise:	68 71		67.6 70.5		63.1 67.0		62 65		69.9 73.0		70.2		
							- 50			-			
Centerline Distanc	e to Noise Co	mour (in feet		70	dBA	65	dBA	(60 dBA	55	dBA		
			Ldn:		70		15	0	323	,	696		
	CNEL:				73 157 337				727				

Friday,	April	24,	2020

	FHWA	-RD-77-108 HI	GHWAY	NOISE P	REDICT	ION MO	DEL					
Scenario: E Road Name: T Road Segment: n				Project Name: Meridian South Campus Job Number: 12761								
	CIFIC INP	UT DATA						L INPUTS	5			
Highway Data				Site Cor	ditions	•						
Average Daily Trafi	. ,	1,996 vehicles					Autos:	15				
Peak Hour Perd		7.73%				ucks (2		15				
Peak Hour		159 vehicles		He	avy Iru	cks (3+ .	AXIES):	15				
	Speed:	50 mph		Vehicle	Иiх							
Near/Far Lane D	istance:	72 feet		Veh	icleType)	Day	Evening	Night	Daily		
Site Data						Autos:	71.1%	10.9%	18.0%	91.45%		
Barrier	Height:	0.0 feet		M	edium T	rucks:	73.6%		18.6%	4.62%		
Barrier Type (0-Wall,	1-Berm):	0.0			Heavy T	rucks:	75.6%	6.7%	17.8%	3.93%		
Centerline Dist. to	Barrier:	60.0 feet		Noise Source Elevations (in feet)								
Centerline Dist. to O	bserver:	60.0 feet		710,00 0	Auto		000					
Barrier Distance to O	bserver:	0.0 feet		Mediu	m Truck		297					
Observer Height (Abo	,	5.0 feet			∕v Truck		004	Grade Adj	ustment	0.0		
	levation:	0.0 feet 0.0 feet		_								
Road E		Lane Eq				eet)						
		0.0%		1.4	Auto		.260 .076					
		-90.0 degrees			m Truck ∕y Truck		.076					
Rig	ht View:	90.0 degrees		пеа	у тиск	S. 40.	.094					
FHWA Noise Model Ca												
,,, .	70.20	raffic Flow -2.04	Distance	13	Road -1.20	Fresi	-4.69	Barrier Atte	_	m Atten		
Autos: Medium Trucks:	70.20 81.00	-2.04 -15.00	-	.13	-1.20 -1.20		-4.69 -4.88	0.0		0.00		
Heavy Trucks:	85.38	-15.00	-	.15	-1.20		-5.34	0.0		0.00		
Unmitigated Noise Lev					-1.20		-0.54	0.0	00	0.00		
-	Peak Hour	Leg Day		Evening	Lea	Night	T	Ldn	C	VEL		
Autos:	67.1	65		63.8		61.	2	68.6		69.1		
Medium Trucks:	64.9	63.	-	60.2		59.	_	66.5		66.		
Heavy Trucks:	68.6	67.		63.2		62.	7	70.1		70.		
Vehicle Noise:	71.9	70		67.4		66.		73.4		73.		
Centerline Distance to	Noise Cont	tour (in feet)										
			70) dBA	65	dBA	6	i0 dBA	55	dBA		
		Ld		101		218		470		1,012		
		CNF	1.	106		228		491		1.058		

Barrier Height: 0.0 feet	nt Daily
Average Daily Traffic (Adi):	
Average Daily Traffic (Adt): 17,656 vehicles Peak Hour Percentage: 7,73% Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15	
Peak Hour Percentage: 7.73% Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15	
Peak Hour Volume: Vehicle Speed: At 0 mph Vehicle Mix Vehicle Type Day Evening Night	
Vehicle Speed: 40 mph 36 feet Vehicle Mix Vehicle Type Day Evening Nigh N	
Near/Far Lane Distance: 36 feet Vericle Mix Vericle Vericle Vericle Mix Vericle Vericle Vericle Mix Vericle Vericle Vericle Vericle Vericle Mix Vericl	
Site Data Site Data Site Data Site Data Site Data Barrier Height: 0.0 feet Multos: 17.1% 10.9% 18.6 Medium Trucks: 73.6% 7.7% 18.6 Medium Trucks: 75.6% 6.7% 17.8 Moise Source Elevations (in feet) Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustm Road Elevation: 0.0 feet Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustm Road Elevation: 0.0 feet Medium Trucks: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262 Heavy Trucks: 40.262	
Barrier Height: 0.0 feet	0% 91.42
Barrier Teight September	
Barrier Type (0-Wall, 1-Berm):	3% 4.64
Centerline Dist. to Observer: Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0	3.94
Autos: 0.000 Barrier Attention Barrier A	
Barrier Distance to Observer: 0.0 feet Distance Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustms Grade Adj	
Diserver Height (Above Pad):	
Pad Elevation: 0.0 feet Care Ca	ent: 0.0
Road Grade: 0.0%	
Left View: -90.0 degrees Medium Trucks: 40.241	
Right View: 90.0 degrees Heavy Trucks: 40.262	
FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten It	
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten I Autos: 66.51 -0.36 1.28 -1.20 -4.61 0.000 Medium Trucks: 77.72 -13.31 1.31 -1.20 -4.87 0.000 Heavy Trucks: 82.99 -14.02 1.31 -1.20 -5.50 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation)	
Autos: 66.51 -0.36 1.28 -1.20 -4.61 0.000 Medium Trucks: 77.72 -13.31 1.31 -1.20 -4.87 0.000 Heavy Trucks: 82.99 -14.02 1.31 -1.20 -5.50 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation)	
Medium Trucks: 77.72 -13.31 1.31 -1.20 -4.87 0.000 Heavy Trucks: 82.99 -14.02 1.31 -1.20 -5.50 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation)	Berm Atte
Heavy Trucks: 82.99 -14.02 1.31 -1.20 -5.50 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation)	0.0
Unmitigated Noise Levels (without Topo and barrier attenuation)	0.0
	0.0
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn	CNEL
Autos: 66.2 65.1 63.0 60.3 67.7	68
Medium Trucks: 64.5 63.5 59.7 58.8 66.1	
Heavy Trucks: 69.1 68.2 63.7 63.1 70.5 Vehicle Noise: 71.8 70.8 67.2 65.9 73.3	66
	70
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA	
Ldn: 73 157 338	70
CNEL: 76 164 353	70 73 55 dBA
OINEE. 76 104 353	70

	FHW	A-RD-77-108	HIGHWAY	NOISE P	REDICTI	ON MOD	EL		
Scenario: Road Name: Road Segment:		d.				Name: M umber: 12		outh Cam	pus
	PECIFIC IN	PUT DATA				OISE M			
Highway Data				Site Cor	nditions (Hard = 1	0, Soft =	: 15)	
Average Daily Tr	. ,	550 vehicle	s					15	
Peak Hour Pe		7.73%			edium Tru	,		15	
	ır Volume:	43 vehicles	3	He	eavy Truc	ks (3+ A)	rles):	15	
	cle Speed:	50 mph		Vehicle	Mix				
Near/Far Lane	Distance:	72 feet		Veh	nicleType	E	Day Ev	ening N	ight Daily
Site Data					Α	utos: 7	1.1%	10.9% 1	8.0% 92.53%
Barrio	er Height:	0.0 feet		M	ledium Tr	ucks: 7	3.6%	7.7% 1	8.6% 4.04%
Barrier Type (0-Wall	-	0.0			Heavy Tr	ucks: 7	5.6%	6.7% 1	7.8% 3.43%
Centerline Dist.	to Barrier:	60.0 feet		Noise S	ource Fla	ovations	(in foot)		
Centerline Dist. to	Observer:	60.0 feet		740/30 0	Autos				
Barrier Distance to	Observer:	0.0 feet		Mediu	ım Trucks				
Observer Height (Al	bove Pad):	5.0 feet			vy Trucks			ade Adiusi	ment: 0.0
	Elevation:	0.0 feet							
	Elevation:	0.0 feet		Lane Eq	uivalent)	
	ad Grade:	0.0%			Autos				
	Left View:	-90.0 degree			ım Trucks				
F	Right View:	90.0 degree	es	Hea	vy Trucks	3: 48.0	94		
FHWA Noise Model	Calculations								
VehicleType	REMEL	Traffic Flow	Distance	e Finite	Road	Fresne	el Bar	rier Atten	Berm Atten
Autos:	70.20	-16.35).13	-1.20		4.69	0.000	
Medium Trucks:	81.00	-29.95	-).15	-1.20		4.88	0.000	
Heavy Trucks:	85.38	-30.66	C).15	-1.20	5	5.34	0.000	0.000
Unmitigated Noise L				,					
	eq Peak Hour			Evening	Leq I		Ldi		CNEL
Autos:	52.		51.6	49.5		46.9		54.3	54.7
Medium Trucks:	50.		49.0	45.2		44.3		51.6	51.9
Heavy Trucks: Vehicle Noise:	53.° 57.		52.8 56.2	48.3 52.8		47.7 51.3		55.1 58.7	55.4 59.0
Centerline Distance	to Noise Co	ntour (in feet))						
Contonino Distance	10 110.30 001	nour (III loot)		0 dBA	65 (BA .	60 d	BA	55 dBA
			Ldn:	11		23		49	106
		CI	VEL:	11		24		51	110

	FH\	VA-RD-77-108	HIGH	WAY N	IOISE P	REDICT	ION MC	DDEL					
Road Nan	io: E+P (Propo ne: Trautwein f nt: s/o Alessar	Rd.			Project Name: Meridian South Campus Job Number: 12761								
	SPECIFIC IN			T			IOISE	MODE	L INPUT	c			
Highway Data	SPECIFIC III	IFUI DATA			Site Cor				oft = 15)	<u> </u>			
Average Daily	Traffic (Adt):	36.711 vehicle	20					Autos					
,	Percentage:	7.73%			Me	edium Tr	ucks (2						
	lour Volume:	2.838 vehicle	s			eavy Tru							
Ve	hicle Speed:	50 mph		-	Vehicle Mix								
Near/Far La	ne Distance:	48 feet		H				Dav	Evening	Night	Daily		
Site Data				-	ven	icleType	Autos:	71.19		18.09			
				-		edium T		73.69		18.69			
	rrier Height:	0.0 feet				Heavy T		75.69		17.89			
Barrier Type (0-W Centerline Di		0.0 55.0 feet								11.07	0.0070		
Centerline Di		55.0 feet		1	Noise Source Elevations (in feet)								
Barrier Distance		0.0 feet			Autos: 0.000 Medium Trucks: 2.297								
Observer Height		5.0 feet						.297					
	ad Elevation:	0.0 feet			Hear	vy Truck	s: 8	.004	Grade Ad	justmer	nt: 0.0		
Ro		1	Lane Eq	uivalen	t Distan	nce (in	feet)						
	Road Grade:	0.0%				Auto	s: 49	.739					
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 49	.561					
	Right View:	90.0 degree	es		Hea	vy Truck	s: 49	.578					
FHWA Noise Mod	el Calculation	s											
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Be	erm Atten		
Autos:	70.20	1.85		-0.0	7	-1.20		-4.67	0.0	000	0.000		
Medium Trucks:	81.00	-11.11		-0.0	5	-1.20		-4.87	0.0	000	0.000		
Heavy Trucks:	85.38	-11.82		-0.0	5	-1.20		-5.38	0.0	000	0.000		
Unmitigated Noise	e Levels (with	out Topo and	barrie	er atten	uation)								
VehicleType	Leq Peak Hou	, ,		Leq E	vening		Night		Ldn		CNEL		
Autos:	70		69.6		67.5		64.	-	72.3	-	72.6		
	Medium Trucks: 68.6		67.6		63.9		62.9		70.2	_	70.5		
Heavy Trucks:			71.4		66.9		66.		73.8		74.0		
Vehicle Noise: 75.6 74.6					71.1		69.	.7	77.	1	77.4		
Centerline Distant	Centerline Distance to Noise Contour (in feet)						-10.4		00 404	-	C -/DA		
				70 (dBA	65	dBA		60 dBA	_	5 dBA		
Ldn:					164 352 759				1,635				
	CNEL:					171 368 793				•	1,709		

Friday, April 24, 2	020
---------------------	-----

	FH\	WA-RD-77-10	B HIGH	WAY NO	DISE P	REDICT	TION MO	DEL				
Scenario: Road Name: Road Segment:		Rd.	<i>ı</i> .				t Name: Number:		n South Ca	ampus		
SITE SI	PECIFIC IN	IPUT DATA							L INPUTS	;		
Highway Data				S	ite Cor	ditions	(Hard =	10, So	ft = 15)			
Average Daily Tr Peak Hour Po Peak Hou	. ,	24,305 vehic 7.73% 1,879 vehicle					rucks (2) icks (3+)	,	15 15 15			
Vehi	cle Speed:	50 mph		V	ehicle	Mix						
Near/Far Lane	Distance:	48 feet		-		icleType	e	Dav	Evening	Night	Daily	
Site Data							Autos:	71.1%	-	18.0%		
Rarri	er Height:	0.0 feet			M	edium 7	Frucks:	73.6%	7.7%	18.6%	4.61%	
Barrier Type (0-Wal	-	0.0				Heavy 7	rucks:	75.6%	6.7%	17.8%	3.92%	
Centerline Dist.	to Barrier:	55.0 feet		N	Noise Source Elevations (in feet)							
Centerline Dist. to	Observer:	55.0 feet		-	0,00 0	Auto		000				
Barrier Distance to	Observer:	0.0 feet			Mediu	m Truck		297				
Observer Height (Al	bove Pad):	5.0 feet				/y Truck		004	Grade Adj	ustmen	t: 0.0	
	Elevation:	0.0 feet										
	Elevation:	0.0 feet		Li	ane Eq		t Distan		eet)			
Ro	oad Grade:	0.0%				Auto		739				
F	Left View: Right View:	-90.0 degre				m Truck vy Truck		561 578				
						,						
VehicleType	REMEL	Traffic Flow	Dies	tance	Einito	Road	Fresi	no!	Barrier Atte	n Po	rm Atten	
Autos:	70.20			-0.07	1 II IIIC	-1.20	1 1031	-4.67	0.0	_	0.000	
Medium Trucks:	81.00			-0.07		-1.20		-4.87	0.0		0.000	
Heavy Trucks:	85.38		-	-0.05		-1.20		-5.38	0.0		0.000	
Unmitigated Noise L	evels (with	out Topo and	barrie	r attenu	ation)							
VehicleType L	eq Peak Hou	ur Leq Da	у	Leq Eve	ening	Leq	Night		Ldn	С	NEL	
Autos:	69	9.0	67.8		65.7		63.1	i	70.5		70.9	
Medium Trucks:	66	3.8	65.8		62.1		61.		68.4		68.7	
Heavy Trucks:	70).5	69.6		65.1		64.6	6	72.0		72.2	
Vehicle Noise:	73	3.8	72.8		69.3		67.9	9	75.3		75.6	
Centerline Distance	to Noise Co	ontour (in fee	t)									
			L	70 dE		65	dBA		i0 dBA	55	dBA	
			Ldn:		124		267		576		1,240	
		C	NEL:		130		279		602		1,297	

Average Daily Traffic (Adi): 36,143 vehicles Peak Hour Percentage: 7,73% Medium Trucks (2 Axles): 15 Peak Hour Vehicle Speed: 50 mph Wehicle		FH\	WA-RD-77-108	HIGH	WAY N	NOISE PF	REDICTIO	N MO	DEL					
Average Daily Traffic (Adi): Peak Hour Percentage: Peak Hour Volume: Vehicle Speed: Near/Far Lane Distance: 48 feet	Road Name	e: Trautwein F	Rd.	·.						n South C	ampus			
Average Daily Traffic (Adt): 36,143 vehicles Peak Hour Percentage: 7,73% Medium Trucks (2 Axles): 15 See Near Feat Autos: 15 Near Feat Autos: 15 Near Feat Autos: 15 Near Feat Autos: 71,1% 10,9% 18,0% 18	SITE S	PECIFIC IN	IPUT DATA								S			
Peak Hour Percentage: 7.73% Medium Trucks (2 Axles): 15	Highway Data													
Peak Hour Volume: Vehicle Speed: Near/Far Lane Distance: 48 feet	Average Daily	Fraffic (Adt):	36,143 vehicl	es					Autos:	15				
Vehicle Speed: Near/Far Lane Distance: 48 feet Vehicle Mix Vehicle Type Day Evening Night Dail	Peak Hour I	Percentage:	7.73%			Me	dium Truc	ks (2 A	Axles):	15				
Near/Far Lane Distance: 48 feet Vehicle Myx Vehicle Type Day Evening Night Dail Dail	Peak Ho	our Volume:	2,794 vehicle	S		Heavy Trucks (3+ Axles): 15								
Site Data Autos: 71.1% 10.9% 18.0% 91.4	Vel	nicle Speed:	50 mph		-	Vehicle Mix								
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Centerline Dist. Centerline Dist. to Observer: 55.0 feet Centerline Dist. Centerl	Near/Far Lar	e Distance:	48 feet		F	Vehi	cleType		Day	Evening	Night	Daily		
Barrier Trype (C-Wall, 1-Berm): 0.0 teet	Site Data						AL	ıtos:	71.1%	10.9%	18.0%	91.45		
Barrier Type (0-Wall, 1-Berm):	Bar	rier Heiaht:	0.0 feet			Me	edium Tru	cks:	73.6%	7.7%	18.6%	4.629		
Centerline Dist. to Observer: 55,0 feet	Barrier Type (0-Wa	all, 1-Berm):	0.0			ŀ	leavy Tru	cks:	75.6%	6.7%	17.8%	3.93		
Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Grade: 0.0% Comment of Pad Elevation: 0.0 feet Road Grade: 0.0% Comment of Pad Elevation: 0.0 feet Road Grade: 0.0% Comment of Pad Elevation: 0.0 feet Road Grade: 0.0% Comment of Pad Elevation: 0.0 feet Road Grade: 0.0% Comment of Pad Elevation: 0.0 feet Road Grade: 0.0% Comment of Pad Elevation: 0.0 feet Road Grade: 0.0% Comment of Pad Elevation: 0.0% Comment of Pad E					1	Noise So	urce Ele	vation	s (in fe	eet)				
Diserver Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road E					l		Autos:	0.0	000					
Pad Elevation:						Mediur	n Trucks:	2.5	297					
Road Elevation:		,				Heav	y Trucks:	8.0	004	Grade Ad	justmen	t: 0.0		
Road Grade: 0.0%					-		· ····································		/! /					
Right View: -90.0 degrees Heavy Trucks: 49.561 Heavy Trucks: 49.561 Heavy Trucks: 49.578	0.0 1000					Lane Equ				eet)				
Private Priv	F					A decedior								
VehicleType														
Autos: 70.20 1.78 -0.07 -1.20 -4.67 0.000 0.000 0.00000 0.0000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.0000000 0.000000 0.00000000	FHWA Noise Mode	l Calculation	s											
Medium Trucks: 81.00 -11.18 -0.05 -1.20 -4.87 0.000 0.0 Heavy Trucks: 85.38 -11.89 -0.05 -1.20 -5.38 0.000 0.0 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak How Leq Day Leq Evening Leq Night Ldn CNEL Autos: 70.7 69.6 67.5 64.8 72.2 7 Medium Trucks: 68.6 67.6 63.8 62.9 70.2 7 Heavy Trucks: 72.2 71.3 66.8 66.3 73.7 7 Vehicle Noise: 75.5 74.5 71.1 69.7 77.0 7 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 162 348 751 1,6	VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresn	iel	Barrier Att	en Be	rm Atter		
Heavy Trucks: 85.38	Autos:	70.20	1.78		-0.0	17	-1.20		-4.67	0.0	000	0.00		
Unmitigated Noise Levels (without Topo and barrier attenuation)	Medium Trucks:	81.00	-11.18		-0.0	15	-1.20		-4.87	0.0	000	0.00		
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 70.7 69.6 67.5 64.8 72.2 7 Medium Trucks: 68.6 67.6 63.8 62.9 70.2 7 Heavy Trucks: 72.2 71.3 66.8 66.3 73.7 7 Vehicle Noise: 75.5 74.5 71.1 69.7 77.0 7 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 162 348 751 1,6	Heavy Trucks:	85.38	-11.89		-0.0	15	-1.20		-5.38	0.0	000	0.00		
Autos: 70.7 69.6 67.5 64.8 72.2 7 Medium Trucks: 68.6 67.6 63.8 62.9 70.2 7 Heavy Trucks: 72.2 71.3 66.8 66.3 73.7 7 Vehicle Noise: 75.5 74.5 71.1 69.7 77.0 7 Centerline Distance to Noise Contour (in feet) 70 dBA	Unmitigated Noise	Levels (with	out Topo and	barrie	er atten	nuation)								
Medium Trucks: 68.6 67.6 63.8 62.9 70.2 7 Heavy Trucks: 72.2 71.3 66.8 66.3 73.7 7 Vehicle Noise: 75.5 74.5 71.1 69.7 77.0 7 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 162 348 751 1,6		- 1			Leq E		Leq N	_						
Heavy Trucks: 72.2 71.3 66.8 66.3 73.7 7											_	72		
Vehicle Noise: 75.5 74.5 71.1 69.7 77.0 7 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 162 348 751 1,6											_	70		
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 162 348 751 1,6										73				
70 dBA 65 dBA 60 dBA 55 dBA Ldn: 162 348 751 1,6						71.1		69.7	•	77.0)	77		
Ldn: 162 348 751 1,6	Centerline Distanc	e to Noise Co	ontour (in feet	*)	70	dRΔ	65 41	RΔ	-	O dBA	55	dRΔ		
102 010 101 1,0				I dn	70		33 UL					1.61		
O/VLE. 100 004 700 1,0			0									1.69		
				7 VL.L.		109		304		700		1,09		

	FHV	WA-RD-77-108	HIGHWA	у ио	ISE PI	REDICT	ON MO	DEL			
Road Nan	io: E+P (Propo ne: Barton St. nt: n/o Van Bu	,					Name: I umber:		an South Ca	mpus	
SITE	SPECIFIC IN	IPUT DATA				N	OISE N	/IODE	L INPUTS		
Highway Data				Sit	e Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	4,869 vehicl	es					Autos.	15		
Peak Hour	Percentage:	7.73%			Ме	dium Tr	icks (2 A	Axles).	: 15		
Peak F	lour Volume:	376 vehicle	:S		He	avy Tru	cks (3+ A	Axles).	: 15		
Ve	hicle Speed:	40 mph		1/0	hicle l	Miss					
Near/Far La	ne Distance:	36 feet		ve		icleType		Day	Evening	Night	Daily
Site Data					VCII			71.19		18.0%	91.45%
	rrier Heiaht:	0.0 feet			М	edium T		73.69		18.6%	4.62%
Barrier Type (0-W		0.0 reet				leavy T		75.69		17.8%	3.93%
	st. to Barrier:	44.0 feet									
Centerline Dist.		44.0 feet		No	ise So		evation		eet)		
Barrier Distance		0.0 feet				Auto		000			
Observer Height		5.0 feet				m Truck		297			
	ad Elevation:	0.0 feet			Heav	y Truck	s: 8.0	004	Grade Adju	stment.	0.0
	ad Elevation:	0.0 feet		La	ne Ea	uivalent	Distanc	e (in	feet)		
	Road Grade:	0.0%				Auto		460	,		
	Left View:	-90.0 degre	es		Mediu	m Truck					
	Right View:	90.0 degre			Heav	y Truck	s: 40.	262			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distant	ce	Finite	Road	Fresn	iel .	Barrier Atter	n Ber	m Atten
Autos:	66.51	-5.96		1.28		-1.20		-4.61	0.00	00	0.000
Medium Trucks:	77.72	-18.92		1.31		-1.20		-4.87	0.00	00	0.000
Heavy Trucks:	82.99	-19.63		1.31		-1.20		-5.50	0.00	00	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier at	tenua	tion)						
VehicleType	Leq Peak Hou			q Eve	_	Leq	Night		Ldn	CI	VEL
Autos:		0.6	59.5		57.4		54.7		62.1		62.5
Medium Trucks:		3.9	57.9		54.1		53.2		60.5		60.8
Heavy Trucks:		3.5	62.6		58.1		57.5		64.9		65.2
Vehicle Noise:		3.2	65.2		61.6		60.3	3	67.7		68.0
Centerline Distan	ce to Noise Co	ontour (in fee									
				70 dB.		65	dBA		60 dBA	55	dBA
			Ldn:		31		66		143		308
		C	NEL:		32		69		149		322

	FHV	WA-RD-77-108	HIGH	HWAY	NOISE P	REDICTI	ON MO	DDEL			
Road Nan	rio: E+P (Propo ne: Barton St. nt: s/o Van Bur							Meridia 12761	an South C	ampus	
SITE	SPECIFIC IN	PUT DATA				N	IOISE	MODE	L INPUT	S	
Highway Data					Site Cor	ditions	(Hard :	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	11,761 vehicle	es					Autos:	15		
Peak Hour	Percentage:	7.73%			Me	edium Tru	ucks (2	Axles):	15		
Peak H	lour Volume:	909 vehicle	s		He	eavy Truc	cks (3+	Axles):	15		
Ve	ehicle Speed:	40 mph			Vehicle	Mix					
Near/Far La	ne Distance:	36 feet			VehicleType Day				Evening	Night	Daily
Site Data							Autos:	71.1%	10.9%	18.0%	91.44%
Ra	rrier Height:	0.0 feet			М	edium Ti	rucks:	73.6%	7.7%	18.6%	4.63%
Barrier Type (0-W	-	0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.93%
Centerline Di		44.0 feet			Noise S	ource El	evatio	ns (in fe	eet)		
Centerline Dist.		44.0 feet				Autos	s: C	0.000			
Barrier Distance		0.0 feet			Mediu	m Truck	s: 2	.297			
Observer Height	(Above Pad): ad Elevation:	5.0 feet			Hear	vy Trucks	s: 8	3.004	Grade Ad	justment	0.0
	0.0 feet										
	ad Elevation:	0.0 feet			Lane Eq				reet)		
	Road Grade:	0.0%				Autos		0.460			
	Left View:	-90.0 degre				m Truck).241			
	Right View:	90.0 degre	es		Hea	vy Truck:	s: 40	0.262			
FHWA Noise Mod	el Calculations	3									
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atten
Autos:	00.01	-2.13		1.3		-1.20		-4.61		000	0.000
Medium Trucks:		-15.08			31	-1.20		-4.87		000	0.000
Heavy Trucks:		-15.79		1.3		-1.20		-5.50	0.0	000	0.000
Unmitigated Noise								_			
VehicleType	Leq Peak Hou			Leq E	Evening		Night		Ldn		NEL
Autos:			63.3		61.2		58		66.0		66.3
Medium Trucks: 62.7 Heavy Trucks: 67.3			61.7		58.0		57.0				64.6
Heavy Trucks: Vehicle Noise:			66.4 69.0		61.9 65.4		61 64		68.8 71.9	-	69.0 71.8
Centerline Distan	ce to Noise Co	ntour (in feet	•)								
			_	70	dBA	65	dBA	6	0 dBA	55	dBA
			Ldn:		56		12	0	258		555
CNEL:					58 125 269			1	580		

Friday, April 24, 20	020
----------------------	-----

	FH\	WA-RD-77-108	HIGHV	VAY NO	DISE PI	REDICT	ION MO	DEL			
Road Nam	o: E+P (Propo e: Barton St. nt: s/o Kramer	•					t Name: lumber:		an South C	ampus	
	SPECIFIC IN	IPUT DATA				ľ	NOISE	MODE	L INPUT	S	
Highway Data				S	ite Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	10,286 vehicle	es.					Autos.			
Peak Hour	Percentage:	7.73%					ucks (2 .				
Peak H	our Volume:	795 vehicles	3		He	eavy Tru	cks (3+ .	Axles).	15		
Ve	hicle Speed:	40 mph		V	ehicle i	Mix					
Near/Far La	ne Distance:	36 feet			Veh	icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	71.1%	10.9%	18.09	6 91.44%
Bai	rier Heiaht:	0.0 feet			М	ledium T	rucks:	73.6%	7.7%	18.69	4.63%
Barrier Type (0-W		0.0			1	Heavy T	rucks:	75.6%	6.7%	17.89	6 3.93%
Centerline Dis	st. to Barrier:	44.0 feet		N	oise So	ource E	levation	s (in f	eet)		
Centerline Dist.		44.0 feet				Auto		000	,		
Barrier Distance		0.0 feet			Mediu	m Truck	s: 2.	297			
Observer Height (,	5.0 feet			Heav	vy Truck	s: 8.	004	Grade Adj	iustmer	nt: 0.0
	ad Elevation:	0.0 feet			ono Fa	uhalan	t Distan	oo (in	foot)		
	ad Elevation:	0.0 feet 0.0%		L	ane Eq	Auto		460	ieei)		
,	Road Grade:	-90.0 degree			Modiu	m Truck		241			
	Right View:	90.0 degree				vy Truck		262			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresi	nel	Barrier Atte	en Be	erm Atten
Autos:	66.51	-2.71		1.28		-1.20		-4.61	0.0	000	0.000
Medium Trucks:	77.72	-15.67		1.31		-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	82.99	-16.38		1.31		-1.20		-5.50	0.0	000	0.000
Unmitigated Noise			barrier	attenu	ation)			,			
	Leq Peak Hou			Leq Ev		,	Night		Ldn		CNEL
Autos:	63		62.7		60.6		58.0	-	65.4		65.7
Medium Trucks:			61.2		57.4		56.4		63.8		64.0
Heavy Trucks:	66		65.8		61.3		60.	_	68.2		68.4
Vehicle Noise: 69.4 68.					64.9		63.0	5	70.9	,	71.2
Centerline Distanc	e to Noise Co	ontour (in feet)	1	70 di	BA	65	dBA		60 dBA	- 5	5 dBA
			l dn:	, , , ,	51	. 50	109		236		508
			VEL:		53		114		246		530

0 : F:B/B		B HIGHW	AY NO	ISE PF	REDICT	ION M	ODEL			
Scenario: E+P (Proj Road Name: Barton St Road Segment: n/o Krame					.,		Meridia 12761	an South C	ampus	
SITE SPECIFIC I	NPUT DATA							L INPUT	S	
Highway Data			Sit	te Con	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily Traffic (Adt):	10,908 vehic	les					Autos:	15		
Peak Hour Percentage:	7.73%			Me	dium Tn	ucks (2	Axles):	15		
Peak Hour Volume:	843 vehicle	es		He	avy Trud	cks (3+	Axles):	15		
Vehicle Speed:	40 mph		Ve	hicle I	/lix					
Near/Far Lane Distance:	36 feet		-		cleType	- 1	Day	Evening	Night	Daily
Site Data						Autos:	71.1%	10.9%	18.0%	91.44
Barrier Height:	0.0 feet			Me	edium T	rucks:	73.6%	7.7%	18.6%	4.63
Barrier Type (0-Wall, 1-Berm):	0.0			F	leavy T	rucks:	75.6%	6.7%	17.8%	3.93
Centerline Dist. to Barrier:			No	ise So	urce El	evatio	ns (in fe	eet)		
Centerline Dist. to Observer:	11.0				Auto.	s: (0.000			
Barrier Distance to Observer:				Mediur	n Truck	s: 2	2.297			
Observer Height (Above Pad):				Heav	y Truck	s: 8	3.004	Grade Ad	justmen	t: 0.0
Pad Elevation:	0.0 1001		-							
Road Elevation:	0.0 1001	*** ****			uivalent			reet)		
Road Grade:					Auto		0.460			
Left View:					n Truck).241			
Right View:	90.0 degre	es		Heav	y Truck	s: 40	0.262			
FHWA Noise Model Calculatio										
VehicleType REMEL	Traffic Flow	Distar		Finite		Fres		Barrier Att		rm Atter
Autos: 66.5			1.28		-1.20		-4.61		000	0.00
Medium Trucks: 77.7			1.31		-1.20		-4.87		000	0.00
Heavy Trucks: 82.9		-	1.31		-1.20		-5.50	0.0	000	0.00
Unmitigated Noise Levels (with						h li mint	_	Lata	1 0	NIC1
VehicleType Leq Peak H		,	eq Eve	_	Leq	Night	^	Ldn	_	NEL
Autos: 64.1 63.0				60.9 57.6		58 56		65.0 64.0		66 64
	19.4	61.4		61.6			.7	68.4	-	68
Medium Trucks:	32.4 37.0	66.1								
Medium Trucks: 6 Heavy Trucks: 6	62.4 67.0 69.7	66.1 68.7		65.1		63		71.		
Medium Trucks: 6 Heavy Trucks: 6 Vehicle Noise: 6	69.7	68.7								
Medium Trucks: 6 Heavy Trucks: 6	69.7	68.7	70 dB	65.1	65		.8		2	71.
Medium Trucks: 6 Heavy Trucks: 6 Vehicle Noise: 6	69.7	68.7	70 dB	65.1	65	63	.8	71.:	2 55	71

	FHV	VA-RD-77-108	HIGHWAY	NOISE P	REDICTI	ON MOD	EL				
	o: E+P (Propo e: Barton St. nt: s/o Lurin Av	•				Name: N umber: 1		South Cam	pus		
	SPECIFIC IN	IPUT DATA						INPUTS			
Highway Data				Site Cor	ditions	(Hard = 1	10, Soft	= 15)			
Average Daily	Traffic (Adt):	10,118 vehicle	es				lutos:	15			
	Percentage:	7.73%		Medium Trucks (2 Axles): 15							
	our Volume:	782 vehicles	3	He	eavy Truc	cks (3+ A	xles):	15			
	hicle Speed:	40 mph		Vehicle	Mix						
Near/Far Lar	ne Distance:	36 feet		Veh	icleType	I	Day E	vening N	ight Daily		
Site Data					-	Autos:	71.1%	10.9% 1	8.0% 91.44%		
Bar	rier Height:	0.0 feet		M	ledium Ti	rucks:	73.6%	7.7% 1	8.6% 4.63%		
Barrier Type (0-Wa		0.0			Heavy Ti	rucks:	75.6%	6.7% 1	7.8% 3.93%		
Centerline Dis	st. to Barrier:	44.0 feet		Noise S	ource El	ovations	(in foo	<i>t</i>)			
Centerline Dist.	to Observer:	44.0 feet		110/30 01	Auto		•	'/			
Barrier Distance t	to Observer:	0.0 feet		Mediu	m Truck						
Observer Height (5.0 feet		Heavy Trucks: 8.004 Grade Adjustment: 0.0								
	ad Elevation:	0.0 feet									
Roa	ad Elevation:	0.0 feet		Lane Eq				et)			
F	Road Grade:	0.0%			Auto						
	Left View:	-90.0 degree	es		m Truck						
	Right View:	90.0 degree	es	Hea	vy Truck	s: 40.2	:62				
FHWA Noise Mode	l Calculation:	s									
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresne	el B	arrier Atten	Berm Atten		
Autos:	66.51	-2.78	1	.28	-1.20		4.61	0.000	0.000		
Medium Trucks:	77.72	-15.74		.31	-1.20		4.87	0.000			
Heavy Trucks:	82.99	-16.45	1	.31	-1.20		-5.50	0.000	0.000		
Unmitigated Noise											
	Leq Peak Hou			Evening	,	Night	L	.dn	CNEL		
Autos:	63		62.7	60.5 57.3		57.9		65.3	65.7		
	Medium Trucks: 62.1 61.1					56.4		63.7	63.9		
Heavy Trucks:_ Vehicle Noise:	66	••	65.8 68.4	61.3 64.8		60.7		68.1 70.9	68.3 71.1		
Centerline Distanc	e to Noise Co	ntour (in feet)								
Comornia Distant	0.107.10736 00	mour (m reet)		0 dBA	65	dBA	60	dBA	55 dBA		
			Ldn:	50		108		233	502		
		CI	NEL:	52		113		243	524		

ı	HWA	-RD-77-108	HIGH	WAY I	NOISE P	REDICT	ION MO	DDEL			
Scenario: E+P (Pr Road Name: Coyote Road Segment: n/o Van	Bush I	Rd.						Meridia 12761	an South C	ampus	
SITE SPECIFIC	INP	UT DATA							L INPUT	S	
Highway Data					Site Cor	ditions	(Hard :	= 10, Sc	oft = 15)		
Average Daily Traffic (Adt): 1	1,726 vehicle	es					Autos:	15		
Peak Hour Percentage	2	7.73%			Me	edium Tri	ucks (2	Axles):	15		
Peak Hour Volume	E.	133 vehicles	3		He	eavy Truc	cks (3+	Axles):	15		
Vehicle Speed	l:	25 mph		ŀ	Vehicle	Mix					
Near/Far Lane Distance	e:	12 feet		l		icleType	,	Day	Evening	Night	Daily
Site Data							Autos:	71.1%	10.9%	18.0%	91.51%
Barrier Heigh	۴.	0.0 feet			M	edium T	rucks:	73.6%	7.7%	18.6%	4.59%
Barrier Type (0-Wall, 1-Berm		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.90%
Centerline Dist. to Barrie	r:	33.0 feet		-	Noise S	ourco El	lovatio	ne (in f	not)		
Centerline Dist. to Observe	Centerline Dist. to Observer: 33.0				NOISE S	Auto:		0.000	<i>(</i>		
Barrier Distance to Observe	0.0 feet			Modiu	m Truck		2.297				
Observer Height (Above Pad	5.0 feet				vy Truck		1.297	Grade Ad	iustment	- 0.0	
Pad Elevation	Pad Elevation:				i ica	vy Truck	s. c	5.004	0,000,10	dourrorn	. 0.0
Road Elevation)."	0.0 feet			Lane Eq	uivalent	Distar	nce (in	feet)		
Road Grade	e: (0.0%				Auto	s: 32	2.833			
Left Viev	/: ·	-90.0 degree	es			m Truck		2.562			
Right View	<i>/</i> :	90.0 degree	es		Hea	vy Truck	s: 32	2.589			
FHWA Noise Model Calculate	ons										
VehicleType REMEL	7	raffic Flow	Dis	stance	Finite	Road	Fres		Barrier Att	en Ber	m Atten
Autos: 58	73	-8.42		2.6	64	-1.20		-4.52	0.0	000	0.000
Medium Trucks: 70		-21.41		2.6		-1.20		-4.86		000	0.000
Heavy Trucks: 77	97	-22.12		2.6	39	-1.20		-5.69	0.0	000	0.000
Unmitigated Noise Levels (w											
VehicleType Leq Peak i		Leq Day	_	Leq E	vening		Night		Ldn		NEL
Autos:	51.8		50.6		48.5		45		53.2		53.6
Medium Trucks:	50.9		49.9 56.4		46.1		45	-	52.	-	52.7
Heavy Trucks: Vehicle Noise:	Heavy Trucks: 57.3 Vehicle Noise: 59.1				51.9 54.3		51 53		58.8		59.0 60.9
			58.1		54.3	'	33		00.0	,	00.9
Centerline Distance to Noise	Cont	tour (in feet)	1	70	dBA	65	dBA		60 dBA	55	dBA
			L					_			
			Ldn:		8		1	7	36		78

Friday, April 24, 20	020
----------------------	-----

	FHW.	A-RD-77-108 HI	GHWAY	NOISE P	REDICT	TION MOI	DEL			
Scenario: E- Road Name: Vi Road Segment: n/	llage West	Dr.				t Name: N Number: 1		South Ca	ampus	
SITE SPEC	CIFIC INP	UT DATA				NOISE N	IODEL	INPUTS	5	
Highway Data				Site Cor	nditions	(Hard =	10, Sof	t = 15)		
Average Daily Traffi	c (Adt):	6,834 vehicles				,	Autos:	15		
Peak Hour Pero	entage:	7.73%		Me	edium T	rucks (2 A	(xles	15		
Peak Hour V	/olume:	528 vehicles		He	eavy Tru	icks (3+ A	(xles	15		
Vehicle	Speed:	40 mph		Vehicle	Miv					
Near/Far Lane Di	stance:	44 feet			nicleTyp	e	Day	Evening	Night	Daily
Site Data							71.1%	10.9%	18.0%	,
Barrier	Hoinht.	0.0 feet		N	fedium T	Trucks:	73.6%	7.7%	18.6%	7.64%
Barrier Type (0-Wall, 1		0.0			Heavy 1	Trucks:	75.6%	6.7%	17.8%	26.22%
Centerline Dist. to		56.0 feet		Noine C	auraa E	levations	/in for	.41		
Centerline Dist. to Ob	server:	56.0 feet		Noise 3	Auto		000	:()		
Barrier Distance to Ob	server:	0.0 feet		Modis	ım Truci		297			
Observer Height (Abov	e Pad):	5.0 feet			vy Truci			Grade Adji	uetmant	- 0.0
Pad Ele	evation:	0.0 feet		i ica	vy muci	ns. 0.0	704 (orauc Auji	usuncin	. 0.0
Road Ele	evation:	0.0 feet		Lane Eq		t Distanc	_	et)		
Road	Grade:	0.0%			Auto	os: 51.7	740			
Le	ft View:	-90.0 degrees		Mediu	ım Truci	ks: 51.5	568			
RigI	nt View:	90.0 degrees		Hea	vy Truci	ks: 51.5	585			
FHWA Noise Model Ca	lculations									
VehicleType RI	EMEL 7	raffic Flow	Distance	Finite	Road	Fresn	el E	Barrier Atte	en Bei	m Atten
Autos:	66.51	-5.89	-0.	.33	-1.20		-4.67	0.0	00	0.000
Medium Trucks:	77.72	-15.27		30	-1.20		-4.87	0.0		0.000
Heavy Trucks:	82.99	-9.91	-0.	31	-1.20		-5.37	0.0	00	0.000
Unmitigated Noise Lev	els (withou	t Topo and ba	rrier atte	nuation)						
,, ,	Peak Hour	Leq Day		Evening		Night		Ldn		NEL
Autos:	59.1	57.		55.8		53.2		60.6		61.0
Medium Trucks:	60.9 71.6		-	56.2	-	55.2		62.5		62.8
Heavy Trucks:	7	66.2		65.6		73.0		73.3		
Vehicle Noise:	72.2	71.	2	66.9	,	66.2	!	73.6	i	73.9
Centerline Distance to	Noise Con	tour (in feet)	1							15.4
			_) dBA	65	dBA	60) dBA	55	dBA
		Ld		98		211		454		978
		CNE	L.:	101		219		471		1,015

	FHV	VA-RD-77-108	HIGH	WAY N	OISE PI	REDICTI	ON MC	DDEL							
Scenario: E Road Name: C Road Segment: n	Orange Ter	race Pkwy.			Project Name: Meridian South Campus Job Number: 12761										
	CIFIC IN	PUT DATA				N	OISE	MODE	L INPUT	S					
Highway Data				S	Site Con	ditions	(Hard =	= 10, Sc	oft = 15)						
Average Daily Trat	fic (Adt):	7,599 vehicle	es					Autos:	15						
Peak Hour Per		7.73%				edium Tru									
Peak Hour	Volume:	587 vehicles	S		He	avy Truc	ks (3+	Axles):	15						
	e Speed:	45 mph		ı	/ehicle	Mix									
Near/Far Lane D	Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily				
Site Data						- /	lutos:	71.1%	10.9%	18.0%	91.449				
Rarrier	Heiaht:	0.0 feet			М	edium Tr	ucks:	73.6%	7.7%	18.6%	4.639				
Barrier Type (0-Wall,	1-Berm):	0.0				Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.93				
Centerline Dist. to		55.0 feet		٨	loise So	ource Ele	evation	ns (in fe	eet)						
Centerline Dist. to C		55.0 feet				Autos	s: 0	.000							
Barrier Distance to C		0.0 feet			Mediu	m Trucks	s: 2	.297							
Observer Height (Abo	,	5.0 feet			Hear	y Trucks	s: 8	.004	Grade Ad	justment	0.0				
	levation:	0.0 feet		,	ano Ea	uivalent	Dictor	oo (in	foot)						
	d Grade:	0.0 feet		-	ane Ly	Autos		739	eei)						
	a Grade: eft View:	0.0%			14	Autos m Trucks		.739							
-	ght View:	-90.0 degree				rrrucks vy Trucks		.578							
FHWA Noise Model Ca	alculations	S													
VehicleType F	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atter				
Autos:	68.46	-4.54		-0.07	7	-1.20		-4.67	0.0	000	0.00				
Medium Trucks:	79.45	-17.49		-0.05	5	-1.20		-4.87	0.0	000	0.00				
Heavy Trucks:	84.25	-18.20		-0.05	-	-1.20		-5.38	0.0	000	0.00				
Unmitigated Noise Le	•														
	Peak Hou			Leg Ev		_	Night		Ldn	_	NEL				
Autos:	62		61.5		59.4		56.	-	64.		64				
Medium Trucks:	60	.,	59.7 63.9		55.9		55.	-	62.3	-	62				
Heavy Trucks: Vehicle Noise:	Heavy Trucks: 64.8 Vehicle Noise: 67.8				59.4		58. 61.		66.0		66				
			66.8		63.3		61.	.9	69.3	5	69				
Centerline Distance to	Noise Co	ntour (in feet)	70 a	IBA	65 (dBA		60 dBA	55	dBA				
			Ldn:		49		10	7	230		49				

FHV	/A-RD-77-108 H	HIGHWAY	NOISE P	REDICT	ION MOD	EL					
Scenario: E+P (Propo Road Name: Village Wes Road Segment: s/o Krameri	t Dr.				t Name: N lumber: 1		n South Ca	mpus			
SITE SPECIFIC IN	PUT DATA						INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)								
Average Daily Traffic (Adt):	1,506 vehicles	3			A	utos:	15				
Peak Hour Percentage:	7.73%		Medium Trucks (2 Axles): 15								
Peak Hour Volume:	116 vehicles		He	avy Tru	cks (3+ A	xles):	15				
Vehicle Speed:	40 mph		Vehicle Mix								
Near/Far Lane Distance:	24 feet			icleType	e [Day	Evening	Night Daily			
Site Data						71.1%	10.9%	18.0% 91.52%			
Barrier Height:	0.0 feet		М	edium T	rucks: T	73.6%	7.7%	18.6% 4.59%			
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy T	rucks:	75.6%	6.7%	17.8% 3.89%			
Centerline Dist. to Barrier:	39.0 feet		Noise So	urce F	levations	(in fe	et)				
Centerline Dist. to Observer:	39.0 feet			Auto		•	/				
Barrier Distance to Observer:	0.0 feet		Mediu	m Truck							
Observer Height (Above Pad):	5.0 feet		Hear	y Truck			Grade Adiu	stment: 0.0			
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)									
Road Elevation:	0.0 feet		Lane Eq				eet)				
Road Grade:	0.0%		Auto								
Left View:	-90.0 degrees			m Truck							
Right View:	90.0 degrees	3	Hear	ry Truck	s: 37.2	29					
FHWA Noise Model Calculations	;		·								
VehicleType REMEL	Traffic Flow	Distance		Road	Fresne		Barrier Atte				
Autos: 66.51	-11.05		.78	-1.20		4.58	0.00				
Medium Trucks: 77.72	-24.05		.82	-1.20		4.87	0.00				
Heavy Trucks: 82.99	-24.76		.82	-1.20	-	5.57	0.00	0.000			
Unmitigated Noise Levels (with			,		I		1	01/5/			
VehicleType Leq Peak Hou Autos: 56	, ,	4.9	Evening 52.8	Leq	Night 50.2		Ldn 57.5	CNEL 57.9			
Medium Trucks: 54		4.9 3.3	52.8 49.5		48.6		55.9	56.			
Heavy Trucks: 58.		3.3 8.0	53.4		52.9		60.3	60.			
Vehicle Noise: 61		0.6	57.0		55.7		63.1	63.4			
Centerline Distance to Noise Co	ntour (in feet)										
	, , ,	70) dBA	65	dBA	6	0 dBA	55 dBA			
	L	dn:	13		29		62	135			
	CNEL:					14 30 65 1					

	FHV	VA-RD-77-108	HIGH	WAY I	NOISE P	REDICT	ION M	DDEL						
Road Nan	rio: E+P (Propo ne: Meridian Pl ent: s/o Allesan	cwy.			Project Name: Meridian South Campus Job Number: 12761									
SITE	SPECIFIC IN	IPUT DATA				N	IOISE	MODE	L INPUT	S				
Highway Data					Site Cor	ditions	(Hard:	= 10, Sc	oft = 15)					
Average Daily	Traffic (Adt):	20,422 vehicle	es					Autos:	15					
Peak Hour	Percentage:	7.73%			Me	edium Tr	ucks (2	Axles):	15					
Peak F	lour Volume:	1,579 vehicle	s		He	eavy Tru	cks (3+	Axles):	15					
Ve	ehicle Speed:	45 mph		ŀ	Vehicle	Mix								
Near/Far La	ane Distance:	44 feet		H		icleType	,	Day	Evening	Night	Daily			
Site Data							Autos:	71.1%	10.9%	18.0%	91.44%			
Ra	rrier Heiaht:	0.0 feet			M	edium T	rucks:	73.6%	7.7%	18.6%	4.63%			
Barrier Type (0-W		0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.93%			
Centerline Di	ist. to Barrier:	56.0 feet		ŀ	Noise S	ource Fl	lovatio	ne (in fa	not)					
Centerline Dist.	to Observer:	56.0 feet		ŀ	110/36 01	Auto		0.000	,					
Barrier Distance			Medium Trucks: 2.297											
Observer Height	Observer Height (Above Pad): 5.0 feet					vy Truck		1.297	Grade Ad	liustment	. 0 0			
P	ad Elevation:	0.0 feet			пеа	vy Truck	s. c	0.004	Orade Ad	justinoni	0.0			
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distar	nce (in :	feet)					
	Road Grade:	0.0%				Auto	s: 51	1.740						
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 51	1.568						
	Right View:	90.0 degree	es		Hea	vy Truck	s: 51	1.585						
FHWA Noise Mod	el Calculation	s												
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten			
Autos:	68.46	-0.24		-0.3	13	-1.20		-4.67	0.0	000	0.000			
Medium Trucks:	79.45	-13.20		-0.3	80	-1.20		-4.87	0.0	000	0.000			
Heavy Trucks:	84.25	-13.91		-0.3	31	-1.20		-5.37	0.0	000	0.000			
Unmitigated Nois	e Levels (with	out Topo and	barri	er atter	nuation)									
VehicleType	Leq Peak Hou	ır Leq Day	/	Leq E	vening	Leq	Night		Ldn	C	NEL			
Autos:	66	.7	65.5		63.4		60	.8	68.2	2	68.6			
Medium Trucks:	64	.7	63.7		60.0		59	.0	66.3	3	66.6			
	Heavy Trucks: 68.8				63.4		62	.9	70.3		70.			
Vehicle Noise:	71	.8	70.9		67.3		66	.0	73.	3	73.6			
Centerline Distan	ce to Noise Co	ontour (in feet)	-	1D.4	- a-	10.4		20.104		(D.4			
			L	70	dBA	65	dBA		60 dBA		dBA			
			Ldn:		94		20	-	434		936			
		C	NEL:		98		21	7	454		977			

Friday,	April	24,	2020

	FHV	WA-RD-77-10	B HIGI	HWAY I	NOISE P	REDICT	ION MO	DDEL						
	e: E+P (Propo e: Meridian Pl t: s/o Cactus	kwy.			Project Name: Meridian South Campus Job Number: 12761									
	PECIFIC IN	IPUT DATA							L INPUT	s				
Highway Data					Site Co	nditions	(Hard =							
Average Daily T	raffic (Adt):	16,468 vehic	les					Autos:						
Peak Hour F		7.73%				edium Tr		,						
	our Volume:	1,273 vehicle	es		Н	eavy Tru	cks (3+	Axles):	15					
	icle Speed:	45 mph		ı	Vehicle	Mix								
Near/Far Lan	e Distance:	44 feet		ı	Vel	hicleType	,	Day	Evening	Night	Daily			
Site Data							Autos:	71.1%	10.9%	18.0%	91.479			
Barr	ier Height:	0.0 feet			٨	1edium T	rucks:	73.6%	7.7%	18.6%	4.619			
Barrier Type (0-Wa	all, 1-Berm):	0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.929			
Centerline Dist		56.0 feet			Noise S	ource El	evatio	ns (in fe	eet)					
Centerline Dist. to		56.0 feet		Ī		Auto	s: 0	.000						
Barrier Distance to		0.0 feet			Mediu	ım Truck	s: 2	.297						
Observer Height (A		5.0 feet			Hea	vy Truck	s: 8	.004	Grade Ad	justment	0.0			
	d Elevation:	0.0 feet		-	l ana E	quivalent	Dieter	ano (in i	fo.o.4)					
	d Elevation: load Grade:	0.0 feet 0.0%			Lane E	Auto		.740	eet)					
R	l eft View:				Modis	m Truck		.568						
	Right View:	-90.0 degre				vy Truck		.585						
FHWA Noise Model	Calculation	s												
VehicleType	REMEL	Traffic Flow	Di	istance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten			
Autos:	68.46	-1.18	3	-0.3	3	-1.20		-4.67	0.0	000	0.00			
Medium Trucks:	79.45	-14.15	5	-0.3	0	-1.20		-4.87	0.0	000	0.00			
Heavy Trucks:	84.25	-14.86	3	-0.3	1	-1.20		-5.37	0.0	000	0.00			
Unmitigated Noise			_							T				
	Leq Peak Hou		,	Leq E	vening		Night		Ldn		NEL			
Autos:	65		64.6		62.5		59		67.2		67.			
Medium Trucks:	63		62.8		59.0		58		65.4	•	65.			
	Heavy Trucks: 67.9 67.0				62.5		62	-	69.3		69.			
Vehicle Noise:	70		69.9		66.4	1	65	.0	72.4	4	72.			
Centerline Distance	to Noise Co	ontour (in fee	t)	70	dBA	65	dBA	-	60 dBA	55	dBA			
			I dn:		81		17-		376		809			
		(NFI:		85		18		392		846			
					55		.0.	_	332		540			

<u> </u>	5 · D / D								0 11 -		
	o: E+P (Propo								n South C	ampus	
	e: Meridian Pk					JOD IN	umber:	12761			
Road Segmen											
	PECIFIC IN	PUT DATA							L INPUT	S	
Highway Data				Si	te Con	ditions (Hard :	= 10, Sc	oft = 15)		
Average Daily 1	Fraffic (Adt):	19,654 vehicle	es					Autos:	15		
Peak Hour I	Percentage:	7.73%				edium Tru					
Peak He	our Volume:	1,519 vehicle	S		He	avy Truc	ks (3+	Axles):	15		
Vel	nicle Speed:	45 mph		Ve	ehicle l	Mix					
Near/Far Lar	e Distance:	44 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	71.1%	10.9%	18.0%	91.44
Ran	rier Height:	0.0 feet			М	edium Tr	ucks:	73.6%	7.7%	18.6%	4.63
Barrier Type (0-Wa		0.0			1	Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.93
Centerline Dis		56.0 feet		N	oise So	ource Ele	evatio	ns (in fe	eet)		
Centerline Dist. t	o Observer:	56.0 feet				Autos		.000			
Barrier Distance t	o Observer:	0.0 feet			Mediu	m Trucks		297			
Observer Height (/	Above Pad):	5.0 feet				vy Trucks		.004	Grade Ad	iustment	: 0.0
Pa	d Elevation:	0.0 feet				•					
	d Elevation:	0.0 feet		Lá	ne Eq	uivalent			eet)		
F	Road Grade:	0.0%				Autos		.740			
	Left View:	-90.0 degre				m Trucks		.568			
	Right View:	90.0 degre	es		Heav	y Trucks	8: 51	.585			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fres		Barrier Att		m Atter
Autos:	68.46	-0.41		-0.33		-1.20		-4.67		000	0.00
Medium Trucks:	79.45	-13.37		-0.30		-1.20		-4.87		000	0.00
Heavy Trucks:	84.25	-14.08		-0.31		-1.20		-5.37	0.0	000	0.00
Unmitigated Noise							Minda t	_	1 -1	_	
VehicleType Autos:	Leq Peak Hou 66		65.4	Leq Eve	ening 63.3	Leq I	vignt 60	6	Ldn 68.0		NEL 68
Medium Trucks:	64	-	63.6		59.8		58		66.2		66
Heavy Trucks:	68.	-	67.8		63.3		58 62		70.	-	70
Vehicle Noise:	71		70.7		67.2		65		70.		70
					01.2		03	.0	73.2	-	73
Centerline Distanc	e to Noise Co	ntour (in feet	,	70 dE	BA .	65 (BA.	1 6	iO dBA	55	dBA
			Ldn:		91		19	6	423		91

	FHV	WA-RD-77-108	HIGHWA	AY NO	DISE PI	REDICTI	ON MO	DEL			
Road Nan	io: E+P (Propo ne: Meridian Pl nt: n/o Opporto	kwy.					Name: I umber:		an South Ca	mpus	
SITE	SPECIFIC IN	IPUT DATA				N	OISE N	/IODE	L INPUTS		
Highway Data				S	ite Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	16,740 vehicl	es					Autos.	15		
Peak Hour	Percentage:	7.73%			Ме	dium Tru	icks (2 A	Axles).	: 15		
Peak F	lour Volume:	1,294 vehicle	es.		He	avy Truc	ks (3+ A	Axles).	: 15		
Ve	hicle Speed:	45 mph		1/	ehicle l	Miss					
Near/Far La	ne Distance:	44 feet		V		icleType		Day	Evening	Night	Daily
Site Data				-	V () ()			71.19		18.0%	91.47%
				-	M	edium Ti		73.69		18.6%	4.62%
	rrier Height:	0.0 feet 0.0				Heavy Ti		75.69		17.8%	3.92%
Barrier Type (0-W Centerline Di		0.0 56.0 feet									
Centerline Di		56.0 feet		Ν	oise So	ource El	evation	s (in f	eet)		
Barrier Distance		0.0 feet				Auto	s: 0.0	000			
		Medium Trucks: 2.297									
Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet					Heav	y Truck	s: 8.0	004	Grade Adju	stment:	0.0
	ad Elevation:	0.0 feet		L	ane Ea	uivalent	Distanc	e (in	feet)		
	Road Grade:	0.0%		F		Auto		740	,		
	Left View:	-90.0 degre	es		Mediu	m Truck		568			
	Right View:	90.0 degre			Heav	y Truck	s: 51.	585			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distan	ice	Finite	Road	Fresn	iel	Barrier Atter	n Beri	m Atten
Autos:		-1.11		-0.33		-1.20		-4.67	0.00		0.000
Medium Trucks:				-0.30		-1.20		-4.87	0.00		0.000
Heavy Trucks:				-0.31		-1.20		-5.37	0.00	10	0.000
Unmitigated Nois					_				T		
VehicleType	Leq Peak Hou			eq Ev	_	Leq	Night		Ldn	CI	VEL
Autos:		5.8	64.7		62.6		59.9		67.3		67.7
	Medium Trucks: 63.9 62.9				59.1		58.1		65.5		65.7
Heavy Trucks:		3.0	67.1		62.6		62.0		69.4		69.7
Vehicle Noise:		1.0	70.0		66.5		65.1		72.5		72.8
Centerline Distan	ce to Noise Co	ontour (in fee	t)								
			L	70 di		65	dBA		60 dBA	55	dBA
		_	Ldn:		82		176		380		818
		С	NEL:		85		184		397		855

Friday, April 24, 2020 Friday, April 24, 2020

	FH'	WA-RD-77-108	HIGH	WAY	NOISE P	REDICT	ION MO	DDEL				
Road Nar	rio: E+P (Prop ne: Meridian P ent: n/o Van Bu	kwy.			Project Name: Meridian South Campus Job Number: 12761							
SITE	SPECIFIC II	NPUT DATA				N	IOISE	MODE	L INPUT	S		
Highway Data					Site Cor	ditions	(Hard :	= 10, Sc	oft = 15)			
Average Daily	Traffic (Adt):	10,592 vehicle	es					Autos:	15			
Peak Hou	r Percentage:	7.73%			Me	edium Tri	ucks (2	Axles):	15			
Peak I	Hour Volume:	819 vehicle	s		He	eavy Truc	cks (3+	Axles):	15			
Ve	ehicle Speed:	45 mph		-	Vehicle	Mix						
Near/Far La	ane Distance:	44 feet				icleType	,	Day	Evening	Night	Daily	
Site Data							Autos:	71.1%	10.9%	18.0%	91.49%	
Ra	arrier Height:	0.0 feet			M	edium T	rucks:	73.6%	7.7%	18.6%	4.60%	
Barrier Type (0-V		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.91%	
Centerline D	ist. to Barrier:	56.0 feet		-	Noise Source Elevations (in feet)							
Centerline Dist.	to Observer:	56.0 feet		1	NOISE S	Auto:		0.000	<i>(</i>			
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297				
Observer Height (Above Pad): 5.0 feet					vy Truck		1.297	Grade Ad	liustmen	t· n n		
Pad Elevation: 0.0 feet										judumom	. 0.0	
Ro	ad Elevation:	0.0 feet		Lane Equivalent Distance (in feet)								
	Road Grade:	0.0%				Auto	s: 51	1.740				
	Left View:	-90.0 degree	es			m Truck		1.568				
	Right View:	90.0 degree	es		Hea	vy Truck	s: 51	1.585				
FHWA Noise Mod	lel Calculation	ıs										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten	
Autos.		-3.09		-0.3	33	-1.20		-4.67	0.0	000	0.000	
Medium Trucks.				-0.3		-1.20		-4.87		000	0.000	
Heavy Trucks.	84.25	-16.79		-0.3	31	-1.20		-5.37	0.0	000	0.000	
Unmitigated Nois	e Levels (with	out Topo and	barrie	er attei	nuation)			_		,		
VehicleType	Leq Peak Ho			Leq E	vening		Night		Ldn		NEL	
Autos:	-		62.7		60.6		58		65.3		65.7	
Medium Trucks.	-		60.9		57.1		56		63.	-	63.7	
Heavy Trucks. Vehicle Noise			65.1 68.0					70.8				
					04.5	'	03	. 1	70.	,	10.8	
Centerline Distan	ce to Noise C	ontour (in feet)	70	dBA	65	dBA	-	60 dBA	56	i dBA	
			Ldn:	, 0	60		13		280		602	
		С	NEL:		63		13	-	292		629	

Friday, April 24, 20	020
----------------------	-----

	FH'	WA-RD-77-10	B HIGH	IWAY N	OISE PI	REDICT	ION MO	DDEL				
Scenario Road Name Road Segmen		,			Project Name: Meridian South Campus Job Number: 12761							
	PECIFIC II	NPUT DATA			NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15)							
Highway Data				5	Site Con	ditions	(Hard :	= 10, S				
Average Daily T	. ,	7,796 vehic	les					Autos:				
Peak Hour F		7.73%					rucks (2	,				
	ur Volume:	603 vehicle	es		He	avy Tru	icks (3+	Axles):	15			
	icle Speed:	40 mph		١	/ehicle	Mix						
Near/Far Lan	e Distance:	50 feet			Veh	icleType	е	Day	Evening	Night	Daily	
Site Data							Autos:	71.1%	10.9%	18.0%	91.459	
Barı	ier Height:	0.0 feet			М	edium 7	rucks:	73.6%	7.7%	18.6%	4.629	
Barrier Type (0-Wa	ıll, 1-Berm):	0.0			1	Heavy 7	rucks:	75.6%	6.7%	17.8%	3.939	
Centerline Dis		44.0 feet		1	Voise So	ource E	levatio	ns (in f	eet)			
Centerline Dist. to		44.0 feet				Auto	os: C	0.000				
Barrier Distance to		0.0 feet			Mediu	m Truck	rs: 2	.297				
Observer Height (A	,	5.0 feet			Heav	y Truck	rs: 8	3.004	Grade Adj	justment	: 0.0	
	d Elevation:	0.0 feet 0.0 feet		,	ane Eq	uivalan	4 Diotos	ann (in	foot)			
	a Elevation: load Grade:	0.0 reet		-	ane Ly	Auto		3.551	ieei)			
Λ.	I eft View:	-90.0 degre			Modiu	m Truck		3.308				
	Right View:	90.0 degre				ry Truck		3.332				
FHWA Noise Model	Calculation	ıs										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	en Bei	m Atten	
Autos:	66.51	-3.91		1.94	1	-1.20		-4.61	0.0	000	0.00	
Medium Trucks:	77.72	-16.88	3	1.98	3	-1.20		-4.87	0.0	000	0.00	
Heavy Trucks:	82.99			1.98		-1.20		-5.50	0.0	000	0.00	
Unmitigated Noise			_					_				
	eq Peak Ho		,	Leq Ev		Leq	Night		Ldn		NEL	
Autos:		3.3	62.2		60.1		57		64.8	-	65.	
Medium Trucks:	-	1.6	60.6 65.3		56.8		55		63.2	-	63.	
Heavy Trucks: Vehicle Noise:		3.2 3.9	67.9		60.8		60		67.6 70.4		67. 70.	
Centerline Distance					04.3		63	.0	70.4	+	70.	
Cernerine Distance	e to worse C	untour (In ree	i)	70.0	ID A	65	dBA	1	60 dBA	55	dBA	
			I dn:	700	47	00	10	_	217		468	

	FHW	/A-RD-77-108	HIGH	I YAWI	NOISE P	REDICTI	ION MC	DDEL				
Road Nar	rio: E+P (Propo me: Day St. ent: n/o Cottonw	,			Project Name: Meridian South Campus Job Number: 12761							
	SPECIFIC IN			T		N	IOISE	MODE	L INPUT	s		
Highway Data					Site Cor							
Average Daily	Traffic (Adt):	10,383 vehicle	es					Autos:	15			
Peak Hou	r Percentage:	7.73%			Me	edium Tru	ucks (2	Axles):	15			
Peak I	Hour Volume:	803 vehicles	S		He	eavy Truc	cks (3+	Axles):	15			
V	ehicle Speed:	40 mph		H	Vehicle	Mix						
Near/Far La	ane Distance:	50 feet		ŀ		icleType		Dav	Evening	Night	Dailv	
Site Data							Autos:	71.1%			91.43	
Rs	arrier Height:	0.0 feet			M	ledium Ti	rucks:	73.6%	7.7%	18.6%	4.63	
Barrier Type (0-V		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.93	
,, ,	ist. to Barrier:	44.0 feet		ŀ	Noise S	ourco El	ovation	ne (in fo	not)			
Centerline Dist	. to Observer:	44.0 feet			NOISE 3	Auto		.000	ei)			
Barrier Distance	e to Observer:	0.0 feet			Modis	m Truck:		297				
Observer Height	(Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	iuetmont	. 0 0	
F	Pad Elevation:	0.0 feet			пеа	vy Truck	s. o	.004	Orace Au	ustriciit	0.0	
Ro	oad Elevation:	0.0 feet			Lane Eq	uivalent	Distar	nce (in f	eet)			
	Road Grade:	0.0%				Auto	s: 36	6.551				
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 36	3.308				
	Right View:	90.0 degree	es		Hea	vy Truck	s: 36	3.332				
FHWA Noise Mod	lel Calculations	;										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atter	
Autos.		-2.67		1.9	94	-1.20		-4.61	0.0	000	0.00	
Medium Trucks.	77.72	-15.62		1.9	98	-1.20		-4.87	0.0	000	0.00	
Heavy Trucks.	82.99	-16.33		1.9	8	-1.20		-5.50	0.0	000	0.00	
Unmitigated Nois	e Levels (witho	out Topo and	barrie	er atter	nuation)							
VehicleType	Leq Peak Hou	., .,	_	Leq E	vening		Night		Ldn	_	VEL	
Autos.		-	63.4		61.3		58.		66.		66	
Medium Trucks.		-	61.9		58.1		57.	-	64.	-	64	
Heavy Trucks.			66.5 62.0 61.5 68.9				69					
Vehicle Noise.	: 70.	.1	69.2		65.6		64.	.3	71.0	3	71	
Centerline Distan	ce to Noise Co	ntour (in feet)	70	dBA	65	dBA		i0 dBA		dBA	
			Ldn:	70	ава 57	05	ава 12:		и ава 263		ава 56	
		0	Lan: NEL:		57 59		12	_	263		56 59	
		C	VEL.		59		12	,	2/4		59	

Friday, April 24, 2020

	FHW	/A-RD-77-108	HIGHWAY	NOISE P	REDICT	ION MOI	DEL			
Road Nam	io: E+P (Propo ne: Alessandro nt: w/o Mission	BI.		Project Name: Meridian South Campus Job Number: 12761						
	SPECIFIC IN	PUT DATA		NOISE MODEL INPUTS						
Highway Data				Site Cor	nditions	(Hard =	10, Sc	ft = 15)		
Average Daily	Traffic (Adt):	46,512 vehicle	es			-	Autos:	15		
Peak Hour	Percentage:	7.73%				rucks (2 A		15		
Peak H	lour Volume:	3,595 vehicles	3	H	eavy Tru	icks (3+ A	xles):	15		
	hicle Speed:	55 mph		Vehicle	Mix					
Near/Far La	ne Distance:	72 feet		Vel	nicleType	9 1	Day	Evening	Night	Daily
Site Data				Autos: 71.1% 10.9% 18.0					18.0%	91.42%
Rai	rrier Height:	0.0 feet		N	1edium 7	rucks:	73.6%	7.7%	18.6%	4.64%
Barrier Type (0-W		0.0			Heavy 1	rucks:	75.6%	6.7%	17.8%	3.94%
Centerline Di		60.0 feet		M-1 0		levations	/! f-	-41		
Centerline Dist.	to Observer:	60.0 feet		Noise S			•	et)		
Barrier Distance	to Observer:	0.0 feet		A 4 E-	Auto Im Truck					
Observer Height (Above Pad): 5.0 feet					ım Truci vy Truci			Grade Adju	otmont:	0.0
Pa	ad Elevation:	0.0 feet		пеа	vy muci	is. 0.U	104	Grade Adju	istinent.	0.0
Roa	ad Elevation:	0.0 feet		Lane Equivalent Distance (in feet)						
	Road Grade:	0.0%			Auto	s: 48.2	260			
	Left View:	-90.0 degree	es		ım Truck		76			
	Right View:	90.0 degree	es	Hea	vy Truck	rs: 48.0)94			
FHWA Noise Mode	el Calculations									
VehicleType	REMEL	Traffic Flow	Distance		Road	Fresn		Barrier Atte	_	n Atten
Autos:	71.78	2.46	-).13	-1.20		-4.69	0.00		0.000
Medium Trucks:	82.40	-10.49	-).15	-1.20		-4.88	0.00		0.000
Heavy Trucks:	86.40	-11.20).15	-1.20		-5.34	0.00	00	0.000
Unmitigated Noise								1		
VehicleType	Leq Peak Hou			Evening		Night		Ldn 74.7	CN	
Autos: Medium Trucks:	73. 70.		72.0 69.9	69.9 66.1		67.3 65.1		74.7		75.0 72.7
Heavy Trucks:	70.	-	73.3	68.7		68.2		72.5 75.6		75.8
Vehicle Noise:	77.		76.7	73.3		71.8		79.2		79.5
Centerline Distance	ce to Noise Co	ntour (in feet)							
			7	0 dBA	65	dBA	6	i0 dBA	55 c	IBA
			Ldn:	246		531		1,144		2,464
		CI	NEL:	258		555		1,196		2,577

	FH\	WA-RD-77-108	HIGH	IWAY I	NOISE P	REDICT	ION MO	ODEL				
Road Nar	rio: E+P (Propo me: Alessandro ent: e/o Mission	Bl.			Project Name: Meridian South Campus Job Number: 12761							
SITE	SPECIFIC IN	IPUT DATA				N	IOISE	MODE	L INPUT	S		
Highway Data					Site Cor	ditions	(Hard :	= 10, Sc	oft = 15)			
Average Daily	Traffic (Adt):	49,219 vehicle	es					Autos:	15			
Peak Hou	r Percentage:	7.73%			Me	edium Tri	ucks (2	Axles):	15			
Peak I	Hour Volume:	3,805 vehicle	s		He	eavy Truc	cks (3+	Axles):	15			
Ve	ehicle Speed:	55 mph		-	Vehicle	Miv						
Near/Far La	ane Distance:	72 feet		-		icleType	,	Dav	Evening	Night	Dailv	
Site Data							Autos:	71.1%		18.0%	. ,	
D.	arrier Height:	0.0 feet			M	edium Ti	rucks:	73.6%	7.7%	18.6%	4.64%	
Barrier Type (0-V		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94%	
Centerline D	ist. to Barrier:	60.0 feet		-	Noise Source Elevations (in feet)							
Centerline Dist.	to Observer:	60.0 feet		-	NOISE S	Auto:		0.000	<i>(</i>			
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		2.297				
Observer Height (Above Pad): 5.0 feet					vy Truck		3.004	Grade Ad	liustmen	t· n n		
Pad Elevation: 0.0 feet					пеа	vy Truck	S. C	0.004	Orade Ad	jusuriori	. 0.0	
Ro	oad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)									
	Road Grade:	0.0%				Auto	s: 48	3.260				
	Left View:	-90.0 degre	es			m Truck		3.076				
	Right View:	90.0 degre	es		Hea	vy Truck	s: 48	3.094				
FHWA Noise Mod	lel Calculation	s		1								
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	snel	Barrier Att	en Be	rm Atten	
Autos.	71.78	2.70		0.1	13	-1.20		-4.69	0.0	000	0.000	
Medium Trucks.	82.40	-10.24		0.1	15	-1.20		-4.88	0.0	000	0.000	
Heavy Trucks.	: 86.40	-10.95		0.1	15	-1.20		-5.34	0.0	000	0.000	
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atter	nuation)							
VehicleType	Leq Peak Ho			Leq E	vening		Night		Ldn		NEL	
Autos.		3.4	72.3		70.2		67		74.9		75.3	
Medium Trucks.		1.1	70.1		66.3		65		72.		73.0	
Heavy Trucks.		1.4	73.5	69.0 68.5 75.9				76.1				
Vehicle Noise.	: 77	7.9	76.9		73.5		72	.1	79.4	4	79.7	
Centerline Distan	ce to Noise C	ontour (in feet)	70	dBA	65	dBA		60 dBA		i dBA	
			Ldn:	70	ава 256	05	ав <i>А</i> 55	_	1.188		2.559	
		0	NFI:		256		55 57		1,188		2,559	
		C	· *LL.		208		3/	,	1,242		2,076	

Friday, April 24, 20	020
----------------------	-----

	FHWA-F	RD-77-108 HIG	HWAY N	IOISE P	REDICT	ION MC	DDEL				
Scenario: I Road Name: I Road Segment: V				Project Name: Meridian South Campus Job Number: 12761							
	ECIFIC INPU	T DATA						L INPUTS	5		
	volume: 2,78 e Speed:	033 vehicles 73% 85 vehicles 45 mph			edium Tr eavy Tru	ucks (2	Autos: Axles):	15 15			
Near/Far Lane I	Distance:	72 feet		Veh	icleType	9	Day	Evening	Night	Daily	
Barrier Type (0-Wall,	1-Berm):	0.0 feet 0.0			edium T Heavy T		71.1% 73.6% 75.6%	7.7%	18.0% 18.6% 17.8%	4.63%	
Observer Height (Above Pad): 5.0 fee Pad Elevation: 0.0 fee		0.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet		Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustri Lane Equivalent Distance (in feet) Autos: 48.260						: 0.0	
_	ght View: 9	0.0 degrees 0.0 degrees			m Truck vy Truck		.076 .094				
		ffic Flow D	istance	Finite	Road	Fres	nel	Barrier Atte	n Ror	m Atten	
Autos: Medium Trucks: Heavy Trucks:	68.46 79.45 84.25	2.22 -10.73 -11.44	0.1 0.1 0.1	3 5	-1.20 -1.20 -1.20	7700	-4.69 -4.88 -5.34	0.0 0.0 0.0	100	0.000	
Unmitigated Noise Le	vels (without	Topo and barr	ier atten	uation)							
	q Peak Hour	Leq Day	Leq E	vening		Night		Ldn		NEL	
Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	69.6 67.7 71.8	68.5 66.7 70.9		66.3 62.9 66.4		63. 62. 65.	0.8	71.1 69.3 73.2 76.3	!	71. 69. 73.	
				10.2		00.	.5	70.3	'	70.	
Centerline Distance to	o Noise Conto	ur (in feet)	70 /	dBA	65	dBA	-	60 dBA	55	dBA	
		Ldn: CNEL:		157 164		338 353	3	729 761		1,570 1,640	

0 : 5:0/0	IWA-RD-//-108	HIGHW	AY NO	ISE PF	REDICTI	ON MO	DEL				
Scenario: E+P (Proj Road Name: Alessandi Road Segment: e/o Merid	ro Bl.			Project Name: Meridian South Campus Job Number: 12761							
SITE SPECIFIC I	NPUT DATA							L INPUT	s		
Highway Data			Sit	te Con	ditions	Hard =	10, Sc	oft = 15)			
Average Daily Traffic (Adt):	44,200 vehicl	es					Autos:	15			
Peak Hour Percentage:	7.73%			Me	dium Tru	icks (2 .	Axles):	15			
Peak Hour Volume:	3,417 vehicle	s		He	avy Truc	ks (3+.	Axles):	15			
Vehicle Speed:	55 mph		Ve	hicle I	Лix						
Near/Far Lane Distance:	72 feet			Vehi	cleType		Day	Evening	Night	Daily	
Site Data					F	utos:	71.1%	10.9%	18.0%	91.429	
Barrier Height:	0.0 feet			Me	edium Tr	ucks:	73.6%	7.7%	18.6%	4.649	
Barrier Type (0-Wall, 1-Berm):				F	leavy Tr	ucks:	75.6%	6.7%	17.8%	3.949	
Centerline Dist. to Barrier:			No	ise So	urce El	evation	s (in fe	eet)			
Centerline Dist. to Observer:	00.0				Autos	: 0.	000				
Barrier Distance to Observer:				Mediur	n Trucks	: 2.	297				
Observer Height (Above Pad):				Heav	y Trucks	s: 8.	004	Grade Ad	ljustment	: 0.0	
Pad Elevation:	0.0 1001		-						-		
Road Elevation:			Lane Equivalent Distance (in feet)								
Road Grade:					Autos		260				
Left View:					n Trucks		076				
Right View:	90.0 degre	es		Heav	y Trucks	3: 48	094				
FHWA Noise Model Calculatio											
VehicleType REMEL	Traffic Flow	Distai		Finite		Fresi		Barrier At		m Atter	
	8 2.24		0.13		-1.20		-4.69		000	0.00	
Autos: 71.7										0.00	
Medium Trucks: 82.4			0.15		-1.20		-4.88	0.			
Medium Trucks: 82.4 Heavy Trucks: 86.4	0 -11.42	2	0.15		-1.20 -1.20		-4.88 -5.34		000		
Medium Trucks: 82.4 Heavy Trucks: 86.4 Unmitigated Noise Levels (with	0 -11.42	l barrier a	0.15 attenua		-1.20	Minsha		0.	000	0.00	
Medium Trucks: 82.4 Heavy Trucks: 86.4 Unmitigated Noise Levels (with Vehicle Type Leq Peak He	0 -11.42 thout Topo and our Leq Da	barrier a	0.15	ning			-5.34	0.	000 C	0.00	
Medium Trucks: 82.4 Heavy Trucks: 86.4 Unmitigated Noise Levels (with VehicleType Leq Peak Heave) Autos:	0 -11.42 thout Topo and our Leq Da 72.9	barrier a y L 71.8	0.15 attenua	ning 69.7	-1.20	67.	-5.34 1	0. Ldn 74.	000 Ci	0.00 NEL 74	
Medium Trucks: 82.4 Heavy Trucks: 86.4 Unmitigated Noise Levels (wit VehicleType Leq Peak H Autos: Medium Trucks:	0 -11.42 thout Topo and our Leq Day 72.9 70.6	barrier a y L 71.8 69.6	0.15 attenua	ning 69.7 65.9	-1.20	67. 64.	-5.34 1	0. Ldn 74.	000 Ci	0.00 NEL 74 72	
Medium Trucks: 82.4 Heavy Trucks: 86.4 Unmitigated Noise Levels (wit VehicleType Leq Peak H Autos: Medium Trucks: Heavy Trucks:	0 -11.42 thout Topo and our Leq Da 72.9	barrier a y L 71.8	0.15 attenua	ning 69.7	-1.20	67.	-5.34	0. Ldn 74.	Ci 4 2 4	0.00 NEL 74 72 75	
Medium Trucks: 82.4 Heavy Trucks: 86.4 Unmitigated Noise Levels (wit VehicleType Leq Peak H Autos: Medium Trucks: Heavy Trucks:	0 -11.42 thout Topo and our Leq Da 72.9 70.6 73.9 77.5	71.8 69.6 73.0	0.15 attenua	69.7 65.9 68.5	-1.20	67. 64. 68.	-5.34	0. Ldn 74. 72. 75.	Ci 4 2 4	0.00 NEL 74 72 75	
Medium Trucks: 82.4 Heavy Trucks: 86.4 Unmitigated Noise Levels (wit VehicleType Leq Peak H Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	0 -11.42 thout Topo and our Leq Da 72.9 70.6 73.9 77.5	71.8 69.6 73.0	0.15 attenua	69.7 65.9 68.5 73.1	-1.20	67. 64. 68. 71.	-5.34	0. Ldn 74. 72. 75.	000 Ci	0.00	
Medium Trucks: 82.4 Heavy Trucks: 86.4 Unmitigated Noise Levels (wit VehicleType Leq Peak H Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	0 -11.42 thout Topo and our Leq Da 72.9 70.6 73.9 77.5	71.8 69.6 73.0	0.15 attenua eq Eve	69.7 65.9 68.5 73.1	-1.20	67. 64. 68. 71.	-5.34	74. 72. 75. 79.	Ci 4 2 4 0	0.00 NEL 74 72 75 79	

	FH\	WA-RD-77-108	HIGHWAY	NOISE P	REDICT	ION MOI	DEL			
	io: E+P (Propo e: Alessandro nt: w/o Day St	BI.		Project Name: Meridian South Campus Job Number: 12761						
	SPECIFIC IN	IPUT DATA						L INPUTS		
Highway Data				Site Cor	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	30,013 vehicle	es			,	Autos:	15		
Peak Hour	Percentage:	7.73%		1		ucks (2 A				
Peak H	our Volume:	2,320 vehicles	3	He	eavy Tru	cks (3+ A	(xles	15		
Ve	hicle Speed:	45 mph		Vehicle	Mix					
Near/Far La	ne Distance:	82 feet			icleType	,	Day	Evening	Night	Daily
Site Data							71.1%	10.9%	18.0%	91.44%
Rai	rier Height:	0.0 feet		I.	ledium T	rucks:	73.6%	7.7%	18.6%	4.63%
Barrier Type (0-W	-	0.0			Heavy T	rucks:	75.6%	6.7%	17.8%	3.93%
Centerline Dis	st. to Barrier:	67.0 feet		Noise S	ourco El	lovation	(in fo	201		
Centerline Dist.	to Observer:	67.0 feet		NOISE 3	Auto		000	ei)		
Barrier Distance	to Observer:	0.0 feet		Madii	m Truck		97			
Observer Height (Above Pad):	5.0 feet			vy Truck		004	Grade Adju	stment:	0.0
	ad Elevation:	0.0 feet								• • •
Ros	ad Elevation:	0.0 feet		Lane Eq				feet)		
I	Road Grade:	0.0%			Auto					
	Left View:	-90.0 degree			m Truck					
	Right View:	90.0 degree	es	Hea	vy Truck	s: 53.0	076			
FHWA Noise Mode	el Calculation	s								
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresn	el	Barrier Atte	n Beri	m Atten
Autos:	68.46	1.43	-0	.51	-1.20		-4.71	0.00	00	0.000
Medium Trucks:	79.45	-11.53	-0	.49	-1.20		-4.88	0.00	00	0.000
Heavy Trucks:	84.25	-12.24	-0	.49	-1.20		-5.29	0.00	00	0.000
Unmitigated Noise				,						
	Leq Peak Hou	, ,		Evening	,	Night		Ldn	CI	VEL
Autos:			67.0	64.9		62.3		69.7		70.0
Medium Trucks:			65.2	61.5		60.5		67.8		68.1
Heavy Trucks: Vehicle Noise:			69.4 72.3	64.9 68.8		64.4		71.8 74.8		72.0 75.1
				00.0	'	07.0		74.0		73.1
Centerline Distance	e to Noise Co	ontour (in feet,		0 dBA	65	dBA	-	60 dBA	55	dBA
			Ldn:	141		303		653	00	1,406
			VEL:	147		317		682		1,469

	FHV	VA-RD-77-108	HIGH	HWAY I	NOISE P	REDICT	ION MO	DDEL				
	o: E+P (Propo e: Alessandro nt: e/o Day St.				Project Name: Meridian South Campus Job Number: 12761							
	SPECIFIC IN	PUT DATA							L INPUT	s		
Highway Data					Site Cor	ditions	(Hard :	= 10, Sc	oft = 15)			
Average Daily	Traffic (Adt):	29,780 vehicle	es					Autos:	15			
Peak Hour	Percentage:	7.73%			Me	edium Tri	ucks (2	Axles):	15			
Peak He	our Volume:	2,302 vehicle	s		He	eavy Truc	cks (3+	Axles):	15			
Vel	hicle Speed:	45 mph		-	Vehicle	Mix						
Near/Far Lar	ne Distance:	82 feet		ŀ	Veh	icleType		Day	Evening	Night	Daily	
Site Data							Autos:	71.1%	10.9%	18.0%	91.43%	
Rar	rier Height:	0.0 feet			M	edium T	rucks:	73.6%	7.7%	18.6%	4.63%	
Barrier Type (0-Wa		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94%	
Centerline Dis	t. to Barrier:	67.0 feet		ŀ	Noise Source Elevations (in feet)							
Centerline Dist. t	to Observer:	67.0 feet		-	NOISE S	Auto:		0.000	<i>(</i>			
Barrier Distance t	to Observer:	0.0 feet			Modiu	m Truck		2.297				
Observer Height (Above Pad): 5.0 feet					vy Truck		1.004	Grade Ad	iustmen	t: 0.0		
Pad Elevation: 0.0 feet										judumom	. 0.0	
Roa	d Elevation:	0.0 feet		Lane Equivalent Distance (in feet)								
F	Road Grade:	0.0%				Auto	s: 53	3.226				
	Left View:	-90.0 degree	es			m Truck		3.059				
	Right View:	90.0 degree	es		Hea	vy Truck	s: 53	3.076				
FHWA Noise Mode	l Calculation:	S										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres		Barrier Att	en Be	rm Atten	
Autos:	68.46	1.39		-0.5		-1.20		-4.71		000	0.000	
Medium Trucks:	79.45	-11.56		-0.4		-1.20		-4.88		000	0.000	
Heavy Trucks:	84.25	-12.27		-0.4	19	-1.20		-5.29	0.0	000	0.000	
Unmitigated Noise	•											
,,	Leq Peak Hou			Leq E	vening		Night		Ldn		NEL	
Autos:	68		67.0		64.9				69.6	-	70.0	
Medium Trucks:	66	-	65.2		61.4		60		67.8	-	68.1	
Heavy Trucks:_ Vehicle Noise:	70 73		69.4 72.3	64.9 64.4 71.8 68.8 67.4 74.8				72.0 75.1				
Centerline Distanc											-	
Contenine Distanc	6 10 110/3E CC	nitoui (III leet		70	dBA	65	dBA	(60 dBA	55	dBA	
			Ldn:		140		30	2	650)	1,400	
		C	NEL:		146		31	5	679		1,462	

Friday, April 24, 20	020
----------------------	-----

	FHWA	-RD-77-108 HIGI	HWAY N	OISE P	REDICT	ION MC	DDEL			
Road Name	o: E+P (Propose e: Cactus Av. t: e/o Innovation	,				: Name: lumber:		an South C	ampus	
	PECIFIC INP	JT DATA						L INPUTS	S	
	Percentage: 7 our Volume: 1,	9,671 vehicles 7.73% 521 vehicles	3	Мє	editions edium Tr eavy Tru	ucks (2	Autos: Axles):	15 15		
ver Near/Far I an	icle Speed:	45 mph 80 feet	١	/ehicle						
	e Distance.	oo leet		Veh	icleType		Day	Evening	Night	Daily
Site Data Barrier Type (0-Wa	rier Height: all, 1-Berm):	0.0 feet 0.0			edium T Heavy T		71.1% 73.6% 75.6%	7.7%	18.0% 18.6% 17.8%	91.439 4.649 3.949
Centerline Dis	t. to Barrier:	60.0 feet	,	loise S	ource E	levation	ns (in fe	eet)		
Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left Wiew: -90.0 degrees			L	Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adju Lane Equivalent Distance (in feet) Autos: 45.000 Medium Trucks: 44.803					iustment	0.0
		90.0 degrees		неа	y Truck	S: 44	.822			
FHWA Noise Mode		raffic Flow Di	stance	Finito	Road	Fres	nol	Barrier Atte	on Bos	m Atten
VehicleType Autos:	68.46	-0.41	Stance 0.58		-1.20	Fres	-4.69	0.0		0.00
Medium Trucks:	79.45	-13.36	0.61		-1.20		-4.88	0.0		0.000
Heavy Trucks:	84.25	-14.07	0.61	İ	-1.20		-5.34	0.0		0.000
Unmitigated Noise	Levels (withou	t Topo and barri	ier atteni	uation)						
VehicleType I	Leq Peak Hour	Leq Day	Leq Ev	ening	Leq	Night		Ldn	C	VEL
Autos:	67.4	66.3		64.2		61.		68.9		69.
Medium Trucks:	65.5	64.5		60.7		59.	-	67.1		67.
Heavy Trucks:	69.6	68.7		64.2		63.		71.1		71.
Vehicle Noise:	72.6	71.6		68.1		66.	.7	74.1	l	74.
Centerline Distance	e to Noise Cont	our (in feet)								
		, .	70 a		65	dBA		0 dBA	55	dBA
		Ldn:		113		242	_	522		1,126
		CNEL:		118		25	3	546		1,176

	FHV	VA-RD-77-108	HIGH	WAY N	OISE PI	REDICT	ION MC	DEL					
	o: E+P (Propo e: Cactus Av. t: w/o Innovat				Project Name: Meridian South Campus Job Number: 12761								
SITE S	PECIFIC IN	IPUT DATA							L INPUT	s			
Highway Data				S	ite Con	ditions	(Hard =	: 10, Sc	oft = 15)				
Average Daily 1	raffic (Adt):	15,595 vehicle	es					Autos:	15				
Peak Hour I	Percentage:	7.73%			Me	edium Tr	ucks (2	Axles):	15				
Peak Ho	our Volume:	1,205 vehicles	3		He	avy Tru	cks (3+	Axles):	15				
Vel	nicle Speed:	45 mph		ν	ehicle	Mix							
Near/Far Lar	e Distance:	80 feet			Veh	icleType		Day	Evening	Night	Daily		
Site Data						,	Autos:	71.1%	10.9%	18.0%	91.439		
Bar	rier Height:	0.0 feet			М	edium T	rucks:	73.6%	7.7%	18.6%	4.639		
Barrier Type (0-Wa	all, 1-Berm):	0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.949		
Centerline Dis		60.0 feet		٨	loise So	ource El	evation	s (in fe	eet)				
Centerline Dist. t		60.0 feet				Auto.	s: 0.	000					
Barrier Distance t		0.0 feet			Mediu	m Truck	s: 2	297					
Observer Height (/	,	5.0 feet			Hear	vy Truck	s: 8	004	Grade Ad	justment	0.0		
	d Elevation:	0.0 feet					D!	/!	E4)				
	d Elevation:	0.0 feet		L	ane Eq	uivalent			reet)				
F	Road Grade:	0.0%				Auto		.000					
	Left View:	-90.0 degree				m Truck		.803					
	Right View:	90.0 degree	es		Hear	y Truck	s: 44	.822					
FHWA Noise Mode													
VehicleType	REMEL	Traffic Flow	Dist	tance		Road	Fres		Barrier Att		m Atten		
Autos:	68.46	-1.42		0.58		-1.20		-4.69		000	0.00		
Medium Trucks:	79.45	-14.37		0.61		-1.20		-4.88		000	0.00		
Heavy Trucks:	84.25	-15.08		0.61		-1.20		-5.34	0.0	000	0.00		
VehicleType	Levels (with Leg Peak Hou			r attenu Leg Ev		100	Night	1	l dn		NEL		
Autos:	66		65.3	LUY LV	63.2	_	60.	5	67.5	_	68		
Medium Trucks:	64		63.5		59.7		58	-	66.	-	66		
Heavy Trucks:	68		67.7		63.2		62.	-	70.0		70		
Vehicle Noise:	71		70.6		67.1		65.	_	73.		73		
Centerline Distanc	e to Noise Co	ontour (in feet,)										
				70 d		65	dBA		60 dBA		dBA		
			Ldn:		96		208		447		96		
			NEL:		101		217		467		1.00		

	FH)	WA-RD-77-108	HIGHWAY	NOISE P	REDICTI	ON MODEL	-				
Road Nan	rio: E+P (Propo ne: Cactus Av. nt: w/o Elswor	,		Project Name: Meridian South Campus Job Number: 12761							
SITE	SPECIFIC IN	IPUT DATA					DEL INPUTS				
Highway Data				Site Cor	nditions	Hard = 10,	Soft = 15)				
Average Daily	Traffic (Adt):	44,069 vehicle	es			Auto	os: 15				
Peak Hour	Percentage:	7.73%		Me	edium Tru	icks (2 Axle	s): 15				
Peak F	lour Volume:	3,407 vehicles	3	He	eavy Truc	ks (3+ Axle	s): 15				
Ve	ehicle Speed:	50 mph		Vehicle	Miv						
Near/Far La	ne Distance:	82 feet			nicleType	Day	/ Evening	Night Daily			
Site Data						utos: 71.	-	18.0% 91.28%			
Ra	rrier Height:	0.0 feet		M	ledium Tr	ucks: 73.	6% 7.7%	18.6% 4.65%			
Barrier Type (0-V		0.0			Heavy Tr	ucks: 75.	6% 6.7%	17.8% 4.06%			
	ist. to Barrier:	67.0 feet		M-/ 0			- f4)				
Centerline Dist.	to Observer:	67.0 feet		Noise S	Autos	evations (ir	i reet)				
Barrier Distance	to Observer:	0.0 feet		A 4 C-	Autos ım Trucks						
Observer Height	(Above Pad):	5.0 feet			ım Trucks vy Trucks		Grado Adii	ıstment: 0.0			
P	ad Elevation:	0.0 feet		пеа	vy Trucks	6. 0.004	Grade Adju	istinent. 0.0			
Ro	ad Elevation:	0.0 feet		Lane Eq	uivalent	Distance (in feet)				
	Road Grade:	0.0%			Autos	53.226					
	Left View:	-90.0 degree	es		ım Trucks						
	Right View:	90.0 degree	es	Hea	vy Trucks	53.076					
FHWA Noise Mod	el Calculation	s		1							
VehicleType	REMEL	Traffic Flow	Distance		Road	Fresnel	Barrier Atte				
Autos:				.51	-1.20	-4.7					
Medium Trucks:				.49	-1.20	-4.8					
Heavy Trucks:	85.38	-10.88	-0	.49	-1.20	-5.2	29 0.0	0.000			
Unmitigated Nois											
VehicleType	Leq Peak Ho			Evening	Leq	•	Ldn	CNEL			
Autos:	-		70.0	67.9		65.2	72.6	73.0			
Medium Trucks:			68.0	64.2		63.3	70.6	70.9			
Heavy Trucks:			71.9	67.4		66.9	74.3	74.5			
Vehicle Noise:			75.0	71.5)	70.1	77.5	77.8			
Centerline Distan	ce to Noise C	ontour (in feet)			0.5		00 104	55 104			
				0 dBA	65 (60 dBA	55 dBA			
			Ldn:	212		458	986	2,125			
		CI	VEL:	222		478	1,031	2,220			

	FHW	A-RD-77-108	HIGH	WAY I	NOISE P	REDICT	ION MO	DDEL			
Scenario: Road Name: Road Segment:		,						Meridi 12761	an South C	ampus	
SITE SP	ECIFIC INI	PUT DATA							L INPUT	S	
Highway Data					Site Cor	ditions	(Hard :	= 10, S	oft = 15)		
Average Daily Tra	affic (Adt):	42,883 vehicle	es					Autos.	15		
Peak Hour Pe	rcentage:	7.73%			Me	edium Tri	ucks (2	Axles).	15		
Peak Hou	r Volume:	3,315 vehicles	S		He	eavy Truc	cks (3+	Axles).	15		
Vehic	le Speed:	50 mph		ŀ	Vehicle	Mix					
Near/Far Lane	Distance:	82 feet		H		icleType	,	Day	Evening	Night	Daily
Site Data							Autos:	71.19	10.9%	18.0%	91.28%
Barrie	r Height:	0.0 feet			M	edium T	rucks:	73.6%	7.7%	18.6%	4.65%
Barrier Type (0-Wall,		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	4.07%
Centerline Dist.	to Barrier:	67.0 feet		-	Noise S	ourco El	lovatio	ne (in f	not)		
Centerline Dist. to	Observer:	67.0 feet		ŀ	NOISE S	Auto:		0.000	<i>(</i>		
Barrier Distance to	Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height (Ab	ove Pad):	5.0 feet				vy Truck		.297	Grade Ad	iustment	- 0.0
Pad Elevation: 0.0 feet					i ica	vy Truck	s. c	.004	0,000,10	dourrorn	. 0.0
Road	Elevation:	0.0 feet			Lane Eq	uivalent	Distar	nce (in	feet)		
Roa	ad Grade:	0.0%				Auto	s: 53	3.226			
1	Left View:	-90.0 degree	es			m Truck		3.059			
R	ight View:	90.0 degree	es		Hea	vy Truck	s: 53	3.076			
FHWA Noise Model C	Calculations										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	en Bei	m Atten
Autos:	70.20	2.51		-0.5	i1	-1.20		-4.71	0.0	000	0.000
Medium Trucks:	81.00	-10.41		-0.4	19	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	85.38	-11.00		-0.4	19	-1.20		-5.29	0.0	000	0.000
Unmitigated Noise Lo	evels (witho	ut Topo and	barri	er atter	nuation)						
,,	q Peak Hour			Leq E	vening		Night		Ldn		NEL
Autos:	71.	-	69.9		67.7		65		72.		72.9
Medium Trucks:	68.		67.9		64.1		63	-	70.	-	70.8
Heavy Trucks: Vehicle Noise:	72. ¹		71.8		67.3 71.4		66 70		74.		74.4
							.0			•	
Centerline Distance	o Noise Coi	ntour (in feet	,	70	dBA	65	dBA		60 dBA	55	dBA
			Ldn:		209		45	_	969		2,087
		C	NEL:		218		47	0	1,012		2,181

Friday, April 24, 2	020
---------------------	-----

FHWA	A-RD-77-108 HI	GHWAY	NOISE PF	REDICTIO	ON MO	DEL					
Scenario: E+P (Propose Road Name: Cactus Av. Road Segment: e/o Graham S	•		Project Name: Meridian South Campus Job Number: 12761								
SITE SPECIFIC INP	UT DATA			NO	DISE N	/IODE	L INPUTS	5			
Highway Data			Site Con	ditions (l	Hard =	10, So	ft = 15)				
Average Daily Traffic (Adt): 40	0,635 vehicles					Autos:	15				
Peak Hour Percentage:	7.73%		Me	dium True	cks (2 /	Axles):	15				
Peak Hour Volume: 3,	,141 vehicles		He	avy Truck	ks (3+ /	Axles):	15				
Vehicle Speed:	50 mph		Vehicle I	Miv							
Near/Far Lane Distance:	82 feet		VehicleType Day Evening Night						Daily		
Site Data				A	utos:	71.1%	10.9%	18.0%	91.269		
Barrier Height:	0.0 feet		Me	edium Tru	icks:	73.6%	7.7%	18.6%	4.669		
Barrier Type (0-Wall, 1-Berm):	0.0		F	leavy Tru	icks:	75.6%	6.7%	17.8%	4.089		
Centerline Dist. to Barrier:	67.0 feet	l	Noise Sc	urce Ele	vation	s (in fe	et)				
Centerline Dist. to Observer:	67.0 feet			Autos:	0.0	000					
Barrier Distance to Observer:	0.0 feet		Mediui	m Trucks.	2.	297					
Observer Height (Above Pad):	5.0 feet		Heav	y Trucks.	8.0	004	Grade Adj	ustment	0.0		
Pad Elevation:	0.0 feet										
Road Elevation:	0.0 feet		Lane Equ				eet)				
	0.0%		Autos: 53.226 Medium Trucks: 53.059								
	-90.0 degrees			т тискs. v Trucks.		059 076					
Right View:	90.0 degrees		пеач	у пискѕ.	. 55.	076					
FHWA Noise Model Calculations											
// .		Distance	Finite		Fresr		Barrier Atte	_	m Atten		
Autos: 70.20	2.28	-0.		-1.20 -1.20		-4.71	0.0		0.00		
Medium Trucks: 81.00	-10.64 -11.22	-0.4 -0.4		-1.20 -1.20		-4.88 -5.29	0.0		0.00		
Heavy Trucks: 85.38				-1.20		-5.29	0.0	100	0.00		
Unmitigated Noise Levels (withou VehicleType Leg Peak Hour	t ropo and bar Leg Day		nuation) Evening	Leg N	liabt	1	Ldn	-	NEL		
Autos: 70.8	69.		67.5	Leyn	64.9		72.3		72.		
		-	63.9		62.9		70.3		70.		
Medium Trucks: 68.7	67.										
	67. 71.	6	67.1		66.5	5	73.9)			
Medium Trucks: 68.7 Heavy Trucks: 72.5 Vehicle Noise: 75.7		-	67.1 71.2		66.8		73.9 77.2				
Heavy Trucks: 72.5 Vehicle Noise: 75.7	71. 74.	-									
Heavy Trucks: 72.5	71. 74.	7		65 d.	69.8	3		!	74. 77. dBA		
Heavy Trucks: 72.5 Vehicle Noise: 75.7	71. 74.	7 70 n:	71.2	65 d	69.8	3	77.2	!	77.		

	FH\	VA-RD-77-108	HIGH	WAY N	OISE PI	REDICTIO	и мо	DEL					
	o: E+P (Propo e: Cactus Av. t: w/o Grahar	,			Project Name: Meridian South Campus Job Number: 12761								
SITE S	PECIFIC IN	IPUT DATA							L INPUT	S			
Highway Data				5	ite Con	ditions (F	lard =	10, So	ft = 15)				
Average Daily 1	raffic (Adt):	46,937 vehicl	es				,	Autos:	15				
Peak Hour I	Percentage:	7.73%			Me	dium Truc	ks (2 A	(xles	15				
Peak Ho	our Volume:	3,628 vehicle	s		He	avy Truck	s (3+ A	(xles	15				
	icle Speed:	50 mph		١	ehicle l	Wix							
Near/Far Lan	e Distance:	82 feet		—	Veh	icleType		Day	Evening	Night	Daily		
Site Data						Au	tos:	71.1%	10.9%	18.0%	91.29		
Bari	rier Heiaht:	0.0 feet			Me	edium Tru	cks:	73.6%	7.7%	18.6%	4.65		
Barrier Type (0-Wa		0.0			F	Heavy Tru	cks:	75.6%	6.7%	17.8%	4.069		
Centerline Dis		67.0 feet		1	loise Sc	ource Elev	ations	(in fe	et)				
Centerline Dist. t		67.0 feet		-		Autos:		000					
Barrier Distance to		0.0 feet			Mediui	m Trucks:		297					
Observer Height (A	,	5.0 feet			Heav	y Trucks:	8.0	004	Grade Ad	justmen	t: 0.0		
	d Elevation:	0.0 feet				· · · · · · · · · · · · · · · · · · ·		- /! /					
	d Elevation:	0.0 feet		-	ane Eq	uivalent D		•	eet)				
H	load Grade:	0.0%			A decellor	Autos: m Trucks:	53.						
	Left View: Right View:	-90.0 degre 90.0 degre				y Trucks:	53.0						
FHWA Noise Mode	l Calculation	•											
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fresn	el .	Barrier Att	en Be	rm Atter		
Autos:	70.20	2.91		-0.51		-1.20		-4.71	0.0	000	0.00		
Medium Trucks:	81.00	-10.02		-0.49)	-1.20		-4.88	0.0	000	0.00		
Heavy Trucks:	85.38	-10.61		-0.49)	-1.20		-5.29	0.0	000	0.00		
Unmitigated Noise	Levels (with	out Topo and	barrier	r atten	uation)								
,,	Leq Peak Ηοι			Leg Ev		Leq Ni	_		Ldn		NEL		
Autos:	71		70.2		68.1		65.5		72.9		73		
Medium Trucks:	69		68.3		64.5		63.6		70.9	-	71.		
Heavy Trucks:	73		72.2		67.7		67.1		74.		74		
Vehicle Noise:	76		75.3		71.8		70.4		77.8	5	78		
Centerline Distance	e to Noise Co	ontour (in feet	:)	70 c	IDΛ	65 dF	21	6	i0 dBA	56	i dBA		
			I dn:	700	221	00 00	477	_ 0	1.028		2.21		
		C	NFI:		231		477		1,028		2,21		
		O			201		433		1,074		2,01		

	FHV	WA-RD-77-108	HIGHW	AY N	OISE PI	REDICT	ION MO	DEL			
Road Nan	rio: E+P (Propo ne: Van Buren ent: w/o Wood I	BI.					t Name: lumber:		an South Ca	ampus	
	SPECIFIC IN	IPUT DATA							L INPUTS	5	
Highway Data				S	ite Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	39,640 vehicle	es					Autos.	15		
Peak Hour	Percentage:	7.73%			Me	edium Ti	ucks (2 .	Axles).	: 15		
Peak H	Hour Volume:	3,064 vehicles	\$		He	avy Tru	cks (3+ .	Axles).	: 15		
	ehicle Speed:	50 mph		ı	ehicle l	Mix					
Near/Far La	ane Distance:	72 feet		F		icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	71.19	6 10.9%	18.0%	91.45%
Ra	rrier Height:	0.0 feet			М	edium 7	rucks:	73.69	6 7.7%	18.6%	4.63%
Barrier Type (0-V		0.0			1	Heavy 7	rucks:	75.6%	6.7%	17.8%	3.93%
	ist. to Barrier:	60.0 feet		١.							
Centerline Dist.	to Observer:	60.0 feet		^	ioise Sc		levation		eet)		
Barrier Distance	to Observer:	0.0 feet				Auto		000			
Observer Height	Observer Height (Above Pad): 5.0 feet				m Truck		297	O			
P	Pad Elevation: 0.0 feet				Heat	y Truck	(S. 8.	004	Grade Adj	usunen	i. 0.0
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalen	t Distan	ce (in	feet)		
	Road Grade:	0.0%				Auto	s: 48	260			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 48	076			
	Right View:	90.0 degree	es		Heav	y Truck	s: 48	094			
FHWA Noise Mod	lel Calculation	s		_							
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresi	nel	Barrier Atte	en Be	rm Atten
Autos:	70.20	2.18		0.13	3	-1.20		-4.69	0.0	00	0.000
Medium Trucks:		-10.78		0.15		-1.20		-4.88	0.0		0.000
Heavy Trucks:		-11.49		0.15		-1.20		-5.34	0.0	00	0.000
Unmitigated Nois		-						,			
VehicleType	Leq Peak Hou			eq Ev	ening		Night		Ldn		NEL
Autos:			70.2		68.0		65.		72.8		73.2
Medium Trucks:			68.2		64.4		63.	-	70.8		71.0
Heavy Trucks: Vehicle Noise:			71.9 75.1		67.4 71.7		66.9 70.3		74.3 77.6		74.5 77.9
Centerline Distan	ce to Noise Co	ontour (in feet))								
		, ,		70 a	IBA .	65	dBA		60 dBA	55	5 dBA
			Ldn:		193		417		898		1,935
		CI	VEL:		202		436	i	939		2,022

Friday, April 24, 2020

	FHV	VA-RD-77-108	HIGH	- YAWI	NOISE P	REDICT	ION M	ODEL					
Road Nan	io: E+P (Propo ne: Van Buren nt: e/o Wood F	BI.			Project Name: Meridian South Campus Job Number: 12761								
SITE	SPECIFIC IN	IPUT DATA							L INPUT	S			
Highway Data					Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	37,252 vehicle	es					Autos:	15				
Peak Hour	Percentage:	7.73%			Me	edium Tr	ucks (2	Axles):	15				
Peak F	lour Volume:	2,880 vehicle	s		He	avy Tru	cks (3+	Axles):	15				
	hicle Speed:	50 mph		f	Vehicle	Mix							
Near/Far La	ne Distance:	72 feet		F	Veh	icleType	,	Day	Evening	Night	Daily		
Site Data						-	Autos:	71.1%	10.9%	18.0%	91.45%		
Ra	rrier Height:	0.0 feet			M	edium T	rucks:	73.6%	7.7%	18.6%	4.62%		
Barrier Type (0-W		0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.93%		
Centerline Di	st. to Barrier:	60.0 feet		-	Noise S	ource F	levatio	ns (in fe	oet)				
Centerline Dist.	to Observer:	60.0 feet		ŀ	110/30 01	Auto		0.000	,				
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297					
Observer Height	(Above Pad):	5.0 feet				vy Truck		3.004	Grade Ad	liustment	. 0 0		
Pad Elevation: 0.0 feet					i ica	vy Truck	s. (3.004	Orado ria	juotimom	0.0		
Ro	Road Elevation: 0.0 feet				Lane Eq	uivalen	t Distai	nce (in :	feet)				
	Road Grade:	0.0%				Auto	s: 48	3.260					
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 48	3.076					
	Right View:	90.0 degree	es		Hea	vy Truck	s: 48	3.094					
FHWA Noise Mod	el Calculation	s											
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	snel	Barrier Att	en Ber	m Atten		
Autos:	70.20	1.91		0.1	13	-1.20		-4.69	0.0	000	0.000		
Medium Trucks:	81.00	-11.05		0.1	15	-1.20		-4.88	0.0	000	0.000		
Heavy Trucks:	85.38	-11.76		0.1	15	-1.20		-5.34	0.0	000	0.000		
Unmitigated Noise	e Levels (with	out Topo and	barri	er atter	nuation)								
VehicleType	Leq Peak Hou	ır Leq Day	/	Leq E	vening	Leq	Night		Ldn		NEL		
Autos:	71		69.9		67.8		65		72.		72.9		
Medium Trucks:	68	.9	67.9		64.1		63		70.	5	70.8		
Heavy Trucks:	72		71.7		67.2		66		74.0		74.3		
Vehicle Noise:	75	.9	74.9		71.4		70	.0	77.4	4	77.6		
Centerline Distant	ce to Noise Co	ontour (in feet)		10.4		10.4		20.104		(D.4		
				70	dBA	65	dBA		60 dBA		dBA		
			Ldn:		186		40	-	861		1,856		
		C	NEL:		194		41	8	900	1	1,940		

Friday, April 24, 2020	, 2020	24,	April	Friday,
------------------------	--------	-----	-------	---------

	- FH	WA-RD-77-108	HIGH	IWAY N	IOISE P	REDICT	ION MC	JUEL			
	o: E+P (Prop e: Van Buren nt: e/o Barton	BI.					: Name: lumber:		an South C	ampus	
	SPECIFIC II	NPUT DATA							L INPUT	S	
Highway Data					Site Cor	ditions	(Hard =	= 10, Sc	oft = 15)		
Average Daily	. ,	33,345 vehicle	es					Autos:			
	Percentage:	7.73%				dium Tr		,			
	our Volume:	2,578 vehicle	S		He	avy Tru	cks (3+	Axles):	15		
	hicle Speed:	55 mph		1	Vehicle I	Mix					
Near/Far Lar	ne Distance:	72 feet			Veh	icleType	9	Day	Evening	Night	Daily
Site Data						,	Autos:	71.1%	10.9%	18.0%	91.499
Bar	rier Height:	0.0 feet			M	edium T	rucks:	73.6%		18.6%	4.60%
Barrier Type (0-Wa	-	0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.919
Centerline Dis	t. to Barrier:	60.0 feet		1	Voise S	ource El	levatio	ns (in f	eet)		
Centerline Dist. t	to Observer:	60.0 feet		F		Auto		.000	,		
Barrier Distance t		0.0 feet			Mediu	m Truck		.297			
Observer Height (,	5.0 feet			Hear	v Truck	s: 8	.004	Grade Ad	justment	0.0
	d Elevation:	0.0 feet		-							
	d Elevation:	0.0 feet		4	Lane Eq	uivalen		_ •	reet)		
F	Road Grade:	0.0%			14-45	Auto		3.260			
	Left View: Right View:	-90.0 degre 90.0 degre				m Truck ∕y Truck		3.076 3.094			
			C3		7700	ry muck	J. 40				
FHWA Noise Mode	REMEL	Traffic Flow	D.	stance	- Circles	Road	Fres		Barrier Att	D	m Atten
VehicleType Autos:	71.78			0.1:		-1.20	Fres	-4.69		en Ber 000	m Atten 0.00
Medium Trucks:	82.40			0.1	-	-1.20		-4.88		000	0.00
Heavy Trucks:	86.40			0.1	-	-1.20		-5.34		000	0.00
Unmitigated Noise	Levels (with	out Topo and	barri	er atten	uation)						
VehicleType	Leq Peak Ho	ur Leq Day	/	Leg E	ening/	Leq	Night		Ldn	C	NEL
Autos:	7	1.7	70.6		68.5		65	.8	73.2	2	73.
Medium Trucks:	69	9.4	68.4		64.6		63	.7	71.0)	71.
Heavy Trucks:	72	2.7	71.8		67.3		66	.7	74.1	1	74.
Vehicle Noise:	76	3.2	75.2		71.8		70	.4	77.7	7	78.
Centerline Distanc	e to Noise C	ontour (in feet)								
			L	70 c		65	dBA		60 dBA		dBA
			Ldn:		197		42		913		1,968
			NFI:		206		44	3	955		2.058

FHWA-RD-77-	108 HIGHWA	NOISE P	REDICTION	MODEL			
Scenario: E+P (Proposed) Road Name: Van Buren Bl. Road Segment: w/o Barton St.			Project Na Job Numi	me: Meridi ber: 12761		ampus	
SITE SPECIFIC INPUT DAT	Ά				L INPUT	S	
Highway Data		Site Cor	nditions (Ha	rd = 10, S	oft = 15)		
Average Daily Traffic (Adt): 35,092 veh	nicles			Autos.	15		
Peak Hour Percentage: 7.73%		M	edium Truck	(2 Axles)	: 15		
Peak Hour Volume: 2,713 vehi	cles	H	eavy Trucks	(3+ Axles).	: 15		
Vehicle Speed: 50 mph	1	Vehicle	Mix				
Near/Far Lane Distance: 72 feet			nicleType	Day	Evening	Night	Daily
Site Data			Auto	s: 71.19	6 10.9%	18.0%	91.49
Barrier Height: 0.0 fee	ıt	N	ledium Truck	s: 73.69	6 7.7%	18.6%	4.60
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy Truck	s: 75.6%	6.7%	17.8%	3.919
Centerline Dist. to Barrier: 60.0 fee	•	Noise S	ource Eleva	tions (in f	eet)		
Centerline Dist. to Observer: 60.0 fee			Autos:	0.000			
Barrier Distance to Observer: 0.0 fee		Mediu	ım Trucks:	2.297			
Observer Height (Above Pad): 5.0 fee	•	Hea	vy Trucks:	8.004	Grade Ad	justment	0.0
Pad Elevation: 0.0 fee	•	I ana Fa	uivalent Dis	tonoo (in	footl		
Road Elevation: 0.0 fee	t	Laile Et	Autos:	48.260	ieet)		
Left View: -90.0 dec		Modis	m Trucks:	48.076			
Right View: 90.0 de	,		vy Trucks:	48.094			
FHWA Noise Model Calculations							
VehicleType REMEL Traffic Flo	w Distant	ce Finite	Road F	resnel	Barrier Att	en Ber	m Atter
Autos: 70.20 1	.65	0.13	-1.20	-4.69	0.0	000	0.00
Medium Trucks: 81.00 -11	.33	0.15	-1.20	-4.88	0.0	000	0.00
Heavy Trucks: 85.38 -12		0.15	-1.20	-5.34	0.0	000	0.00
Unmitigated Noise Levels (without Topo a		,					
VehicleType Leq Peak Hour Leq	,	q Evening	Leq Nig		Ldn		NEL
Autos: 70.8	69.6	67.5		64.9	72.3	-	72
Medium Trucks: 68.6	67.6	63.8		62.9	70.2	_	70
Heavy Trucks: 72.3	71.4	66.9		66.4	73.7		74
Vehicle Noise: 75.6	74.6	71.1		69.7	77.	ı	77
Centerline Distance to Noise Contour (in f		70 dBA	65 dB/		60 dBA	55	dBA
	I dn:	178		204	000	1	1.78
				384	826		

	FHV	VA-RD-77-108	HIGHWAY	NOISE P	REDICTI	ON MOD	EL					
Road Nam	o: E+P (Propo e: Van Buren nt: w/o Orange		-			Name: M umber: 12	eridian So 2761	uth Cam	pus			
	SPECIFIC IN	IPUT DATA		NOISE MODEL INPUTS								
Highway Data				Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	32,660 vehicle	es	Autos: 15								
	Percentage:	7.73%		Medium Trucks (2 Axles): 15								
	our Volume:	2,525 vehicles	3	Heavy Trucks (3+ Axles): 15								
	hicle Speed:	55 mph		Vehicle	Mix							
Near/Far Lar	ne Distance:	72 feet		Veh	nicleType	E	ay Eve	ning N	ight Daily			
Site Data					-	Autos: 7	1.1% 10	0.9% 1	8.0% 90.15%			
Bar	rier Height:	0.0 feet		M	ledium Ti	rucks: 7	3.6%	7.7% 1	8.6% 4.77%			
Barrier Type (0-W		0.0			Heavy Ti	rucks: 7	5.6% 6	5.7% 1	7.8% 5.08%			
Centerline Dis	st. to Barrier:	60.0 feet		Noise S	ource El	evations	(in foot)					
Centerline Dist.	to Observer:	60.0 feet		140/36 0	Auto							
Barrier Distance	to Observer:	0.0 feet		Mediu	ım Truck:							
Observer Height (Above Pad):	5.0 feet			vy Truck			de Adiusi	ment: 0.0			
	ad Elevation:	0.0 feet										
Road Elevation: 0.0 feet				Lane Eq		Distance						
F	Road Grade:	0.0%			Auto							
	Left View:	-90.0 degree	es		ım Truck							
	Right View:	90.0 degree	es	Hea	vy Truck	s: 48.09	94					
FHWA Noise Mode	el Calculation:	s										
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresne	I Barri	er Atten	Berm Atten			
Autos:	71.78	0.86		.13	-1.20		4.69	0.000				
Medium Trucks:	82.40	-11.90	-	.15	-1.20		4.88	0.000				
Heavy Trucks:	86.40	-11.63	0	.15	-1.20	4	5.34	0.000	0.000			
Unmitigated Noise						-						
	Leq Peak Hou			Evening		Night	Ldn		CNEL			
Autos:	71		70.4	68.3		65.7		73.1	73.4			
Medium Trucks:	69		68.5	64.7		63.7		71.0	71.3			
Heavy Trucks: Vehicle Noise:	73 76		72.8 75.7	68.3 72.2		67.8 70.8		75.2 78.2	75.4 78.5			
Centerline Distance	e to Noise Co	ontour (in feet)									
	5 00	() dBA	65	dBA	60 dB	Α	55 dBA			
			Ldn:	211		454		979	2,109			
		CI	VEL:	220		475		1,023	2,204			

	FH\	WA-RD-77-108	HIGH	IWAY N	OISE P	REDICT	ION M	ODEL						
Road Nam	o: E+P (Propo e: Van Buren nt: e/o Orange	,	·.		Project Name: Meridian South Campus Job Number: 12761									
SITE S	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS									
Highway Data				5	Site Conditions (Hard = 10, Soft = 15)									
Average Daily	Traffic (Adt):	32,562 vehicle	es		Autos: 15									
Peak Hour	Percentage:	7.73%			Medium Trucks (2 Axles): 15									
Peak H	our Volume:	2,517 vehicle	s		Heavy Trucks (3+ Axles): 15									
Vei	hicle Speed:	55 mph		١	/ehicle	Mix								
Near/Far Lar	ne Distance:	72 feet		F F		icleType	,	Day	Evening	Night	Daily			
Site Data							Autos:	71.1%	10.9%	18.0%	90.14%			
Ran	rier Height:	0.0 feet			M	ledium T	rucks:	73.6%	7.7%	18.6%	4.77%			
Barrier Type (0-W	all, 1-Berm):	0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	5.09%			
Centerline Dis		60.0 feet		1	Voise S	ource E	levatio	ns (in fe	eet)					
Centerline Dist.		60.0 feet			Autos: 0.000									
Barrier Distance		0.0 feet			Mediu	ım Truck	s:	2.297						
Observer Height (,	5.0 feet			Hea	vy Truck	s:	8.004	Grade Ad	ljustment	: 0.0			
	d Elevation:	0.0 feet		-		·								
Road Elevation: 0.0 feet					.ane Eq	uivalen			reet)					
F	Road Grade:	0.0%				Auto		8.260						
	Left View:	-90.0 degree				m Truck		8.076						
	Right View:	90.0 degree	es		Hea	vy Truck	s: 4	8.094						
FHWA Noise Mode														
VehicleType	REMEL	Traffic Flow		tance		Road	Fre	snel	Barrier Att		m Atten			
Autos:	71.78			0.13		-1.20		-4.69		000	0.000			
Medium Trucks:	82.40			0.18	-	-1.20		-4.88		000	0.000			
Heavy Trucks:	86.40			0.15		-1.20		-5.34	0.0	000	0.000			
Unmitigated Noise		-	_					_						
VehicleType Autos:	Leq Peak Hou	ur Leq Day	70.4	Leq E	ening 68.3		Night 65	7	Ldn 73.		NEL 73.4			
Medium Trucks:			68.4		64.7		63		73.		73.4			
Heavy Trucks:		3.4 3.7	72.8		68.3		67		71.	-	71.3			
Vehicle Noise:		5.7	75.7		72.2		70		78.		78.5			
Centerline Distance	e to Noise C	ontour (in feet	٠)											
Contonino Distant	0 10 110130 01	omour (m reet		70 c	IBA	65	dBA	(60 dBA	55	dBA			
			Ldn:		211		45	54	978	3	2,106			
		C	NEL:		220		47	74	1,021		2,200			

Friday, April 24, 2020	١
------------------------	---

F	HWA-RD-77-108 H	IGHWAY	NOISE P	REDICTI	ON MODEL	-					
Scenario: E+P (Pro Road Name: Van Bure Road Segment: e/o Merid	n Bl.		Project Name: Meridian South Campus Job Number: 12761								
SITE SPECIFIC	INPUT DATA		NOISE MODEL INPUTS								
Highway Data			Site Conditions (Hard = 10, Soft = 15)								
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume:	7.73%				Auto icks (2 Axle ks (3+ Axle	s): 15					
Vehicle Speed:	55 mph					-					
Near/Far Lane Distance:			Vehicle	icleType	Dav	/ Evening	Night Daily				
Site Data			Ven		lutos: 71.		18.0% 85.16%				
	0.0 feet		М	edium Tı			18.6% 5.37%				
Barrier Height: Barrier Type (0-Wall, 1-Berm).	0.0			Heavy Ti			17.8% 9.47%				
Centerline Dist. to Barrier.			Noise S	ource El	evations (in	feet)					
Centerline Dist. to Observer. Barrier Distance to Observer. Observer Height (Above Pad). Pad Elevation. Road Flevation	0.0 feet 5.0 feet 0.0 feet		Hea	Autos m Trucks vy Trucks uivalent	3: 2.297		ustment: 0.0				
Road Grade	0.0%			Auto							
Left View. Right View.	9			m Truck: vy Truck:							
FHWA Noise Model Calculation	ons										
VehicleType REMEL	Traffic Flow	Distance		Road	Fresnel	Barrier Atte					
Autos: 71.7			12	-1.20	-4.6						
Medium Trucks: 82.4 Heavy Trucks: 86.4			.15 .15	-1.20 -1.20	-4.8 -5.3						
Unmitigated Noise Levels (wi	thout Tono and ha	errior atte	nuation)								
VehicleType Leg Peak H			Evening	Lea	Night	Ldn	CNEL				
., ,	, . ,	1.4	69.3	,	66.7	74.0					
Medium Trucks:	71.2 70).2	66.4		65.5	72.8	73.				
Heavy Trucks:	77.6 76	6.7	72.2		71.7	79.1	79.				
Vehicle Noise:	79.5 78	3.5	74.7		73.6	81.0	81.				
Centerline Distance to Noise	Contour (in feet)										
		70) dBA	65	dBA	60 dBA	55 dBA				
	Lo	dn:	297		640	1,379	2,972				
	CNE	L:	310		667	1,437	3,096				

	FH\	WA-RD-77-108	HIGH	IWAY N	OISE PF	REDICTION	OM MOI	DEL					
	o: E+P (Propo e: Van Buren t: w/o Meridia	BI.			Project Name: Meridian South Campus Job Number: 12761								
	PECIFIC IN	IPUT DATA			NOISE MODEL INPUTS								
Highway Data				S	ite Con	ditions (Hard =	10, So	ft = 15)				
Average Daily T	raffic (Adt):	40,118 vehicle	es				,	Autos:	15				
Peak Hour F	Percentage:	7.73%			Me	dium Tru	cks (2 A	xles):	15				
Peak Ho	our Volume:	3,101 vehicle	S		He	avy Truc	ks (3+ A	lxles):	15				
Veh	icle Speed:	55 mph		ν	ehicle l	Лix							
Near/Far Lan	e Distance:	73 feet		F	Veh	cleType		Day	Evening	Night	Daily		
Site Data						A	utos:	71.1%	10.9%	18.0%	86.08		
Barı	ier Heiaht:	0.0 feet			Me	edium Tr	ıcks:	73.6%	7.7%	18.6%	5.26		
Barrier Type (0-Wa		0.0			F	leavy Tr	ıcks:	75.6%	6.7%	17.8%	8.66		
Centerline Dis		55.0 feet		٨	loise Sc	urce Ele	vations	(in fe	et)				
Centerline Dist. to		55.0 feet				Autos	: 0.0	000					
Barrier Distance to		0.0 feet			Mediui	n Trucks	2.2	297					
Observer Height (A		5.0 feet			Heav	y Trucks	: 8.0	004	Grade Ad	ustment	: 0.0		
	d Elevation:	0.0 feet					D!	- /! 4	41				
Road Elevation: 0.0 feet Road Grade: 0.0%				L	ane Eq	uivalent			eet)				
R		0.0%				Autos							
	Left View: Right View:	-90.0 degree				n Trucks v Trucks							
						,							
FHWA Noise Mode VehicleType	REMEL	s Traffic Flow	Die	tance	Finite	Road	Fresn	ام	Barrier Att	an Rer	m Atter		
Autos:	71.78			1.12		-1.20		-4.67	0.0		0.00		
Medium Trucks:	82.40			1.15		-1.20		-4.87	0.0		0.00		
Heavy Trucks:	86.40			1.15		-1.20		-5.38	0.0		0.00		
Unmitigated Noise	Levels (with	out Topo and	barrie	er attenu	ıation)								
VehicleType I	Leq Peak Hou	ır Leq Day	/	Leq Ev	ening	Leq N	light		Ldn	C	NEL		
Autos:	73		72.1		70.0		67.4		74.7		75		
Medium Trucks:	71		70.8		67.0		66.1		73.4		73		
Heavy Trucks:		' .9	77.0		72.5		72.0		79.4		79		
Vehicle Noise:	79		79.0		75.2		74.0		81.4	1	81		
Centerline Distance	e to Noise Co	ontour (in feet)	70 d	DA I	65.0	ID A	-	O dBA		dBA		
			I dn:	7U a	317	03 0	683	0	<i>0 ава</i> 1.472	35	3.17		
							083		1,472		- ,		
			NFI:		331		712		1.534		3.30		

	FHV	WA-RD-77-108	HIGHWA	Y NO	DISE PI	REDICT	ION MO	DEL					
Road Nan	rio: E+P (Propo ne: Van Buren ent: e/o Opporto	BI.					t Name: lumber:		an South Ca	ampus			
	SPECIFIC IN	IPUT DATA		NOISE MODEL INPUTS									
Highway Data				S	Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	37,683 vehicle	·S		Autos: 15								
Peak Hour	Percentage:	7.73%					ucks (2 .						
Peak F	Hour Volume:	2,913 vehicles		Heavy Trucks (3+ Axles): 15									
	ehicle Speed:	55 mph		V	ehicle i	Mix							
Near/Far La	ane Distance:	73 feet			Veh	icleType	9	Day	Evening	Night	Daily		
Site Data							Autos:	71.19	6 10.9%	18.0%	85.71%		
Ba	rrier Height:	0.0 feet			М	edium 7	rucks:	73.69	6 7.7%	18.6%	5.31%		
Barrier Type (0-V		0.0				Heavy 7	rucks:	75.6%	6.7%	17.8%	8.98%		
Centerline D	ist. to Barrier:	55.0 feet		A/	laisa Si	ourco E	levation	c (in f	oot)				
Centerline Dist.	to Observer:	55.0 feet		/4	0136 30	Auto		000	eei)				
Barrier Distance	to Observer:	0.0 feet			Madiu	m Truck		297					
Observer Height	(Above Pad):	5.0 feet				vy Truck		004	Grade Adj	ustmen	t: 0.0		
P	ad Elevation:	0.0 feet											
Ro	ad Elevation:	0.0 feet	L	ane Eq		t Distan		feet)					
	Road Grade:	0.0%				Auto		446					
	Left View:	-90.0 degree				m Truck		232					
	Right View:	90.0 degree	:S		Hear	y Truck	s: 41	253					
FHWA Noise Mod	lel Calculation	s											
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fresi	nel	Barrier Atte	en Be	rm Atten		
Autos:		1.26		1.12		-1.20		-4.67	0.0		0.000		
Medium Trucks:		-10.82		1.15		-1.20		-4.87	0.0		0.000		
Heavy Trucks:	86.40	-8.53		1.15		-1.20		-5.38	0.0	00	0.000		
Unmitigated Nois		-											
VehicleType	Leq Peak Hou			q Ev	ening		Night		Ldn		NEL		
Autos:			71.8		69.7		67.	-	74.5 73.1		74.8 73.4		
Medium Trucks:			70.5		66.8	65.8		-					
Heavy Trucks: Vehicle Noise:			76.9 78.8		72.4 75.0		71.		79.3 81.2		79.5 81.5		
Centerline Distan	ce to Noise Co	ontour (in feet)											
CoCoic Distair	00 10 110/36 00	mou (m reet)		70 di	BA	65	dBA		60 dBA	55	5 dBA		
		1	Ldn:		309		665	i	1,434		3,089		
		CN	VEL:		322		694		1,494		3,219		

	FH\	WA-RD-77-108	HIGH	WAY I	NOISE P	REDICT	ION MO	DDEL						
Road Nan	rio: E+P (Propo ne: I-215 Fwy. nt: n/o Alessa	,			Project Name: Meridian South Campus Job Number: 12761									
SITE	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS									
Highway Data					Site Conditions (Hard = 10, Soft = 15)									
Average Daily	Traffic (Adt):	84,866 vehicle	es					Autos:	15					
Peak Hour	Percentage:	7.73%			Me	edium Tri	ucks (2	Axles):	15					
Peak F	lour Volume:	6,560 vehicle	s		He	eavy Truc	cks (3+	Axles):	15					
Ve	ehicle Speed:	65 mph		H	Vehicle	Mix								
Near/Far La	ne Distance:	130 feet		H		icleType	,	Day	Evening	Night	Daily			
Site Data							Autos:	71.1%	10.9%	18.0%	89.71%			
Ra	rrier Height:	0.0 feet			M	edium T	rucks:	73.6%	7.7%	18.6%	4.85%			
Barrier Type (0-W		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	5.45%			
Centerline Di	ist. to Barrier:	125.0 feet		ŀ	Noise S	ource El	ovatio	ne (in f	oof)					
Centerline Dist.	to Observer:	125.0 feet		ŀ	110/36 01	Auto		0.000	JC1)					
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297						
Observer Height	(Above Pad):	5.0 feet				vy Truck		1.004	Grade Ad	iustmen	t: 0.0			
P	ad Elevation:	0.0 feet								,	. 0.0			
Road Elevation: 0.0 feet					Lane Eq	uivalent	t Distar	nce (in	feet)					
Road Grade: 0.0%					Autos: 106.888 Medium Trucks: 106.805									
	Left View:	-90.0 degre	es					3.805						
	Right View:	90.0 degre	es		Hea	vy Truck	s: 106	3.813						
FHWA Noise Mod	el Calculation	s												
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	en Be	rm Atten			
Autos:		4.26		-5.0)5	-1.20		-4.79	0.0	000	0.000			
Medium Trucks:				-5.0	-	-1.20		-4.88		000	0.000			
Heavy Trucks:	88.18	-7.90		-5.0)5	-1.20		-5.11	0.0	000	0.000			
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atter	nuation)					,				
VehicleType	Leq Peak Ho			Leq E	vening		Night		Ldn		NEL			
Autos:		2.6	71.4		69.3		66		74.0		74.4			
Medium Trucks:).2	69.2		65.4		64		71.8	-	72.			
Heavy Trucks: Vehicle Noise:		1.0 7.3	73.1		68.6 72.9		68 71		75.9 78.8		75.1 79.1			
					12.9		7.1		10.0	,	19.			
Centerline Distan	ce to Noise C	ontour (in feet)	70	dBA	65	dBA		60 dBA	55	i dBA			
			Ldn:	70	483		1.04	_	2.241		4.829			
		С	NEL:		505		1,08	-	2,343		5,047			

Friday, April 24, 20	020
----------------------	-----

FNWA-KL)-77-108 HIGH	1 YAWI	NOISE P	REDICT	ION MOD	EL						
Scenario: E+P (Proposed)					Name: M		South Ca	ampus				
Road Name: I-215 Fwy. Road Seament: s/o Cactus Av.				JOB N	lumber: 12	2/61						
Road Segment. \$70 Cactus Av.												
SITE SPECIFIC INPUT	DATA		NOISE MODEL INPUTS									
Highway Data			Site Conditions (Hard = 10, Soft = 15)									
Average Daily Traffic (Adt): 80,78	8 vehicles				Α	utos:	15					
Peak Hour Percentage: 7.73			Medium Trucks (2 Axles): 15									
	vehicles		He	avy Tru	cks (3+ A)	xles):	15					
	mph	F	Vehicle I	Mix								
Near/Far Lane Distance: 130	feet	l	VehicleType Day Evening Night Daily									
Site Data					Autos: 7	1.1%	10.9%	18.0%	89.55%			
Barrier Height: 0.	0 feet		M	edium T	rucks: 7	3.6%	7.7%	18.6%	4.86%			
Barrier Type (0-Wall, 1-Berm): 0.	0		- 1	leavy T	rucks: 7	5.6%	6.7%	17.8%	5.59%			
Centerline Dist. to Barrier: 125.	0 feet	-	Naisa Sa	urco El	evations	(in foo	<i>4</i>)					
Centerline Dist. to Observer: 125.	0 feet	ľ	WOISE SC	Auto		•	i)					
Barrier Distance to Observer: 0.	0 feet		Medium Trucks: 2.297									
Observer Height (Above Pad): 5.	0 feet			v Truck			Grade Adj	ıstment	0.0			
Pad Elevation: 0.			,									
Road Elevation: 0.		Lane Eq		Distance		et)						
Road Grade: 0.0%			Auto									
	0 degrees			m Truck								
Right View: 90.	0 degrees		Heav	y Truck	s: 106.8	13						
FHWA Noise Model Calculations												
,,,		stance	Finite		Fresne		arrier Atte		m Atten			
Autos: 74.55	4.04	-5.0	-	-1.20		4.79	0.0		0.000			
Medium Trucks: 84.86	-8.61	-5.0	-	-1.20		4.88	0.0		0.000			
Heavy Trucks: 88.18	-8.01	-5.0		-1.20	7	5.11	0.0	00	0.000			
Unmitigated Noise Levels (without To												
	Leq Day	Leq E	vening	Leq	Night	L	.dn		VEL			
Autos: 72.3 Medium Trucks: 70.0	71.2 69.0		69.1 65.2		66.5 64.3		73.8 71.6		74.2			
Medium Trucks: 70.0 Heavy Trucks: 73.9	73.0		68.5		68.0		71.6 75.4		71.			
Vehicle Noise: 73.9	76.1		72.7		71.3		78.6		78.9			
			12.1		71.5		70.0		70.			
Centerline Distance to Noise Contour	(in feet)	70	dBA	ee.	dBA	60	dBA		dBA			
	I dn:	70	ава 471	05	1.015	ď	2,187	55	ава 4.711			
	CNFI:		471		1,015		2,187		4,711			
	OIVLL.		432		1,001		2,200		7,324			

	FHV	VA-RD-77-108	HIGH	WAY NO	DISE PI	REDICTI	ON MO	DEL					
	o: E+P (Propo e: I-215 Fwy. nt: s/o Alessan	,			Project Name: Meridian South Campus Job Number: 12761								
SITE S	SPECIFIC IN	PUT DATA			NOISE MODEL INPUTS								
Highway Data				S	ite Con	ditions	(Hard =	10, Sc	oft = 15)				
Average Daily	Traffic (Adt):	84,192 vehicle	es					Autos:	15				
	Percentage:	7.73%				edium Tru	,						
Peak H	our Volume:	6,508 vehicles	S		He	avy Truc	ks (3+)	Axles):	15				
	nicle Speed:	65 mph		V	ehicle	Mix							
Near/Far Lar	ne Distance:	130 feet			Veh	icleType		Day	Evening	Night	Daily		
Site Data						- /	lutos:	71.1%	10.9%	18.0%	89.709		
Bar	rier Height:	0.0 feet			М	edium Tr	ucks:	73.6%	7.7%	18.6%	4.85%		
Barrier Type (0-W	all, 1-Berm):	0.0				Heavy Tr	ucks:	75.6%	6.7%	17.8%	5.46%		
Centerline Dis		125.0 feet		N	oise S	ource Ele	evation	s (in fe	eet)				
Centerline Dist.		125.0 feet				Autos	s: 0.	000					
Barrier Distance t		0.0 feet			Mediu	m Trucks	s: 2.	297					
Observer Height (,	5.0 feet			Hear	y Trucks	s: 8.	004	Grade Ad	justment	0.0		
Pad Elevation: 0.0 feet					ono Fa	lon4	Dioton	oo (in i	foot)				
Road Elevation: 0.0 feet Road Grade: 0.0%					ane Eq	uivalent	: 106.	_ •	eet)				
r		0.0%			14	Autos m Trucks							
	Left View:	-90.0 degree											
	Right View:	90.0 degree	es		Heat	y Trucks	s: 106.	813					
FHWA Noise Mode													
VehicleType Autos:	REMEL	Traffic Flow	Dist	tance		Road	Fresi		Barrier Att		m Atten		
Medium Trucks:	74.55	4.23		-5.05		-1.20		-4.79		000	0.00		
	84.86	-8.45		-5.05		-1.20 -1.20		-4.88 -5.11		000	0.00		
Heavy Trucks:	88.18	-7.93		-5.05		-1.20		-5.11	0.0	000	0.00		
VehicleType	Leg Peak Hou			Leg Eve		Lea	Night	Т	l dn	C	NEL		
Autos:	72		71.4	LCY LV	69.3	_	66.6	3	74.0	_	74.		
Medium Trucks:	70		69.2		65.4		64.	-	71.8	-	72		
Heavy Trucks:	74	-	73.1		68.6		68.	-	75.5	-	75.		
Vehicle Noise:	77.		76.3		72.8		71.4		78.8		79.		
Centerline Distanc	e to Noise Co	ntour (in feet)										
			L	70 dl		65 (60 dBA		dBA		
			Ldn:		481		1,035		2,231		4,806		
			NEL:		502		1.082		2.332		5.023		

Friday, April 24, 2020

FH	WA-RD-77-108	HIGHWAY	NOISE P	REDICTI	ON MOD	EL					
Scenario: E+P (Prop Road Name: I-215 Fwy. Road Segment: s/o Van Br					Name: M umber: 12	leridian Si 2761	outh Cam	pus			
SITE SPECIFIC I	NPUT DATA		NOISE MODEL INPUTS								
Highway Data			Site Conditions (Hard = 10, Soft = 15)								
Average Daily Traffic (Adt):	87,533 vehicle	es	Autos: 15								
Peak Hour Percentage:	7.73%		1		icks (2 A)	,	5				
Peak Hour Volume:	6,766 vehicles	3	Heavy Trucks (3+ Axles): 15								
Vehicle Speed:	65 mph		Vehicle	Mix							
Near/Far Lane Distance:	130 feet		Veh	icleType	L	Day Eve	ening N	ight Daily			
Site Data				A	utos: 7	1.1% 1	0.9% 1	8.0% 90.69%			
Barrier Height:	0.0 feet		М	edium Tr	ucks: 7	3.6%	7.7% 1	8.6% 4.72%			
Barrier Type (0-Wall, 1-Berm):	0.0		1	Heavy Tr	ucks: 7	5.6%	6.7% 1	7.8% 4.59%			
Centerline Dist. to Barrier:	125.0 feet		Noise So	nurce Fle	evations	(in feet)					
Centerline Dist. to Observer:	125.0 feet		710,00 01	Autos							
Barrier Distance to Observer:	0.0 feet		Mediu	m Trucks							
Observer Height (Above Pad):	5.0 feet			vy Trucks			de Adius	tment: 0.0			
Pad Elevation:	0.0 feet										
Road Elevation:	Lane Eq			e (in feet)							
Road Grade:	0.0%			Autos							
Left View:	-90.0 degree			m Trucks							
Right View:	90.0 degree	es	Hear	y Trucks	: 106.8	13					
FHWA Noise Model Calculation	15										
VehicleType REMEL	Traffic Flow	Distance	Finite	Road	Fresne	l Barr	ier Atten	Berm Atten			
Autos: 74.55		-5.		-1.20		4.79	0.000				
Medium Trucks: 84.86		-5.		-1.20		4.88	0.000				
Heavy Trucks: 88.18	8 -8.52	-5.	05	-1.20	5	5.11	0.000	0.000			
Unmitigated Noise Levels (with			,								
VehicleType Leq Peak Ho			Evening	Leq I		Ldr		CNEL			
		71.6	69.5		66.9		74.2	74.6			
		69.2	65.4		64.5		71.8	72.1			
		72.5 76.1	68.0 72.7		67.5 71.2		74.9 78.6	75.1 78.9			
Centerline Distance to Noise C			,					70.0			
Centerline Distance to Noise C	omour (iii reet)) dBA	05.	BA .	60 dE	24	55 dBA			
		//		00 (
		Ldn:	468	65 (1,008	OU UL	2,172	4,680			

FH	WA-RD-77-108	HIGHWA	Y NC	ISE PF	REDICTI	ON MO	DEL				
Scenario: OYC (With Road Name: Wood Rd. Road Segment: n/o Van Bu		se III)				Name: umber:		an South C	ampus	3	
SITE SPECIFIC II	NPUT DATA		NOISE MODEL INPUTS								
Highway Data			Site Conditions (Hard = 10, Soft = 15)								
Average Daily Traffic (Adt):	14,313 vehicle	es					Autos:	15			
Peak Hour Percentage:	7.73%				dium Tru						
Peak Hour Volume:	1,106 vehicle	s		He	avy Truc	ks (3+	Axles):	15			
Vehicle Speed:	45 mph		Ve	ehicle I	Miv						
Near/Far Lane Distance:	36 feet		-		icleType		Day	Evening	Night	Daily	
Site Data					- /	lutos:	71.1%	10.9%	18.0	% 91.42%	
Barrier Height:	0.0 feet			Me	edium Ti	ucks:	73.6%	7.7%	18.6	% 4.64%	
Barrier Type (0-Wall, 1-Berm):	0.0			F	leavy Ti	ucks:	75.6%	6.7%	17.8	% 3.94%	
Centerline Dist. to Barrier:	44.0 feet		No	oise Sc	urce El	evatio	ıs (in f	eet)			
Centerline Dist. to Observer:	44.0 feet				Auto	. 0	.000	,			
Barrier Distance to Observer:	0.0 feet			Mediuu	n Truck:		.297				
Observer Height (Above Pad):	5.0 feet				y Truck		.004	Grade Ad	iustme	nt: 0.0	
Pad Elevation:	0.0 feet				•						
Road Elevation:	Lá	ne Eq	uivalent			feet)					
Road Grade:	0.0%				Autos		.460				
Left View:	-90.0 degre				n Truck		.241				
Right View:	90.0 degre	es		Heav	y Truck:	s: 40	.262				
FHWA Noise Model Calculation											
VehicleType REMEL	Traffic Flow	Distan		Finite		Fres		Barrier Att	_	erm Atten	
Autos: 68.46			1.28		-1.20		-4.61		000	0.000	
Medium Trucks: 79.45			1.31		-1.20		-4.87	0.0	000	0.000	
Heavy Trucks: 84.25			1.31		-1.20		-5.50	0.0	000	0.000	
Unmitigated Noise Levels (with	-								,		
VehicleType Leq Peak Ho			q Eve		Leq	Night		Ldn		CNEL	
	6.7	65.6		63.5		60		68.		68.6	
Medium Trucks: 6-	4.8	63.8		60.1		59		66.		66.7	
	-			63.5		63	Ω	70.	4	70.6	
	8.9 1.9	68.0 70.9		67.4		66		73.	4	73.7	
Vehicle Noise: 7	1.9	70.9							1	73.7	
	1.9	70.9	70 dE	67.4	65 (.0			73.7 55 dBA	
Vehicle Noise: 7	1.9	70.9	70 dE	67.4	65 (66	0	73.			

FHWA-RI	D-77-108 HIGH	IWAY N	DISE P	REDICT	ION MO	DDEL			
Scenario: OYC (With 2003 Road Name: Trautwein Rd. Road Segment: n/o Canyon Cres	,				t Name: Number:		n South C	ampus	
SITE SPECIFIC INPUT	DATA						L INPUTS	S	
Highway Data		S	ite Cor	ditions	(Hard =		ft = 15)		
	5 vehicles					Autos:	15		
Peak Hour Percentage: 7.73					rucks (2	,	15		
	vehicles		He	eavy Iru	icks (3+	Axles):	15		
•) mph	ν	ehicle	Mix					
Near/Far Lane Distance: 72	2 feet		Veh	icleType	9	Day	Evening	Night	Daily
Site Data					Autos:	71.1%	10.9%	18.0%	91.429
Barrier Height: 0.	0 feet		M	ledium 7	rucks:	73.6%		18.6%	4.649
Barrier Type (0-Wall, 1-Berm): 0	.0			Heavy 7	rucks:	75.6%	6.7%	17.8%	3.949
Centerline Dist. to Barrier: 60	.0 feet		nise S	ource F	levation	ns (in fe	et)		
Centerline Dist. to Observer: 60	.0 feet	<u> </u>	0.00	Auto		.000			
Barrier Distance to Observer: 0	0 feet		Mediu	m Truck		.297			
	0 feet			vv Truck		.004	Grade Adj	iustment	0.0
	0 feet	-							
	0 feet	L	ane Eq		t Distan		eet)		
Road Grade: 0.0			14	Auto m Truck		.260			
	0 degrees			m Truci vy Truci		.076			
Right View: 90	0 degrees		пеа	vy Truci	15. 40	.094			
FHWA Noise Model Calculations									
// .	ic Flow Dis	tance 0.13		Road -1.20	Fres	nel -4.69	Barrier Atte		m Atten
Autos: 70.20 Medium Trucks: 81.00	-1.49 -14.44	0.13		-1.20 -1.20		-4.69 -4.88	0.0		0.00
Heavy Trucks: 85.38	-14.44	0.15		-1.20		-5.34	0.0		0.00
Unmitigated Noise Levels (without To				-1.20		-0.54	0.0	700	0.00
VehicleType Leg Peak Hour	Leg Day	Leg Ev		Lea	Night	T	Ldn	C	NEL
Autos: 67.6	66.5	Log Lv	64.4		61.	8	69.1		69.
Medium Trucks: 65.5	64.5		60.7		59.	-	67.1		67.
Heavy Trucks: 69.2	68.3		63.8		63.	2	70.6	3	70.
Vehicle Noise: 72.5	71.5		68.0		66.	6	74.0)	74.
Centerline Distance to Noise Contou	(in feet)								
		70 d	BA	65	dBA	6	i0 dBA	55	dBA
	Ldn:		110		23	-	512		1,102
	CNEL:		115		24	В	535		1,152

	FHV	VA-RD-77-108	HIGH	WAY N	OISE P	REDICTI	ON MC	DEL			
Road Nam	o: OYC (With : e: Wood Rd. nt: s/o Van Bur		se III)				Name: umber:		an South C	ampus	
SITE S	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data				S	ite Con	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	19,484 vehicle	es					Autos:	15		
Peak Hour	Percentage:	7.73%			Me	edium Tru	ıcks (2	Axles):	15		
Peak H	our Volume:	1,506 vehicles	S		He	avy Truc	ks (3+	Axles):	15		
Ve	hicle Speed:	40 mph		ν	ehicle	Mix					
Near/Far Lai	ne Distance:	36 feet		F	Veh	icleType		Day	Evening	Night	Daily
Site Data						- /	Autos:	71.1%	10.9%	18.0%	91.429
Rar	rier Heiaht:	0.0 feet			М	edium Tr	ucks:	73.6%	7.7%	18.6%	4.649
Barrier Type (0-W	all, 1-Berm):	0.0				Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.949
Centerline Dis		44.0 feet		۸	loise S	ource Ele	evation	s (in fe	eet)		
Centerline Dist.		44.0 feet				Autos	s: 0	000			
Barrier Distance		0.0 feet			Mediu	m Trucks	s: 2	297			
Observer Height (,	5.0 feet			Hear	y Trucks	s: 8	004	Grade Ad	justmen	: 0.0
	ad Elevation:	0.0 feet		_							
	ad Elevation:	0.0 feet		L	ane Eq	uivalent			reet)		
F	Road Grade:	0.0%				Autos		.460			
	Left View:	-90.0 degree				m Trucks		.241			
	Right View:	90.0 degree	es		Hear	y Trucks	s: 40	.262			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow		tance		Road	Fresi		Barrier Att		m Atten
Autos:	66.51	0.06		1.28		-1.20		-4.61		000	0.00
Medium Trucks:	77.72	-12.88		1.31		-1.20		-4.87		000	0.00
Heavy Trucks:	82.99	-13.59		1.31		-1.20		-5.50	0.0	000	0.00
Unmitigated Noise VehicleType	Leq Peak Hou			Leg Ev		Leg	Niaht	1	l dn		NFI
Autos:	66		65.5	Log Lv	63.4	_	60	В	68.	_	68
Medium Trucks:	64		63.9		60.2		59.	-	66.	•	66
Heavy Trucks:	69	.5	68.6		64.1		63.	6	71.0	0	71.
Vehicle Noise:	72		71.2		67.6		66.	3	73.		74
Centerline Distanc	e to Noise Co	ntour (in feet)								
			L	70 d		65 (60 dBA		dBA
			Ldn:		78		168		361		77
		C	NEL:		81		175)	377		813

Friday, April 24, 2020

	FH\	VA-RD-77-108	HIGHWAY	NOISE P	REDICTI	ON MODEL					
Road Nam	io: OYC (With ne: Trautwein F nt: s/o Canyon		se III)			Name: Merio umber: 1276	lian South Car 1	npus			
SITE	SPECIFIC IN	IPUT DATA			N	OISE MOD	EL INPUTS				
Highway Data				Site Cor	nditions (Hard = 10, S	Soft = 15)				
Average Daily	Traffic (Adt):	1,333 vehicle	es			Auto	s: 15				
Peak Hour	Percentage:	7.73%		Me	edium Tru	icks (2 Axles): 15				
Peak H	lour Volume:	103 vehicles	3	He	eavy Truc	ks (3+ Axles): 15				
Ve	hicle Speed:	50 mph		Vehicle	Miv						
Near/Far La	ne Distance:	72 feet			nicleType	Day	Evening 1	Vight Daily			
Site Data						utos: 71.1		18.0% 91.42%			
Rai	rrier Height:	0.0 feet		M	ledium Tr	ucks: 73.6	% 7.7%	18.6% 4.64%			
Barrier Type (0-W		0.0		Heavy Trucks: 75.6% 6.7% 17.8%							
Centerline Di		60.0 feet									
Centerline Dist.	to Observer:	60.0 feet		Noise S		evations (in	reet)				
Barrier Distance	to Observer:	0.0 feet		A 4 C-	Autos m Trucks						
Observer Height ((Above Pad):	5.0 feet			ım Trucks vy Trucks		Grade Adjus	stmont: 0.0			
Pa		пеа	vy Trucks	6. 0.004	Grade Adjus	sunent. 0.0					
Roa	ad Elevation:	0.0 feet		Lane Eq	uivalent	Distance (ir	r feet)				
	Road Grade:	0.0%			Autos	: 48.260					
	Left View:	-90.0 degree	es		ım Trucks						
	Right View:	90.0 degree	es	Hea	vy Trucks	: 48.094					
FHWA Noise Mode	el Calculation	s		1							
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	70.20	-12.56		.13	-1.20	-4.69					
Medium Trucks:	81.00	-25.50		.15	-1.20	-4.88					
Heavy Trucks:	85.38	-26.21		.15	-1.20	-5.3	4 0.00	0.000			
Unmitigated Noise				,							
VehicleType	Leq Peak Hou			Evening	Leq I	-	Ldn	CNEL			
Autos: 56.6 55.4				53.3		50.7	58.1	58.4 56.3			
Medium Trucks:	54		53.4	49.7 48.7 56.0							
Heavy Trucks: Vehicle Noise:	58		57.2 60.4	52.7 56.9		52.2 55.5	59.6 62.9	59.8 63.2			
				50.5		55.5	02.9	00.2			
Centerline Distance	e to Noise Co	omour (in feet,		0 dBA	65 (HRA	60 dBA	55 dBA			
			Ldn:	20	000	43	94	202			
CNEL:				21 45 98				211			

	FH\	VA-RD-77-108	HIGH	HWAY	NOISE P	REDICTI	ON MO	DDEL				
Road Nar	rio: OYC (With ne: Trautwein F ent: s/o Alessar	Rd.	se III)				Name: umber:		an South C	ampus		
SITE	SPECIFIC IN	IPUT DATA				N	IOISE	MODE	L INPUT	S		
Highway Data					Site Cor	ditions	(Hard =	= 10, Sc	oft = 15)			
Average Daily	Traffic (Adt):	44,338 vehicle	es					Autos:	15			
Peak Hou	r Percentage:	7.73%			Me	edium Tru	ucks (2	Axles):	15			
Peak I	Hour Volume:	3,427 vehicle	s		He	eavy Truc	cks (3+	Axles):	15			
Ve	ehicle Speed:	50 mph		-	Vehicle	Miv						
Near/Far La	ane Distance:	48 feet		-		icleType		Dav	Evening	Night	Daily	
Site Data						- /	Autos:	71.1%	10.9%	18.0%	91.42%	
Rs	arrier Height:	0.0 feet			М	edium Ti	rucks:	73.6%	7.7%	18.6%	4.64%	
Barrier Type (0-V	Vall, 1-Berm):	0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94%	
	ist. to Barrier:	55.0 feet			Noise S	ource El	evation	ıs (in fe	eet)			
Centerline Dist.		55.0 feet				Autos	s: 0	.000				
	Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297						
Observer Height	(,	5.0 feet			Hear	vy Truck	s: 8	.004	Grade Ad	justmen	t: 0.0	
	Pad Elevation:	0.0 feet					D	,,				
Ro	ad Elevation:	0.0 feet		-	Lane Eq				reet)			
	Road Grade:	0.0%				Autos		.739				
	Left View:	-90.0 degre				m Truck		.561				
	Right View:	90.0 degre	es		Hea	vy Truck:	s: 49	.578				
FHWA Noise Mod												
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		rm Atten	
Autos.	70.20	2.66			-0.07 -1.20 -4.67 0.00						0.000	
Medium Trucks.		-10.28		-0.0		-1.20		-4.87		000	0.000	
Heavy Trucks.		-10.99		-0.0		-1.20		-5.38	0.0	000	0.000	
Unmitigated Nois								1				
VehicleType	Leq Peak Hou			Leq E	vening		Night	_	Ldn		NEL	
Autos.			70.4		68.3		65.		73.		73.5	
Medium Trucks			68.5 72.2		64.7 63.8 71.1 67.7 67.2 74.6					71.3 74.8		
Heavy Trucks. Vehicle Noise.			75.4		67.7 72.0		70.		74.9	-	74.8	
Centerline Distan	ce to Noise Co	ontour (in feet)									
				70	dBA	65	dBA	(60 dBA	55	dBA	
			Ldn:		186		400)	862	!	1,856	
		С	NEL:		194		418	В	901		1,940	

Friday, April 24, 20	020
----------------------	-----

Autos: 70.20 1.09 -0.07 -1.20 -4.67 0.000 Medium Trucks: 81.00 -11.85 -0.05 -1.20 -4.87 0.000 Heavy Trucks: 85.38 -12.57 -0.05 -1.20 -5.38 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation)		FH'	WA-RD-77-108	HIGH	WAY N	OISE P	REDICTIO	ON MC	DEL			
Auton: 15 Auton: 17 Auto	Road Nam	e: Trautwein	Rd.	,						n South C	ampus	
Average Daily Traffic (Adt): 30,855 vehicles Peak Hour Percentage: 7.73% Medium Trucks (2 Axles): 15		SPECIFIC II	NPUT DATA								s	
Peak Hour Percentage: 7.73% Medium Trucks (2 Axles): 15	· ·				S	ite Cor	nditions (I		_			
Peak Hour Volume: Vehicle Speed: 50 mph Vehicle Mix Vehicle Noise Centerline Dist. to Barrier: 55.0 feet O.0 feet	,	. ,		es								
Vehicle Speed: 50 mph Vehicle Mix Vehicle Type Day Evening Night Autos: 71.1% 10.9% 18.0% Medium Trucks: 75.8% 6.7% 17.8% T.7% 18.6% Heavy Trucks: 75.8% 6.7% 17.8% T.7% 18.6% Heavy Trucks: 75.8% 6.7% 17.8% T.8% T.8% Heavy Trucks: 75.8% 6.7% 17.8% T.8% T.8% Heavy Trucks: 75.8% 6.7% 17.8% T.8% T.8% Heavy Trucks: 10.00 T.8% Medium Trucks: 10.00 Medium Trucks: 10.00 T.8% T.8% Medium Trucks: 10.00 T.8%												
Near/Far Lane Distance:			,	es .		He	eavy Truci	KS (3+	Axies):	15		
Site Data					ν	'ehicle	Mix					
Barrier Height: 0.0 feet Medium Trucks: 73.6% 7.7% 18.6% Heavy Trucks: 75.6% 6.7% 17.8%	Near/Far Lai	ne Distance:	48 feet			Veh	nicleType		Day	Evening	Night	Daily
Barrier Trype (O-Wall, 1-Berm): 0.0 Test	Site Data						A	utos:	71.1%	10.9%	18.0%	91.429
Barrier Type (0-Wall, 1-Berm):	Bar	rier Height:	0.0 feet									
Centerline Dist. to Observer: 55.0 feet	Barrier Type (0-W	all, 1-Berm):	0.0				Heavy Tru	ıcks:	75.6%	6.7%	17.8%	3.949
Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0 feet Elevation: Elevation: 0.0 feet Elevation: Centerline Dis	st. to Barrier:	55.0 feet			loise S	ource Fle	vation	s (in fe	et)			
Barrier Distance to Observer: 0.0 feet Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: PAd Elevation: 0.0 feet Road Grade: 0.0% Autos: 49.561 Heavy Trucks: 49.561 Heavy Trucks: 49.578	Centerline Dist.	to Observer:	55.0 feet		F.	0.00						
Diserver Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Lane Equivalent Distance (in feet)	Barrier Distance	to Observer:	0.0 feet			Mediu	m Trucks					
Road Elevation:		,				Hea	vy Trucks.	: 8.	.004	Grade Ad	justment	: 0.0
Road Grade: 0.0%					ļ.			D. .		,		
Left View:					L	ane Eq				eet)		
Fight View: 90,0 degrees Heavy Trucks: 49.578	,					Modis						
FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Ben Autos: 70.20 1.09 -0.07 -1.20 -4.67 0.000 Medium Trucks: 81.00 -11.85 -0.05 -1.20 -4.87 0.000 Heavy Trucks: 85.38 -12.57 -0.05 -1.20 -5.38 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CN Autos: 70.0 68.9 66.8 64.1 71.5 Medium Trucks: 67.9 66.9 63.1 62.2 69.5 Heavy Trucks: 71.6 70.7 66.2 65.6 73.0 Vehicle Noise: 74.9 73.9 70.4 69.0 76.4 Centerline Distance to Noise Contour (in feet) To dBA 65 dBA 60 dBA 55 Ldn: 146 314 677 Contour 1.000 1.0												
VehicleType	EHWA Noise Mode	d Calculation	10									
Autos: 70.20 1.09 -0.07 -1.20 -4.67 0.000				Dist	tance	Finite	Road	Fresi	nel	Rarrier Att	en Bei	m Atten
Heavy Trucks: 85.38	,,							7 700				0.00
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CN	Medium Trucks:	81.00	-11.85	5	-0.05		-1.20		-4.87	0.0	000	0.00
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn Ch Autos: 70.0 68.9 66.8 64.1 71.5 Medium Trucks: 67.9 66.9 63.1 62.2 69.5 Heavy Trucks: 71.6 70.7 66.2 65.6 73.0 Vehicle Noise: 74.9 73.9 70.4 69.0 76.4 Centerline Distance to Noise Contour (in feet) Ldn: 146 314 60 dBA 55 Ldn: 146 314 677	Heavy Trucks:	85.38	-12.57		-0.05		-1.20		-5.38	0.0	000	0.00
Autos: 70.0 68.9 66.8 64.1 71.5 Medium Trucks: 67.9 66.9 63.1 62.2 69.5 Heavy Trucks: 71.6 70.7 66.2 65.6 73.0 Vehicle Noise: 74.9 73.9 70.4 69.0 76.4 Centerline Distance to Noise Contour (in feet) 70 dBA	Unmitigated Noise	Levels (with	out Topo and	barrie	r attenu	ıation)						
Medium Trucks: 67.9 66.9 63.1 62.2 69.5 Heavy Trucks: 71.6 70.7 66.2 65.6 73.0 Vehicle Noise: 74.9 73.9 70.4 69.0 76.4 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 Ldn: 146 314 677	,,				Leq Ev					-		NEL
Heavy Trucks: 71.6 70.7 66.2 65.6 73.0											-	71.
Vehicle Noise: 74.9 73.9 70.4 69.0 76.4 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 Ldn: 146 314 677		-							_		-	69.
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 Ldn: 146 314 677												73.
70 dBA 65 dBA 60 dBA 55. Ldn: 146 314 677						70.4		69.	U	76.4	1	76.
Ldn: 146 314 677	Centerline Distanc	e to Noise C	ontour (in fee	t)	70 d	D/	GE A	ID A	-	o dDA		dDA
==:: :: :: :: :: :: :: :: :: :: :: :: ::				I dn:	70 a		65 a					1.458
CIVEL. 132 320 101			_									1,450
			C	n VLL.		132		520	,	101		1,524

FI	IWA-RD-77-108	HIGH	WAY I	NOISE PI	REDICTI	ON MO	DDEL			
Scenario: OYC (Wit Road Name: Trautwein Road Segment: n/o Orang	Rd.	,					Meridia 12761	an South C	ampus	
SITE SPECIFIC I	NPUT DATA							L INPUT	s	
Highway Data				Site Con	ditions	(Hard :	= 10, Sc	oft = 15)		
Average Daily Traffic (Adt):	43,937 vehicle	s					Autos:	15		
Peak Hour Percentage:	7.73%			Me	dium Tru	ıcks (2	Axles):	15		
Peak Hour Volume:	3,396 vehicles	;		He	avy Truc	cks (3+	Axles):	15		
Vehicle Speed:	50 mph		F	Vehicle I	Miv					
Near/Far Lane Distance:	48 feet		-		icleType		Dav	Evening	Night	Daily
Site Data						Autos:	71.1%	-	18.0%	91.42
Barrier Height:	0.0 feet			M	edium Ti	rucks:	73.6%	7.7%	18.6%	4.64
Barrier Type (0-Wall, 1-Berm):	0.0			1	leavy Ti	rucks:	75.6%	6.7%	17.8%	3.94
Centerline Dist. to Barrier:	55.0 feet		-	Noise So	voo El	o rotio	an (in f	2041		
Centerline Dist. to Observer:	55.0 feet		-	Noise 30				et)		
Barrier Distance to Observer:	0.0 feet				Auto		.000			
Observer Height (Above Pad):	5.0 feet				m Truck		.297	Grade Ad	ii rodmo nd	
Pad Elevation:	0.0 feet			Heav	y Truck	s: 8	.004	Grade Ad	justrnerit	- 0.0
Road Elevation:	0.0 feet			Lane Eq	uivalent	Distar	ice (in	feet)		
Road Grade:	0.0%				Auto	s: 49	.739			
Left View:	-90.0 degree	:S		Mediu	m Truck	s: 49	.561			
Right View:	90.0 degree	:S		Heav	y Truck	s: 49	.578			
FHWA Noise Model Calculation	ns									
VehicleType REMEL	Traffic Flow	Dist	ance	Finite	Road	Fres	nel	Barrier Att	en Bei	m Atter
Autos: 70.2	2.63		-0.0)7	-1.20		-4.67	0.0	000	0.00
Medium Trucks: 81.0	0 -10.32		-0.0)5	-1.20		-4.87	0.0	000	0.00
Heavy Trucks: 85.3	-11.03		-0.0)5	-1.20		-5.38	0.0	000	0.00
Inmitigated Noise Levels (wit	hout Topo and	barrie	r atter	nuation)						
VehicleType Leq Peak Ho	our Leq Day		Leq E	vening	Leq	Night		Ldn	C	NEL
Autos: 7	1.6	70.4		68.3		65	.7	73.	1	73
Medium Trucks:	9.4	68.4		64.7		63	.7	71.0)	71
Heavy Trucks: 7	3.1	72.2		67.7		67	.2	74.	3	74
Vehicle Noise: 7	6.4	75.4		71.9		70	.5	77.	9	78
Centerline Distance to Noise C	Contour (in feet)									
			70	dBA	65	dBA		60 dBA		dBA
		Ldn:		185		39	-	856		1,84
	CI	VFI:		193		41	5	895		1.92

Friday, April 24, 2020

	FHV	VA-RD-77-108	HIGHWAY	NOISE P	REDICTI	ON MO	DEL			
Road Nam	o: OYC (With e: Barton St. nt: n/o Van Bur	2003 EIR Phas en Bl.	se III)			Name: I umber:		in South Ca	impus	
	SPECIFIC IN	PUT DATA						L INPUTS		
Highway Data				Site Cor	ditions	(Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	6,115 vehicle	s				Autos:	15		
Peak Hour	Percentage:	7.73%			edium Tro			15		
Peak H	our Volume:	473 vehicles	3	He	eavy Truc	cks (3+ A	Axles):	15		
Ve	hicle Speed:	40 mph		Vehicle	Mix					
Near/Far Lar	ne Distance:	36 feet			icleType		Day	Evening	Night	Daily
Site Data					-	Autos:	71.1%	10.9%	18.0%	91.42%
Bar	rier Height:	0.0 feet		M	ledium Ti	rucks:	73.6%	7.7%	18.6%	4.64%
Barrier Type (0-W		0.0			Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94%
Centerline Dis	st. to Barrier:	44.0 feet		Noise S	ource Fl	evation	s (in fe	et)		
Centerline Dist.	to Observer:	44.0 feet		110,00	Auto		000	01)		
Barrier Distance	to Observer:	0.0 feet		Medium Trucks: 2.297						
Observer Height (vy Truck		004	Grade Adju	ıstment	0.0		
Pa	Pad Elevation: 0.0 feet									
	ad Elevation:	0.0 feet		Lane Eq				eet)		
F	Road Grade:	0.0%			Auto					
	Left View:	-90.0 degree			m Truck					
	Right View:	90.0 degree	es	Hea	vy Truck	s: 40.	262			
FHWA Noise Mode	l Calculations	S								
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresn	iel .	Barrier Atte	n Ber	m Atten
Autos:	66.51	-4.97	1	.28	-1.20		-4.61	0.0	00	0.000
Medium Trucks:	77.72	-17.92		.31	-1.20		-4.87	0.0		0.000
Heavy Trucks:	82.99	-18.63	1	.31	-1.20		-5.50	0.00	00	0.000
Unmitigated Noise				enuation) Evening						
	VehicleType Leq Peak Hour Leq Day				,	Night		Ldn	CI	VEL
Autos:						55.7		63.1		63.5
Medium Trucks:			58.9	55.1 54.2				61.5		61.8
Heavy Trucks: Vehicle Noise:	64		63.6 66.2	59.1 62.6		58.5 61.3		65.9 68.7		66.2
	Centerline Distance to Noise Contour (in feet)									
Contenine Distant	e to Noise Co	mour (m reet)		0 dBA	65	dBA	6	0 dBA	55	dBA
Ldn:			36 77 167				359			
CNEL:				38 81 174				375		

	FH\	VA-RD-77-108	HIGH	HWAY	NOISE P	REDICTI	ON MO	DDEL					
Road Na	rio: OYC (With me: Barton St. ent: s/o Van Bu		se III)				Name: umber:		an South C	ampus			
SITE	SPECIFIC IN	IPUT DATA				N	IOISE	MODE	L INPUT	S			
Highway Data					Site Cor	ditions	(Hard =	= 10, Sc	oft = 15)				
Average Daily	/ Traffic (Adt):	18,244 vehicl	es					Autos:	15				
Peak Hou	r Percentage:	7.73%			Me	edium Tru	ucks (2	Axles):	15				
Peak	Hour Volume:	1,410 vehicle	s		He	eavy Truc	cks (3+	Axles):	15				
V	ehicle Speed:	40 mph			Vehicle	Mix							
Near/Far L	ane Distance:	36 feet				icleType		Day	Evening	Night	Daily		
Site Data							Autos:	71.1%		18.0%	91.42%		
D	arrier Height:	0.0 feet			M	edium Ti	rucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-1	Vall, 1-Berm):	0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94%		
	ist. to Barrier:	44.0 feet			Noise Source Elevations (in feet)								
Centerline Dist		44.0 feet				Autos	s: 0	.000					
	Barrier Distance to Observer: 0.0 feet					m Trucks	s: 2	.297					
Observer Height	(,	5.0 feet			Hea	vy Truck	s: 8	.004	Grade Ad	justment	0.0		
	Pad Elevation:	0.0 feet											
Ro	oad Elevation:	0.0 feet			Lane Eq				reet)				
	Road Grade:	0.0%				Autos		.460					
	Left View:	-90.0 degre				m Truck).241					
	Right View:	90.0 degre	es		Hea	vy Truck:	s: 40).262					
FHWA Noise Mod													
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atten		
Autos		-0.22		1.3		-1.20		-4.61		000	0.000		
Medium Trucks		-13.17		1.3		-1.20		-4.87		000	0.000		
Heavy Trucks		-13.88			31	-1.20		-5.50	0.0	000	0.000		
Unmitigated Nois								_					
VehicleType	Leq Peak Hou		65.2	Leq E	Evening 63.1		Night	_	Ldn		NEL		
Autos	Autos: 66.4 65.2 Medium Trucks: 64.7 63.7						60 58		67.9		68.2		
			68.3		59.9 63.8		58 63	-	66.3 70.3		66.5 70.9		
Heavy Trucks Vehicle Noise			71.0		67.3		66	-	70.		70.9		
Centerline Distar	ice to Noise Co	ontour (in feet	t)										
				70	dBA	65	dBA	(60 dBA	55	dBA		
			Ldn:		75		16	1	346	i	745		
		С	NEL:		78		16	8	361		778		

Average Daily Traffic (Adt): 16,609 vehicles Peak Hour Volume: 1,284 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet Vehicle Type		FH	WA-F	RD-77-108	HIGH	1 YAWH	NOISE P	REDIC	TION M	ODEL			
Average Daily Traffic (Adi):	Road Nam	e: Barton St.			se III)						an South C	ampus	
Average Daily Traffic (Adt): 16,609 vehicles Peak Hour Percentage: 7,73% Medium Trucks (2 Axles): 15 Heavy Trucks (34 Axles): 16 Heavy Trucks (34 Axles): 16 Heavy Trucks (34 Axles): 18 Heavy Trucks (34	SITE S	SPECIFIC II	NPU1	T DATA					NOISE	MODE	L INPUT	s	
Peak Hour Percentage: 1.73%	Highway Data						Site Co	nditions	(Hard	= 10, S	oft = 15)		
Peak Hour Volume:	Average Daily	Traffic (Adt):	16,6	09 vehicle	es					Autos	15		
Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet Vehicle Type Day Evening Night Daily Site Data Autos: 71.1% 10.9% 18.0% 91.4% Vehicle Type Day Evening Night Daily 91.4% Vehicle Type Day Evening Night Daily 18.0% 91.4% Vehicle Type Night Daily 18.0% 91.4% Vehicle Type Night Ni	Peak Hour	Percentage:	7.7	73%			М	edium T	rucks (2	Axles)	15		
Near/Far Lane Distance: 36 feet VehicleType Day Evening Night Daily	Peak H	our Volume:	1,28	34 vehicle:	S		H	eavy Tru	ucks (3+	Axles)	15		
Near/Far Lane Distance: 36 feet Vehicle Type Day Evening Night Daily	Vei	hicle Speed:	4	10 mph		-	Vahicla	Miv					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 0.0 feet Heavy Trucks: 73.6% 6.7% 17.8% 3.94 0.0 0.00 0.	Near/Far Lar	ne Distance:	3	36 feet					e	Day	Evening	Night	Daily
Barrier Trype (0-Well, 1-Berm): 0.0 test Heavy Trucks: 75.6% 6.7% 17.8% 3.94	Site Data								Autos:	71.19	6 10.9%	18.0%	91.429
Barrier Type (0-Wall, 1-Berm):	Bar	rier Heiaht:		0.0 feet			٨	1edium	Trucks:	73.69	6 7.7%	18.6%	4.649
Noise Model Calculations Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Bern Atte Autos:								Heavy 1	Trucks:	75.69	6.7%	17.8%	3.949
Autos: 0.000 Autos: 0.000 Barrier Alten Berna Atten Berna Atte	Centerline Dis	t. to Barrier:	4	4.0 feet		H	Noise S	ource F	levatio	ns (in f	eet)		
Barrier Distance to Observer: 0.0 feet Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Lane Equivalent Distance (in feet)	Centerline Dist.	to Observer:	4	4.0 feet		i i					001)		
Diserver Height (Above Pad):	Barrier Distance	to Observer:	(0.0 feet			Madii						
Pad Elevation: 0.0 feet Lane Equivalent Distance (in feet) Lane Equivalent Dist	Observer Height (Above Pad):		5.0 feet							Grade Ad	iustmen	t: 0.0
Road Grade: 0.0%	Pa	d Elevation:	(0.0 feet								,	
Left View:							Lane Ed				feet)		
Right View: 90.0 degrees Heavy Trucks: 40.262	F												
FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atte													
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten Autos: 66.51 -0.63 1.28 -1.20 -4.61 0.000 0.0 Medium Trucks: 77.72 -13.58 1.31 -1.20 -4.87 0.000 0.0 Unmitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 66.0 64.8 62.7 60.1 67.4 66 Medium Trucks: 64.3 63.2 59.5 58.5 65.8 66 Heavy Trucks: 68.8 67.9 63.4 62.9 70.3 70 Vehicle Noise: 71.5 70.5 66.9 65.7 73.0 73 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 70 151 325 70		Right View:	91	0.0 degree	es		Hea	vy Truc	ks: 40	0.262			
Autos: 66.51 -0.63 1.28 -1.20 -4.61 0.000 0.0	FHWA Noise Mode	l Calculation	ıs										
Medium Trucks: 77.72					Dis								
Heavy Trucks: 82.99 -14.29 1.31 -1.20 -5.50 0.000 0.00													0.00
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL													0.00
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 66.0 64.8 62.7 60.1 67.4 66 Medium Trucks: 64.3 63.2 59.5 58.5 65.8 66 Heavy Trucks: 68.8 67.9 63.4 62.9 70.3 70 Vehicle Noise: 71.5 70.5 66.9 65.7 73.0 73 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 70 151 325 70								-1.20	1	-5.50	0.0	000	0.00
Autos: 66.0 64.8 62.7 60.1 67.4 66 Medium Trucks: 64.3 63.2 59.5 58.5 65.8 66 Heavy Trucks: 68.8 67.9 63.4 62.9 70.3 70 Vehicle Noise: 71.5 70.5 66.9 65.7 73.0 73 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 70 151 325 70	-		_	•	_								
Medium Trucks: 64.3 63.2 59.5 58.5 65.8 66 Heavy Trucks: 68.8 67.9 63.4 62.9 70.3 77 Vehicle Noise: 71.5 70.5 66.9 65.7 73.0 73 Centerline Distance to Noise Contour (in feet) Image: Line of the contour of the contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 70 151 325 70			_			Leq E				1	-		
Heavy Trucks: 68.8 67.9 63.4 62.9 70.3 70 Vehicle Noise: 71.5 70.5 66.9 65.7 73.0 73 Centerline Distance to Noise Contour (In feet) Ldn: 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 70 151 325 70													67.
Vehicle Noise: 71.5 70.5 66.9 65.7 73.0 73.0 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 70 151 325 70													
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 70 151 325 76	-												70.
70 dBA 65 dBA 60 dBA 55 dBA Ldn: 70 151 325 70							66.8	1	65	./	73.0	J	73.
Ldn: 70 151 325 70	Centerline Distanc	e to Noise C	onto	ur (in feet)	70	dD1	e.	: ADA	1	60 dBA		: ADA
					I dn:	70							700 700
ONEL. 15 151 559 17													731
				C	VLL.		13		10	,	333	'	13

		VA-RD-77-108									
Scenario: Road Name: Road Segment:	Barton St.	2003 EIR Pha ia Av.	se III)			Project N Job Nur			n South C	ampus	
SITE SI	PECIFIC IN	IPUT DATA				NO	ISE N	/IODE	LINPUT	s	
Highway Data				s	ite Con	ditions (H	lard =	10, So	ft = 15)		
Average Daily Tr Peak Hour Po Peak Hou	. ,	15,727 vehicle 7.73% 1,216 vehicle				dium Truc avy Truck	ks (2 /		15 15 15		
Vehi	cle Speed:	40 mph		ν	ehicle I	Nix					
Near/Far Lane	Distance:	36 feet		ľ		cleType		Day	Evening	Night	Daily
Site Data							tos:	71.1%	10.9%	18.0%	,
Rarri	er Heiaht:	0.0 feet			Me	edium True	cks:	73.6%	7.7%	18.6%	4.649
Barrier Type (0-Wal	I, 1-Berm):	0.0			F	leavy Tru	cks:	75.6%	6.7%	17.8%	3.94
Centerline Dist.		44.0 feet		٨	loise So	urce Elev	ation	s (in fe	et)		
Centerline Dist. to		44.0 feet				Autos:	0.	000			
Barrier Distance to		0.0 feet			Mediur	n Trucks:	2.:	297			
Observer Height (Al	,	5.0 feet			Heav	y Trucks:	8.	004	Grade Ad	justment	0.0
	Elevation:	0.0 feet		,	ano Ear	ıivalent D	icton	o (in f	not)		
	ad Grade:	0.0 feet 0.0%		-	ane Ly	Autos:	40.		eei)		
7.0	Left View:	-90.0 degre			Modiuu	n Trucks:	40.				
F	Right View:	90.0 degre				y Trucks:		262			
FHWA Noise Model	Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fresr	iel .	Barrier Att	en Ber	m Atter
Autos:	66.51	-0.87		1.28		-1.20		-4.61	0.0	000	0.00
Medium Trucks:	77.72	-13.81		1.31		-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	82.99	-14.52		1.31		-1.20		-5.50	0.0	000	0.00
Unmitigated Noise L										T	
,,, .	eq Peak Hou			Leq Ev		Leq Ni	_		Ldn	_	NEL
Autos:	65		64.6		62.5		59.8		67.2		67
Medium Trucks:	64		63.0		59.2		58.3		65.6	-	65
Heavy Trucks: Vehicle Noise:	68 71		70.3		63.2		62.6		70.0 72.8		70 73
					00.7		ზე.4	•	72.8	•	/3
Centerline Distance	to Noise Co	ontour (in feet)	70 d	'RA	65 dF	R.A	6	0 dBA	55	dBA
				. U u	L 1		~ .	1 0	0 0207	1 00	027
			I dn:		67		145		313		67

Friday, April 24, 2020

	FHW	/A-RD-77-108	HIGH	WAY N	IOISE PE	REDICTI	ON MO	DEL					
Road Nan	io: OYC (With 2 ne: Barton St. nt: s/o Lurin Av		e III)				Name: umber:		an South C	ampus			
	SPECIFIC IN	PUT DATA			04- 0				L INPUTS	5			
Highway Data				- 3	Site Conditions (Hard = 10, Soft = 15)								
Average Daily	. ,	15,172 vehicle	S					Autos:					
	Percentage:	7.73%				dium Tru							
	lour Volume:	1,173 vehicles			He	avy Truc	ks (3+)	Axles):	15				
	hicle Speed:	40 mph		1	Vehicle I	/lix							
Near/Far La	ne Distance:	36 feet		F	Veh	cleType		Day	Evening	Night	Daily		
Site Data						- /	utos:	71.1%	10.9%	18.0%	91.42%		
Ra	rrier Height:	0.0 feet			Me	edium Tr	ucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-W		0.0			F	leavy Tr	ucks:	75.6%	6.7%	17.8%	3.94%		
	st. to Barrier:	44.0 feet		L									
Centerline Dist.		44.0 feet		1	Voise Sc			_	eet)				
	Barrier Distance to Observer: 0.0 feet					Autos		000					
Observer Height				n Trucks		297							
	ad Flevation:	5.0 feet 0.0 feet			Heav	y Trucks	8: 8.	004	Grade Adj	ustmen	f: 0.0		
	ad Elevation:	0.0 feet		1	Lane Eq	uivalent	Distan	ce (in	feet)				
	Road Grade:	0.0%				Autos	: 40.	460					
	Left View:	-90.0 degree	2		Mediu	n Trucks	: 40	241					
	Right View:	90.0 degree			Heav	y Trucks	3: 40.	262					
FHWA Noise Mod	el Calculations	;											
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite		Fresi		Barrier Atte	_	rm Atten		
Autos:	66.51	-1.02		1.28	-	-1.20		-4.61	0.0		0.000		
Medium Trucks:		-13.97		1.3		-1.20		-4.87	0.0		0.000		
Heavy Trucks:	82.99	-14.68		1.3	1	-1.20		-5.50	0.0	00	0.000		
Unmitigated Noise	e Levels (witho	out Topo and b	arrier	r atten	uation)								
VehicleType	Leq Peak Hou	r Leq Day		Leg E	vening	Leq	Vight		Ldn	С	NEL		
Autos:	65.	6 6	4.4		62.3		59.7	7	67.1		67.4		
Medium Trucks:	63.	9 6	2.9		59.1		58.	I	65.5	i	65.7		
Heavy Trucks:	68.	4 6	7.5		63.0		62.	5	69.9)	70.		
Vehicle Noise:	71.	.1 7	0.2		66.5		65.3	3	72.6	5	72.9		
Centerline Distan	ce to Noise Co	ntour (in feet)											
			L	70 c		65 (60 dBA	55	dBA		
			.dn:		66		142		306		659		
CNFI ·					69		148		319		688		

	FH\	VA-RD-77-108	HIG	HWAY	NOISE P	REDICTI	ON MO	DDEL					
Road Nar	rio: OYC (With ne: Coyote Bus ent: n/o Van Bu	h Rd.	se III)		Project Name: Meridian South Campus Job Number: 12761								
SITE	SPECIFIC IN	IPUT DATA				N	IOISE	MODE	L INPUT	S			
Highway Data					Site Cor	ditions	(Hard =	= 10, Sc	oft = 15)				
Average Daily	Traffic (Adt):	2,514 vehicle	es					Autos:	15				
Peak Hou	r Percentage:	7.73%			Me	edium Tru	ucks (2	Axles):	15				
Peak i	Hour Volume:	194 vehicle	s		He	eavy Truc	cks (3+	Axles):	15				
V	ehicle Speed:	25 mph			Vehicle	Mix							
Near/Far La	ane Distance:	12 feet				icleType		Day	Evening	Night	Daily		
Site Data							Autos:	71.1%	10.9%	18.0%	91.42%		
B:	arrier Height:	0.0 feet			M	edium Ti	rucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-V	Vall, 1-Berm):	0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94%		
	ist. to Barrier:	33.0 feet			Noise S	ource El	evatio	ns (in f	eet)				
Centerline Dist		33.0 feet				Autos	s: 0	.000					
Barrier Distance		0.0 feet			Mediu	m Truck	s: 2	.297					
Observer Height	,,	5.0 feet			Hear	vy Truck	s: 8	.004	Grade Ad	ljustmeni	t: 0.0		
	Pad Elevation:	0.0 feet											
Ro	pad Elevation:	0.0 feet			Lane Eq				reet)				
	Road Grade:	0.0%				Autos		2.833					
	Left View:	-90.0 degre				m Truck		2.562					
	Right View:	90.0 degre	es		Hea	vy Truck:	s: 32	2.589					
FHWA Noise Mod													
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		rm Atten		
Autos		-6.79		2.0		-1.20		-4.52		000	0.000		
Medium Trucks		-19.74			69	-1.20		-4.86		000	0.000		
Heavy Trucks		-20.45		2.0		-1.20		-5.69	0.0	000	0.000		
Unmitigated Nois								1		_			
VehicleType	Leq Peak Hou			Leq E	vening		Night	_	Ldn		NEL		
Autos			52.2		50.1		47 46		54.9 54.9		55.2		
Medium Trucks			51.5 58.1		47.8 53.6		46 53	-	60.5		54.4 60.7		
Heavy Trucks Vehicle Noise			59.8		55.9		53		62.	-	62.5		
Centerline Distan	ce to Noise Co	ontour (in feet)										
				70	dBA	65	dBA	-	60 dBA	55	dBA		
			Ldn:		10		2	2	47	,	101		
		С	NEL:		10		2	3	49)	105		

Friday, April 24, 20	020
----------------------	-----

	FHW	/A-RD-77-108 HIC	1 YAWHE	IOISE P	REDICT	TION MOI	DEL					
	: Village West		I)	Project Name: Meridian South Campus Job Number: 12761								
SITE S	PECIFIC IN	PUT DATA				NOISE N	IODEL	INPUTS	•			
Highway Data				Site Cor	nditions	(Hard =	10, Soft	t = 15)				
Average Daily T Peak Hour F	Percentage:	19,602 vehicles 7.73% 1.515 vehicles				rucks (2 A rucks (3+ A		15 15 15				
	icle Speed:	40 mph	L			10110 (017	жоо).					
Near/Far Lan		44 feet	L	Vehicle								
	c Distance.	44 1001		Ver	nicleTyp			Evening	Night	Daily		
Site Data							71.1%	10.9%	18.0%	91.42%		
Barı	ier Height:	0.0 feet			ledium T		73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-Wa	ıll, 1-Berm):	0.0			Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%		
Centerline Disa	t. to Barrier:	56.0 feet	-	Noise S	ource F	levations	(in fee	t)				
Centerline Dist. to	Observer:	56.0 feet	F		Auto		•					
Barrier Distance to	Observer:	0.0 feet		Madii	ım Truci							
Observer Height (A	lbove Pad):	5.0 feet			vy Truci			Grade Adji	istment.	0.0		
Pa	d Elevation:	0.0 feet		1100	vy maci	13. 0.0	04 0	orado riaji	30111101111.	0.0		
Road	d Elevation:	0.0 feet		Lane Eq	uivalen	t Distanc	e (in fe	et)				
R	oad Grade:	0.0%			Auto	os: 51.7	40					
	Left View:	-90.0 degrees		Mediu	ım Truci	ks: 51.5	68					
	Right View:	90.0 degrees		Hea	vy Truci	ks: 51.5	85					
FHWA Noise Model	Calculations	:										
VehicleType	REMEL	Traffic Flow D	Distance	Finite	Road	Fresn	el B	arrier Atte	n Berr	n Atten		
Autos:	66.51	0.09	-0.3	3	-1.20		4.67	0.0	00	0.000		
Medium Trucks:	77.72	-12.86	-0.3	0	-1.20		4.87	0.0	00	0.000		
Heavy Trucks:	82.99	-13.57	-0.3	1	-1.20		-5.37	0.0	00	0.000		
Unmitigated Noise	Levels (witho	ut Topo and bar	rier atten	uation)								
VehicleType I	Leq Peak Hour	Leq Day	Leq E	vening	Leq	Night	L	Ldn	CN	IEL		
Autos:	65.	1 63.9	9	61.8		59.2		66.6		66.9		
Medium Trucks:	63.4	4 62.4	1	58.6		57.6		64.9		65.2		
Heavy Trucks:	67.	9 67.0)	62.5	i	62.0		69.4		69.6		
Vehicle Noise:	70.	6 69.7	7	66.0		64.8		72.1		72.4		
Centerline Distance	to Noise Co	ntour (in feet)										
				dBA	65	dBA	60	dBA	55 (dBA		
		Ldn	-	78		167		361		777		
		CNEL	:	81		175		376		811		

	o: OYC (With 2 e: Orange Ten t: n/o Van Bur	ace Pkwy.	se III)					Meridia 12761	n South C	ampus	
	PECIFIC IN	PUT DATA							L INPUT	S	
Highway Data				S	ite Con	ditions (Hard =				
Average Daily	Fraffic (Adt):	9,755 vehicle	es					Autos:	15		
	Percentage:	7.73%				dium Tru	,				
	our Volume:	754 vehicles	S		He	avy Truc	ks (3+	Axles):	15		
	nicle Speed:	45 mph		V	ehicle l	Wix					
Near/Far Lar	e Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						Α.	utos:	71.1%	10.9%	18.0%	91.429
Rar	rier Height:	0.0 feet			М	edium Tr	ucks:	73.6%	7.7%	18.6%	4.649
Barrier Type (0-Wi		0.0			1	Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.949
Centerline Dis		55.0 feet		N	oise So	ource Ele	evation	ns (in fe	et)		
Centerline Dist.		55.0 feet				Autos	: 0	.000			
Barrier Distance t		0.0 feet			Mediu	m Trucks		297			
Observer Height (,	5.0 feet			Heav	y Trucks	: 8	.004	Grade Ad	iustment.	0.0
Pa	d Elevation:	0.0 feet									
Roa	d Elevation:	0.0 feet		L	ane Eq	uivalent	Distar	nce (in t	eet)		
F	Road Grade:	0.0%				Autos		9.739			
	Left View:	-90.0 degree	es			m Trucks		9.561			
	Right View:	90.0 degree	es		Heav	y Trucks	: 49	9.578			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow	Dis	tance		Road	Fres		Barrier Att		m Atten
Autos:	68.46	-3.45		-0.07		-1.20		-4.67		000	0.00
Medium Trucks:	79.45	-16.40		-0.05		-1.20		-4.87		000	0.00
Heavy Trucks:	84.25	-17.11		-0.05		-1.20		-5.38	0.0	000	0.00
Unmitigated Noise VehicleType	Levels (witho Leg Peak Hou			e r attenu Leg Ev		Leg I	liaht	1	Ldn		VEL
Autos:	63.		62.6	LUG LV	60.5	Logi	vigrit 57	q	65.2		65
Medium Trucks:	61.		60.8		57.0		56		63.4	-	63
Heavy Trucks:	65.	-	65.0		60.5		60		67.4		67
Vehicle Noise:	68.	-	67.9		64.4		63.		70.4		70
Centerline Distanc	e to Noise Co	ntour (in feet)								
			П	70 di	BA	65 d	lBA	6	i0 dBA	55	dBA
			Ldn:		58		12	6	271		58
			NFI:		30		121	U	211		00.

FHW	A-RD-77-108 HI	GHWAY	NOISE P	REDICTI	ON MODEL		
Scenario: OYC (With 2 Road Name: Village West Road Segment: s/o Krameria	II)			Name: Meri Imber: 1276	dian South Ca 1	impus	
SITE SPECIFIC INF	UT DATA					EL INPUTS	
Highway Data			Site Con	ditions (Hard = 10,	Soft = 15)	
Average Daily Traffic (Adt):	8,241 vehicles				Auto	s: 15	
Peak Hour Percentage:	7.73%		Me	edium Tru	cks (2 Axles	s): 15	
Peak Hour Volume:	637 vehicles		He	avy Truc	ks (3+ Axles	s): 15	
Vehicle Speed:	40 mph		Vehicle	Miv			
Near/Far Lane Distance:	24 feet			icleType	Day	Evening	Night Daily
Site Data					utos: 71.1		18.0% 91.42%
Barrier Height:	0.0 feet		М	edium Tr	ucks: 73.6	% 7.7%	18.6% 4.64%
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy Tr	ucks: 75.6	6.7%	17.8% 3.94%
Centerline Dist. to Barrier:	39.0 feet		M-1 0	F1-		f4)	
Centerline Dist. to Observer:	39.0 feet		Noise S	Autos	vations (in	reet)	
Barrier Distance to Observer:	0.0 feet		A 4 45 -	Autos m Trucks			
Observer Height (Above Pad):	5.0 feet			n Trucks vy Trucks		Grado Adii	ıstment: 0.0
Pad Elevation:	0.0 feet		i ica	ry Trucks	. 0.004	Отайс Айја	istincht. 0.0
Road Elevation:	0.0 feet		Lane Eq	uivalent	Distance (i	n feet)	
Road Grade:	0.0%			Autos	37.443		
Left View:	-90.0 degrees			m Trucks			
Right View:	90.0 degrees		Hear	y Trucks	: 37.229		
FHWA Noise Model Calculations							
VehicleType REMEL	Traffic Flow I	Distance		Road	Fresnel	Barrier Atte	n Berm Atten
Autos: 66.51	-3.67	1.		-1.20	-4.5		
Medium Trucks: 77.72	-16.62		82	-1.20	-4.8		
Heavy Trucks: 82.99	-17.33	1.5	82	-1.20	-5.5	7 0.00	0.000
Unmitigated Noise Levels (without							
VehicleType Leq Peak Hour			Evening	Leq I	0	Ldn	CNEL
Autos: 63.4			60.2		57.5	64.9	65.3
Medium Trucks: 61.7			56.9		56.0	63.3	63.6
Heavy Trucks: 66.3 Vehicle Noise: 69.0			60.9		60.4	67.7 70.5	68.0 70.8
Centerline Distance to Noise Con		-	57.4			. 0.0	70.0
Centernine Distance to Noise Con	nour (iii leet)	70	dBA	65 0	IBA .	60 dBA	55 dBA
	Ldr	_	42		91	195	420
	CNEL		44		95	204	439

	FH\	WA-RD-77-108	HIGH	IWAY N	IOISE P	REDICT	ION MC	DEL			
Road Nar	rio: OYC (With ne: Meridian P ent: s/o Allesan	kwy.	se III)				Name: lumber:		an South C	ampus	
SITE	SPECIFIC IN	IPUT DATA				N	IOISE	MODE	L INPUT	s	
Highway Data					Site Cor	ditions	(Hard =	: 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	27,621 vehicle	es					Autos:	15		
Peak Hour	r Percentage:	7.73%			Me	edium Tr	ucks (2	Axles):	15		
Peak F	Hour Volume:	2,135 vehicle	s		He	eavy Tru	cks (3+	Axles):	15		
Ve	ehicle Speed:	45 mph		-	Vehicle	Mix					
Near/Far La	ane Distance:	44 feet		-		icleType		Dav	Evening	Night	Daily
Site Data							Autos:	71.1%		18.09	
D-	arrier Height:	0.0 feet			M	edium T	rucks:	73.6%	7.7%	18.69	4.64%
Barrier Type (0-V		0.0				Heavy T	rucks:	75.6%	6.7%	17.89	3.94%
Centerline D	ist. to Barrier:	56.0 feet			Noise S	ourco El	lovation	e (in f	not)		
Centerline Dist.	to Observer:	56.0 feet		H.	V0/36 30	Auto		000	<i>(</i>		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height	(Above Pad):	5.0 feet				vy Truck		004	Grade Ad	liuetmar	t· 0.0
P	Pad Elevation:	0.0 feet			пеа	vy Truck	S. 0	.004	Orade Ad	justinoi	t. 0.0
Ro	ad Elevation:	0.0 feet		1	Lane Eq	uivalen	Distan	ce (in	feet)		
	Road Grade:	0.0%				Auto	s: 51	.740			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 51	.568			
	Right View:	90.0 degree	es		Hea	vy Truck	s: 51	.585			
FHWA Noise Mod	lel Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos:		1.07		-0.3	3	-1.20		-4.67	0.0	000	0.000
Medium Trucks:				-0.3		-1.20		-4.87		000	0.000
Heavy Trucks:	84.25	-12.59		-0.3	1	-1.20		-5.37	0.0	000	0.000
Unmitigated Nois		-	barrie								
VehicleType	Leq Peak Ho		_	Leq E	vening		Night		Ldn		NEL
Autos:			66.8		64.7		62.		69.		69.9
Medium Trucks:			65.1		61.3		60.	-	67.		67.9
Heavy Trucks:			69.3		64.8		64.		71.0		71.9
Vehicle Noise:	: 73	3.2	72.2		68.6		67.	3	74.	/	74.9
Centerline Distan	ce to Noise C	ontour (in feet)	70	10.4		10.4			-	- 10.4
			L	70 (dBA	65	dBA		60 dBA		5 dBA
		_	Ldn: NFI:		115		247		532		1,145
		C	IVEL:		120		258	3	555		1,196

	FHV	/A-RD-77-108	HIGHW	AY NOISE	PREDIC	TION MOI	DEL			
Scenario: Road Name: Road Segment:	Meridian Pk		e III)			ct Name: 1 Number: 1		South Ca	impus	
SITE SP	ECIFIC IN	PUT DATA				NOISE N	IODEL	INPUTS	;	
Highway Data				Site Co	ndition	(Hard =	10, Sof	t = 15)		
Average Daily Tra Peak Hour Pe Peak Hou	. ,	25,247 vehicle 7.73% 1,952 vehicles				rucks (2 A ucks (3+ A	/	15 15 15		
Vehic	le Speed:	45 mph		Vehicle	Mix					
Near/Far Lane	Distance:	44 feet			hicleTyp	e	Dav	Evening	Night	Daily
Site Data					,,		71.1%	10.9%	18.0%	91.42%
Rarrie	er Height:	0.0 feet			Medium	Trucks:	73.6%	7.7%	18.6%	4.64%
Barrier Type (0-Wall	-	0.0			Heavy	Trucks:	75.6%	6.7%	17.8%	3.94%
Centerline Dist.		56.0 feet		Noise	Source E	levations	(in fee	et)		
Centerline Dist. to	Observer:	56.0 feet			Aut		000	-7		
Barrier Distance to	Observer:	0.0 feet		Med	ium Truc		97			
Observer Height (Ab	,	5.0 feet			avy Truc		004 (Grade Adju	ustment:	0.0
	Elevation:	0.0 feet								
	Elevation:	0.0 feet		Lane E	•	nt Distanc		et)		
	ad Grade:	0.0%			Aut					
	Left View:	-90.0 degree			ium Truc					
R	right View:	90.0 degree	S	He	avy Truc	ks: 51.	585			
FHWA Noise Model (Calculations	;								
VehicleType	REMEL	Traffic Flow	Distar		te Road	Fresn	el E	Barrier Atte	n Ber	n Atten
Autos:	68.46	0.68		-0.33	-1.20		-4.67	0.0	00	0.000
Medium Trucks:	79.45	-12.27		-0.30	-1.20		-4.87	0.0		0.000
Heavy Trucks:	84.25	-12.98		-0.31	-1.20	1	-5.37	0.0	00	0.000
Unmitigated Noise L					_					
.,	eq Peak Hou			eq Evening		n Night		Ldn	CI	IEL
Autos:	67.		6.5	64	-	61.7		69.1		69.5
Medium Trucks:	65.		64.7	60	-	60.0		67.3		67.5
Heavy Trucks:	69.	-	88.9	64		63.8		71.2		71.5
Vehicle Noise:	72.	.8 7	1.8	68	.3	66.9		74.3		74.6
Centerline Distance	to Noise Co	ntour (in feet)		70 /04	-				-	10.4
			. L	70 dBA		dBA	60) dBA	55	dBA
			.dn:	10	-	232		501		1,079
		CN	IEL:	11	3	243		523		1,127

	FH\	VA-RD-77-108	HIGHW	VAY NO	ISE PR	REDICTIO	N MO	DEL			
	: Meridian P		se III)			Project N Job Nu			n South C	ampus	
	PECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data				Si	te Con	ditions (F	lard =	10, Sc	ft = 15)		
Average Daily T	raffic (Adt):	26,891 vehicle	es					Autos:	15		
Peak Hour F	Percentage:	7.73%			Me	dium Truc	ks (2 /	Axles):	15		
Peak Ho	our Volume:	2,079 vehicles	3		He	avy Truck	s (3+ A	Axles):	15		
Veh	icle Speed:	45 mph		Ve	ehicle N	/lix					
Near/Far Lan	e Distance:	44 feet		<u> </u>	Vehi	cleType		Day	Evening	Night	Daily
Site Data						Αι	itos:	71.1%	10.9%	18.0%	91.42
Barr	ier Heiaht:	0.0 feet			Ме	edium Tru	cks:	73.6%	7.7%	18.6%	4.649
Barrier Type (0-Wa		0.0			F	leavy Tru	cks:	75.6%	6.7%	17.8%	3.94
Centerline Dist	t. to Barrier:	56.0 feet		No	nise So	urce Ele	vation	s (in fe	et)		
Centerline Dist. to	Observer:	56.0 feet		-	,,,,,	Autos:		000			
Barrier Distance to	Observer:	0.0 feet			Madiur	n Trucks:		297			
Observer Height (A	lbove Pad):	5.0 feet				y Trucks:		004	Grade Ad	liustment	: 0.0
Pad	d Elevation:	0.0 feet								,	
	d Elevation:	0.0 feet		La	ne Equ	ıivalent L			eet)		
R	oad Grade:	0.0%				Autos:		740			
	Left View:	-90.0 degree				n Trucks:		568			
	Right View:	90.0 degree	es		Heav	y Trucks:	51.	585			
FHWA Noise Model	Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite		Fresn	iel	Barrier Att	en Bei	m Atter
Autos:	68.46	0.95		-0.33		-1.20		-4.67		000	0.00
Medium Trucks:	79.45	-11.99		-0.30		-1.20		-4.87		000	0.00
Heavy Trucks:	84.25	-12.70		-0.31		-1.20		-5.37	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barrier	attenua	ation)						
	Leq Peak Hou			Leq Eve		Leq N	_		Ldn	_	NEL
Autos:	67		66.7		64.6		62.0		69.4		69
Medium Trucks:	66		64.9		61.2		60.2	-	67.	-	67
Heavy Trucks:	70		69.2		64.6		64.1		71.	-	71
Vehicle Noise:	73	1.0	72.1		68.5		67.2	2	74.	5	74
0 1 11 51 1	to Noise Co	ontour (in feet)	70 dE		65 di					10.4
Centerline Distance									O dBA		dBA
Centerline Distance			Lefe	70 UL		03 U					
Centerline Distance			Ldn: NFI:	70 UL	113	65 di	242		522	!	1,12 1.17

FH	WA-RD-77-108 H	IIGHWAY	NOISE P	REDICTI	ON MO	DEL			
Scenario: OYC (With Road Name: Meridian F Road Segment: n/o Oppor	kwy.	· III)			Name: umber:		an South Ca	mpus	
SITE SPECIFIC I	NPUT DATA						L INPUTS		
Highway Data			Site Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily Traffic (Adt):	24,817 vehicles					Autos:	15		
Peak Hour Percentage:	7.73%		Me	edium Tru	icks (2 i	Axles):	15		
Peak Hour Volume:	1,918 vehicles		He	avy Truc	ks (3+)	Axles):	15		
Vehicle Speed:	45 mph		Vehicle	Miv					
Near/Far Lane Distance:	44 feet			icleType		Dav	Evening	Night	Daily
Site Data			-		lutos:	71.1%	-	18.0%	91.42%
Barrier Height:	0.0 feet		М	edium Ti	ucks:	73.6%	7.7%	18.6%	4.64%
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy Ti	ucks:	75.6%	6.7%	17.8%	3.94%
Centerline Dist. to Barrier:	56.0 feet								
Centerline Dist. to Observer:	56.0 feet		Noise So				eet)		
Barrier Distance to Observer:	0.0 feet			Auto		000			
Observer Height (Above Pad):	5.0 feet			m Truck		297			
Pad Elevation:	0.0 feet		Hear	y Truck	s: 8.	004	Grade Adju	stment:	0.0
Road Elevation:	0.0 feet		Lane Eq	uivalent	Distan	ce (in	feet)		
Road Grade:	0.0%		-	Auto	s: 51.	740			
Left View:	-90.0 degrees		Mediu	m Truck	s: 51.	568			
Right View:	90.0 degrees		Hear	y Truck	s: 51.	585			
FHWA Noise Model Calculation	18								
VehicleType REMEL	Traffic Flow	Distance		Road	Fresi		Barrier Atte	_	m Atten
Autos: 68.46		-0.		-1.20		-4.67	0.00		0.000
Medium Trucks: 79.45		-0.		-1.20		-4.87	0.00		0.000
Heavy Trucks: 84.25	-13.05	-0.	31	-1.20		-5.37	0.00	00	0.000
Unmitigated Noise Levels (with			,						
VehicleType Leq Peak Ho	-, -,		Evening		Night		Ldn	CI	VEL
		6.4	64.3		61.7		69.0		69.4
		4.6	60.8		59.9		67.2		67.5
		8.8 1.7	64.3 68.2		63.8		71.2 74.2		71.4 74.5
Centerline Distance to Noise C	Contour (in feet)								
Contornio Dictance to Noise C	omour (m reet)	70) dBA	65	dBA	-	60 dBA	55	dBA
	Le	dn:	107		230	•	495		1,066
	CNE	EL:	111		240		517		1,114

Scenario: OYC (With 2003 EIR Phase III) Road Name: Meridian Pkwy. Road Segment: nlo Van Buren Bl. SITE SPECIFIC INPUT DATA Highway Data Average Daily Traffic (Adt): 18,480 vehicles Noise Mame: Meridian South Campus Job Number: 12761 NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15) Autos: 15	
Highway Data Site Conditions (Hard = 10, Soft = 15) Average Daily Traffic (Adt): 18,480 vehicles Autos: 15	
Average Daily Traffic (Adt): 18,480 vehicles Autos: 15	
Peak Hour Percentage: 7.73% Medium Trucks (2 Axles): 15	
Peak Hour Volume: 1,429 vehicles Heavy Trucks (3+ Axles): 15	
Vehicle Speed: 45 mph Vehicle Mix	
Near/Far Lane Distance: 44 feet VehicleType Day Evening Night	Daily
Site Data Autos: 71.1% 10.9% 18.0	% 91.42%
Barrier Height: 0.0 feet Medium Trucks: 73.6% 7.7% 18.6	% 4.64%
Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 75.6% 6.7% 17.8°	% 3.94%
Centerline Dist. to Barrier: 56.0 feet Noise Source Elevations (in feet)	
Centerline Dist. to Observer: 56.0 feet Autos: 0.000	
Barrier Distance to Observer: 0.0 feet Medium Trucks: 2 297	
Observer Height (Above Pad): 5.0 feet Heavy Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustme.	nt: 0 0
Pad Elevation: 0.0 feet	n. 0.0
Road Elevation: 0.0 feet Lane Equivalent Distance (in feet)	
Road Grade: 0.0% Autos: 51.740	
Left View: -90.0 degrees Medium Trucks: 51.568	
Right View: 90.0 degrees Heavy Trucks: 51.585	
FHWA Noise Model Calculations	
	erm Atten
Autos: 68.46 -0.68 -0.33 -1.20 -4.67 0.000	0.000
Medium Trucks: 79.45 -13.62 -0.30 -1.20 -4.87 0.000	0.000
Heavy Trucks: 84.25 -14.33 -0.31 -1.20 -5.37 0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)	
	CNEL
Autos: 66.3 65.1 63.0 60.4 67.7	68.1
Medium Trucks: 64.3 63.3 59.5 58.6 65.9	66.2
Heavy Trucks: 68.4 67.5 63.0 62.5 69.9 Vehicle Noise: 71.4 70.4 66.9 65.5 72.9	70.1
	13.2
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 5	55 dBA
	876
Ldn: 88 189 407	

Friday, April 24, 20	020
----------------------	-----

FI-	IWA-RD-77-108	HIGHWA	Y NOISE	PREDIC	TION MOI	DEL					
Scenario: OYC (Wit Road Name: Day St. Road Segment: s/o Cottor		e III)	Project Name: Meridian South Campus Job Number: 12761								
SITE SPECIFIC I	NPUT DATA				NOISE N			3			
Highway Data			Site Conditions (Hard = 10, Soft = 15)								
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume:	9,496 vehicle 7.73% 734 vehicles		1		rucks (2 A ucks (3+ A	,	15 15 15				
Vehicle Speed: Near/Far Lane Distance:	40 mph 50 feet		Vehicle	Mix							
ivear/Far Lane Distance:	Ve	ehicleTyp	e	Day I	Evening	Night	Daily				
Site Data						71.1%	10.9%	18.0%	91.42%		
Barrier Height:	0.0 feet			Medium		73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy	Trucks:	75.6%	6.7%	17.8%	3.94%		
Centerline Dist. to Barrier:	44.0 feet		Noise	Source F	levations	(in fee	t)				
Centerline Dist. to Observer:	44.0 feet		710,00	Aut		000					
Barrier Distance to Observer:	0.0 feet		Med	ium Truc		97					
Observer Height (Above Pad):	5.0 feet			avy Truc			Grade Adj	ustment	0.0		
Pad Elevation:	0.0 feet										
Road Elevation:	0.0 feet		Lane E		nt Distand	_	et)				
Road Grade:	0.0%			Aut							
Left View:	-90.0 degree			ium Truc							
Right View:	90.0 degree	S	He	avy Truc	ks: 36.0	332					
FHWA Noise Model Calculation	ns										
VehicleType REMEL	Traffic Flow	Distan	ce Fini	te Road	Fresn	el E	arrier Atte	en Ber	m Atten		
Autos: 66.5	1 -3.06		1.94	-1.20		-4.61	0.0	00	0.000		
Medium Trucks: 77.7			1.98	-1.20		-4.87	0.0		0.000		
Heavy Trucks: 82.9	9 -16.71		1.98	-1.20		-5.50	0.0	00	0.000		
Unmitigated Noise Levels (wit	hout Topo and I	parrier at	ttenuation)							
VehicleType Leq Peak Ho			q Evening		n Night		Ldn		VEL		
		33.0	60	-	58.3		65.7		66.1		
		31.5	57		56.8		64.1		64.3		
		6.2	61		61.1		68.5		68.8		
Vehicle Noise: 6	9.8	8.8	65	.2	63.9		71.3		71.5		
Centerline Distance to Noise C	Contour (in feet)										
			70 dBA		dBA	60	dBA	55	dBA		
	-	dn:	5	-	115				534		
	CN	IEL:	56 120 259				259		558		

0		2002 FID Db-	- 1115			Desired		Managara	- 0					
Road Name		2003 EIR Pha	se III)					12761	an South C	ampus				
Road Segmen	,	ond Av				JOD IVE	imber.	12/01						
	PECIFIC IN					N.	OISE	MODE	LINDUT					
Highway Data	SPECIFIC III	PUIDAIA		S	NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15)									
Average Daily	Froffic (Adt):	13,632 vehicle)C			uniono (riai a	Autos:						
Peak Hour I	. ,	7.73%	55		Me	dium Tru	icks (2							
	our Volume:	1.054 vehicles			Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15									
	nicle Speed:	40 mph					- 1							
Near/Far Lar	V	Vehicle Mix												
Site Data				_	ven	icleType	utos:	Day 71.1%	Evening 10.9%	Night 18.0%	Daily			
				-				73.6%		18.0%				
	rier Height:	0.0 feet												
Barrier Type (0-Wa	. ,	0.0 44.0 feet								17.070	3.94			
Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet					Noise Source Elevations (in feet)									
Barrier Distance t		0.0 feet				Autos	: 0	.000						
Observer Height (5.0 feet			Mediu	m Trucks	: 2	.297						
	d Flevation:	0.0 feet			Heav	y Trucks	: 8	.004	Grade Ad	iustment	: 0.0			
	d Elevation:	0.0 feet		L	ane Ea	uivalent	Distar	ice (in i	feet)					
	Road Grade:	0.0%				Autos		.551	,					
	Left View:	-90.0 degree	es		Mediu	m Trucks		.308						
	Right View:	90.0 degree			Heav	y Trucks	: 36	.332						
FHWA Noise Mode	I Calculation:	5												
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atter			
Autos:	66.51	-1.49		1.94		-1.20		-4.61		000	0.00			
Medium Trucks:	77.72	-14.43		1.98		-1.20		-4.87		000	0.00			
Heavy Trucks:	82.99	-15.14		1.98		-1.20		-5.50	0.0	000	0.00			
Unmitigated Noise	•							1						
VehicleType Autos:	Leq Peak Hou 65		64.6	Leq Eve	ening 62.5	Leq I	Vight 59	^	Ldn		NEL 67			
Medium Trucks:	64		63.1		59.3		58	-	67.3 65.7		65			
Heavy Trucks:	68		67.7		63.2		62	-	70.1		70			
Vehicle Noise:	71		70.4		66.7		65.		70.		73			
Centerline Distanc	a to Noise Co	ntour (in foot	1											
Centernile Distant	e to Moise Co	intour (III leet		70 dl	BA .	65 0	lBA	6	60 dBA	55	dBA			
			Ldn:		68		14	6	315		68			

FHV	VA-RD-77-108 HI	GHWAY	NOISE P	REDICT	ION MOD	EL					
Scenario: OYC (With Road Name: Alessandro Road Segment: w/o Mission	BI.	II)			t Name: M lumber: 12		outh Cam	pus			
SITE SPECIFIC IN	PUT DATA				IOISE M						
Highway Data			Site Conditions (Hard = 10, Soft = 15)								
Average Daily Traffic (Adt):	55,133 vehicles		Autos: 15								
Peak Hour Percentage:	7.73%		Medium Trucks (2 Axles): 15								
Peak Hour Volume:	4,262 vehicles		Heavy Trucks (3+ Axles): 15								
Vehicle Speed:	55 mph		Vehicle	Miv							
Near/Far Lane Distance:	72 feet			icleType	. L	ay Eve	ning N	ight Daily			
Site Data						-	-	8.0% 91.42%			
Barrier Height:	0.0 feet		М	edium 7	rucks: 7	3.6%	7.7% 1	8.6% 4.64%			
Barrier Type (0-Wall, 1-Berm):	0.0		Heavy Trucks: 75.6% 6.7% 17.8% 3.94%								
Centerline Dist. to Barrier:	60.0 feet										
Centerline Dist. to Observer:	60.0 feet		Noise Source Elevations (in feet) Autos: 0.000								
Barrier Distance to Observer:	0.0 feet										
Observer Height (Above Pad):			m Truck								
Pad Elevation:		Hear	y Truck	s: 8.00)4 Grai	ae Aajus	tment: 0.0				
Road Elevation:	0.0 feet		Lane Eq	uivalen	t Distance	(in feet)					
Road Grade:	0.0%			Auto	s: 48.20	60					
Left View:	-90.0 degrees		Mediu	m Truck	s: 48.0	76					
Right View:	90.0 degrees		Hear	y Truck	s: 48.09	94					
FHWA Noise Model Calculations	5		1								
VehicleType REMEL		Distance	Finite	Road	Fresne	I Barn	ier Atten	Berm Atten			
Autos: 71.78	3.20		13	-1.20		4.69	0.000				
Medium Trucks: 82.40	-9.75		15	-1.20		4.88	0.000				
Heavy Trucks: 86.40	-10.46	0.	15	-1.20	4	5.34	0.000	0.000			
Unmitigated Noise Levels (with	-										
VehicleType Leq Peak Hou			Evening		Night	Ldn		CNEL			
Autos: 73			70.6		68.0		75.4	75.8			
Medium Trucks: 71		-	66.8		65.9		73.2	73.5			
Heavy Trucks: 74 Vehicle Noise: 78			69.5 74.0		69.0 72.6		76.3 79.9	76.6 80.2			
Centerline Distance to Noise Co	ntour (in feet)										
		70) dBA	65	dBA	60 dE	BA .	55 dBA			
	Ld	n:	276 595		1,281		2,761				
	Lan: CNEL:					289 622 1,340					

	FH\	WA-RD-77-108	HIGH	WAY N	OISE P	REDICT	ION M	ODEL								
	e: Alessandro		se III)		Project Name: Meridian South Campus Job Number: 12761											
SITE S	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS											
Highway Data				S	Site Conditions (Hard = 10, Soft = 15)											
Average Daily	Traffic (Adt):	58,787 vehicle	es					Autos:	15							
Peak Hour	Percentage:	7.73%			Me	edium Tr	ucks (2	Axles):	15							
Peak H	our Volume:	4,544 vehicle	s		He	eavy Tru	cks (3+	Axles):	15							
Vel	hicle Speed:	55 mph		ν	ehicle	Mix										
Near/Far Lar	ne Distance:	72 feet		H		icleType	,	Day	Evening	Night	Daily					
Site Data				Autos:	71.1%		18.0%	,								
Par	rier Height:	0.0 feet			M	ledium T	rucks:	73.6%	7.7%	18.6%						
Barrier Type (0-W	all, 1-Berm):	0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%					
	Centerline Dist. to Barrier: 60.0 feet						Noise Source Elevations (in feet)									
	Centerline Dist. to Observer: 60.0 feet						Autos: 0.000									
Barrier Distance to Observer: 0.0 feet					Mediu	ım Truck	s: 2	2.297								
Observer Height (,	5.0 feet			Hea	vy Truck	s: 8	3.004	Grade Ad	ljustmeni	0.0					
	ad Elevation:	0.0 feet					. Di	/	e4)							
	ad Elevation:	0.0 feet		L	ane Eq	uivalen			reet)							
,	Road Grade:	0.0%				Auto		3.260								
	Left View:	-90.0 degre				m Truck		3.076								
	Right View:	90.0 degre	es		неа	vy Truck	S: 40	3.094								
FHWA Noise Mode		-														
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fres		Barrier Att		m Atten					
Autos:	71.78	3.48		0.13		-1.20		-4.69		000	0.00					
Medium Trucks:	82.40	-9.47		0.15		-1.20		-4.88		000	0.000					
Heavy Trucks:	86.40	-10.18		0.15		-1.20		-5.34	0.0	000	0.000					
Unmitigated Noise								-		_						
	Leq Peak Hou		73.0	Leq Ev			Night		Ldn 75.		NEL 76.					
Autos:		l.2 l.9	70.9		70.9 67.1		68 66		75. 73.		76.					
Medium Trucks:					69.8		69	-		-						
Heavy Trucks:_ Vehicle Noise:	78	5.2	74.3		74.3		72		76. 80.		76.9 80.9					
					74.3	'	72	.9	80.	۷	80.8					
Centerline Distanc	e to Noise Co	ontour (in feet)	70 d	BA	65	dBA	- 6	60 dBA	55	dBA					
			Ldn:		288		62		1.337		2.881					
		С	NEL:		301				1,399 3,							
									,,,		.,					

	FHWA	A-RD-77-108 HI	GHWA'	/ NOISE F	REDICT	ION MO	DDEL					
Scenario: OY Road Name: Ale Road Segment: w/o	ssandro B		II)	Project Name: Meridian South Campus Job Number: 12761								
SITE SPEC	IFIC INP	UT DATA						L INPUTS	S			
Highway Data				Site Co.	nditions	(Hard:	= 10, S	oft = 15)				
Average Daily Traffic	(Adt): 46	3,715 vehicles					Autos	15				
Peak Hour Perce	ntage:	7.73%			edium Tr		,					
Peak Hour Vo	olume: 3	,611 vehicles		Н	eavy Tru	cks (3+	Axles)	15				
Vehicle S	Vehicle Speed: 45 mph											
Near/Far Lane Dis	tance:	72 feet		Vehicle Ve	hicleType)	Day	Evening	Night	Daily		
Site Data						Autos:	71.19	6 10.9%	18.0%	91.42%		
Barrier H	eiaht:	0.0 feet		٨	∕ledium T	rucks:	73.69	6 7.7%	18.6%	4.64%		
Barrier Type (0-Wall, 1-I	Berm):	0.0			Heavy T	rucks:	75.69	6.7%	17.8%	3.94%		
Centerline Dist. to E		60.0 feet		Noise S	ource E	levatio	ns (in f	eet)				
Centerline Dist. to Obs		60.0 feet			Auto	s: C	0.000					
Barrier Distance to Obs	server:	0.0 feet 5.0 feet		Media	ım Truck	s: 2	.297					
Observer Height (Above		Hea	vy Truck	s: 8	3.004	Grade Adj	ustment	0.0				
Pad Ele		0.0 feet			<u> </u>							
Road Ele		0.0 feet		Lane E	quivalen			teet)				
		0.0%			Auto		3.260					
		-90.0 degrees			ım Truck		3.076 3.094					
Right	View:	90.0 degrees		Hea	vy Truck	S: 46	3.094					
FHWA Noise Model Cald												
			Distanc		e Road	Fres		Barrier Atte		m Atten		
Autos:	68.46	3.35).13	-1.20		-4.69	0.0		0.000		
Medium Trucks:	79.45 84.25	-9.60).15).15	-1.20 -1.20		-4.88 -5.34	0.0		0.000		
Heavy Trucks:		-10.31					-0.34	0.0	100	0.000		
Unmitigated Noise Leve VehicleType Leg F	is (witnou Peak Hour	Leq Day	_	enuation) Evening	_	Night	_	l dn	_	NEL		
Autos:	70.7	Ley Day		67.		fvigrit 64	0	72.2		72.6		
Medium Trucks:	68.8	67	-	64.0	-	63		70.4		70.7		
Heavy Trucks:	72.9		-	67.	-	67		74.4		74.6		
Vehicle Noise:	75.9	74	-	71.4		70		77.4		77.		
Centerline Distance to N	loise Con	tour (in feet)										
			7	0 dBA	65	dBA		60 dBA	55	dBA		
		Ld	n:	187		40	3	867		1,868		
		CNF		195		42		906		1.952		

	FHV	VA-RD-77-108	HIGH\	NAY N	DISE P	REDICT	ION M	ODEL								
Road Nam	io: OYC (With ne: Alessandro nt: e/o Meridia		se III)		Project Name: Meridian South Campus Job Number: 12761											
SITE S	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS											
Highway Data				S	Site Conditions (Hard = 10, Soft = 15)											
Average Daily	Traffic (Adt):	55,281 vehicle	es					Autos:	15							
Peak Hour	Percentage:	7.73%			Me	edium Tr	ucks (2	Axles):	15							
Peak H	lour Volume:	4,273 vehicle	S		He	eavy Tru	cks (3+	Axles):	15							
Ve	hicle Speed:	55 mph		V	ehicle	Miv										
Near/Far La	ľ		nicleType	,	Day	Evening	Night	Daily								
Site Data	Site Data						Autos:	71.1%	10.9%	18.0%	91.42					
Par	Barrier Height: 0.0 feet					ledium T	rucks:	73.6%	7.7%	18.6%	4.64					
Barrier Type (0-W		0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.94					
	Centerline Dist. to Barrier: 60.0 feet						Noise Source Elevations (in feet)									
Centerline Dist.		60.0 feet			Autos: 0.000											
Barrier Distance		0.0 feet			Mediu	ım Truck		2.297								
Observer Height (5.0 feet				vy Truck		3.004	Grade Ad	justmen	t: 0.0					
	ad Elevation:	0.0 feet		_		•										
	ad Elevation:	0.0 feet		L	ane Eq	uivalen			feet)							
,	Road Grade:	0.0%				Auto		3.260								
	Left View:	-90.0 degre				ım Truck		3.076								
	Right View:	90.0 degree	es		Hea	vy Truck	:s: 48	3.094								
FHWA Noise Mode																
VehicleType	REMEL	Traffic Flow	Dist	ance		Road	Fres		Barrier Att		rm Atter					
Autos:	71.78	3.21		0.13		-1.20		-4.69		000	0.00					
Medium Trucks:	82.40	-9.74		0.15		-1.20		-4.88		000	0.00					
Heavy Trucks:	86.40	-10.45		0.15		-1.20		-5.34	0.0	000	0.00					
Unmitigated Noise																
	Leq Peak Hou			Leq Ev			Night		Ldn	_	NEL					
Autos: Medium Trucks:	73 71		72.8 70.6		70.7 66.8		68 65		75.4 73.1		75 73					
	71		70.6		69.5		69		76.4	_	73 76					
Heavy Trucks: Vehicle Noise:	78		77.5		74.0		72		80.0		80					
Centerline Distanc	e to Noise C	ontour (in foot)													
Centernine Distant	e io Noise Co	mour (in feet		70 d	BA	65	dBA		60 dBA	55	dBA					
			Ldn:		277		59	6	1,284	i i	2,76					
		С	NEL:		289 623			23 1,342 2,89								

Friday, April 24, 2020

	FH\	WA-RD-77-108	HIGHWAY	NOISE P	REDICTI	ON MOD	EL					
	e: Alessandro		se III)	Project Name: Meridian South Campus Job Number: 12761								
SITE	SPECIFIC IN	IPUT DATA			N	OISE M	ODEL IN	PUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	38,215 vehicle	es	Autos: 15								
Peak Hour	Percentage:	7.73%		Medium Trucks (2 Axles): 15								
Peak H	our Volume:	2,954 vehicles	3	Heavy Trucks (3+ Axles): 15								
Ve	hicle Speed:	45 mph		Vehicle Mix								
Near/Far La	ne Distance:	82 feet		VehicleType Day Evening Night Daily								
Site Data								-	8.0% 91.42%			
Rai	rier Height:	0.0 feet		Medium Trucks: 73.6% 7.7% 18.6% 4.64								
Barrier Type (0-W	-	0.0			Heavy Ti	ucks: 7	5.6%	6.7% 1	7.8% 3.94%			
Centerline Dis		67.0 feet		Noine C	ouroo El	evations	(in foot)					
Centerline Dist.	to Observer:	67.0 feet		Noise 3	Auto:							
Barrier Distance		Modiu	m Truck:									
Observer Height (vy Truck			de Adius	tment: 0.0					
Pa						ao 7 lajao						
Ros	ad Elevation:	0.0 feet		Lane Eq			e (in feet)					
I	Road Grade:	0.0%			Auto							
	Left View:	-90.0 degree			ım Truck							
	Right View:	90.0 degree	es	Hea	vy Truck	s: 53.0°	76					
FHWA Noise Mode	el Calculation	s										
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresne		ier Atten	Berm Atten			
Autos:	68.46	2.48		.51	-1.20		4.71	0.000				
Medium Trucks:	79.45			.49	-1.20		4.88	0.000				
Heavy Trucks:	84.25			.49	-1.20	3	5.29	0.000	0.000			
Unmitigated Noise												
	Leq Peak Hou			Evening		Night	Ldn		CNEL			
Autos:			68.1	66.0		63.3		70.7	71.1			
Medium Trucks:			66.3	62.5		61.6		68.9	69.1			
Heavy Trucks: Vehicle Noise:			70.5 73.4	66.0 69.9		65.4 68.5		72.8 75.9	73.1 76.2			
Centerline Distance				00.0		00.0		. 0.0	70.2			
Centernile Distant	e to Noise C	miour (III leet)		0 dBA	65	dBA	60 dE	BA .	55 dBA			
			Ldn:				768	68 1,654				
		CI	NEL:	173 372 802				1,728				

	FH'	WA-RD-77-108	HIGH	1 YAW	NOISE P	REDICT	ION MO	DDEL						
Road Nan	rio: OYC (With me: Alessandro ent: e/o Day St.		se III)		Project Name: Meridian South Campus Job Number: 12761									
SITE	SPECIFIC II	IPUT DATA			NOISE MODEL INPUTS									
Highway Data					Site Conditions (Hard = 10, Soft = 15)									
Average Daily	Traffic (Adt):	38,003 vehicle	es					Autos:	15					
Peak Hour	r Percentage:	7.73%			Medium Trucks (2 Axles): 15									
Peak F	Hour Volume:	2,938 vehicle	s		He	eavy Truc	cks (3+	Axles):	15					
Ve	ehicle Speed:	45 mph		-	Vehicle	Miv								
Near/Far La	ane Distance:	82 feet		-		icleType	,	Dav	Evening	Night	Dailv			
Site Data							Autos:	71.1%		18.0%	91.42%			
Rs	arrier Height:	0.0 feet			М	edium T	rucks:	73.6%	7.7%	18.6%	4.64%			
Barrier Type (0-V		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94%			
Centerline D	ist. to Barrier:	67.0 feet		-	Noise Source Elevations (in feet)									
Centerline Dist.	Centerline Dist. to Observer: 67.0 feet					Autos: 0.000								
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297						
Observer Height	(Above Pad):	5.0 feet				vy Truck		1.004	Grade Ad	liustmen	t· 0.0			
P	Pad Elevation:	0.0 feet			i ica	vy Truck	s. c	5.004	0,000,10	judumom	. 0.0			
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distar	nce (in	feet)					
	Road Grade:	0.0%				Auto	s: 53	3.226						
	Left View:	-90.0 degre	es			m Truck		3.059						
	Right View:	90.0 degre	es		Hea	vy Truck	s: 53	3.076						
FHWA Noise Mod	lel Calculation	s												
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	en Be	rm Atten			
Autos:		2.45		-0.5	51	-1.20		-4.71	0.0	000	0.000			
Medium Trucks:	79.45	-10.49		-0.4	19	-1.20		-4.88	0.0	000	0.000			
Heavy Trucks:	84.25	-11.20		-0.4	19	-1.20		-5.29	0.0	000	0.000			
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atter	nuation)					,				
VehicleType	Leq Peak Ho			Leq E	vening		Night		Ldn		NEL			
Autos:	-	9.2	68.0		65.9		63		70.		71.1			
Medium Trucks:	-	7.3	66.3		62.5		61		68.9	-	69.1			
Heavy Trucks:		1.4	70.5		66.0		65		72.8		73.1 76.1			
Vehicle Noise:			73.4		69.8		68	.5	75.9	9	76.1			
Centerline Distan	ce to Noise C	ontour (in feet)	70	dBA	65	dBA		60 dBA	E.F.	i dBA			
			Ldn:	70	165	05		_	765		1.648			
		C	NFI:		165 355 172 371			765 1,644						
		O	,L.		112 311 199				1,121					

Friday, April 24, 2	020
---------------------	-----

FHWA-RD-77-108 HIG	IWAY NOISE PREDICTION MODEL			
Scenario: OYC (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: e/o Innovation Dr.	Project Name: Meridian South Campus Job Number: 12761			
SITE SPECIFIC INPUT DATA	NOISE MODEL INPUTS			
Highway Data	Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 31,417 vehicles Peak Hour Percentage: 7.73% Peak Hour Volume: 2,428 vehicles	Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Vehicle Speed: 45 mph	Vehicle Mix			
Near/Far Lane Distance: 80 feet		ily		
Site Data	,, , , ,	42%		
Barrier Height: 0.0 feet	Medium Trucks: 73.6% 7.7% 18.6% 4.	64%		
Barrier Type (0-Wall, 1-Berm): 0.0	Heavy Trucks: 75.6% 6.7% 17.8% 3.	94%		
Centerline Dist. to Barrier: 60.0 feet	Noise Source Elevations (in feet)			
Centerline Dist. to Observer: 60.0 feet	Autos: 0.000			
Barrier Distance to Observer: 0.0 feet	Medium Trucks: 2.297			
Observer Height (Above Pad): 5.0 feet	Heavy Trucks: 8.004 Grade Adjustment: 0.0			
Pad Elevation: 0.0 feet				
Road Elevation: 0.0 feet	Lane Equivalent Distance (in feet)			
Road Grade: 0.0%	Autos: 45.000			
Left View: -90.0 degrees	Medium Trucks: 44.803			
Right View: 90.0 degrees	Heavy Trucks: 44.822			
FHWA Noise Model Calculations	<u> </u>			
VehicleType REMEL Traffic Flow Di	tance Finite Road Fresnel Barrier Atten Berm At	ten		
Autos: 68.46 1.63		.000		
Medium Trucks: 79.45 -11.32		.000		
Heavy Trucks: 84.25 -12.03	0.61 -1.20 -5.34 0.000 0	.000		
Unmitigated Noise Levels (without Topo and barri	er attenuation)			
VehicleType Leq Peak Hour Leq Day	Leq Evening Leq Night Ldn CNEL			
Autos: 69.5 68.3		71.3		
Medium Trucks: 67.5 66.5		69.4		
Heavy Trucks: 71.6 70.7		73.3		
Vehicle Noise: 74.6 73.6	70.1 68.8 76.1	76.4		
Centerline Distance to Noise Contour (in feet)				
	70 dBA 65 dBA 60 dBA 55 dBA			
Ldn:		539		
CNEL:	161 346 746 1,	746 1,607		

	FHV	VA-RD-77-108	HIGHW	AY NO	DISE PI	REDICTI	ON MC	DEL						
Scenario: Road Name: Road Segment:	Cactus Av.	2003 EIR Pha	se III)	Project Name: Meridian South Campus Job Number: 12761										
	PECIFIC IN	IPUT DATA			NOISE MODEL INPUTS									
Highway Data				Site Conditions (Hard = 10, Soft = 15)										
Average Daily Tr	affic (Adt):	26,482 vehicle	es					Autos:	15					
Peak Hour Pe	ercentage:	7.73%			Medium Trucks (2 Axles): 15									
Peak Hou	ır Volume:	2,047 vehicle	S		He	avy Truc	ks (3+	Axles):	15					
Vehic	cle Speed:	45 mph		Ve	ehicle l	Wix								
Near/Far Lane	F	VehicleType Day Evening Night					Night	Daily						
Site Data						- /	utos:	71.1%	10.9%	18.0%	91.429			
Rarri	er Height:	0.0 feet			М	edium Tı	ucks:	73.6%	7.7%	18.6%	4.649			
Barrier Type (0-Wall	Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.94			
Centerline Dist.	No	Noise Source Elevations (in feet)												
Centerline Dist. to		60.0 feet			Autos: 0.000									
Barrier Distance to Observer: 0.0 feet					Mediu	m Trucks	: 2	.297						
	Observer Height (Above Pad): 5.0 feet						s: 8	.004	Grade Ad	justment	: 0.0			
	Elevation:	0.0 feet		-			D: .							
	Elevation:	0.0 feet		Lé	ane Eq	uivalent			eet)					
	ad Grade:	0.0%				Autos		.000						
	Left View:	-90.0 degre				m Trucks		.803						
F	Right View:	90.0 degree	es		Heav	y Trucks	8: 44	.822						
FHWA Noise Model														
VehicleType	REMEL	Traffic Flow	Distar		Finite	Road	Fresi		Barrier Att		m Atter			
Autos:	68.46	0.88		0.58		-1.20		-4.69		000	0.00			
Medium Trucks:	79.45	-12.06		0.61		-1.20		-4.88		000	0.00			
Heavy Trucks:	84.25	-12.77		0.61		-1.20		-5.34	0.0	000	0.00			
Unmitigated Noise L							Marie 4	1	1 -1					
VehicleType Le	eq Peak Hοι		67.6	eq Eve	ening 65.5	Leq	Vight 62		Ldn 70.:	_	NEL 70.			
A t =					00.0		62.	Ö		_	70			
Autos:	68		CE O		62.0		61	4						
Medium Trucks:	66	i.8	65.8		62.0									
		i.8 I.9	65.8 70.0 72.9		62.0 65.5 69.4		61. 65. 68.	0	68.4 72.4 75.4	1	72			
Medium Trucks: Heavy Trucks: Vehicle Noise:	66 70 73	i.8 i.9	70.0 72.9		65.5		65.	0	72.4	1	72			
Medium Trucks: Heavy Trucks:	66 70 73	i.8 i.9	70.0 72.9	70 dE	65.5 69.4		65. 68.	0	72.4	1	68. 72. 75. dBA			
Medium Trucks: Heavy Trucks: Vehicle Noise:	66 70 73	i.8 i.9	70.0 72.9	70 dE	65.5 69.4		65. 68.	0	72.4 75.4	1 55	72			

	FHW	A-RD-77-108	HIGHW	/AY N	OISE PI	REDICT	ION M	DDEL					
Road Name	o: OYC (With 2 e: Cactus Av. nt: w/o Elsworth		se III)				t Name lumber		an South C	ampus			
	SPECIFIC INF	PUT DATA			NOISE MODEL INPUTS								
Highway Data Average Daily 1	T#:- /A-#\- F	58,468 vehicle		٥	Site Conditions (Hard = 10, Soft = 15) Autos: 15								
Peak Hour I	. ,	7.73%	:5		Me	dium Tr	ucks (2						
		4.520 vehicles	3		Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15								
	nicle Speed:	50 mph		١.				/					
Near/Far Lar	ne Distance:	82 feet		١	ehicle I	icleType		Day	Evening	Night	Daily		
Site Data					ven		Autos:	71.19		18.0%	,		
					14	edium T		73.69		18.6%			
	rier Height:	0.0 feet 0.0			Heavy Trucks: 75.6% 6.7% 17.8% 3.94								
Barrier Type (0-Wa Centerline Dis		67.0 feet			,								
Centerline Dist. to Observer: 67.0 feet					Noise Source Elevations (in feet) Autos: 0.000								
Barrier Distance to Observer: 0.0 feet								0.000					
Observer Height (Above Pad): 5.0 feet						m Truck		2.297	Crada Ad	ii rodano ni			
Pad Elevation: 0.0 feet					Heat	y Truck	S: c	3.004	Grade Ad	justrnerii	. 0.0		
Roa	d Elevation:	0.0 feet		L	ane Eq	uivalen	t Dista	nce (in	feet)				
F	Road Grade:	0.0%				Auto	s: 50	3.226					
	Left View:	-90.0 degree	es			m Truck		3.059					
	Right View:	90.0 degree	es		Hear	y Truck	s: 50	3.076					
FHWA Noise Mode	l Calculations												
VehicleType		Traffic Flow	Dista			Road	Fres		Barrier Att		m Atten		
Autos:	70.20	3.87		-0.51		-1.20		-4.71		000	0.000		
Medium Trucks:	81.00	-9.08		-0.49		-1.20		-4.88		000	0.000		
Heavy Trucks:	85.38	-9.79		-0.49		-1.20		-5.29	0.0	000	0.000		
Unmitigated Noise VehicleType	Levels (witho Leq Peak Hour			eq Ev	_	I on	Night		Ldn		NEL		
Autos:	72.4		71.2	.cq Lv	69.1		66	5	73.9		74.2		
Medium Trucks:	70.2		69.2		65.5		64		71.8		72.		
Heavy Trucks:	73.9	9	73.0		68.5		68	.0	75.4	1	75.6		
Vehicle Noise:	77.2	2	76.2		72.7		71	.3	78.7	7	79.0		
Centerline Distanc	e to Noise Cor	ntour (in feet,)										
				70 a		65	dBA		60 dBA		dBA		
			Ldn:	254 547 1,179				2,541					
		Ci	NEL:	266 572 1,232			2,655						

F	HWA-RD-77-10	8 HIGH	1 YAW	IOISE P	REDICTI	ON MC	DEL					
Scenario: OYC (Wi Road Name: Cactus A Road Segment: e/o Elswo	V.	ase III)		Project Name: Meridian South Campus Job Number: 12761								
SITE SPECIFIC	INPUT DATA			NOISE MODEL INPUTS								
Highway Data				Site Cor	ditions	(Hard =	= 10, Sc	oft = 15)				
Average Daily Traffic (Adt):	55,952 vehic	les					Autos:	15				
Peak Hour Percentage:	7.73%			Me	dium Tru	ıcks (2	Axles):	15				
Peak Hour Volume:	4,325 vehicle	es		He	avy Truc	cks (3+	Axles):	15				
Vehicle Speed:	50 mph		H	Vehicle	Mix							
Near/Far Lane Distance:	82 feet		H		icleType		Day	Evening	Night	Daily		
Site Data					- /	lutos:	71.1%	10.9%	18.0%	91.42%		
Barrier Height:	0.0 feet			M	edium Ti	ucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-Wall, 1-Berm).					Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.94%		
Centerline Dist. to Barrier: 67.0 feet				Noise Source Elevations (in feet)								
Centerline Dist. to Observer: 67.0 feet				10/30 01	Auto		.000	,				
Barrier Distance to Observer: 0.0 feet				Modiu	m Truck:		.000					
Observer Height (Above Pad): 5.0 feet					vy Truck		.004	Grade Ad	iustment	. 0 0		
Pad Elevation: 0.0 feet									dourrorn	. 0.0		
Road Elevation.	0.0 feet		L	Lane Eq	uivalent	Distar	ice (in	feet)				
Road Grade.	0.0%				Autos	s: 53	.226					
Left View.	-90.0 degre	ees		Medium Trucks: 53.059								
Right View	90.0 degre	ees		Hea	y Truck	s: 53	.076					
FHWA Noise Model Calculation	ons											
VehicleType REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Bei	m Atten		
Autos: 70.2	20 3.6	3	-0.5	1	-1.20		-4.71	0.0	000	0.000		
Medium Trucks: 81.0			-0.4	-	-1.20		-4.88		000	0.000		
Heavy Trucks: 85.3	18 -9.9	В	-0.4	9	-1.20		-5.29	0.0	000	0.000		
Unmitigated Noise Levels (wi	thout Topo and	d barrie	er atten	uation)			_					
VehicleType Leq Peak H			Leq E	vening	_	Night		Ldn		NEL		
	72.2	71.0		68.9		66.		73.		74.0		
	70.0	69.0		65.3		64.	-	71.0	-	71.9		
	73.7 77.0	72.8 76.0		68.3 72.5		67. 71.		75.1 78.1		75.4 78.8		
				72.0		, , ,	•	70.		70.0		
Centerline Distance to Noise	Contour (in fee	t)	70	dBA	65	dBA	1 .	60 dBA	55	dBA		
		Ldn:		247		532	_	1.145		2.467		
	(

	FHV	VA-RD-77-108	HIGH	WAY NO	DISE P	REDICT	TION MOI	DEL					
Scenario: Road Name: Road Segment:	Cactus Av.	2003 EIR Pha n St.	se III)		Project Name: Meridian South Campus Job Number: 12761								
SITE SP	ECIFIC IN	IPUT DATA			NOISE MODEL INPUTS								
Highway Data				S	ite Cor	ditions	(Hard =	10, Sof	t = 15)				
Average Daily Tra Peak Hour Pe	ercentage:	52,302 vehicle 7.73%					rucks (2 A		15 15 15				
	ır Volume:	4,043 vehicle	S		HE	avy iru	icks (3+ A	ixies):	15				
	le Speed:	50 mph		V	ehicle	Mix							
Near/Far Lane Distance: 82 feet				Veh	icleType	e	Day	Evening	Night	Daily			
Site Data							Autos:	71.1%	10.9%	18.0%	91.42%		
Barrie	er Height:	0.0 feet			M	ledium 7	rucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-Wall		0.0				Heavy 7	rucks:	75.6%	6.7%	17.8%	3.94%		
Centerline Dist. to Barrier: 67.0 feet				N	Noise Source Elevations (in feet)								
Centerline Dist. to		67.0 feet				Auto	os: 0.0	000					
Barrier Distance to Observer: 0.0 feet					Mediu	m Truck	ks: 2.2	97					
Observer Height (Above Pad): 5.0 feet Pad Flevation: 0.0 feet					Hea	vy Truck	ks: 8.0	04 (Grade Adji	ustment	: 0.0		
	Elevation:	0.0 feet		1.	ane Fo	uivalen	t Distanc	e (in fe	et)				
	ad Grade:	0.0%		F	o <u>_</u> q	Auto			,00,				
	Left View:	-90.0 degre	00		Medium Trucks: 53.059								
	Right View:	90.0 degre			Heavy Trucks: 53.076								
FHWA Noise Model (Calculation	s											
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fresn	el E	Barrier Atte	en Bei	m Atten		
Autos:	70.20	3.38		-0.51		-1.20		-4.71	0.0	00	0.000		
Medium Trucks:	81.00	-9.56		-0.49		-1.20		-4.88	0.0	00	0.000		
Heavy Trucks:	85.38	-10.27		-0.49		-1.20		-5.29	0.0	00	0.000		
Unmitigated Noise L	evels (with	out Topo and	barrie	r attenu	ation)								
VehicleType Le	eq Peak Hou	ır Leq Daj	/	Leq Eve	ening	Leq	Night		Ldn		NEL		
Autos:	71	.9	70.7		68.6		66.0		73.4		73.7		
Medium Trucks:	69		68.7		65.0		64.0		71.3		71.6		
Heavy Trucks:	73		72.5		68.0		67.5		74.9		75.1		
Vehicle Noise:	76	.7	75.7		72.2		70.8		78.2		78.5		
Centerline Distance	to Noise Co	ontour (in feet)										
			L	70 dE		65	dBA	60) dBA	55	dBA		
			Ldn:		236		508		1,095		2,359		
		С	NEL:		247		531		1,144		2,465		

	FH\	WA-RD-77-108	HIGH	WAY NO	DISE PF	REDICTIO	ON MO	DEL					
	e: Cactus Av.	2003 EIR Pha n St.	se III)			Project N Job Nu			n South C	ampus			
	PECIFIC IN	IPUT DATA			NOISE MODEL INPUTS								
Highway Data				S	ite Con	ditions (l	Hard =	10, Sc	ft = 15)				
Average Daily	Fraffic (Adt):	59,940 vehicle	es					Autos:	15				
Peak Hour I	Percentage:	7.73%				dium Trud			15				
Peak He	our Volume:	4,633 vehicle	S		He	avy Truck	ıs (3+ ı	Axles):	15				
Vehicle Speed: 50 mph			V	ehicle I	Лix								
Near/Far Lar	e Distance:	82 feet			Vehi	cleType		Day	Evening	Night	Daily		
Site Data						A	ıtos:	71.1%	10.9%	18.0%	91.42		
Ran	rier Heiaht:	0.0 feet			Me	edium Tru	icks:	73.6%	7.7%	18.6%	4.649		
Barrier Type (0-Wa		0.0			F	leavy Tru	icks:	75.6%	6.7%	17.8%	3.94		
Centerline Dist. to Barrier: 67.0 feet					Noise Source Elevations (in feet)								
Centerline Dist. t	o Observer:	67.0 feet		F		Autos:		000	,				
Barrier Distance t	o Observer:	0.0 feet			Mediu	n Trucks:		297					
Observer Height (/	,	5.0 feet				y Trucks:		004	Grade Ad	justment	: 0.0		
	d Elevation:	0.0 feet		_									
Road Elevation: 0.0 feet				Li	ane Equ	uivalent L			eet)				
F	Road Grade:	0.0%				Autos:		.226					
	Left View:	-90.0 degre				n Trucks:		.059					
	Right View:	90.0 degre	es		Heav	y Trucks:	53.	.076					
FHWA Noise Mode	l Calculation	s											
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite		Fresi		Barrier Att	en Bei	m Atter		
Autos:	70.20	3.97		-0.51		-1.20		-4.71		000	0.00		
Medium Trucks:	81.00	-8.97		-0.49		-1.20		-4.88		000	0.00		
Heavy Trucks:	85.38	-9.68		-0.49		-1.20		-5.29	0.0	000	0.00		
Unmitigated Noise													
	Leq Peak Hοι			Leg Eve		Leq N	_		Ldn	_	NEL		
Autos:	72		71.3		69.2		66.6	-	74.0	-	74		
Medium Trucks:	70		69.3		65.6		64.6	-	71.	-	72		
Heavy Trucks:	74		73.1		68.6		68.		75.	-	75		
Vehicle Noise:	77		76.3		72.8		71.4	4	78.	В	79		
Centerline Distanc	e to Noise Co	ontour (in feet)	70 dl	24	65 d	DΛ	-	iO dBA	FF	dBA		
			I dn:	7 U al	258	00 a	557				2.58		
		0	Lan: NFI :		258		557		1,199 1,253		2,58		
		C	VCL.		2/0		582		1,253		2,70		

	FH)	WA-RD-77-108	HIGHWAY	NOISE P	REDICTION	ON MODEL					
Road Nam	io: OYC (With ne: Van Buren nt: w/o Wood		se III)			Name: Merio Imber: 1276	lian South Car 1	npus			
SITE	SPECIFIC IN	IPUT DATA		NOISE MODEL INPUTS							
Highway Data				Site Cor	nditions (Hard = 10, S	Soft = 15)				
Average Daily	Traffic (Adt):	48,470 vehicle	es			Auto	s: 15				
Peak Hour	Percentage:	7.73%		Me	edium Tru	cks (2 Axles): 15				
Peak H	lour Volume:	3,747 vehicles	S	He	eavy Truc	ks (3+ Axles): 15				
Ve	hicle Speed:	50 mph		Vehicle	Miv						
Near/Far Lane Distance: 72 feet					nicleType	Day	Evening 1	Vight Daily			
Site Data						utos: 71.1		18.0% 91.42%			
Ra	rrier Height:	0.0 feet		M	ledium Tr	ucks: 73.6	% 7.7%	18.6% 4.64%			
Barrier Type (0-W		0.0			Heavy Tr	ucks: 75.6	% 6.7%	17.8% 3.94%			
Centerline Di		60.0 feet		M-/ 0			£4)				
Centerline Dist.	to Observer:	60.0 feet		Noise S	Autos	evations (in	reet)				
Barrier Distance	to Observer:	0.0 feet		A 4 C-	Autos ım Trucks						
Observer Height (Above Pad): 5.0 feet				vy Trucks		Grade Adjus	etmont: 0.0				
Pad Elevation: 0.0 feet				rica	vy IIucks	. 0.004	Отаче најис	sanona 0.0			
Ro	ad Elevation:	0.0 feet		Lane Eq	uivalent	Distance (ir	ı feet)				
	Road Grade:	0.0%			Autos						
	Left View:	-90.0 degree	es		ım Trucks						
	Right View:	90.0 degree	es	Hea	vy Trucks	: 48.094					
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	70.20	3.05	0	.13	-1.20	-4.69	9 0.00	0.000			
Medium Trucks:	81.00			.15	-1.20	-4.88					
Heavy Trucks:	85.38	-10.60	0	.15	-1.20	-5.3	4 0.00	0.000			
Unmitigated Noise			barrier atte	enuation)							
VehicleType	Leq Peak Ho			Evening	Leq N		Ldn	CNEL			
Autos:			71.0	68.9		66.3	73.7	74.1			
Medium Trucks:			69.1	65.3		64.3	71.7	71.9			
Heavy Trucks:			72.8	68.3		67.8	75.2	75.4			
Vehicle Noise:			76.0	72.5)	71.1	78.5	78.8			
Centerline Distant	ce to Noise C	ontour (in feet									
				0 dBA	65 d		60 dBA	55 dBA			
			Ldn:	222		477	1,028	2,215			
		C	NEL:	232		499	1,075	2,315			

	FHW	/A-RD-77-108	HIGH	WAY I	NOISE P	REDICT	ION MC	DDEL				
Road Nam	o: OYC (With 2 e: Van Buren E nt: e/o Wood R	BI.	se III)				Name: umber:		an South C	ampus		
SITE S	SPECIFIC IN	PUT DATA			NOISE MODEL INPUTS							
Highway Data					Site Cor	ditions	(Hard =	= 10, Sc	oft = 15)			
Average Daily	Traffic (Adt):	45,813 vehicl	es					Autos:	15			
Peak Hour	Percentage:	7.73%			Me	edium Tri	ucks (2	Axles):	15			
Peak H	our Volume:	3,541 vehicle	s		He	eavy Truc	cks (3+	Axles):	15			
Ve	hicle Speed:	50 mph		-	Vehicle	Mix						
Near/Far Lai	ne Distance:	72 feet		ŀ		icleType		Day	Evening	Night	Daily	
Site Data							Autos:	71.1%	10.9%	18.0%	91.42%	
Rai	Barrier Height: 0.0 feet				М	edium T	rucks:	73.6%	7.7%	18.6%	4.64%	
Barrier Type (0-W		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94%	
Centerline Dis	st. to Barrier:	60.0 feet		-	Noise Source Elevations (in feet)							
Centerline Dist.	to Observer:	60.0 feet		-	710700 01	Auto		.000	,,,,			
Barrier Distance to Observer: 0.0 feet					Madiu	m Truck		.297				
Observer Height (Observer Height (Above Pad): 5.0 feet					vy Truck		.004	Grade Ad	liustmen	: 0.0	
Pa	ad Elevation:	0.0 feet		L								
Ros	ad Elevation:	0.0 feet		L	Lane Eq	uivalent	Distar	ice (in	feet)			
I	Road Grade:	0.0%				Auto		.260				
	Left View:	-90.0 degre	es		Medium Trucks: 48.076							
	Right View:	90.0 degre	es		Hea	vy Truck	s: 48	.094				
FHWA Noise Mode	el Calculations											
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten	
Autos:	70.20	2.81		0.1	3	-1.20		-4.69	0.0	000	0.000	
Medium Trucks:	81.00	-10.14		0.1	5	-1.20		-4.88	0.0	000	0.000	
Heavy Trucks:	85.38	-10.85		0.1	5	-1.20		-5.34	0.0	000	0.000	
Unmitigated Noise	Levels (witho	ut Topo and	barrie	r atter	nuation)							
	Leq Peak Hou			Leq E	vening		Night		Ldn		NEL	
Autos:	71.	-	70.8		68.7		66.		73.4	•	73.8	
Medium Trucks:	69.		68.8		65.0		64.	.1	71.4	4	71.7	
Heavy Trucks:	73.		72.6		68.1		67.		74.9		75.2	
Vehicle Noise:	76.	8	75.8		72.3		70.	.9	78.3	3	78.6	
Centerline Distance	e to Noise Co	ntour (in feet)	70	dBA	65	dBA	1 .	60 dBA		dBA	
			Ldn:	70	ава 213	05	ава 461	_	990 990			
		0	Lan: NEL:		213		460	-	1.035		2,134 2,230	
		C	VEL.		223		480	J	1,035		2,230	

Friday, April 24, 20	020
----------------------	-----

	FHW	A-RD-77-108 H	IGHWAY	NOISE P	REDICT	ION MOD	EL					
Scenario: Road Name: Road Segment:	Van Buren E		III)	Project Name: Meridian South Campus Job Number: 12761								
SITE SP	ECIFIC IN	PUT DATA		NOISE MODEL INPUTS								
Highway Data				Site Cor	nditions	(Hard = 1	10, Soft	t = 15)				
Average Daily Tra Peak Hour Pe	rcentage:	43,238 vehicles 7.73% 3.342 vehicles				ucks (2 A cks (3+ A		15 15 15				
				110	avy III	CAS (ST A	AIGS).	13				
	le Speed:	55 mph 72 feet		Vehicle	Mix							
Near/Far Lane Distance: 72 feet			Veh	nicleTyp	9 <i>l</i>	Day I	Evening	Night	Daily			
Site Data						Autos:	71.1%	10.9%	18.0%	91.42%		
Barrie	er Height:	0.0 feet		M	ledium T	rucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-Wall	, 1-Berm):	0.0			Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%		
Centerline Dist. to Barrier: 60.0 feet				Noise S	ource E	levations	(in fee	et)				
Centerline Dist. to	Observer:	60.0 feet			Auto		•	-/				
Barrier Distance to Observer: 0.0 feet				Mediu	ım Truci							
Observer Height (Above Pad): 5.0 feet					vy Truci			Grade Adju	ustment	0.0		
Pad	Elevation:	0.0 feet										
	Elevation:	0.0 feet		Lane Eq		t Distanc		et)				
	ad Grade:	0.0%			Auto							
	Left View:	-90.0 degrees		Medium Trucks: 48.076								
R	light View:	90.0 degrees		Hea	vy Truci	ks: 48.0	94					
FHWA Noise Model (Calculations											
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresne	el B	arrier Atte	n Ben	m Atten		
Autos:	71.78	2.14	0	.13	-1.20	-	4.69	0.0	00	0.000		
Medium Trucks:	82.40	-10.80	0	.15	-1.20		4.88	0.0	00	0.000		
Heavy Trucks:	86.40	-11.51	0	.15	-1.20	-	5.34	0.0	00	0.000		
Unmitigated Noise L	evels (witho	ut Topo and ba	rrier atte	enuation)								
VehicleType Le	eq Peak Hour	Leq Day	Leq	Evening	Leq	Night	L	Ldn		VEL		
Autos:	72.	9 71	.7	69.6	i	67.0		74.3		74.7		
Medium Trucks:	70.			65.8		64.8		72.1		72.4		
Heavy Trucks:	73.			68.4		67.9		75.3		75.5		
Vehicle Noise:	77.	4 76	.4	73.0		71.5		78.9		79.2		
Centerline Distance	to Noise Co	ntour (in feet)										
			7	0 dBA	65	dBA	60	dBA	55	dBA		
		Lo	ln:	235		506		1,090		2,348		
		CNE	L:	246		529		1,140		2,455		

			ION MO	JDEL									
R Phase III)		Project Name: Meridian South Campus											
		Job N	lumber:	12761									
ATA	6	NOISE MODEL INPUTS											
	31	te Conditions	(Hara =										
		Heavy Iru	cks (3+	Axies):	15								
Vehicle Speed: 50 mph Near/Far Lane Distance: 72 feet													
eet		VehicleType	9	Day	Evening	Night	Daily						
			Autos:	71.1%	10.9%	18.0%	91.429						
feet		Medium 7	rucks:	73.6%	7.7%	18.6%	4.649						
		Heavy 7	rucks:	75.6%	6.7%	17.8%	3.949						
Centerline Dist. to Barrier: 60.0 feet					Noise Source Flevations (in feet)								
feet	-				icij								
feet													
feet					Grade Ad	iustment	. 0 0						
feet		Tieavy Truck	13. 0	.004	Orado riaj	dournorn	0.0						
feet	Lá	ne Equivalen	t Distar	ice (in f	eet)								
		Auto	s: 48	.260									
degrees		Medium Truck	rs: 48	.076									
degrees		Heavy Truck	rs: 48	.094									
Flow Dista	nce	Finite Road	Fres	nel	Barrier Att	en Ber	m Atten						
	0.13	-1.20		-4.69	0.0	000	0.00						
2.73	0.13	-1.20											
2.73 10.21	0.15	-1.20		-4.88	0.0	000	0.00						
				-4.88 -5.34		000							
10.21 10.92 o and barrier	0.15 0.15	-1.20 -1.20			0.0	000	0.00						
10.21 10.92 o and barrier eq Day L	0.15 0.15	-1.20 -1.20 ation)	Night	-5.34	0.0	000 CI	0.00 VEL						
10.21 10.92 o and barrier eq Day L 70.7	0.15 0.15 attenu	-1.20 -1.20 ation) ening Leq 68.6	66.	-5.34 .0	0.0 Ldn 73.4)000 C/	0.00 VEL 73						
10.21 10.92 o and barrier eq Day L 70.7 68.7	0.15 0.15 attenu	-1.20 -1.20 ation) ening Leq 68.6 65.0	66 64	-5.34 0 0	0.0 Ldn 73.4 71.3	C/	0.00 VEL 73. 71.						
10.21 10.92 o and barrier eq Day L 70.7 68.7 72.5	0.15 0.15 attenu	-1.20 -1.20 ation) ening Leq 68.6 65.0 68.0	66 64 67	-5.34 0 0 5	0.0 Ldn 73.4 71.3 74.9	CI	73. 71. 75.						
10.21 10.92 o and barrier eq Day L 70.7 68.7	0.15 0.15 attenu	-1.20 -1.20 ation) ening Leq 68.6 65.0	66 64	-5.34 0 0 5	0.0 Ldn 73.4 71.3	CI	73. 71. 75.						
10.21 10.92 o and barrier eq Day L 70.7 68.7 72.5	0.15 0.15 attenu .eq Eve	-1.20 -1.20	66. 64. 67. 70.	-5.34 0 0 5 8	0.0 Ldn 73.4 71.3 74.9 78.2	C/ 1 3 9)	73. 71. 75.						
10.21 10.92 o and barrier 20 pay L 70.7 68.7 72.5 75.7 In feet)	0.15 0.15 attenu	-1.20 -1.20 -1.20 ation) nning Leq 68.6 65.0 68.0 72.2	66. 64. 67. 70. dBA	-5.34 0 0 0 5 8	0.0 Ldn 73.4 71.3 74.9 78.2	CI 1 3 3 9 2	73. 71. 75. 78. dBA						
10.21 10.92 10 and barrier 10 and ba	0.15 0.15 attenu .eq Eve	-1.20 -1.20	66. 64. 67. 70.	-5.34 0 0 0 5 5 8	0.0 Ldn 73.4 71.3 74.9 78.2	C/ C	73. 71. 75. 78.						
	feet feet feet feet feet feet feet feet	vehicles prehicles prehicles pub detect feet feet feet feet feet feet feet	ATA Site Conditions vehicles pehicles pehicles pehicles pehicles pehicle Mix vehicle Mix vehicle Mix vehicle Type feet Medium T Heavy Tru Heavy Tru Heavy Tru Heavy Truch feet feet feet feet feet feet feet fee	ATA NOISE vehicles vehicles rehicles rehicle Mix Vehicle Mix Vehicle Mix Vehicle Type Autos: Medium Trucks: Heavy Trucks: Heavy Trucks: feet Rolies Source Elevation feet Autos: Autos: Autos: Heavy Trucks: Feet Lane Equivalent Distar Autos: Auto	Site Conditions (Hard = 10, Sc	Noise Model Input: Site Conditions (Hard = 10, Soft = 15)	Noise Model Inputs Site Conditions (Hard = 10, Soft = 15)						

	FH\	WA-RD-77-108	HIGHWAY	NOISE P	REDICTI	ON MO	DEL				
Road Nam	e: Van Buren	2003 EIR Phas Bl. Terrace Pkwy	,			Name: umber:		an South Ca	ampus		
	SPECIFIC IN	IPUT DATA		NOISE MODEL INPUTS							
Highway Data				Site Cor	ditions	(Hard =	10, S	oft = 15)			
Average Daily	Traffic (Adt):	46,981 vehicle	es				Autos:	15			
Peak Hour	Percentage:	7.73%		Me	edium Tru	ıcks (2 .	Axles):	15			
Peak H	lour Volume:	3,632 vehicles	3	He	eavy Truc	cks (3+.	Axles):	15			
Ve	hicle Speed:	55 mph		Vehicle	Miv						
Near/Far La	ne Distance:	tance: 72 feet			icleType		Day	Evening	Night	Daily	
Site Data						Autos:	71.1%	-	18.0%		
Par	rrier Height:	0.0 feet		. M	ledium Ti	rucks:	73.6%	7.7%	18.6%	4.64%	
Barrier Type (0-W		0.0 feet			Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94%	
Centerline Di		60.0 feet									
Centerline Dist.		60.0 feet		Noise S			_	eet)			
Barrier Distance		0.0 feet			Auto		000				
Observer Height (Above Pad): 5.0 feet					m Truck		297				
Pad Elevation: 0.0 feet			Hea	vy Truck	s: 8.	004	Grade Adji	ustment.	: 0.0		
Road Elevation: 0.0 feet				Lane Eq	uivalent	Distan	ce (in	feet)			
	Road Grade:	0.0%			Auto	s: 48	260				
	Left View:	-90.0 degree	es	Mediu	m Truck	s: 48	076				
	Right View:	90.0 degree	es	Hea	vy Truck	s: 48	094				
FHWA Noise Mode	el Calculation	s		1							
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresi	nel	Barrier Atte	en Ber	m Atten	
Autos:	71.78	2.50	0	.13	-1.20		-4.69	0.0	00	0.000	
Medium Trucks:	82.40	-10.44	0	.15	-1.20		-4.88	0.0	00	0.000	
Heavy Trucks:	86.40	-11.15	0	.15	-1.20		-5.34	0.0	00	0.000	
Unmitigated Noise				,			,				
VehicleType	Leq Peak Hou	, ,		Evening	,	Night		Ldn		VEL	
Autos:			72.1	69.9		67.		74.7		75.1	
Medium Trucks:			69.9	66.1		65.		72.5		72.8	
Heavy Trucks: Vehicle Noise:			73.3 76.7	68.8 73.3		68.: 71.:	_	75.7 79.2		75.9 79.5	
Centerline Distance	e to Noise Co	ontour (in feet)								
Contonnie Distant		Jinoui (III 1661)		0 dBA	65	dBA		60 dBA	55	dBA	
			Ldn:	248		535	i	1,152		2,481	
		CI	NEL:	259		559	1	1,204		2,595	

FHW	A-RD-77-108	HIGH	IWAY I	NOISE P	REDICT	ION MC	DEL					
Scenario: OYC (With 2 Road Name: Van Buren B Road Segment: e/o Orange T	l.	,		Project Name: Meridian South Campus Job Number: 12761								
SITE SPECIFIC INF	UT DATA				N	IOISE	MODE	L INPUT	s			
Highway Data				Site Cor	ditions	(Hard =	: 10, Sc	oft = 15)				
Average Daily Traffic (Adt): 4	8,906 vehicle	es					Autos:	15				
Peak Hour Percentage:	7.73%			Me	edium Tri	ucks (2	Axles):	15				
Peak Hour Volume: 3	3,780 vehicle	s		He	eavy Truc	cks (3+	Axles):	15				
Vehicle Speed:	55 mph		ŀ	Vehicle	Mix							
Near/Far Lane Distance:	72 feet		-		icleType		Dav	Evening	Night	Dailv		
Site Data						Autos:	71.1%		18.0%	91.42%		
Barrier Height:	0.0 feet			M	edium T	rucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-Wall, 1-Berm):	0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94%		
Centerline Dist. to Barrier:	60.0 feet		-	Noise S	ource El	evation	s (in f	eet)				
Centerline Dist. to Observer:	60.0 feet		ľ		Auto	s: 0	.000					
Barrier Distance to Observer:	0.0 feet			Mediu	m Truck		.297					
Observer Height (Above Pad):	9 1				vy Truck	s: 8	.004	Grade Ad	justmeni	t: 0.0		
Pad Elevation:	0.0 feet		-									
Road Elevation:	0.0 feet		-	Lane Eq				reet)				
Road Grade:	0.0%				Auto		.260					
Left View:	-90.0 degree				m Truck		.076					
Right View:	90.0 degree	es		Hea	vy Truck	s: 48	.094					
FHWA Noise Model Calculations												
	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Bei	rm Atten		
Autos: 71.78	2.68		0.1		-1.20		-4.69		000	0.000		
Medium Trucks: 82.40	-10.27		0.1		-1.20		-4.88		000	0.000		
Heavy Trucks: 86.40	-10.98		0.1	15	-1.20		-5.34	0.0	000	0.000		
Unmitigated Noise Levels (without	ut Topo and	barrie	er atter	nuation)								
VehicleType Leq Peak Hour	, ,	_	Leq E	vening		Night		Ldn		NEL		
Autos: 73.4		72.2		70.1		67.		74.9		75.3		
Medium Trucks: 71.1		70.1		66.3		65.		72.		72.9		
Heavy Trucks: 74.4 Vehicle Noise: 77.9		73.5 76.9		69.0 73.5		68. 72.		75.8 79.4		76.1 79.7		
				7 3.3		, 2.	•	75.		1 3.1		
Centerline Distance to Noise Con	itour (in feet		70	dBA	65	dBA		60 dBA	55	dBA		
		Ldn:		255		549	9	1,183		2,549		
	С	NEL:		267		574	1	1,237		2,665		

Friday, April 24, 2	020
---------------------	-----

	FHV	/A-RD-77-108	HIGHWA	Y NOISE P	REDICT	ION MODE	ĒL		
	: Van Buren I		e III)			Name: Me lumber: 12	eridian South C 761	ampus	
SITE S	PECIFIC IN	PUT DATA					DDEL INPUT	S	
Highway Data				Site Cor	nditions	(Hard = 10)), Soft = 15)		
Average Daily T	raffic (Adt):	61,936 vehicle	s			Au	itos: 15		
Peak Hour F	Percentage:	7.73%		Me	edium Tr	ucks (2 Ax	les): 15		
Peak Ho	ur Volume:	4,788 vehicles		He	eavy Tru	cks (3+ Ax	les): 15		
Veh	icle Speed:	55 mph		Vehicle	Mix				
Near/Far Lan	e Distance:	73 feet			icleType	Di	av Evenina	Night	Dailv
Site Data							1.1% 10.9%		91.42%
Pare	ier Height:	0.0 feet		N	ledium T	rucks: 73	3.6% 7.7%	18.6%	4.64%
Barrier Type (0-Wa	-	0.0			Heavy T	rucks: 75	5.6% 6.7%	17.8%	3.94%
Centerline Dist		55.0 feet							
Centerline Dist. to	Observer:	55.0 feet		Noise S		evations (
Barrier Distance to	Observer:	0.0 feet		14	Auto m Truck		-		
Observer Height (A	bove Pad):	5.0 feet			ım Truck vy Truck			justment: 0	١.
Pad	d Elevation:	0.0 feet		пеа	vy Truck	8. 0.00	4 Graue Au,	justinent. U	7.0
Road	d Elevation:	0.0 feet		Lane Eq	uivalen	Distance	(in feet)		
R	oad Grade:	0.0%			Auto	s: 41.44	6		
	Left View:	-90.0 degree	s	Mediu	m Truck	s: 41.23	2		
	Right View:	90.0 degree	S	Hea	vy Truck	s: 41.25	3		
FHWA Noise Model	Calculations	;		1					
VehicleType	REMEL	Traffic Flow	Distanc	e Finite	Road	Fresnel	Barrier Att	en Berm	Atten
Autos:	71.78	3.70		1.12	-1.20			000	0.000
Medium Trucks:	82.40	-9.24		1.15	-1.20			000	0.000
Heavy Trucks:	86.40	-9.95		1.15	-1.20	-5	5.38 0.0	000	0.000
Unmitigated Noise			oarrier at	tenuation)					
,,	.eq Peak Hou			g Evening		Night	Ldn	CNE	
Autos:	75.		4.2	72.1		69.5	76.9		77.3
Medium Trucks:	73.		2.1	68.3		67.4	74.7		75.0
Heavy Trucks:	76.		75.5	71.0		70.5	77.9		78.1
Vehicle Noise:	79.	.9	78.9	75.5	•	74.1	81.4	4	81.7
Centerline Distance	to Noise Co	ntour (in feet)							
				70 dBA	65	dBA	60 dBA	55 dE	
			.dn:	319		687	1,479		3,187
		CN	IEL:	333		718	1,547		3,333

		/A-RD-77-108							0 " 0				
	o: OYC (With 2		se III)		Project Name: Meridian South Campus Job Number: 12761								
Road Name Road Segmen	e: Van Buren E					JOD I	lumber	12/61					
							IOICE	MODE	LINDUT				
Highway Data	SPECIFIC IN	PUIDAIA		5	Site Con				L INPUT: oft = 15)	>			
Average Daily	Fraffic (Adt):	56,107 vehicle	es					Autos:	15				
Peak Hour I	. ,	7.73%	-		Me	dium Tı	ucks (2	Axles):	15				
		4.337 vehicle	s					Axles):					
Vel	nicle Speed:	55 mph		_	, , ,								
Near/Far Lar	,	73 feet		'	Vehicle Mix								
					Vehi	cleType		Day	Evening	Night	Daily		
Site Data							Autos:	71.1%		18.0%			
	rier Height:	0.0 feet				edium 7		73.6%		18.6%	4.64		
Barrier Type (0-Wa	all, 1-Berm):	0.0			F	leavy 7	rucks:	75.6%	6.7%	17.8%	3.94		
Centerline Dis		55.0 feet		1	loise So	urce E	levatio	ns (in fe	et)				
Centerline Dist. t		55.0 feet				Auto		0.000					
Barrier Distance t	o Observer:	0.0 feet			Mediur	n Truck	'S: 2	297					
Observer Height (/	,	5.0 feet			Heav	y Truck	'S: 8	3.004	Grade Ad	justment.	0.0		
	d Elevation:	0.0 feet		_									
	d Elevation:	0.0 feet		L	ane Equ				eet)				
F	Road Grade:	0.0%				Auto		1.446					
	Left View:	-90.0 degre				n Truck		1.232					
	Right View:	90.0 degre	es		Heav	y Truck	s: 4	1.253					
FHWA Noise Mode	I Calculations												
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	snel	Barrier Att	en Ber	m Atter		
Autos:	71.78	3.27		1.12	2	-1.20		-4.67		000	0.00		
Medium Trucks:	82.40	-9.67		1.15		-1.20		-4.87		000	0.00		
Heavy Trucks:	86.40	-10.38		1.15	5	-1.20		-5.38	0.0	000	0.00		
Unmitigated Noise	•	-						_					
	Leq Peak Hou	, ,		Leq Ev		Leq	Night		Ldn		VEL		
Autos:	75.	-	73.8		71.7		69		76.5	-	76		
Medium Trucks:	72.		71.7		67.9		67		74.3	-	74		
Heavy Trucks:	76.		75.1		70.6		70		77.4		77		
Vehicle Noise:	79.	5	78.5		75.1		73	.6	81.0)	81		
Centerline Distanc	e to Noise Co	ntour (in feet	;)	70 c	IDA T	65	dBA		i0 dBA	55	dBA		
			I dn:	700		05							
			NFI:		298 312		64 67	-	1,385 1,448		2,98 3,12		

Friday, April 24, 2020

	FH)	WA-RD-77-108	HIGHWA	AY N	OISE PI	REDICTI	ON MO	DEL			
Road Nar	rio: OYC (With ne: Van Buren ent: e/o Opport		se III)				Name: umber:		an South Ca	impus	
SITE	SPECIFIC IN	IPUT DATA				N	OISE N	ИODE	L INPUTS	i	
Highway Data				S	ite Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	65,868 vehicle	es					Autos.	15		
Peak Hou	Percentage:	7.73%			Me	edium Tru	icks (2 /	Axles).	: 15		
Peak I	Hour Volume:	5,092 vehicles	3		He	avy Truc	ks (3+)	Axles).	: 15		
Ve	ehicle Speed:	55 mph		1/	'ehicle l	Miss					
Near/Far La	ane Distance:	73 feet		V		icleType		Day	Evening	Night	Daily
Site Data				-	VCII		lutos:	71.19		18.0%	
					M	edium Ti		73.69		18.6%	4.64%
	rrier Height:	0.0 feet 0.0				Heavy Ti		75.69		17.8%	3.94%
Barrier Type (0-V	ist. to Barrier:	55.0 feet									
Centerline Dist.		55.0 feet		Λ	loise Sc	ource El	evation	s (in f	eet)		
Barrier Distance		0.0 feet				Auto		000			
		5.0 feet				m Truck		297			
Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet					Heav	y Truck	s: 8.	004	Grade Adju	ıstment	: 0.0
	Road Elevation: 0.0 feet Road Elevation: 0.0 feet					uivalent	Distan	ce (in	feet)		
710	Road Grade:	0.0%				Auto		446	,		
	I eft View:	-90.0 degree	es		Mediu	m Truck	s: 41.	232			
	Right View:	90.0 degree			Heav	y Truck	s: 41.	253			
FHWA Noise Mod	lel Calculation	s									
VehicleType	REMEL	Traffic Flow	Distan			Road	Fresr	_	Barrier Atte	_	m Atten
Autos:				1.12		-1.20		-4.67	0.00		0.000
Medium Trucks:				1.15		-1.20		-4.87			0.000
Heavy Trucks:				1.15		-1.20		-5.38	0.00	00	0.000
Unmitigated Nois			$\overline{}$								
VehicleType	Leq Peak Ho			eq Ev	ening		Night		Ldn	C	VEL
Autos:		5.7	74.5		72.4		69.8		77.2		77.5
Medium Trucks:			72.4		68.6		67.7		75.0		75.2
Heavy Trucks:		3.7	75.8		71.3		70.7		78.1		78.4
Vehicle Noise:			79.2		75.8		74.3	5	81.7		82.0
Centerline Distan	ce to Noise C	ontour (in feet)	70.		0.5	10.4		00 104		10.4
			Later	70 d		65	dBA 745	_	60 dBA	55	dBA
		_	Ldn: NFI :		332 347		715 748		1,541		3,321
		C	VEL:		347		748		1,612		3,472

	FH'	WA-RD-77-108	HIGH	WAY N	IOISE P	REDICT	ION MC	DEL					
Road Na	ario: OYC (With me: I-215 Fwy. ent: n/o Alessa		se III)		Project Name: Meridian South Campus Job Number: 12761								
SITE	SPECIFIC II	VPUT DATA		T		N	OISE	MODE	L INPUT	s			
Highway Data		01 5/11/1		5	Site Cor	ditions							
Average Dails	y Traffic (Adt):	105.230 vehicle	es					Autos:	15				
	ır Percentage:	7.73%			Me	dium Tri	ucks (2	Axles):	15				
Peak	Hour Volume:	8,134 vehicle	s		Heavy Trucks (3+ Axles): 15								
ν	ehicle Speed:	65 mph		,	Vehicle Mix								
Near/Far L	ane Distance:	130 feet		μ,		icleType		Dav	Evening	Night	Daily		
Site Data					Ven		Autos:	71.1%		18.0%			
					M	edium T		73.6%		18.6%			
	arrier Height:	0.0 feet 0.0				Heavy Ti		75.6%		17.8%			
Barrier Type (0-1	vvaii, 1-Berm): Dist. to Barrier:	0.0 125.0 feet								11.0%	0.017		
Centerline Disi		125.0 feet		1	Noise Source Elevations (in feet)								
Barrier Distance		0.0 feet				Auto		.000					
Observer Height		5.0 feet				m Truck		.297					
Pad Elevation: 0.0 feet					Hea	y Truck	s: 8.	.004	Grade Ad	justmen	: 0.0		
	oad Elevation:	0.0 feet		L	Lane Eq	uivalent	Distan	ce (in	feet)				
	Road Grade:	0.0%				Auto	s: 106	.888					
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 106	.805					
	Right View:	90.0 degre	es		Hea	y Truck	s: 106	.813					
FHWA Noise Mod	del Calculation	ıs											
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fresi	nel	Barrier Att	en Be	rm Atten		
Autos	74.55	5.28		-5.0	5	-1.20		-4.79	0.0	000	0.000		
Medium Trucks	84.86			-5.0	5	-1.20		-4.88	0.0	000	0.000		
Heavy Trucks	88.18	-8.38		-5.0	5	-1.20		-5.11	0.0	000	0.000		
Unmitigated Nois	se Levels (with	out Topo and	barrie	r atten	uation)								
VehicleType	Leq Peak Ho	_ , ,		Leq E		_	Night		Ldn		NEL		
Autos		3.6	72.4		70.3		67.	-	75.		75.4		
Medium Trucks		0.9	69.9		66.2		65.	_	72.	-	72.8		
Heavy Trucks		3.6	72.7		68.2		67.	-	75.0		75.3		
Vehicle Noise	2: 7	7.6	76.6		73.3		71.	8	79.	ı	79.4		
Centerline Distar	nce to Noise C	ontour (in feet)	70 c	JD A	65	dBA		60 dBA		dBA		
			Ldn:	700	1BA 507	65	1.093						
		0	NFI:		507		1,093		2,356 2,465		5,075 5,312		
		C	IVLL.		531		1,144		2,460		5,312		

Project Name: Meridian South Campus Road Name: 1215 Fwy. Road Segment: slo Cactus Av. SITE SPECIFIC INPUT DATA MOISE MODEL INPUTS	
Site Conditions (Hard = 10, Soft = 15)	
Average Daily Traffic (Adt): 113,300 vehicles Peak Hour Percentage: 7,73% Medium Trucks (2 Ades): 15 Heavy Trucks (3 Axkes): 15	
Peak Hour Percentage: 7.73% Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15	
Peak Hour Volume: Vehicle Speed: 65 mph Near/Far Lane Distance: 130 feet Site Data	
Vehicle Speed: Near/Far Lane Distance: 130 feet Vehicle Mix Vehicle Type Day Evening Nigh	
Near/Far Lane Distance: 130 feet Vehicle Mix Vehicle Type Day Evening Nigh Nigh	
Site Data	
Barrier Height: 0.0 feet Medium Trucks: 73.6% 7.7% 18.6 Heavy Trucks: 75.6% 6.7% 17.8	Daily
Barrier Trype (0-Wall, 1-Berm): 0.0 test Heavy Trucks: 75.6% 6.7% 17.8	% 91.42
Barrier Type (0-Wall, 1-Berm):	% 4.64
Centerline Dist. to Observer: 125.0 feet Autos: 0.000	% 3.94
Barrier Distance to Observer: 0.00 feet Comparison of	
Diserver Height (Above Pad): 5.0 feet Heavy Trucks: 2.291 Heavy Trucks: 8.004 Grade Adjustme Lame Equivalent Distance (in feet)	
Pad Elevation: 0.0 feet Canal Elevation: Canal Ele	
Road Elevation:	nt: 0.0
Road Grade: 0.0%	
Left View:	
Right View: 90.0 degrees Heavy Trucks: 106.813	
VehicleType	
Autos: 74.55 5.60 -5.05 -1.20 -4.79 0.000 Medium Trucks: 84.86 -7.35 -5.05 -1.20 -4.88 0.000 Heavy Trucks: 88.18 -8.06 -5.05 -1.20 -5.11 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn Autos: 73.9 72.7 70.6 68.0 75.4 Medium Trucks: 71.3 70.3 66.5 65.6 72.9	
Medium Trucks: 84.86 -7.35 -5.05 -1.20 -4.88 0.000 Heavy Trucks: 88.18 -8.06 -5.05 -1.20 -5.11 0.000 Ummitigated Noise Levels (without Tropo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn Autos: 73.9 72.7 70.6 68.0 75.4 Medium Trucks: 71.3 70.3 66.5 65.6 72.9	erm Atter
Heavy Trucks: 88.18	0.00
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn Autos: 73.9 72.7 70.6 68.0 75.4 Medium Trucks: 71.3 70.3 66.5 65.6 72.9	0.00
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn Autos: 73.9 72.7 70.6 68.0 75.4 Medium Trucks: 71.3 70.3 66.5 65.6 72.9	0.00
Autos: 73.9 72.7 70.6 68.0 75.4 Medium Trucks: 71.3 70.3 66.5 65.6 72.9	
Medium Trucks: 71.3 70.3 66.5 65.6 72.9	CNEL
	75
Heavy Trucks: 73.9 73.0 68.5 67.9 75.3	73
	75
Vehicle Noise: 77.9 76.9 73.6 72.1 79.4	79
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA	
Ldn: 533 1.149 2.474	E dDA
CNEL: 558 1,149 2,474	55 dBA
CIVEE. 330 1,202 2,390	55 dBA 5,33 5.58

		VA-RD-77-108												
	o: OYC (With:	2003 EIR Pha	se III)		Project Name: Meridian South Campus Job Number: 12761									
Road Name Road Segmen	e: I-215 Fwy.	dro BI				JOD IN	ımber:	12/61						
							OICE	MODE	LINDUT	•				
Highway Data	PECIFIC IN	PUIDAIA		5	ite Con	ditions (L INPUTS of $t = 15$	>				
Average Daily 1	Traffic (Adt): 1	11 060 vobiel	20		110 0011	uniono (riara -	Autos:						
Peak Hour I	. ,	7.73%	53		Me	dium Tru	icks (2							
	our Volume:	8.655 vehicle	s			avy Truc								
	icle Speed:	65 mph	_	L.			(
Near/Far Lan	e Distance:	130 feet		١	Vehicle Mix Vehicle Type Day Evening Night									
Site Data					VCIII		utos:	71.1%	-	18.0%	Daily 91.42			
	rier Heiaht:	0.0 feet			Me	edium Tr		73.6%		18.6%	4.649			
Barrier Type (0-Wa		0.0 reet			F	leavy Tr	ucks:	75.6%	6.7%	17.8%	3.949			
Centerline Dis	. ,	125.0 feet			laisa Sa	urce Ele	wation	e (in fo	not)					
Centerline Dist. t	o Observer:	125.0 feet		-	ioise sc	Autos		.000	et)					
Barrier Distance to	o Observer:	0.0 feet			Modiuu	m Trucks		297						
Observer Height (A	Above Pad):	5.0 feet				y Trucks		.004	Grade Ad	iustment	: 0.0			
Pa	d Elevation:	0.0 feet				•					0.0			
	d Elevation:	0.0 feet		L	ane Eq	uivalent			eet)					
R	Road Grade:	0.0%					: 106							
	Left View:	-90.0 degre				m Trucks								
	Right View:	90.0 degre	es		Heav	y Trucks	: 106	.813						
FHWA Noise Mode	l Calculations	;												
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten			
Autos:	74.55	5.55		-5.05	,	-1.20		-4.79	0.0	000	0.00			
Medium Trucks:	84.86	-7.40		-5.05	,	-1.20		-4.88	0.0	000	0.00			
Heavy Trucks:	88.18	-8.11		-5.05	,	-1.20		-5.11	0.0	000	0.00			
Unmitigated Noise	Levels (withou	out Topo and	barrie	er atteni	ıation)									
	Leq Peak Hou			Leq Ev		Leq I			Ldn		VEL			
Autos:	73	-	72.7		70.6		68.		75.3		75			
Medium Trucks:	71.	_	70.2		66.4		65.	-	72.8		73			
Heavy Trucks:	73.		72.9		68.4		67.		75.3		75.			
Vehicle Noise:	77.		76.9		73.6		72.	0	79.4	1	79.			
Centerline Distance	e to Noise Co	ntour (in feet)	70	-	05					10.4			
			Later	70 a		65 c			i0 dBA		dBA			
		0	Ldn: NFI:		529 554		1,139		2,455		5,28			
							1.193		2.569		5.53			

Friday, April 24, 2020

	FHW	/A-RD-77-108	HIGHWAY	NOISE P	REDICT	ION MOI	DEL				
	: I-215 Fwy.	2003 EIR Phas en Bl.	se III)	Project Name: Meridian South Campus Job Number: 12761							
SITE S	PECIFIC IN	PUT DATA						L INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)							
Average Daily T	raffic (Adt): 1	21,180 vehicle	es			,	Autos:	15			
Peak Hour F	Percentage:	7.73%		Me	edium Tı	ucks (2 A	(xles	15			
Peak Ho	ur Volume:	9,367 vehicles	3	He	eavy Tru	cks (3+ A	(xles	15			
Veh	icle Speed:	65 mph		Vehicle	Mix						
Near/Far Land	e Distance:	130 feet			icleType	9	Day	Evening	Night	Daily	
Site Data							71.1%	-	18.0%		
Rarr	ier Height:	0.0 feet		M	ledium 7	rucks:	73.6%	7.7%	18.6%	4.64%	
Barrier Type (0-Wa		0.0			Heavy 7	rucks:	75.6%	6.7%	17.8%	3.94%	
Centerline Dist		125.0 feet		M-1 0			. /! #-				
Centerline Dist. to	Observer:	125.0 feet		Noise S		levations	•	eet)			
Barrier Distance to	Observer:	0.0 feet		A decelle	Auto m Truck		97				
Observer Height (Above Pad): 5.0 feet					m Truck vy Truck		297 004	Grade Adju	ictmont		
Pad Elevation: 0.0 feet				пеа	vy Truck	18. 0.0	704	Grade Auju	isurierii.	0.0	
Road	d Elevation:	0.0 feet		Lane Eq	uivalen	t Distanc	e (in i	feet)			
R	oad Grade:	0.0%			Auto	s: 106.8	388				
	Left View:	-90.0 degree	es	Mediu	m Truck	s: 106.8	305				
	Right View:	90.0 degree	es	Hea	vy Truck	s: 106.8	313				
FHWA Noise Model	Calculations	;		1							
VehicleType	REMEL	Traffic Flow	Distance		Road	Fresn	_	Barrier Atte	_	m Atten	
Autos:	74.55	5.89	-	.05	-1.20		-4.79	0.00		0.000	
Medium Trucks:	84.86	-7.05	-	.05	-1.20		-4.88	0.00		0.000	
Heavy Trucks:	88.18	-7.76	-5	.05	-1.20		-5.11	0.00	00	0.000	
Unmitigated Noise											
	.eq Peak Hou			Evening		Night		Ldn	CI	VEL	
Autos: Medium Trucks:	74. 71.		73.0 70.6	70.9 66.8		68.3 65.8		75.7 73.2		76.1 73.4	
	71. 74.	-		68.8		68.2		73.2 75.6		73.4 75.9	
Heavy Trucks: Vehicle Noise:	74.		73.3 77.2	73.9		72.4		79.7		80.0	
Centerline Distance	to Noise Co	ntour (in feet)								
		,,		0 dBA	65	dBA	6	60 dBA	55	dBA	
			Ldn:	558		1,201		2,588		5,575	
		CI	NEL:	584		1,257		2,709		5,836	

	FH\	WA-RD-77-108	HIGH	łWAY	NOISE PI	REDICTI	ON MO	DEL					
Road Nan	io: OYC (With ne: Wood Rd. nt: n/o Van Bu	2003 EIR Pha	se III)		Project Name: Meridian South Campus Job Number: 12761								
SITE	SPECIFIC IN	NPUT DATA				N	OISE I	ИODE	L INPUT	s			
Highway Data					Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	14,322 vehicle	es					Autos:	15				
Peak Hour	Percentage:	7.73%			Me	dium Tru	icks (2)	Axles):	15				
Peak F	lour Volume:	1,107 vehicle	S		He	avy Truc	ks (3+)	Axles):	15				
Ve	hicle Speed:	45 mph			Vehicle i	Miss							
Near/Far La	ne Distance:	36 feet				icleType		Dav	Evening	Night	Daily		
Site Data					Veri		lutos:	71.1%		18.0%	,		
5						edium Tr		73.6%		18.6%			
	rrier Height:	0.0 feet				ealain 11 Heavv Tr		75.6%		17.8%			
Barrier Type (0-W	. ,	0.0				icavy ii	acns.	10.070	0.170	17.070	0.5470		
Centerline Di		44.0 feet			Noise So	ource Ele	evation	s (in fe	eet)				
Centerline Dist.		44.0 feet				Autos	s: 0.	000					
Barrier Distance		0.0 feet			Mediu	m Trucks	s: 2.	297					
Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet					Heav	y Trucks	s: 8.	004	Grade Ad	justmen	t: 0.0		
	ad Elevation: ad Flevation:	0.0 feet			Lane Eq	uivalant	Dietan	oo (in i	foot)				
	aa Elevation: Road Grade:	0.0 feet 0.0%			Lane Ly	Autos		460	eei)				
•	Left View:				Modiu	m Trucks		460 241					
		-90.0 degree				vy Trucks		262					
	Right View:	90.0 degree	=8		i icai	ry Trucks	s. 40.	202					
FHWA Noise Mod	el Calculation	ıs											
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresr	nel	Barrier Att	en Be	rm Atten		
Autos:	68.46	-1.79		1.3	28	-1.20		-4.61	0.0	000	0.000		
Medium Trucks:					31	-1.20		-4.87	0.0	000	0.000		
Heavy Trucks:	84.25	-15.44		1.3	31	-1.20		-5.50	0.0	000	0.000		
Unmitigated Noise	e Levels (with	out Topo and	barrie	er atte	nuation)								
VehicleType	Leq Peak Ho	ur Leq Day	′	Leq E	vening	Leq	Night		Ldn	С	NEL		
Autos:	66	3.8	65.6		63.5		60.9	9	68.2	2	68.6		
Medium Trucks:	64		63.8		60.1		59.	1	66.4	1	66.7		
Heavy Trucks:			68.0		63.5		63.0		70.4		70.6		
Vehicle Noise:	71	1.9	70.9		67.4		66.0)	73.4	1	73.7		
Centerline Distant	ce to Noise C	ontour (in feet)										
				70	dBA	65 (dBA	- 6	60 dBA	55	5 dBA		
			Ldn:		74		160		345		744		
		C	NEL:		78		167		361		777		

	FH	WA-RD-77-10	B HIGI	N YAWI	IOISE P	REDICT	ION MO	DDEL					
	e: Trautwein I		ase III)		Project Name: Meridian South Campus Job Number: 12761								
	PECIFIC IN	NPUT DATA							L INPUT	5			
Highway Data				5	Site Cor	ditions	(Hard:	= 10, Sc	oft = 15)				
Average Daily 1	raffic (Adt):	17,069 vehic	les					Autos:	15				
Peak Hour I	Percentage:	7.73%			Medium Trucks (2 Axles): 15								
Peak Ho	our Volume:	1,319 vehicle	es		Heavy Trucks (3+ Axles): 15								
Veh	icle Speed:	50 mph		1	Vehicle	Mix							
Near/Far Lar	e Distance:	72 feet		F	Ver	icleType	9	Day	Evening	Night	Daily		
Site Data							Autos:	71.1%	10.9%	18.0%	91.45%		
Bar	rier Height:	0.0 feet			M	ledium 7	rucks:	73.6%	7.7%	18.6%	4.63%		
Barrier Type (0-Wa	all, 1-Berm):	0.0				Heavy 7	rucks:	75.6%	6.7%	17.8%	3.93%		
Centerline Dis		60.0 feet		1	Voise S	ource E	levatio	ns (in f	eet)				
Centerline Dist. t		60.0 feet				Auto	os: C	0.000					
Barrier Distance t		0.0 feet			Mediu	m Truck	rs: 2	.297					
Observer Height (Above Pad): 5.0 feet Pad Flevation: 0.0 feet					Hea	vy Truck	rs: 8	3.004	Grade Adj	ustment	0.0		
	d Elevation: d Flevation:	0.0 feet		,	Lane Eq	uivalon	t Dieta	aco (in	foot)				
	a ⊑ievation: Road Grade:	0.0 reet		-	Laile Ly	Auto		3.260	ieei)				
,	Left View:	-90.0 degre	200		Madii	m Truck		3.076					
	Right View:	90.0 degre				vy Truck		3.094					
FHWA Noise Mode	l Calculation	ıs											
VehicleType	REMEL	Traffic Flow	_	stance	Finite	Road	Fres	inel	Barrier Atte	en Ber	m Atten		
Autos:	70.20		-	0.13		-1.20		-4.69	0.0		0.00		
Medium Trucks:	81.00			0.15	-	-1.20		-4.88		00	0.00		
Heavy Trucks:	85.38			0.18		-1.20		-5.34	0.0	100	0.00		
Unmitigated Noise	•		_				Alledot	1	Late				
VehicleType Autos:	Leq Peak Ho	ur Leq Da 7.7	66.5	Leq E	ening 64.4		Night 61	0	Ldn 69.1		NEL 69.		
Medium Trucks:		5.5	64.5		60.7		59		67.1		67		
Heavy Trucks:		9.2	68.3		63.8		63		70.6		70.		
Vehicle Noise:		2.5	71.5		68.0		66	-	74.0		74.		
Centerline Distance	e to Noise C	ontour (in fee	t)										
				70 c	1BA	65	dBA	(60 dBA	55	dBA		
			Ldn:		110		23	8	512		1,103		
		_	NFI:		115		24	0	535		1.153		

	01/0 //4/	0000 FIB F:	1177						0 11 -		
	o: OYC (With	2003 EIR Pha	se III)						an South C	ampus	
	e: Wood Rd.	DI				JOB N	lumber:	12/61			
Road Segmen	t: s/o van Bur	en Bi.									
	PECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Con	ditions	(Hard =	= 10, Sc	oft = 15)		
Average Daily	Fraffic (Adt):	19,492 vehicl	es					Autos:			
Peak Hour	Percentage:	7.73%			Me	dium Tr	ucks (2	Axles):	15		
Peak H	our Volume:	1,507 vehicle	s		He	avy Tru	cks (3+	Axles):	15		
Vel	nicle Speed:	40 mph		1	/ehicle l	Wix					
Near/Far Lar	e Distance:	36 feet		F	Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	71.1%	10.9%	18.0%	91.429
Rar	rier Heiaht:	0.0 feet			М	edium T	rucks:	73.6%	7.7%	18.6%	4.649
Barrier Type (0-Wa		0.0			1	Heavy T	rucks:	75.6%	6.7%	17.8%	3.949
Centerline Dis	t. to Barrier:	44.0 feet		,	Voise So	urce Fl	ovation	ne (in f	not)		
Centerline Dist.	o Observer:	44.0 feet		F.	10,00 00	Auto		.000	,,,,		
Barrier Distance t	o Observer:	0.0 feet			Modiu	m Truck		.000			
Observer Height (Above Pad):	5.0 feet				v Truck		.004	Grade Ad	iustment	: 0.0
Pa	d Elevation:	0.0 feet				,					0.0
Roa	d Elevation:	0.0 feet		ı	.ane Eq	uivalent	Distar	ice (in	feet)		
F	Road Grade:	0.0%				Auto.	s: 40	.460			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 40	.241			
	Right View:	90.0 degre	es		Heav	y Truck	s: 40	.262			
FHWA Noise Mode	I Calculation:	3									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	66.51	0.07		1.28	3	-1.20		-4.61	0.0	000	0.00
Medium Trucks:	77.72	-12.88		1.3	1	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	82.99	-13.59		1.3	1	-1.20		-5.50	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barri	er atten	uation)						
VehicleType	Leq Peak Hou	r Leq Day	<i>y</i>	Leq E	ening/	Leq	Night		Ldn	CI	VEL
Autos:	66	.7	65.5		63.4		60.	.8	68.1	l	68
Medium Trucks:	64	.9	63.9		60.2		59.	.2	66.5	5	66
Heavy Trucks:	69	.5	68.6		64.1		63.	.6	71.0)	71
Vehicle Noise:	72	.2	71.2		67.6		66.	.3	73.7	7	74
Centerline Distanc	e to Noise Co	ntour (in feet	<u>;)</u>								
			I	70 c	IBA	65	dBA	(60 dBA	55	dBA
			Ldn:		78		16	В	361		778
			NFI:								

Friday, April 24, 2020

	FHW	A-RD-77-108 H	IIGHWA`	Y NOISE PI	REDICT	ION MOI	DEL			
Road Nan	rio: OYC (With 2 ne: Trautwein R nt: s/o Canyon	d.	III)			Name: N lumber: 1		n South Ca	ampus	
	SPECIFIC IN	PUT DATA						L INPUTS	5	
Highway Data				Site Con	ditions	(Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	1,404 vehicles				,	Autos:	15		
Peak Hour	Percentage:	7.73%		Me	edium Tr	ucks (2 A	xles):	15		
Peak F	lour Volume:	109 vehicles		He	avy Tru	cks (3+ A	xles):	15		
Ve	ehicle Speed:	50 mph		Vehicle	Miv					
Near/Far La	ne Distance:	72 feet			icleType		Dav	Evening	Night	Dailv
Site Data							71.1%		18.0%	91.86%
Ra	rrier Heiaht:	0.0 feet		М	edium T	rucks:	73.6%	7.7%	18.6%	4.40%
Barrier Type (0-W		0.0			Heavy T	rucks:	75.6%	6.7%	17.8%	3.74%
	ist, to Barrier:	60.0 feet						-1		
Centerline Dist.	to Observer:	60.0 feet		Noise So			•	et)		
Barrier Distance	to Observer:	0.0 feet			Auto		000			
Observer Height	(Above Pad):	5.0 feet			m Truck		297			
	ad Flevation:	0.0 feet		Hear	y Truck	s: 8.0	004	Grade Adji	ustment.	0.0
Ro	ad Elevation:	0.0 feet		Lane Eq	uivalent	Distanc	e (in f	eet)		
	Road Grade:	0.0%			Auto.	s: 48.2	260			
	Left View:	-90.0 degrees		Mediu	m Truck	s: 48.0	076			
	Right View:	90.0 degrees		Hear	y Truck	s: 48.0	94			
FHWA Noise Mod	el Calculations			1						
VehicleType	REMEL	Traffic Flow	Distance		Road	Fresn	_	Barrier Atte	_	m Atten
Autos:		-12.31		0.13	-1.20		-4.69	0.0		0.000
Medium Trucks:		-25.50		0.15	-1.20		-4.88	0.0		0.000
Heavy Trucks:	85.38	-26.21	(0.15	-1.20		-5.34	0.0	00	0.000
Unmitigated Nois	•		arrier att	tenuation)						
VehicleType	Leq Peak Hour			Evening		Night		Ldn	-	VEL
Autos:			5.7	53.6		50.9		58.3		58.7
Medium Trucks:			3.4	49.7		48.7		56.0		56.3
Heavy Trucks:			7.2	52.7		52.2		59.6		59.8
Vehicle Noise:	61.	5 60	0.5	57.0		55.6		63.0		63.3
Centerline Distan	ce to Noise Co	ntour (in feet)								
				70 dBA	65	dBA	6	0 dBA	55	dBA
			dn:	20		44				204
		CNI	EL:	21		46		99		214

	FHW	A-RD-77-108	HIGH	HWAY	NOISE P	REDICT	ION MC	DEL						
Scenario: OYC Road Name: Traut Road Segment: s/o Al	vein Ro	i.	se III)				Name: lumber:		an South C	ampus				
SITE SPECIF	IC INF	UT DATA				N	IOISE	MODE	L INPUT	S				
Highway Data					Site Conditions (Hard = 10, Soft = 15)									
Average Daily Traffic (A	dt): 4	4,436 vehicle	es					Autos:	15					
Peak Hour Percenta	ige:	7.73%			Me	edium Tr	ucks (2	Axles):	15					
Peak Hour Volu	me: 3	3,435 vehicle	s		He	eavy Tru	cks (3+	Axles):	15					
Vehicle Spe	ed:	50 mph			Vehicle	Mix								
Near/Far Lane Dista	ice:	48 feet				icleType	,	Day	Evening	Night	Daily			
Site Data							Autos:	71.1%	10.9%	18.0%	91.44%			
Barrier Hei	tht.	0.0 feet			M	edium T	rucks:	73.6%	7.7%	18.6%	4.63%			
Barrier Type (0-Wall, 1-Be	,	0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.93%			
Centerline Dist. to Bar	rier:	55.0 feet			Noise S	ource El	evation	s (in f	eet)					
Centerline Dist. to Obser		55.0 feet				Auto		.000	,					
Barrier Distance to Obser	ver:	0.0 feet			Mediu	m Truck		297						
Observer Height (Above P		5.0 feet			Hea	vy Truck	s: 8	.004	Grade Ad	justmen	t: 0.0			
Pad Eleva		0.0 feet												
Road Eleva		0.0 feet			Lane Eq				feet)					
Road Gra		0.0%				Auto		.739						
Left V		-90.0 degree				m Truck		.561						
Right V	ew:	90.0 degree	es		Hea	vy Truck	s: 49	.578						
FHWA Noise Model Calcul	ations													
VehicleType REMI	L	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten			
	70.20	2.68		-0.0	07	-1.20		-4.67	0.0	000	0.000			
Medium Trucks:	31.00	-10.28		-0.0	05	-1.20		-4.87	0.0	000	0.000			
Heavy Trucks:	35.38	-10.99		-0.0	05	-1.20		-5.38	0.0	000	0.000			
Unmitigated Noise Levels	(withou	ut Topo and	barri	er atte	nuation)									
VehicleType Leq Pea				Leg E	vening	Leq	Night		Ldn		NEL			
Autos:	71.6		70.5		68.3		65.		73.		73.5			
Medium Trucks:	69.5		68.5		64.7		63.	-	71.		71.3			
Heavy Trucks: Vehicle Noise:	73.1		72.2 75.4		67.7 72.0		67. 70.		74.0 77.9	-	74.8 78.2			
					72.0		70.		77.		70.2			
Centerline Distance to No.	se Con	tour (in feet	1	70	dBA	65	dBA		60 dBA	55	dBA			
			Ldn:		186		400)	862		1,857			
		C	NEL:		194		41	3	901		1,941			

Friday, April 24, 2	020
---------------------	-----

FHWA-RD-77-108	HIGHWAY	/ NOISE P	REDICT	ION MOI	DEL			
Scenario: OYC (With 2003 EIR Pha Road Name: Trautwein Rd. Road Segment: s/o Orange Terrace Pkwy				t Name: N Number: 1		South Ca	ampus	
SITE SPECIFIC INPUT DATA						INPUTS	5	
Highway Data		Site Cor	nditions	(Hard =	10, Soft	t = 15)		
Average Daily Traffic (Adt): 30,989 vehicle Peak Hour Percentage: 7.73% Peak Hour Volume: 2,395 vehicle				rucks (2 A rucks (3+ A	,	15 15 15		
Vehicle Speed: 50 mph		Vehicle	Miv					
Near/Far Lane Distance: 48 feet			nicleType	9	Dav I	Evening	Night	Daily
Site Data					71.1%	10.9%	18.0%	
Barrier Height: 0.0 feet		N	1edium 7	rucks:	73.6%	7.7%	18.6%	4.62%
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy 7	rucks:	75.6%	6.7%	17.8%	3.92%
Centerline Dist. to Barrier: 55.0 feet		Noise S	ource F	levations	(in foo	ıt)		
Centerline Dist. to Observer: 55.0 feet		110/30 0	Auto		•			
Barrier Distance to Observer: 0.0 feet		Madii	ım Truck					
Observer Height (Above Pad): 5.0 feet			vy Truck			Grade Adji	ustment	0.0
Pad Elevation: 0.0 feet								
Road Elevation: 0.0 feet		Lane Eq	uivalen	t Distanc		et)		
Road Grade: 0.0%			Auto					
Left View: -90.0 degree	es		ım Truck					
Right View: 90.0 degree	es	Hea	vy Truck	ks: 49.5	578			
FHWA Noise Model Calculations		-						
VehicleType REMEL Traffic Flow	Distance	e Finite	Road	Fresn	el B	arrier Atte	en Ber	m Atten
Autos: 70.20 1.11	-(0.07	-1.20		-4.67	0.0	00	0.000
Medium Trucks: 81.00 -11.85	-(0.05	-1.20		-4.87	0.0	00	0.000
Heavy Trucks: 85.38 -12.57	-(0.05	-1.20		-5.38	0.0	00	0.000
Unmitigated Noise Levels (without Topo and	barrier att	enuation)						
VehicleType Leq Peak Hour Leq Day		Evening		Night	L	Ldn		VEL
	68.9	66.8		64.2		71.5		71.9
	66.9	63.1		62.2		69.5		69.8
Heavy Trucks: 71.6	70.7	66.2		65.6		73.0		73.3
Vehicle Noise: 74.9	73.9	70.4	ļ	69.0		76.4		76.6
Centerline Distance to Noise Contour (in feet								
		'0 dBA	65	dBA	60	dBA	55	dBA
	Ldn:	146		314		677		1,459
С	NEL:	153		329		708		1,525

		0000 FID F:	1112						0 11 -	_	_
	io: OYC (With		se III)						n South C	ampus	
	ne: Trautwein F nt: n/o Orange					JOD IN	lumber:	12/61			
				-							
Highway Data	SPECIFIC IN	PUIDAIA			Site Con				L INPUT	>	
Average Daily	Troffic (Adt):	44.062 vehicle	00					Autos:	15		
	Percentage:	7.73%	20		Me	edium Tr	ucks (2		15		
	lour Volume:	3.406 vehicles				avy Tru	,		15		
	hicle Speed:	50 mph		L			(
	ne Distance:	48 feet		L	Vehicle I						
	no Biotanoo.	40 1001			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	71.1%			91.449
Bai	rrier Height:	0.0 feet				edium T		73.6%		18.6%	
Barrier Type (0-W	/all, 1-Berm):	0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.939
Centerline Dis	st. to Barrier:	55.0 feet		1	Noise So	ource El	levatio	ns (in fe	et)		
Centerline Dist.	to Observer:	55.0 feet		F		Auto		.000	,		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height ((Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	iustment	. 0 0
Pa	ad Elevation:	0.0 feet				•					0.0
Roa	ad Elevation:	0.0 feet		1	Lane Eq	uivalen	t Distar	nce (in f	eet)		
	Road Grade:	0.0%				Auto	s: 49	.739			
	Left View:	-90.0 degree	es			m Truck		9.561			
	Right View:	90.0 degree	es		Hear	y Truck	s: 49	9.578			
FHWA Noise Mode	el Calculations	S		-							
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	70.20	2.64		-0.0	7	-1.20		-4.67	0.0	000	0.00
Medium Trucks:	81.00	-10.32		-0.0	5	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	85.38	-11.03		-0.0	5	-1.20		-5.38	0.0	000	0.00
Unmitigated Noise			barrie	er atten	uation)						
VehicleType	Leq Peak Hou			Leq E	vening	_	Night		Ldn		VEL
Autos:	71		70.4		68.3		65		73.1		73
Medium Trucks:	69		68.4		64.7		63		71.0		71.
Heavy Trucks:	73		72.2		67.7		67		74.6		74
Vehicle Noise:	76	.4	75.4		71.9		70	.5	77.9)	78
Centerline Distand	ce to Noise Co	ntour (in feet))	-	10.4						10.4
			L	70 (dBA	65	dBA		i0 dBA		dBA
			Ldn:		185		39	8	857		1,84
		-	NFI:		193		41		896		1.930

	FHV	VA-RD-77-108	HIGH	NAY N	OISE PI	REDICT	ION M	ODEL						
Road Na	ario: OYC (With me: Barton St. ent: n/o Van Bu		e III)		Project Name: Meridian South Campus Job Number: 12761									
	SPECIFIC IN	IPUT DATA							L INPUT	s				
Peak Hou	y Traffic (Adt): ur Percentage: Hour Volume:	6,132 vehicle 7.73% 474 vehicles		3	Ме	edium Tr eavy Tru	ucks (2	Autos Axles)	15					
	ehicle Speed: ane Distance:	40 mph 36 feet		ı	ehicle	Mix icleType	. 1	Day	Evening	Night	Dailv			
Site Data					ven		Autos:	71.19	-	18.0%	. ,			
	arrier Height: Wall, 1-Berm):	0.0 feet 0.0				edium 7 Heavy 7	rucks:	73.69 75.69	6 7.7%	18.6% 17.8%	4.63%			
Centerline L	Dist. to Barrier:	44.0 feet		٨	Noise Source Elevations (in feet)									
Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment:						t: 0.0			
	Pad Elevation:	0.0 feet		<u> </u>										
R	oad Elevation: Road Grade: Left View: Right View:	0.0 feet 0.0% -90.0 degree 90.0 degree		L		Auto M Truck yy Truck	os: 40	0.460 0.241 0.262	reet)					
FHWA Noise Mo	del Calculation	s												
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fres	snel	Barrier Att	en Be	rm Atten			
Autos	66.51	-4.96		1.28	3	-1.20		-4.61	0.0	000	0.000			
Medium Trucks	3: 77.72	-17.92		1.31		-1.20		-4.87	0.0	000	0.000			
Heavy Trucks	82.99	-18.63		1.31		-1.20		-5.50	0.0	000	0.000			
Unmitigated Noi			-		_									
VehicleType	Leq Peak Hou			Leq Ev			Night		Ldn		NEL			
Autos			60.5		58.4		55		63.1		63.5			
Medium Trucks			58.9		55.1		54		61.5		61.8			
Heavy Trucks Vehicle Noise			63.6 66.2		59.1 62.6		58 61		65.9 68.7		66.2 69.0			
Centerline Dista	nce to Noise Co	ntour (in feet)	1											
		(111 1001)		70 a	IBA .	65	dBA		60 dBA	55	dBA			
			Ldn:		36		7	7	167		360			
		CI	VEL:		38		8	1	174		375			

	HWA	-RD-77-108	HIGH	HWAY	NOISE P	REDICT	ION MO	DDEL						
Scenario: OYC (W Road Name: Barton S Road Segment: s/o Van	št.		se III)		Project Name: Meridian South Campus Job Number: 12761									
SITE SPECIFIC	INP	JT DATA				N	IOISE	MODE	L INPUT	S				
Highway Data					Site Conditions (Hard = 10, Soft = 15)									
Average Daily Traffic (Adt): 18	3,270 vehicle	es					Autos.	15					
Peak Hour Percentage	: 7	7.73%			Me	edium Tri	ucks (2	Axles).	15					
Peak Hour Volume	: 1,	412 vehicles	S		He	eavy Truc	cks (3+	Axles).	15					
Vehicle Speed	l:	40 mph		ł	Vehicle	Miv								
Near/Far Lane Distance	e:	36 feet		1		icleType	,	Dav	Evening	Night	Daily			
Site Data							Autos:	71.19		18.0%	91.43%			
Barrier Heigh		0.0 feet			М	edium T	rucks:	73.6%	6 7.7%	18.6%	4.63%			
Barrier Type (0-Wall, 1-Berm		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.93%			
Centerline Dist. to Barrie		44.0 feet		-	Noise S	ourco El	lovatio	ne (in f	oot)					
Centerline Dist. to Observe	r:	44.0 feet		-	NOISE 3	Auto		0.000	eet)					
Barrier Distance to Observe	r:	0.0 feet			Modiu	m Truck		297						
Observer Height (Above Pad): 5.0 feet						vy Truck		.297	Grade Ad	livetman	- 0.0			
Pad Elevation)."	0.0 feet			пеа	vy Truck	S. C	0.004	Orauc Au	justinom	. 0.0			
Road Elevation).	0.0 feet			Lane Eq	uivalent	Distar	nce (in	feet)					
Road Grad	e: (0.0%				Auto	s: 40	0.460						
Left View	<i>r:</i> -	90.0 degree	es		Mediu	m Truck	s: 40).241						
Right View	<i>/:</i>	90.0 degree	es		Hear	vy Truck	s: 40	0.262						
FHWA Noise Model Calculat	ons													
VehicleType REMEL	T	raffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	en Bei	rm Atten			
Autos: 66	51	-0.22		1.2	28	-1.20		-4.61	0.0	000	0.000			
Medium Trucks: 77	. –	-13.17		1.3		-1.20		-4.87		000	0.000			
Heavy Trucks: 82	99	-13.88		1.3	31	-1.20		-5.50	0.0	000	0.000			
Unmitigated Noise Levels (w	ithou	t Topo and	barri	er attei	nuation)									
VehicleType Leq Peak		Leq Day		Leq E	vening		Night		Ldn		NEL			
Autos:	66.4		65.2		63.1		60		67.9		68.2			
Medium Trucks:	64.7		63.7		59.9		58		66.	-	66.			
Heavy Trucks: Vehicle Noise:	69.2 71.9		71.0		63.8 67.3		63 66		70.7		70.9			
					07.3		00	. 1	73.	*	13.			
Centerline Distance to Noise	Cont	our (in feet))	70	dBA	65	dBA	1 .	60 dBA	55	dBA			
			Ldn:		75		16	_	346		745			
	CNEL:						78 168 361				778			

Friday, April 24, 2	020
---------------------	-----

	FHW	A-RD-77-108 HIG	HWAY N	OISE P	REDICT	ION MOI	EL			
Scenario: (Road Name: E Road Segment: s	Barton St.	003 EIR Phase III Av.)			t Name: N Number: 1		n South Ca	ampus	
SITE SPE	CIFIC INP	UT DATA			1	NOISE N	ODEL	INPUTS	;	
Highway Data			S	ite Cor	ditions	(Hard =	10, Soi	ft = 15)		
Average Daily Trai Peak Hour Per Peak Hour	centage:	6,636 vehicles 7.73% ,286 vehicles				rucks (2 A rucks (3+ A	/	15 15 15		
Vehicle	e Speed:	40 mph	v	ehicle	Mix					
Near/Far Lane L	Distance:	36 feet	F.		icleType	9 1	Dav	Evening	Night	Daily
Site Data							71.1%	10.9%	18.0%	
Rarrio	Height:	0.0 feet		N	ledium 7	rucks:	73.6%	7.7%	18.6%	4.63%
Barrier Type (0-Wall,	-	0.0			Heavy 7	rucks:	75.6%	6.7%	17.8%	3.93%
Centerline Dist. to	Barrier:	44.0 feet	٨	loise S	nurce F	levations	(in fe	of)		
Centerline Dist. to C	Observer:	44.0 feet	F	.0.00	Auto		•	,		
Barrier Distance to C	Observer:	0.0 feet		Madii	m Truck					
Observer Height (Abo	ve Pad):	5.0 feet			vy Truck			Grade Adju	ıstment	. 0 0
Pad E	levation:	0.0 feet								
Road E	levation:	0.0 feet	L	ane Eq	uivalen	t Distanc		eet)		
Roa	d Grade:	0.0%			Auto					
_	eft View:	-90.0 degrees			m Truck					
Ri	ght View:	90.0 degrees		Hea	vy Truck	s: 40.2	62			
FHWA Noise Model C	alculations									
VehicleType F	REMEL	Traffic Flow D	istance		Road	Fresn	el E	Barrier Atte	en Ber	m Atten
Autos:	66.51	-0.62	1.28		-1.20		4.61	0.0		0.00
Medium Trucks:	77.72	-13.58	1.31		-1.20		4.87	0.0		0.000
Heavy Trucks:	82.99	-14.29	1.31		-1.20		5.50	0.0	00	0.000
Unmitigated Noise Le			ier attenu	ıation)						
.,	g Peak Hour		Leg Ev			Night		Ldn		NEL
Autos:	66.0			62.7		60.1		67.5		67.8
Medium Trucks:	64.3			59.5		58.5		65.8		66.
Heavy Trucks:	68.8			63.4		62.9		70.3		70.
Vehicle Noise:	71.5	70.5		66.9		65.7		73.0		73.3
Centerline Distance to	Noise Con	tour (in feet)	700							10.4
		!	70 d		65	dBA	60) dBA	55	dBA
		Ldn:		70		151		325		700
		CNEL:		73		157		339		731

F	HWA-F	RD-77-108	HIGHW	/AY N	DISE PE	REDICTI	ON MC	DEL					
Scenario: OYC (W Road Name: Barton S Road Segment: n/o Kran	t.		e III)	Project Name: Meridian South Campus Job Number: 12761									
SITE SPECIFIC	INPU	T DATA							L INPUT	S			
Highway Data				S	ite Con	ditions	(Hard =	10, Sc	oft = 15)				
Average Daily Traffic (Adt)	: 15,7	754 vehicle	s					Autos:	15				
Peak Hour Percentage	: 7.7	73%			Me	dium Tru	ıcks (2	Axles):	15				
Peak Hour Volume	: 1,21	18 vehicles			He	avy Truc	cks (3+	Axles):	15				
Vehicle Speed	: 4	40 mph		ν	ehicle l	Mix							
Near/Far Lane Distance	: 3	36 feet		Ė	Veh	icleType		Day	Evening	Night	Daily		
Site Data						- /	Autos:	71.1%	10.9%	18.0%	91.43		
Barrier Height		0.0 feet			Me	edium Ti	rucks:	73.6%	7.7%	18.6%	4.639		
Barrier Type (0-Wall, 1-Berm)	-	0.0			F	leavy Ti	rucks:	75.6%	6.7%	17.8%	3.93		
Centerline Dist. to Barrier		4.0 feet		Ν	oise Sc	urce El	evation	s (in fe	eet)				
Centerline Dist. to Observer	: 4	4.0 feet				Auto		000	,				
Barrier Distance to Observer	. (0.0 feet			Mediuu	m Truck:		297					
Observer Height (Above Pad)	: :	5.0 feet				y Truck		004	Grade Ad	liustment	: 0.0		
Pad Elevation	: (0.0 feet				•				,			
Road Elevation		0.0 feet		L	ane Eq	uivalent			feet)				
Road Grade	: 0.0	0%				Auto		.460					
Left View		0.0 degree				m Truck		.241					
Right View	: 9	0.0 degree	:S		Heav	y Truck	s: 40	.262					
FHWA Noise Model Calculati	_												
VehicleType REMEL	_	ffic Flow	Dista		Finite		Fresi		Barrier Att		m Atter		
Autos: 66.		-0.86		1.28		-1.20		-4.61		000	0.00		
Medium Trucks: 77.	-	-13.81		1.31		-1.20		-4.87		000	0.00		
Heavy Trucks: 82.		-14.52		1.31		-1.20		-5.50	0.0	000	0.00		
Unmitigated Noise Levels (w								1		_			
VehicleType Leq Peak F	65.7	Leq Day	64.6	.eq Ev	ening 62.5	Leq	Night		Ldn		NEL		
	00.7				59.2		59. 58.		67.		67		
Autos:	040							65.6		D	65		
Medium Trucks:	64.0				62.0		60		70	n	70		
	64.0 68.6 71.3		67.7 70.3		63.2 66.7		62. 65.		70.0 72.0		70 73		
Medium Trucks: Heavy Trucks: Vehicle Noise:	68.6 71.3		67.7 70.3										
Medium Trucks: Heavy Trucks:	68.6 71.3		67.7 70.3	70 d	66.7	65		4		В			
Medium Trucks: Heavy Trucks: Vehicle Noise:	68.6 71.3	ur (in feet)	67.7 70.3	70 d	66.7	65	65.	4	72.	55	73		

Friday, April 24, 2020

	FHW	/A-RD-77-108	HIGHWA	Y N	OISE PI	REDICT	ION MO	DEL			
Road Nan	rio: OYC (With 2 ne: Barton St. ent: s/o Lurin Av		se III)				t Name: lumber:		an South C	ampus	
SITE	SPECIFIC IN	PUT DATA							L INPUTS	5	
Highway Data				S	ite Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	15,198 vehicle	es					Autos	: 15		
Peak Hour	Percentage:	7.73%			Me	dium Tr	ucks (2)	Axles)	: 15		
Peak H	lour Volume:	1,175 vehicles	S		He	avy Tru	cks (3+)	Axles)	: 15		
Ve	ehicle Speed:	40 mph			ehicle l	Miv					
Near/Far La	ne Distance:	36 feet		-		icleType		Dav	Evening	Night	Daily
Site Data				+	****		Autos:	71.19	-	18.0%	
	rrier Height:	0.0 feet		-	М	edium T	rucks:	73.69		18.6%	-
Barrier Type (0-W		0.0 feet				Heavy T		75.69		17.8%	
	ist. to Barrier:	44.0 feet		L							
Centerline Dist.		44.0 feet		٨	loise Sc		levation		eet)		
Barrier Distance		0.0 feet				Auto	s: 0.	000			
		5.0 feet			Mediu	m Truck	rs: 2.	297			
Observer Height	(Above Pad): ad Elevation:	0.0 feet			Heav	y Truck	rs: 8.	004	Grade Adj	ustmen	t: 0.0
	ad Elevation: ad Flevation:	0.0 feet		,	ano Fa	uivələn	t Distan	co (in	foot)		
	Road Grade:	0.0%		-	ane Ly	Auto		460	reet)		
	I eft View:	-90.0 degree			Modiu	m Truck		241			
	Right View:	90.0 degree				vy Truck		262			
	Rigiti view.	90.0 degree	25		ricat	ry Truck	13. 40.	202			
FHWA Noise Mod	el Calculations										
VehicleType	REMEL	Traffic Flow	Distan	ce	Finite	Road	Fresi	nel	Barrier Atte	en Be	rm Atten
Autos:		-1.02		1.28		-1.20		-4.61	0.0		0.000
Medium Trucks:	77.72	-13.97		1.31		-1.20		-4.87	0.0	100	0.000
Heavy Trucks:	82.99	-14.68		1.31		-1.20		-5.50	0.0	00	0.000
Unmitigated Noise	e Levels (witho	out Topo and	barrier a	ttenı	ıation)						
VehicleType	Leq Peak Hou			q Ev	ening	Leq	Night		Ldn		NEL
Autos:			64.4		62.3		59.7		67.1		67.4
Medium Trucks:		-	62.9		59.1		58.	-	65.5		65.7
Heavy Trucks:			67.5		63.0		62.		69.9		70.1
Vehicle Noise:	71.	1	70.2		66.5		65.3	3	72.6	i	72.9
Centerline Distant	ce to Noise Co	ntour (in feet)								
				70 d		65	dBA		60 dBA	55	i dBA
			Ldn:		66		142		306		659
		C	NEL:		69 148 319				688		

	FHV	VA-RD-77-108	HIG	HWAY	NOISE P	REDICTI	ON MO	DDEL					
Road Nan	rio: OYC (With ne: Coyote Bus ent: n/o Van Bu	h Rd.	se III)		Project Name: Meridian South Campus Job Number: 12761								
	SPECIFIC IN	PUT DATA							L INPUT	s			
Highway Data					Site Cor	ditions	(Hard =	= 10, Sc	oft = 15)				
Average Daily	Traffic (Adt):	2,531 vehicle	es					Autos:	15				
Peak Hour	Percentage:	7.73%			Me	edium Tru	ucks (2	Axles):	15				
Peak F	lour Volume:	196 vehicle	s		He	eavy Truc	cks (3+	Axles):	15				
Ve	ehicle Speed:	25 mph			Vehicle	Mix							
Near/Far La	ane Distance:	12 feet				icleType		Day	Evening	Night	Daily		
Site Data						- /	Autos:	71.1%	10.9%	18.0%	91.48%		
Ra	rrier Height:	0.0 feet			M	edium Ti	rucks:	73.6%	7.7%	18.6%	4.61%		
Barrier Type (0-V	Vall, 1-Berm):	0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.91%		
	ist. to Barrier:	33.0 feet			Noise S	ource El	evatio	ns (in f	eet)				
Centerline Dist.		33.0 feet				Autos	s: 0	.000					
Barrier Distance		0.0 feet			Mediu	m Truck	s: 2	.297					
	Observer Height (Above Pad): 5.0 feet					vy Trucks	s: 8	.004	Grade Ad	justmeni	t: 0.0		
	ad Elevation:	0.0 feet											
	ad Elevation:	0.0 feet			Lane Eq				teet)				
	Road Grade:	0.0%				Autos		2.833					
	Left View:	-90.0 degre				m Truck		2.562					
	Right View:	90.0 degre	es		Hea	vy Truck:	s: 32	2.589					
FHWA Noise Mod													
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att	_	rm Atten		
Autos:	00.70	-6.76		2.0		-1.20		-4.52		000	0.000		
Medium Trucks:		-19.74		2.0		-1.20		-4.86		000	0.000		
Heavy Trucks:		-20.45		2.0		-1.20		-5.69	0.0	000	0.000		
Unmitigated Nois	•							1		_			
VehicleType	Leq Peak Hou			Leq E	vening		Night	<u></u>	Ldn		NEL		
Autos:			52.3		50.2		47		54.9		55.3		
Medium Trucks:			51.5 58.1		47.8 53.6		46 53	-	54. 60.		54.4 60.7		
Heavy Trucks: Vehicle Noise:			59.8		55.9		53		62.	-	62.5		
Centerline Distan	ce to Noise Co	ntour (in feet)										
				70	dBA	65	dBA	-	60 dBA	55	dBA		
			Ldn:		10		2	2	47		101		
		С	NEL:		10		2	3	49	1	105		

Friday, April 24, 2	020
---------------------	-----

	FHV	VA-RD-77-108	HIGHWA	AY NOISE F	REDIC	TION MOD	EL			
	e: Village We		se III)			t Name: M Number: 12		South Ca	ampus	
SITE S	SPECIFIC IN	IPUT DATA				NOISE M	ODEL I	NPUTS	;	
Highway Data				Site Co	nditions	(Hard = 1	0, Soft:	= 15)		
	Traffic (Adt): Percentage: our Volume:	21,775 vehicle 7.73% 1,683 vehicles				A rucks (2 A) icks (3+ A)		15 15 15		
Vel	hicle Speed:	40 mph		Vehicle	Miv					
Near/Far Lar	ne Distance:	44 feet			hicleTyp	е Г	av E	vening	Night	Daily
Site Data				-			1.1%	10.9%		83.49%
Par	rier Heiaht:	0.0 feet		/	/ledium	Trucks: 7	3.6%	7.7%	18.6%	5.58%
Barrier Type (0-W		0.0			Heavy	Trucks: 7	5.6%	6.7%	17.8%	10.93%
Centerline Dis	st. to Barrier:	56.0 feet		Noise S	ource E	levations	(in feet)		
Centerline Dist.	to Observer:	56.0 feet			Aut					
Barrier Distance		0.0 feet		Medi	ım Truc	ks: 2.29	97			
Observer Height (5.0 feet		Hea	vy Truc	ks: 8.00)4 Gi	rade Adju	ustment:	0.0
	ad Elevation: ad Elevation:	0.0 feet 0.0 feet		Lano E	nuivalor	nt Distance	(in foo	<i>t</i>)		
	Road Grade:	0.0 reet 0.0%		Lane L	Aut		•	i)		
,	Left View:	-90.0 degree		Madi	ım Truc					
	Right View:	90.0 degree			vy Truc					
FHWA Noise Mode	el Calculation	s								
VehicleType	REMEL	Traffic Flow	Distan	ce Finit	e Road	Fresne	l Ba	rrier Atte	en Berm	Atten
Autos:	66.51	0.15		-0.33	-1.20	-	4.67	0.0	00	0.000
Medium Trucks:	77.72	-11.60		-0.30	-1.20	-	4.87	0.0	00	0.000
Heavy Trucks:	82.99	-8.68		-0.31	-1.20	-	5.37	0.0	00	0.000
Unmitigated Noise										
.,	Leq Peak Hou			q Evening		Night	Lo		CNI	
Autos:	65		64.0	61.	-	59.3		66.6		67.0
Medium Trucks:	64		63.6	59.		58.9		66.2		66.5
Heavy Trucks:	72		71.9	67.		66.9		74.3		74.5
Vehicle Noise:	74		73.1	69.)	68.1		75.5		75.8
Centerline Distanc	e to Noise Co	ontour (in feet)		70 /04	0.0			15.4		
				70 dBA		dBA	60 0		55 d	
			Ldn: VFI :	130		281		605 629		1,304
		CI	VEL:	136	'	292		629		1,356

Scenar	io: OYC (With 2	003 FIR Phas	se III)			Project	Name:	Meridia	n South C	amnus	
	e: Orange Terr		se III)				umber:		iii Soutii C	ampus	
Road Segme	nt: n/o Van Bure	en Bl.									
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Con	ditions	(Hard =	= 10, So	oft = 15)		
Average Daily	Traffic (Adt):	9,772 vehicle	es					Autos:	15		
Peak Hour	Percentage:	7.73%			Me	dium Tru	icks (2	Axles):	15		
Peak H	lour Volume:	755 vehicles	3		He	avy Truc	ks (3+	Axles):	15		
Ve	hicle Speed:	45 mph		,	Vehicle I	Wix					
Near/Far La	ne Distance:	48 feet		F					Night	Daily	
Site Data							lutos:	71.1%	10.9%	18.0%	91.449
Rai	rrier Heiaht:	0.0 feet			Medium Trucks: 73.6% 7.7% 18.						4.639
Barrier Type (0-W		0.0			1	Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.939
Centerline Di	st. to Barrier:	55.0 feet		-	Noise So	urce Fl	ovation	ne (in fa	of)		
Centerline Dist.	to Observer:	55.0 feet		H.	10/30 00	Autos		.000	icij		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Trucks		.000			
Observer Height ((Above Pad):	5.0 feet				y Trucks		.004	Grade Ad	iuetmant	
Pad Elevation: 0.0 feet					пеац	ry Trucks	s. o	.004	Orace Au	usunone	0.0
Roa	ad Elevation:	0.0 feet		1	Lane Eq	uivalent	Distan	ce (in f	eet)		
	Road Grade:	0.0%				Autos	s: 49	.739			
	Left View:	-90.0 degree	es		Mediu	m Trucks	s: 49	.561			
	Right View:	90.0 degree	es		Heav	y Trucks	s: 49	.578			
FHWA Noise Mode	el Calculations										
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel .	Barrier Att	en Ber	m Atten
Autos:	68.46	-3.44		-0.0	7	-1.20		-4.67	0.0	000	0.00
Medium Trucks:	79.45	-16.40		-0.0	5	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	84.25	-17.11		-0.0	5	-1.20		-5.38	0.0	000	0.00
Unmitigated Noise	e Levels (witho	ut Topo and	barrie	er atten	uation)						
VehicleType	Leq Peak Hour		_	Leq E			Night		Ldn		VEL
Autos:	63.		62.6		60.5		57.		65.2		65
Medium Trucks: 61.8 60.8					57.0		56.		63.4		63
Heavy Trucks:	65.		65.0		60.5		60.		67.4		67
Vehicle Noise:	68.	9	67.9		64.4		63.	0	70.4	1	70
Centerline Distand	ce to Noise Co	ntour (in feet))	70			/D.4	1 -			10.4
			L	70 c	dBA	65 (dBA	_	i0 dBA		dBA
											58
			Ldn: NEL:		58 61		126	-	272 284		61

	FHV	VA-RD-77-108	HIGHWAY	NOISE P	REDICT	ION MOI	DEL			
Road Nam	io: OYC (With e: Village Wes nt: s/o Krameri		se III)			Name: Name: 1		ın South Caı	mpus	
	SPECIFIC IN	IPUT DATA						L INPUTS		
Highway Data				Site Cor	ditions	(Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	8,259 vehicle	es			,	Autos:	15		
Peak Hour	Percentage:	7.73%				ucks (2 A		15		
Peak H	our Volume:	638 vehicles	3	He	eavy Tru	cks (3+ A	(xles	15		
Ve	hicle Speed:	40 mph		Vehicle	Mix					
Near/Far La	ne Distance:	24 feet			icleType		Day	Evening I	Vight	Daily
Site Data						Autos:	71.1%	10.9%	18.0%	91.44%
Bai	rier Height:	0.0 feet		М	ledium T	rucks:	73.6%	7.7%	18.6%	4.63%
Barrier Type (0-W		0.0			Heavy T	rucks:	75.6%	6.7%	17.8%	3.93%
Centerline Dis	st. to Barrier:	39.0 feet		Noise S	ource Fi	evations	(in fe	et)		
Centerline Dist.	to Observer:	39.0 feet		710,00	Auto		000	0.0		
Barrier Distance	to Observer:	0.0 feet		Mediu	m Truck		97			
Observer Height (Hea	vy Truck	s: 8.0	004	Grade Adju	stment:	0.0		
Pa										
	ad Elevation:	0.0 feet		Lane Eq				eet)		
ı	Road Grade:	0.0%			Auto					
	Left View:	-90.0 degree			m Truck					
	Right View:	90.0 degree	es	Hea	vy Truck	s: 37.2	229			
FHWA Noise Mode	el Calculation:	s								
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresn	el .	Barrier Atter	n Beri	n Atten
Autos:	66.51	-3.66	1.	.78	-1.20		-4.58	0.00	0	0.000
Medium Trucks:	77.72	-16.62	1.	.82	-1.20		-4.87	0.00	0	0.000
Heavy Trucks:	82.99	-17.33	1.	.82	-1.20		-5.57	0.00	0	0.000
Unmitigated Noise										
	Leq Peak Hou			Evening	,	Night		Ldn	CI	IEL
Autos:	63		62.3	60.2		57.5		64.9		65.3
Medium Trucks:	61		60.7	56.9		56.0		63.3		63.6
Heavy Trucks: Vehicle Noise:	66		65.4 68.0	60.9 64.4		60.4		67.7 70.5		68.0 70.8
				04.4		00.1		70.5		70.0
Centerline Distance	e to Noise Co	ontour (in feet)) dBA	65	dBA	6	0 dBA	55	dBA
			Ldn:	42		91		195		421
			VEL:	44		95		204		439

	FH\	WA-RD-77-108	HIGH	- YAWI	NOISE P	REDICT	ION MO	DDEL					
Road Nar	rio: OYC (With me: Meridian P ent: s/o Allesan	kwy.	se III)		Project Name: Meridian South Campus Job Number: 12761								
SITE	SPECIFIC IN	IPUT DATA							L INPUT	S			
Highway Data					Site Cor	ditions	(Hard =	= 10, Sc	oft = 15)				
Average Daily	Traffic (Adt):	27,665 vehicle	es					Autos:	15				
Peak Hou	r Percentage:	7.73%			Me	edium Tr	ucks (2	Axles):	15				
Peak I	Hour Volume:	2,139 vehicle	s		He	eavy Tru	cks (3+	Axles):	15				
Ve	ehicle Speed:	45 mph		-	Vehicle	Mix							
Near/Far La	ane Distance:	44 feet				icleType	,	Day	Evening	Night	Daily		
Site Data							Autos:	71.1%		18.0%			
Rs	arrier Height:	0.0 feet			M	ledium T	rucks:	73.6%	7.7%	18.6%	4.63%		
Barrier Type (0-V		0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.93%		
,, ,	ist. to Barrier:	56.0 feet		-	Noise S	ourco E	lovatio	ne (in f	201				
Centerline Dist.	to Observer:	56.0 feet		ŀ	Noise 3	Auto		0.000	ei)				
Barrier Distance	to Observer:	0.0 feet			Modis	Auto m Truck		2.297					
Observer Height (Above Pad): 5.0 feet						vy Truck		1.297	Grade Ad	livetmant	. 0 0		
F	Pad Elevation: 0.0 feet						s. o	0.004	Orade Ad	justinoni	0.0		
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distar	nce (in :	feet)				
	Road Grade:	0.0%				Auto	s: 51	1.740					
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 51	1.568					
	Right View:	90.0 degree	es		Hea	vy Truck	s: 51	1.585					
FHWA Noise Mod	lel Calculation	s											
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten		
Autos.	68.46	1.07		-0.3	33	-1.20		-4.67	0.0	000	0.000		
Medium Trucks.	79.45	-11.88		-0.3	30	-1.20		-4.87	0.0	000	0.000		
Heavy Trucks.	84.25	-12.59		-0.3	31	-1.20		-5.37	0.0	000	0.000		
Unmitigated Nois	e Levels (with	out Topo and	barri	er atter	nuation)								
VehicleType	Leq Peak Ho	ır Leq Day	/	Leq E	vening	Leq	Night		Ldn	C	NEL		
Autos.			66.9		64.7		62		69.		69.9		
Medium Trucks.			65.1		61.3		60		67.	7	67.9		
Heavy Trucks.).2	69.3		64.8		64		71.0		71.9		
Vehicle Noise.	73	3.2	72.2		68.6		67	.3	74.	7	74.9		
Centerline Distan	ce to Noise C	ontour (in feet)	70	dD1	65	dD A		20 4B4		AD A		
			Ldn:	70	dBA 115	65	dBA 24		50 dBA 532		dBA		
		0	NFI:		115 120		24		532		1,146 1.197		
		C.	IVEL:		120		25	0	556	'	1,197		

Friday, April 24, 2020	, 2020	24,	April	Friday,
------------------------	--------	-----	-------	---------

FHWA-RD-77-	108 HIGHV	VAY NO	ISE P	REDICT	ION MO	DDEL			
Scenario: OYC (With 2003 EIR F Road Name: Meridian Pkwy. Road Segment: s/o Cactus Av.	Phase III)				: Name: lumber:		n South C	ampus	
SITE SPECIFIC INPUT DAT	Ά						L INPUTS	6	
Highway Data		Si	te Cor	ditions	(Hard =	_			
Average Daily Traffic (Adt): 25,336 vel	nicles					Autos:	15		
Peak Hour Percentage: 7.73%				dium Tr		,	15		
Peak Hour Volume: 1,958 vehi			He	avy Tru	CKS (3+	Axies):	15		
Vehicle Speed: 45 mpt		Ve	hicle	Иiх					
Near/Far Lane Distance: 44 feet			Veh	icleType	,	Day	Evening	Night	Daily
Site Data					Autos:	71.1%	10.9%	18.0%	91.459
Barrier Height: 0.0 fee	et]		edium T		73.6%		18.6%	
Barrier Type (0-Wall, 1-Berm): 0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.93%
Centerline Dist. to Barrier: 56.0 fee	ŧ	No	ise S	ource E	levatio	ns (in fe	et)		
Centerline Dist. to Observer: 56.0 fee	et	-	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Auto		.000			
Barrier Distance to Observer: 0.0 fee	et		Mediu	m Truck		297			
Observer Height (Above Pad): 5.0 fee	-			∕v Truck		.004	Grade Adj	ustment	0.0
Pad Elevation: 0.0 fee	-								
Road Elevation: 0.0 fee	et	La	ne Eq	uivalen			eet)		
Road Grade: 0.0%				Auto m Truck		.740			
Left View: -90.0 de				m Truck vy Truck		.585			
Right View: 90.0 de	grees		пеа	у тиск	S. 31	.505			
FHWA Noise Model Calculations									
VehicleType REMEL Traffic Flo		-0.33	Finite	-1.20	Fres		Barrier Atte	_	m Atten
Autos: 68.46 0 Medium Trucks: 79.45 -12	.69	-0.33		-1.20 -1.20		-4.67 -4.87	0.0		0.00
Heavy Trucks: 79.45 -12		-0.30		-1.20		-5.37	0.0		0.00
Unmitigated Noise Levels (without Topo a			ntion)	-1.20		0.07	0.0	.00	0.00
VehicleType Leg Peak Hour Leg		Leg Eve		Lea	Night		Ldn	C	NEL
Autos: 67.6	66.5	4 - 10	64.4		61	.7	69.1		69.
Medium Trucks: 65.7	64.7		60.9		60	.0	67.3	;	67.
Heavy Trucks: 69.8	68.9		64.4		63	.8	71.2		71.
Vehicle Noise: 72.8	71.8		68.3		66	.9	74.3	1	74.
Centerline Distance to Noise Contour (in f	eet)								
		70 dE		65	dBA		0 dBA	55	dBA
	Ldn:		108		23	-	501		1,080
	CNEL:		113		24	3	523		1,128

0 :	01/0 ///	0000 FIR BI							0 " 0		
		2003 EIR Pha	se III)			Job Nu			n South C	ampus	
Road Segmen	e: Meridian Pk					JOD IVU	mber:	12/61			
SITE S Highway Data	PECIFIC IN	PUT DATA			ita Can	NC ditions (I			L INPUTS	5	
				-	ne con	aitions (i					
Average Daily 1	. ,	26,945 vehicle	es			dium Truc		Autos:			
Peak Hour I	ercentage: our Volume:	7.73% 2.083 vehicle	_			avy Truck					
	our volume: nicle Speed:	45 mph	S		пе	avy ITUCi	18 (3+)	exies).	15		
Near/Far Lan		45 mpn 44 feet		ı	'ehicle l						
	e Distance.	44 1661			Vehi	icleType		Day	Evening	Night	Daily
Site Data							ıtos:	71.1%		18.0%	
Barı	rier Height:	0.0 feet				edium Tru		73.6%		18.6%	
Barrier Type (0-Wa	all, 1-Berm):	0.0			F	leavy Tru	icks:	75.6%	6.7%	17.8%	3.93
Centerline Dis		56.0 feet		٨	loise So	urce Ele	vation	s (in fe	et)		
Centerline Dist. t		56.0 feet				Autos	0.	000			
Barrier Distance to		0.0 feet			Mediur	m Trucks:	2.	297			
Observer Height (A		5.0 feet			Heav	y Trucks:	8.	004	Grade Ad	iustment	: 0.0
	d Elevation:	0.0 feet		-			21-1	/! /	4		
	d Elevation:	0.0 feet		L	ane Equ	uivalent l			eet)		
, n	load Grade:	0.0%				Autos: m Trucks:		740 568			
	Left View:	-90.0 degree				n Trucks: vy Trucks:		585			
	Right View:	90.0 degre	25		ricav	y Trucks.	51.	303			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow		tance	Finite		Fresi		Barrier Att		m Atten
Autos:	68.46	0.96		-0.33		-1.20		-4.67		000	0.00
Medium Trucks:	79.45	-11.99		-0.30		-1.20		-4.87		000	0.00
Heavy Trucks:	84.25	-12.70		-0.31		-1.20		-5.37	0.0	000	0.00
Unmitigated Noise	•		barrie					_			
	Leq Peak Hou	, ,	_	Leq Ev		Leq N	_		Ldn		NEL
Autos:	67		66.7		64.6		62.0		69.4		69
Medium Trucks:	66		64.9		61.2		60.2		67.5		67
Heavy Trucks:	70		69.2		64.6		64.		71.5		71.
Vehicle Noise:	73	.1	72.1		68.5		67.2	2	74.5	5	74
Centerline Distance	e to Noise Co	ntour (in feet)					ı			
			L	70 a		65 d		1 -	i0 dBA		dBA
			Ldn: NFI:		113 118		243		522		1,12
							253		546		1.17

	FHV	VA-RD-77-108	HIGHWAY	NOISE P	REDICT	ION MO	DEL			
Road Nam	io: OYC (With ne: Meridian Pl nt: n/o Opportu	,	se III)			Name: I lumber:		an South Ca	mpus	
SITE S	SPECIFIC IN	IPUT DATA						L INPUTS		
Highway Data				Site Cor	ditions	(Hard =	10, Sc	ft = 15)		
Average Daily	Traffic (Adt):	24,906 vehicle	es				Autos:	15		
Peak Hour	Percentage:	7.73%				ucks (2 A		15		
Peak H	lour Volume:	1,925 vehicles	3	He	eavy Tru	cks (3+ A	Axles):	15		
Ve	hicle Speed:	45 mph		Vehicle	Mix					
Near/Far La	ne Distance:	44 feet			icleType	,	Day	Evening	Night	Daily
Site Data							71.1%	10.9%	18.0%	91.45%
Rai	rrier Height:	0.0 feet		M	ledium T	rucks:	73.6%	7.7%	18.6%	4.62%
Barrier Type (0-W		0.0			Heavy T	rucks:	75.6%	6.7%	17.8%	3.93%
Centerline Dis		56.0 feet		Noise S			- /! #-	-41		
Centerline Dist.	to Observer:	56.0 feet		Noise S	Auto		5 (<i>III</i>) 16 000	et)		
Barrier Distance	to Observer:	0.0 feet		Modis	Auto m Truck		297			
Observer Height (Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet						297	Grade Adju	ietmant	
Pa	ad Elevation:		i ica	vy Truck	3. 0.1	JU4	Orace Auje	istriciit.	0.0	
Roa	ad Elevation:	0.0 feet		Lane Eq	uivalen	t Distand	ce (in i	eet)		
ı	Road Grade:	0.0%			Auto		740			
	Left View:	-90.0 degree	es		m Truck		568			
	Right View:	90.0 degree	es	Hea	vy Truck	s: 51.	585			
FHWA Noise Mode	el Calculation:	s								
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresn	iel	Barrier Atte	n Ber	m Atten
Autos:	68.46	0.62	-0.	.33	-1.20		-4.67	0.00	00	0.000
Medium Trucks:	79.45	-12.34		.30	-1.20		-4.87	0.00		0.000
Heavy Trucks:	84.25	-13.05	-0.	.31	-1.20		-5.37	0.00	00	0.000
Unmitigated Noise										
	Leq Peak Hou			Evening	,	Night		Ldn	CI	VEL
Autos:	67		66.4	64.3		61.7		69.0		69.4
Medium Trucks:	65		64.6	60.8		59.9		67.2		67.5
Heavy Trucks: Vehicle Noise:	69 72		68.8 71.7	64.3 68.2		63.8		71.2 74.2		71.4 74.5
Centerline Distance	e to Noise Co	ontour (in feet)							
Contonino Distant		mou. (m root)) dBA	65	dBA	6	i0 dBA	55	dBA
			Ldn:	107		230		495		1,067
		Ci	NEL:	111		240		518		1,115

	FH'	WA-RD-77-10	8 HIGI	HWAY	NOISE P	REDICTI	ON MC	DEL					
Road Na	nrio: OYC (With me: Meridian P ent: n/o Van Bu	kwy.	ase III)		Project Name: Meridian South Campus Job Number: 12761								
	SPECIFIC II	IPUT DATA							L INPUT	S			
Highway Data					Site Cor	ditions	(Hard =	: 10, Sc	oft = 15)				
Average Daily	Traffic (Adt):	18,569 vehic	les					Autos:	15				
Peak Hou	r Percentage:	7.73%			Me	edium Tru	ıcks (2	Axles):	15				
Peak	Hour Volume:	1,435 vehicle	es		He	eavy Truc	cks (3+	Axles):	15				
ν	ehicle Speed:	45 mph			Vehicle	Mix							
Near/Far L	ane Distance:	44 feet				icleType		Day	Evening	Night	Daily		
Site Data							lutos:	71.1%	10.9%	18.0%	91.46%		
R	arrier Height:	0.0 feet			M	edium Ti	ucks:	73.6%	7.7%	18.6%	4.62%		
Barrier Type (0-1	Wall, 1-Berm):	0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.92%		
	Dist. to Barrier:	56.0 feet			Noise S	ource El	evation	s (in fe	eet)				
Centerline Dist		56.0 feet		ı		Autos	s: 0	.000					
Barrier Distance		0.0 feet			Mediu	m Trucks	s: 2	.297					
Observer Height (Above Pad): 5.0 feet					Hear	vy Truck	s: 8	.004	Grade Ad	justmeni	: 0.0		
	Pad Elevation:	0.0 feet			1		Distant	/!	£4\				
R	oad Elevation:	0.0 feet			Lane Eq				reet)				
	Road Grade:	0.0%				Auto		.740					
	Left View:	-90.0 degre				m Truck		.568					
	Right View:	90.0 degre	ees		неа	vy Truck:	s: 51	.585					
FHWA Noise Mod													
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		rm Atten		
Autos	. 00.10		-	-0.3		-1.20		-4.67		000	0.000		
Medium Trucks			_	-0.3		-1.20		-4.87		000	0.000		
Heavy Trucks				-0.0		-1.20		-5.37	0.0	000	0.000		
Unmitigated Nois							A Contact	1	t da		N/E/		
VehicleType Autos	Leq Peak Ho	ur Leq Da 3.3	65.1	Leq E	vening 63.0		Night 60.	4	Ldn 67.8		NEL 68.1		
Medium Trucks		1.3	63.3		59.5		58.		65.9		66.2		
Heavy Trucks		1.3 3.4	67.5		63.0		62	-	69.9	-	70.1		
Vehicle Noise		1.4	70.4		66.9		65.	-	72.9	-	73.2		
Centerline Distar	nce to Noise C	ontour (in fee	t)										
			Ţ	70	dBA	65	dBA	(60 dBA	55	dBA		
			Ldn:		88		189	-	407		877		
		(ONEL:		92		19	7	425	,	916		

	FHW	/A-RD-77-108	HIGH	WAY N	OISE P	REDICTI	ON MO	DDEL			
Scenario: OY Road Name: Da Road Segment: s/o	y St.	2003 EIR Phas	se III)			.,		Meridi 12761	an South C	ampus	
SITE SPEC	IFIC IN	PUT DATA							L INPUT	s	
Highway Data				5	Site Con	ditions	Hard:	= 10, S	oft = 15)		
Average Daily Traffic	(Adt):	9,522 vehicle	es					Autos	: 15		
Peak Hour Perce	ntage:	7.73%			Me	dium Tru	icks (2	Axles)	: 15		
Peak Hour Vo	olume:	736 vehicles	3		He	avy Truc	ks (3+	Axles)	: 15		
Vehicle S	Speed:	40 mph		1	/ehicle l	Miv					
Near/Far Lane Dis	tance:	50 feet		,		icleType		Day	Evening	Night	Daily
Site Data						- /	lutos:	71.19	6 10.9%	18.0%	91.44%
Barrier H	oinht.	0.0 feet			M	edium Ti	ucks:	73.69	6 7.7%	18.6%	4.63%
Barrier Type (0-Wall, 1-		0.0			I	Heavy Tr	ucks:	75.69	6.7%	17.8%	3.93%
Centerline Dist. to E		44.0 feet		١.	O-	51		/! 4	41		
Centerline Dist. to Obs	server:	44.0 feet		,	voise so	ource El			eet)		
Barrier Distance to Obs	server:	0.0 feet			14	Auto: m Truck:		.000			
Observer Height (Above Pad): 5.0 feet						m Truck: vy Truck:		.004	Grade Ad	liuetmon	e 0.0
Pad Ele		пеач	y Trucks	s. c	.004	Grade Au	justineri	. 0.0			
Road Ele	vation:	0.0 feet		L	ane Eq	uivalent	Distar	ice (in	feet)		
Road	Grade:	0.0%				Autos	s: 36	5.551			
Left	View:	-90.0 degree	es		Mediu	m Truck	s: 36	3.308			
Right	View:	90.0 degree	es		Heav	y Truck	s: 36	3.332			
FHWA Noise Model Cald	ulations										
VehicleType RE	MEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	ten Be	rm Atten
Autos:	66.51	-3.05		1.94	1	-1.20		-4.61	0.0	000	0.000
Medium Trucks:	77.72	-16.00		1.98	3	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	82.99	-16.71		1.98	3	-1.20		-5.50	0.0	000	0.000
Unmitigated Noise Leve											
	eak Hou		_	Leg Ev		Leq	Night		Ldn		NEL
Autos:	64. 62.	_	63.0 61.5		60.9		58	-	65.1		66.
Medium Trucks:		57.7		56	-	64.		64.3			
Heavy Trucks:	67.		66.2		61.7		61		68.		68.8
Vehicle Noise:	69.		68.8		65.2		63	.9	71.3	3	71.
Centerline Distance to I	loise Co	ntour (in feet))	70 a	IDΛ	65 (4D A		60 dBA	E 4	i dBA
			l dn:	70 0	53	00 (лом 11	_	248		534
			VFI:		56		12	-	259		558
		Ci	VLL.		50		12	0	238	,	550

	FHW	/A-RD-77-108	HIGH	WAY I	NOISE P	REDICTI	ON MO	DEL			
Road Nar	nrio: OYC (With 2 me: Day St. ent: n/o Cottonw		se III)				Name: umber:		n South C	ampus	
SITE	SPECIFIC IN	PUT DATA				N	OISE	MODE	L INPUT	S	
Highway Data					Site Cor	ditions	(Hard =	= 10, So	ft = 15)		
Average Daily	/ Traffic (Adt):	13,650 vehicle	s					Autos:	15		
Peak Hou	r Percentage:	7.73%			Me	edium Tro	ıcks (2	Axles):	15		
Peak I	Hour Volume:	1,055 vehicles	3		He	eavy Truc	cks (3+	Axles):	15		
V	ehicle Speed:	40 mph		-	Vehicle	Miv					
Near/Far La	ane Distance:	50 feet		H		icleType	П	Dav	Evening	Night	Dailv
Site Data							Autos:	71.1%	10.9%	18.0%	91.439
Ra	arrier Height:	0.0 feet			M	ledium Ti	rucks:	73.6%	7.7%	18.6%	4.63%
Barrier Type (0-V		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.93%
Centerline D	ist. to Barrier:	44.0 feet			Noise S	ourco El	ovation	e (in fo	of)		
Centerline Dist	to Observer:	44.0 feet		-	NOISE S	Auto		.000	ei)		
Barrier Distance	e to Observer:	0.0 feet			Modis	m Truck		.000			
Observer Height	(Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	liustment	. 0 0
F	Pad Elevation:	0.0 feet			i ica	vy Truck	s. 0	.004	Orado ria	juotimom	. 0.0
Ro	oad Elevation:	0.0 feet			Lane Eq	uivalent	Distar	ce (in f	eet)		
	Road Grade:	0.0%				Auto	s: 36	.551			
	Left View:	-90.0 degree	es			m Truck		.308			
	Right View:	90.0 degree	es		Hea	vy Truck	s: 36	.332			
FHWA Noise Mod	del Calculations	;									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel .	Barrier Att	en Ber	m Atten
Autos.		-1.48		1.9		-1.20		-4.61		000	0.00
Medium Trucks.		-14.43		1.9	-	-1.20		-4.87		000	0.00
Heavy Trucks.	: 82.99	-15.14		1.9	8	-1.20		-5.50	0.0	000	0.00
Unmitigated Nois	se Levels (witho	out Topo and	barrie	r atter	nuation)						
VehicleType	Leq Peak Hou	. , . ,		Leq E	vening		Night		Ldn		NEL
Autos.		-	64.6		62.5		59.	-	67.3		67.
Medium Trucks.			63.1		59.3		58.		65.7		65.
Heavy Trucks.			67.7		63.2		62.		70.		70.
Vehicle Noise.	: 71.	3	70.4		66.8		65.	5	72.8	В	73.
Centerline Distan	ice to Noise Co	ntour (in feet))	70	dBA	65	dBA		0 dBA		dBA
			Ldn:	70	<i>aBA</i> 68	05	14i	_	<i>0 ава</i> 316		680 680
			vel:		68 71		14	-	316		710
		Ci	v.L.		7.1		10.	,	329		/ 10

Friday, April 24, 2020

	FH\	WA-RD-77-108	HIGH\	NAY N	OISE PI	REDICTION	OM MOI	DEL			
Road Nan	io: OYC (With ne: Alessandro nt: w/o Mission	BI.	se III)				Vame: N Imber: 1		an South Can	npus	
SITE	SPECIFIC IN	IPUT DATA				N	DISE N	10DE	L INPUTS		
Highway Data				s	ite Con	ditions (Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	55,160 vehicl	es				,	Autos.	15		
Peak Hour	Percentage:	7.73%			Me	dium Tru	cks (2 A	xles).	15		
Peak F	lour Volume:	4,264 vehicle	s		He	avy Truc	ks (3+ A	xles).	15		
Ve	hicle Speed:	55 mph		1/	'ehicle l	Miss					
Near/Far La	ne Distance:	72 feet		V		icleType		Dav	Evening N	light D	aily
Site Data					Ven			71.19	-	•	.42%
					14	edium Tr		73.69			.64%
	rrier Height:	0.0 feet				Heavy Tr		75.69			.94%
Barrier Type (0-W Centerline Di		0.0				10017 111		10.07	0.770		.0 170
Centerline Di		60.0 feet 60.0 feet		٨	loise Sc	ource Ele	vations	(in f	eet)		
Barrier Distance		0.0 feet				Autos	: 0.0	000			
		5.0 feet			Mediu	m Trucks	: 2.2	297			
Observer Height	ad Elevation:	0.0 feet			Heav	y Trucks	: 8.0	004	Grade Adjus	tment: 0.0)
	ad Elevation: ad Elevation:	0.0 feet		,	ane Fa	uivalent	Distanc	e (in	feet)		_
	Road Grade:	0.0%				Autos			,		
	Left View:	-90.0 degre	es		Mediu	m Trucks					
	Right View:	90.0 degre			Heav	y Trucks	48.0	94			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fresn	el	Barrier Atten	Berm A	tten
Autos:		3.20		0.13		-1.20		-4.69	0.000		0.000
Medium Trucks:		-9.75		0.15		-1.20		-4.88	0.000		0.000
Heavy Trucks:	86.40	-10.46		0.15	,	-1.20		-5.34	0.000)	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier	r attenu	ıation)						
VehicleType	Leq Peak Hou			Leq Ev		Leq N	light		Ldn	CNEL	
Autos:		3.9	72.8		70.6		68.0		75.4		75.8
Medium Trucks:		.6	70.6		66.8		65.9		73.2		73.5
Heavy Trucks:		1.9	74.0		69.5		69.0		76.3		76.6
Vehicle Noise:		3.4	77.4		74.0		72.6		79.9		80.2
Centerline Distan	ce to Noise Co	ontour (in feet	:)								
				70 d		65 a			60 dBA	55 dB/	
			Ldn:		276		595		1,282		,761
		С	NEL:		289		622		1,340	2	,887

	FHW	A-RD-77-108	HIGH	IWAY I	NOISE P	REDICT	ION M	DDEL			
Scenario: OYC Road Name: Ales Road Segment: e/o N	sandro E	31.	se III)					Meridia 12761	an South C	ampus	
SITE SPECI	FIC INF	UT DATA				N	IOISE	MODE	L INPUT	S	
Highway Data					Site Cor	ditions	(Hard:	= 10, Sc	oft = 15)		
Average Daily Traffic ('Adt): 5	8,804 vehicle	es					Autos:	15		
Peak Hour Percen	tage:	7.73%			Me	edium Tri	ucks (2	Axles):	15		
Peak Hour Vol	ume: 4	1,546 vehicles	s		He	eavy Truc	cks (3+	Axles):	15		
Vehicle Sp	eed:	55 mph		ŀ	Vehicle	Miv					
Near/Far Lane Dista	ance:	72 feet		-		icleType	,	Dav	Evening	Night	Dailv
Site Data							Autos:	71.1%		18.0%	91.42%
Barrier He	iaht.	0.0 feet			М	edium T	rucks:	73.6%	7.7%	18.6%	4.64%
Barrier Type (0-Wall, 1-B		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94%
Centerline Dist. to Ba		60.0 feet		-	Noise S	ourco El	lovatio	ne (in f	not)		
Centerline Dist. to Obse	erver:	60.0 feet		-	Noise 3	Auto		0.000	eet)		
Barrier Distance to Obse	erver:	0.0 feet			Modiu	m Truck		2.297			
Observer Height (Above I	Pad):	5.0 feet				vy Truck		1.297	Grade Ad	iustmant	. 0 0
Pad Eleva	ation:	0.0 feet			пеа	vy Truck	S. C	0.004	Orade Ad	ustricin	. 0.0
Road Eleva	ation:	0.0 feet			Lane Eq	uivalent	Dista	nce (in	feet)		
Road G	rade:	0.0%				Auto	s: 48	3.260			
Left	View:	-90.0 degree	es		Mediu	m Truck	s: 48	3.076			
Right	View:	90.0 degree	es		Hea	vy Truck	s: 48	3.094			
FHWA Noise Model Calcu	ılations										
VehicleType REM	1EL	Traffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	en Bei	m Atten
Autos:	71.78	3.48		0.1	13	-1.20		-4.69	0.0	000	0.000
Medium Trucks:	82.40	-9.47		0.1	-	-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-10.18		0.1	15	-1.20		-5.34	0.0	000	0.000
Unmitigated Noise Levels	s (witho	ut Topo and	barri	er atter	nuation)						
,, ,	ak Hour			Leq E	vening		Night		Ldn		NEL
Autos:	74.2		73.0		70.9		68		75.		76.
Medium Trucks:	71.9		70.9		67.1		66	-	73.	-	73.7
Heavy Trucks: Vehicle Noise:	75.2 78.7		74.3		69.8 74.3		69 72		76.0 80.1		76.9 80.9
					. 1.0				30.	-	50.
Centerline Distance to No	oise Cor	itour (in feet	,	70	dBA	65	dBA		60 dBA	55	dBA
			Ldn:		288		62	_	1,338		2,882
		C	NEL:		301		64	9	1,399		3,013

	FHV	WA-RD-77-	108 HIG	HWAY	NOISE F	PREDICT	TION M	ODEL			
	e: OYC (With e: Alessandro f: w/o Old 215	BI.		1)			t Name. Number		an South C	ampus	
	PECIFIC IN	IPUT DAT	Α						L INPUT	s	
Highway Data					Site Co	nditions	(Hard	= 10, Sc	oft = 15)		
Average Daily T	. ,	hicles					Autos:				
Peak Hour F		7.73%				ledium T		,			
	our Volume:	3,616 veh			Н	leavy Tru	ıcks (3+	- Axles):	15		
	icle Speed:	45 mpl			Vehicle	Mix					
Near/Far Lan	e Distance:	72 feet			Ve	hicleTyp	е	Day	Evening	Night	Daily
Site Data							Autos:	71.1%	10.9%	18.0%	91.439
Barı	Barrier Height: 0.0 feet rrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Penterline Dist. to Observer: 60.0 feet arrier Distance to Observer: 0.0 feet server Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet						Trucks:	73.6%	7.7%	18.6%	4.639
	-	0.0				Heavy	Trucks:	75.6%	6.7%	17.8%	3.939
Centerline Dis	t. to Barrier:	60.0 fee	et		Noise S	Source E	levatio	ns (in f	eet)		
						Auto		0.000	,		
Barrier Distance to	Observer:				Medi	um Truc	ks: 2	2.297			
					Hea	avy Truci	ks: 8	3.004	Grade Adj	justment	: 0.0
							4 Di-4-	/!	E4)		
			et		Lane E	quivaler Auto		nce (in 8.260	reet)		
R	oad Grade:	0.0%			Modi	Auti um Truc		8.260 8.076			
	Right View:	-90.0 de	-			avy Truci		B.094			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flo	w D	istance	Finit	e Road	Fres	enal	Barrier Att	on Roi	m Atten
Autos:	68.46		36		13	-1.20		-4.69		000	0.00
Medium Trucks:	79.45	-9	.60	0.	15	-1.20		-4.88		000	0.00
Heavy Trucks:	84.25	-10	.31	0.	15	-1.20		-5.34	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo a	and barr	rier atte	nuation)	1					
VehicleType I	eq Peak Hou	ır Leq	Day	Leq I	Evening		Night		Ldn		NEL
Autos:	70).7	69.6	i	67.	5	64	.9	72.2	-	72.
Medium Trucks:	68		67.8		64.	-	63		70.4		70.
Heavy Trucks:		2.9	72.0		67.		67		74.4		74.
Vehicle Noise:	75	5.9	74.9		71.	4	70	0.0	77.4	1	77.
Centerline Distance	to Noise Co	ontour (in i	feet)								
					dBA		dBA		60 dBA		dBA
			Ldn.		187		40	-	867		1,869
			CNEL.	:	195	•	42	.1	906		1,952

	FHV	/A-RD-77-108	HIGH	WAY NO	JISE PF	REDICTION	ON MC	DEL			
	e: Alessandro		se III)			Project I Job Nu			n South C	ampus	
	PECIFIC IN	PUT DATA				N	OISE	MODE	L INPUT	s	
Highway Data				Si	te Con	ditions (Hard =	: 10, Sc	ft = 15)		
Average Daily 1	raffic (Adt):	55,299 vehicle	es					Autos:	15		
Peak Hour I	Percentage:	7.73%			Me	dium Tru	cks (2	Axles):	15		
Peak Ho	our Volume:	4,275 vehicles	S		He	avy Truci	ks (3+	Axles):	15		
Veh	icle Speed:	55 mph		V	ehicle I	/lix					
Near/Far Lan	e Distance:	72 feet				cleType		Day	Evening	Night	Daily
Site Data						A	utos:	71.1%	10.9%	18.0%	91.429
Bari	rier Heiaht:	0.0 feet			Me	edium Tru	ıcks:	73.6%	7.7%	18.6%	4.649
Barrier Type (0-Wa		0.0			F	leavy Tru	ıcks:	75.6%	6.7%	17.8%	3.949
Centerline Dis	t. to Barrier:	60.0 feet		N	nise So	urce Ele	vation	s (in fe	et)		
Centerline Dist. t	o Observer:	60.0 feet			0.00 00	Autos		.000	,		
Barrier Distance to	o Observer:	0.0 feet			Madiuu	n Trucks		297			
Observer Height (A	Above Pad):	5.0 feet				y Trucks		.004	Grade Ad	iustment.	0.0
Pa	d Elevation:	0.0 feet									
	d Elevation:	0.0 feet		La	ane Equ	uivalent			eet)		
R	Road Grade:	0.0%				Autos		.260			
	Left View:	-90.0 degree				n Trucks		.076			
	Right View:	90.0 degree	es		Heav	y Trucks	: 48	.094			
FHWA Noise Mode	l Calculations	3									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten
Autos:	71.78	3.21		0.13		-1.20		-4.69	0.0	000	0.00
Medium Trucks:	82.40	-9.74		0.15		-1.20		-4.88		000	0.00
Heavy Trucks:	86.40	-10.45		0.15		-1.20		-5.34	0.0	000	0.00
Unmitigated Noise	Levels (withou	out Topo and	barrie	r attenu	ation)						
	Leq Peak Hou		_	Leq Eve	_	Leq N			Ldn		VEL
Autos:	73	-	72.8		70.7		68.	-	75.4		75.
Medium Trucks:	71.	-	70.6		66.8		65.	-	73.2	-	73
Heavy Trucks:	74.		74.0		69.5		69.	-	76.4		76
Vehicle Noise:	78	.5	77.5		74.0		72.	6	80.0)	80
Centerline Distance	e to Noise Co	ntour (in feet)								
			L	70 dE		65 d			i0 dBA		dBA
			Ldn: NFI:		277 289		596 623		1,284 1,343		2,76

	FHW	/A-RD-77-108 I	HIGHV	NAY N	OISE PE	REDICT	ION MO	DEL			
Road Nan	rio: OYC (With 2 ne: Alessandro ent: w/o Day St.		e III)				Name: lumber:		n South C	ampus	
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data				S	ite Con	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	38,277 vehicles	3					Autos:	15		
Peak Hour	Percentage:	7.73%				dium Tr			15		
Peak F	lour Volume:	2,959 vehicles			He	avy Trud	cks (3+)	4xles):	15		
Ve	ehicle Speed:	45 mph		V	ehicle l	Miv					
Near/Far La	ne Distance:	82 feet		ľ		icleType		Day	Evening	Night	Daily
Site Data							Autos:	71.1%	10.9%	18.0%	91.43%
Ra	rrier Heiaht:	0.0 feet			Me	edium T	rucks:	73.6%	7.7%	18.6%	4.63%
Barrier Type (0-W		0.0			F	leavy T	rucks:	75.6%	6.7%	17.8%	3.93%
Centerline Di		67.0 feet		١.	Noise Source Elevations (in feet)						
Centerline Dist.	to Observer:	67.0 feet		^	ioise Sc				eet)		
Barrier Distance	to Observer:	0.0 feet				Auto		000			
Observer Height	(Above Pad):			Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0							
	ad Flevation:	5.0 feet 0.0 feet			Heav	y Truck	s: 8.	004	Grade Ad	justmen	1: 0.0
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in i	eet)		
	Road Grade:	0.0%				Auto.	s: 53.	226			
	Left View:	-90.0 degrees	;		Mediui	m Truck	s: 53.	059			
	Right View:	90.0 degrees	3		Heav	y Truck	s: 53.	076			
FHWA Noise Mod	el Calculations	1									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresi	_	Barrier Att	en Be	rm Atten
Autos:		2.48		-0.51		-1.20		-4.71		000	0.000
Medium Trucks:		-10.47		-0.49		-1.20		-4.88		000	0.000
Heavy Trucks:	84.25	-11.18		-0.49	1	-1.20		-5.29	0.0	000	0.000
Unmitigated Noise	e Levels (witho	ut Topo and b	arrier	r attenu	ıation)						
VehicleType	Leq Peak Hou	r Leq Day		Leq Ev		Leq	Night		Ldn		NEL
Autos:			8.1		66.0		63.4		70.7		71.1
Medium Trucks:			6.3		62.5		61.6		68.9		69.1
Heavy Trucks:			0.5		66.0		65.4		72.8		73.1
Vehicle Noise:	74.	4 7	3.4		69.9		68.	5	75.9	9	76.2
Centerline Distant	ce to Noise Co	ntour (in feet)									
			Ľ	70 d	BA	65	dBA	6	i0 dBA	55	dBA
			dn:		165		356		768		1,654
		CN	EL:		173		372		802		1.728

	FH\	VA-RD-77-108	HIGH	HWAY	NOISE P	REDICTI	ION MO	DDEL			
Road Nan	rio: OYC (With ne: Alessandro ent: e/o Day St.		se III)				Name: lumber:		an South C	ampus	
SITE	SPECIFIC IN	IPUT DATA				N	IOISE	MODE	L INPUT	S	
Highway Data					Site Cor	ditions	(Hard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	38,039 vehicle	es					Autos:	15		
Peak Hour	r Percentage:	7.73%			Me	edium Tru	ucks (2	Axles):	15		
Peak F	Hour Volume:	2,940 vehicle	s		He	eavy Truc	cks (3+	Axles):	15		
Ve	ehicle Speed:	45 mph			Vehicle	Miv					
Near/Far La	ane Distance:	82 feet				icleType		Dav	Evening	Night	Dailv
Site Data							Autos:	71.1%		18.0%	91.43%
Ra	arrier Height:	0.0 feet			M	edium Ti	rucks:	73.6%	7.7%	18.6%	4.64%
Barrier Type (0-V		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94%
	ist. to Barrier:	67.0 feet			Noise S	ource El	evation	ns (in f	eet)		
Centerline Dist.		67.0 feet				Autos	s: 0	.000			
Barrier Distance		0.0 feet			Mediu	m Truck	s: 2	.297			
Observer Height	(,	5.0 feet			Hear	vy Trucks	s: 8	.004	Grade Ad	justmeni	: 0.0
	Pad Elevation:	0.0 feet									
	ad Elevation:	0.0 feet			Lane Eq				reet)		
	Road Grade:	0.0%				Autos		3.226			
	Left View:	-90.0 degre				m Truck		1.059			
	Right View:	90.0 degre	es		Hea	vy Truck:	s: 53	3.076			
FHWA Noise Mod											
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atten
Autos:	00.10	2.46		-0.		-1.20		-4.71		000	0.000
Medium Trucks:		-10.49		-0.4		-1.20		-4.88		000	0.000
Heavy Trucks:		-11.20		-0.4		-1.20		-5.29	0.0	000	0.000
Unmitigated Nois								1			
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn		NEL
Autos:		.2	68.1		65.9		63 61		70.		71.1
Medium Trucks:			66.3 70.5		62.5 66.0		65	-	68.9 72.8		69.1 73.1
Heavy Trucks: Vehicle Noise:			73.4		69.8		68		75.9	-	76.1
Centerline Distan	ce to Noise Co	ontour (in feet	t)								
				70	dBA	65	dBA	-	60 dBA	55	dBA
			Ldn:		165		35	5	765	i	1,648
		С	NEL:		172		37	1	799		1,721

Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 feet Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Centerline Dist. force Centerline Dist. forc		FH	WA-RD-77-1	08 HIG	HWAY	NOISE P	REDICT	ION MC	DEL			
Average Daily Traffic (Adi): 31,434 vehicles Peak Hour Percentage: 7,73% Peak Hour Percentage: 7,73% Wehicle Speed: 45 mph Medium Trucks (2 Ades): 15 Heavy Trucks (34 Axies): 15	Road Nam	e: Cactus Av		hase III)		.,			an South C	ampus	
Average Daily Traffic (Adt): 31,434 vehicles		SPECIFIC II	NPUT DAT	A							s	
Peak Hour Percentage: 7.73% Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15	Highway Data					Site Cor	nditions	(Hard =	: 10, Sc	oft = 15)		
Peak Hour Volume:	Average Daily	Traffic (Adt):	31,434 veh	icles					Autos:	15		
Vehicle Speed: 45 mph Near/Far Lane Distance: 80 feet Vehicle Mix Vehicle Type Day Evening Night Daily Daily Policy Day Evening Night Daily Daily Policy Day Evening Night Daily Daily Policy Day Evening Night Daily Dail	Peak Hour	Percentage:	7.73%			Me	edium Tri	ucks (2	Axles):	15		
Near/Far Lane Distance:	Peak H	our Volume:	2,430 vehic	cles		He	eavy Truc	cks (3+	Axles):	15		
Near/Far Lane Distance: 80 feet VehicleType Day Evening Night Daily	Vei	hicle Speed:	45 mph			Vahicla	Miv					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 feet Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Centerline Dist. for Observer: 60.0 feet 65.0 feet 65.	Near/Far Lar	ne Distance:	80 feet						Day	Evening	Night	Daily
Barrier Trype (0-Well, 1-Berm): 0.0 teet Heavy Trucks: 75.6% 6.7% 17.8% 3.94*	Site Data						-	Autos:	71.1%	10.9%	18.0%	91.429
	Rar	rier Heiaht	0.0 feet	1		N	ledium Ti	rucks:	73.6%	7.7%	18.6%	4.649
Noise Source Elevations (in Teet)	Barrier Type (0-W	all, 1-Berm):					Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.949
Barrier Distance to Observer: 0.00 feet Autos: 0.000						Noise S	ource El	evation	s (in fe	eet)		
Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Lane Equivalent Distance (in feet)							Auto	s: 0	.000			
Pad Elevation: 0.0 feet Heavy Trucks: 8.004 Grade Adjustment: 0.0	Barrier Distance	to Observer:				Mediu	m Truck	s: 2	.297			
Pad Elevation: 0.0 feet Lane Equivalent Distance (in feet)		,				Hea	vv Truck	s: 8	.004	Grade Ad	justmeni	t: 0.0
Road Grade: 0.0%												
Left View:						Lane Eq			_ •	feet)		
Right View: 90.0 degrees Heavy Trucks: 44.822	F											
FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten												
VehicleType		Right View:	90.0 deg	rees		Hea	vy Iruck	s: 44	.822			
Autos: 68.46 1.63 0.58 -1.20 -4.69 0.000 0.00												
Medium Trucks: 79.45				_				Fres				
Heavy Trucks: 84.25												
Unmitigated Noise Levels (without Topo and barrier attenuation)												
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.5 68.3 66.2 63.6 71.0 71 Medium Trucks: 67.5 66.5 62.8 61.8 69.1 69.5 Heavy Trucks: 71.6 70.7 66.2 65.7 73.1 73 Vehicle Noise: 74.6 73.6 70.1 68.8 76.1 76 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 154 332 714 1,53							-1.20		-5.34	0.0	J00	0.00
Autos: 69.5 68.3 66.2 63.6 71.0 71 Medium Trucks: 67.5 66.5 62.8 61.8 69.1 69 Heavy Trucks: 71.6 70.7 66.2 65.7 73.1 73 Vehicle Noise: 74.6 73.6 70.1 68.8 76.1 76 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 154 332 714 1,53	-				-		Lea	Niaht	1	l dn	0	NFI
Medium Trucks: 67.5 66.5 62.8 61.8 69.1 69 Heavy Trucks: 71.6 70.7 66.2 65.7 73.1 73 Vehicle Noise: 74.6 73.6 70.1 68.8 76.1 76 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 154 332 714 1,53					,				6			71.
Heavy Trucks: 71.6 70.7 66.2 65.7 73.1 73 Vehicle Noise: 74.6 73.6 70.1 68.8 76.1 76 Centerline Distance to Noise Contour (in feet) Ldn: 154 65 dBA 60 dBA 55 dBA Ldn: 154 332 714 1,53	Medium Trucks:	6	7.5	66.5		62.8	;	61.	8	69.1	1	69.
Vehicle Noise: 74.6 73.6 70.1 68.8 76.1 76 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 154 332 714 1,53		7	1.6	70.7		66.2	!	65.	7	73.	1	73.
70 dBA 65 dBA 60 dBA 55 dBA Ldn: 154 332 714 1,53	· -	7-	4.6	73.6		70.1		68.	8	76.1	1	76.
Ldn: 154 332 714 1,53	Centerline Distanc	e to Noise C	ontour (in fe	eet)					_		,	
							65					
CNEL: 161 346 746 1,60									-			1,53
				CNEL:		161		346	3	746		1,60

		VA-RD-77-108			AOL II						
	o: OYC (With :	2003 EIR Pha	se III)						n South C	ampus	
	e: Cactus Av.					Job N	umber	12761			
Road Segmen	t: w/o Innovati	ion Dr.									
	PECIFIC IN	PUT DATA							L INPUT	S	
Highway Data				Si	ite Con	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily 1	Fraffic (Adt):	26,500 vehicle	es					Autos:	15		
Peak Hour I	Percentage:	7.73%				edium Tru					
Peak He	our Volume:	2,048 vehicle	S		He	avy Truc	cks (3+	Axles):	15		
Vel	nicle Speed:	45 mph		V	ehicle l	Mix					
Near/Far Lar	e Distance:	80 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						-	Autos:	71.1%	10.9%	18.0%	91.43
Ran	rier Height:	0.0 feet			М	edium Ti	rucks:	73.6%	7.7%	18.6%	4.64
Barrier Type (0-Wa		0.0			1	Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94
Centerline Dis		60.0 feet		N	oise Sc	ource El	evatio	ns (in fe	et)		
Centerline Dist. t		60.0 feet				Auto	s: (0.000			
Barrier Distance t	o Observer:	0.0 feet			Mediu	m Truck	s: 2	297			
Observer Height (/	,	5.0 feet			Heav	vy Truck	s: 8	3.004	Grade Ad	justment.	: 0.0
	d Elevation:	0.0 feet				•					
	d Elevation:	0.0 feet		La	ane Eq	uivalent			eet)		
F	Road Grade:	0.0%				Auto		5.000			
	Left View:	-90.0 degre				m Truck		1.803			
	Right View:	90.0 degre	es		Heav	y Truck	s: 4	1.822			
FHWA Noise Mode				'							
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fres		Barrier Att		m Atter
Autos:	68.46	0.89		0.58		-1.20		-4.69		000	0.00
Medium Trucks:	79.45	-12.06		0.61		-1.20		-4.88		000	0.00
Heavy Trucks:	84.25	-12.77		0.61		-1.20		-5.34	0.0	000	0.00
Unmitigated Noise						1	A I : In A	_	1 -1	0	
VehicleType Autos:	Leq Peak Hou 68		67.6	Leq Eve	ening 65.5	_	Night 62	0	Ldn 70.2		NEL 70
Medium Trucks:	66		65.8		62.0		61		68.4	-	68
Heavy Trucks:	70.	-	70.0		65.5		65		72.4		72
Vehicle Noise:	73.		70.0		69.4		68		75.4		75
Centerline Distanc	e to Noise Co	ntour (in feet)								
Contentine Distant		ui (iii ieet	,	70 dE	ВА	65	dBA	6	i0 dBA	55	dBA
			I dn:		137		29	6	637		1.37

	FHV	/A-RD-77-108	HIGHV	NAY N	OISE PE	REDICTI	ON MO	DEL			
Road Nan	io: OYC (With : ne: Cactus Av. nt: w/o Elswort		e III)				Name: umber:		an South C	ampus	
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data				S	Site Con	ditions (Hard =	10, Sc			
Average Daily	Traffic (Adt):	58,601 vehicle	S					Autos:			
Peak Hour	Percentage:	7.73%				dium Tru					
Peak F	lour Volume:	4,530 vehicles			He	avy Truc	ks (3+)	Axles):	15		
Ve	hicle Speed:	50 mph		ı	/ehicle l	Nix					
Near/Far La	ne Distance:	82 feet		-		cleType		Day	Evening	Night	Daily
Site Data						A	utos:	71.1%	10.9%	18.0%	91.32%
Ra	rrier Height:	0.0 feet			Me	edium Tr	ucks:	73.6%	7.7%	18.6%	4.65%
Barrier Type (0-W		0.0			F	leavy Tr	ucks:	75.6%	6.7%	17.8%	4.03%
	st. to Barrier:	67.0 feet		_							
Centerline Dist.		67.0 feet		٨	loise Sc			_	eet)		
Barrier Distance		0.0 feet				Autos		000			
Observer Height		5.0 feet				n Trucks		297			
	ad Flevation:	0.0 feet			Heav	y Trucks	8: 8.	004	Grade Adj	ustmen	t: 0.0
	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in	feet)		
	Road Grade:	0.0%				Autos	: 53.	226			
	Left View:	-90.0 degree	s		Mediui	n Trucks	: 53.	059			
	Right View:	90.0 degree			Heav	y Trucks	: 53.	076			
FHWA Noise Mod	el Calculations	;									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresi		Barrier Att	en Be	rm Atten
Autos:	70.20	3.87		-0.51		-1.20		-4.71	0.0		0.000
Medium Trucks:		-9.06		-0.49		-1.20		-4.88	0.0		0.000
Heavy Trucks:	85.38	-9.68		-0.49	9	-1.20		-5.29	0.0	00	0.000
Unmitigated Nois											
VehicleType	Leq Peak Hou	- 1 - 7		Leq Ev		Leq I			Ldn		NEL
Autos:	72		71.2		69.1		66.	5	73.9		74.
Medium Trucks:	70	-	59.2		65.5		64.	-	71.8		72.
Heavy Trucks:	74		73.1		68.6		68.		75.5		75.
Vehicle Noise:	77.	2	76.2		72.8		71.4	1	78.7		79.0
Centerline Distan	ce to Noise Co	ntour (in feet)			1			,		1	
				70 a		65 c			60 dBA	55	dBA
			Ldn:		256		552		1,190		2,563
		CI	IFI:		268		577		1 243		2 679

	FHW	A-RD-77-108	HIGH	IWAY I	NOISE P	REDICT	ON M	DDEL			
Scenario: OYC Road Name: Cact Road Segment: e/o E	us Av.		se III)					Meridia 12761	an South C	ampus	
SITE SPECII	FIC INF	UT DATA				N	IOISE	MODE	L INPUT	S	
Highway Data					Site Cor	ditions	(Hard :	= 10, Sc	oft = 15)		
Average Daily Traffic (Adt): 5	6,077 vehicle	es					Autos:	15		
Peak Hour Percent	age:	7.73%			Me	edium Tri	ucks (2	Axles):	15		
Peak Hour Volu	ıme: 4	1,335 vehicles	s		He	eavy Truc	cks (3+	Axles):	15		
Vehicle Sp	eed:	50 mph		-	Vehicle	Mix					
Near/Far Lane Dista	nce:	82 feet		l		icleType		Day	Evening	Night	Daily
Site Data							Autos:	71.1%	10.9%	18.0%	91.31%
Barrier He	iaht:	0.0 feet			M	edium T	rucks:	73.6%	7.7%	18.6%	4.65%
Barrier Type (0-Wall, 1-Be		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	4.04%
Centerline Dist. to Ba	rrier:	67.0 feet		-	Noise S	ourco El	ovatio	ne (in f	not)		
Centerline Dist. to Obse	rver:	67.0 feet		-	NOISE S	Auto:		0.000	<i>(</i>		
Barrier Distance to Obse	rver:	0.0 feet			Modiu	m Truck		2.297			
Observer Height (Above I	Pad):	5.0 feet				vy Truck		1.297	Grade Ad	iustment	- 0.0
Pad Eleva	tion:	0.0 feet								dourrorn	. 0.0
Road Eleva	ation:	0.0 feet			Lane Eq	uivalent	Distar	nce (in	feet)		
Road Gr	rade:	0.0%				Auto	s: 53	3.226			
Left \	/iew:	-90.0 degree	es			m Truck		3.059			
Right \	/iew:	90.0 degree	es		Hea	vy Truck	s: 53	3.076			
FHWA Noise Model Calcu	lations										
VehicleType REM	EL	Traffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	en Bei	m Atten
Autos:	70.20	3.68		-0.5	51	-1.20		-4.71	0.0	000	0.000
Medium Trucks:	81.00	-9.25		-0.4		-1.20		-4.88		000	0.000
Heavy Trucks:	85.38	-9.86		-0.4	19	-1.20		-5.29	0.0	000	0.000
Unmitigated Noise Levels	(withou	ut Topo and	barri	er atter	nuation)						
,, ,	ak Hour			Leq E	vening		Night		Ldn		NEL
Autos:	72.2		71.0		68.9		66		73.		74.0
Medium Trucks:	70.1		69.1		65.3		64		71.		71.9
Heavy Trucks: Vehicle Noise:	73.8		72.9 76.1		68.4 72.6		67 71		75.0 78.0		75.5 78.8
											. 0.1
Centerline Distance to No	use con	nour (in reet		70	dBA	65	dBA		60 dBA	55	dBA
			Ldn:		249		53	6	1,156		2,490
		C	NFI:		260		56	1	1.208		2.602

Friday, April 24, 2	020
---------------------	-----

	FHV	WA-RD-77-10	B HIGH	IWAY N	DISE P	REDICT	TION MO	DEL			
Scenario: Road Name: Road Segment:	Cactus Av.	2003 EIR Pha n St.	ase III)				t Name: I Number:		n South Ca	ampus	
SITE SI	PECIFIC IN	IPUT DATA				ı	NOISE N	/IODEL	INPUTS	;	
Highway Data				S	ite Cor	ditions	(Hard =	10, So	ft = 15)		
Average Daily Tr Peak Hour Po Peak Hou	. ,	52,391 vehic 7.73% 4,050 vehicle					rucks (2 A Icks (3+ A	/	15 15 15		
Vehi	cle Speed:	50 mph		ν	ehicle	Mix					
Near/Far Lane	Distance:	82 feet		F.		icleType	e	Dav	Evening	Night	Daily
Site Data								71.1%	10.9%	18.0%	
Rarri	er Height:	0.0 feet			M	ledium 7	rucks:	73.6%	7.7%	18.6%	4.65%
Barrier Type (0-Wal	II, 1-Berm):	0.0				Heavy 7	rucks:	75.6%	6.7%	17.8%	4.05%
Centerline Dist.		67.0 feet		Ν	oise S	ource E	levations	s (in fe	et)		
Centerline Dist. to		67.0 feet				Auto		000	,		
Barrier Distance to		0.0 feet			Mediu	m Truck	ks: 2.2	297			
Observer Height (Al	,	5.0 feet			Hear	vy Truck	ks: 8.0	004	Grade Adj	ustment	0.0
	Elevation:	0.0 feet									
	Elevation:	0.0 feet		L	ane Eq		t Distanc		eet)		
Ro	oad Grade:	0.0%				Auto					
F	Left View: Right View:	-90.0 degre				m Truck vy Truck					
FHWA Noise Model											
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresn	el I	Barrier Atte	n Bei	m Atten
Autos:	70.20	3.38	_	-0.51	7 111110	-1.20		-4.71	0.0	_	0.000
Medium Trucks:	81.00	-9.54		-0.49		-1.20		-4.88	0.0		0.000
Heavy Trucks:	85.38	-10.15	5	-0.49		-1.20		-5.29	0.0	00	0.000
Unmitigated Noise L	evels (with	out Topo and	l barrie	er attenu	ation)						
VehicleType L	eq Peak Ηοι	ır Leq Da	У	Leq Ev	ening	Leq	Night		Ldn	C	NEL
Autos:	71	.9	70.7		68.6		66.0)	73.4		73.7
Medium Trucks:	69	8.0	68.8		65.0		64.0)	71.4		71.6
Heavy Trucks:	73	1.5	72.6		68.1		67.6	i	75.0		75.2
Vehicle Noise:	76	5.8	75.8		72.3		70.9)	78.3		78.
Centerline Distance	to Noise Co	ontour (in fee	t)								
			L	70 d		65	dBA	6	0 dBA	55	dBA
			Ldn:		238		513		1,105		2,382
		C	NEL:		249		536		1,155		2,489

	FHW	A-RD-77-108 I	IIGH	I YAWI	NOIS	E PRE	DICTIO	и мо	DEL			
Scenario: OYC (Road Name: Cactus Road Segment: w/o Gi	Av.		e III)				Project Na Job Nun			n South C	Campus	
SITE SPECIFI	C INP	UT DATA								L INPUT	s	
Highway Data					Site	Condi	itions (H					
Average Daily Traffic (A	tt): 6	0,056 vehicles	3						Autos:	15		
Peak Hour Percenta	ge:	7.73%				Medi	um Truck	ks (2 ,	Axles):	15		
Peak Hour Volun	ne: 4	,642 vehicles				Heav	vy Trucks	(3+	Axles):	15		
Vehicle Spe	ed:	50 mph		ŀ	Vehic	cle Mi	Y					
Near/Far Lane Distan	ce:	82 feet					leType		Day	Evening	Night	Daily
Site Data							Aut	os:	71.1%	10.9%	18.0%	91.32
Barrier Heig	ht:	0.0 feet				Med	lium Truc	ks:	73.6%	7.7%	18.6%	4.65
Barrier Type (0-Wall, 1-Ber		0.0				He	eavy Truc	ks:	75.6%	6.7%	17.8%	4.03
Centerline Dist. to Barr	ier:	67.0 feet		-	Nois	e Sou	rce Elev	ation	s (in fe	et)		
Centerline Dist. to Observ	er:	67.0 feet		ŀ			Autos:		000	,		
Barrier Distance to Observ	er:	0.0 feet			1/4	dium	Trucks:		297			
Observer Height (Above Pa	,	5.0 feet					Trucks:		004	Grade Ad	ljustmen	t: 0.0
Pad Elevati		0.0 feet		L		,						
Road Elevati		0.0 feet		L	Lane	Equi	valent D			eet)		
Road Gra		0.0%					Autos:		226			
Left Vie		-90.0 degrees					Trucks:		059			
Right Vi	ew:	90.0 degrees	3		F	leavy	Trucks:	53.	076			
FHWA Noise Model Calcula	tions			-								
VehicleType REME	L 1	Traffic Flow	Dis	tance	Fi	nite R	oad	Fresi	nel	Barrier At	ten Be	rm Atte
	0.20	3.98		-0.5	51		-1.20		-4.71	0.	000	0.0
-	1.00	-8.95		-0.4			-1.20		-4.88		000	0.0
Heavy Trucks: 8	5.38	-9.57		-0.4	19		-1.20		-5.29	0.	000	0.0
Unmitigated Noise Levels (withou	it Topo and b	arrie	er atter	nuatio	on)						
VehicleType Leq Peal		Leq Day		Leq E		_	Leq Ni			Ldn	_	NEL
Autos:	72.5		1.3			9.2		66.6	-	74.	-	74
Medium Trucks:	70.4	-	9.4			55.6		64.6	-	71.	-	72
Heavy Trucks:	74.1		3.2		_	88.7		68.2		75.	-	75
Vehicle Noise:	77.3	7	6.4		7	72.9		71.	5	78.	8	79
Centerline Distance to Nois	e Con	tour (in feet)		70	-10.4		05 40		1 .	- ID 4		ID 4
			dn:	70	dBA		65 dB	• •		i0 dBA		dBA
		CN				261		561		1,209		2,60
		CN	EL:		2	272		587		1,264	ŀ	2,72

	FHW	/A-RD-77-108	HIGHWAY	NOISE P	REDICT	ION MOI	DEL			
Road Nan	io: OYC (With 2 ne: Van Buren E nt: w/o Wood R	31.	se III)			! Name: I lumber: '		an South Ca	mpus	
SITE	SPECIFIC IN	PUT DATA						L INPUTS		
Highway Data				Site Cor	ditions	(Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	48,586 vehicle	es				Autos:	15		
Peak Hour	Percentage:	7.73%		Me	edium Ti	ucks (2 A	(xles	15		
Peak H	lour Volume:	3,756 vehicles	3	He	eavy Tru	cks (3+ A	(xles	15		
Ve	hicle Speed:	50 mph		Vehicle	Miv					-
Near/Far La	ne Distance:	72 feet			icleType		Day	Evening	Night D	aily
Site Data				VC/			71.1%	-	-	.44%
					ledium 7		73.6%			.63%
	rrier Height:	0.0 feet			Heavy 7		75.6%			.93%
Barrier Type (0-VI		0.0			i icavy i	rucks.	10.07	0.170	17.0%	.5070
Centerline Di		60.0 feet		Noise S	ource E	levations	s (in f	eet)		
Centerline Dist.		60.0 feet			Auto	s: 0.0	000			
Barrier Distance		0.0 feet		Mediu	m Truck	s: 2.2	297			
Observer Height	. ,	5.0 feet		Hea	vy Truck	s: 8.0	004	Grade Adju	stment: 0.0)
	ad Elevation:	0.0 feet		I ana Fa	uivalan	4 Diatana	o (in	footl		
	ad Elevation:	0.0 feet		Lane Eq		t Distanc		ieei)		
	Road Grade:	0.0%		A 4 C-	Auto					
	Left View:	-90.0 degree			m Truck					
	Right View:	90.0 degree	es	Hea	vy Truck	s: 48.0	J94			
FHWA Noise Mod	el Calculations	;								
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresn	el	Barrier Atte	n Berm A	tten
Autos:	70.20	3.06	0	.13	-1.20		-4.69	0.00	00 (0.000
Medium Trucks:	81.00	-9.89	0	.15	-1.20		-4.88	0.00	00 (0.000
Heavy Trucks:	85.38	-10.60	0	.15	-1.20		-5.34	0.00	00 (0.000
Unmitigated Nois	•		barrier atte	enuation)						
VehicleType	Leq Peak Hou			Evening		Night		Ldn	CNEL	
Autos:	72.	-	71.0	68.9		66.3		73.7		74.1
Medium Trucks:	70.	-	69.1	65.3		64.3		71.7		71.9
Heavy Trucks: Vehicle Noise:	73. 77.		72.8 76.0	68.3 72.6		67.8 71.1		75.2 78.5		75.4 78.8
				12.0	<u> </u>	/ 1.1		10.5		70.0
Centerline Distant	ce to Noise Co	ntour (in feet,		0 dBA	65	dBA		60 dBA	55 dB/	1
			Ldn:	222	00	478	L '	1.029		2.217
			VEL:	232		499		1,025		2,317
		Ci		202		735		1,073		.,517

	FH\	WA-RD-77-108	HIGH	IWAY I	NOISE P	REDICT	ION MC	DEL			
	e: Van Buren		se III)				t Name: lumber:		an South C	ampus	1
SITE S	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data					Site Cor	nditions	(Hard =	: 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	45,947 vehicle	es					Autos:	15		
Peak Hour	Percentage:	7.73%			Me	edium Tr	ucks (2	Axles):	15		
Peak H	our Volume:	3,552 vehicle	s		He	eavy Tru	cks (3+	Axles):	15		
Vel	hicle Speed:	50 mph		-	Vehicle	Miv					
Near/Far Lar	ne Distance:	72 feet		F		icleType	9	Dav	Evening	Night	Daily
Site Data							Autos:	71.1%		18.0	
Par	rier Heiaht:	0.0 feet			M	ledium T	rucks:	73.6%	7.7%	18.6	% 4.63%
Barrier Type (0-Wa		0.0				Heavy T	rucks:	75.6%	6.7%	17.8	% 3.93%
Centerline Dis	t. to Barrier:	60.0 feet		ŀ	Noise S	ource F	levation	e (in fa	oot)		
Centerline Dist. t	to Observer:	60.0 feet		ŀ	110/36 0	Auto		000	.01)		
Barrier Distance t	to Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height (/	Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	liustme	nt: 0 0
Pa	d Elevation:	0.0 feet			rica	vy IIuch	is. 0	.004	0,000,10	juourro	n. 0.0
Roa	d Elevation:	0.0 feet			Lane Eq	uivalen	t Distan	ce (in	feet)		
F	Road Grade:	0.0%				Auto	s: 48	.260			
	Left View:	-90.0 degre	es			ım Truck		.076			
	Right View:	90.0 degre	es		Hea	vy Truck	s: 48	.094			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	ten B	erm Atten
Autos:	70.20	2.82		0.1	13	-1.20		-4.69	0.0	000	0.000
Medium Trucks:	81.00	-10.14		0.1	15	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	85.38	-10.85		0.1	15	-1.20		-5.34	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrie	er atter	nuation)						
,,	Leq Peak Hou		_	Leq E	vening		Night		Ldn		CNEL
Autos:	72	2.0	70.8		68.7		66.	1	73.	4	73.8
Medium Trucks:	69	0.8	68.8		65.0)	64.	1	71.	4	71.7
Heavy Trucks:	73		72.6		68.1		67.		74.		75.2
Vehicle Noise:	76	5.8	75.8		72.3		70.	9	78.	3	78.6
Centerline Distanc	e to Noise Co	ontour (in feet)	70	/5.4						= 15.4
			L	70	dBA	65	dBA		00 dBA	_	5 dBA
		_	Ldn:		214		460		991		2,135
		C	NEL:		223		481	l	1,036	5	2,232

FHWA-RD	-77-108 HIGH	IWAY N	DISE P	REDICT	ION MO	DDEL			
Scenario: OYC (With 2003 B Road Name: Van Buren Bl. Road Segment: e/o Barton St.	EIR Phase III)				t Name: lumber:		an South C	ampus	
SITE SPECIFIC INPUT	DATA						L INPUT	S	
Highway Data		S	ite Cor	ditions	(Hard =	_	oft = 15)		
	5 vehicles					Autos:			
Peak Hour Percentage: 7.73				edium Tr		,			
	vehicles		He	avy Tru	cks (3+	Axles):	15		
	mph	ν	ehicle	Иiх					
Near/Far Lane Distance: 72	feet		Veh	icleType	9	Day	Evening	Night	Daily
Site Data					Autos:	71.1%	10.9%	18.0%	91.47%
Barrier Height: 0.0) feet		M	edium T	rucks:	73.6%		18.6%	4.61%
Barrier Type (0-Wall, 1-Berm): 0.0)			Heavy T	rucks:	75.6%	6.7%	17.8%	3.919
Centerline Dist. to Barrier: 60.0) feet	Α.	nise Si	ource E	levatio	ns (in fe	ept)		
Centerline Dist. to Observer: 60.0) feet	<u> </u>	0.00 0	Auto		.000	,01,		
Barrier Distance to Observer: 0.0) feet		Mediu	m Truck		297			
) feet			v Truck		.004	Grade Ad	iustment	0.0
) feet	-							
) feet	L	ane Eq	uivalen			eet)		
Road Grade: 0.0%	-		14	Auto		3.260 3.076			
) degrees			m Truck vy Truck		3.076 3.094			
Right View: 90.0) degrees		пеа	ry Truck	is. 40	0.094			
FHWA Noise Model Calculations									
,,,		tance		Road	Fres		Barrier Att		m Atten
Autos: 71.78	2.17	0.13		-1.20		-4.69	0.0		0.00
Medium Trucks: 82.40	-10.80	0.15		-1.20 -1.20		-4.88	0.0		0.00
Heavy Trucks: 86.40	-11.51	0.15		-1.20		-5.34	0.0	100	0.00
Unmitigated Noise Levels (without To VehicleType Leg Peak Hour				100	Niosht	1	Ldn	_	NEL
Autos: 72.9	Leq Day 71.7	Leq Ev	69.6		Night 67	0	74.4		74.
Medium Trucks: 70.6	69.6		65.8		64		72.1		72
Heavy Trucks: 73.8	72.9		68.4		67		75.3		75.
Vehicle Noise: 77.4	76.4		73.0		71		78.9		79.
Centerline Distance to Noise Contour	(in feet)								
		70 d	BA	65	dBA	6	60 dBA	55	dBA
	Ldn:		235		50	7	1,092		2,352
	CNEL:		246		53	0	1,141		2,459

OYC (With :	2003 FIR Phas	- 1111								
w/o Barton	BI.	e III)			Project N Job Nur			n South C	ampus	
PECIFIC IN	PUT DATA								S	
				Site Con	ditions (H					
raffic (Adt):	45,317 vehicle	s						15		
ercentage:	7.73%									
ur Volume:	-,			He	avy Trucks	s (3+ A	(xles	15		
cle Speed:	50 mph		ŀ	Vehicle N	1ix					
Distance:	72 feet		ŀ	Vehi	cleType		Day	Evening	Night	Daily
					Au	tos:	71.1%	10.9%	18.0%	91.47
er Heiaht	0.0 feet			Me	edium Truc	cks:	73.6%	7.7%	18.6%	4.61
II, 1-Berm):	0.0			F	leavy Truc	cks:	75.6%	6.7%	17.8%	3.92
			ľ	Noise So	urce Elev	ation	(in fe	et)		
			Ī		Autos:	0.0	000			
				Mediur	n Trucks:	2.2	297			
,				Heav	y Trucks:	8.0	004	Grade Ad	justment	0.0
				Lana Fau	iivalant D	lotone	o (in i	in nel		
				Lane Equ			•	eet)		
				A decellor						
Lett View: Right View:										
Calculations	5									
REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresn	el	Barrier Att	en Ber	m Atte
70.20	2.76		0.1	13	-1.20		-4.69	0.0	000	0.0
81.00	-10.21		0.1	15	-1.20		-4.88	0.0	000	0.0
85.38	-10.92		0.1	15	-1.20		-5.34	0.0	000	0.0
•	-									
•			Leq E		Leq Ni					NEL
										73
									-	71
		_								75
		5.7		72.2		70.8		78.	2	78
to Noise Co	ntour (in feet)		70	dRΔ	65 dE	PΔ	-	n dRA	55	dBA
	,	dn.	70		00 00					2.11
		IFI:		221		476		1.025		2,1
	raffic (Adt): ercentage: ur Volume: cle Speed: b Distance: er Height: II, 1-Berm): to Barrier: Observer: observer: bove Pad): Lefevation: Add Grade: Left View: Calculation: REMEL 70.20 81.00 85.38 Levels (with eq Peak Hou 73.30 76	ercentage: 7.73% ur Volume: 3,503 vehicles cles Speed: 50 mph 20 Distance: 50 mph 12 Deet er Height: 0.0 feet (III, 1-Berm): 0.0 to Barrier: 60.0 feet (Observer: 0.0 feet bove Pad): 5.0 feet bove Pad): 5.0 feet televation: 0.0 feet televation: 0.0 feet coad Grade: 0.0% Left View: 90.0 degree REMEL Traffic Flow 70 20 2.76 81.00 90.0 degree 2.85.38 1-10.92 Levels (without Topo and Leq Day 71.9 69.7 6.7 73.4 76.7	raffic (Adt): 45,317 vehicles ercentage: 7,73% 2,73% 2,73% 2,73% 2,72 feet 5 mph 72 feet 6 mph 72 fe	raffic (Adt): 45,317 vehicles ercentage: 7.73%	Site Com- Carlina Carlina Carlina Carlina	Site Conditions (Hamiltonia	Site Conditions (Hard =	Site Conditions (Hard = 10, Sc Autos: ercentage: 7,73% Medium Trucks (2 Autes): 10 Distance: 72 feet Medium Trucks (3 + Axles): 10 Distance: 72 feet Medium Trucks (3 + Axles): 10 Distance: 72 feet Medium Trucks (3 + Axles): 10 Distance: 72 feet Medium Trucks (3 + Axles): 10 Distance: 72 feet Medium Trucks: 73.6% Medium Trucks: 73.6% Medium Trucks: 73.6% Medium Trucks: 75.6% Moise Source Elevations (in feet)	Site Conditions (Hard = 10, Soft = 15)	Site Conditions (Hard = 10, Soft = 15)

	FH)	WA-RD-77-108	HIGHWAY	NOISE P	REDICTI	ON MODEL		
Road Nan	ne: Van Buren	2003 EIR Pha Bl. Terrace Pkwy	,			Name: Meri umber: 1276	dian South Ca 31	mpus
SITE	SPECIFIC IN	IPUT DATA					EL INPUTS	
Highway Data				Site Cor	nditions (Hard = 10,	Soft = 15)	
Average Daily	Traffic (Adt):	47,736 vehicle	es			Auto	s: 15	
Peak Hour	Percentage:	7.73%		Me	edium Tru	cks (2 Axle	s): 15	
Peak F	lour Volume:	3,690 vehicles	S	He	eavy Truc	ks (3+ Axle	s): 15	
Ve	hicle Speed:	55 mph		Vehicle	Miv			
Near/Far La	ne Distance:	72 feet			nicleType	Day	Evening	Night Daily
Site Data						utos: 71.1		18.0% 90.55%
Ra	rrier Height:	0.0 feet		M	ledium Tr	ucks: 73.6	3% 7.7%	18.6% 4.73%
Barrier Type (0-W		0.0			Heavy Tr	ucks: 75.6	6.7%	17.8% 4.72%
Centerline Di		60.0 feet						
Centerline Dist.	to Observer:	60.0 feet		Noise S		evations (in	reet)	
Barrier Distance	to Observer:	0.0 feet			Autos			
Observer Height	(Above Pad):	5.0 feet			m Trucks		Crodo Adii	intmonti 0.0
P	ad Elevation:	0.0 feet		Hea	vy Trucks	8.004	Grade Adju	ıstment: 0.0
Ro	ad Elevation:	0.0 feet		Lane Eq	uivalent	Distance (i	n feet)	
	Road Grade:	0.0%			Autos	: 48.260		
	Left View:	-90.0 degree	es	Mediu	ım Trucks	: 48.076		
	Right View:	90.0 degree	es	Hea	vy Trucks	: 48.094		
FHWA Noise Mod	el Calculation	s		1				
VehicleType	REMEL	Traffic Flow	Distance	e Finite	Road	Fresnel	Barrier Atte	n Berm Atten
Autos:	71.78).13	-1.20	-4.6		
Medium Trucks:).15	-1.20	-4.8		
Heavy Trucks:	86.40	-10.30	0).15	-1.20	-5.3	0.00	0.000
Unmitigated Noise			barrier att	enuation)				
VehicleType	Leq Peak Ho			Evening	Leq I	•	Ldn	CNEL
Autos:			72.1	70.0		67.4	74.7	75.1
Medium Trucks:			70.1	66.3		65.3	72.7	72.9
Heavy Trucks:			74.2	69.6		69.1	76.5	76.7
Vehicle Noise:			77.2	73.7		72.3	79.7	80.0
Centerline Distant	ce to Noise C	ontour (in feet						
				0 dBA	65 (60 dBA	55 dBA
			Ldn:	265		571	1,231	2,652
		C	NEL:	277		597	1,286	2,771

	FHV	VA-RD-77-108	HIGH	IWAY N	OISE P	REDICT	ION M	ODEL			
Road Nam	e: Van Buren	2003 EIR Pha Bl. Terrace Pkwy	,					: Meridia : 12761	an South C	ampus	
SITE S	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data				5	Site Cor	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	49,644 vehicle	es					Autos:	15		
Peak Hour	Percentage:	7.73%			Me	edium Tr	ucks (2	Axles):	15		
Peak H	our Volume:	3,837 vehicle	s		He	eavy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	55 mph		1	/ehicle	Mix					
Near/Far Lai	ne Distance:	72 feet		F		icleType	,	Day	Evening	Night	Daily
Site Data							Autos:	71.1%		18.0%	,
Rai	rier Height:	0.0 feet			M	edium T	rucks:	73.6%	7.7%	18.6%	4.73%
Barrier Type (0-W	all, 1-Berm):	0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	4.69%
Centerline Dis		60.0 feet			loise S	ource El	evatio	ns (in fe	eet)		
Centerline Dist.		60.0 feet				Auto	s: (0.000			
Barrier Distance		0.0 feet			Mediu	m Truck	s: 2	2.297			
Observer Height (5.0 feet			Hea	vy Truck	s: 8	3.004	Grade Ad	ljustmeni	: 0.0
	ad Elevation:	0.0 feet		١.		•)		
	ad Elevation:	0.0 feet			ane Eq	uivalen			reet)		
I	Road Grade:	0.0%				Auto		3.260			
	Left View:	-90.0 degree				m Truck		3.076			
	Right View:	90.0 degree	es		Hea	vy Truck	s: 48	3.094			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att	ten Bei	m Atten
Autos:	71.78	2.70		0.13		-1.20		-4.69		000	0.00
Medium Trucks:	82.40	-10.12		0.15		-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-10.16		0.15		-1.20		-5.34	0.0	000	0.000
Unmitigated Noise								_		_	
,,	Leq Peak Hou	, ,		Leq Ev			Night		Ldn		NEL
Autos:	73 71		72.3 70.2		70.1 66.5		67 65		74. 72.	-	75.: 73.:
Medium Trucks:	71 75		74.3		69.8		69		76.	-	76.9
Heavy Trucks: Vehicle Noise:	75		77.3		73.9		72		76.		80.
					70.5		12		15.		00.
Centerline Distanc	e to Noise Co	ontour (in feet		70 c	IBA	65	dBA	1 6	60 dBA	55	dBA
			Ldn:		272		58		1.261		2.717
		С	NEL:		284		61	2	1,318		2,839

	FHW	/A-RD-77-108	HIGHV	WAY NO	DISE P	REDICT	TION MO	DEL			
Scenario: Road Name: Road Segment:	Van Buren E		e III)				t Name: Number:		an South Ca	ampus	
SITE SP	ECIFIC IN	PUT DATA					NOISE I	ЛОDE	L INPUTS	;	
Highway Data				Si	ite Cor	ditions	(Hard =	10, S	oft = 15)		
Average Daily Tra Peak Hour Pe Peak Hou	rcentage:	64,758 vehicle 7.73% 5,006 vehicles					rucks (2 i	,	15		
Vehic	le Speed:	55 mph		16	ehicle	Miv					
Near/Far Lane	Distance:	73 feet				icleTyp	e	Dav	Evening	Night	Daily
Site Data							Autos:	71.19		18.0%	
Parrie	er Height:	0.0 feet			М	edium 1	Trucks:	73.6%	7.7%	18.6%	5.03%
Barrier Type (0-Wall,	1-Berm):	0.0				Heavy T	Trucks:	75.6%	6.7%	17.8%	6.879
Centerline Dist.		55.0 feet		N	oise S	ource E	levation	s (in f	eet)		
Centerline Dist. to	Observer:	55.0 feet				Auto		000	,		
Barrier Distance to	Observer:	0.0 feet			Mediu	m Truci		297			
Observer Height (Ab	ove Pad):	5.0 feet				/y Truci		004	Grade Adju	ustmen	t: 0.0
	Elevation:	0.0 feet									
	Elevation:	0.0 feet		Lá	ane Eq		t Distan		feet)		
	ad Grade:	0.0%				Auto		446			
	Left View: ight View:	-90.0 degree 90.0 degree				m Truci ⁄y Truci		232 253			
FHWA Noise Model (Calculations	;									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresr	nel	Barrier Atte	n Be	rm Atten
Autos:	71.78	3.74		1.12		-1.20		-4.67	0.0	00	0.00
Medium Trucks:	82.40	-8.70		1.15		-1.20		-4.87	0.0	00	0.00
Heavy Trucks:	86.40	-7.34		1.15		-1.20		-5.38	0.0	00	0.00
Unmitigated Noise L	evels (witho	out Topo and I	arrier	attenu	ation)						
VehicleType Le	q Peak Hou			Leq Eve			Night		Ldn	С	NEL
Autos:	75.		4.3		72.2		69.6		76.9		77.
Medium Trucks:	73.		2.7		68.9		67.9		75.3		75.
Heavy Trucks:	79.	-	'8.1		73.6		73.		80.5		80.
Vehicle Noise:	81.	4 8	30.4		76.7		75.5	5	82.9		83.
Centerline Distance	to Noise Co	ntour (in feet)									
				70 dE		65	dBA		60 dBA	55	dBA
			dn:		397		856		1,844		3,972
		CN	IEL:		414		893		1,923		4,144

		/A-RD-77-108	HIGHW	AY NC	JISE PR	EDICTIC	OINI MC	DEL			
	o: OYC (With 2 e: Van Buren E t: w/o Meridia	BI.	se III)			Project N Job Nu			n South C	ampus	
	PECIFIC IN	PUT DATA							L INPUT	S	
Highway Data				Si	te Cond	ditions (F	lard =	10, Sc	oft = 15)		
Average Daily	raffic (Adt):	59,018 vehicle	es					Autos:	15		
Peak Hour I	Percentage:	7.73%			Med	dium Truc	ks (2 /	Axles):	15		
Peak Ho	our Volume:	4,562 vehicle	S		Hea	avy Truck	is (3+ /	4xles):	15		
Vel	icle Speed:	55 mph		Ve	ehicle N	lix					
Near/Far Lar	e Distance:	73 feet		-		cleType		Day	Evening	Night	Daily
Site Data						Au	ıtos:	71.1%	10.9%	18.0%	87.79
Ran	rier Heiaht:	0.0 feet			Ме	dium Tru	cks:	73.6%	7.7%	18.6%	5.069
Barrier Type (0-Wa		0.0			H	leavy Tru	cks:	75.6%	6.7%	17.8%	7.15
Centerline Dis	t. to Barrier:	55.0 feet		No	oise So	urce Ele	vation.	s (in fe	et)		
Centerline Dist. t	o Observer:	55.0 feet		-		Autos:		000	,		
Barrier Distance t	o Observer:	0.0 feet			Mediur	n Trucks:		297			
Observer Height (/	Above Pad):	5.0 feet				v Trucks:		004	Grade Ad	iustment.	0.0
	d Elevation:	0.0 feet									
	d Elevation:	0.0 feet		Lá	ne Equ	iivalent L			eet)		
F	Road Grade:	0.0%				Autos:		446			
	Left View:	-90.0 degre				n Trucks:		232			
	Right View:	90.0 degre	es		Heav	y Trucks:	41.	253			
FHWA Noise Mode	l Calculations	;									
VehicleType	REMEL	Traffic Flow	Dista		Finite		Fresr		Barrier Att	en Ber	m Atten
Autos:	71.78	3.32		1.12		-1.20		-4.67		000	0.00
Medium Trucks:	82.40	-9.08		1.15		-1.20		-4.87		000	0.00
Heavy Trucks:	86.40	-7.57		1.15		-1.20		-5.38	0.0	000	0.00
Unmitigated Noise	•										
	Leq Peak Hou			eq Eve		Leq N	_		Ldn		VEL
Autos:	75.	-	73.9		71.8		69.1		76.5		76
Medium Trucks:	73.	-	72.3		68.5		67.6	-	74.9		75
Heavy Trucks:_ Vehicle Noise:	78.		77.9		73.4		72.8		80.2		80
	81.	.1	80.1		76.4		75.2	2	82.6	j .	82
veriicie ivoise.) _								
	e to Noise Co	ntour (in feet		70 -15	2.4	OF -1	D 4				-ID 4
	e to Noise Co	ntour (in feet	Later	70 dE		65 dl			i0 dBA		dBA
Centerline Distanc	e to Noise Co	•	Ldn: NFI:	70 dE	379 396	65 dl	817 852		0 dBA 1,760 1.836		dBA 3,79 3.95

Friday, April 24, 2020

	FHV	VA-RD-77-108	HIGH	WAY N	IOISE PE	REDICTION	ON MC	DEL				
Road Nan	io: OYC (With	BI.	e III)			Project i Job Nu			an South C	ampus		
Road Segme	nt: e/o Opportu	inity Way										
	SPECIFIC IN	PUT DATA							L INPUT	S		
Highway Data					Site Con	ditions (Hard =	10, S				
Average Daily	Traffic (Adt):	68,690 vehicle	s					Autos:				
Peak Hour	Percentage:	7.73%				dium Tru						
Peak F	lour Volume:	5,310 vehicles			He	avy Truc	ks (3+	Axles):	15			
Ve	hicle Speed:	55 mph			Vehicle I	Mix						
Near/Far La	ne Distance:	73 feet		F		icleType		Day	Evening	Night	Daily	
Site Data						A	utos:	71.1%	10.9%	18.0%	88.29%	
Ra	rrier Height:	0.0 feet			Me	edium Tr	ucks:	73.6%	7.7%	18.6%	5.01%	
Barrier Type (0-W		0.0 1001			F	leavy Tr	ucks:	75.6%	6.7%	17.8%	6.70%	
Centerline Di		55.0 feet		_ L								
Centerline Dist.		55.0 feet		1	Noise Sc			_	eet)			
Barrier Distance		0.0 feet				Autos		000				
Observer Height		5.0 feet				m Trucks		297				
	ad Flevation:	0.0 feet			Heav	y Trucks	: 8	004	Grade Ad	justmen	f: 0.0	
	ad Elevation:	0.0 feet		1	Lane Eq	uivalent	Distan	ce (in	feet)			
	Road Grade:	0.0%				Autos	: 41	.446				
	Left View:	-90.0 degrees			Medium Trucks: 41.232							
	Right View:	90.0 degree			Heav	y Trucks	: 41	.253				
FHWA Noise Mod	el Calculations	S										
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite		Fresi		Barrier Att		rm Atten	
Autos:	71.78	4.00		1.1	_	-1.20		-4.67		000	0.000	
Medium Trucks:		-8.46		1.1	-	-1.20		-4.87		000	0.000	
Heavy Trucks:	86.40	-7.19		1.1	5	-1.20		-5.38	0.0	000	0.000	
Unmitigated Nois	e Levels (with	out Topo and I	barrie	r atten	uation)							
VehicleType	Leq Peak Hou	r Leq Day		Leq E	vening	Leq N	light		Ldn		NEL	
Autos:	75		74.5		72.4		69.		77.2		77.6	
Medium Trucks:	73	.9	72.9		69.1		68.	2	75.5	5	75.8	
Heavy Trucks:		78.3		73.8			73.2 80.6			80.8		
Vehicle Noise:	81	.6	80.6		76.9		75.	7	83.1	1	83.4	
Centerline Distan	ce to Noise Co	ntour (in feet)										
			L	70 c		65 a		_	60 dBA		dBA	
			Ldn:		409		882		1,899		4,092	
		CI	VFI:		427		920)	1 982		4 269	

	FHV	VA-RD-77-108	HIGH	WAY I	NOISE P	REDICT	ION M	ODEL								
Road Nam	io: OYC (With ne: I-215 Fwy. nt: n/o Alessar		se III)		Project Name: Meridian South Campus Job Number: 12761											
SITE	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS											
Highway Data					Site Conditions (Hard = 10, Soft = 15)											
Average Daily	Traffic (Adt):	106,986 vehicle	es					Autos:	15							
Peak Hour	Percentage:	7.73%			Me	edium Tr	ucks (2	Axles):	15							
Peak H	lour Volume:	8,270 vehicle	s		He	eavy Tru	cks (3+	Axles):	15							
Ve	hicle Speed:	65 mph		ŀ	Vehicle	Mix										
Near/Far La	ne Distance:	130 feet		-		icleType	,	Dav	Evening	Night	Daily					
Site Data							Autos:	71.1%		18.0%						
Rai	rrier Height:	0.0 feet			Medium Trucks: 73.6% 7.7% 18.6%						4.80%					
Barrier Type (0-W		0.0			Heavy Trucks: 75.6% 6.7% 17.8% 5.13											
Centerline Dis	Centerline Dist. to Barrier: 125.0 feet Centerline Dist. to Observer: 125.0 feet						Noise Source Elevations (in feet)									
Centerline Dist.	-		Auto		0.000	,										
Barrier Distance	Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet					m Truck		297								
Observer Height (Hear	vy Truck	s: 8	3.004	Grade Ad	justment	0.0								
	ad Elevation:	0.0 feet				•										
	ad Elevation:	0.0 feet			Lane Eq				feet)							
1	Road Grade:	0.0%				Auto		888.6								
	Left View:	-90.0 degree				m Truck		3.805								
	Right View:	90.0 degree	es		Hea	vy Truck	s: 106	5.813								
FHWA Noise Mode	el Calculation	s														
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	snel	Barrier Att	en Ber	m Atten					
Autos:	74.55	5.29		-5.0)5	-1.20		-4.79	0.0	000	0.000					
Medium Trucks:	84.86	-7.44		-5.0)5	-1.20		-4.88	0.0	000	0.000					
Heavy Trucks:	88.18	-7.15		-5.0)5	-1.20		-5.11	0.0	000	0.000					
Unmitigated Noise																
	Leq Peak Hou	, ,		Leq E	vening		Night		Ldn		NEL					
Autos:	73		72.4		70.3		67		75.		75.4					
Medium Trucks:	71	-	70.2		66.4		65		72.	-	73.0					
Heavy Trucks: Vehicle Noise:	74 78		73.9		69.4 73.8		68 72		76.2 79.2		76.9					
Centerline Distance					70.0					•						
Centernine Distant	e to Moise Co	nnour (iii řeet	,	70	dBA	65	dBA	6	60 dBA	55	dBA					
			Ldn:		553	•	1,19	2	2,568	i	5,533					
	CNEL:						, , , , , , , , , , , , , , , , , , , ,				5,784					

Friday, April 24, 20	020
----------------------	-----

	FHW	A-RD-77-108	HIGH	HWAY N	OISE P	REDICT	ION MO	DDEL						
Scenario: OYC Road Name: I-21 Road Segment: s/o C	5 Fwy.		se III)		Project Name: Meridian South Campus Job Number: 12761									
SITE SPECI	FIC IN	PUT DATA			NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15)									
Highway Data				S	ite Cor	ditions	(Hard:	= 10, Sc	oft = 15)					
Average Daily Traffic ((Adt): 1	15,198 vehicle	es					Autos:	15					
Peak Hour Percen	tage:	7.73%			Me	edium Ti	rucks (2	Axles):	15					
Peak Hour Vol	ume:	8,905 vehicle	s		Heavy Trucks (3+ Axles): 15									
Vehicle Sp	peed:	65 mph		ı	Vehicle Mix									
Near/Far Lane Dista	ľ		icleType	9	Day	Evening	Night	Daily						
Site Data							Autos:	71.1%	10.9%	18.0%	90.119			
Barrier He	iaht:	0.0 feet			M	ledium 7	rucks:	73.6%	7.7%	18.6%	4.80%			
Barrier Type (0-Wall, 1-B	•	0.0				Heavy 7	rucks:	75.6%	6.7%	17.8%	5.109			
Centerline Dist. to Ba	arrier:	125.0 feet		^	loise S	ource E	levatio	ns (in f	eet)					
Centerline Dist. to Obse	erver:	125.0 feet		F		Auto		0.000	,					
Barrier Distance to Obse	erver:	0.0 feet			Mediu	m Truck	(S: 2	297						
Observer Height (Above	,	5.0 feet			Hea	vy Truck	(S: 8	3.004	Grade Ad	iustment	0.0			
Pad Eleva		0.0 feet		-		·								
Road Eleva		0.0 feet		L	ane Eq	uivalen			reet)					
Road G		0.0%					os: 106							
	View:	-90.0 degree				m Truck								
Right 1	view:	90.0 degree	es		неа	vy Truck	(S: 100	0.813						
FHWA Noise Model Calcu														
VehicleType REM		Traffic Flow	Di	stance		Road	Fres		Barrier Att		m Atten			
Autos:	74.55	5.61		-5.05		-1.20		-4.79		000	0.00			
Medium Trucks:	84.86	-7.13		-5.05		-1.20		-4.88		000	0.00			
Heavy Trucks:	88.18	-6.87		-5.05		-1.20		-5.11	0.0	000	0.00			
VehicleType Leg Pe	s (witho eak Hour		_	er atten ı Leg Ev		100	Night	1	Ldn		NEL			
Autos:	73.1		72.7	Ley Ev	70.6		rvigrit 68	0	75.4		VEL 75.			
Medium Trucks:	71.	-	70.5		66.7		65		73.1		73.			
Heavy Trucks:	75.	-	74.2		69.7						76.			
Vehicle Noise:					74.1		72		80.0		80.			
Centerline Distance to No	oise Coi	ntour (in feet)											
		,		70 d	'BA	65	dBA		60 dBA	55	dBA			
			Ldn:		580		1,24	9	2,691		5,799			

	io: OYC (With	2003 EIR Pha	se III)						n South C	ampus				
	e: I-215 Fwy.					Job N	umber:	12761						
Road Segme	nt: s/o Alessan	aro BI.												
	SPECIFIC IN	PUT DATA			NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15)									
Highway Data					Site Con	iditions (
Average Daily	. ,		es					Autos:	15					
	Percentage:	7.73%				edium Tru								
	lour Volume:	8,792 vehicles	S		He	avy Truc	ks (3+)	Axles):	15					
	hicle Speed:	65 mph		1	/ehicle	Mix								
Near/Far La	ne Distance:	130 feet		F	Veh	icleType		Day	Evening	Night	Daily			
Site Data						Α	utos:	71.1%	10.9%	18.0%	90.14			
Rai	rrier Height:	0.0 feet			М	edium Tr	ucks:	73.6%	7.7%	18.6%	4.79			
Barrier Type (0-W		0.0				Heavy Tr	ucks:	75.6%	6.7%	17.8%	5.06			
Centerline Dis	st. to Barrier:	125.0 feet		,	Voise So	ource Ele	evation	s (in fe	et)					
Centerline Dist.	to Observer:	125.0 feet		F		Autos		000	,					
Barrier Distance	to Observer:	0.0 feet			Madiu	m Trucks		297						
Observer Height (Above Pad):	5.0 feet				vy Trucks		004	Grade Ad	iustment	: 0.0			
Pa	ad Elevation:	0.0 feet				•					0.0			
Ros	ad Elevation:	0.0 feet		ı	.ane Eq	uivalent	Distan	ce (in t	eet)					
	Road Grade:	0.0%				Autos	: 106.	888						
	Left View:	-90.0 degree	es			m Trucks								
	Right View:	90.0 degree	es		Hear	y Trucks	: 106.	813						
FHWA Noise Mode	el Calculations	S												
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atter			
Autos:	74.55	5.56		-5.0	5	-1.20		-4.79	0.0	000	0.00			
Medium Trucks:	84.86	-7.19		-5.0	5	-1.20		-4.88	0.0	000	0.00			
Heavy Trucks:	88.18	-6.95		-5.0	5	-1.20		-5.11	0.0	000	0.00			
Unmitigated Noise	e Levels (with	out Topo and	barrie	er atten	uation)									
VehicleType	Leq Peak Hou			Leq E		Leq I			Ldn		VEL			
Autos:	73		72.7		70.6		68.0	-	75.3		75			
Medium Trucks:	71		70.4		66.7		65.7		73.0		73			
Heavy Trucks: 75.0 74.1					69.6		69.		76.4		76			
Vehicle Noise:	78	.4	77.4		74.0		72.6	6	79.9)	80			
Centerline Distand	ce to Noise Co	ntour (in feet)											
			L	70 c		65 (i0 dBA		dBA			
			Ldn:		574		1.236		2.663		5.73			
			NEL:		600		1.293		2.785		6.00			

	FH	WA-RD-77-	108 HIGH	1 YAWH	NOISE PE	REDICT	ION MO	DEL						
Road Nan	io: OYC (With ne: I-215 Fwy. nt: s/o Van Bu		hase III)		Project Name: Meridian South Campus Job Number: 12761									
	SPECIFIC II	NPUT DAT	Ά		NOISE MODEL INPUTS									
Highway Data					Site Conditions (Hard = 10, Soft = 15)									
Average Daily	Traffic (Adt):	122,103 veh	nicles					Autos:	15					
Peak Hour	Percentage:	7.73%			Me	dium Tr	ucks (2)	Axles):	15					
Peak F	lour Volume:	9,439 vehi	cles		He	avy Tru	cks (3+ /	Axles):	15					
Ve	hicle Speed:	65 mph	1	F	Vehicle I	Miv								
Near/Far La	ne Distance:	130 feet		F		icleType		Dav	Evening	Night	Daily			
Site Data							Autos:	71.1%	-	18.0%				
Ra	rrier Heiaht:	0.0 fee	ıt		Me	edium T	rucks:	73.6%	7.7%	18.6%	4.70%			
Barrier Type (0-W		0.0			F	Heavy T	rucks:	75.6%	6.7%	17.8%	4.40%			
Centerline Di		125.0 fee	đ											
Centerline Dist.	to Observer:	125.0 fee	t	- 4	Noise Sc				eet)					
Barrier Distance	to Observer:	0.0 fee				Auto		000						
Observer Height	(Above Pad):	5.0 fee	t			m Truck		297						
	ad Flevation:	0.0 fee			Heav	y Truck	s: 8.	004	Grade Adj	ustmen	: 0.0			
Ro	ad Elevation:	0.0 fee			Lane Eq	uivalen	t Distan	ce (in	feet)					
	Road Grade:	0.0%				Auto	s: 106.	888						
	Left View:	-90.0 de	arees		Mediui	m Truck	s: 106.	805						
	Right View:	90.0 deg	grees		Heav	y Truck	s: 106.	813						
FHWA Noise Mod	el Calculation	18												
VehicleType	REMEL	Traffic Flo		stance	_	Road	Fresr		Barrier Atte	_	m Atten			
Autos:			.90	-5.0	-	-1.20		-4.79	0.0		0.00			
Medium Trucks:			.97	-5.0		-1.20		-4.88	0.0		0.000			
Heavy Trucks:	88.18	3 -7	.25	-5.0	5	-1.20		-5.11	0.0	100	0.000			
Inmitigated Noise	e Levels (with	nout Topo a	nd barri	er atten	uation)									
VehicleType	Leq Peak Ho	ur Leq		Leq E	vening	Leq	Night		Ldn		NEL			
Autos:		4.2	73.0		70.9		68.3		75.7		76.1 73.5			
Medium Trucks:		1.7	70.6		66.9	65.9			73.2					
Heavy Trucks:		4.7	73.8		69.3		68.8		76.1		76.4			
Vehicle Noise:	7	8.5	77.5		74.1		72.6	3	80.0)	80.3			
Centerline Distan	ce to Noise C	ontour (in f	eet)							,				
			L	70	dBA	65	dBA		60 dBA	55	dBA			
			Ldn:		578		1,244		2,681		5,775			
			CNEL:		604		1.302		2.804		6.042			

	FH\	WA-RD-77-108	HIGH	WAY N	IOISE P	REDICT	ION MC	DEL						
Road Nar	rio: HY (With 2 ne: Wood Rd. ent: n/o Van Bu	003 EIR Phase	e III)		Project Name: Meridian South Campus Job Number: 12761									
	SPECIFIC IN				NOISE MODEL INPUTS									
Highway Data	Si Edii id ii	II OI DAIA			Site Conditions (Hard = 10, Soft = 15)									
Average Daily	Traffic (Adt):	16,532 vehicle	es		Autos: 15									
,	r Percentage:	7.73%	-		Me	edium Tr	ucks (2							
	Hour Volume:	1.278 vehicle	s			eavy Tru		,						
Ve	ehicle Speed:	45 mph		-	Vehicle	Miss								
Near/Far La	ane Distance:	36 feet		- 1		icleType		Dav	Evening	Night	Daily			
Site Data				\dashv	Ven		Autos:	71.19		18.09				
					M	edium T		73.6%		18.69				
Barrier Type (0-V	rrier Height:	0.0 feet 0.0				Heavy T		75.6%		17.89				
,, ,	ist. to Barrier:	44.0 feet			Noise Source Elevations (in feet)									
	Centerline Dist. to Observer: 44.0 feet							•	eet)					
Barrier Distance to Observer: 0.0 feet						Auto		.000						
Observer Height (Above Pad): 5.0 feet						m Truck		.297	0	E 4	1.00			
	Pad Elevation:	0.0 feet			Hea	vy Truck	s: 8	.004	Grade Ad	justmer	it: 0.0			
Ro	ad Elevation:	0.0 feet		L	Lane Eq	uivalen	t Distan	ce (in	feet)					
	Road Grade:	0.0%				Auto	s: 40	.460						
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 40	.241						
	Right View:	90.0 degree	es		Hea	vy Truck	s: 40	.262						
FHWA Noise Mod	lel Calculation	s												
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten			
Autos:				1.28	-	-1.20		-4.61		000	0.000			
Medium Trucks:				1.3						0.000				
Heavy Trucks:	84.25	-14.82		1.3	1	-1.20		-5.50	0.0	000	0.000			
Unmitigated Nois		-						_						
VehicleType	Leq Peak Hou			Leg E			Night	-	Ldn		CNEL			
Autos: Medium Trucks:			66.2 64.5		64.1 60.7		61.		68.9		69.2			
Heavy Trucks:			68.7		64.1		59.7 63.6		67.0 71.0		67.3 71.2			
Vehicle Noise:			71.6		68.0		66.	-	74.0	-	74.3			
Centerline Distan	ce to Noise C	ontour (in feet	1)											
Contentine Distant	0 HOISE O	JJui (III leet	,	70 c	1BA	65	dBA		60 dBA	5	5 dBA			
			Ldn:		82		176	3	380	1	818			
		C	NEL:		85		184	1	397		855			

Site Data Autos: 71.1% 10.9%	light Daily
Highway Data Site Conditions (Hard = 10, Soft = 15)	licht Daily
Average Daily Traffic (Adt): 31,685 vehicles Autos: 15	light Daily
Peak Hour Percentage: 7.73% Medium Trucks (2 Axles): 15	light Daily
Peak Hour Volume: 2,449 vehicles Heavy Trucks (3+ Axles): 15 Vehicle Speed: 50 mph Vehicle Mix Near/Far Lane Distance: 72 feet Vehicle Type Day Evening N Site Data Autos: 71.1% 10.9% -	light Daily
Vehicle Speed: 50 mph Vehicle Mix Near/Far Lane Distance: 72 feet Vehicle Type Day Evening Nevening Site Data Autos: 71.1% 10.9%	light Daily
Near/Far Lane Distance: 72 feet Vehicle Mix Day Evening N Site Data Autos: 71.1% 10.9% -	light Daily
Near/Far Lane Distance: 72 feet VehicleType Day Evening N Site Data Autos: 71.1% 10.9% <td< td=""><td>light Daily</td></td<>	light Daily
	18.0% 91.42%
Barrier Height: 0.0 feet Medium Trucks: 73.6% 7.7%	18.6% 4.64%
	17.8% 3.94%
Centerline Dist. to Barrier: 60.0 feet Noise Source Elevations (in feet)	
Centerline Dist. to Observer: 60.0 feet Autos: 0.000	
Barrier Distance to Observer: 0.0 feet Medium Trucks: 2.297	
Observer Height (Above Pad): 5.0 feet Heavy Trucks: 8.004 Grade Adjus	tment: 0.0
Pad Elevation: 0.0 feet	
Road Elevation: 0.0 feet Lane Equivalent Distance (in feet)	
Road Grade: 0.0% Autos: 48.260	
Left View: -90.0 degrees Medium Trucks: 48.076	
Right View: 90.0 degrees Heavy Trucks: 48.094	
FHWA Noise Model Calculations	
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten	
Autos: 70.20 1.21 0.13 -1.20 -4.69 0.000	
Medium Trucks: 81.00 -11.74 0.15 -1.20 -4.88 0.000	
Heavy Trucks: 85.38 -12.45 0.15 -1.20 -5.34 0.000	0.00
Unmitigated Noise Levels (without Topo and barrier attenuation)	
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn	CNEL
Autos: 70.3 69.2 67.1 64.5 71.8	72.
Medium Trucks: 68.2 67.2 63.4 62.5 69.8 Heavy Trucks: 71.9 71.0 66.5 65.9 73.3	70.
Heavy Trucks: 71.9 71.0 66.5 65.9 73.3 Vehicle Noise: 75.2 74.2 70.7 69.3 76.7	73.
	11.
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA	55 dBA
/ da 65 dBA 60 d	55 dBA 1.669
Lan: 167 359 775 CNFL: 174 376 809	1,669
CIVEL. 174 376 809	1,744

	- FHW	/A-RD-77-108	півн	WAT NO	лос Рі	KEDIC II	ON WIC	DEL						
	o: HY (With 20 e: Wood Rd. t: s/o Van Bur		: III)		Project Name: Meridian South Campus Job Number: 12761									
SITE S	PECIFIC IN	PUT DATA			NOISE MODEL INPUTS									
Highway Data				Si	te Con	ditions	(Hard =	: 10, Sc	oft = 15)					
Average Daily T Peak Hour I Peak Hi	Percentage:	23,526 vehicle 7.73% 1.819 vehicle				edium Tru eavy Truc		,	15					
	nicle Speed:	40 mph	-				(
Near/Far Lar	,	36 feet	Ve	Vehicle Mix Vehicle Type Day Evening Night Daily										
Site Data					VCII		Autos:	71.1%		18.0%	,			
	alan Haladar	0.0.61			M	edium Ti		73.6%		18.6%				
Barrier Type (0-Wa	rier Height: all, 1-Berm):	0.0 feet 0.0				Heavy Ti		75.6%		17.8%				
Centerline Dis	t. to Barrier:	44.0 feet		N	Noise Source Elevations (in feet)									
Centerline Dist. t	o Observer:	44.0 feet		-		Auto		.000	,					
Barrier Distance t	o Observer:	0.0 feet			Madiu	m Truck:		297						
Observer Height (/	,	5.0 feet				v Truck		.004	Grade Ad	iustment	: 0.0			
	d Elevation:	0.0 feet		_		,								
	d Elevation:	0.0 feet		Lá	ane Eq	uivalent			feet)					
F	Road Grade:	0.0%				Auto		.460						
	Left View:	-90.0 degree				m Truck		.241						
	Right View:	90.0 degre	es		Heav	y Truck	s: 40	.262						
FHWA Noise Mode														
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atter			
Autos:	66.51	0.88		1.28		-1.20		-4.61		000	0.00			
Medium Trucks:	77.72	-12.06		1.31		-1.20		-4.87		000	0.00			
Heavy Trucks:	82.99	-12.77		1.31		-1.20		-5.50	0.0	000	0.00			
Unmitigated Noise	•	-						_						
	Leq Peak Hou		_	Leg Eve			Night		Ldn		NEL			
Autos: Medium Trucks:	67. 65.	-	66.3 64.8		64.2		61. 60.	-	69.0 67.4		69 67			
		-	69.4					-						
Heavy Trucks:_ Vehicle Noise:						64.9 64.4 71.8 68.5 67.2 74.5					72 74			
Centerline Distanc			1											
centerine Distanc	e to Noise Co	mour (in teet	,	70 dE	RA.	65	dBA	1 6	SO dBA	55	dBA			
			Ldn:	70 02	88	00	190)	410		88			

	FH\	VA-RD-77-108	HIGH	I YAWI	NOISE PE	REDICTI	ON MO	DEL							
Road Nam	io: HY (With 2 ne: Trautwein F nt: s/o Canyon		e III)		Project Name: Meridian South Campus Job Number: 12761										
	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS										
Highway Data					Site Conditions (Hard = 10, Soft = 15)										
Average Daily	Traffic (Adt):	20,674 vehicle	es					Autos:	15						
Peak Hour	Percentage:	7.73%			Me	dium Tru	ıcks (2 i	Axles):	15						
Peak H	lour Volume:	1,598 vehicles	S		He	avy Truc	ks (3+)	Axles):	15						
Ve	hicle Speed:	50 mph		ŀ	Vehicle I	Miv									
Near/Far La	ne Distance:	72 feet		ŀ		icleType		Day	Evening	Night	Daily				
Site Data						- /	lutos:	71.1%	10.9%	18.0%	91.42%				
Ra	rrier Height:	0.0 feet			Medium Trucks: 73.6% 7.7% 18.6% 4.6										
Barrier Type (0-W		0.0			F	leavy Tr	ucks:	75.6%	6.7%	17.8%	3.94%				
	Centerline Dist. to Barrier: 60.0 feet					Noise Source Elevations (in feet)									
Centerline Dist.		60.0 feet		-	Noise Sc			_	eet)						
Barrier Distance		0.0 feet				Autos		000							
Observer Height (5.0 feet				m Trucks		297							
	ad Flevation:	0.0 feet			Heav	y Trucks	s: 8.	004	Grade Ad	justmen	t: 0.0				
	ad Elevation:	0.0 feet		f	Lane Eq	uivalent	Distan	ce (in	feet)						
	Road Grade:	0.0%		ı		Autos		260	,						
	I eft View:	-90.0 degree	20		Mediu	m Trucks		076							
	Right View:	90.0 degree			Heav	y Trucks	s: 48.	094							
FHWA Noise Mode	el Calculation	s													
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite		Fresi		Barrier Att		rm Atten				
Autos:	70.20	-0.65		0.1	-	-1.20		-4.69		000	0.000				
Medium Trucks:	81.00	-13.59		0.1	-	-1.20		-4.88		000	0.000				
Heavy Trucks:	85.38	-14.30		0.1	5	-1.20		-5.34	0.0	000	0.000				
Inmitigated Noise	Levels (with	out Topo and	barrie	er atter	nuation)										
VehicleType	Leq Peak Hou	ır Leq Day	/	Leq E	vening	Leq	Night		Ldn		NEL				
Autos:	68		67.3		65.2		62.6		70.0		70.4				
Medium Trucks:	66		65.4		61.6		60.6	-	68.0	-	68.2				
Heavy Trucks:	70		69.1		64.6		64.		71.5		71.7				
Vehicle Noise:	73	.3	72.3		68.8		67.4	4	74.8	3	75.				
Centerline Distand	e to Noise Co	ontour (in feet)												
			L	70	dBA	65 (dBA		60 dBA		dBA				
			Ldn:		126		270		583		1,255				
		C	NFI ·		131 283 609					1.312					

	FH\	VA-RD-77-108	HIGH	1 YAW	NOISE P	REDICTI	ON MC	DEL								
Road Nar	rio: HY (With 2 me: Trautwein F ent: s/o Alessar	Rd.	e III)		Project Name: Meridian South Campus Job Number: 12761											
	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS											
Highway Data					Site Conditions (Hard = 10, Soft = 15)											
Average Daily	Traffic (Adt):	46,195 vehicle	es		Autos: 15											
Peak Hou	r Percentage:	7.73%			Medium Trucks (2 Axles): 15											
Peak I	Hour Volume:	3,571 vehicle	S		He	eavy Truc	cks (3+	Axles):	15							
Ve	ehicle Speed:	50 mph			Vehicle Mix											
Near/Far La	ane Distance:	48 feet		F		icleType		Day	Evening	Night	Daily					
Site Data							lutos:	71.1%	10.9%	18.0%	91.42%					
Rs	arrier Height:	0.0 feet			М	edium Ti	ucks:	73.6%	7.7%	18.6%	4.64%					
Barrier Type (0-V	Vall, 1-Berm):	0.0			Heavy Trucks: 75.6% 6.7% 17.8% 3.94											
	Centerline Dist. to Barrier: 55.0 feet						Noise Source Elevations (in feet)									
	Centerline Dist. to Observer: 55.0 feet					Autos	s: 0	.000								
	Barrier Distance to Observer: 0.0 feet					m Trucks	s: 2	.297								
Observer Height	,,	5.0 feet			Hear	vy Truck	s: 8	.004	Grade Ad	justment	0.0					
	Pad Elevation:	0.0 feet		-			D: .									
Ro	pad Elevation:	0.0 feet			Lane Eq	uivalent			reet)							
	Road Grade:	0.0%				Autos		.739								
	Left View:	-90.0 degre				m Truck		.561								
	Right View:	90.0 degre	es		Hea	vy Truck:	s: 49	.578								
FHWA Noise Mod																
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atten					
Autos:		2.84			0.07 -1.20 - <i>4.6</i> 7 0.000						0.000					
Medium Trucks.		-10.10		-0.0	-	-1.20		-4.87		000	0.000					
Heavy Trucks.		-10.81		-0.0		-1.20		-5.38	0.0	000	0.000					
Unmitigated Nois								1		_						
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn		NEL					
Autos.		.8	70.6		68.5		65. 63.		73.		73.6					
Medium Trucks			68.6 72.4		64.9 67.9		67	-	71.1 74.1		71.5 75.0					
Heavy Trucks. Vehicle Noise.			75.6		72.1		70.	_	78.		78.4					
Centerline Distan	ce to Noise Co	ontour (in feet)													
				70	dBA	65	dBA	(60 dBA	55	dBA					
			Ldn:		191		41	1	886		1,908					
	CNEL:						199 430 926				1,994					

	FH\	WA-RD-77-108	HIGH	WAY NO	DISE PI	REDICT	ION MOI	DEL			
Road Name	e: Trautwein F	003 EIR Phase Rd. : Terrace Pkwy	,				t Name: 1 Number: 1		n South Ca	ampus	
SITE S	SPECIFIC IN	IPUT DATA				1	NOISE N	IODEI	LINPUTS	;	
Highway Data				S	ite Con	ditions	(Hard =	10, So	ft = 15)		
Average Daily T Peak Hour I Peak Ho	. ,	31,173 vehicl 7.73% 2,410 vehicle					rucks (2 A rucks (3+ A	,	15 15 15		
Vet	nicle Speed:	50 mph		V	ehicle i	Miv					
Near/Far Lar	ne Distance:	48 feet		-		icleType	9	Dav	Evening	Night	Daily
Site Data								71.1%	10.9%	18.0%	
Par	rier Height:	0.0 feet			М	edium 7	rucks:	73.6%	7.7%	18.6%	4.64%
Barrier Type (0-Wa	-	0.0				Heavy 7	rucks:	75.6%	6.7%	17.8%	3.94%
Centerline Dis		55.0 feet		N	oise So	ource E	levations	(in fe	et)		
Centerline Dist. t		55.0 feet				Auto		000	,		
Barrier Distance t		0.0 feet			Mediu	m Truck	s: 2.2	297			
	Observer Height (Above Pad): 5.0 feet Pad Flevation: 0.0 feet					y Truck		004	Grade Adji	ustment	0.0
	Pad Elevation: 0.0 feet Road Elevation: 0.0 feet						t Distanc	e (in f	eet)		
	Road Grade:	0.0%		-	o <u></u> q	Auto			000		
,	Left View:	-90.0 degre	00		Mediu	m Truck					
	Right View:	90.0 degre				y Truck					
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresn	el l	Barrier Atte	en Bei	m Atten
Autos:	70.20	1.13		-0.07		-1.20		-4.67	0.0	00	0.000
Medium Trucks:	81.00	-11.81		-0.05		-1.20		-4.87	0.0	00	0.000
Heavy Trucks:	85.38	-12.52		-0.05		-1.20		-5.38	0.0	00	0.000
Unmitigated Noise			barrie	r attenu	ation)				-		
	Leq Peak Hou			Leq Eve			Night		Ldn		NEL
Autos:	70		68.9		66.8		64.2		71.6		71.9
Medium Trucks:		7.9	66.9		63.2		62.2		69.5		69.8
Heavy Trucks:	Heavy Trucks: 71.6 70.7				66.2		65.7		73.1		73.3
Vehicle Noise:	74	1.9	73.9		70.4		69.0		76.4		76.7
Centerline Distance	e to Noise Co	ontour (in fee)								
				70 dE		65	dBA	6	0 dBA	55	dBA
			Ldn:		147		316		681		1,468
		C	NEL:		153		331		712		1,534

Project Name: Meridian South Campus Road Name: Trautwein Rd. Road Segment: Into Orange Terrace Pkwy.		FH\	WA-RD-77-108	HIGH	WAY NO	DISE PI	REDICTI	ION MO	DEL					
Average Daily Traffic (Adt): 52,300 vehicles Peak Hour Percentage: 7,73% 4,043 vehicles 50 mph Medium Trucks (2 Akels): 15 Medium Trucks (3 Akels): 15 Medium Trucks: 11 Medium Trucks: 11 Medium Trucks: 15 Medium Trucks: 17 Medium Trucks: 18 Med	Road Name	e: Trautwein l	Rd.	,										
Average Daily Traffic (Adt): 52,300 vehicles Peak Hour Potercentage: 4,043 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet Site Data		PECIFIC IN	IPUT DATA								S			
Peak Hour Percentage: 7.73% Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15	Highway Data				Si	ite Con	ditions	(Hard =	= 10, Sc	oft = 15)				
Peak Hour Volume: Vehicle Speed: 55 mph Near/Far Lane Distance: 48 feet Vehicle Mix Vehicle Noise Vehicle Mix Vehicle Noise Vehicle Mix Vehicle Noise Vehicle Mix Vehicle Noise Vehicle Mix	Average Daily 1	Fraffic (Adt):	52,300 vehicle	es					Autos:	15				
Vehicle Speed: 48 feet Vehicle Mix Vehicle Type Day Evening Night Daily	Peak Hour I	Percentage:	7.73%											
Near/Far Lane Distance:	Peak He	our Volume:	4,043 vehicle	S		He	avy Truc	cks (3+	Axles):	15				
Site Data	Vel	nicle Speed:	50 mph		V	ehicle i	Mix							
Barrier Height: 0.0 feet feet 0.0 feet feet 0.0 feet Near/Far Lar	e Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily			
Barrier Type (0-Well, 1-Berm):	Site Data						-	Autos:	71.1%	10.9%	18.0%	91.42		
Heavy Trucks: 75.6% 6.7% 17.8% 3.94	Bar	rier Heiaht:	0.0 feet			М	edium Ti	rucks:	73.6%	7.7%	18.6%	4.64		
Centerline Dist. to Observer: Barrier Distance to Observer: 0.0 feet Content Con							Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94		
Autos: 0.000 Barrier Attent Barrie	Centerline Dis	t. to Barrier:	55.0 feet		N	nise Sr	ource Fl	evation	ns (in f	pet)				
Medium Trucks: 2.297	Centerline Dist. t	o Observer:	55.0 feet			0,00 0				,,,				
Page	Barrier Distance t	o Observer:	0.0 feet			Madiu								
Pad Elevation:	Observer Height (Above Pad): 5.0 feet									Grade Ad	liustmen	t: 0.0		
Road Grade: 0.0%	Pa	Pad Elevation: 0.0 feet									,			
Left View: Right View: 90.0 degrees	Roa	d Elevation:	0.0 feet		Lá	ane Eq	uivalent	Distar	ce (in	feet)				
Right View: 90.0 degrees	F	Road Grade:	0.0%											
		Left View:	-90.0 degre	es										
VehicleType		Right View:	90.0 degree	es		Hear	y Truck	s: 49	.578					
Autos: 70.20 3.38 -0.07 -1.20 -4.67 0.000 0.00 Medium Trucks: 81.00 -9.56 -0.05 -1.20 -4.87 0.000 0.00 Medium Trucks: 85.38 -10.27 -0.05 -1.20 -5.38 0.000 0.00 Medium Trucks: 85.38 -10.27 -0.05 -1.20 -5.38 0.000 0.00 Medium Trucks: 85.38 -10.27 -0.05 -1.20 -5.38 0.000 0.00 Medium Trucks: Without Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 72.3 71.2 69.1 66.4 73.8 74.4 Medium Trucks: 70.2 69.2 65.4 64.5 71.8 72.4 Medium Trucks: 70.2 69.2 65.4 64.5 71.8 72.4 Medium Trucks: 70.2 69.2 68.5 67.9 75.3 75.4 75.	FHWA Noise Mode	l Calculation	s		-									
Medium Trucks: 81.00		REMEL	Traffic Flow	Dist	ance	Finite	Road	Fres	nel	Barrier Att	ten Be	rm Atter		
Heavy Trucks: 85.38 -10.27 -0.05 -1.20 -5.38 0.000 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type		70.20	3.38		-0.07				-4.67	0.0	000	0.00		
Unmitigated Noise Levels (without Topo and barrier attenuation)														
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 72.3 71.2 69.1 66.4 73.8 74.4 Medium Trucks: 70.2 69.2 65.4 64.5 71.8 72.7 Heavy Trucks: 73.9 73.0 68.5 67.9 75.3 75.7 Vehicle Noise: 77.1 76.1 72.7 71.3 78.6 78 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 207 447 962 2,07	Heavy Trucks:	85.38	-10.27		-0.05		-1.20		-5.38	0.0	000	0.00		
Autos: 72.3 71.2 69.1 66.4 73.8 74 Medium Trucks: 70.2 69.2 65.4 64.5 71.8 72 Heavy Trucks: 73.9 73.0 68.5 67.9 75.3 75 Vehicle Noise: 77.1 76.1 72.7 71.3 78.6 78 Centerline Distance to Noise Contour (in feet) Contour (in feet) TO dBA 65 dBA 60 dBA 55 dBA Ldn: 207 447 962 2,07	-	•		barrie	r attenu	ation)			_		_			
Medium Trucks: 70.2 69.2 65.4 64.5 71.8 72 Heavy Trucks: 73.9 73.0 68.5 67.9 75.3 75 Vehicle Noise: 77.1 76.1 72.7 71.3 78.6 78 Centerline Distance to Noise: Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 207 447 962 2,07		•			Leq Eve		_				_			
Heavy Trucks: 73.9 73.0 68.5 67.9 75.3 75 Vehicle Noise: 77.1 76.1 72.7 71.3 78.6 78 Centerline Distance to Noise Contour (in feet)											-			
Vehicle Noise: 77.1 76.1 72.7 71.3 78.6 78 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 207 447 962 2,07									-		-			
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 207 447 962 2,07	_													
70 dBA 65 dBA 60 dBA 55 dBA Ldn: 207 447 962 2,07	Vehicle Noise:	77	7.1	76.1		72.7		71.	3	78.0	6	78		
Ldn: 207 447 962 2,07	Centerline Distanc	e to Noise Co	ontour (in feet)	70.0		05	10.4						
207 117 002 2,07				L =1==:	70 dE		65							
CINEL: 217 467 1,005 2,16											-	, .		
			C	WEL:		217		46	1	1,005)	2,16		

FHV	VA-RD-77-108 H	IIGHWAY	NOISE P	REDICT	ION MODE	EL				
Scenario: HY (With 2 Road Name: Barton St. Road Segment: n/o Van Bu		I)			t Name: Me lumber: 12	eridian South (761	Campus			
SITE SPECIFIC IN	IPUT DATA					DEL INPUT	'S			
Highway Data			Site Con	ditions	(Hard = 10)), Soft = 15)				
Average Daily Traffic (Adt):	23,448 vehicles				Au	tos: 15				
Peak Hour Percentage:	7.73%		Me	edium Ti	ucks (2 Axi	les): 15				
Peak Hour Volume:	1,813 vehicles		He	avy Tru	cks (3+ Axi	les): 15				
Vehicle Speed:	40 mph		Vehicle	Miv						
Near/Far Lane Distance:	36 feet			icleType	e Da	ay Evening	Night	Daily		
Site Data			*0			.1% 10.9%	٠			
			M	edium 7		3.6% 7.7%		4.64%		
Barrier Height: Barrier Type (0-Wall, 1-Berm):	0.0 feet 0.0			Heavy 7		6.6% 6.7%		3.94%		
Centerline Dist. to Barrier:	0.0 44.0 feet							0.0		
Centerline Dist. to Observer:	44.0 feet		Noise Source Elevations (in feet)							
Barrier Distance to Observer:	0.0 feet			Auto						
Observer Height (Above Pad):	5.0 feet			m Truck						
Pad Elevation:		Hear	y Truck	s: 8.00	4 Grade Ad	djustment	: 0.0			
Road Elevation:	0.0 feet 0.0 feet		Lane Eq	uivalen	t Distance	(in feet)				
Road Grade:	0.0%		,	Auto		. ,				
Left View:	-90.0 degrees		Mediu	m Truck						
Right View:	90.0 degrees		Hear	y Truck	s: 40.26	2				
FHWA Noise Model Calculation	s									
VehicleType REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier At	ten Ber	m Atten		
Autos: 66.51	0.87	1.	28	-1.20	-4	.61 0.	000	0.000		
Medium Trucks: 77.72	-12.08	1.	31	-1.20	-4	.87 0.	000	0.000		
Heavy Trucks: 82.99	-12.79	1.	31	-1.20	-5	.50 0.	000	0.000		
Unmitigated Noise Levels (with										
VehicleType Leq Peak Hou			Evening		Night	Ldn		NEL		
Autos: 67		5.3	64.2		61.6	68.		69.3		
Medium Trucks: 65		1.7	61.0		60.0	67.	-	67.6		
Heavy Trucks: 70 Vehicle Noise: 73		9.4 2.0	64.9 68.4		64.4 67.1	71. 74.		72.0 74.8		
Centerline Distance to Noise Co	ontour (in feet)									
		70) dBA	65	dBA	60 dBA	55	dBA		
	Lo	dn:	88		190	409	9	881		
	EL:	92		190 409 198 427						

	FHW	A-RD-77-108	HIGH	I YAWI	NOISE P	REDICT	ION M	DDEL					
Scenario: HY (\ Road Name: Barto Road Segment: s/o \	n St.		e III)		Project Name: Meridian South Campus Job Number: 12761								
SITE SPECIF	IC INP	UT DATA				N	IOISE	MODE	L INPUT	S			
Highway Data					Site Cor	ditions	(Hard :	= 10, Sc	oft = 15)				
Average Daily Traffic (Adt): 1	9,565 vehicle	es					Autos:	15				
Peak Hour Percent	age:	7.73%			Me	edium Tr	ucks (2	Axles):	15				
Peak Hour Volu	ıme: 1	,512 vehicles	s		Heavy Trucks (3+ Axles): 15								
Vehicle Sp	eed:	40 mph		H	Vehicle Mix								
Near/Far Lane Dista	ŀ		icleType		Dav	Evenina	Night	Daily					
Site Data							Autos:	71.1%	10.9%	18.0%	,		
Barrier He	iaht.	0.0 feet			М	ledium T	rucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-Wall, 1-Be		0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%		
Centerline Dist. to Ba	,	44.0 feet		ŀ	Noise S	ourco E	lovatio	ne (in f	201				
Centerline Dist. to Obse	rver:	44.0 feet		-	Noise 3	Auto		0.000	ei)				
Barrier Distance to Obse	rver:	0.0 feet			Modiu	Auto m Truck		2.297					
Observer Height (Above Pad): 5.0 feet						vy Truck		1.297	Grade Ad	livetmant	. 0 0		
Pad Eleva	tion:	0.0 feet			пеа	vy Truck	S. C	0.004	Orade Ad	justinoni	. 0.0		
Road Eleva	tion:	0.0 feet			Lane Eq	uivalen	Distar	nce (in i	feet)				
Road Gr	ade:	0.0%				Auto	s: 40	0.460					
Left V	/iew:	-90.0 degree	es			m Truck).241					
Right V	/iew:	90.0 degree	es		Hea	vy Truck	s: 40	0.262					
FHWA Noise Model Calcu	lations												
VehicleType REM	EL	Traffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	en Bei	m Atten		
	66.51	0.08		1.2	28	-1.20		-4.61	0.0	000	0.000		
	77.72	-12.86		1.3		-1.20		-4.87		000	0.000		
Heavy Trucks:	82.99	-13.57		1.3	31	-1.20		-5.50	0.0	000	0.000		
Unmitigated Noise Levels	(withou	ıt Topo and	barri	er atter	nuation)			_					
,, ,	ak Hour	Leq Day		Leq E	vening		Night		Ldn		NEL		
Autos:	66.7		65.5		63.4		60		68.2		68.		
Medium Trucks:	65.0		64.0		60.2		59	-	66.0	-	66.8		
Heavy Trucks: Vehicle Noise:	69.5 72.2		71.3		64.1		63 66		71.0		71.2		
					01.1		00		73.	'	74.1		
Centerline Distance to No	ise Con	tour (in feet)	70	dBA	65	dBA		60 dBA	55	dBA		
Ldn:				78						781			
CNEL:					81						815		

Friday, April 24, 2020	, 2020	24,	April	Friday,
------------------------	--------	-----	-------	---------

	FHWA	A-RD-77-108 HIG	HWAY N	OISE PI	REDICT	ION MO	DDEL			
Road Name		3 EIR Phase III) Av.				t Name: lumber:		an South C	ampus	
	PECIFIC INP	UT DATA						L INPUT	S	
Highway Data				Site Con	ditions	(Hard =	= 10, Sc	oft = 15)		
Average Daily T	. ,	1,696 vehicles					Autos:			
Peak Hour F		7.73%			edium Tr		,			
		,677 vehicles		He	avy Tru	cks (3+	Axles):	15		
	icle Speed:	40 mph	١	/ehicle l	Иiх					
Near/Far Lan	e Distance:	36 feet		Veh	icleType	9	Day	Evening	Night	Daily
Site Data						Autos:	71.1%	10.9%	18.0%	91.42%
Barı	ier Height:	0.0 feet			edium 7		73.6%		18.6%	
Barrier Type (0-Wa	ıll, 1-Berm):	0.0		- 1	Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%
Centerline Disa	t. to Barrier:	44.0 feet	,	Voise So	nurce F	levatio	ns (in fe	oet)		
Centerline Dist. to	Observer:	44.0 feet	Ė	10,00 0	Auto		.000	,,,,		
Barrier Distance to	Observer:	0.0 feet		Mediu	m Truck		.297			
	Observer Height (Above Pad): 5.0 feet					s: 8	.004	Grade Adj	iustment	0.0
	d Elevation:	0.0 feet	-				,,			
	d Elevation:	0.0 feet	1	.ane Eq	uivaien Auto		1 ce (in 1	reet)		
R		0.0%		Modiu	Auto m Truck		1.460			
	Right View:	-90.0 degrees 90.0 degrees			n Truck vy Truck		1.241			
FHWA Noise Mode		30:0 dog:000			,					
VehicleType		raffic Flow D	istance	Einito	Road	Fres	nol	Barrier Att	on Por	m Atten
Autos:	66.51	0.53	1.28		-1.20	1103	-4.61	0.0		0.00
Medium Trucks:	77.72	-12.42	1.31	-	-1.20		-4.87	0.0		0.00
Heavy Trucks:	82.99	-13.13	1.3	1	-1.20		-5.50	0.0		0.00
Unmitigated Noise	Levels (withou	t Topo and barr	ier atten	uation)						
VehicleType I	eq Peak Hour	Leq Day	Leq Ev	ening/	Leq	Night		Ldn	C	NEL
Autos:	67.1	66.0		63.9		61	.2	68.6	6	69.
Medium Trucks:	65.4	64.4		60.6		59	.7	67.0)	67.
Heavy Trucks:	Heavy Trucks: 70.0 69.1			64.6		64		71.4		71.
Vehicle Noise:	72.7	71.7		68.1		66	.8	74.2	2	74.
Centerline Distance	to Noise Con	tour (in feet)								
			70 c		65	dBA		60 dBA	55	dBA
		Ldn:		84		18	-	388		836
		CNEL:		87		18	Ď	405		873

		VA-RD-77-108		WAT N	OISE P								
	io: HY (With 20	003 EIR Phase	e III)						n South C	ampus			
	e: Barton St.					Job N	umber:	12761					
Road Segmer	nt: n/o Krameri	a Av.											
	SPECIFIC IN	PUT DATA			NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15)								
Highway Data					Site Con	ditions (Hard =	10, Sc					
Average Daily	Traffic (Adt):	16,526 vehicle	es					Autos:	15				
Peak Hour	Percentage:	7.73%				dium Tru		,					
Peak H	our Volume:	1,277 vehicles	S		He	avy Truc	ks (3+)	Axles):	15				
Ve	hicle Speed:	40 mph		1	/ehicle	Wix							
Near/Far Lar		Veh	icleType		Day	Evening	Night	Daily					
Site Data						A	utos:	71.1%	10.9%	18.0%	91.42		
Rar	rier Height:	0.0 feet			М	edium Tr	ucks:	73.6%	7.7%	18.6%	4.64		
Barrier Type (0-W		0.0				Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.94		
Centerline Dis	st. to Barrier:	44.0 feet		,	Voise So	ource Ele	evation	s (in fe	et)				
Centerline Dist.	to Observer:	44.0 feet		F		Autos		000	,				
Barrier Distance	to Observer:	0.0 feet			Madiu	m Trucks		297					
Observer Height (y Trucks		004	Grade Ad	iustment.	0.0					
Pa	ad Elevation:	0.0 feet		L									
Roa	ad Elevation:	0.0 feet		L	.ane Eq	uivalent	Distan	ce (in f	eet)				
F	Road Grade:	0.0%				Autos		460					
	Left View:	-90.0 degree	es		Medium Trucks: 40.241								
	Right View:	90.0 degree	es		Hear	y Trucks	3: 40.	262					
FHWA Noise Mode													
VehicleType	REMEL	Traffic Flow		tance		Road	Fresi		Barrier Att		m Atter		
Autos:	66.51	-0.65		1.28	-	-1.20		-4.61		000	0.00		
Medium Trucks:	77.72	-13.60		1.31		-1.20		-4.87		000	0.00		
Heavy Trucks:	82.99	-14.31		1.31	1	-1.20		-5.50	0.0	000	0.00		
Unmitigated Noise	•							1					
,,	Leq Peak Hou			Leq Ev		Leq I			Ldn		VEL		
Autos: Medium Trucks:	65 64		64.8 63.2		62.7 59.5		60. 58.	-	67.4 65.8		67 66		
	68	-	67.9		63.4		62.9	-					
Heavy Trucks: Vehicle Noise:	71		70.5		66.9		65.6		70.3		70 73		
Centerline Distanc	e to Noise Co	ntour (in feet)										
				70 c	IBA	65 (BA.	6	i0 dBA	55	dBA		
			Ldn:		70		150	,	324		69		
					73 157 338								

	FH\	WA-RD-77-108	HIGHWA'	/ NOISE P	REDICTI	ON MODE	EL				
Road Nam	io: HY (With 2 ne: Barton St. nt: s/o Lurin A	003 EIR Phase v.	: III)	Project Name: Meridian South Campus Job Number: 12761							
SITE	SPECIFIC IN	IPUT DATA			N	OISE MO	DEL INPU	TS			
Highway Data				Site Co.	nditions	(Hard = 10), Soft = 15)				
Average Daily	Traffic (Adt):	20,444 vehicle	es			AL	itos: 15				
Peak Hour	Percentage:	7.73%				icks (2 Ax					
Peak H	lour Volume:	1,580 vehicles	S	Н	eavy Truc	ks (3+ Ax	les): 15				
Ve	hicle Speed:	40 mph		Vehicle	Mix						
Near/Far La	ne Distance:	36 feet			nicleType	Di	ay Evening	y Nig	ht Daily		
Site Data						Autos: 71	1.1% 10.9%	6 18.	0% 91.42%		
Rai	rrier Height:	0.0 feet		٨	1edium Ti	ucks: 73	3.6% 7.79	6 18.	6% 4.64%		
Barrier Type (0-W		0.0			Heavy Ti	ucks: 75	5.6% 6.79	6 17.	8% 3.94%		
Centerline Di		44.0 feet		Noine C	ouree El	evations (in foot)				
Centerline Dist.	to Observer:	44.0 feet		Noise 3	Auto:						
Barrier Distance	to Observer:	0.0 feet		Modiu	m Truck:						
Observer Height (Above Pad):			vy Truck			Adiustn	nent: 0.0			
Pa	ad Elevation:	0.0 feet						,			
	ad Elevation:	0.0 feet		Lane Ed		Distance	. ,				
	Road Grade:	0.0%			Auto						
	Left View:	-90.0 degree			ım Truck:		•				
	Right View:	90.0 degree	es	Hea	vy Truck	s: 40.26	2				
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distance	e Finite	Road	Fresnel	Barrier A	Atten	Berm Atten		
Autos:	66.51	0.27		1.28	-1.20			0.000	0.000		
Medium Trucks:	77.72			1.31	-1.20			0.000	0.000		
Heavy Trucks:	82.99			1.31	-1.20	-5	.50 (0.000	0.000		
Unmitigated Noise					1						
VehicleType	Leq Peak Hou	, ,		Evening		Night	Ldn		CNEL		
Autos:			65.7	63.6		61.0	-	3.4	68.7		
Medium Trucks:			64.2	60.4		59.4		6.7	67.0		
Heavy Trucks: Vehicle Noise:			71.4	64.3		63.8 66.6		1.2 3.9	71.4 74.2		
Centerline Distance							• • • • • • • • • • • • • • • • • • • •	-			
Contenine Distant	.c 10 110/36 C	ontour (III leet		'0 dBA	65	dBA	60 dBA		55 dBA		
			Ldn:	80		173	3	73	804		
		C	NEL:	84		181	38	39	839		

	FH\	WA-RD-77-108	HIGH	HWAY	NOISE P	REDICT	ION MO	DDEL					
Road Nar	rio: HY (With 2 me: Coyote Bus ent: n/o Van Bu	sh Rd.	e III)		Project Name: Meridian South Campus Job Number: 12761								
SITE	SPECIFIC IN	IPUT DATA							L INPUT	S			
Highway Data					Site Cor	ditions	(Hard :	= 10, Sc	oft = 15)				
Average Daily	Traffic (Adt):	3,118 vehicle	es					Autos:	15				
Peak Hou	r Percentage:	7.73%			Me	edium Tri	ucks (2	Axles):	15				
Peak I	Hour Volume:	241 vehicle	s		Heavy Trucks (3+ Axles): 15								
V	ehicle Speed:	25 mph		-	Vehicle Mix								
Near/Far La	ane Distance:	12 feet				icleType	,	Day	Evening	Night	Daily		
Site Data							Autos:	71.1%		18.0%	91.42%		
R	arrier Height:	0.0 feet			М	edium T	rucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-V		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94%		
,, ,	ist. to Barrier:	33.0 feet			Noise S	ouroo El	ovetie	no (in f	004)				
Centerline Dist	to Observer:	33.0 feet		-	NOISE 3	Auto		0.000	eel)				
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		2.297					
Observer Height (Above Pad): 5.0 feet						vy Truck		1.297	Grade Ad	livetman	t· 0.0		
F	Pad Elevation:	0.0 feet			пеа	vy Truck	S. C	0.004	Orade Ad	justinon	. 0.0		
Ro	oad Elevation:	0.0 feet			Lane Eq	uivalent	Distar	nce (in	feet)				
	Road Grade:	0.0%				Auto	s: 32	2.833					
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 32	2.562					
	Right View:	90.0 degre	es		Hear	vy Truck	s: 32	2.589					
FHWA Noise Mod	lel Calculation	s											
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	en Be	rm Atten		
Autos	58.73	-5.85		2.6	64	-1.20		-4.52	0.0	000	0.000		
Medium Trucks	70.80	-18.80		2.6	69	-1.20		-4.86	0.0	000	0.000		
Heavy Trucks	77.97	-19.51		2.6	69	-1.20		-5.69	0.0	000	0.000		
Unmitigated Nois	e Levels (with	out Topo and	barrie	er attei	nuation)								
VehicleType	Leq Peak Ho			Leq E	vening		Night		Ldn		NEL		
Autos		1.3	53.2		51.1		48		55.4		56.2		
Medium Trucks		3.5	52.5		48.7		47		55.		55.3		
Heavy Trucks		9.9	59.1		54.6		54		61.4		61.6		
Vehicle Noise	: 61	1.7	60.8		56.9		55	.8	63.2	2	63.5		
Centerline Distan	ce to Noise C	ontour (in feet)	70	dBA	65	dBA		60 dBA	E4	5 dBA		
			Ldn:	70	12 12	65	иын 2	_	54 54		116		
	Lan: CNFI:						_	-			121		
	CNEL:						12 26 56 1						

Friday, April 24,	2020
-------------------	------

	FHV	VA-RD-77-108	HIGHWA	AY NO	DISE P	REDICT	ION MO	ODEL				
	e: Village Wes		III)				t Name: lumber:		an South C	ampus		
	SPECIFIC IN	PUT DATA							L INPUT	s		
Peak He	Traffic (Adt): Percentage: our Volume: hicle Speed:	27,528 vehicle 7.73% 2,128 vehicles 40 mph			Ме Не	edium Tr eavy Tru	ucks (2	Autos: Axles):	15			
Near/Far Lar		44 feet		Vehicle Mix Vehicle Type Day Evening Night Daily								
Site Data				+	ven		Autos:	71.1%		Night 18.0%	Daily 91.42%	
Bar Barrier Type (0-Wa	rier Height: all, 1-Berm):	0.0 feet 0.0				edium T Heavy T		73.6% 75.6%	7.7%	18.6% 17.8%	4.64%	
Centerline Dis	t. to Barrier:	56.0 feet		N	oise S	ource E	levatio	ns (in fe	eet)			
Roa	to Observer:	56.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0% -90.0 degree		Li	Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Ac Lane Equivalent Distance (in feet) Autos: 51.740 Medium Trucks: 51.585 Heavy Trucks: 51.585				Grade Adj	justment	: 0.0	
FHWA Noise Mode	d Calculation											
VehicleType	REMEL	Traffic Flow	Distan	ice	Finite	Road	Fres	inel	Barrier Att	en Bei	m Atten	
Autos:	66.51	1.56		-0.33		-1.20		-4.67	0.0	000	0.00	
Medium Trucks: Heavy Trucks:	77.72 82.99	-11.38 -12.09		-0.30 -0.31		-1.20 -1.20		-4.87 -5.37		000	0.00	
Unmitigated Noise	Levels (with	out Topo and I	barrier a	ttenu	ation)							
VehicleType	Leq Peak Hou	ır Leq Day	Le	eq Eve	ening	Leq	Night		Ldn	C	NEL	
Autos:	66		65.4		63.3		60		68.0	-	68.	
Medium Trucks:	64		63.8		60.1		59		66.4		66.	
Heavy Trucks:_ Vehicle Noise:	69 72		58.5 71.1		64.0		63 66		70.9		71. 73.	
					07.5		00	.2	73.0)	13.	
Centerline Distanc	e to Noise Co	ntour (in feet)		70 di	DΛ	e.	dBA	-	SO dBA	FF	dBA	
			l dn:	7 U at	5A 97	65	ава 21		00 aBA 452		ава 974	
			IEL:		102		21	-	472		1.017	
		O.									.,	

		/A-RD-77-108											
	: HY (With 20 : Orange Ten : n/o Van Bur	ace Pkwy.	e III)		Project Name: Meridian South Campus Job Number: 12761								
SITE S	PECIFIC IN	PUT DATA				N	OISE	MODE	L INPUT	s			
Highway Data				Site Conditions (Hard = 10, Soft = 15)									
Average Daily T	raffic (Adt):	9,789 vehicle	es					Autos:	15				
Peak Hour F	Percentage:	7.73%			Me	dium Tro	icks (2	Axles):	15				
Peak Ho	ur Volume:	757 vehicle	s		He	avy Truc	ks (3+	Axles):	15				
Veh	icle Speed:	45 mph		V	ehicle l	Miv							
Near/Far Land	e Distance:	48 feet				icleType		Day	Evening	Night	Daily		
Site Data					Autos: 71.1% 10.9% 18.0%								
Rarr	ier Heiaht:	0.0 feet									4.649		
Barrier Type (0-Wa		0.0			1	Heavy Ti	ucks:	75.6%	6.7%	17.8%	3.949		
Centerline Dist		55.0 feet		N	oise So	ource El	evation	s (in fe	et)				
Centerline Dist. to		55.0 feet				Auto	s: 0	.000					
Barrier Distance to	Observer:	0.0 feet			Mediu	m Truck		297					
Observer Height (A	,	5.0 feet			Heav	v Truck	s: 8	.004	Grade Ad	iustment.	0.0		
	d Elevation:	0.0 feet		-		,							
	d Elevation:	0.0 feet		Li	ane Eq	uivalent			eet)				
R	oad Grade:	0.0%				Auto		.739					
	Left View:	-90.0 degre				m Truck		.561					
	Right View:	90.0 degree	es		Heav	y Truck	s: 49	.578					
FHWA Noise Model													
VehicleType	REMEL	Traffic Flow		tance		Road	Fresi		Barrier Att		m Atten		
Autos:	68.46	-3.44		-0.07		-1.20		-4.67		000	0.00		
Medium Trucks:	79.45	-16.38		-0.05		-1.20		-4.87		000	0.00		
Heavy Trucks:	84.25	-17.09		-0.05		-1.20		-5.38	0.0	000	0.00		
Unmitigated Noise			-		_			1					
	eq Peak Hou			Leq Eve		Leq	Night		Ldn		VEL		
Autos: Medium Trucks:	63. 61.	-	62.6		60.5 57.0		57. 56.	-	65.2 63.4	-	65 63		
		-			60.5		56. 60.						
Heavy Trucks: Vehicle Noise:	65. 68.		65.0 67.9		64.4		63.	-	67.4 70.4		67. 70.		
					04.4		63.	U	70.2	•	70.		
Contorlino Distance	to Noise Co	ntour (in feet)	70 dl	DΛ	65	dBA		i0 dBA	55	dBA		
Ocincinne Distance													
Gentermie Distance			Ldn:	70 01	59	001	126		272		586		

FH	WA-RD-77-108 H	IGHWAY	NOISE P	REDICT	ION MO	DEL					
Scenario: HY (With: Road Name: Village Wo Road Segment: s/o Krame	est Dr.	1)			t Name: I lumber:		an South Ca	ampus			
SITE SPECIFIC I	NPUT DATA						L INPUTS	3			
Highway Data			Site Conditions (Hard = 10, Soft = 15)								
Average Daily Traffic (Adt):	19,670 vehicles		Autos: 15								
Peak Hour Percentage:	7.73%		Ме	edium Ti	ucks (2 A	Axles).	15				
Peak Hour Volume:	1,520 vehicles		He	avy Tru	cks (3+ A	Axles).	15				
Vehicle Speed:	40 mph		Vehicle	Mix							
Near/Far Lane Distance:	24 feet			icleType	9	Day	Evening	Night	Daily		
Site Data					Autos:	71.19	10.9%	18.0%	91.42%		
Barrier Height:	0.0 feet		Medium Trucks: 73.6% 7.7% 18.6% 4.								
Barrier Type (0-Wall, 1-Berm):	0.0		Heavy Trucks: 75.6% 6.7% 17.8% 3.949								
Centerline Dist. to Barrier:	39.0 feet		Noise Source Elevations (in feet)								
Centerline Dist. to Observer:	39.0 feet		Noise So				eet)				
Barrier Distance to Observer:	0.0 feet			Auto		000					
Observer Height (Above Pad):	5.0 feet		Medium Trucks: 2.297								
Pad Elevation:	0.0 feet		Heavy Trucks: 8.004 Grade Adjustment:						. 0.0		
Road Elevation:	0.0 feet		Lane Eq	uivalen	t Distand	ce (in	feet)				
Road Grade:	0.0%			Auto	s: 37.	443					
Left View:	-90.0 degrees		Mediu	m Truck	s: 37.	206					
Right View:	90.0 degrees		Hear	y Truck	s: 37.	229					
FHWA Noise Model Calculation	ns		l								
VehicleType REMEL	Traffic Flow	Distance	Finite	Road	Fresn		Barrier Atte	en Be	m Atten		
Autos: 66.5	1 0.10		78	-1.20		-4.58	0.0	100	0.000		
Medium Trucks: 77.73			82	-1.20		-4.87	0.0		0.000		
Heavy Trucks: 82.9	9 -13.55	1.	82	-1.20		-5.57	0.0	100	0.000		
Unmitigated Noise Levels (with	-	_	,								
VehicleType Leq Peak Ho			Evening		Night		Ldn		NEL		
	7.2 66		63.9		61.3		68.7		69.1		
	5.5 64		60.7		59.8		67.1		67.4		
	0.1 69 2.8 71		64.7 68.2		64.1		71.5 74.3		71.8 74.5		
Centerline Distance to Noise C		-									
Contonine Distance to NOISE C	omour (iii reet)	70) dBA	65	dBA		60 dBA	55	dBA		
	Lo		75		162	_	348		751		
	CNE	L:	78		169				784		

	FH\	WA-RD-77-108	B HIGH	HWAY	NOISE P	REDICT	ION MO	DDEL					
Road Nar	rio: HY (With 2 me: Meridian P ent: s/o Allesan	kwy.	e III)		Project Name: Meridian South Campus Job Number: 12761								
SITE	SPECIFIC IN	IPUT DATA				N	IOISE	MODE	L INPUT	S			
Highway Data					Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	30,320 vehicl	es					Autos:	15				
Peak Hou	r Percentage:	7.73%			Me	edium Tr	ucks (2	Axles):	15				
Peak I	Hour Volume:	2,344 vehicle	s		He	eavy Tru	cks (3+	Axles):	15				
Ve	ehicle Speed:	45 mph		-	Vehicle	Mix							
Near/Far La	ane Distance:	44 feet		1		icleType		Dav	Evening	Night	Daily		
Site Data	ite Data						Autos:	71.1%		18.0%	,		
Rs	Barrier Height: 0.0 feet					edium T	rucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-V		0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%		
,, ,	ist. to Barrier:	56.0 feet			Noise S	ouroo El	ovetie	no (in f	2041				
Centerline Dist.	to Observer:	56.0 feet		-	Noise 3	Auto		0.000	ei)				
Barrier Distance	to Observer:	0.0 feet			Modis	Auto m Truck		2.297					
Observer Height	(Above Pad):	5.0 feet				vy Truck		1.297	Grade Ad	livetmant	. 0 0		
F	Pad Elevation:	0.0 feet			пеа	vy Truck	S. C	.004	Orade Ad	justinoni	. 0.0		
Ro	oad Elevation:	0.0 feet			Lane Eq	uivalen	Distar	nce (in	feet)				
	Road Grade:	0.0%				Auto	s: 51	1.740					
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 51	1.568					
	Right View:	90.0 degre	es		Hea	vy Truck	s: 51	1.585					
FHWA Noise Mod	lel Calculation	s											
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten		
Autos.	68.46	1.47		-0.3	33	-1.20		-4.67	0.0	000	0.000		
Medium Trucks.	79.45	-11.47	,	-0.3	30	-1.20		-4.87	0.0	000	0.000		
Heavy Trucks.	84.25	-12.18	3	-0.3	31	-1.20		-5.37	0.0	000	0.000		
Unmitigated Nois	e Levels (with	out Topo and	barri	er atte	nuation)								
VehicleType	Leq Peak Ho	ur Leq Da	y	Leq E	vening	Leq	Night		Ldn	C	NEL		
Autos.		3.4	67.3		65.1		62		69.9		70.3		
Medium Trucks.		3.5	65.5		61.7		60	.8	68.	1	68.3		
Heavy Trucks.).6	69.7		65.2		64		72.0				
Vehicle Noise.	: 73	3.6	72.6		69.0		67	.7	75.	1	75.4		
Centerline Distan	ce to Noise C	ontour (in fee	t)	70	-/04	05	-10.4		20 -/D4		-10.4		
			Ldn:	70	dBA 122	05	dBA 26		50 dBA 566		dBA		
			NFI:		122		26	-	566 591		1,219 1,273		
		C	NEL.		127		21	4	591		1,2/3		

Friday, April 24, 2020	, 2020	24,	April	Friday,
------------------------	--------	-----	-------	---------

	FHV	VA-RD-77-108	HIGH	VAY N	DISE P	REDICT	ION MC	DEL			
Scenario: Road Name: Road Segment:	Meridian Pl		· III)				Name: lumber:		an South C	ampus	
SITE SP	ECIFIC IN	IPUT DATA				N	IOISE	MODE	L INPUTS	S	
Highway Data				S	ite Cor	ditions	(Hard =	: 10, Sc	oft = 15)		
Average Daily Tra	ffic (Adt):	27,614 vehicle	es					Autos:	15		
Peak Hour Pe	rcentage:	7.73%				edium Tri		,			
Peak Hou	Volume:	2,135 vehicles	S		He	eavy Truc	cks (3+	Axles):	15		
	e Speed:	45 mph		ν	ehicle	Mix					
Near/Far Lane	Distance:	44 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	71.1%	10.9%	18.0%	91.429
Barrie	r Height:	0.0 feet			Medium Trucks: 73.6% 7.7% 18.6% 4.						
Barrier Type (0-Wall,	-	0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.949
Centerline Dist. t		56.0 feet			laisa S	ource El	lovation	e (in f	not)		
Centerline Dist. to	Observer:	56.0 feet		-	UISE SI	Auto:		.000	<i>(</i>		
Barrier Distance to	Observer:	0.0 feet			Madiu	m Truck		297			
Observer Height (Ab	ove Pad):	5.0 feet				vy Truck		004	Grade Ad	iustment	0.0
Pad I	Elevation:	0.0 feet									
	Elevation:	0.0 feet		L	ane Eq	uivalent			feet)		
	d Grade:	0.0%				Auto		.740			
-	.eft View:	-90.0 degree				m Truck		.568			
R	ght View:	90.0 degree	es		Hea	vy Truck	s: 51	.585			
FHWA Noise Model C											
	REMEL	Traffic Flow	Dist	ance -0.33		-1.20	Fresi		Barrier Att		m Atten
Autos: Medium Trucks:	68.46 79.45	1.07 -11.88		-0.30		-1.20		-4.67 -4.87	0.0	000	0.00
Heavy Trucks:	84.25	-11.00		-0.30		-1.20		-5.37		000	0.00
Unmitigated Noise Le						-1.20		-0.37	0.0	700	0.00
	g Peak Hou	-		Leg Ev		l en	Night	Т	Ldn	0	NEL
Autos:	68 68		66.8	LUY LV	64.7	,	1vigrit 62.	1	69.5		69.
Medium Trucks:	66		65.1		61.3		60.		67.7		67.
Heavy Trucks:	70		69.3		64.8		64.	-	71.6		71.
Vehicle Noise:	73	.2	72.2		68.6		67.	3	74.7		74.
Centerline Distance t	o Noise Co	ontour (in feet)								
				70 d	BA	65	dBA	(60 dBA	55	dBA
			Ldn:		115		247		532		1,145
		C	NEL:		120		258	3	555		1,196

							ON MO							
	o: HY (With 20 e: Meridian Pk nt: n/o Cactus /	wy.	e III)		Project Name: Meridian South Campus Job Number: 12761									
SITE S	SPECIFIC IN	PUT DATA				N	OISE	MODE	L INPUT	S				
Highway Data				S	Site Conditions (Hard = 10, Soft = 15)									
Average Daily	Traffic (Adt):	29,518 vehicle	es					Autos:	15					
Peak Hour	Percentage:	7.73%			Me	dium Tru	icks (2	Axles):	15					
Peak H	our Volume:	2,282 vehicle	S		He	avy Truc	ks (3+.	Axles):	15					
Vel	nicle Speed:	45 mph		V	ehicle l	Wix								
Near/Far Lar	ne Distance:	44 feet		F.		icleType		Day	Evening	Night	Daily			
Site Data					Autos: 71.1% 10.9% 18.0%									
Bar	rier Heiaht:	0.0 feet			Medium Trucks: 73.6% 7.7% 18.6% 4.									
Barrier Type (0-W		0.0			1	Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.949			
Centerline Dis	t. to Barrier:	56.0 feet		N	oise So	ource Ele	evation	s (in fe	et)					
Centerline Dist.	to Observer:	56.0 feet				Autos		.000	,					
Barrier Distance t	o Observer:	0.0 feet			Mediu	m Trucks		297						
Observer Height (A	,	5.0 feet				v Trucks		004	Grade Ad	iustment	: 0.0			
	d Elevation:	0.0 feet				,								
	d Elevation:	0.0 feet		Li	ane Eq	uivalent			eet)					
F	Road Grade:	0.0%				Autos		.740						
	Left View:	-90.0 degre				m Trucks		.568						
	Right View:	90.0 degre	es		Heav	y Trucks	s: 51.	.585						
FHWA Noise Mode	l Calculations	;												
VehicleType	REMEL	Traffic Flow		tance		Road	Fresi		Barrier Att	en Ber	m Atten			
Autos:	68.46	1.36		-0.33		-1.20		-4.67		000	0.00			
Medium Trucks:	79.45	-11.59		-0.30		-1.20		-4.87		000	0.00			
Heavy Trucks:	84.25	-12.30		-0.31		-1.20		-5.37	0.0	000	0.00			
Unmitigated Noise	•	-	barrie	er attenu	ation)									
	Leq Peak Hou			Leg Eve		Leq	Night		Ldn		NEL			
Autos:	68	-	67.1		65.0		62.		69.8		70			
Medium Trucks:	66	-	65.4		61.6		60.	-	67.9		68			
Heavy Trucks:	70		69.6		65.0		64.		71.9		72			
Vehicle Noise:	73	5	72.5		68.9		67.	6	74.9)	75			
Centerline Distanc	e to Noise Co	ntour (in feet)	70 "	D4	0-	-ID 4				-10.4			
			I dn:	70 dl	120	65 (3BA 258		60 dBA 556		dBA			
											1.19			
		^	NFI:		120		269		580		1,15			

FHV	VA-RD-77-108 I	HIGHWAY	NOISE P	REDICT	ION MODE	ĒL					
Scenario: HY (With 20 Road Name: Meridian Pk Road Segment: n/o Opportu	wy.	II)			t Name: Me lumber: 12	eridian Sou 761	th Cam	pus			
SITE SPECIFIC IN	PUT DATA					DDEL INP					
Highway Data			Site Conditions (Hard = 10, Soft = 15)								
Average Daily Traffic (Adt):	27,141 vehicles	3			Au	itos: 15					
Peak Hour Percentage:	7.73%		Ме	edium Ti	ucks (2 Ax	les): 15					
Peak Hour Volume:	2,098 vehicles		He	avy Tru	cks (3+ Ax	les): 15					
Vehicle Speed:	45 mph		Vehicle	Mix							
Near/Far Lane Distance:	44 feet			icleType) D	ay Eveni	na N	ight Daily			
Site Data					Autos: 7	1.1% 10.9	9% 1	8.0% 91.42%			
Barrier Height:	0.0 feet		Medium Trucks: 73.6% 7.7% 18.6% 4.64								
Barrier Type (0-Wall, 1-Berm):	0.0		Heavy Trucks: 75.6% 6.7% 17.8% 3.94%								
Centerline Dist. to Barrier:	56.0 feet		Noise Source Elevations (in feet)								
Centerline Dist. to Observer:	56.0 feet		Noise So								
Barrier Distance to Observer:	0.0 feet			Auto							
Observer Height (Above Pad):	5.0 feet			m Truck			A -E				
Pad Elevation:	0.0 feet		Hear	y Truck	s: 8.00	4 Grade	Aajus	tment: 0.0			
Road Elevation:	0.0 feet		Lane Eq	uivalen	t Distance	(in feet)					
Road Grade:	0.0%			Auto	s: 51.74	-0					
Left View:	-90.0 degrees	3	Mediu	m Truck	s: 51.56	8					
Right View:	90.0 degrees	3	Hear	y Truck	s: 51.58	15					
FHWA Noise Model Calculations	5		1								
VehicleType REMEL	Traffic Flow	Distance		Road	Fresnel			Berm Atten			
Autos: 68.46	0.99	-0.		-1.20		1.67	0.000				
Medium Trucks: 79.45	-11.95	-0.		-1.20		1.87	0.000				
Heavy Trucks: 84.25	-12.66	-0.		-1.20	-5	5.37	0.000	0.000			
Unmitigated Noise Levels (with											
VehicleType Leq Peak Hou			Evening		Night	Ldn		CNEL			
Autos: 67		6.8	64.7		62.0		69.4	69.8			
Medium Trucks: 66		5.0	61.2		60.3		67.6	67.8			
Heavy Trucks: 70 Vehicle Noise: 73		9.2	64.7 68.6		64.1		71.5 74.6	71.8 74.9			
Centerline Distance to Noise Co	ntour (in feet)										
	,	70) dBA	65	dBA	60 dBA		55 dBA			
	L	.dn:	113		244		525	1,132			
	Ldn: CNEL:					118 255 549					

Friday, April 24, 2020

	FH\	VA-RD-77-108	HIGH	IWAY I	NOISE P	REDICT	ION M	DDEL					
Road Nan	rio: HY (With 2 ne: Meridian Pl nt: n/o Van Bu	cwy.	e III)					Meridia 12761	an South C	ampus			
SITE	SPECIFIC IN	IPUT DATA				N	IOISE	MODE	L INPUT	S			
Highway Data					Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	19,724 vehicle	es					Autos:	15				
Peak Hour	Percentage:	7.73%			Me	edium Tr	ucks (2	Axles):	15				
Peak H	lour Volume:	1,525 vehicle	s		He	eavy Tru	cks (3+	Axles):	15				
Ve	hicle Speed:	45 mph		ŀ	Vehicle	Mix							
Near/Far La	ne Distance:	44 feet		-		icleType	9	Dav	Evenina	Night	Daily		
Site Data							Autos:	71.1%	10.9%	18.0%			
Ra	rrier Heiaht:	0.0 feet			M	edium T	rucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-W		0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%		
Centerline Di	. ,	56.0 feet		-	Noise S	ouroo El	lovestio	no (in f	2041				
Centerline Dist.	to Observer:	56.0 feet		-	Noise 3	Auto		0.000	ei)				
Barrier Distance	to Observer:	0.0 feet			Modis	Auto m Truck		2.297					
Observer Height	(Above Pad):	5.0 feet				vy Truck		1.297	Grade Ad	livetmant	. 0 0		
P	ad Elevation:	0.0 feet			пеа	vy Truck	s. c	.004	Orade Ad	justinoni	0.0		
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distar	nce (in	feet)				
	Road Grade:	0.0%				Auto	s: 51	1.740					
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 51	1.568					
	Right View:	90.0 degree	es		Hea	vy Truck	s: 51	1.585					
FHWA Noise Mod	el Calculation	s											
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten		
Autos:	68.46	-0.40		-0.3	33	-1.20		-4.67	0.0	000	0.000		
Medium Trucks:	79.45	-13.34		-0.3	30	-1.20		-4.87	0.0	000	0.000		
Heavy Trucks:	84.25	-14.05		-0.3	31	-1.20		-5.37	0.0	000	0.000		
Unmitigated Nois	e Levels (with	out Topo and	barri	er atter	nuation)								
VehicleType	Leq Peak Hou			Leq E	vening	Leq	Night		Ldn	C	NEL		
Autos:			65.4		63.3		60		68.0		68.4		
Medium Trucks: 64.6 63.6 59.8 58.9					66.2	2	66.						
Heavy Trucks:			67.8		63.3		62		70.2				
Vehicle Noise:	71	.7	70.7		67.2		65	.8	73.2	2	73.5		
Centerline Distan	ce to Noise Co	ontour (in feet)	70	10.4		10.4		20.104		(D.4		
			,	70	dBA	65	dBA		60 dBA		dBA		
			Ldn:		92		19		425		915		
		C	NEL:		96		20	ь	444		956		

Friday, April 24, 20	020
----------------------	-----

	FHWA-R	D-77-108 HIGI	HWAY N	OISE P	REDICT	ION MOI	DEL			
Scenario: HY Road Name: Day Road Segment: s/o	St.	,				t Name: 1 Number: 1		n South Ca	ampus	
SITE SPEC	IFIC INPUT	DATA			ı	NOISE N	IODE	LINPUTS	;	
Highway Data			S	ite Cor	ditions	(Hard =	10, So	ft = 15)		
Average Daily Traffic Peak Hour Percer Peak Hour Vo	ntage: 7.7	87 vehicles '3% 94 vehicles				rucks (2 A rucks (3+ A	,	15 15 15		
Vehicle S	peed: 4	0 mph	v	'ehicle	Miv					
Near/Far Lane Dist	tance: 5	0 feet	-		icleType	9	Dav	Evening	Night	Daily
Site Data							71.1%		18.0%	,
Barrier He	oinht· (0.0 feet		M	ledium 7	rucks:	73.6%	7.7%	18.6%	4.64%
Barrier Type (0-Wall, 1-E	-	0.0			Heavy 7	rucks:	75.6%	6.7%	17.8%	3.94%
Centerline Dist. to B	arrier: 4	1.0 feet	^	loise S	ource E	levations	(in fe	et)		
Centerline Dist. to Obs	erver: 4	1.0 feet	F		Auto		000	,		
Barrier Distance to Obs	erver: (0.0 feet		Mediu	m Truck		97			
Observer Height (Above		5.0 feet			vy Truck		004	Grade Adj	ustment	: 0.0
Pad Elev		0.0 feet								
Road Elev		0.0 feet	L	ane Eq		t Distanc		eet)		
Road G					Auto					
		0.0 degrees			m Truck					
Right	View: 90	0.0 degrees		Hea	vy Truci	rs: 36.0	332			
FHWA Noise Model Calc	ulations									
,,, .			stance		Road	Fresn		Barrier Atte	_	m Atten
Autos:	66.51	1.70	1.94		-1.20		-4.61	0.0		0.000
Medium Trucks:	77.72	-11.25	1.98		-1.20		-4.87	0.0		0.000
Heavy Trucks:	82.99	-11.96	1.98		-1.20		-5.50	0.0	00	0.000
Unmitigated Noise Level		-								
., ,	eak Hour	Leq Day	Leq Ev			Night		Ldn		NEL
Autos:	68.9	67.8		65.7		63.1		70.4		70.8
Medium Trucks:	67.2	66.2 70.9		62.5 66.4		61.5 65.9		68.8 73.3		69.
Heavy Trucks: Vehicle Noise:	71.8 74.5	70.9		69.9		68.6		73.3		73.5 76.5
				09.9	1	00.0	'	10.0		10.
Centerline Distance to N	loise Contou	ır (in feet)	70 d	DΛ	e.	dBA	_	0 dBA	FE	dBA
		I dn:	70 a	<i>ВА</i> 111	00	ава 239	_ 0	514	33	1,108
		CNFI:		116		239		537		1,108
		CIVEL.		110		249		551		1,157

		A-RD-77-108		T NOISE I				0 " -				
	rio: HY (With 20	03 EIR Phase	III)	Project Name: Meridian South Campus Job Number: 12761								
	ne: Day St. ent: n/o Cottonw	and Av			JOD IV	umber:	12/01					
	SPECIFIC INI			1		IOIEE I	MODE	LINDLIT				
Highway Data	SPECIFIC IIVI	PUIDAIA		NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	30.729 vehicle	s	Autos: 15								
,	r Percentage:	7.73%	_	N	ledium Tr			15				
		2.375 vehicles			leavy Tru							
V	ehicle Speed:	40 mph		Vehicle								
Near/Far La	ane Distance:	50 feet			hicleType		Dav	Evening	Night	Dailv		
Site Data						Autos:	71.1%	-	18.0%	/		
	arrier Height:	0.0 feet			Medium Trucks: 73.6% 7.7% 18.6%							
Barrier Type (0-V		0.0 reet 0.0			Medium Trucks: 73.6% 7.7% 18.6% 4.64 Heavy Trucks: 75.6% 6.7% 17.8% 3.94							
,, ,	ist, to Barrier:	44.0 feet										
Centerline Dist.		44.0 feet		Noise S	Source El		•	eet)				
Barrier Distance		0.0 feet			Auto		000					
Observer Height		5.0 feet			um Truck		297	0				
	Pad Elevation:	0.0 feet		Hea	avy Truck	s: 8.	004	Grade Ad	ustment	0.0		
Ro	ad Elevation:	0.0 feet		Lane E	quivalent	Distan	ce (in f	eet)				
	Road Grade:	0.0%			Auto	s: 36.	551					
	Left View:	-90.0 degree	s	Medi	um Truck	s: 36.	308					
	Right View:	90.0 degree	s	Hea	avy Truck	s: 36.	332					
FHWA Noise Mod	lel Calculations											
VehicleType	REMEL	Traffic Flow	Distan	ce Finit	e Road	Fresi	nel .	Barrier Att	en Ber	m Atten		
Autos.	00.01	2.04		1.94	-1.20		-4.61	0.0	000	0.00		
Medium Trucks.	77.72	-10.90		1.98	-1.20		-4.87	0.0	000	0.00		
Heavy Trucks.	82.99	-11.61		1.98	-1.20		-5.50	0.0	000	0.00		
Unmitigated Nois			oarrier a	ttenuation)		,					
VehicleType	Leq Peak Hour			q Evening		Night		Ldn		VEL		
Autos.		-	88.1	66.	-	63.4		70.8		71.		
Medium Trucks.			6.6	62.	-	61.9	-	69.2	-	69		
			71.3	66.		66.2		73.6		73		
Heavy Trucks.		9 7	73.9	70.	3	69.0	J	76.4	+	76		
Vehicle Noise	74.											
Vehicle Noise.		ntour (in feet)		70 dB4	65	aD A	1 6	O ADA		dD A		
,		, ,	dn	70 dBA		dBA		60 dBA		dBA		
Vehicle Noise.		ı	_dn: IEL:	70 dBA 117	7	dBA 252 263		60 dBA 542 566		dBA 1,16		

	FH	WA-RD-77-108	HIGHWA	Y NOISE F	PREDICTION	ON MOI	DEL			
Road Na	rio: HY (With 2 me: Alessandro ent: w/o Mission	BI.	III)		Project I Job Nu			n South C	ampus	
	SPECIFIC IN	IPUT DATA						INPUTS	S	
Highway Data				Site Co	nditions (i	Hard =	10, So	ft = 15)		
Average Daily	/ Traffic (Adt):	67,330 vehicle	es			-	Autos:	15		
Peak Hou	r Percentage:	7.73%		N	ledium Tru	cks (2 A	xles):	15		
Peak	Hour Volume:	5,205 vehicles	3	H	leavy Truck	ks (3+ A	xles):	15		
V	ehicle Speed:	55 mph		Vehicle	Mix					
Near/Far L	ane Distance:	72 feet			hicleType		Day	Evening	Night	Daily
Site Data							71.1%	10.9%	18.0%	
R	arrier Height:	0.0 feet		- /	Medium Tru	icks:	73.6%	7.7%	18.6%	4.64%
Barrier Type (0-l	Wall, 1-Berm):	0.0			Heavy Tru	icks:	75.6%	6.7%	17.8%	3.94%
	Dist. to Barrier:	60.0 feet		Noise S	Source Ele	vations	(in fe	et)		
Centerline Dist		60.0 feet			Autos.	0.0	100			
Barrier Distance		0.0 feet		Medi	um Trucks.	2.2	97			
Observer Height	. ,	5.0 feet		Hea	avy Trucks.	8.0	104	Grade Adj	iustmen	t: 0.0
	Pad Elevation:	0.0 feet		I ano E	quivalent l	Dietano	o (in f	not)		
R	pad Elevation: Road Grade:	0.0 feet 0.0%		Laile E	Autos:			eet)		
	Left View:	-90.0 degree		Modi	um Trucks					
	Right View:	90.0 degree			arri Trucks. avy Trucks.					
FHWA Noise Mod										
VehicleType	REMEL	Traffic Flow	Distan	ce Finit	e Road	Fresn	el le	Barrier Atte	en Re	rm Atten
Autos	1		Diotain	0.13	-1.20		4.69	0.0		0.000
Medium Trucks				0.15	-1.20		4.88	0.0		0.000
Heavy Trucks	: 86.40	-9.59		0.15	-1.20		5.34	0.0	000	0.000
Unmitigated Nois	se Levels (with	out Topo and	barrier a	ttenuation)					
VehicleType	Leq Peak Ho			q Evening	Leg N			Ldn		NEL
Autos			73.6	71.		68.9		76.3		76.6
Medium Trucks			71.5	67.		66.8		74.1		74.3
Heavy Trucks		5.8	74.9	70.		69.8		77.2		77.5
Vehicle Noise			78.3	74.	9	73.4		80.8	3	81.1
Centerline Distar	ice to Noise C	ontour (in feet			1 -					
				70 dBA	65 d		6	0 dBA		dBA
			Ldn:	315		680		1,464		3,154
		C	NEL:	330)	711		1,531		3,298

	FH\	WA-RD-77-108	B HIGI	HWAY	NOISE P	REDICTI	ON MC	DEL						
Road Nar	rio: HY (With 2 me: Alessandro ent: e/o Mission	BI.	e III)		Project Name: Meridian South Campus Job Number: 12761									
	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS									
Highway Data				Site Cor	ditions	(Hard =	: 10, Sc	oft = 15)						
Average Daily	Traffic (Adt):	68,765 vehicl	les					Autos:	15					
Peak Hou	r Percentage:	7.73%			Me	edium Tru	ıcks (2	Axles):	15					
Peak I	Hour Volume:	5,316 vehicle	es		He	eavy Truc	cks (3+	Axles):	15					
Ve	ehicle Speed:	55 mph			Vehicle	Mix								
Near/Far La	ane Distance:	72 feet				icleType		Day	Evening	Night	Daily			
Site Data						- /	lutos:	71.1%	10.9%	18.0%	91.42%			
D.	arrier Height:	0.0 feet			M	edium Ti	ucks:	73.6%	7.7%	18.6%	4.64%			
Barrier Type (0-V	Vall, 1-Berm):	0.0				Heavy Ti	ucks:	75.6%	6.7%	17.8%	3.94%			
	ist. to Barrier:	60.0 feet			Noise S	ource El	evation	s (in fe	eet)					
Centerline Dist.		60.0 feet				Autos	s: 0	.000						
Barrier Distance		0.0 feet			Mediu	m Truck	s: 2	.297						
Observer Height	,,	5.0 feet			Hear	vy Truck	s: 8	.004	Grade Ad	justment	0.0			
	Pad Elevation:	0.0 feet					D: .							
Ro	ad Elevation:	0.0 feet			Lane Eq				reet)					
	Road Grade:	0.0%				Autos		.260						
	Left View:	-90.0 degre				m Truck		.076						
	Right View:	90.0 degre	es		Hea	vy Truck:	s: 48	.094						
FHWA Noise Mod														
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atten			
Autos:				0.		-1.20		-4.69		000	0.000			
Medium Trucks.				0.		-1.20		-4.88		000	0.000			
Heavy Trucks.				0.		-1.20		-5.34	0.0	000	0.000			
Unmitigated Nois														
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn		NEL			
Autos.		1.9	73.7		71.6		69.		76.4		76.7			
Medium Trucks.		2.6	71.6		67.8		66.	-	74.	_	74.4			
Heavy Trucks: Vehicle Noise.		5.8 9.4	75.0 78.4		70.4 75.0		69. 73.	-	77.3 80.9	-	77.5 81.2			
Centerline Distan	ce to Noise C	ontour (in fee	t)											
				70	dBA	65	dBA	(60 dBA	55	dBA			
			Ldn:		320		689)	1,485	i	3,199			
		C	NEL:		335		72	1	1,553		3,345			

	FH\	WA-RD-77-1	08 HIGH	WAY N	OISE P	REDICT	TION MOI	DEL			
	o: HY (With 2 e: Alessandro at: w/o Old 21	BI.	,				t Name: 1 Number: 1		n South Ca	ampus	
SITE S	SPECIFIC IN	IPUT DAT	A				NOISE N	ODEL	INPUTS	;	
Highway Data					Site Cor	ditions	(Hard =	10, Soi	ft = 15)		
	Traffic (Adt): Percentage: our Volume:	62,947 veh 7.73% 4,866 vehi					rucks (2 A Icks (3+ A	,	15 15 15		
Vel	hicle Speed:	45 mph		١,	/ehicle	Miv					
Near/Far Lar	ne Distance:	72 feet		F'		icleType	e	Dav	Evening	Night	Daily
Site Data								71.1%	10.9%	18.0%	
Par	rier Height:	0.0 fee			М	edium 7	rucks:	73.6%	7.7%	18.6%	4.64%
Barrier Type (0-Wa	all, 1-Berm):	0.0				Heavy 7	rucks:	75.6%	6.7%	17.8%	3.94%
Centerline Dis		60.0 feet		1	Voise S	ource E	levations	(in fe	et)		
Centerline Dist. t		60.0 feet				Auto		000	,		
Barrier Distance t	to Observer:	0.0 feet			Mediu	m Truck	ks: 2.2	97			
Observer Height (,	5.0 fee				vy Truck		004	Grade Adji	ustmen	: 0.0
	d Elevation:	0.0 fee			one Fe	uivalan	t Distanc	o (in f	2041		
	d Elevation: Road Grade:	0.0 feet		H.	ane Eq	Auto			eel)		
,	Left View:	-90.0 dec			Modiu	m Truck					
	Right View:	90.0 deg				vy Truck					
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flo	v Di:	stance	Finite	Road	Fresn	el E	Barrier Atte	n Bei	m Atten
Autos:	68.46	4.	64	0.1	3	-1.20		-4.69	0.0	00	0.000
Medium Trucks:	79.45	-8.	30	0.1	5	-1.20		-4.88	0.0	00	0.000
Heavy Trucks:	84.25	-9.	01	0.1	5	-1.20		-5.34	0.0	00	0.000
Unmitigated Noise	Levels (with	out Topo a	nd barri	er atten	uation)						
	Leq Peak Hou		,	Leq E			Night		Ldn		NEL
Autos:		2.0	70.9		68.8		66.1		73.5		73.9
Medium Trucks:).1	69.1		65.3		64.4		71.7		72.0
Heavy Trucks:		1.2	73.3		68.8		68.3		75.7		75.9
Vehicle Noise:	77	7.2	76.2		72.7		71.3		78.7		79.0
Centerline Distanc	e to Noise Co	ontour (in fe	eet)								
			[70 c		65	dBA	60	0 dBA	55	dBA
			Ldn:		228		491		1,058		2,279
			CNEL:		238		513		1,105		2,381

	FHV	VA-RD-77-108	HIGH	WAY N	OISE PF	REDICTI	OM MOI	DEL			
Scenario: H' Road Name: Al Road Segment: e/	essandro		: III)				Name: N Imber: 1		n South C	ampus	
	CIFIC IN	IPUT DATA							L INPUTS	5	
Highway Data				S	ite Con	ditions (Hard =	10, Sc	ft = 15)		
Average Daily Traffi	ic (Adt):	69,657 vehicle	es				,	Autos:	15		
Peak Hour Perc	entage:	7.73%			Me	dium Tru	cks (2 A	xles):	15		
Peak Hour \	/olume:	5,384 vehicle	S		He	avy Truc	ks (3+ A	xles):	15		
Vehicle		55 mph		ν	ehicle I	Лix					
Near/Far Lane Di	istance:	72 feet			Vehi	cleType		Day	Evening	Night	Daily
Site Data						A	utos:	71.1%	10.9%	18.0%	91.42
Barrier	Heiaht:	0.0 feet			Me	edium Tr	ucks:	73.6%	7.7%	18.6%	4.64
Barrier Type (0-Wall, 1		0.0			F	leavy Tr	ucks:	75.6%	6.7%	17.8%	3.94
Centerline Dist. to		60.0 feet		٨	loise So	urce Ele	vations	(in fe	et)		
Centerline Dist. to Ob		60.0 feet				Autos	: 0.0	100			
Barrier Distance to Ot		0.0 feet			Mediur	n Trucks	: 2.2	97			
Observer Height (Abov		5.0 feet			Heav	y Trucks	: 8.0	104	Grade Adj	ustment	: 0.0
	evation:	0.0 feet				<i>'</i>					
Road Ele		0.0 feet		L	ane Equ	uivalent		•	eet)		
	Grade:	0.0%				Autos					
	ft View:	-90.0 degre				n Trucks					
Rigi	ht View:	90.0 degre	es		Heav	y Trucks	: 48.0	194			
FHWA Noise Model Ca											
, , ,	EMEL	Traffic Flow	Dis	tance	Finite		Fresn	_	Barrier Atte		m Atter
Autos:	71.78	4.21		0.13		-1.20		-4.69	0.0		0.00
Medium Trucks:	82.40	-8.73		0.15		-1.20		-4.88	0.0		0.00
Heavy Trucks:	86.40	-9.44		0.15		-1.20		-5.34	0.0	100	0.00
Unmitigated Noise Lev	_										
VehicleType Leq Autos:	Peak Hou 74		73.8	Leq Ev	ening 71.7	Leq I	ugnt 69.0		Ldn 76.4		NEL 76
Medium Trucks:	72		71.6		67.8		66.9		74.2		74
Heavy Trucks:	75		75.0		70.5		70.0		77.4		77
Vehicle Noise:	79		78.5		75.0		73.6		81.0		81
Centerline Distance to	Noise Co	ontour (in feet)								
				70 d	BA	65 c	IBA	6	0 dBA	55	dBA
			Ldn:		323		695		1,498		3,22

FH	WA-RD-77-108 I	HIGHWAY	NOISE P	REDICTI	ON MOD	EL				
Scenario: HY (With 2 Road Name: Alessandr Road Segment: w/o Day S	II)	Project Name: Meridian South Campus Job Number: 12761								
SITE SPECIFIC II	NPUT DATA			N	OISE MO	ODEL INPU	TS			
Highway Data			Site Con	ditions (Hard = 10	0, Soft = 15)				
Average Daily Traffic (Adt):	48,149 vehicles	3			A	utos: 15				
Peak Hour Percentage:	7.73%		Ме	edium Tru	cks (2 Ax	des): 15				
Peak Hour Volume:	3,722 vehicles		He	eavy Truc	ks (3+ Ax	des): 15				
Vehicle Speed:	45 mph		Vehicle	Miv						
Near/Far Lane Distance:	82 feet			icleType	D	ay Evening	a Nie	tht Daily		
Site Data						1.1% 10.9%		3.0% 91.42%		
Barrier Height:	0.0 feet		М	ledium Tr		3.6% 7.7%		3.6% 4.64%		
Barrier Type (0-Wall, 1-Berm):	0.0 feet			Heavy Tr	ucks: 7	5.6% 6.7%	6 17	.8% 3.94%		
Centerline Dist. to Barrier:	67.0 feet									
Centerline Dist. to Observer:	67.0 feet		Noise So		evations	, ,				
Barrier Distance to Observer:	0.0 feet			Autos						
Observer Height (Above Pad):	5.0 feet			m Trucks						
Pad Elevation:	0.0 feet		Hear	vy Trucks	: 8.00)4 Grade A	Aajusti	nent: 0.0		
Road Elevation:	0.0 feet		Lane Eq	uivalent	Distance	(in feet)				
Road Grade:	0.0%			Autos	: 53.22	26				
Left View:	-90.0 degrees	3	Mediu	m Trucks	: 53.05	59				
Right View:	90.0 degrees	3	Hear	vy Trucks	: 53.07	76				
FHWA Noise Model Calculation	ıs		1							
VehicleType REMEL	Traffic Flow	Distance		Road	Fresne			Berm Atten		
Autos: 68.46		-0.		-1.20			0.000	0.000		
Medium Trucks: 79.45		-0.		-1.20			0.000	0.000		
Heavy Trucks: 84.25			49	-1.20	-6	5.29 (0.000	0.000		
Unmitigated Noise Levels (with										
VehicleType Leq Peak Ho			Evening	Leq I		Ldn		CNEL		
		9.1	67.0		64.3		1.7	72.1		
		7.3	63.5		62.6		9.9	70.2		
		1.5	67.0 70.9		66.5 69.5		3.8 3.9	74.1 77.2		
Centerline Distance to Noise C		•	. 5.0				-			
Contonino Dictance to Noise o	omour (m reet)	70) dBA	65 (IBA	60 dBA		55 dBA		
	L	dn:	193		416		95	1,929		
	CN	EL:	202		434	91	35	2.015		

	FH\	VA-RD-77-108	HIG	HWAY	NOISE P	REDICTI	ON MC	DDEL						
Road Nan	rio: HY (With 2 me: Alessandro ent: e/o Day St.		e III)		Project Name: Meridian South Campus Job Number: 12761									
SITE	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS									
Highway Data					Site Conditions (Hard = 10, Soft = 15)									
Average Daily	Traffic (Adt):	47,488 vehicle	es					Autos:	15					
Peak Hour	r Percentage:	7.73%			Me	edium Tru	ucks (2	Axles):	15					
Peak F	Hour Volume:	3,671 vehicle	s		He	eavy Truc	cks (3+	Axles):	15					
Ve	ehicle Speed:	45 mph		-	Vehicle	Mix								
Near/Far La	ane Distance:	82 feet		1		icleType		Dav	Evening	Night	Daily			
Site Data							Autos:	71.1%		18.0%	91.42%			
Rs	arrier Height:	0.0 feet			М	edium Ti	rucks:	73.6%	7.7%	18.6%	4.64%			
Barrier Type (0-V		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94%			
	ist. to Barrier:	67.0 feet			Noise S	ource El	evation	ıs (in fe	eet)					
Centerline Dist.		67.0 feet				Autos	s: 0	.000						
Barrier Distance		0.0 feet			Mediu	m Truck	s: 2	.297						
Observer Height	(,	5.0 feet			Hear	vy Trucks	s: 8	.004	Grade Ad	justmeni	: 0.0			
	Pad Elevation:	0.0 feet		-										
	ad Elevation:	0.0 feet		-	Lane Eq				reet)					
	Road Grade:	0.0%				Autos		.226						
	Left View:	-90.0 degre				m Truck		.059						
	Right View:	90.0 degre	es		Hea	vy Truck:	s: 53	.076						
FHWA Noise Mod				•										
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att	_	m Atten			
Autos:	00.10	3.42		-0.		-1.20		-4.71		000	0.000			
Medium Trucks:		-9.52		-0.4		-1.20		-4.88		000	0.000			
Heavy Trucks:		-10.23		-0.4		-1.20		-5.29	0.0	000	0.000			
Unmitigated Nois								1						
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn		NEL			
Autos:			69.0		66.9 63.5		64.		71.		72.0			
Medium Trucks:			67.2				66	2.5 69.8 6.4 73.8		-	70.1 74.0			
Heavy Trucks: Vehicle Noise:			71.4 74.3		66.9 70.8		69.		76.8	-	77.1			
Centerline Distan	ce to Noise Co	ontour (in feet)											
				70	dBA	65	dBA	(60 dBA	55	dBA			
			Ldn:		191		412	2	887		1,912			
		С	NEL:		200		430)	927		1,997			

Scenario: HY (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: elo Innovation Dr. SITE SPECIFIC INPUT DATA Highway Data Average Daily Traffic (Adt): 34,464 vehicles Peak Hour Percentage: 7.73% Medium Trucks (2 Axles): 1	IPUTS 15) 5	npus
Highway Data Site Conditions (Hard = 10, Soft = Average Daily Traffic (Adt): 34,464 vehicles Autos: 1	15) 5 5	
Average Daily Traffic (Adt): 34,464 vehicles Autos: 1	5	
Trongo Bany Tramo (Flat).	5	
Peak Hour Volume: 2,664 vehicles Heavy Trucks (3+ Axles): 1		
Vehicle Speed: 45 mph		
Near/Far Lane Distance: 80 feet Vehicle Mix Vehicle Type Day Eve	ening N	light Daily
		18.0% 91.42%
Madium Taraka, 70.00/		18.6% 4.64%
	6.7%	17.8% 3.94%
Centerline Dist. to Barrier: 60.0 feet Noise Source Elevations (in feet)		
Centerline Dist. to Observer: 60.0 feet Autos: 0.000		
Barrier Distance to Observer: 0.0 feet Medium Trucks: 2.297		
Observer Height (Above Pad): 5.0 feet Heavy Trucks: 8.004 Gra	de Adjus	stment: 0.0
Pad Elevation: 0.0 feet		
Road Elevation: 0.0 feet Lane Equivalent Distance (in feet)		
Road Grade: 0.0% Autos: 45.000		
Left View: -90.0 degrees Medium Trucks: 44.803 Right View: 90.0 degrees Heavy Trucks: 44.822		
FHWA Noise Model Calculations		
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barr	ier Atten	Berm Atten
Autos: 68.46 2.03 0.58 -1.20 -4.69	0.00	0.000
Medium Trucks: 79.45 -10.92 0.61 -1.20 -4.88	0.00	0.000
Heavy Trucks: 84.25 -11.63 0.61 -1.20 -5.34	0.00	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)		
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn		CNEL
Autos: 69.9 68.7 66.6 64.0	71.4	71.
Medium Trucks: 67.9 66.9 63.2 62.2	69.5	69.8
Heavy Trucks: 72.0 71.1 66.6 66.1	73.5	73.7
Vehicle Noise: 75.0 74.0 70.5 69.2	76.5	76.8
Centerline Distance to Noise Contour (in feet)		EE -IDA
70 dBA 65 dBA 60 dE	760	55 dBA
Lan: 164 353 CNFL: 171 368	760 793	1,636 1,709
C/VEL: 1/1 308	193	1,709

	HWA-RD-77-10	08 HIGHV	NAY N	OISE PI	REDICT	ION M	ODEL			
Scenario: HY (With Road Name: Cactus A Road Segment: w/o Innov	V.	se III)			.,		Meridia 12761	an South C	Campus	
SITE SPECIFIC	INPUT DATA	1						L INPUT	s	
Highway Data			S	ite Con	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily Traffic (Adt).	29,036 vehi	cles					Autos:	15		
Peak Hour Percentage.	7.73%			Me	dium Tr	ucks (2	Axles):	15		
Peak Hour Volume:	2,244 vehic	les		He	avy Tru	cks (3+	Axles):	15		
Vehicle Speed:	45 mph		V	ehicle l	Vix					
Near/Far Lane Distance.	80 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						Autos:	71.1%	10.9%	18.0%	91.429
Barrier Height.	. 0.0 feet			М	edium T	rucks:	73.6%	7.7%	18.6%	4.649
Barrier Type (0-Wall, 1-Berm)	0.0			1	leavy T	rucks:	75.6%	6.7%	17.8%	3.949
Centerline Dist. to Barrier			Ν	loise Sc	urce El	evatio	ns (in fe	eet)		
Centerline Dist. to Observer					Auto	s: (0.000			
Barrier Distance to Observer				Mediu	m Truck	s: 2	2.297			
Observer Height (Above Pad)				Heav	y Truck	s: 8	3.004	Grade Ad	ljustmen	t: 0.0
Pad Elevation.	0.0 1001					Di-1-	/!	E4)		
Road Elevation	0.0 1001		L	ane Eq	uivalen			reet)		
Road Grade					Auto		5.000			
Left View					m Truck		1.803			
Right View	90.0 degr	ees		Heat	y Truck	S. 44	1.822			
FHWA Noise Model Calculation										
VehicleType REMEL	Traffic Flow		ance		Road	Fres		Barrier Att		rm Atten
Autos: 68.4			0.58		-1.20		-4.69		000	0.00
Medium Trucks: 79.4		-	0.61		-1.20		-4.88		000	0.00
Heavy Trucks: 84.2			0.61		-1.20		-5.34	0.0	000	0.00
Unmitigated Noise Levels (wi		_								
VehicleType Leq Peak H			Leq Ev		Leq	Night		Ldn		NEL 71.
	69.1 67.2	68.0 66.2		65.9 62.4		63 61		70.0		
		70.4		65.9		65		68.8 72.8		69. 73.
				05.9		00	.4	12.	0	73.
Heavy Trucks:	71.3 74.3	73.3		69.8		68	.4	75.	8	76
Heavy Trucks: Vehicle Noise:	74.3	73.3		69.8		68	.4	75.	8	76.
Heavy Trucks:	74.3	73.3	70 di		65	68 dBA		75.8 60 dBA		76. 5 dBA
Heavy Trucks: Vehicle Noise:	74.3	73.3	70 di		65		(55	76. 5 dBA 1,460

	FHV	VA-RD-77-108	HIGHWAY	NOISE P	REDICT	ION MOI	DEL					
Road Nam	Scenario: HY (With 2003 EIR Phase III) Road Name: Cactus Av. Road Segment: w/o Eisworth St.						Meridia 12761	an South Ca	mpus			
	SPECIFIC IN	IPUT DATA		NOISE MODEL INPUTS								
Highway Data				Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	62,699 vehicle	es			,	Autos:	15				
Peak Hour	Percentage:	7.73%				ucks (2 A						
Peak H	lour Volume:	4,847 vehicles	3	He	eavy Tru	cks (3+ A	(xles	15				
	hicle Speed:	50 mph		Vehicle	Mix							
Near/Far La	ne Distance:	82 feet			nicleType		Day	Evening	Night	Daily		
Site Data						Autos:	71.1%	10.9%	18.0%	91.42%		
Rai	rrier Height:	0.0 feet		M	ledium T	rucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-W		0.0			Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%		
Centerline Dis	st. to Barrier:	67.0 feet		Noise S	ource F	ovations	: (in fa	oot)				
Centerline Dist.	to Observer:	67.0 feet		140/30 0	Auto		000	,				
Barrier Distance	to Observer:	0.0 feet		Mediu	ım Truck		97					
Observer Height ((Above Pad):	5.0 feet			vy Truck		004	Grade Adju	stment.	0.0		
	ad Elevation:	0.0 feet										
	ad Elevation:	0.0 feet		Lane Eq				feet)				
1	Road Grade:	0.0%			Auto							
	Left View:	-90.0 degree			ım Truck							
	Right View:	90.0 degree	es	Hea	vy Truck	s: 53.0	076					
FHWA Noise Mode	el Calculation	s										
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresn	el	Barrier Atte	n Ber	m Atten		
Autos:	70.20	4.17	-0.	.51	-1.20		-4.71	0.00	00	0.000		
Medium Trucks:	81.00	-8.78	-	.49	-1.20		-4.88	0.00		0.000		
Heavy Trucks:	85.38	-9.49	-0.	.49	-1.20		-5.29	0.00	00	0.000		
Unmitigated Noise			barrier atte	enuation)								
	Leq Peak Hou			Evening		Night		Ldn	CI	VEL		
Autos:	72		71.5	69.4		66.8		74.2		74.5		
Medium Trucks:	70		69.5	65.8		64.8		72.1		72.4		
Heavy Trucks:	74		73.3	68.8		68.3		75.7		75.9		
Vehicle Noise:	77	.5	76.5	73.0)	71.6	i	79.0		79.3		
Centerline Distance	ce to Noise Co	ontour (in feet										
) dBA	65	dBA	(60 dBA	55	dBA		
			Ldn:	266		573		1,235		2,662		
		C	VEL:	278		599		1,291		2,782		

FI	WA-RD-77-108	B HIGH	WAY N	IOISE P	REDICTI	ON MC	DEL					
Scenario: HY (With Road Name: Cactus A Road Segment: e/o Elswo	<i>i</i> .	e III)		Project Name: Meridian South Campus Job Number: 12761								
SITE SPECIFIC	NPUT DATA				N	OISE	MODE	L INPUT	S			
Highway Data				Site Cor	ditions	(Hard =	: 10, Sc	oft = 15)				
Average Daily Traffic (Adt):	61,453 vehicl	es					Autos:	15				
Peak Hour Percentage:	7.73%			Me	dium Tru	ıcks (2	Axles):	15				
Peak Hour Volume:	4,750 vehicle	s		He	avy Truc	cks (3+	Axles):	15				
Vehicle Speed:	50 mph		-	Vehicle	Miv							
Near/Far Lane Distance:	82 feet		F		icleType		Dav	Evening	Night	Daily		
Site Data						Autos:	71.1%		18.0%	91.429		
Barrier Height:	0.0 feet			М	edium Ti	ucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-Wall, 1-Berm):	0.0				Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.94%		
Centerline Dist. to Barrier:	67.0 feet		H	Noise S	urco El	ovation	s (in f	201				
Centerline Dist. to Observer:	67.0 feet		ľ	worse so	Auto:		000	ei)				
Barrier Distance to Observer:	0.0 feet			Modiu	Auto: m Truck:		.000					
Observer Height (Above Pad):	5.0 feet				vy Truck		.297	Grade Ad	livetman	- 0.0		
Pad Elevation:	0.0 feet			пеа	ry Truck	s. o	.004	Orade Ad	justinom	. 0.0		
Road Elevation:	0.0 feet		1	Lane Eq	uivalent	Distan	ce (in	feet)				
Road Grade:	0.0%				Autos	s: 53	.226					
Left View:	-90.0 degre	es		Mediu	m Truck	s: 53	.059					
Right View:	90.0 degre	es		Hea	y Truck	s: 53	.076					
FHWA Noise Model Calculatio	ns											
VehicleType REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Bei	rm Atten		
Autos: 70.2	0 4.08		-0.5	1	-1.20		-4.71	0.0	000	0.000		
Medium Trucks: 81.0			-0.4	-	-1.20		-4.88		000	0.000		
Heavy Trucks: 85.3	8 -9.57		-0.4	9	-1.20		-5.29	0.0	000	0.000		
Unmitigated Noise Levels (wit	hout Topo and	barrie	er atten	uation)								
VehicleType Leq Peak H			Leq E	vening		Night		Ldn		NEL		
	2.6	71.4		69.3		66.		74.		74.4		
	0.4	69.4		65.7		64.		72.0	-	72.3		
	7.4	73.2 76.4		68.7 72.9		68. 71.		75.0 78.9		75.8 79.2		
				12.0		, , ,		70		7 5.2		
Centerline Distance to Noise	ontour (in fee	t)	70 (AD A	65	dBA	-	60 dBA	55	dBA		
		Ldn:	701	263	001	566		1.219		2.626		

Friday, April 24, 20	020
----------------------	-----

F	HWA-RI	D-77-108 HIG	HWAY	NOISE P	REDICT	TION MOI	DEL			
Scenario: HY (With Road Name: Cactus I Road Segment: e/o Grah	۸v.	IR Phase III)				t Name: I Number: 1		South Ca	ampus	
SITE SPECIFIC	INPUT	DATA						INPUTS	6	
Highway Data				Site Cor	nditions	(Hard =	10, Sof	t = 15)		
Average Daily Traffic (Adt.	: 57,43	9 vehicles				,	Autos:	15		
Peak Hour Percentage	: 7.73	3%		Me	edium Ti	rucks (2 A	(xles	15		
Peak Hour Volume	: 4,440) vehicles		He	eavy Tru	icks (3+ A	(xles	15		
Vehicle Speed	: 50) mph		Vehicle	Miss					
Near/Far Lane Distance	: 82	2 feet			nicleTyp	۵	Day	Evening	Night	Daily
Site Data				VEI			71.1%	10.9%	18.0%	,
					ledium ī		73.6%	7.7%	18.6%	-
Barrier Heigh		.0 feet			Heavy 1		75.6%	6.7%	17.8%	
Barrier Type (0-Wall, 1-Berm Centerline Dist. to Barrie		.0				ruono.	70.070	0.1 70	11.07	0.0170
Centerline Dist. to Observe		.0 feet .0 feet		Noise S	ource E	levations	(in fee	et)		
Barrier Distance to Observe		.0 feet			Auto	os: 0.0	000			
Observer Height (Above Pad		0 feet		Mediu	ım Truci	ks: 2.2	297			
Pad Elevation		.0 feet		Hea	vy Truci	ks: 8.0	004 (Grade Adji	ustmen	t: 0.0
Road Flevation		0 feet		I ane Fo	uivalen	t Distanc	e (in fe	et)		
Road Grade				zano za	Auto					
I eft Viev		.0 degrees		Medii	ım Truci					
Right View		.0 degrees			vy Truci					
FHWA Noise Model Calculati	ons									
VehicleType REMEL	Trafi	fic Flow D	istance	Finite	Road	Fresn	el E	Barrier Atte	en Be	rm Atten
Autos: 70.		3.79	-0.		-1.20		-4.71	0.0		0.000
Medium Trucks: 81.		-9.16	-0.	49	-1.20		-4.88	0.0		0.000
Heavy Trucks: 85.		-9.87	-0.		-1.20		-5.29	0.0	00	0.000
Unmitigated Noise Levels (w		•	_							
VehicleType Leq Peak I		Leq Day		Evening		Night		Ldn		NEL
Autos:	72.3	71.1		69.0		66.4		73.8		74.2
Medium Trucks:	70.2	69.2		65.4		64.4		71.7		72.0
Heavy Trucks:	73.8	72.9		68.4		67.9		75.3		75.5
Vehicle Noise:	77.1	76.1		72.6	5	71.2		78.6		78.9
Centerline Distance to Noise	Contou	r (in feet)	70	dBA	65	dBA	60) dBA	55	dBA
		Ldn.		251		541		1,165	,	2,511
		CNEL		262		565		1,218		2,624

						REDICTIO					
	e: HY (With 20 e: Cactus Av.	003 EIR Phas	e III)			Project N Job Nui			n South C	ampus	
Road Segmen	t: w/o Grahan	n St.									
	PECIFIC IN	PUT DATA							L INPUTS	5	
Highway Data					Site Con	ditions (F	lard =	10, Sc	oft = 15)		
Average Daily T	raffic (Adt):	65,840 vehic	les					Autos:			
Peak Hour F	Percentage:	7.73%				dium Truc					
Peak Ho	our Volume:	5,089 vehicle	es		He	avy Truck	s (3+ A	Axles):	15		
	icle Speed:	50 mph			Vehicle I	Лix					
Near/Far Lan	e Distance:	82 feet		F	Vehi	cleType		Day	Evening	Night	Daily
Site Data						AL	itos:	71.1%	10.9%	18.0%	91.429
Barı	ier Heiaht:	0.0 feet			Me	edium Tru	cks:	73.6%	7.7%	18.6%	4.649
Barrier Type (0-Wa	all, 1-Berm):	0.0			F	leavy Tru	cks:	75.6%	6.7%	17.8%	3.949
Centerline Dis		67.0 feet		1	Noise So	urce Ele	vation:	s (in fe	et)		
Centerline Dist. to		67.0 feet				Autos:	0.0	000			
Barrier Distance to		0.0 feet			Mediur	n Trucks:	2.5	297			
Observer Height (A	,	5.0 feet			Heav	y Trucks:	8.0	004	Grade Adj	ustment	0.0
	d Elevation:	0.0 feet				<i>'</i>					
	d Elevation:	0.0 feet		,	Lane Equ	uivalent E			eet)		
R	oad Grade:	0.0%				Autos:		226			
	Left View:	-90.0 degre				n Trucks:		059			
	Right View:	90.0 degre	ees		Heav	y Trucks:	53.	076			
FHWA Noise Mode			,								
VehicleType	REMEL	Traffic Flow		stance	Finite		Fresn		Barrier Atte		m Atten
Autos:	70.20	4.38		-0.5		-1.20		-4.71	0.0		0.00
Medium Trucks:	81.00	-8.56		-0.4		-1.20		-4.88		100	0.00
Heavy Trucks:	85.38	-9.27		-0.4		-1.20		-5.29	0.0	100	0.00
Unmitigated Noise						1 1	i mela d	1	Late		
VehicleType I	eq Peak Hou		71.7	Leq E	vening 69.6	Leq N	19nt 67.0		Ldn 74.4		VEL 74.
Medium Trucks:	70		69.7		66.0		65.0		72.3		72
Heavy Trucks:	70		73.5		69.0		68.5		75.9		76.
Vehicle Noise:	77		76.7		73.2		71.8		79.2		79
Centerline Distance	e to Noise Co	ntour (in fee	t)								
				70 (dBA	65 dE	ВА	6	i0 dBA	55	dBA
								•			
			Ldn:		275		592		1,276		2,75

	FHV	VA-RD-77-108	HIGHW	/AY N	OISE PI	REDICTI	ON MO	DEL			
Road Nam	io: HY (With 2 ne: Van Buren nt: w/o Wood I		III)				Name: umber:		an South Ca	mpus	
	SPECIFIC IN	IPUT DATA							L INPUTS		
Highway Data				S	Site Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	53,003 vehicle	es					Autos.	15		
Peak Hour	Percentage:	7.73%			Me	dium Tru	icks (2 .	Axles).	: 15		
Peak H	lour Volume:	4,097 vehicles	3		He	avy Truc	ks (3+.	Axles).	: 15		
Ve	hicle Speed:	50 mph		1	ehicle l	Miv					
Near/Far La	ne Distance:	72 feet		٠.		icleType		Dav	Evening I	Night	Daily
Site Data					*011		lutos:	71.19		18.0%	91.42%
	landlands	0.0 feet			М	edium Tı		73.69		18.6%	4.64%
Barrier Type (0-W	rrier Height:	0.0 reet				Heavy Ti		75.69		17.8%	3.94%
Centerline Di		60.0 feet									
Centerline Dist.		60.0 feet		٨	loise So	ource El			eet)		
Barrier Distance		0.0 feet				Auto		000			
Observer Height (5.0 feet				m Truck		297			
	ad Elevation:	0.0 feet			Heav	y Truck	s: 8.	004	Grade Adju	stment:	0.0
	ad Elevation:	0.0 feet		L	ane Ea	uivalent	Distan	ce (in	feet)		
	Road Grade:	0.0%				Auto		260	,		
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 48	.076			
	Right View:	90.0 degree			Heav	y Truck	s: 48	.094			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresi	nel	Barrier Atter	n Berr	n Atten
Autos:	70.20	3.44		0.13	3	-1.20		-4.69	0.00	10	0.000
Medium Trucks:	81.00	-9.51		0.15	5	-1.20		-4.88	0.00	10	0.000
Heavy Trucks:	85.38	-10.22		0.15	5	-1.20		-5.34	0.00	10	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrier	atteni	uation)						
VehicleType	Leq Peak Hou			.eq Ev		Leq	Night		Ldn	CN	IEL
Autos:	72		71.4		69.3		66.		74.1		74.4
Medium Trucks:	70		69.4		65.7		64.		72.0		72.3
Heavy Trucks:	74		73.2		68.7		68.		75.6		75.8
Vehicle Noise:	77		76.4		72.9		71.	5	78.9		79.2
Centerline Distance	ce to Noise Co	ontour (in feet)	70 -	rD.4	05	-ID 4	_	CO -1D4		-1D.4
			Ldn:	70 a	<i>BA</i> 235	05	dBA 507		60 dBA 1.091	25	dBA
			Lan: NEL:		235		529		1,091		2,351 2,458
		C	vĽL.		240		528	,	1,141		2,408

	FH\	WA-RD-77-108	HIGH	IWAY I	NOISE PI	REDICT	ION MO	DEL						
Road Nam	io: HY (With 2 ne: Van Buren nt: e/o Wood F		III)		Project Name: Meridian South Campus Job Number: 12761									
SITE	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS									
Highway Data					Site Con	ditions	(Hard =	10, Sc	oft = 15)					
Average Daily	Traffic (Adt):	50,080 vehicle	es					Autos:	15					
Peak Hour	Percentage:	7.73%			Me	dium Tr	ucks (2)	Axles):	15					
Peak H	lour Volume:	3,871 vehicle	s		He	avy Tru	cks (3+)	Axles):	15					
Ve	hicle Speed:	50 mph		-	Vehicle	Misc								
Near/Far La	ne Distance:	72 feet		F		icleType		Dav	Evening	Night	Daily			
Site Data					V C//		Autos:	71.1%		18.0%				
					М	edium T		73.6%		18.6%				
Barrier Type (0-W	rrier Height:	0.0 feet 0.0				Heavy T		75.6%		17.8%				
Centerline Di	. ,	60.0 feet												
Centerline Dist.		60.0 feet		ļ	Noise So	ource El	evation	s (in fe	eet)					
Barrier Distance		0.0 feet				Auto		000						
Observer Height		5.0 feet			Mediu	m Truck	s: 2.	297						
	ad Elevation:	0.0 feet			Heav	y Truck	s: 8.	004	Grade Ad	justmen	t: 0.0			
	ad Elevation:	0.0 feet		ŀ	Lane Eq	uivalen	Distan	ce (in	feet)					
	Road Grade:	0.0 feet		-	24/10/24	Auto		260						
	Left View:	-90.0 degree	00		Madiu	m Truck		076						
	Right View:	90.0 degree				vy Truck		094						
	rugin vion.	00.0 409.0				,								
FHWA Noise Mode														
VehicleType	REMEL	Traffic Flow	Dis	tance		Road	Fresr		Barrier Att		rm Atten			
Autos:	70.20			0.1		-1.20		-4.69		000	0.000			
Medium Trucks:	01.00			0.1		-1.20		-4.88		000	0.000			
Heavy Trucks:	85.38	-10.46		0.1	15	-1.20		-5.34	0.0	000	0.000			
Unmitigated Noise	e Levels (with	out Topo and	barrie	er atter	nuation)									
VehicleType	Leq Peak Ho	ur Leq Day		Leq E	vening	Leq	Night		Ldn	C	NEL			
Autos:	72	2.3	71.2		69.1		66.4	1	73.8	3	74.2			
Medium Trucks:	70).2	69.2		65.4		64.5	5	71.8	3	72.1			
Heavy Trucks:		3.9	73.0		68.5		67.9		75.3		75.6			
Vehicle Noise:	77	7.2	76.2		72.7		71.3	3	78.7	7	78.9			
Centerline Distant	ce to Noise Co	ontour (in feet)											
				70	dBA	65	dBA	(60 dBA	55	5 dBA			
			Ldn:		226		488		1,051		2,264			
		C	NEL:		237		510		1,098		2,366			

Friday, April 24, 20	020
----------------------	-----

	FHW	/A-RD-77-108 H	IGHWAY	NOISE P	REDICT	ION MOI	DEL			
Scenario: I Road Name: \ Road Segment: 6	√an Buren B		I)			t Name: N Number: 1		n South Ca	ampus	
SITE SPI	ECIFIC INI	PUT DATA				NOISE N	IODEL	INPUTS	;	
Highway Data				Site Cor	nditions	(Hard =	10, Soi	t = 15)		
Average Daily Tra Peak Hour Pei Peak Hour	centage:	43,929 vehicles 7.73% 3,396 vehicles				rucks (2 A licks (3+ A	,	15 15 15		
Vehicl	e Speed:	55 mph		Vehicle	Miv					
Near/Far Lane I	Distance:	72 feet			nicleTyp	9	Dav	Evening	Night	Daily
Site Data							71.1%	10.9%	18.0%	,
Parrio	r Height:	0.0 feet		N	1edium 1	rucks:	73.6%	7.7%	18.6%	4.64%
Barrier Type (0-Wall,	-	0.0			Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%
Centerline Dist. t	o Barrier:	60.0 feet		Noise S	ource E	levations	(in fe	et)		
Centerline Dist. to 0	Observer:	60.0 feet			Auto		•	/		
Barrier Distance to 0	Observer:	0.0 feet		Medii	ım Truci					
Observer Height (Abo	ove Pad):	5.0 feet			vy Truci			Grade Adju	ıstment	0.0
Pad E	levation:	0.0 feet								
	levation:	0.0 feet		Lane Eq		t Distanc		eet)		
	d Grade:	0.0%			Auto					
_	.eft View:	-90.0 degrees			ım Truci					
Ri	ght View:	90.0 degrees		Hea	vy Truci	rs: 48.0	94			
FHWA Noise Model C	alculations									
VehicleType I	REMEL	Traffic Flow	Distance	Finite	Road	Fresn	el E	Barrier Atte	n Ber	m Atten
Autos:	71.78	2.21	0	.13	-1.20		4.69	0.0	00	0.00
Medium Trucks:	82.40	-10.73	-	.15	-1.20		4.88	0.0		0.00
Heavy Trucks:	86.40	-11.44	0	.15	-1.20		5.34	0.0	00	0.00
Unmitigated Noise Le	•	, ,			_					
	q Peak Hour			Evening		Night		Ldn		NEL
Autos:	72.		1.8	69.7		67.0		74.4		74.
Medium Trucks:	70.		9.6	65.8		64.9		72.2		72.
Heavy Trucks:	73.		3.0	68.5		68.0		75.4		75.
Vehicle Noise:	77.	5 76	6.5	73.0)	71.6		79.0		79.:
Centerline Distance to	o Noise Co	ntour (in feet)	_		0.5		-			10.4
				0 dBA	65	dBA 544	60) dBA	55	dBA
			dn:	237		511		1,101		2,373
		CNE	EL:	248		535		1,152		2,481

		VA-RD-77-108									
Road Nam	o: HY (With 20 e: Van Buren l nt: w/o Barton	BI.	e III)				Name: lumber:		an South C	ampus	
SITE S	SPECIFIC IN	PUT DATA				N	IOISE	MODE	L INPUT	s	
Highway Data					Site Con	ditions	(Hard =	: 10, Sc	oft = 15)		
	Traffic (Adt): Percentage: lour Volume:	47,553 vehicle 7.73% 3.676 vehicle				edium Tru eavy Truc			15		
	hicle Speed:	50 mph	5		110	avy IIuc	JAS (JT	Axies).	10		
Near/Far Lai		72 feet			Vehicle I						
	io Biotarioo.	72 1001			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	71.1%		18.0%	
Bar	rier Height:	0.0 feet				edium Ti		73.6%		18.6%	
Barrier Type (0-W	'all, 1-Berm):	0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.949
Centerline Dis	st. to Barrier:	60.0 feet		1	Noise So	ource El	evation	s (in fe	eet)		
Centerline Dist.		60.0 feet		-		Auto		.000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck		297			
Observer Height (,	5.0 feet			Hear	vy Truck	s: 8	.004	Grade Ad	justment	: 0.0
	ad Elevation:	0.0 feet		-		•					
	ad Elevation:	0.0 feet		1	Lane Eq				feet)		
F	Road Grade:	0.0%				Auto		.260			
	Left View:	-90.0 degre				m Truck		.076			
	Right View:	90.0 degre	es		Hear	y Truck	s: 48	.094			
FHWA Noise Mode	el Calculations	5									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atter
Autos:	70.20	2.97		0.1	3	-1.20		-4.69	0.0	000	0.00
Medium Trucks:	81.00	-9.98		0.1	5	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	85.38	-10.69		0.1	5	-1.20		-5.34	0.0	000	0.00
Unmitigated Noise			barri					,			
	Leq Peak Hou	, ,		Leq E		_	Night		Ldn		NEL
Autos:	72		70.9		68.8		66.	_	73.6	-	74
Medium Trucks:	70		69.0		65.2		64.	-	71.6	-	71.
Heavy Trucks:	73		72.8		68.2		67.		75.1		75.
Vehicle Noise:	76		75.9		72.5		71.	1	78.4	4	78
Centerline Distanc	e to Noise Co	ntour (in feet)	70 0	-10.4	05	dBA		SO dBA		-10.4
			I dn:	70 0		65					dBA
		_	Lan: NFI:		219		47		1,015		2,18
		C	IVEL:		229		493	5	1,061		2,28

	FHW	/A-RD-77-108 H	IIGHW <i>A</i>	AY NOISE P	REDICTI	ON MO	DEL					
Road Nan	rio: HY (With 20 ne: Van Buren E ent: w/o Orange	BI.	II)	Project Name: Meridian South Campus Job Number: 12761								
	SPECIFIC IN	PUT DATA		0:: 0				L INPUTS	5			
Highway Data				Site Cor	ditions	Hard =	10, Sc					
Average Daily	Traffic (Adt):	50,736 vehicles					Autos:					
Peak Hour	Percentage:	7.73%		Me	edium Tru	ıcks (2 i	4xles):	15				
Peak F	lour Volume:	3,922 vehicles		He	eavy Truc	ks (3+)	4xles):	15				
Ve	ehicle Speed:	55 mph		Vehicle	Miv							
Near/Far La	ne Distance:	72 feet			icleType		Day	Evening	Night	Daily		
Site Data						lutos:	71.1%	10.9%	18.0%	91.42%		
Ra	rrier Height:	0.0 feet		M	ledium Tr	ucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-W		0.0			Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.94%		
	ist. to Barrier:	60.0 feet										
Centerline Dist.		60.0 feet		Noise S			_	eet)				
Barrier Distance		0.0 feet			Autos		000					
Observer Height		5.0 feet			m Trucks		297					
	ad Flevation:	0.0 feet		Hea	vy Trucks	s: 8.	004	Grade Adj	ustment	: 0.0		
	ad Elevation:	0.0 feet		Lane Eq	uivalent	Distan	ce (in	feet)				
	Road Grade:	0.0%			Autos	s: 48.	260					
	Left View:	-90.0 degrees		Mediu	m Trucks		076					
	Right View:	90.0 degrees		Hea	vy Trucks	s: 48.	094					
FHWA Noise Mod	el Calculations											
VehicleType	REMEL	Traffic Flow	Distan	ce Finite	Road	Fresi	nel	Barrier Atte	en Bei	m Atten		
Autos:	71.78	2.84		0.13	-1.20		-4.69	0.0	00	0.000		
Medium Trucks:	82.40	-10.11		0.15	-1.20		-4.88	0.0	00	0.000		
Heavy Trucks:	86.40	-10.82		0.15	-1.20		-5.34	0.0	00	0.000		
Unmitigated Noise	e Levels (witho	out Topo and b	arrier a	ttenuation)								
VehicleType	Leq Peak Hou	r Leq Day	Le	eq Evening	Leq			Ldn	C	NEL		
Autos:	73.	5 7	2.4	70.3		67.7	7	75.0		75.4		
Medium Trucks:	71.	2 7	0.2	66.5		65.5	5	72.8		73.1		
Heavy Trucks:	74.	5 7	3.6	69.1		68.6	3	76.0		76.2		
Vehicle Noise:	78.	.1 7	7.1	73.7		72.2	2	79.6		79.9		
Centerline Distan	ce to Noise Co	ntour (in feet)										
				70 dBA	65 (60 dBA	55	dBA		
			dn:	261		563		1,212		2,612		
		CN	FI:	273		588		1 268		2 731		

FH	IWA-RD-77-10	8 HIGH	A YAWH	IOISE PI	REDICTI	ON MC	DEL						
Scenario: HY (With Road Name: Van Burer Road Segment: e/o Orang	n Bl.	,		Project Name: Meridian South Campus Job Number: 12761									
SITE SPECIFIC I	NPUT DATA							L INPUT	S				
Highway Data				Site Conditions (Hard = 10, Soft = 15)									
Average Daily Traffic (Adt):	51,895 vehic	les					Autos:	15					
Peak Hour Percentage:	7.73%			Me	edium Tru	ucks (2	Axles):	15					
Peak Hour Volume:	4,011 vehicle	es		He	eavy Truc	cks (3+	Axles):	15					
Vehicle Speed:	55 mph			Vehicle i	Mix								
Near/Far Lane Distance:	72 feet		H		icleType		Day	Evening	Night	Daily			
Site Data					- /	Autos:	71.1%	10.9%	18.0%	91.42%			
Barrier Height:	0.0 feet			М	edium Ti	rucks:	73.6%	7.7%	18.6%	4.64%			
Barrier Type (0-Wall, 1-Berm):	0.0				Heavy Tr	rucks:	75.6%	6.7%	17.8%	3.94%			
Centerline Dist. to Barrier:	60.0 feet			Noise So	ourco El	ovation	ne (in f	not)					
Centerline Dist. to Observer:	60.0 feet		· ·	140/36 30	Auto:		.000	<i>(</i>					
Barrier Distance to Observer:	0.0 feet			Modiu	m Truck:		.000						
Observer Height (Above Pad):			vy Truck:		.004	Grade Ad	liustment	- 0.0					
Pad Elevation:	0.0 feet		L						juoumom	. 0.0			
Road Elevation:	0.0 feet		1	Lane Eq	uivalent	Distar	ice (in	feet)					
Road Grade:	0.0%				Autos	s: 48	.260						
Left View:	-90.0 degre	ees			m Truck		.076						
Right View:	90.0 degre	ees		Heav	vy Truck	s: 48	.094						
FHWA Noise Model Calculation	ns												
VehicleType REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Bei	rm Atten			
Autos: 71.7	3 2.93	3	0.1	3	-1.20		-4.69	0.0	000	0.000			
Medium Trucks: 82.4			0.1	-	-1.20		-4.88		000	0.000			
Heavy Trucks: 86.4	0 -10.72	2	0.1	5	-1.20		-5.34	0.0	000	0.000			
Unmitigated Noise Levels (wit							_						
VehicleType Leq Peak Ho		,	Leq E	vening		Night		Ldn		NEL			
	3.6	72.5		70.4		67.		75.		75.5			
Medium Trucks: 71.3 70.3				66.6		65.	-	72.9	-	73.2			
	4.6	73.7		69.2 73.8		68. 72.		76. ⁻		76.3 80.0			
				7 0.0		, 2.		13.	•	50.0			
Centerline Distance to Noise C	ontour (in fee	t)	70 (dBA	65	dBA		60 dBA	55	dBA			
		Ldn:		265		57	1	1.231	1	2.652			

		WA-RD-77-10		TWAT	IOISE P						
	e: Van Buren		e III)				t Name. Vumber		an South C	ampus	
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data					Site Cor	ditions	(Hard	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	67,030 vehic	les					Autos.	15		
Peak Hour	Percentage:	7.73%			Me	dium T	rucks (2	Axles).	15		
Peak H	our Volume:	5,181 vehicle	es		He	avy Tru	icks (3+	Axles).	15		
Vel	nicle Speed:	55 mph		-	Vehicle	Mix					
Near/Far Lar	ne Distance:	73 feet		-		icleTyp	е	Day	Evening	Night	Daily
Site Data							Autos:	71.19	6 10.9%	18.0%	91.429
Rar	rier Height:	0.0 feet			M	edium T	rucks:	73.6%	6 7.7%	18.6%	4.64%
Barrier Type (0-Wa	all, 1-Berm):	0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%
Centerline Dis		55.0 feet		- 1	Noise S	ource E	levatio	ns (in f	eet)		
Centerline Dist. t		55.0 feet		T I		Auto	os: (0.000			
Barrier Distance t		0.0 feet			Mediu	m Truci	ks: 2	2.297			
Observer Height (5.0 feet			Hea	y Truci	ks: 8	3.004	Grade Ad	iustment	0.0
	d Elevation:	0.0 feet		-			4 Di-4-	/!	f4)		
	d Elevation:	0.0 feet		H.	Lane Eq				reet)		
F	Road Grade:	0.0%			1.4	Auto m Truci		1.446			
	Left View: Right View:	-90.0 degre				m Truci vy Truci		1.252			
			.03		7700	,, ,,,,,,,,					
FHWA Noise Mode	REMEL	S Traffic Flow	D.	stance	Finito	Road	Fres	2001	Barrier Atte	on Bo	m Atten
VehicleType Autos:	71.78			1.1		-1.20	ries	-4.67		000	0.00
Medium Trucks:	82.40			1.1		-1.20		-4.87		000	0.00
Heavy Trucks:	86.40			1.1	-	-1.20		-5.38		000	0.00
Unmitigated Noise	Levels (with	out Topo and	l barri	ier atten	uation)						
VehicleType	Leq Peak Ho	ur Leq Da	У	Leq E	vening	Leq	Night		Ldn	C	NEL
Autos:	75	5.7	74.6		72.5		69	.9	77.2	2	77.
Medium Trucks:	73	3.5	72.5		68.7		67	.7	75.1	l	75.
Heavy Trucks:		3.7	75.8		71.3		70		78.2		78.
Vehicle Noise:	80).3	79.3		75.9		74	.4	81.8	3	82.
Centerline Distanc	e to Noise C	ontour (in fee	t)								
			l	70	dBA	65	dBA	_	60 dBA		dBA
		_	Ldn:		336		72		1,559		3,360
			NFI:		351		75	7	1.631		3.513

	FH\	WA-RD-77-108	HIG	HWAY I	NOISE	PREDICT	ION MO	DDEL						
	e: Van Buren		e III)		Project Name: Meridian South Campus Job Number: 12761									
	PECIFIC IN	IPUT DATA							L INPUT	S				
Highway Data					Site Co	onditions	(Hard:	= 10, Sc	oft = 15)					
Average Daily 1	Fraffic (Adt):	62,199 vehicle	es					Autos:						
Peak Hour I	Percentage:	7.73%			Λ	1edium Tr	ucks (2	Axles):	15					
Peak Ho	our Volume:	4,808 vehicles	S		F	leavy Tru	cks (3+	Axles):	15					
	nicle Speed:	55 mph		İ	Vehicle	e Mix								
Near/Far Lan	e Distance:	73 feet		f	Ve	ehicleType	9	Day	Evening	Night	Daily			
Site Data							Autos:	71.1%	10.9%	18.0%	91.42			
Bari	rier Heiaht:	0.0 feet				Medium 7	rucks:	73.6%	7.7%	18.6%	4.64			
Barrier Type (0-Wa		0.0				Heavy 7	rucks:	75.6%	6.7%	17.8%	3.94			
Centerline Dis	t. to Barrier:	55.0 feet		İ	Noise -	Source E	levatio	ns (in fe	eet)					
Centerline Dist. t		55.0 feet		ŀ		Auto		.000	,					
Barrier Distance t	o Observer:	0.0 feet			Med	ium Truck		297						
Observer Height (A		5.0 feet			He	avy Truck	rs: E	.004	Grade Ad	justment	: 0.0			
	d Elevation:	0.0 feet				•								
	d Elevation:	0.0 feet			Lane E	quivalen			feet)					
H	Road Grade:	0.0%				Auto		.446						
	Left View:	-90.0 degree				ium Truck		.232						
	Right View:	90.0 degree	es		He	avy Truck	(S: 41	.253						
FHWA Noise Mode														
VehicleType	REMEL	Traffic Flow		stance		te Road	Fres		Barrier Att	en Bei	m Atter			
Autos:	71.78			1.1		-1.20		-4.67		000	0.00			
Medium Trucks:	82.40			1.1		-1.20		-4.87		000	0.00			
Heavy Trucks:	86.40			1.1		-1.20		-5.38	0.0	000	0.00			
Unmitigated Noise	•													
,,	Leq Peak Hou	., .,		Leq E	vening		Night		Ldn		NEL			
Autos:			74.3		72	_	69		76.9	-	77			
Medium Trucks:			72.1		68		67		74.		75			
Heavy Trucks:		6.4	75.5		71		70	_	77.		78			
Vehicle Noise:			79.0		75	.6	74	.1	81.	5	81			
Centerline Distance	e to Noise Co	ontour (in feet)	70	dBA	e e	dBA		SO dBA	FF	dBA			
			I dn:	70	ава 32		<i>aBA</i> 68		1,484					
		0	NFI:		32		72		1,484		3,19 3.34			
		C	IVL'L.		33	+	12	U	1,001		3,34			

	FHW	A-RD-77-108	HIGH	WAY I	NOISE PI	REDICT	ION M	ODEL						
Road Name	o: HY (With 20 e: Van Buren B nt: e/o Opportur	BI.	III)		Project Name: Meridian South Campus Job Number: 12761									
	SPECIFIC IN	PUT DATA			NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15)									
Average Daily Peak Hour	Traffic (Adt): T	71,356 vehicle 7.73%	s		Ме	edium Tr	ucks (2	Autos Axles)	: 15 : 15					
	our Volume: : hicle Speed:	5,516 vehicles 55 mph	;			eavy Tru	cks (3+	- Axles)	: 15					
Near/Far Lar		73 feet		-	Vehicle I	Mix nicleType	,	Day	Evening	Night	Daily			
Site Data					Autos: 71.1% 10.9% 18.0%									
Barrier Type (0-W		0.0 feet 0.0			Medium Trucks: 73.6% 7.7% 18.6% 4.64 Heavy Trucks: 75.6% 6.7% 17.8% 3.94									
Centerline Dis		55.0 feet		1	Noise Source Elevations (in feet)									
Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0									
	nd Elevation:	0.0 feet			Hear	vy Truck	:S: 8	3.004	Grade Adj	ustmen	: 0.0			
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Dista	nce (in	feet)					
F	Road Grade:	0.0%				Auto	s: 4	1.446						
	Left View: Right View:	-90.0 degree 90.0 degree				m Truck vy Truck		1.232 1.253						
FHWA Noise Mode	el Calculations													
VehicleType	REMEL	Traffic Flow	Dis	tance		Road	Fres		Barrier Att		m Atten			
Autos:	71.78	4.32		1.1	-	-1.20		-4.67		000	0.000			
Medium Trucks: Heavy Trucks:	82.40 86.40	-8.63 -9.34		1.1	-	-1.20 -1.20		-4.87 -5.38		000	0.000			
Unmitigated Noise			havvi			-1.20		-5.30	0.0	000	0.000			
	Leg Peak Hour				vening	Leg	Night		Ldn	С	NEL			
Autos:	76.0	0 7	74.9		72.8		70	.1	77.5	5	77.9			
Medium Trucks:	73.	7	72.7		69.0		68	.0	75.3	3	75.6			
Heavy Trucks:	77.0	0 7	76.1		71.6	i	71	.1	78.5	5	78.7			
Vehicle Noise:	80.0	6	79.6		76.1		74	.7	82.1	1	82.4			
Centerline Distanc	e to Noise Cor	ntour (in feet)		70	-//0.4		-ID 4		CO -ID4		-10.4			
			Ldn:	70	dBA 350	65	dBA 75		60 dBA 1.626		dBA 3.503			
			vEL:		366		78		1,700		3,663			

	FH\	WA-RD-77-108	HIGH	IWAY N	IOISE P	REDICT	ION MC	DEL						
Road Nam	io: HY (With 2 ie: I-215 Fwy. nt: n/o Alessar	003 EIR Phase	e III)		Project Name: Meridian South Campus Job Number: 12761									
	SPECIFIC IN				NOISE MODEL INPUTS									
Highway Data	SPECIFIC III	IFOI DATA			Site Conditions (Hard = 10, Soft = 15)									
Average Daily	Traffic (Adt):	150 230 vehicle	25		Autos: 15									
,	Percentage:	7.73%			Me	edium Tri	ucks (2							
		11.613 vehicle	s			eavy Truc								
	hicle Speed:	65 mph		-				/						
	ne Distance:	130 feet		<u> </u>	Vehicle			_	T= . T		- n			
a					ven	icleType		Day	Evening	Night	Daily			
Site Data						ledium Ti	Autos:	71.1%		18.0%				
	rrier Height:	0.0 feet						75.6%		17.8%				
Barrier Type (0-W	. ,	0.0				Heavy Ti	rucks:	75.67	0.7%	17.8%	3.94%			
Centerline Di		125.0 feet		1	Noise S	ource El	evation	s (in f	eet)					
Centerline Dist.		125.0 feet 0.0 feet				Auto	s: 0	.000						
Barrier Distance		Mediu	m Truck	s: 2	297									
Observer Height (,	5.0 feet			Hear	vy Truck	s: 8	.004	Grade Ad	justmen	t: 0.0			
	ad Elevation: ad Elevation:	0.0 feet		-	l ano Eo	uivalent	Dietan	co (in	foot)					
	Road Grade:	0.0 feet		F.	Laile Ly	Auto		.888	ieei)					
,	l eft View:	0.0%			Modiu	m Truck								
	Right View:	-90.0 degree				vy Truck								
			28		rica	vy Truck	3. 100	.013						
FHWA Noise Mod														
VehicleType	REMEL	Traffic Flow	Dis	tance		Road	Fres		Barrier Att		rm Atten			
Autos:	74.55	6.83		-5.0		-1.20		-4.79		000	0.000			
Medium Trucks:	84.86	-6.12		-5.0		-1.20 -1.20		-4.88		000	0.000			
Heavy Trucks:	88.18			-5.0		-1.20		-5.11	0.0	000	0.000			
VehicleType	Leg Peak Hou			er atten Leg E		Loa	Night		Ldn		NEL			
Autos:	Ley reak not		74.0	Ley E	71.9		fvigrit 69.	2	76.0		77.0			
Medium Trucks:	72		71.5		67.7		66.	_	74.	-	74.4			
Heavy Trucks:	75		74.2		69.7		69.	-	76.0		76.8			
Vehicle Noise:	79		78.2		74.9		73.		80.		81.0			
Centerline Distance	e to Noise Co	ontour (in feet)											
				70 c	dBA	65	dBA		60 dBA	55	dBA			
			Ldn:		643		1,386	3	2,987		6,434			
		С	NEL:		673		1,451	I	3,126		6,734			

	FH	WA-RD-77-108	HIGH	WAY N	OISE PI	REDICT	ON MO	DDEL						
	e: I-215 Fwy.	003 EIR Phase Av.	e III)		Project Name: Meridian South Campus Job Number: 12761									
	PECIFIC II	NPUT DATA							L INPUT	S				
Highway Data				S	Site Con	ditions	(Hard :	= 10, S	oft = 15)					
Average Daily 7	raffic (Adt):	157,560 vehicle	es					Autos	: 15					
Peak Hour F	Percentage:	7.73%			Me	dium Tri	ucks (2	Axles)	: 15					
Peak Ho	our Volume:	12,179 vehicle	s		He	avy Truc	cks (3+	Axles)	: 15					
Veh	icle Speed:	65 mph		V.	/ehicle	Miv								
Near/Far Lan	e Distance:	130 feet		ľ		icleType		Dav	Evening	Night	Daily			
Site Data							Autos:	71.19		18.0%				
Pari	rier Height:	0.0 feet			М	edium Ti	rucks:	73.69	6 7.7%	18.6%	4.64%			
Barrier Type (0-Wa	-	0.0				Heavy Ti	rucks:	75.69	6.7%	17.8%	3.94%			
Centerline Dis	t. to Barrier:	125.0 feet		٨	loise So	ource El	evatio	ns (in f	eet)					
Centerline Dist. t	o Observer:	125.0 feet		É		Auto		0.000	,					
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297									
Observer Height (Above Pad): 5.0 feet						v Truck		3.004	Grade Ad	iustment	: 0.0			
Pad Elevation: 0.0 feet						,								
	d Elevation:	0.0 feet		L	ane Eq	uivalent			feet)					
R	Road Grade:	0.0%				Auto		888.6						
	Left View:	-90.0 degre				m Truck		3.805						
	Right View:	90.0 degre	es		Heav	y Truck	s: 106	3.813						
FHWA Noise Mode		-												
VehicleType	REMEL	Traffic Flow	Dist	ance		Road	Fres		Barrier Att		m Atten			
Autos:	74.55			-5.05		-1.20		-4.79	0.0		0.000			
Medium Trucks:	84.86			-5.05		-1.20		-4.88			0.000			
Heavy Trucks:	88.18			-5.05		-1.20		-5.11	0.0	000	0.000			
Unmitigated Noise	•							_		_				
	Leq Peak Ho			Leq Ev		Leq	Night	<u> </u>	Ldn		NEL			
Autos:		5.3	74.2 71.7		72.1		69 67		76.8		77.2			
Medium Trucks:		2.7			67.9				74.3		74.6			
Heavy Trucks: Vehicle Noise:		5.3	74.4 78.4		69.9 75.1		69 73		76.8 80.9		77.0 81.1			
Vehicle Noise: 79.4 78.4 Centerline Distance to Noise Contour (in feet)					/5.1		/3	.0	80.8	,	81.4			
	e to Noise C	ontour (in feet	,				dBA		60 dBA		dBA			
Centerline Distance				70 d	IBA -	65								
Centerline Distance			Ldn:	70 a	1BA 664	65	1.43		3.083	33	6.642			

	FHWA	A-RD-77-108	HIG	A YAWE	IOISE PF	REDICTI	ON MC	DDEL						
Scenario: H` Road Name: I-2 Road Segment: sk	15 Fwy.		: III)		Project Name: Meridian South Campus Job Number: 12761									
SITE SPE	CIFIC INP	UT DATA				N	OISE	MODE	L INPUT	S				
Highway Data					Site Con	ditions (Hard =	= 10, Sc	oft = 15)					
Average Daily Traffi	c (Adt): 15	6,910 vehicle	es					Autos:	15					
Peak Hour Perce	entage:	7.73%			Me	dium Tru	cks (2	Axles):	15					
Peak Hour V	olume: 12	,129 vehicle:	S		He	avy Truc	ks (3+	Axles):	15					
Vehicle		65 mph		1	Vehicle I	Лix								
Near/Far Lane Di	stance:	130 feet			Vehi	cleType		Day	Evening	Night	Daily			
Site Data						A	utos:	71.1%	10.9%	18.0%	91.429			
Barrier I	leiaht.	0.0 feet			Me	edium Tr	ucks:	73.6%	7.7%	18.6%	4.649			
Barrier Type (0-Wall, 1	Berm):	0.0			F	leavy Tr	ucks:	75.6%	6.7%	17.8%	3.949			
Centerline Dist. to		125.0 feet		I	Voise So	urce Ele	evation	ıs (in fe	eet)					
Centerline Dist. to Ob		125.0 feet				Autos	: 0	.000						
Barrier Distance to Ob		0.0 feet			Mediur	n Trucks	: 2	.297						
Observer Height (Abov	,	5.0 feet			Heav	y Trucks	: 8	.004	Grade Ad	justment	0.0			
Pad Ele Road Ele		0.0 feet		-	Lane Equ	iivalont	Dietan	oo (in i	foot)					
		0.0 feet 0.0%		H	Lane Ly		: 106	_ •	eei)					
		-90.0 deares	20		Mediu	n Trucks								
	it View:	90.0 degree				y Trucks								
FHWA Noise Model Cal	culations													
VehicleType RI	MEL 1	raffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atter			
Autos:	74.55	7.01		-5.0	5	-1.20		-4.79	0.0	000	0.00			
Medium Trucks:	84.86	-5.93		-5.0	5	-1.20		-4.88	0.0	000	0.00			
Heavy Trucks:	88.18	-6.64		-5.0		-1.20		-5.11	0.0	000	0.00			
Unmitigated Noise Lev	•	•	_					_						
	Peak Hour	Leq Day		Leq E	vening	Leq I			Ldn		VEL			
Autos: Medium Trucks:	75.3 72.7		74.2		72.0 67.9		69. 67.		76.8 74.3		77. 74			
	72.7 75.3		74.4					-		-				
Vehicle Noise:					69.9 69.4 76.8 75.0 73.5 80.9					77. 81.				
Centerline Distance to	Noise Con	tour (in feet)											
2 Diotanio to		, 1001		70 0	dBA	65 c	lBA	6	60 dBA	55	dBA			
			Ldn:		662		1,427	7	3,074		6,624			

	FHW	A-RD-77-108	HIGHW	AY N	OISE PI	REDICT	ION MO	DEL					
Scenario: HY (' Road Name: I-215 Road Segment: s/o \	Fwy.		III)				t Name: lumber:		an South Ca	ampus			
SITE SPECII	FIC INP	UT DATA							L INPUTS	5			
Highway Data				S	Site Conditions (Hard = 10, Soft = 15)								
Average Daily Traffic (Adt): 16	1,320 vehicle	es		Autos: 15								
Peak Hour Percent	tage:	7.73%			Me	edium Ti	ucks (2)	Axles)	: 15				
Peak Hour Vol	ume: 12	,470 vehicles	8		He	avy Tru	cks (3+)	Axles)	: 15				
Vehicle Sp	eed:	65 mph		ı	ehicle	Mix							
Near/Far Lane Dista	ance:	130 feet		F		icleType	9	Day	Evening	Night	Daily		
Site Data							Autos:	71.19		18.0%			
Barrier He	iaht:	0.0 feet			М	edium 7	rucks:	73.69	6 7.7%	18.6%	4.64%		
Barrier Type (0-Wall, 1-Be		0.0				Heavy 7	rucks:	75.69	6.7%	17.8%	3.94%		
Centerline Dist. to Ba		125.0 feet		-									
Centerline Dist. to Obse		125.0 feet		^	loise So		levation		eet)				
Barrier Distance to Obse	erver:	0.0 feet				Auto		000					
Observer Height (Above I	Pad):	5.0 feet				m Truck		297	O		4.00		
• ,	Pad Elevation: 0.0 feet					y Truck	(S. 8.	004	Grade Adj	ustmen	t: U.U		
Road Eleva	ation:	0.0 feet		L	ane Eq	uivalen	t Distan	ce (in	feet)				
Road Gi	rade:	0.0%				Auto	s: 106.	888					
Left \	View:	-90.0 degree	es		Mediu	m Truck	s: 106.	805					
Right \	View:	90.0 degree	es		Hear	y Truck	s: 106.	813					
FHWA Noise Model Calcu	ılations												
VehicleType REM		Traffic Flow	Distar			Road	Fresi	_	Barrier Atte		rm Atten		
Autos:	74.55	7.13		-5.05		-1.20		-4.79	0.0		0.000		
Medium Trucks:	84.86	-5.81		-5.05		-1.20		-4.88	0.0		0.000		
Heavy Trucks:	88.18	-6.52		-5.05		-1.20		-5.11	0.0	00	0.000		
Unmitigated Noise Levels	•												
., ,	ak Hour	Leq Day		eq Ev	ening		Night		Ldn	-	NEL		
Autos:	75.4		74.3		72.2		69.		76.9		77.3		
Medium Trucks:	72.8		71.8		68.0		67.		74.4		74.7		
Vehicle Noise:	Heavy Trucks: 75.4 74.5 Vehicle Noise: 79.5 78.5				70.0 69.5 76.9 75.2 73.6 81.0					77.1 81.3			
Centerline Distance to No	oise Con	tour (in feet)										
		,		70 a	IBA .	65	dBA		60 dBA	55	dBA		
	Ldn:						1,454		3,132		6,747		
		CI	VEL:		706		1,521		3,278		7,062		

	FHV	/A-RD-77-108	HIGH	I YAW	NOISE P	REDICT	ION MO	DDEL						
	o: HY (Propose: Wood Rd. ht: n/o Van Bur	,			Project Name: Meridian South Campus Job Number: 12761									
SITE S	SPECIFIC IN	PUT DATA			NOISE MODEL INPUTS									
Highway Data					Site Conditions (Hard = 10, Soft = 15)									
Average Daily 1	Traffic (Adt):	16,541 vehicle	es					Autos:	15					
Peak Hour I	Percentage:	7.73%			Me	edium Tr	ucks (2	Axles):	15					
Peak Ho	our Volume:	1,279 vehicle	s		He	eavy Tru	cks (3+	Axles):	15					
Veh	nicle Speed:	45 mph			Vehicle	Mix								
Near/Far Lar	ne Distance:	36 feet				icleType	,	Day	Evening	Night	Daily			
Site Data							Autos:	71.1%	10.9%	18.0%	,			
Ran	rier Heiaht:	0.0 feet			М	edium T	rucks:	73.6%	7.7%	18.6%	4.64%			
Barrier Type (0-Wa		0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%			
Centerline Dis	. ,	44.0 feet		ŀ	Noise S	ouroo El	ovetie	no (in f	2041					
Centerline Dist. t	o Observer:	44.0 feet			Noise 3	Auto		0.000	ei)					
Barrier Distance t	o Observer:	0.0 feet			Modiu	Auto m Truck		2.297						
Observer Height (/			vy Truck		1.297	Grade Ad	liustment	- 0.0						
Pa	d Elevation:	0.0 feet			i ica	vy Truck	s. c	5.004	Orado ria	juoumom	. 0.0			
Roa	d Elevation:	0.0 feet			Lane Eq	uivalen	Distar	nce (in i	feet)					
F	Road Grade:	0.0%				Auto	s: 40	0.460						
	Left View:	-90.0 degree	es			m Truck).241						
	Right View:	90.0 degree	es		Hea	vy Truck	s: 40	0.262						
FHWA Noise Mode	l Calculations	3												
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	en Bei	m Atten			
Autos:	68.46	-1.16		1.2	28	-1.20		-4.61	0.0	000	0.000			
Medium Trucks:	79.45	-14.11		1.3	31	-1.20		-4.87	0.0	000	0.000			
Heavy Trucks:	84.25	-14.82		1.3	31	-1.20		-5.50	0.0	000	0.000			
Unmitigated Noise	Levels (withou	out Topo and	barri	er atter	nuation)									
,,	Leq Peak Hou			Leq E	vening		Night		Ldn		NEL			
Autos:	67.		66.2		64.1		61		68.9		69.2			
Medium Trucks:	65.		64.5		60.7		59		67.0	-	67.3 71.3			
Heavy Trucks:_ Vehicle Noise:	69. 72		71.6		64.1		63 66							
					00.0		00	.,	74.1	-	74.3			
Centerline Distance	e to Noise Co	ntour (in feet)	70	dBA	65	dBA		60 dBA	55	dBA			
			Ldn:		82		17		380		819			
	CNEL:						86 184 397				855			

Friday,	April	24,	2020

FHWA-RD-77-108 HIGI	HWAY N	IOISE PF	REDICT	ION MC	DEL			
Scenario: HY (Proposed) Road Name: Trautwein Rd. Road Segment: n/o Canyon Crest Dr.				: Name: lumber:		an South C	ampus	
SITE SPECIFIC INPUT DATA						L INPUT	S	
Highway Data		Site Con	ditions	(Hard =				
Average Daily Traffic (Adt): 31,739 vehicles					Autos:			
Peak Hour Percentage: 7.73%				ucks (2	,			
Peak Hour Volume: 2,453 vehicles		He	avy Iruo	cks (3+	Axies):	15		
Vehicle Speed: 50 mph	1	Vehicle I	Лix					
Near/Far Lane Distance: 72 feet		Vehi	cleType	9	Day	Evening	Night	Daily
Site Data				Autos:	71.1%		18.0%	
Barrier Height: 0.0 feet			edium T		73.6%		18.6%	
Barrier Type (0-Wall, 1-Berm): 0.0		F	leavy Ti	rucks:	75.6%	6.7%	17.8%	3.93%
Centerline Dist. to Barrier: 60.0 feet	1	Voise So	urce El	levation	s (in fe	eet)		
Centerline Dist. to Observer: 60.0 feet			Auto		.000	,		
Barrier Distance to Observer: 0.0 feet		Mediur	n Truck	s: 2	297			
Observer Height (Above Pad): 5.0 feet		Heav	y Truck	s: 8	.004	Grade Ad	justment	: 0.0
Pad Elevation: 0.0 feet	l-,	Lane Equ	ilitalant	4 Dioton	oo (in i	fo.o.4)		
Road Elevation: 0.0 feet Road Grade: 0.0%	ď	Larie Equ	Auto		260	eet)		
Left View: -90.0 degrees		Modium	n Truck		.200			
Right View: 90.0 degrees			y Truck		.094			
FHWA Noise Model Calculations								
VehicleType REMEL Traffic Flow Di	stance	Finite	Road	Fres	nel	Barrier Att	en Bei	m Atten
Autos: 70.20 1.21	0.13	3	-1.20		-4.69	0.0	000	0.00
Medium Trucks: 81.00 -11.74	0.1	-	-1.20		-4.88		000	0.00
Heavy Trucks: 85.38 -12.45	0.1		-1.20		-5.34	0.0	000	0.00
Unmitigated Noise Levels (without Topo and barri					1			
VehicleType Leq Peak Hour Leq Day Autos: 70.3 69.2	Leq E	ening 67.1	Leq	Night	_	Ldn 71.8		NEL 72.:
Autos: 70.3 69.2 Medium Trucks: 68.2 67.2		67.1		64. 62.	-	71.8 69.8	-	72.: 70.
Medium Trucks: 68.2 67.2 Heavy Trucks: 71.9 71.0		66.5		62. 65.	-	73.3	-	70.
Vehicle Noise: 71.9 71.0 Vehicle Noise: 75.2 74.2		70.7		69.		76.7		77.
Centerline Distance to Noise Contour (in feet)					-			
	70	/D.4	05	dBA		60 dBA		dBA
	70 c	IBA I	00					
Ldn:	70 0	167	65	360		775		1,669

	FHV	/A-RD-77-108	HIGH	WAY NO	JISE PI	REDICTI	ON MO	ODEL			
	o: HY (Propos	ed)							n South C	ampus	
	e: Wood Rd.					Job N	umber.	: 12761			
Road Segmen	t: s/o Van Bur	en Bl.									
	PECIFIC IN	PUT DATA							L INPUT	S	
Highway Data				Si	ite Con	ditions	(Hard :				
Average Daily	. ,	23,535 vehicle	es					Autos:	15		
Peak Hour i		7.73%				dium Tru	,				
	our Volume:	1,819 vehicles	S		He	avy Truc	cks (3+	Axles):	15		
	nicle Speed:	40 mph		V	ehicle l	Wix					
Near/Far Lar	e Distance:	36 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						- /	Autos:	71.1%	10.9%	18.0%	91.42
Ran	rier Height:	0.0 feet			М	edium Ti	rucks:	73.6%	7.7%	18.6%	4.649
Barrier Type (0-Wa		0.0			1	Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.94
Centerline Dis		44.0 feet		N	oise Sc	ource El	evatio	ns (in fe	eet)		
Centerline Dist. t	o Observer:	44.0 feet				Auto		0.000			
Barrier Distance t	o Observer:	0.0 feet			Mediu	m Truck:		2.297			
Observer Height (/	Above Pad):	5.0 feet				y Truck		3.004	Grade Ad	iustment	: 0.0
Pa	d Elevation:	0.0 feet									
	d Elevation:	0.0 feet		Lá	ane Eq	uivalent			eet)		
F	Road Grade:	0.0%				Auto		0.460			
	Left View:	-90.0 degree				m Truck		0.241			
	Right View:	90.0 degree	es		Heav	y Truck	s: 40	0.262			
FHWA Noise Mode				'							
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fres		Barrier Att		m Atter
Autos:	66.51	0.88		1.28		-1.20		-4.61		000	0.00
Medium Trucks:	77.72	-12.06		1.31		-1.20		-4.87		000	0.00
Heavy Trucks:	82.99	-12.77		1.31		-1.20		-5.50	0.0	000	0.00
Unmitigated Noise VehicleType	Levels (withou Leg Peak Hou			r attenu Leg Eve		100	Night		Ldn		NEL
Venicie i ype Autos:	Leq Реак нои 67		66.3	Ley EVE	ening 64.2		ivignt 61	6	<i>Lan</i> 69.0	_	VEL 69
Medium Trucks:	65	-	64.8		61.0		60		67.4		67
Heavy Trucks:	70.	-	69.4		64.9		64		71.8		72
Vehicle Noise:	73		72.1		68.5		67		74.5		74
Centerline Distanc	e to Noise Co	ntour (in feet)								
				70 dE	BA	65	dBA	6	i0 dBA	55	dBA
			I dn:		88		19	n	410		88
			Luii.		00		15		410		00.

	FHV	WA-RD-77-108	HIGHWAY	' NOISE P	REDICT	ION MO	DEL					
	o: HY (Propos e: Trautwein F nt: s/o Canyon	Rd.				Name: lumber:		an South Ca	impus			
	SPECIFIC IN	IPUT DATA						L INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	20,745 vehicle	es				Autos:	15				
Peak Hour	Percentage:	7.73%		Me	edium Tr	ucks (2)	Axles):	15				
Peak H	our Volume:	1,604 vehicles	3	He	eavy True	cks (3+)	4xles):	15				
Vel	hicle Speed:	50 mph		Vehicle	Mix							
Near/Far Lar	ne Distance:	72 feet			nicleType		Day	Evening	Night	Daily		
Site Data				Autos: 71.1% 10.9% 18.0% 91.								
Rar	rier Height:	0.0 feet		M	ledium T	rucks:	73.6%	7.7%	18.6%	4.62%		
Barrier Type (0-Wa		0.0			Heavy T	rucks:	75.6%	6.7%	17.8%	3.93%		
Centerline Dis		60.0 feet		Noise S	auraa El	ovetlen	o (in f	2041				
Centerline Dist.	to Observer:	60.0 feet		NOISE 3	Auto.		000	, (1				
Barrier Distance t	to Observer:	0.0 feet		Madii	ım Truck		297					
Observer Height (vy Truck		004	Grade Adju	ıstment	0.0				
Pa	ad Elevation:	0.0 feet							iotimoria.	0.0		
Roa	ad Elevation:	0.0 feet		Lane Eq				feet)				
F	Road Grade:	0.0%			Auto		260					
	Left View:	-90.0 degree	es		ım Truck		076					
	Right View:	90.0 degree	es	Hea	vy Truck	s: 48.	094					
FHWA Noise Mode	l Calculation	s										
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresr	nel	Barrier Atte	n Ber	m Atten		
Autos:	70.20	-0.63	0	.13	-1.20		-4.69	0.0	00	0.000		
Medium Trucks:	81.00	-13.59	-	.15	-1.20		-4.88	0.0		0.000		
Heavy Trucks:	85.38	-14.30	0	.15	-1.20		-5.34	0.00	00	0.000		
Unmitigated Noise							,					
	Leq Peak Hou			Evening		Night		Ldn	CI	VEL		
Autos:	68		67.3	65.2		62.6		70.0		70.4		
Medium Trucks:	66		65.4	61.6		60.6		68.0		68.2		
Heavy Trucks:_ Vehicle Noise:	Heavy Trucks: 70.0 69.1 Vehicle Noise: 73.3 72.3		69.1 72.3	64.6 64.1 71.5 68.9 67.4 74.8				71.7				
Centerline Distanc				00.0				7 1.0				
Centernie Distanc	e io Noise Co	mour (iii reet)		0 dBA	65	dBA	(60 dBA	55	dBA		
			583	3 1,256								
	Ldn: CNEL:					131 283 609						

	FH\	WA-RD-77-108	HIGH	WAY I	NOISE P	REDICT	ION M	ODEL						
Road Nan	rio: HY (Propos ne: Trautwein F nt: s/o Alessar	Rd.			Project Name: Meridian South Campus Job Number: 12761									
SITE	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS									
Highway Data					Site Conditions (Hard = 10, Soft = 15)									
Average Daily	Traffic (Adt):	46,293 vehicle	es					Autos:	15					
Peak Hour	Percentage:	7.73%			Me	edium Tri	ucks (2	Axles):	15					
Peak H	lour Volume:	3,578 vehicle	s		He	eavy Truc	cks (3+	Axles):	15					
Ve	ehicle Speed:	50 mph		H	Vehicle	Mix								
Near/Far La	ne Distance:	48 feet		ŀ		icleType	,	Dav	Evening	Night	Daily			
Site Data							Autos:	71.1%		18.0%	91.44%			
Ra	rrier Height:	0.0 feet			М	edium T	rucks:	73.6%	7.7%	18.6%	4.63%			
Barrier Type (0-W		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.93%			
,,,,,	st. to Barrier:	55.0 feet			Noise S	ouroo El	los rodio	no (in f	2041					
Centerline Dist.	to Observer:	55.0 feet			Noise 3	Auto		0.000	ei)					
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		2.297						
Observer Height	Observer Height (Above Pad): 5.0 feet							3.004	Grade Ad	livetman	t· 0.0			
P	ad Elevation:	0.0 feet			пеа	vy Truck	S. C	0.004	Orade Ad	jusuriori	. 0.0			
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	Dista	nce (in	feet)					
	Road Grade:	0.0%				Auto	s: 49	9.739						
	Left View:	-90.0 degree	es			m Truck		9.561						
	Right View:	90.0 degree	es		Hea	vy Truck	s: 49	9.578						
FHWA Noise Mod	el Calculation	s												
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	snel	Barrier Att	en Be	rm Atten			
Autos:		2.85		-0.0	7	-1.20		-4.67	0.0	000	0.000			
Medium Trucks:				-0.0	-	-1.20		-4.87		000	0.000			
Heavy Trucks:	85.38	-10.81		-0.0)5	-1.20		-5.38	0.0	000	0.000			
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atter	nuation)			_		,				
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn		NEL			
Autos:		1.8	70.6		68.5		65		73.		73.7			
Medium Trucks:			68.6		64.9		63		71.2	_	71.5			
Heavy Trucks: Vehicle Noise:		3.3	72.4 75.6		67.9 72.1		67 70		74.8		75.0 78.4			
	-				12.1		70		78.		18.4			
Centerline Distan	ce to Noise Co	ontour (in feet)	70	dBA	65	dBA	1 ,	60 dBA	56	i dBA			
			Ldn:	70	191		41	_	886		1.909			
		С	NEL:		200		43		926		1,909			
											,			

Friday, April 24, 2	020
---------------------	-----

Barrier Height: 0.0 feet Heavy Trucks: 73.6% 7.7% 18.6% Heavy Trucks: 75.5% 6.7% 17.8% Heavy Trucks: 2.287 Heavy Trucks: 2.287 Heavy Trucks: 8.004 Grade Adjustmer Road Elevation: 0.0 feet Road Grade: 0.0% Heavy Trucks: 8.004 Grade Adjustmer Road Grade: 0.0% Heavy Trucks: 49.759 Heavy Trucks: 49.561 Heavy Trucks: 49.561 Heavy Trucks: 49.578 Heavy Trucks:		ODEL	TION MODEL	REDICTION	IOISE PI	HWAY	HIGH	A-RD-77-108	FHW			
Site Specific Input DATA	h Campus											
SITE SPECIFIC INPUT DATA NOISE MODEL INPUTS		: 12761	Vumber: 1276	Job Nu								
Average Daily Traffic (Adt): 31,307 vehicles Peak Hour Percentage: 7,73% Peak Hour Volume: 2,420 vehicles Speed: 50 mph Medium Trucks: (2 Aleks): 15 Heavy Trucks: (3 A Axles): 15 Wehicle Type Day Evening Night Rearier Height: Barrier Height: Barrier Height: Barrier Dist to Barrier: 55.0 feet Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Disserver: 60 feet Road Grade: 0.0 feet Reary Trucks: 2.297 Heavy Trucks: 2.297 Heavy Trucks: 2.298 Medium Trucks: 2.298 Me							'.	Ferrace Pkwy	s/o Orange 1	Road Segmer		
Average Daily Traffic (Adt): 31,307 vehicles Peak Hour Percentage: 7,73% Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks: 13 Heavy Trucks: 14								PUT DATA	ECIFIC INF			
Peak Hour Percentage: 2,420 vehicles Peak Hour Volume: 2,420 vehicles Someh Near/Far Lane Distance: 48 feet Vehicle Mix Vehicle Type Day Evening Night Vehicle Type Day Evening Night Nigh)		(Hard = 10,	iditions (Site Con					Highway Data		
Peak Hour Volume:							es	,	. ,			
Vehicle Speed: 50 mph 48 feet Vehicle Mix Vehicle Type Day Evening Night Autos: 71.1% 10.9% 18.0% Note		,										
Near/Far Lane Distance:		· Axles): 15	icks (3+ Axles	eavy Truci		:S	2,420 vehicle	Volume:	Peak H			
Site Data Autos: 71.0 10.0 18.00 18.				Mix	Vehicle I							
Barrier Height: 0.0 feet Heavy Trucks: 73.6% 7.7% 18.6% Heavy Trucks: 75.6% 6.7% 17.8% Heavy Trucks: 80.00 Heavy Trucks: 80.00 Heavy Trucks: 49.561 Heavy Trucks: 49.561 Heavy Trucks: 49.578 Heavy Trucks: 49.578 Heavy Trucks: 49.578 Heavy Trucks: 49.578 Heavy Trucks: 81.00 11.181 -0.05 -1.20 -4.67 0.000 Heavy Trucks: 83.8 -12.52 -0.05 -1.20 -4.67 0.000 Heavy Trucks: 83.8 -12.52 -0.05 -1.20 -4.67 0.000 Heavy Trucks: 83.8 -12.52 -0.05 -1.20 -4.67 0.000 Heavy Trucks: 85.8 -12.52 -0.05 -1.20 -4.67 0.000 Heavy Trucks: 67.9 66.9 66.8 64.2 71.6 Heavy Trucks: 70.6% 66.9 66.8 64.2 71.6 Heavy Trucks: 70.6% 66.9 66.8 64.2 69.5 Heavy Trucks: 71.6 70.7 66.2 65.7 73.1 Heavy Trucks: 74.9 73.9 70.4 69.0 76.4 Heavy Trucks: 70.6% Heavy Trucks: 74.9 73.9 70.4 69.0 76.4 Heavy Trucks: 70.6% Heavy Trucks: 74.9 73.9 70.4 69.0 76.4 Heavy Trucks: 70.6% Heavy Trucks: 74.9 73.9 70.4 69.0 76.4 Heavy Trucks: 76.6% 66.8 66.2 65.7 73.1 Heavy Trucks: 76.6% 76.6	ng Night Daily	Day Evening	e Day	icleType		Near/Far Lane Distance: 48 feet						
Barrier Type (O-Wall, 1-Berm): 0.0 Heavy Trucks: 75.6% 6.7% 17.93	9% 18.0% 91.46%	71.1% 10.9%	Autos: 71.1	A						Site Data		
Barrier Type (0-Wall, 1-Berm): Centerline Dist. to Darrier: 55.0 feet Sc. 0 feet Centerline Dist. to Observer: 55.0 feet Autos: 0.000 Centerline Distance to Observer: 0.0 feet Autos: 0.000 Centerline Distance to Observer: 0.0 feet Autos: 30.004 Centerline Distance (in feet) Centerline Distanc	7% 18.6% 4.62%	73.6% 7.7%	Frucks: 73.6	edium Tru	М			0.0 feet	r Height:	Bar		
Centerline Dist. to Observer: Barrier Distance to Observer: Barrier Distance to Observer: Dobserver Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Glevation: 0.0 feet Road Glevation: 0.0 feet Road Glevation: 0.0 feet Road Glevation: 0.0 feet Road Grade 0.0%	7% 17.8% 3.92%	75.6% 6.7%	Trucks: 75.6	Heavy Tru					-			
Barrier Distance to Observer:		ns (in feet)	levations (in	ource Ele								
Observer Height (Above Pad): Fad Elevation: O.0 feet Heavy Trucks: 8.004 Grade Adjustmer		0.000	os: 0.000	Autos.			55.0 feet					
Pad Elevation:		2.297	ks: 2.297	m Trucks								
Pad Elevation: 0.0 feet Lane Equivalent Distance (in feet) Road Grade: 0.0% Left View: -90.0 degrees Medium Trucks: 49.561 Right View: 90.0 degrees Medium Trucks: 49.561 FFWAN Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten B Autos: 70.20 1.16 -0.07 -1.20 -4.67 0.000 Medium Trucks: 81.00 -11.81 -0.05 -1.20 -4.87 0.000 Medium Trucks: 85.38 -12.52 -0.05 -1.20 -5.38 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation) Leq Evening Leq Night Ldn 0 VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn 0 Medium Trucks: 67.9 66.9 68.8 64.2 71.6 Medium Trucks: 71.6 70.7 66.2 65.7 73.1 <tr< td=""><td>Adjustment: 0.0</td><td>3.004 Grade Adju</td><td>ks: 8.004</td><td>vv Trucks</td><td>Heav</td><td></td><td colspan="5"></td></tr<>	Adjustment: 0.0	3.004 Grade Adju	ks: 8.004	vv Trucks	Heav							
Road Grade:												
Left View:		. ,			ane Eq							
Right View: 90.0 degrees Heavy Trucks: 49.578										F		
Vehicle Type												
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Be		3.578	KS: 49.578	vy Trucks	Heav		es	90.0 degre	ght View:			
Autos: 70.20 1.16 -0.07 -1.20 -4.67 0.000										FHWA Noise Mode		
Medium Trucks: 81.00 -11.81 -0.05 -1.20 -4.87 0.000 Heavy Trucks: 85.38 -12.52 -0.05 -1.20 -5.38 0.000 Ummitigated Noise Levels (without Tropo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn 0 Autos: 70.1 68.9 66.8 64.2 71.6 Medium Trucks: 67.9 66.9 63.2 62.2 69.5 Heavy Trucks: 71.6 70.7 66.2 65.7 73.1 Vehicle Noise: 74.9 73.9 70.4 69.0 76.4 Centerline Distance to Noise Contour (in feet)												
Heavy Trucks: 85.38												
Unmitigated Noise Levels (without Topo and barrier attenuation)												
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn C Autos: 70.1 68.9 66.8 64.2 71.6 71.6 71.6 71.6 71.2 71.6 71.2	0.000 0.000	-5.38 0.00	-5.3	-1.20								
Autos: 70.1 68.9 66.8 64.2 71.6 Medium Trucks: 67.9 66.9 63.2 62.2 69.5 Heavy Trucks: 71.6 70.7 66.2 65.7 73.1 Vehicle Noise: 74.9 73.9 70.4 69.0 76.4 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 5									•			
Medium Trucks: 67.9 66.9 63.2 62.2 69.5 Heavy Trucks: 71.6 70.7 66.2 65.7 73.1 Vehicle Noise: 74.9 73.9 70.4 69.0 76.4 Centerline Distance to Noise Contour (in feet) TO dBA 65 dBA 60 dBA 5	CNEL					Leq I						
Heavy Trucks: 71.6 70.7 66.2 65.7 73.1 Vehicle Noise: 74.9 73.9 70.4 69.0 76.4 Centerline Distance to Noise Contour (in feet)												
Vehicle Noise: 74.9 73.9 70.4 69.0 76.4 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 5								-				
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 5												
70 dBA 65 dBA 60 dBA 5.	76.4 76.7	.0 76.4	69.0		70.4							
	55 dBA	60 dB4	dBA	65 d	HRΔ	70	t)	ntour (in feet	o Noise Cor	Centerline Distanc		
Edit. 147 317 002				000		70	I dn:					
CNFI: 154 331 713								_				
5/1 <u>2</u> 2. 101 301 710	1,000	. 710			.54			0				

FI	HWA-RD-77-10	8 HIGHV	VAY NO	DISE PF	REDICTI	OM MO	DEL						
Scenario: HY (Prop Road Name: Trautweir Road Segment: n/o Oran	n Rd.	y.	Project Name: Meridian South Campus Job Number: 12761										
SITE SPECIFIC	INPUT DATA							L INPUT	5				
Highway Data			Si	te Con	ditions (Hard =	10, Sc	ft = 15)					
Average Daily Traffic (Adt).	52,425 vehic	les				,	Autos:	15					
Peak Hour Percentage.	7.73%			Medium Trucks (2 Axles): 15									
Peak Hour Volume:	4,052 vehicle	es		Heavy Trucks (3+ Axles): 15									
Vehicle Speed:			Ve	ehicle I	Лix								
Near/Far Lane Distance.	48 feet			Vehi	cleType		Day	Evening	Night	Daily			
Site Data					A	utos:	71.1%	10.9%	18.0%	91.449			
Barrier Height.	0.0 feet			Me	edium Tr	ucks:	73.6%	7.7%	18.6%	4.639			
Barrier Type (0-Wall, 1-Berm)				F	leavy Tr	ucks:	75.6%	6.7%	17.8%	3.93			
Centerline Dist. to Barrier			N	Noise Source Elevations (in feet)									
Centerline Dist. to Observer	00.0				Autos	: 0.0	000						
Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet				Mediur	n Trucks	: 2.2	297						
Observer Height (Above Pad)		Heav	y Trucks	: 8.0	004	Grade Adj	ustment	0.0					
Pad Elevation. Road Elevation	Pad Elevation: 0.0 feet						e (in t	in n 4 1					
Road Elevation. Road Grade	0.0 1001		L	ine Ly	Autos		•	eei)					
l eft View	0.070			Modius	n Trucks								
Right View					y Trucks								
FHWA Noise Model Calculation	ons												
VehicleType REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresn	el	Barrier Att	en Bei	m Atter			
Autos: 70.2	20 3.3	9	-0.07		-1.20		-4.67	0.0	100	0.00			
Medium Trucks: 81.0	00 -9.5	6	-0.05		-1.20		-4.87	0.0	100	0.00			
Heavy Trucks: 85.3	38 -10.2	7	-0.05		-1.20		-5.38	0.0	100	0.00			
Unmitigated Noise Levels (wi									1				
VehicleType Leq Peak H			Leq Eve	_	Leq I			Ldn		NEL			
	72.3	71.2		69.1		66.4		73.8		74			
	70.2 73.9	69.2 73.0		65.4 68.5		64.5		71.8 75.3		72			
						67.9 71.3		75.3		75. 78.			
				72.7									
Centerline Distance to Maiss	Contour (in for												
Centerline Distance to Noise	Contour (in fee	:1)	70 dE	BA	65 c	IBA .	6	0 dBA	55	dBA			
Centerline Distance to Noise	Contour (in fee	Ldn:	70 dE	3A 207	65 c	IBA 447	6	0 dBA 963	55	dBA 2,074			

	FH\	WA-RD-77-108	HIGHWA	AY N	OISE PI	REDICT	ION MC	DEL					
Road Nam	io: HY (Propos e: Barton St. nt: n/o Van Bu	,					Name: lumber:		an South C	ampus			
	SPECIFIC IN	IPUT DATA							L INPUT	S			
Highway Data				S	ite Con	ditions	(Hard =	: 10, S	oft = 15)				
Average Daily	. ,	23,466 vehicle	es					Autos:					
	Percentage:	7.73%				dium Tr	,						
	our Volume:	1,814 vehicles	3		He	avy Tru	cks (3+	Axles):	15				
	hicle Speed:	40 mph		ν	ehicle	Vix							
Near/Far La	ne Distance:	36 feet			Veh	icleType		Day	Evening	Night	Daily		
Site Data							Autos:	71.1%	10.9%	18.09	% 91.43%		
Bai	rier Height:	0.0 feet			М	edium T	rucks:	73.6%	7.7%	18.69	% 4.64%		
Barrier Type (0-W	-	0.0				Heavy T	rucks:	75.6%	6.7%	17.89	% 3.94%		
Centerline Dis	st. to Barrier:	44.0 feet		Noise Source Elevations (in feet)									
Centerline Dist.	to Observer:	44.0 feet			Autos: 0.000								
Barrier Distance	to Observer:	0.0 feet			Madiu	m Truck		297					
Observer Height (Observer Height (Above Pad): 5.0 feet					vy Truck		.004	Grade Ad	iustmei	nt: 0 0		
Pa	Pad Elevation: 0.0 feet									dotimor	n. 0.0		
Ros	ad Elevation:	0.0 feet		L	ane Eq	uivalen			feet)				
ı	Road Grade:	0.0%				Auto		.460					
	Left View:	-90.0 degree	es			m Truck		.241					
	Right View:	90.0 degree	es		Hear	y Truck	s: 40	.262					
FHWA Noise Mode	el Calculation	s											
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fres	nel	Barrier Att	en Be	erm Atten		
Autos:	66.51	0.87		1.28	3	-1.20		-4.61	0.0	000	0.000		
Medium Trucks:	77.72			1.31		-1.20		-4.87		000	0.000		
Heavy Trucks:	82.99	-12.79		1.31		-1.20		-5.50	0.0	000	0.000		
Unmitigated Noise													
	Leq Peak Hou			q Ev	ening	Leq	Night		Ldn		CNEL		
Autos:	67		66.3		64.2		61.		69.0		69.3		
Medium Trucks:	65		64.7		61.0		60.		67.3		67.6		
Heavy Trucks: Vehicle Noise:			69.4 72.0		64.9		64. 67.	•	71.8 74.5		72.0 74.8		
Centerline Distance													
Contentine Distant	110138 00	JJui (iii ieet)		70 d	IBA	65	dBA	-	60 dBA	5	5 dBA		
			Ldn:		88		190)	409		881		
		CI		92	92 198 427					920			

	FHW	/A-RD-77-108	HIGH	HWAY	NOISE P	REDICT	ION MO	DEL			
Road Nam	rio: HY (Propose ne: Barton St. nt: s/o Van Bur	,					t Name: Number:		an South C	ampu	s
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data					Site Cor	nditions	(Hard =	: 10, S	oft = 15)		
Average Daily	Traffic (Adt):	19,592 vehicle	es					Autos.	15		
Peak Hour	Percentage:	7.73%			Me	edium Ti	rucks (2	Axles).	15		
Peak H	lour Volume:	1,514 vehicle	S		He	eavy Tru	icks (3+	Axles).	15		
Ve	ehicle Speed:	40 mph			Vehicle	Mix					
Near/Far La	ne Distance:	36 feet			Vel	nicleType	9	Day	Evening	Nigh	t Daily
Site Data							Autos:	71.19	6 10.9%	18.0	91.43%
Ra	rrier Height:	0.0 feet			N	1edium 7	rucks:	73.6%	6 7.7%	18.6	% 4.63%
Barrier Type (0-W		0.0				Heavy 7	rucks:	75.6%	6.7%	17.8	3.93%
Centerline Di	ist. to Barrier:	44.0 feet			Noise S	ource E	levation	s (in f	eet)		
Centerline Dist.		44.0 feet				Auto	os: O	.000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	ım Truck		297			
Observer Height (. ,	5.0 feet			Hea	vy Truck	s: 8	.004	Grade Ad	ljustme	ent: 0.0
	ad Elevation:	0.0 feet									
	ad Elevation:	0.0 feet			Lane Eq			_ `	feet)		
	Road Grade:	0.0%				Auto		.460			
	Left View:	-90.0 degre				ım Truck		.241			
	Right View:	90.0 degre	es		Hea	vy Truci	rs: 40	.262			
FHWA Noise Mode		i									
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fres		Barrier Att		Berm Atten
Autos:	00.01	0.09			28	-1.20		-4.61		000	0.000
Medium Trucks:		-12.86			31	-1.20		-4.87		000	0.000
Heavy Trucks:		-13.57			31	-1.20		-5.50	0.0	000	0.000
Unmitigated Noise		-	barrie							,	
VehicleType	Leq Peak Hou		_	Leq I	Evening		Night		Ldn		CNEL
Autos:			65.5		63.4		60.		68.	_	68.5
Medium Trucks:			64.0		60.2		59.	-	66.	-	66.8
Heavy Trucks: Vehicle Noise:			71.3		64.1		63. 66.	-	71. 73.	-	71.2 74.0
Centerline Distant	ce to Noise Co	ntour (in feet)								
Normio Distant	5 .10.00 00	(/ 000		70	dBA	65	dBA		60 dBA		55 dBA
			Ldn:		78		16	3	362	2	781
		С	NEL:		82		176	3	378	3	815

	FH	WA-RD-77-10	B HIGH	WAY N	OISE P	REDICT	ION MO	ODEL						
	o: HY (Propo e: Barton St. t: s/o Krame	,			Project Name: Meridian South Campus Job Number: 12761									
	PECIFIC II	NPUT DATA							L INPUT	s				
Highway Data				S	ite Cor	nditions	(Hard:	= 10, Sc	oft = 15)					
Average Daily 1	raffic (Adt):	21,723 vehic	les					Autos:	15					
Peak Hour I	Percentage:	7.73%			Me	edium Ti	ucks (2	Axles):	15					
Peak Ho	our Volume:	1,679 vehicle	es		H	eavy Tru	cks (3+	Axles):	15					
Vel	icle Speed:	40 mph		V	ehicle	Miv								
Near/Far Lar	ľ		nicleType	9	Day	Evening	Night	Daily						
Site Data							Autos:	71.1%	10.9%	18.0%	91.439			
Bar	rier Heiaht:	0.0 feet			N	1edium 7	rucks:	73.6%	7.7%	18.6%	4.63%			
Barrier Type (0-Wa		0.0				Heavy 7	rucks:	75.6%	6.7%	17.8%	3.949			
Centerline Dis	t. to Barrier:	44.0 feet		۸	loise S	ource E	levatio	ns (in fe	oet)					
Centerline Dist. t	o Observer:	44.0 feet			0.000	Auto		0.000	,,,,					
Barrier Distance t	o Observer:	0.0 feet			Modii	ım Truck		2.297						
Observer Height (/	Above Pad):	5.0 feet				vy Truci		3.004	Grade Ad	iustmeni	- 0.0			
Pa	d Elevation:	0.0 feet					-			douriorii	. 0.0			
Roa	d Elevation:	0.0 feet		L	ane Eq	uivalen			feet)					
F	Road Grade:	0.0%				Auto		0.460						
	Left View:	-90.0 degre	es			ım Truck		0.241						
	Right View:	90.0 degre	es		Hea	vy Truck	s: 40	0.262						
FHWA Noise Mode	l Calculation													
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		rm Atten			
Autos:	66.51			1.28		-1.20		-4.61		000	0.00			
Medium Trucks:	77.72		-	1.31		-1.20		-4.87		000	0.00			
Heavy Trucks:	82.99	-13.13	3	1.31		-1.20		-5.50	0.0	000	0.00			
Unmitigated Noise								-						
VehicleType Autos:	Leq Peak Ho	ur Leq Da 7.1	66.0	Leq Ev	ening 63.9		Night 61	2	Ldn 68.6		NEL 69			
	-				60.6		59		67.0	-	67.			
	Medium Trucks: 65.4 64.4									-				
Heavy Trucks:_ Vehicle Noise:						64.6 64.0 71.4 68.1 66.8 74.2					71. 74.			
					68.1	1	66	.8	74.2	4	/4.			
Centerline Distanc	e to Noise C	ontour (in fee	t)	70 d	DΛ	65	dBA	1	60 dBA	55	dBA			
			I dn:	70 0	84	1 00	и <i>Б</i> А 18		388		836 836			
	CNEL:				87 188 405			873						
			·· •LL.		31		10	-	700		37			

	io: HY (Propos	ed)			Project Name: Meridian South Campus Job Number: 12761								
	ne: Barton St.					Job N	umber:	12761					
Road Segme	nt: n/o Krameri	a Av.											
	SPECIFIC IN	PUT DATA			01: 0				L INPUT	S			
Highway Data					Site Cor	aitions	(Hard :	_					
Average Daily	. ,	16,553 vehicle	es					Autos:	15				
	Percentage:	7.73%				edium Tr	,						
	lour Volume:	1,280 vehicles	S		He	eavy True	cks (3+	Axles):	15				
	hicle Speed:	40 mph		-	Vehicle	Mix							
Near/Far La	-	Veh	icleType		Day	Evening	Night	Daily					
Site Data							Autos:	71.1%	10.9%	18.0%	91.439		
Ra	rrier Heiaht:	0.0 feet			M	ledium T	rucks:	73.6%	7.7%	18.6%	4.639		
Barrier Type (0-W		0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.939		
Centerline Di	st. to Barrier:	44.0 feet		ŀ	Noise S	ourco El	ovatio	ne (in fo	not)				
Centerline Dist.	to Observer:	44.0 feet		ŀ	NOISE S	Auto.		.000	et)				
Barrier Distance	to Observer:	0.0 feet			14	m Truck		297					
Observer Height	(Above Pad):	5.0 feet						.004	Grade Ad	iuetmont			
Pi	ad Elevation:	0.0 feet			Hea	vy Truck	s: 8	.004	Grade Au	Justineni	0.0		
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distar	nce (in t	feet)				
	Road Grade:	0.0%				Auto	s: 40	.460					
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 40	.241					
	Right View:	90.0 degree	es		Hea	vy Truck	s: 40).262					
FHWA Noise Mode	el Calculations	5											
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten		
Autos:	66.51	-0.64		1.2	28	-1.20		-4.61	0.0	000	0.00		
Medium Trucks:	77.72	-13.60		1.3	31	-1.20		-4.87	0.0	000	0.00		
Heavy Trucks:	82.99	-14.31		1.3	31	-1.20		-5.50	0.0	000	0.00		
Unmitigated Noise	e Levels (with	out Topo and	barri	er attei	nuation)								
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn		VEL		
Autos:	65		64.8		62.7		60		67.4		67.		
Medium Trucks:	64	.2	63.2		59.5		58		65.8	3	66.		
Heavy Trucks: 68.8 67.9				63.4 62.9 70.3					70.				
Vehicle Noise:	71	.5	70.5		66.9		65	.6	73.0)	73.		
Centerline Distand	ce to Noise Co	ntour (in feet,)		10.4		/D.4				10.4		
			L	70	dBA	65	dBA		60 dBA		dBA		
			Ldn:		70		15	U	324		698		
			NFI:		73		15	_	338		728		

Friday, April 24, 2020

	FHW	/A-RD-77-108	HIGH	WAY I	NOISE PI	REDICT	ION M	ODEL						
Road Nam	io: HY (Propose ne: Barton St. nt: s/o Lurin Av	,			Project Name: Meridian South Campus Job Number: 12761									
	SPECIFIC IN	PUT DATA			a: a				L INPUT	s				
Highway Data Average Daily	Traffic (Adt):	20,471 vehicle	es		Site Conditions (Hard = 10, Soft = 15) Autos: 15									
Peak Hour	Percentage:	7.73%			Me	edium Tr	ucks (2	Axles)	: 15					
Peak H	lour Volume:	1,582 vehicles	3		He	avy Tru	cks (3+	Axles)	15					
Ve	hicle Speed:	40 mph		H	Vehicle i	Mix								
Near/Far La	ne Distance:	36 feet		İ		icleType	,	Day	Evening	Night	Daily			
Site Data						,	Autos:	71.19	6 10.9%	18.0%	91.43%			
Bai	rrier Height:	0.0 feet			М	edium T	rucks:	73.69	6 7.7%	18.6%	4.63%			
Barrier Type (0-W	'all, 1-Berm):	0.0				Heavy T	rucks:	75.69	6.7%	17.8%	3.93%			
Centerline Dis	st. to Barrier:	44.0 feet		F	Noise Source Elevations (in feet)									
Centerline Dist.	to Observer:	44.0 feet		f	Autos: 0.000									
Barrier Distance		0.0 feet			Mediu	m Truck	s: 2	2.297						
Observer Height (Above Pad): 5.0 feet					Hear	y Truck		3.004	Grade Ad	justment	: 0.0			
Pad Elevation: 0.0 feet							. D!	//	£4\					
	ad Elevation: Road Grade:	0.0 feet 0.0%		F	Lane Eq	uivaiem Auto		0.460	reet)					
,	Road Grade: Left View:	-90.0 degree			Modiu	m Truck		0.460						
	Right View:	90.0 degree				vy Truck		0.262						
						,								
FHWA Noise Mode					1									
VehicleType Autos:	REMEL 66.51	Traffic Flow 0.28	Dis	tance		Road -1.20	Fres	-4.61	Barrier Att	en Bei 000	m Atten			
Medium Trucks:	77.72	-12.67		1.2	-	-1.20		-4.61 -4.87		000	0.00			
Heavy Trucks:	82.99	-13.38		1.3		-1.20		-5.50		000	0.000			
Unmitigated Noise			harrio											
	Leg Peak Hou				vening	Leq	Night		Ldn	С	NEL			
Autos:	66.	9	65.7		63.6	<u> </u>	61	.0	68.4	1	68.7			
Medium Trucks:	65.	2	64.2		60.4		59	.4	66.7	7	67.0			
Heavy Trucks:	69.		68.8		64.3		63		71.2		71.4			
Vehicle Noise:	72.	4	71.4		67.8		66	.6	73.9	9	74.2			
Centerline Distanc	ce to Noise Co.	ntour (in feet,)	70	-(D.4		-/D.4		CO -/D4		-10.4			
			I dn	70	dBA 80	65	dBA		60 dBA 373		dBA 804			
	Ldn:			80 173 373 84 181 390			839							
	CNEL:					04 181 390					039			

	FHV	/A-RD-77-108	HIGH	WAY I	NOISE P	REDICT	ION MC	DEL			
Road Nam	io: HY (Propos le: Coyote Busi nt: n/o Van Bur	h Ŕd.					Name: umber:		an South C	ampus	
SITE S	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Cor	ditions	(Hard =	: 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	3,136 vehicle	es					Autos:	15		
Peak Hour	Percentage:	7.73%			Me	edium Tri	ucks (2	Axles):	15		
Peak H	our Volume:	242 vehicle	s		He	eavy Truc	cks (3+	Axles):	15		
Ve	hicle Speed:	25 mph		F	Vehicle	Mix					
Near/Far Lai	ne Distance:	12 feet		ŀ		icleType		Dav	Evening	Night	Dailv
Site Data							Autos:	71.1%	10.9%	18.0%	91.47%
Rai	rrier Heiaht:	0.0 feet			М	edium T	rucks:	73.6%	7.7%	18.6%	4.61%
Barrier Type (0-W		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	3.92%
Centerline Dis	st. to Barrier:	33.0 feet		H	Noise S	ource Fl	evation	s (in f	opt)		
Centerline Dist.	to Observer:	33.0 feet		F	710,00 0	Auto		.000	,,,,		
Barrier Distance	to Observer:	0.0 feet			Madiu	m Truck		297			
Observer Height (Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	iustmen	: 0.0
Pa	ad Elevation:	0.0 feet		Ļ							
Ros	ad Elevation:	0.0 feet		L	Lane Eq	uivalent	Distan	ce (in :	feet)		
I	Road Grade:	0.0%				Auto		.833			
	Left View:	-90.0 degre	es			m Truck		.562			
	Right View:	90.0 degre	es		Hea	vy Truck	s: 32	.589			
FHWA Noise Mode	el Calculations	;									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fres	nel	Barrier Att	en Bei	rm Atten
Autos:	58.73	-5.83		2.6	64	-1.20		-4.52	0.0	000	0.000
Medium Trucks:	70.80	-18.80		2.6	39	-1.20		-4.86	0.0	000	0.000
Heavy Trucks:	77.97	-19.51		2.6	69	-1.20		-5.69	0.0	000	0.000
Unmitigated Noise	Levels (witho	out Topo and	barrie	r atter	nuation)						
	Leq Peak Hou			Leq E	vening		Night		Ldn		NEL
Autos:	54.		53.2		51.1		48.	-	55.8		56.2
Medium Trucks:	53.		52.5		48.7		47.	-	55.		55.3
Heavy Trucks:_ Vehicle Noise:	59.		59.1 60.8		54.6 56.9		54. 55.	_	61.4		61.6
		-			50.9		JJ.		03.	-	03.0
Centerline Distance	e to Noise Co	ntour (in feet)	70	dBA	65	dBA		60 dBA	55	dBA
			Ldn:	70	12		2!		54		116
		С	NEL:		12		26		56		121

Friday, April 24, 2	020
---------------------	-----

	FHWA-	RD-77-108 HIG	HWAY N	OISE P	REDICT	ION MC	DDEL					
	HY (Proposed) Village West D n/o Krameria A	r.		Project Name: Meridian South Campus Job Number: 12761								
	ECIFIC INPL	JT DATA						L INPUTS	5			
Average Daily Tra Peak Hour Pe Peak Hour	rcentage: 7 r Volume: 2,2	674 vehicles .73% 294 vehicles	3	Ме	edium Tr	ucks (2	Autos: Axles):	15 15 15 15				
Venici Near/Far I ane	le Speed:	40 mph 44 feet	١	/ehicle	Mix nicleType							
	Site Data						Day	Evening	Night	Daily		
	er Height: 1-Berm):	0.0 feet 0.0		Autos: 71.1% 10.9% 18.0% 85.59 Medium Trucks: 73.6% 7.7% 18.6% 5.34 Heavy Trucks: 75.6% 6.7% 17.8% 9.07								
Centerline Dist. t	to Barrier:	56.0 feet	,	Voise S	ource E	levation	ns (in fe	et)				
Road I Roa	Observer: ove Pad): Elevation: Elevation: ad Grade: 0 Left View:	56.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet 0.0% -90.0 degrees		Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjus: Lane Equivalent Distance (in feet) Autos: 51.740 Medium Trucks: 51.568 Heavy Trucks: 51.585						: 0.0		
		90.0 degrees		7700	.,		.000					
VehicleType		affic Flow Di	istance	Finite	Road	Fres	nel	Barrier Atte	n Ror	m Atten		
Autos:	66.51	1.60	-0.33		-1.20	1103	-4.67	0.0	_	0.00		
Medium Trucks:	77.72	-10.45	-0.30)	-1.20		-4.87	0.0	00	0.00		
Heavy Trucks:	82.99	-8.14	-0.3	1	-1.20		-5.37	0.0	00	0.00		
Unmitigated Noise Le	evels (without	Topo and barri	ier atten	uation)								
,,, .	q Peak Hour	Leq Day	Leg E			Night		Ldn		NEL		
Autos:	66.6	65.4		63.3		60.		68.1		68.		
Medium Trucks:	65.8 73.3	64.8 72.5		61.0 67.9		60. 67.		67.4		67.		
Heavy Trucks: Vehicle Noise:				69.8		68.		74.8 76.2		75. 76.		
Centerline Distance t	n Noise Contr	our (in feet)										
Cocomine Distance (ooise come	a. (III root)	70 c	IBA	65	dBA	6	0 dBA	55	dBA		
		Ldn:		146		31	5	678		1,460		
		CNEL:		152		32	7	706		1,520		

Barrier Height: 0.0 feet Medium Trucks: 73.6% 7.7% 18.6% Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Centerline Dist. to Observer: 0.0 feet Autos: 0.00 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment Pad Elevation: 0.0 feet Road Grade: 0.0% Autos: 49.739 Heavy Trucks: 49.561 Heavy Trucks: 49.561 Heavy Trucks: 49.578 Heavy Trucks: 63.8 62.6 60.5 57.9 65.3 Heavy Trucks: 63.8 62.6 60.5 57.9 65.3 Heavy Trucks: 63.9 67.9 64.4 63.0 70.4 Heavy Trucks: 68.9 67.9 64.4 63.0 70.4 Heavy Trucks:										
Average Daily Traffic (Adt): 9,807 vehicles Autos: 15 Peak Hour Percentage: 7.73% 758 vehicles Peak Hour Volume: Vehicle Speed: 45 mph Wehicle Type Day Evening Night Site Data										
Average Daily Traffic (Adt): 9,807 vehicles Peak Hour Percentage: 7,73% Medium Trucks (2 Axles): 15 15										
Peak Hour Percentage: 7.73%										
Peak Hour Volume: Vehicle Speed: 45 mph Vehicle Mix										
Vehicle Speed: 45 mph Vehicle Mix Vehicle Type Day Evening Night Site Data Barrier Height: 0.0 feet Medium Trucks: 75.6% 10.9% 18.0%										
Near/Far Lane Distance:										
Site Data										
Barrier Height: 0.0 feet Medium Trucks: 73.6% 7.7% 18.6% Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Centerline Dist. to Observer: 0.0 feet Autos: 0.00 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment Pad Elevation: 0.0 feet Road Grade: 0.0% Autos: 49.739 Heavy Trucks: 49.561 Heavy Trucks: 49.561 Heavy Trucks: 49.578 Heavy Trucks: 63.8 62.6 60.5 57.9 65.3 Heavy Trucks: 63.8 62.6 60.5 57.9 65.3 Heavy Trucks: 63.9 67.9 64.4 63.0 70.4 Heavy Trucks: 68.9 67.9 64.4 63.0 70.4 Heavy Trucks:	Daily									
Barrier Trype (C-Wall, 1-Berm)	91.44									
Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 75.6% 6.7% 17.8%	4.63									
Centerline Dist. to Observer: Barrier Distance to Observer: D0.0 feet	3.93									
Centerline Dist. to Observer: S5.0 feet Barrier Nation: 0.000										
Barrier Distance to Observer: 0.0 feet Distance to Poiserver Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Lane Equivalent Distance (in feet)										
Diserver Height (Above Pad):										
Pad Elevation: 0.0 feet	: 0.0									
Road Grade: 0.0%										
Left View:										
FHWA Noise Model Calculations										
FHWA Noise Model Calculations Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Ber										
VehicleType										
Autos: 68.46										
Medium Trucks: 79.45 -16.38 -0.05 -1.20 -4.87 0.000 Heavy Trucks: 84.25 -17.09 -0.05 -1.20 -5.38 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn Cl Medium Trucks: 61.8 60.8 57.0 56.1 63.4 Heavy Trucks: 65.9 65.0 60.5 60.0 67.4 Vehicle Noise: 68.9 67.9 64.4 63.0 70.4 Centerline Distance to Noise Contour (in feet)	m Atter									
Heavy Trucks: 84.25	0.00									
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn Cl Autos: 63.8 62.6 60.5 57.9 65.3 Medium Trucks: 61.8 60.8 57.0 56.1 63.4 Heavy Trucks: 65.9 65.0 60.5 60.0 67.4 Vehicle Noise: 68.9 67.9 64.4 63.0 70.4 Centerline Distance to Noise Contour (in feet)	0.00									
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn Cl Autos: 63.8 62.6 60.5 57.9 65.3 Medium Trucks: 61.8 60.8 57.0 56.1 63.4 Heavy Trucks: 65.9 65.0 60.5 60.0 67.4 Vehicle Noise: 68.9 67.9 64.4 63.0 70.4 Centerline Distance to Noise Contour (in feet)	0.00									
Autos: 63.8 62.6 60.5 57.9 65.3 Medium Trucks: 61.8 60.8 57.0 56.1 63.4 Heavy Trucks: 65.9 65.0 60.5 60.0 67.4 Vehicle Noise: 68.9 67.9 64.4 63.0 70.4 Centerline Distance to Noise Contour (in feet)										
Medium Trucks: 61.8 60.8 57.0 56.1 63.4 Heavy Trucks: 65.9 65.0 60.5 60.0 67.4 Vehicle Noise: 68.9 67.9 64.4 63.0 70.4 Centerline Distance to Noise Contour (in feet)	NEL									
Heavy Trucks: 65.9 65.0 60.5 60.0 67.4 Vehicle Noise: 68.9 67.9 64.4 63.0 70.4 Centerline Distance to Noise Contour (in feet)	65									
Vehicle Noise: 68.9 67.9 64.4 63.0 70.4 Centerline Distance to Noise Contour (in feet)	63									
Centerline Distance to Noise Contour (in feet)	67									
	70									
70 dBA 65 dBA 60 dBA 55	dBA									
Ldn: 59 126 272	UDA 58									
CNEL: 61 132 284	58 61									
ONLE. 01 132 284	01									

Friday, April 24, 2020

FHW	/A-RD-77-108	HIGHWAY	NOISE P	REDICT	ON MO	DEL					
Scenario: HY (Propose Road Name: Village Wes Road Segment: s/o Krameria	t Dr.				Name: I lumber:		an South Ca	ampus			
SITE SPECIFIC IN	PUT DATA						L INPUTS	6			
Highway Data			Site Conditions (Hard = 10, Soft = 15)								
	19,715 vehicle	S	Autos: 15								
Peak Hour Percentage:	7.73%		Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15								
Peak Hour Volume:	1,524 vehicles		He	avy Iru	cks (3+ A	Axles):	15				
Vehicle Speed:	40 mph		Vehicle	Mix							
Near/Far Lane Distance:	24 feet		Veh	icleType		Day	Evening	Night	Daily		
Site Data				,	Autos:	71.1%	10.9%	18.0%	91.44%		
Barrier Height:	0.0 feet		Medium Trucks: 73.6% 7.7% 18.6% 4.6								
Barrier Type (0-Wall, 1-Berm):	0.0		Heavy Trucks: 75.6% 6.7% 17.8% 3.93								
Centerline Dist. to Barrier:	39.0 feet		Noise Source Elevations (in feet)								
Centerline Dist. to Observer:	39.0 feet		710,00 01	Auto		000	,01,				
Barrier Distance to Observer:	0.0 feet		Mediu	m Truck		297					
Observer Height (Above Pad):		Hear	vy Truck	s: 8.0	004	Grade Adji	ustment	: 0.0			
Pad Elevation:	0.0 feet			•							
Road Elevation:	0.0 feet		Lane Eq				feet)				
Road Grade:	0.0%			Auto							
Left View:	-90.0 degree			m Truck							
Right View:	90.0 degree	S	Hear	y Truck	s: 37.	229					
FHWA Noise Model Calculations	;										
VehicleType REMEL	Traffic Flow	Distance	Finite	Road	Fresn	iel	Barrier Atte	en Bei	m Atten		
Autos: 66.51	0.12	1.	.78	-1.20		-4.58	0.0	00	0.000		
Medium Trucks: 77.72	-12.84		.82	-1.20		-4.87	0.0		0.000		
Heavy Trucks: 82.99	-13.55	1.	.82	-1.20		-5.57	0.0	00	0.000		
Unmitigated Noise Levels (without			,								
VehicleType Leq Peak Hou	, ,		Evening	,	Night		Ldn		NEL		
Autos: 67.		36.1	63.9		61.3		68.7		69.1		
Medium Trucks: 65.		64.5	60.7		59.8		67.1		67.4		
Heavy Trucks: 70.		69.2 71.8	64.7 68.2		64.1		71.5 74.3		71.8 74.5		
Vehicle Noise: 72											
Vehicle Noise: 72. Centerline Distance to Noise Co		70) dBA	65	dBA	6	60 dBA	55	dBA		
	ntour (in feet)	70 _dn:) dBA 75	65	dBA 162		60 dBA 349	55	dBA 751		

	FHV	/A-RD-77-108	HIGH	HWAY	NOISE P	REDICTI	ION MO	DDEL						
Road Nam	io: HY (Propos ne: Meridian Pk nt: s/o Allesand	wý.					Name: umber:		an South C	ampus				
SITE	SPECIFIC IN	PUT DATA				N	IOISE	MODE	L INPUT	S				
Highway Data					Site Conditions (Hard = 10, Soft = 15)									
Average Daily	Traffic (Adt):	30,364 vehicle	es		Autos: 15									
Peak Hour	Percentage:	7.73%			Medium Trucks (2 Axles): 15									
Peak H	lour Volume:	2,347 vehicle	s		Heavy Trucks (3+ Axles): 15									
Ve	hicle Speed:	45 mph			Vehicle	Mix								
Near/Far La	ne Distance:	44 feet			VehicleType Day Evening Night						Daily			
Site Data							Autos:	71.1%	10.9%	18.0%	91.43%			
Ra	rrier Height:	0.0 feet			М	edium Ti	rucks:	73.6%	7.7%	18.6%	4.63%			
Barrier Type (0-W	/all, 1-Berm):	0.0			Heavy Trucks: 75.6% 6.7% 17.8% 3.93									
Centerline Di		56.0 feet			Noise Source Elevations (in feet)									
Centerline Dist.		56.0 feet				Autos	s: 0	.000						
	Barrier Distance to Observer: 0.0 feet					m Trucks	s: 2	.297						
Observer Height (. ,	5.0 feet			Hea	vy Truck:	s: 8	.004	Grade Ad	justment	0.0			
	ad Elevation:	0.0 feet			1		Distant	/	F 4\					
	ad Elevation:	0.0 feet			Lane Eq				eet)					
	Road Grade:	0.0%				Auto		.740						
	Left View:	-90.0 degre			Medium Trucks: 51.568 Heavy Trucks: 51.585									
	Right View:	90.0 degre	es		Hea	vy Truck	S: 51	.585						
FHWA Noise Mode														
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att	_	m Atten			
Autos:	68.46	1.48		-0.		-1.20		-4.67		000	0.000			
Medium Trucks:		-11.47		-0.		-1.20		-4.87		000	0.000			
Heavy Trucks:		-12.18		-0.3		-1.20		-5.37	0.0	000	0.000			
Unmitigated Noise							A.C for t	_	1 -1					
VehicleType Autos:	Leq Peak Hou 68.		67.3	Leq E	Evening 65.2		Night 62	E	Ldn 69.9		NEL 70.3			
Medium Trucks:			65.5		61.7		60		68.		68.3			
Heavy Trucks:				65.2		64	-	72.0		72.3				
Vehicle Noise:	,			69.0		67	-	75.	-	75.4				
Centerline Distance	Centerline Distance to Noise Contour (in feet)													
					dBA	65 (dBA	6	60 dBA	55	dBA			
Ldn:					122 263		566		1,219					
	CNEL:					127 274 591				1,274				

Friday, April 24, 2020	, 2020	24,	April	Friday,
------------------------	--------	-----	-------	---------

	FH\	WA-RD-77-108	HIGH	NAY N	OISE P	REDICT	ION MC	DEL				
Scenario: Road Name: Road Segment:		kwý.		Project Name: Meridian South Campus Job Number: 12761								
	PECIFIC IN	IPUT DATA							L INPUTS	S		
Highway Data				S	ite Cor	ditions	(Hard =	: 10, Sc	oft = 15)			
Average Daily Tr	affic (Adt):	27,704 vehicle	es					Autos:	15			
Peak Hour Pe	ercentage:	7.73%				edium Tr		,				
Peak Hou	ır Volume:	2,141 vehicle	S		He	eavy Tru	cks (3+	Axles):	15			
	cle Speed:	45 mph		ν	ehicle	Mix						
Near/Far Lane	Distance:	44 feet			Veh	icleType		Day	Evening	Night	Daily	
Site Data							Autos:	71.1%	10.9%	18.0%	91.459	
Barri	er Height:	0.0 feet			M	edium T	rucks:	73.6%	7.7%	18.6%	4.639	
Barrier Type (0-Wal	-	0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.939	
Centerline Dist.		56.0 feet			laina C	ource El	lovestion	o (in f	2041			
Centerline Dist. to	Observer:	56.0 feet		N	ioise si	Auto		.000	ei)			
Barrier Distance to	Observer:	0.0 feet			Modiu	m Truck		297				
Observer Height (Al	bove Pad):	5.0 feet				vy Truck		004	Grade Adj	iustment	. 0 0	
Pad	Elevation:	0.0 feet								dottriorit	. 0.0	
	Elevation:	0.0 feet		L	ane Eq	uivalen		_ •	feet)			
Ro	ad Grade:	0.0%				Auto		.740				
	Left View:	-90.0 degree				m Truck		.568				
F	Right View:	90.0 degree	es		Hea	vy Truck	s: 51	.585				
FHWA Noise Model												
VehicleType	REMEL	Traffic Flow	Dist	ance		Road	Fres		Barrier Atte		m Atten	
Autos: Medium Trucks:	68.46 79.45	1.08		-0.33 -0.30		-1.20 -1.20		-4.67 -4.87	0.0		0.00	
Heavy Trucks:	79.45 84.25			-0.30		-1.20		-4.87 -5.37		000	0.00	
			ft			-1.20		-0.37	0.0	,00	0.00	
VehicleType L	eq Peak Hou			Leg Ev		100	Night	T	Ldn	0	NEL	
Autos:	68 68		66.9	Loy LV	64.8		62.	1	69.5		69.	
Medium Trucks:	66		65.1		61.3		60.		67.7		67.	
Heavy Trucks:	70	1.2	69.3		64.8		64.	2	71.6	3	71.	
Vehicle Noise:	73	3.2	72.2		68.6		67.	3	74.7	7	74.	
Centerline Distance	to Noise Co	ontour (in feet)									
				70 d		65	dBA		60 dBA		dBA	
			Ldn:		115		247		532		1,146	
	CNEL:				120 258 556					1,197		

	FH\	WA-RD-77-108	HIGH	WAY N	OISE PI	REDICTI	ION MC	DEL			
	o: HY (Propos e: Meridian P et: n/o Cactus	kwy.					Name: lumber:		an South C	ampus	
	PECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data				S	ite Con	ditions	(Hard =	: 10, Sc	oft = 15)		
Average Daily	Fraffic (Adt):	29,571 vehicl	es					Autos:	15		
Peak Hour I	Percentage:	7.73%			Me	edium Tru	ucks (2	Axles):	15		
Peak Ho	our Volume:	2,286 vehicle	S		He	avy Truc	cks (3+	Axles):	15		
Vel	nicle Speed:	45 mph		v	ehicle	Mix					
Near/Far Lar	e Distance:	44 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						-	Autos:	71.1%	10.9%	18.0%	91.449
Bar	rier Heiaht:	0.0 feet			М	edium Ti	rucks:	73.6%	7.7%	18.6%	4.639
Barrier Type (0-Wa		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.8%	6 3.939
Centerline Dis	t. to Barrier:	56.0 feet		_	loise Si	ource El	evation	s (in f	oet)		
Centerline Dist. t	o Observer:	56.0 feet		F	0.00	Auto		.000	,,,,		
Barrier Distance t	o Observer:	0.0 feet			Madiu	m Truck:		.297			
Observer Height (/	Above Pad):	5.0 feet				v Truck		.004	Grade Ad	liustmen	t: 0.0
Pa	d Elevation:	0.0 feet		L		,				,	
	d Elevation:	0.0 feet		L	ane Eq	uivalent		_ •	feet)		
F	Road Grade:	0.0%				Auto		.740			
	Left View:	-90.0 degre				m Truck		.568			
	Right View:	90.0 degre	es		Hear	y Truck	s: 51	.585			
FHWA Noise Mode	I Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresi	nel	Barrier Att	en Be	rm Atter
Autos:	68.46			-0.33		-1.20		-4.67	0.0	000	0.00
Medium Trucks:	79.45			-0.30		-1.20		-4.87		000	0.00
Heavy Trucks:	84.25	-12.30		-0.31		-1.20		-5.37	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barrie	r attenu	ıation)						
	Leq Peak Hou			Leq Ev			Night		Ldn		CNEL
Autos:		3.3	67.1		65.0		62.		69.8	-	70
Medium Trucks:		3.4	65.4		61.6		60.	-	67.9	-	68
Heavy Trucks:				65.0		64.	_	71.9		72	
Vehicle Noise:	Vehicle Noise: 73.5 72.5			68.9		67.	6	75.0	Ü	75.	
Centerline Distanc	e to Noise Co	ontour (in feet	;)	70		0.5	10.4				- 10.1
			1 -1	70 d		65	dBA		60 dBA	_	5 dBA
		_	Ldn: NFI:		120		258		556		1,19
		C	IVEL:		125 270 581				1,25		

	FHV	/A-RD-77-108 H	IIGHWA	Y NOISE P	REDICTI	ON MO	DEL						
	io: HY (Propos ne: Meridian Pk					Name: umber:		an South Ca	ampus				
	nt: n/o Opportu				00074	umber.	12701						
	SPECIFIC IN	PUT DATA						L INPUTS	5				
Highway Data				Site Conditions (Hard = 10, Soft = 15)									
Average Daily	Traffic (Adt):	27,230 vehicles		Autos: 15									
Peak Hour	Percentage:	7.73%		Medium Trucks (2 Axles): 15									
Peak F	lour Volume:	2,105 vehicles		He	eavy Truc	ks (3+)	Axles):	15					
Ve	hicle Speed:	45 mph		Vehicle	Miv								
Near/Far La	ne Distance:	44 feet			icleType		Day	Evening	Night	Daily			
Site Data						lutos:	71.1%	10.9%	18.0%	91.45%			
Ra	rrier Height:	0.0 feet		Medium Trucks: 73.6% 7.7% 18.6% 4									
Barrier Type (0-W		0.0			Heavy Tr	ucks:	75.6%	6.7%	17.8%	3.93%			
Centerline Di		56.0 feet		Noise Source Elevations (in feet)									
Centerline Dist.	to Observer:	56.0 feet		Autos: 0.000									
Barrier Distance	to Observer:	0.0 feet			Autos m Trucks		000 297						
Observer Height	(Above Pad):	5.0 feet						O					
P	ad Elevation:	0.0 feet		Hea	vy Trucks	s: 8.	004	Grade Adj	usuneni	. 0.0			
Ro	ad Elevation:	0.0 feet		Lane Eq	uivalent	Distan	ce (in	feet)					
	Road Grade:	0.0%			Autos	s: 51.	740						
	Left View:	-90.0 degrees		Mediu	m Trucks	s: 51.	568						
	Right View:	90.0 degrees		Hea	vy Trucks	s: 51.	585						
FHWA Noise Mod	el Calculations	;											
VehicleType	REMEL	Traffic Flow	Distant		Road	Fresi		Barrier Atte	_	m Atten			
Autos:	68.46	1.01		0.33	-1.20		-4.67	0.0		0.000			
Medium Trucks:		-11.95		0.30	-1.20		-4.87	0.0		0.000			
Heavy Trucks:	84.25	-12.66	-	0.31	-1.20		-5.37	0.0	00	0.00			
Unmitigated Nois	e Levels (witho	out Topo and b	arrier at	ttenuation)									
VehicleType	Leq Peak Hou	r Leq Day	Le	q Evening	Leq	Night		Ldn		NEL			
Autos:	67.		6.8	64.7		62.		69.4		69.			
Medium Trucks:	66	-	5.0	61.2		60.3	-	67.6		67.8			
Heavy Trucks:	70		9.2	64.7		64.		71.5		71.8			
Vehicle Noise:			2.1	68.6	i	67.2	2	74.6	i	74.9			
Centerline Distan	ce to Noise Co	ntour (in feet)											
				70 dBA	65 (dBA	(60 dBA	55	dBA			
			dn:	113		244		526		1,133			
		CN	⊢ı ·	118		255		549		1 183			

	FHV	WA-RD-77-108	HIGH	HWAY	NOISE P	REDICT	ON MO	DDEL						
Road Nan	rio: HY (Propos ne: Meridian Pk ent: n/o Van Bur	wý.					Name: umber:		an South C	ampus				
SITE	SPECIFIC IN	PUT DATA				N	IOISE	MODE	L INPUT	S				
Highway Data					Site Cor	ditions	(Hard =	= 10, So	oft = 15)					
Average Daily	Traffic (Adt):	19,813 vehicle	es		Autos: 15									
Peak Hour	Percentage:	7.73%			Medium Trucks (2 Axles): 15									
Peak H	lour Volume:	1,532 vehicle	s		Heavy Trucks (3+ Axles): 15									
Ve	ehicle Speed:	45 mph		-	Vehicle	Miv								
Near/Far La	ane Distance:	44 feet		-	VehicleType Day Evening Nig						Dailv			
Site Data					Autos: 71.1% 10.9% 18.0%									
Ra	rrier Height:	0.0 feet			М	edium T	rucks:	73.6%	7.7%	18.6%	4.62%			
Barrier Type (0-V	Vall, 1-Berm):	0.0			Heavy Trucks: 75.6% 6.7% 17.8% 3.92									
	ist. to Barrier:	56.0 feet			Noise Source Elevations (in feet)									
Centerline Dist.		56.0 feet		ı		Auto	s: 0	.000						
	Barrier Distance to Observer: 0.0 feet					m Truck	s: 2	.297						
Observer Height	. ,	5.0 feet			Hear	vy Truck	s: 8	.004	Grade Ad	justment	0.0			
	ad Elevation:	0.0 feet												
	ad Elevation:	0.0 feet			Lane Eq				eet)					
	Road Grade:	0.0%				Auto		.740						
	Left View:	-90.0 degre			Medium Trucks: 51.568									
	Right View:	90.0 degre	es		Heavy Trucks: 51.585									
FHWA Noise Mod														
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atten			
Autos:	00.10	-0.37		-0.3		-1.20		-4.67		000	0.000			
Medium Trucks:		-13.34		-0.3		-1.20		-4.87		000	0.000			
Heavy Trucks:		-14.05		-0.3		-1.20		-5.37	0.0	000	0.000			
Unmitigated Nois														
VehicleType	Leq Peak Hou		65.4	Leq E	vening		Night 60	7	Ldn	_	NEL CO. 4			
Autos: Medium Trucks:			63.6		63.3 59.8		58		68. 66.		68.4 66.5			
Heavy Trucks:		64.6 63.6 68.7 67.8			63.3		62	-	70.2		70.4			
Vehicle Noise:		71.7 70.7			67.2		65	-	73.2		73.5			
Centerline Distan	ce to Noise Co	ntour (in feet)											
				70	dBA	65	dBA	6	0 dBA	55	dBA			
			Ldn:		92 197 425			i	916					
	CNEL:					96 206 444				957				

Autos: 71.1% 10.9% 18.0% 91.43*		FH	WA-RD-77-108	HIGH	IWAY N	IOISE P	REDICTI	ON MC	DDEL						
Average Daily Traffic (Adt): 28,414 vehicles Peak Hour Percentage: 7,73% Peak Hour Volume: 2,196 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 50 feet Vehicle Type Day Evening Night Daily Dai	Road Nam	e: Day St.													
Average Daily Traffic (Adt): 28,414 vehicles		SPECIFIC II	IPUT DATA								s				
Peak Hour Percentage: 7.73% Medium Trucks (2 Axles): 15	· ·					Site Cor	nditions	(Hard =							
Peak Hour Volume: 2,196 vehicles Vehicle Speed:	,	. ,	- 1	es											
Vehicle Speed: 40 mph Near/Far Lane Distance: 50 feet Vehicle Mix Vehicle Type Day Evening Night Daily Daily Near/Far Lane Distance: 50 feet Autos: 71.1% 10.9% 18.0% 14.0% 4.64 Heavy Trucks: 75.6% 6.7% 17.8% 3.94 Heavy Trucks: 75.6% 6.7% 17.8% 3.94 Noise Source Elevations (in feet) Autos: 0.00															
Near/Far Lane Distance: 50 feet Vehicle Type Day Evening Night Daily			,	es .		rieavy Trucks (3+ Axies): 15									
Note Note					1	Vehicle	Mix								
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Centerline Dist. for Observer: 44.0 feet Centerline	Near/Far La	ne Distance:	50 feet			Ver	icleType		Day	Evening	Night	Daily			
Barrier Trype (0-Well, 1-Berm):	Site Data						-	Autos:	71.1%	10.9%	18.0%	91.439			
Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 75.6% 6.7% 17.8% 3.94*	Rai	rier Height	0.0 feet			M	ledium Ti	rucks:	73.6%	7.7%	18.6%	4.649			
Noise Model Calculations Vehicle Type REMEL Traffic Flow Distance Traffic Flow Dis	Barrier Type (0-W	'all, 1-Berm):	0.0			Heavy Trucks: 75.6% 6.7% 17.8% 3.94									
Barrier Distance to Observer: 0.00 feet Autos: 0.000					1	Voise S	ource El	evation	ıs (in fe	et)					
Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0%							Autos	s: 0	.000						
Pad Elevation: 0.0 feet Heavy Trucks: 8.004 Grade Adjustment: 0.0						Mediu	m Truck	s: 2	.297						
Road Elevation:		,				Hea	vy Truck	s: 8	.004	Grade Ad	justment	: 0.0			
Road Grade: 0.0%					- H.			Distant	(! 4	4					
Left View:					Ľ	_ane Eq				eet)					
Right View: 90.0 degrees Heavy Trucks: 36.332	,					Modis									
FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten															
VehicleType	EUWA Najaa Mada														
Autos: 66.51 1.70 1.94 -1.20 -4.61 0.000 0.00 Medium Trucks: 77.72 -11.25 1.98 -1.20 -4.87 0.000 0.00 Medium Trucks: 82.99 -11.96 1.98 -1.20 -5.50 0.000 0.00 Medium Trucks: 82.99 -11.96 1.98 -1.20 -5.50 0.000 0.00 Medium Trucks: 82.99 -11.96 1.98 -1.20 -5.50 0.000 0.00 Medium Trucks: 69.0 67.8 65.7 63.1 70.4 70				Die	tanca	Finite	Road	Froe	nol	Rarriar Att	on Roi	m Atton			
Medium Trucks: 77.72	,,							7,700				0.00			
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL	Medium Trucks:	77.72	-11.25	;	1.9	В	-1.20		-4.87	0.0	000	0.00			
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.0 67.8 65.7 63.1 70.4 70.4 70.4 70.4 70.4 70.9 66.2 62.5 61.5 68.8 69 69.9 73.3 73 73 73 74.5 73.5 69.9 68.6 76.0 76	Heavy Trucks:	82.99	-11.96	5	1.9	В	-1.20		-5.50	0.0	000	0.00			
Autos: 69.0 67.8 65.7 63.1 70.4 70 Medium Trucks: 67.2 66.2 62.5 61.5 68.8 69 Heavy Trucks: 71.8 70.9 66.4 65.9 73.3 73 Vehicle Noise: 74.5 73.5 69.9 68.6 76.0 76 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 111 239 515 1,10	Unmitigated Noise	Levels (with	out Topo and	barrie	er atten	uation)									
Medium Trucks: 67.2 66.2 62.5 61.5 68.8 69 Heavy Trucks: 71.8 70.9 66.4 65.9 73.3 73 Vehicle Noise: 74.5 73.5 69.9 68.6 76.0 76 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 111 239 515 1,10				_	Leq E					-					
Heavy Trucks: 71.8 70.9 66.4 65.9 73.3 73 73 Vehicle Noise: 74.5 73.5 69.9 68.6 76.0 76															
Vehicle Noise: 74.5 73.5 69.9 68.6 76.0 76 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 111 239 515 1,10		-							-		-				
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 111 239 515 1,10									-			73.			
70 dBA 65 dBA 60 dBA 55 dBA Ldn: 111 239 515 1,10						69.9	1	68.	6	76.0)	76.			
Ldn: 111 239 515 1,10	Centerline Distanc	e to Noise C	ontour (in fee	t)	70	/DA	05	-(D.4	1	0 -104		-/04			
				1 -1	70 0		65								
CIVEL. 116 249 537 1,15										,					
		CNEL:					110 249 331				1,15				

Sconor		.,	IIIGIIW/	AY NOISE	PREDICI	ION MO	DEL						
	rio: HY (Propos	ed)						n South C	ampus				
	ne: Day St.				Job N	lumber:	12761						
Road Segme	ent: n/o Cottonw	ood Av.											
	SPECIFIC IN	PUT DATA						L INPUT	S				
Highway Data				Site Conditions (Hard = 10, Soft = 15)									
Average Daily	Traffic (Adt):	30,747 vehicle	s				Autos:	15					
Peak Hour	Percentage:	7.73%		1	Medium Tr	ucks (2)	4xles):	15					
Peak F	Hour Volume:	2,377 vehicles	3		Heavy Tru	cks (3+)	Axles):	15					
Ve	ehicle Speed:	40 mph		Vehicl	e Mix								
Near/Far La	ane Distance:	50 feet			ehicleType		Day	Evening	Night	Daily			
Site Data					,	Autos:	71.1%	10.9%	18.0%	91.42			
Ra	rrier Height:	0.0 feet			Medium T	rucks:	73.6%	7.7%	18.6%	4.64			
Barrier Type (0-V		0.0			Heavy T	rucks:	75.6%	6.7%	17.8%	3.94			
Centerline Di	ist. to Barrier:	44.0 feet		Noise	Source El	evation	s (in fe	eet)					
Centerline Dist.	to Observer:	44.0 feet			Auto		000	,					
Barrier Distance	to Observer:	0.0 feet		Mer	fium Truck		297						
Observer Height	(Above Pad):	5.0 feet			avy Truck		004	Grade Ad	iustment	. 0 0			
P	ad Elevation:	0.0 feet			-					- 0.0			
Ro	ad Elevation:	0.0 feet		Lane E	Equivalent	Distan	ce (in t	eet)					
	Road Grade:	0.0%			Auto	s: 36.	551						
	Left View:	-90.0 degree	es		lium Truck		308						
	Right View:	90.0 degree	es	He	eavy Truck	s: 36.	332						
FHWA Noise Mod	el Calculation	S											
VehicleType	REMEL	Traffic Flow	Distan	ice Fin.	ite Road	Fresr	nel	Barrier Att	en Ber	m Atter			
Autos:	00.01	2.04		1.94	-1.20		-4.61		000	0.00			
Medium Trucks:		-10.90		1.98	-1.20		-4.87		000	0.00			
Heavy Trucks:	82.99	-11.61		1.98	-1.20		-5.50	0.0	000	0.00			
Unmitigated Nois					,								
VehicleType	Leq Peak Hou			eq Evening		Night		Ldn	-	NEL			
Autos:			68.1	66		63.4		70.8		71			
Medium Trucks: 67.6 66.6				62		61.9		69.2	-	69			
			66		66.2		73.6		73				
Heavy Trucks:	Vehicle Noise: 74.9 73.9		70	1.3	69.0)	76.4	1	76				
Heavy Trucks: Vehicle Noise:													
Vehicle Noise:		ntour (in feet)	70 dD4	65	AD A		O ADA		dD1			
Vehicle Noise:		, ,		70 dBA		dBA		60 dBA		dBA			
,		,	Ldn:	70 dBA 11	7	dBA 252 263		60 dBA 542 566		dBA 1,16 1,22			

Friday, April 24, 2020

	FH)	WA-RD-77-108	HIGHW	AY N	OISE PI	REDICTI	ON MO	DEL					
Road Nan	rio: HY (Propos ne: Alessandro nt: w/o Mission	Bl.					Name: umber:		an South Ca	mpus			
SITE	SPECIFIC IN	IPUT DATA				N	OISE N	ИODE	L INPUTS				
Highway Data				S	ite Con	ditions	(Hard =	10, S	oft = 15)				
Average Daily	Traffic (Adt):	67,357 vehicle	es					Autos.	15				
Peak Hour	Percentage:	7.73%			Me	dium Tru	icks (2)	Axles).	: 15				
Peak I	Hour Volume:	5,207 vehicles	3		He	avy Truc	cks (3+)	Axles).	: 15				
Ve	ehicle Speed:	55 mph		1/	'ehicle l	Miss							
Near/Far La	ne Distance:	72 feet		-		icleType		Day	Evening	Night	Daily		
Site Data				_	Ven		Autos:	71.19		18.0%	91.42%		
				-	14			73.69		18.6%	4.64%		
	rrier Height:	0.0 feet			Medium Trucks: 73.6% 7.7% 18.6% 4.6 Heavy Trucks: 75.6% 6.7% 17.8% 3.9								
Barrier Type (0-V		0.0		Treatry Trucks. 15.0% 0.1% 17.8% 3.94									
	ist. to Barrier:	60.0 feet		٨	Noise Source Elevations (in feet)								
Centerline Dist.		60.0 feet				Auto	s: 0.	000					
Barrier Distance		0.0 feet			Mediu	m Truck	s: 2.	297					
Observer Height	(Above Pad): ad Elevation:	5.0 feet 0.0 feet			Heav	y Truck	s: 8.	004	Grade Adju	stment:	0.0		
	ad Elevation: ad Elevation:	0.0 feet		,	ane Fa	uivalent	Dietani	ro (in	foot)				
	Road Grade:	0.0 reet 0.0%		-	ane Ly	Auto		260	ieei)				
	Left View:	-90.0 degree			Modiu	m Truck:		076					
	Right View:	90.0 degree				y Truck		070					
	ragni view.	90.0 degree	75		nour	y much	3. 40.	004					
FHWA Noise Mod	el Calculation	s											
VehicleType	REMEL	Traffic Flow	Distar			Road	Fresr	_	Barrier Atter	_	m Atten		
Autos:				0.13		-1.20		-4.69	0.00		0.000		
Medium Trucks:				0.15		-1.20		-4.88	0.00		0.000		
Heavy Trucks:	86.40	-9.59		0.15	•	-1.20		-5.34	0.00	00	0.000		
Unmitigated Nois	e Levels (with	out Topo and	barrier a	ttenu	ıation)								
VehicleType	Leq Peak Ho	ur Leq Day	· Le	eq Ev	ening	Leq	Night		Ldn	CI	IEL		
Autos:			73.6		71.5		68.9		76.3		76.6		
Medium Trucks:			71.5		67.7		66.8		74.1		74.3		
Heavy Trucks:			74.9		70.4		69.8		77.2		77.5		
Vehicle Noise:	79	9.3	78.3		74.9		73.4	1	80.8		81.1		
Centerline Distan	Centerline Distance to Noise Contour (in feet)												
						70 dBA 65 dBA		_	60 dBA	55	dBA		
			Ldn:		315		680		1,464	3,155			
		CI	VEL:		330 711 1,531					3,299			

	FH\	WA-RD-77-108	HIGH	IWAY I	NOISE P	REDICTI	ON M	ODEL						
Road Nan	rio: HY (Propos ne: Alessandro nt: e/o Mission	Bl.						: Meridi: : 12761	an South C	ampus				
SITE	SPECIFIC IN	IPUT DATA				N	IOISE	MODE	L INPUT	S				
Highway Data					Site Conditions (Hard = 10, Soft = 15)									
Average Daily	Traffic (Adt):	68,783 vehicle	es		Autos: 15									
Peak Hour	Percentage:	7.73%			Me	edium Tru	ucks (2	Axles):	15					
Peak F	lour Volume:	5,317 vehicle	s		Heavy Trucks (3+ Axles): 15									
Ve	ehicle Speed:	55 mph		ŀ	Vehicle	Mix								
Near/Far La	ne Distance:	72 feet		-		icleType		Dav	Evening	Night	Dailv			
Site Data							Autos:	71.1%		18.0%	91.42%			
Ra	rrier Height:	0.0 feet			М	edium Ti	rucks:	73.6%	7.7%	18.6%	4.64%			
Barrier Type (0-W		0.0				Heavy Tr	rucks:	75.6%	6.7%	17.8%	3.94%			
,,,,	st. to Barrier:	60.0 feet		-	Noise Source Elevations (in feet)									
Centerline Dist.	to Observer:	60.0 feet		-	Noise 3	Auto:		0.000	eel)					
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck:		2.297						
Observer Height	(Above Pad):	5.0 feet				vy Truck:		3.004	Grade Ad	livetman	t· 0.0			
P	ad Elevation:	0.0 feet			пеа	vy Truck	s. c	0.004	Orade Ad	justinon	. 0.0			
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distar	nce (in	feet)					
	Road Grade:	0.0%				Autos	s: 48	3.260						
	Left View:	-90.0 degree	es			m Truck		3.076						
	Right View:	90.0 degree	es		Heavy Trucks: 48.094									
FHWA Noise Mod	el Calculation	s												
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	snel	Barrier Att	en Be	rm Atten			
Autos:				0.1	-	-1.20		-4.69		000	0.000			
Medium Trucks:				0.1	-	-1.20		-4.88		000	0.000			
Heavy Trucks:	86.40	-9.50		0.1	15	-1.20		-5.34	0.0	000	0.000			
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atter	nuation)			_		,				
VehicleType	Leq Peak Ho		_	Leq E	vening		Night		Ldn		NEL			
Autos:	-	1.9	73.7		71.6		69		76.4		76.7			
Medium Trucks:		2.6	71.6		67.8		66		74.2	_	74.4			
Heavy Trucks: Vehicle Noise:	Heavy Trucks: 75.8 75.0 Vehicle Noise: 79.4 78.4			70.4 75.0		69 73		77.3 80.9		77.5 81.2				
					75.0		/3	.5	80.	9	81.2			
Centerline Distan	ce to Noise C	ontour (in feet)	70	dBA	65	dBA	1 ,	60 dBA	54	i dBA			
Ldn:					320	1 001	68	_	1.485		3.199			
		С	NEL:		335		72	-	1,463		3,345			
	ONEE.								.,500		-,- 10			

Friday, April 24, 2	020
---------------------	-----

	FHV	WA-RD-77-108	HIGH\	WAY NO	DISE PI	REDICT	ION MO	DEL					
	o: HY (Propos e: Alessandro ht: w/o Old 215	Bl.					t Name: Number:		n South Ca	ampus			
SITE S	SPECIFIC IN	IPUT DATA					NOISE N	/IODEI	INPUTS	;			
Highway Data				Si	te Con	ditions	(Hard =	10, So	ft = 15)				
Average Daily 1 Peak Hour I Peak Ho	. ,	63,009 vehicl 7.73% 4,871 vehicle			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15								
Vet	nicle Speed:	45 mph		V	Vehicle Mix								
Near/Far Lar	ne Distance:	72 feet		-	Vehicle Type Day Evening Night Dai								
Site Data							Autos:	71.1%	10.9%	18.0%	,		
Ran	rier Height:	0.0 feet			М	edium 7	rucks:	73.6%	7.7%	18.6%	4.64%		
Barrier Type (0-Wa	-	0.0				Heavy 7	rucks:	75.6%	6.7%	17.8%	3.94%		
Centerline Dis		60.0 feet		N	oise So	ource E	levation	s (in fe	et)				
Centerline Dist. t	to Observer:	60.0 feet				Auto		000	/				
Barrier Distance t	o Observer:	0.0 feet			Mediu	m Truck		297					
	Observer Height (Above Pad): 5.0 feet Pad Flevation: 0.0 feet					ry Truck			Grade Adji	ustment	: 0.0		
	1.	no Ea	uivalon	t Distan	o (in f	not)							
	d Elevation: Road Grade:	0.0 feet 0.0%		Le	ine Ly	Auto			eei)				
,	Left View:	-90.0 degre			Modiu	m Truck		076					
	Right View:	90.0 degre			Heavy Trucks: 48.094								
FHWA Noise Mode	l Calculation:	s											
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fresr	el I	Barrier Atte	en Bei	m Atten		
Autos:	68.46	4.65		0.13		-1.20		-4.69	0.0	00	0.000		
Medium Trucks:	79.45	-8.30		0.15		-1.20		-4.88	0.0	00	0.000		
Heavy Trucks:	84.25	-9.01		0.15		-1.20		-5.34	0.0	00	0.000		
Unmitigated Noise	Levels (with	out Topo and	barrie	r attenu	ation)								
.,	Leq Peak Hou			Leq Eve		Leq	Night		Ldn		NEL		
Autos:	72		70.9		68.8		66.2	-	73.5		73.9		
Medium Trucks:	70		69.1		65.3		64.4		71.7		72.0		
Heavy Trucks:	74		73.3		68.8		68.3		75.7		75.9		
Vehicle Noise:	77	7.2	76.2		72.7		71.3		78.7		79.0		
Centerline Distance	e to Noise Co	ontour (in fee	!)										
			L	70 dE		65	dBA	6	0 dBA	55	dBA		
			Ldn:		228 491 1,058					2,280			
		C	:NEL:		238		513		1,105		2,381		

	FHV	VA-RD-77-108	HIGH	N YAWF	OISE PE	REDICTI	ON MOI	DEL					
Scenario: HY (Road Name: Ales Road Segment: e/o N	sandro	BI.			Project Name: Meridian South Campus Job Number: 12761								
SITE SPECII	FIC IN	PUT DATA			NOISE MODEL INPUTS								
Highway Data				5	Site Conditions (Hard = 10, Soft = 15)								
Average Daily Traffic (Adt):	69,675 vehicle	es				,	Autos:	15				
Peak Hour Percent	tage:	7.73%			Medium Trucks (2 Axles): 15								
Peak Hour Vol	ume:	5,386 vehicles	S		Heavy Trucks (3+ Axles): 15								
Vehicle Sp	eed:	55 mph		١	Vehicle Mix								
Near/Far Lane Dista	nce:	72 feet			Veh	icleType		Day	Evening	Night	Daily		
Site Data						-	Autos:	71.1%	10.9%	18.0%	91.429		
Barrier He	iaht:	0.0 feet			Me	edium Ti	rucks:	73.6%	7.7%	18.6%	4.649		
Barrier Type (0-Wall, 1-Be	erm):	0.0			Heavy Trucks: 75.6% 6.7% 17.8% 3.9								
Centerline Dist. to Ba		60.0 feet			Voise Sc	urce El	evations	(in fe	et)				
Centerline Dist. to Obse		60.0 feet				Auto	s: 0.0	000					
	Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet						s: 2.2	297					
Observer Height (Above I		Heav	y Truck	s: 8.0	004	Grade Adj	ustment	: 0.0					
Pad Elevation: 0.0 feet						•							
Road Eleva		0.0 feet			ane Eq			•	eet)				
Road G		0.0%				Auto							
Left \		-90.0 degree				m Truck							
Right \	/iew:	90.0 degree	es		Heav	y Truck	s: 48.0)94					
FHWA Noise Model Calcu													
VehicleType REM		Traffic Flow	Dis	stance	Finite		Fresn	_	Barrier Atte		m Atter		
Autos:	71.78	4.21			0.13 -1.20 -4.69 0.000						0.00		
Medium Trucks:	82.40	-8.73		0.15		-1.20		-4.88	0.0		0.00		
Heavy Trucks:	86.40	-9.44		0.15		-1.20		-5.34	0.0	100	0.00		
VehicleType Lea Pe	•						N E - In A		Ldn		NEL		
VehicleType Leq Pe	ак пои 74	. , . ,	73.8	Leq Ev	71.7	Leq	Night 69.0		76.4		76		
Medium Trucks:	72		71.6		67.8		66.9		74.2		74		
Heavy Trucks:	75		75.0		70.5		70.0		77.4	-	77.		
Vehicle Noise:	79		78.5		75.0		73.6		81.0		81		
Centerline Distance to No	ise Co	ntour (in feet)										
				70 c	IRA .	65	dBA	6	0 dBA	55	dBA		
								323 695 1,					
			Ldn:	,,,,		-	695		1,498		3,22		

	FHW <i>F</i>	A-RD-77-108	HIGHWA'	NOISE P	REDICTION	ON MOD	EL				
Scenario: H' Road Name: Al Road Segment: w/	essandro B					Name: M ımber: 12		South Cam	pus		
SITE SPEC	CIFIC INP	UT DATA			N	OISE M	ODEL	INPUTS			
Highway Data				Site Cor	nditions (Hard = 1	0, Soft	= 15)			
Average Daily Traffi	ic (Adt): 4	8,211 vehicle	s	Autos: 15							
Peak Hour Perce	entage:	7.73%		Medium Trucks (2 Axles): 15							
Peak Hour V	/olume: 3	,727 vehicles		Heavy Trucks (3+ Axles): 15							
Vehicle	Speed:	45 mph		Vehicle	Mix						
Near/Far Lane Di	stance:	82 feet			nicleType	E	ay E	vening N	ight Daily		
Site Data					A	utos: 7	1.1%		8.0% 91.43%		
Barrier I	Heiaht:	0.0 feet		I.	ledium Tr	ucks: 7	3.6%	7.7% 1	8.6% 4.63%		
Barrier Type (0-Wall, 1	-Berm):	0.0			Heavy Tr	ucks: 7	5.6%	6.7% 1	7.8% 3.93%		
Centerline Dist. to		67.0 feet		Noise S	ource Ele	vations	(in feet)			
Centerline Dist. to Ob		67.0 feet			Autos	: 0.00	00				
	Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet					: 2.29	97				
Observer Height (Abov		Hea	vy Trucks	: 8.00)4 G	rade Adjust	tment: 0.0				
	Pad Elevation: 0.0 feet					D/	/! f	4)			
Road Ele		0.0 feet		Lane Eq	uivalent		•	t)			
		0.0%		A 4 = = 65	Autos m Trucks						
		-90.0 degree			ım Trucks vy Trucks						
Rigi	nt View:	90.0 degree	s	пеа	vy mucks	. 55.0	70				
FHWA Noise Model Cal	lculations										
		raffic Flow	Distance		Road	Fresne		rrier Atten	Berm Atten		
Autos:	68.46	3.49).51	-1.20		4.71	0.000			
Medium Trucks:	79.45	-9.46).49	-1.20		4.88	0.000			
Heavy Trucks:	84.25	-10.17).49	-1.20	-	5.29	0.000	0.000		
Unmitigated Noise Lev											
., .	Peak Hour	Leq Day		Evening	Leq N	_	Lo	dn	CNEL		
Autos:	70.2		39.1	67.0		64.4			72.1		
Medium Trucks:	68.3		37.3	63.5		62.6		69.9	70.2		
Heavy Trucks: 72.4 71.5 Vehicle Noise: 75.4 74.4				67.0 70.9		66.5 69.5		73.8 76.9	74. ⁻ 77.2		
Centerline Distance to	Noise Con	tour (in feet)									
		, , , , , ,	7	'0 dBA	65 d	IBA	60	dBA	55 dBA		
			dn:	193 416 896			1,930				
		CN	IEL:	202 434 936				2,016			

	FH\	WA-RD-77-108	HIGH	HWAY	NOISE P	REDICTI	ON MO	DEL						
Road Nam	io: HY (Propos ne: Alessandro nt: e/o Day St.	Bl.					Name: umber:		an South C	ampus				
SITE	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS									
Highway Data					Site Conditions (Hard = 10, Soft = 15)									
Average Daily	Traffic (Adt):	47,524 vehicle	es					Autos:	15					
Peak Hour	Percentage:	7.73%			Me	edium Tru	icks (2)	4xles):	15					
Peak H	lour Volume:	3,674 vehicles	S		He	eavy Truc	ks (3+)	4xles):	15					
Ve	hicle Speed:	45 mph			Vehicle	Miv								
Near/Far La	ne Distance:	82 feet				icleType		Day	Evening	Night	Daily			
Site Data							lutos:	71.1%		18.09	,			
Par	rrier Height:	0.0 feet			М	edium Tr	ucks:	73.6%	7.7%	18.69	4.64%			
Barrier Type (0-W		0.0				Heavy Tr	ucks:	75.6%	6.7%	17.89	3.94%			
Centerline Dis		67.0 feet												
	Centerline Dist. to Observer: 67.0 feet						Noise Source Elevations (in feet)							
	Barrier Distance to Observer: 0.0 feet							000						
	Observer Height (Above Pad): 5.0 feet							297						
	Pad Elevation: 0.0 feet					vy Trucks	s: 8.	004	Grade Adj	justmer	t: 0.0			
	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distan	ce (in	feet)					
	Road Grade:	0.0%				Autos		226	,					
	Left View:	-90.0 degree	20		Mediu	m Trucks	: 53	059						
	Right View:	90.0 degree			Heavy Trucks: 53.076									
FHWA Noise Mode	el Calculation	s												
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresr	nel	Barrier Atte	en Be	rm Atten			
Autos:	68.46	3.42		-0.	51	-1.20		-4.71	0.0	000	0.000			
Medium Trucks:	79.45	-9.52		-0.4	49	-1.20		-4.88	0.0	000	0.000			
Heavy Trucks:	84.25	-10.23		-0.4	49	-1.20		-5.29	0.0	000	0.000			
Unmitigated Noise	Levels (with	out Topo and	barrie	er atte	nuation)									
VehicleType	Leq Peak Ho	ur Leq Day	′	Leq E	vening	Leq	Night		Ldn	(NEL			
Autos:	70).2	69.0		66.9		64.3	3	71.7	7	72.0			
Medium Trucks:	68	3.2	67.2		63.5		62.5	5	69.8	3	70.1			
Heavy Trucks:	72	2.3	71.4		66.9 66.4 73.8					3	74.0			
Vehicle Noise:	75	5.3	74.3		70.8		69.5	5	76.8	3	77.1			
Centerline Distance	ce to Noise Co	ontour (in feet)											
				70	dBA	65 (dBA	- (60 dBA	5	5 dBA			
			Ldn:		191		412		887		1,912			
	CNEL:				200 430 927					1,997				

Friday, April 24, 20	020
----------------------	-----

	FH\	WA-RD-77-108	HIGHW	VAY NO	DISE P	REDICT	TION MO	DEL							
	io: HY (Propos e: Cactus Av. nt: e/o Innovat	,					t Name: Number:		an South C	ampus					
	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15)										
Highway Data				S	ite Cor	ditions	(Hard =	10, S	oft = 15)						
Peak H	Percentage: lour Volume:	34,482 vehicle 7.73% 2,665 vehicles					rucks (2) icks (3+)	,	15						
	hicle Speed:	45 mph		Vehicle Mix											
Near/Far Lai	ne Distance:	80 feet			Veh	icleTyp	е	Day	Evening	Night	Daily				
Site Data							Autos:	71.1%	6 10.9%	18.0%	91.42%				
Bai	rier Height:	0.0 feet			M	edium T	rucks:	73.6%	6 7.7%	18.6%	4.64%				
Barrier Type (0-W		0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.94%				
Centerline Dis	st. to Barrier:	60.0 feet		N	oise S	ource E	levation	s (in f	eet)						
Centerline Dist.	to Observer:	60.0 feet		<u> </u>		Auto		000	,						
Barrier Distance	Barrier Distance to Observer: 0.0 feet						Medium Trucks: 2.297								
	Observer Height (Above Pad): 5.0 feet Pad Flevation: 0.0 feet							004	Grade Adj	ustmen	t: 0.0				
Pa	_														
	ad Elevation:	0.0 feet		Li	ane Eq		t Distan	_	feet)						
I	Road Grade:	0.0%				Auto									
	Left View: Right View:	-90.0 degree			Medium Trucks: 44.803 Heavy Trucks: 44.822										
FHWA Noise Mode						,									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresr	el	Barrier Atte	en Be	rm Atten				
Autos:	68.46	2.03		0.58		-1.20		-4.69	0.0	100	0.000				
Medium Trucks:	79.45	-10.92		0.61		-1.20		-4.88	0.0	00	0.000				
Heavy Trucks:	84.25	-11.63		0.61		-1.20		-5.34	0.0	00	0.000				
Unmitigated Noise	Levels (with	out Topo and	barrier	attenu	ation)										
VehicleType	Leq Peak Hot	ur Leq Day	/ L	Leq Eve	ening	Leq	Night		Ldn	-	NEL				
Autos:			68.7		66.6		64.0		71.4		71.7				
Medium Trucks:			66.9		63.2		62.2	-	69.5		69.8				
Heavy Trucks:			71.1		66.6		66.1		73.5		73.7				
Vehicle Noise:			74.0		70.5		69.2	!	76.5	•	76.8				
Centerline Distanc	e to Noise C	ontour (in feet)	70 dE	DA.	C.	dBA		eo aba		5 dBA				
			l dn:	70 at	3A 164	00	353	60 dBA		- 50	1.637				
			Lan: NFI :	164 353 760 171 368 794				1,037							
		Ci	VLL.		17.1		300		194		1,710				

Scenario: HY (Proposed) Road Name: Cactus Av.			Project	Mamai						
Road Segment: w/o Innovation Dr.		Project Name: Meridian South Campus Job Number: 12761								
SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS								
Highway Data		Site Conditions (Hard = 10, Soft = 15)								
Average Daily Traffic (Adt): 29,054 vehicle	s				Autos:	15				
Peak Hour Percentage: 7.73%		Medium Trucks (2 Axles): 15								
Peak Hour Volume: 2,246 vehicles		Heavy Trucks (3+ Axles): 15								
Vehicle Speed: 45 mph		Vehicle Mix								
Near/Far Lane Distance: 80 feet		1	/ehicleType		Day	Evening	Night	Daily		
Site Data			,	Autos:	71.1%	10.9%	18.0%	91.43		
Barrier Height: 0.0 feet			Medium T	rucks:	73.6%	7.7%	18.6%	4.64		
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy T	rucks:	75.6%	6.7%	17.8%	3.94		
Centerline Dist. to Barrier: 60.0 feet		Noise Source Elevations (in feet)								
Centerline Dist. to Observer: 60.0 feet			Auto		.000	,				
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297								
Observer Height (Above Pad): 5.0 feet			leavv Truck		.004	Grade Ad	justment	: 0.0		
Pad Elevation: 0.0 feet		-								
Road Elevation: 0.0 feet		Lane	Equivalent			leet)				
Road Grade: 0.0%			Auto		.000					
Left View: -90.0 degree		Medium Trucks: 44.803								
Right View: 90.0 degree	S	Heavy Trucks: 44.822								
FHWA Noise Model Calculations										
VehicleType REMEL Traffic Flow	Distant		nite Road	Fres		Barrier Att		m Atter		
Autos: 68.46 1.29		0.58	-1.20		-4.69		000	0.00		
Medium Trucks: 79.45 -11.66		0.61	-1.20		-4.88		000	0.00		
Heavy Trucks: 84.25 -12.37		0.61	-1.20		-5.34	0.0	000	0.00		
Unmitigated Noise Levels (without Topo and I					1		_			
VehicleType Leq Peak Hour Leq Day		q Evenin		Night		Ldn		NEL		
	0.88	-	5.9	63.	_	70.6	-	71		
	6.2	-	2.4	61.	-	68.8	-	69		
	70.4		5.9 9.8	65. 68.	•	72.8 75.8		73 76		
* 57.110.1 TUISO. 17.0 I	0.0	0		00.		, 5.0		70		
Onestadian Distance to Malan Onest (1.1.1.1)										
Centerline Distance to Noise Contour (in feet)		70 dBA	65	dBA	6	60 dBA	55	dBA		
	dn:		65 46	dBA 315		678 678		dBA 1.46		

FH	WA-RD-77-108 H	IIGHWAY	NOISE P	REDICT	ION MOI	DEL				
Scenario: HY (Propo Road Name: Cactus Av Road Segment: w/o Elswor					t Name: N lumber: 1		an South Ca	ampus		
SITE SPECIFIC II	NPUT DATA						L INPUTS	;		
Highway Data			Site Conditions (Hard = 10, Soft = 15)							
Average Daily Traffic (Adt):	62,832 vehicles		Autos: 15							
Peak Hour Percentage:	7.73%		Medium Trucks (2 Axles): 15							
Peak Hour Volume:	4,857 vehicles		Heavy Trucks (3+ Axles): 15							
Vehicle Speed:	50 mph		Vehicle	Mix						
Near/Far Lane Distance:	82 feet			icleType	9 .	Day	Evening	Night	Daily	
Site Data					Autos:	71.1%	10.9%	18.0%	91.33%	
Barrier Height:	0.0 feet		Medium Trucks: 73.6% 7.7% 18.6%							
Barrier Type (0-Wall, 1-Berm):	0.0		Medium Trucks: 73.6% 7.7% 18.6% 4.65 Heavy Trucks: 75.6% 6.7% 17.8% 4.03							
Centerline Dist. to Barrier:	67.0 feet		Noise Source Elevations (in feet)							
Centerline Dist. to Observer:	67.0 feet		Autos: 0.000							
Barrier Distance to Observer:	0.0 feet		Mediu	m Truck						
Observer Height (Above Pad):			vy Truck			Grade Adju	ıstment	0.0		
Pad Elevation:		11001	y much	. 0.0	10-1	Orado riaje		. 0.0		
Road Elevation:	0.0 feet		Lane Eq	uivalen	t Distanc	e (in	feet)			
Road Grade:	0.0%			Auto						
Left View:	-90.0 degrees		m Truck							
Right View:	90.0 degrees		Hear	y Truck	rs: 53.0	076				
FHWA Noise Model Calculation	ıs									
VehicleType REMEL	Traffic Flow	Distance	Finite	Road	Fresn	el	Barrier Atte	n Ber	m Atten	
Autos: 70.20	4.17	-0.	51	-1.20		4.71	0.0	00	0.000	
Medium Trucks: 81.00		-0.		-1.20	.20 -4.		0.0		0.000	
Heavy Trucks: 85.38	-9.38	-0.4	49	-1.20		-5.29	0.0	00	0.000	
Unmitigated Noise Levels (with										
VehicleType Leq Peak Ho			Evening		Night		Ldn	CI	VEL	
		1.5	69.4		66.8		74.2		74.5	
		9.5	65.8		64.8		72.1		72.4	
,		3.4 6.5	68.9 73.1		68.4 71.7		75.8 79.0		76.0 79.3	
							75.0		70.0	
Centerline Distance to Noise C	70	0 dBA 65 dBA		60 dBA		55	dBA			
Ldn:										
	L		268	03	578		1.246	33	2.684	

Friday, April 24, 2020

	FHV	WA-RD-77-108	HIGH	IWAY I	NOISE P	REDICT	ION MO	DDEL					
Road Nan	rio: HY (Propos ne: Cactus Av. ent: e/o Elswort	,			Project Name: Meridian South Campus Job Number: 12761								
SITE	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS								
Highway Data					Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	61,578 vehicle	es		Autos: 15								
Peak Hour	Percentage:	7.73%			Medium Trucks (2 Axles): 15								
Peak F	lour Volume:	4,760 vehicle	s		He	eavy Tru	cks (3+	Axles):	15				
Ve	ehicle Speed:	50 mph		ŀ	Vehicle	Mix							
Near/Far La	ane Distance:	82 feet		l		icleType	,	Day	Evening	Night	Daily		
Site Data							Autos:	71.1%	10.9%	18.0%	91.32%		
Ra	rrier Height:	0.0 feet			M	edium T	rucks:	73.6%	7.7%	18.6%	4.65%		
Barrier Type (0-V		0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	4.03%		
	ist. to Barrier:	67.0 feet		-	Maisa S	ourco El	lovation	ac (in f	201				
Centerline Dist.	to Observer:	67.0 feet		-	Noise Source Elevations (in feet) Autos: 0.000								
Barrier Distance	to Observer:	0.0 feet			Modis	Auto m Truck		297					
Observer Height	Observer Height (Above Pad): 5.0 feet							.004	Grade Ad	livetmant	. 0 0		
F	Pad Elevation: 0.0 feet					vy Truck	S. 0	.004	Orade Ad	justinoni	0.0		
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalen	Distar	ice (in	feet)				
	Road Grade:	0.0%				Auto	s: 53	3.226					
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 53	.059					
	Right View:	90.0 degree	es		Heavy Trucks: 53.076								
FHWA Noise Mod	el Calculation	s											
VehicleType	REMEL	Traffic Flow	Dis	stance					Barrier Att	rier Atten Berr			
Autos:		4.09		-0.5	51		-4.71	1.71 0.000		0.000			
Medium Trucks:	81.00	-8.85		-0.4	19	-1.20		-4.88	0.0	000	0.000		
Heavy Trucks:	85.38	-9.47		-0.4	19	-1.20		-5.29	0.0	000	0.000		
Unmitigated Nois	e Levels (with	out Topo and	barri	er attei	nuation)								
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn		NEL		
Autos:			71.4		69.3		66		74.		74.4		
Medium Trucks:			69.5		65.7		64		72.		72.3		
Heavy Trucks:			73.3		68.8 68.3 75.7 73.0 71.6 79.0						75.9		
Vehicle Noise:	Vehicle Noise: 77.5 76.5						71	.6	79.0)	79.2		
Centerline Distan	ce to Noise Co	ontour (in feet)	70	-10.4	05	-1D 4		20 -/D4		-10.4		
			Ldn:	70	dBA	05	dBA 57	60 dBA		55 dBA			
		0			265 571 1,229 277 596 1,285				2,648 2.768				
	CNEL:						59	O	1,285	,	2,768		

Friday, April 24, 20	020
----------------------	-----

	FH'	NA-RD-7	7-108 HIG	HWAY	NOISE P	REDICT	TION MOI	DEL							
	o: HY (Propo e: Cactus Av. nt: e/o Grahar	•					t Name: I Number: 1		n South Ca	ampus					
SITE S	SPECIFIC II	IPUT D	ATA				NOISE N	IODEL	INPUTS	5					
Highway Data					Site Conditions (Hard = 10, Soft = 15)										
Average Daily	Traffic (Adt):	57,527	vehicles		Autos: 15										
Peak Hour	Percentage:	7.73%			Me	edium T	rucks (2 A	(xles	15						
Peak H	our Volume:	4,447 v	ehicles		Heavy Trucks (3+ Axles): 15										
Vei	hicle Speed:	50 m	nph		Vehicle Mix										
Near/Far Lar	ne Distance:	82 fe	eet			nicleTyp	P	Day	Evening	Night	Daily				
Site Data					*0,			71.1%	10.9%	18.0%	,				
Pos	rier Height:	0.0	foot		N	fedium ī	Trucks:	73.6%	7.7%	18.6%					
Barrier Type (0-W		0.0	reet			Heavy 1		75.6%	6.7%	17.8%					
Centerline Dis		67.0 1	foot												
Centerline Dist			Noise S		levations	•	et)								
	Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet						Autos: 0.000								
	Observer Height (Above Pad): 5.0 feet					ım Truci		297							
	Pad Elevation: 0.0 feet						ks: 8.0	004	Grade Adji	ustment	: 0.0				
	Road Flevation: 0.0 feet						t Distanc	e (in fe	eet)						
	Road Grade:	0.0%				Auto			,						
•	Left View:		degrees		Mediu	ım Truci	ks: 53.0	059							
	Right View:		degrees		Heavy Trucks: 53.076										
FHWA Noise Mode	el Calculation	s													
VehicleType	REMEL	Traffic I	Flow D	istance	Finite	Road	Fresn	el E	Barrier Atte	en Bei	m Atten				
Autos:	70.20		3.79	-0.	51	-1.20		-4.71	0.0	00	0.000				
Medium Trucks:	81.00		-9.14	-0.4	0.49 -1.20 -4.88 0.000						0.000				
Heavy Trucks:	85.38		-9.75	-0.4		-1.20		-5.29	0.0	00	0.000				
Unmitigated Noise	•			_											
,,, .	Leq Peak Ho		eq Day		vening		Night		Ldn		NEL				
Autos:		2.3	71.1		69.0		66.4		73.8		74.2				
Medium Trucks:).2	69.2		65.4		64.5		71.8		72.0				
Heavy Trucks:		3.9	73.0		68.5 72.7		68.0		75.4		75.6				
	Vehicle Noise: 77.2 76.2					,	71.3	i	78.7		79.0				
Centerline Distance	e to Noise C	ontour (i	n feet)	70	dBA	65	i dBA	60) dBA	55 dBA					
			I dn		253 546						2.533				
			CNFI:		265		570		1,229		2,647				
			37122		200		0.0		.,220		_,0 11				

Coonario	. UV (Droppe	od)				Project A	lome:	Moridia	n South C	ompue			
Scenario: HY (Proposed) Road Name: Cactus Av					Project Name: Meridian South Campus Job Number: 12761								
Road Segmen						000114	moor.	12701					
	PECIFIC IN		Λ.			NC	NISE I	MODE	L INPUT				
Highway Data	FECIFIC III	IFOI DAI			Site Cor	nditions (F							
Average Daily T	raffic (Adt):	65.956 veh	nicles			,		Autos:	15				
Peak Hour F	. ,	7.73%	110103		Me	edium Truc							
	our Volume:	5.098 vehi	cles			eavy Truck							
Veh	icle Speed:	50 mph	1		Vehicle								
Near/Far Lan	e Distance:	82 feet				icleType		Day	Evening	Night	Daily		
Site Data					VC/		ıtos:	71.1%	0	18.0%	,		
	day Halabi	0.0.6	.4		I.	ledium Tru		73.6%		18.6%			
Barrier Type (0-Wa	rier Height:	0.0 fee	ı			Heavy Tru		75.6%		17.8%			
Centerline Dis	. ,	67.0 fee	t										
Centerline Dist. to		67.0 fee			Noise S	ource Ele			eet)				
Barrier Distance to	Observer:	0.0 fee				Autos:		000					
Observer Height (A	bove Pad):	5.0 fee	t			m Trucks:		297	Grade Ad	i i o 4 m o m 4			
Pa	d Elevation:	0.0 fee	t		Hea	vy Trucks:	8.	004	Grade Adj	usunent	. 0.0		
Roa	d Elevation:	0.0 fee	t		Lane Eq	uivalent L	Distan	ce (in t	eet)				
R	oad Grade:	0.0%				Autos:	53.	226					
	Left View:	-90.0 deg	grees		Mediu	m Trucks:	53.	059					
	Right View:	90.0 deg	grees		Hea	vy Trucks:	53.	076					
FHWA Noise Mode	Calculation	s											
VehicleType	REMEL	Traffic Flo	w E	istance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten		
Autos:	70.20	4.	.39	-0.	51	-1.20		-4.71	0.0	000	0.00		
Medium Trucks:	81.00	-8.	.55	-0.	49	-1.20		-4.88	0.0	000	0.00		
Heavy Trucks:	85.38	-9.	.17	-0.	49	-1.20		-5.29	0.0	000	0.00		
Unmitigated Noise	Levels (with	out Topo a	nd barı	rier atte	nuation)								
VehicleType I	Leq Peak Hou	ır Leq l	Day	Leq i	Evening	Leq N	light		Ldn	CI	NEL		
Autos:	72	2.9	71.7	,	69.6		67.0)	74.4	1	74		
Medium Trucks:		0.8	69.8		66.0		65.0		72.4		72		
Heavy Trucks:		1.5	73.6		69.1		68.6	-	76.0		76		
Vehicle Noise:	77	7.8	76.8	3	73.3		71.9	9	79.2	2	79		
Centerline Distance	e to Noise Co	ontour (in f	eet)					,					
) dBA	65 dl		1 -	i0 dBA		dBA		
			Ldn CNFI		277 290		597 624		1,286		2,77		
									1.344		2.89		

FH	WA-RD-77-108 H	IIGHWAY	NOISE P	REDICT	ION MODE	EL				
Scenario: HY (Propos Road Name: Van Buren Road Segment: w/o Wood			t Name: Me lumber: 12	eridian South C 761	Campus					
SITE SPECIFIC IN	SITE SPECIFIC INPUT DATA					DEL INPUT	s			
Highway Data			Site Con	ditions	(Hard = 10)), Soft = 15)				
Average Daily Traffic (Adt):	53,119 vehicles				Au	tos: 15				
Peak Hour Percentage:	7.73%		Me	edium Ti	ucks (2 Axi	les): 15				
Peak Hour Volume:	4,106 vehicles		He	avy Tru	icks (3+ Axi	les): 15				
Vehicle Speed:	50 mph		Vehicle	Miv						
Near/Far Lane Distance:	72 feet			icleType	e Da	ay Evening	Night	Daily		
Site Data			10			.1% 10.9%		1.44%		
			М	edium 7		3.6% 7.7%		4.63%		
Barrier Height:	0.0 feet			Heavy 7		5.6% 6.7%	17.8%	3.93%		
Barrier Type (0-Wall, 1-Berm): Centerline Dist. to Barrier:	0.0 60.0 feet						17.070	0.0070		
Centerline Dist. to Observer:	60.0 feet		Noise Source Elevations (in feet)							
				Auto	os: 0.00	0				
Barrier Distance to Observer: 0.0 feet			Medium Trucks: 2.297							
Observer Height (Above Pad): Pad Elevation:	5.0 feet 0.0 feet		Hear	y Truck	rs: 8.00	4 Grade Ad	ljustment: 0	.0		
Pad Elevation: Road Flevation:	Lane Equivalent Distance (in feet)									
Road Grade:	Autos: 48.260									
I eft View:	0.0% -90.0 degrees		Madiu	m Truck						
Right View:	90.0 degrees			vy Truck		-				
rtight view.	90.0 degrees		77041	ry much	3. 40.00	T				
FHWA Noise Model Calculation	s									
VehicleType REMEL	Traffic Flow	Distance	_	Road	Fresnel	Barrier At				
Autos: 70.20	3.45	-	.13	-1.20			000	0.000		
Medium Trucks: 81.00	-9.51	-	.15	-1.20			000	0.000		
Heavy Trucks: 85.38	-10.22	0.	.15	-1.20	-5	.34 0.	000	0.000		
Unmitigated Noise Levels (with										
VehicleType Leq Peak Hou			Evening		Night	Ldn	CNE			
Autos: 72		1.4	69.3		66.7	74.		74.4		
		9.4	65.7		64.7	72.	-	72.3		
Heavy Trucks: 74 Vehicle Noise: 77		3.2 6.4	68.7 72.9		68.2 71.5	75. 78.		75.8 79.2		
						70.	-			
Centerline Distance to Noise Co	ontour (in feet)	7() dBA	65	dBA	60 dBA	55 dE	3 <i>A</i>		
	L	dn:	235		507	1.092		2.353		

	FHV	VA-RD-77-108	HIGH	HWAY I	NOISE P	REDICT	ION M	ODEL					
Scenario: HY (Proposed) Road Name: Van Buren Bl. Road Segment: e/o Wood Rd.					Project Name: Meridian South Campus Job Number: 12761								
SITE	SPECIFIC IN	PUT DATA				N	IOISE	MODE	L INPUT	S			
Highway Data					Site Cor	ditions	(Hard	= 10, Sc	oft = 15)				
Average Daily	Traffic (Adt):	50,214 vehicle	es					Autos:	15				
Peak Hour	Percentage:	7.73%			Me	edium Tr	ucks (2	Axles):	15				
Peak F	lour Volume:	3,882 vehicle	s		He	avy Tru	cks (3+	Axles):	15				
	hicle Speed:	50 mph		ŀ	Vehicle	Mix							
Near/Far La	ne Distance:	72 feet		ŀ	Veh	icleType		Day	Evening	Night	Daily		
Site Data							Autos:	71.1%	10.9%	18.0%	91.44%		
Ra	rrier Height:	0.0 feet			M	edium T	rucks:	73.6%	7.7%	18.6%	4.63%		
Barrier Type (0-W		0.0				Heavy T	rucks:	75.6%	6.7%	17.8%	3.93%		
Centerline Di	st. to Barrier:	60.0 feet		-	Noise S	ource Fl	ovatio	ne (in fa	not)				
Centerline Dist.	to Observer:	60.0 feet		F	710700 01	Auto		0.000	,,,,				
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297					
Observer Height	(Above Pad):	5.0 feet				vy Truck		3.004	Grade Ad	iustment	. 0 0		
P	ad Elevation:	0.0 feet		L	i ica	vy Truck	s. c	3.004	Orado ria	juoumom	0.0		
Road Elevation: 0.0 feet					Lane Equivalent Distance (in feet)								
	Road Grade:	0.0%				Auto	s: 48	3.260					
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 48	3.076					
	Right View:	90.0 degree	es		Hea	vy Truck	s: 48	3.094					
FHWA Noise Mod	el Calculation:	s											
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	snel	Barrier Att	en Ber	m Atten		
Autos:	70.20	3.21		0.1	3	-1.20		-4.69	0.0	000	0.00		
Medium Trucks:	81.00	-9.75		0.1	5	-1.20		-4.88	0.0	000	0.000		
Heavy Trucks:	85.38	-10.46		0.1	5	-1.20		-5.34	0.0	000	0.000		
Unmitigated Noise	e Levels (with	out Topo and	barri	er atter	nuation)								
VehicleType	Leq Peak Hou	ır Leq Day		Leq E	vening	Leq	Night		Ldn		NEL		
Autos:	72	.3	71.2		69.1		66	.5	73.8	В	74.2		
Medium Trucks:	70	.2	69.2		65.4		64	.5	71.8	В	72.		
Heavy Trucks:	73		73.0		68.5		67		75.3		75.6		
Vehicle Noise:	77	.2	76.2		72.7		71	.3	78.	7	78.9		
Centerline Distant	ce to Noise Co	ontour (in feet)										
			L	70	dBA	65	dBA		60 dBA		dBA		
		_	Ldn:		227		48	-	1,052		2,266		
		С	NEL:		237		51	0	1,099	1	2,368		

Friday, April 24, 202

	FHV	VA-RD-77-108	HIGHV	WAY NO	DISE P	REDICT	ION MO	DDEL					
Scenario: HY (Proposed) Road Name: Van Buren Bl. Road Segment: e/o Barton St.					Project Name: Meridian South Campus Job Number: 12761								
	PECIFIC IN	PUT DATA							L INPUT	5			
Highway Data				Si	ite Cor	ditions	(Hard :	_	oft = 15)				
Average Daily T	. ,	44,206 vehicle	es					Autos:					
Peak Hour F		7.73%				edium Ti		,					
	our Volume:	3,417 vehicle	S		He	eavy Tru	CKS (3+	Axies):	15				
	icle Speed:	55 mph		Ve	ehicle	Mix							
Near/Far Lan	e Distance:	72 feet			Veh	icleTyp	9	Day	Evening	Night	Daily		
Site Data							Autos:	71.1%	10.9%	18.0%	91.47%		
Barr	ier Height:	0.0 feet				ledium 7		73.6%		18.6%			
Barrier Type (0-Wa	ıll, 1-Berm):	0.0				Heavy 1	rucks:	75.6%	6.7%	17.8%	3.92%		
Centerline Dist	t. to Barrier:	60.0 feet		N	nise Si	ource E	levatio	ns (in f	oet)				
Centerline Dist. to	Observer:	60.0 feet			0,00 0	Auto		0.000	301)				
Barrier Distance to	Observer:	0.0 feet			Mediu	m Truck		297					
Observer Height (A	,	5.0 feet				vv Truck		3.004	Grade Ad	ustment	0.0		
	d Elevation:	0.0 feet		_									
	d Elevation:	0.0 feet		Lá	ane Eq	uivalen			feet)				
R	oad Grade:	0.0%			14	Auto m Truck		3.260 3.076					
	Left View: Right View:	-90.0 degree				m Truci vy Truci		3.076					
			75		1100	vy macr	io. +c	7.004					
FHWA Noise Model			D: -		F				B : 4::	1.0			
VehicleType Autos:	REMEL 71.78	Traffic Flow 2.24	Dista	ance 0.13	Finite	Road -1.20	Fres	-4.69	Barrier Atte	_	m Atten		
Medium Trucks:	71.78 82.40	-10.73		0.13		-1.20		-4.88	0.0		0.00		
Heavy Trucks:	86.40	-11.44		0.15		-1.20		-5.34	0.0		0.000		
Unmitigated Noise		out Tono and	harrior		ation)								
-	eg Peak Hou			Leg Eve		Lea	Night		Ldn	C	NEL		
Autos:	72		71.8	,	69.7		67	.1	74.4		74.8		
Medium Trucks:	70	.6	69.6		65.8		64	.9	72.2	2	72.		
Heavy Trucks:	73	.9	73.0		68.5		68	.0	75.4		75.6		
Vehicle Noise:	77	.5	76.5		73.1		71	.6	79.0)	79.3		
Centerline Distance	to Noise Co	ntour (in feet)										
·				70 dE	BA	65	dBA	(60 dBA	55	dBA		
			Ldn:		238		51	-	1,103		2,377		
		C	NEL:		249		53	5	1,154		2,485		

	FHW	/A-RD-77-108	HIGHW	AY NO	ISE PR	REDICTIO	м мо	DEL					
Scenario Road Name		Project Name: Meridian South Campus Job Number: 12761											
Road Segmen	t: w/o Barton S	St.											
	PECIFIC IN	PUT DATA				NC	ISE I	MODE	L INPUT	s			
Highway Data				Si	te Con	ditions (F	lard =	10, Sc	ft = 15)				
Average Daily 1	raffic (Adt):	47,830 vehicle	es					Autos:	15				
Peak Hour I	Percentage:	7.73%			Me	dium Truc	ks (2)	Axles):	15				
Peak Ho	our Volume:	3,697 vehicles	3		He	avy Truck	is (3+)	Axles):	15				
Veh	icle Speed:	50 mph		Ve	hicle N	Nix							
Near/Far Lan	e Distance:	72 feet				cleType		Day	Evening	Night	Daily		
Site Data						Αι	ıtos:	71.1%	10.9%	18.0%	91.47		
Ran	rier Heiaht:	0.0 feet			Мє	edium Tru	cks:	73.6%	7.7%	18.6%	4.619		
Barrier Type (0-Wa		0.0			F	łeavy Tru	cks:	75.6%	6.7%	17.8%	3.92		
Centerline Dis	t. to Barrier:	60.0 feet		No	ise So	urce Ele	vation	s (in fe	eet)				
Centerline Dist. t		60.0 feet				Autos:	_	000					
Barrier Distance to		0.0 feet			Mediur	n Trucks:		297					
Observer Height (A	,	5.0 feet				y Trucks:		004	Grade Ad	iustment	0.0		
	d Elevation:	0.0 feet		_									
Road Elevation: 0.0 feet					Lane Equivalent Distance (in feet)								
R	Road Grade:	0.0%				Autos:		260					
	Left View:	-90.0 degree				n Trucks:		076					
	Right View:	90.0 degree	es		Heav	y Trucks:	48.	094					
FHWA Noise Mode													
VehicleType	REMEL	Traffic Flow	Dista		Finite		Fresi		Barrier Att		m Atter		
Autos:	70.20	3.00		0.13		-1.20		-4.69		000	0.00		
Medium Trucks:	81.00	-9.98		0.15		-1.20		-4.88		000	0.00		
Heavy Trucks:	85.38	-10.69		0.15		-1.20		-5.34	0.0	000	0.00		
Unmitigated Noise	•	-											
VehicleType Autos:	Leq Peak Hou 72		71.0	eq Eve	68.9	Leq N	ignt 66.2		Ldn 73.6	-	VEL 74		
Medium Trucks:	72.	-	69.0		65.2		64.3	_	73.6		74.		
Heavy Trucks:	70.	-	72.8		68.2		67.	-	71.0		71.		
Vehicle Noise:	76.		75.9		72.5		71.		78.4		78		
Centerline Distance					. 2.0			•	. 0	•	.0		
	e to Noise Co	inour (in feet	,	70 dE	RA.	65 dl	BA	6	iO dBA	55	dBA		
Centernine Distance													
Centernile Distance			Ldn:	70 02	219		472	!	1,017		2,19		

FHV	VA-RD-77-108 F	HIGHWAY	NOISE P	REDICT	ION MOD	EL				
Scenario: HY (Propos Road Name: Van Buren Road Segment: w/o Orange			t Name: M lumber: 12	eridian South 1761	Camp	ous				
	SITE SPECIFIC INPUT DATA					DDEL INPL				
Highway Data			Site Con	ditions	(Hard = 1)	0, $Soft = 15$)				
Average Daily Traffic (Adt):	51,491 vehicles	3			A	utos: 15				
Peak Hour Percentage:	7.73%		Ме	edium Ti	ucks (2 Ax	les): 15				
Peak Hour Volume:	3,980 vehicles		He	avy Tru	cks (3+ Ax	les): 15				
Vehicle Speed:	55 mph		Vehicle	Mix						
Near/Far Lane Distance:	72 feet			icleType	e D	ay Evenin	a Ni	ght Daily		
Site Data						1.1% 10.9	,	3.0% 90.62%		
Barrier Height:	0.0 feet		М	edium 7	rucks: 7	3.6% 7.79	% 18	3.6% 4.72%		
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy 7	rucks: 7	5.6% 6.7	% 17	7.8% 4.66%		
Centerline Dist. to Barrier:	60.0 feet									
Centerline Dist. to Observer:	60.0 feet		Noise Source Elevations (in feet)							
Barrier Distance to Observer:	0.0 feet			Auto						
Observer Height (Above Pad):				Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0						
Pad Elevation:	0.0 feet		Hear	y Truck	s: 8.00	4 Grade	Aajusti	ment: 0.0		
Road Elevation:	Lane Equivalent Distance (in feet)									
Road Grade:	0.0%			Auto	s: 48.26	60				
Left View:	-90.0 degrees	3	Mediu	m Truck	s: 48.07	76				
Right View:	90.0 degrees	3	Hear	y Truck	s: 48.09	94				
FHWA Noise Model Calculation	s		1							
VehicleType REMEL	Traffic Flow	Distance		Road	Fresne			Berm Atten		
Autos: 71.78	2.86	-	.13	-1.20			0.000	0.000		
Medium Trucks: 82.40	-9.97	-	.15	-1.20			0.000	0.000		
Heavy Trucks: 86.40	-10.02		.15	-1.20		5.34	0.000	0.000		
Unmitigated Noise Levels (with										
VehicleType Leq Peak Hou			Evening		Night	Ldn		CNEL		
Autos: 73		2.4	70.3		67.7		5.1	75.4		
Medium Trucks: 71		0.4	66.6		65.7		3.0	73.2		
Heavy Trucks: 75 Vehicle Noise: 78		4.4 7.5	69.9 74.0		69.4 72.6		6.8	77.0 80.3		
Centerline Distance to Noise Co	ontour (in feet)									
		70) dBA	65	dBA	60 dBA		55 dBA		
	L	dn:	278		599	1,2	90	2,778		
		EL:	290		625	1,3		2,903		

	FHV	VA-RD-77-108	HIGH	IWAY N	IOISE P	REDICT	ION MC	DEL						
	HY (Propos Van Buren I	BI.					: Name: lumber:		an South C	ampus				
		PUT DATA			NOISE MODEL INPUTS									
Highway Data	ECIFIC III	FUIDAIA			Site Cor				oft = 15)	3				
Average Daily Tr	affic (Adt):	52,633 vehicle	25					Autos:						
Peak Hour P	. ,	7.73%	-		Me	edium Tr	ucks (2	Axles).	15					
	ur Volume:	4,069 vehicle	s		He	avy Tru	cks (3+	Axles).	15					
Vehi	cle Speed:	55 mph			Vehicle	Miss								
Near/Far Lane	Distance:	72 feet		- 1		icleType		Dav	Evening	Night	Daily			
Site Data				-	Ven		Autos:	71.19		18.09				
		0.0 feet			M	edium T		73.6%		18.69				
Barrier Type (0-Wal	er Height:	0.0 reet 0.0				Heavy T	rucks:	75.6%		17.89				
Centerline Dist.	. ,	60.0 feet												
Centerline Dist. to		60.0 feet		,	Voise S	ource E		•	eet)					
Barrier Distance to		0.0 feet				Auto		.000						
Observer Height (Al	bove Pad):	5.0 feet			Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0									
Pad	Elevation:	0.0 feet			Hea	vy Truck	s: 8	.004	Grade Ad	jusimer	n. 0.0			
Road	Elevation:	0.0 feet		L	Lane Eq	uivalen	t Distar	ce (in	feet)					
Ro	oad Grade:	0.0%				Auto	s: 48	.260						
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 48	.076						
F	Right View:	90.0 degree	es		Hea	vy Truck	s: 48	.094						
FHWA Noise Model	Calculations	5												
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten			
Autos:	71.78	2.96		0.13		-1.20		-4.69		000	0.000			
Medium Trucks:	82.40	-9.87		0.15		-1.20		-4.88		000	0.000			
Heavy Trucks:	86.40	-9.94		0.15	5	-1.20		-5.34	0.0	000	0.000			
Unmitigated Noise L	•							1		1 .				
-,	eq Peak Hou			Leq E			Night		Ldn 75.1		CNEL			
Autos: Medium Trucks:	73 71		72.5 70.5		70.4 66.7		67. 65.		75.7	_	75.5 73.3			
	71		74.5		70.0		69	-	76.9		77.1			
Heavy Trucks: Vehicle Noise:	78		77.6		74.1		72.	-	80.	-	80.4			
Centerline Distance	to Noise Co	ntour (in feet)											
Como Distance		mour (mriece		70 c	1BA	65	dBA		60 dBA	5	5 dBA			
			Ldn:		282		60	7	1,307	-	2,816			
		С	NEL:		294		634	1	1,366	i	2,943			

	FHW	A-RD-77-108	HIGHW	AY NO	DISE PI	REDICT	ION MO	DDEL						
Scenario: HY (I Road Name: Van I Road Segment: e/o N	Buren B	l.		Project Name: Meridian South Campus Job Number: 12761										
SITE SPECIF	FIC INF	UT DATA			NOISE MODEL INPUTS									
Highway Data				Si	ite Con	ditions	(Hard =	= 10, So	oft = 15)					
Average Daily Traffic (Adt): 6	9,825 vehicle	:S					Autos:	15					
Peak Hour Percent	age:	7.73%			Me	dium Tr	ucks (2	Axles):	15					
Peak Hour Volu	ıme:	5,397 vehicles	3		He	avy Tru	cks (3+	Axles):	15					
Vehicle Sp	eed:	55 mph		1/4	ehicle i	Miv								
Near/Far Lane Dista	nce:	73 feet		-		icleType	,	Day	Evening	Night	Daily			
Site Data							Autos:	71.1%	10.9%	18.0%	88.349			
Barrier Hei	iaht.	0.0 feet			М	edium T	rucks:	73.6%	7.7%	18.6%	5.00%			
Barrier Type (0-Wall, 1-Be	-	0.0			-	Heavy T	rucks:	75.6%	6.7%	17.8%	6.669			
Centerline Dist. to Ba	rrier:	55.0 feet		N	nise Sr	ource E	levatio	ns (in fe	ept)					
Centerline Dist. to Obse	rver:	55.0 feet		- 1	0,00 0	Auto		.000	,01,					
Barrier Distance to Obse	rver:	0.0 feet			Madiu	m Truck		297						
Observer Height (Above F	Pad):	5.0 feet				/y Truck		.004	Grade Ad	iustment	. 0 0			
Pad Eleva	ation:	0.0 feet								dourione	. 0.0			
Road Eleva	ation:	0.0 feet		Lá	ane Eq	uivalen			feet)					
Road Gr	rade:	0.0%				Auto		.446						
Left V	/iew:	-90.0 degree	s			m Truck		.232						
Right V	/iew:	90.0 degree	es		Heav	ry Truck	s: 41	.253						
FHWA Noise Model Calcu														
VehicleType REM		Traffic Flow	Dista		Finite	Road	Fres		Barrier Atte	en Ber	m Atten			
Autos:	71.78	4.07		1.12		-1.20		-4.67		000	0.00			
Medium Trucks:	82.40	-8.39		1.15		-1.20		-4.87		000	0.00			
Heavy Trucks:	86.40	-7.15		1.15		-1.20		-5.38	0.0	000	0.00			
Unmitigated Noise Levels	•							_						
VehicleType Leq Per Autos:	ak Hour 75.8		74.6	eq Eve	ening 72.5	Leq	Night 69		Ldn 77.3		NEL 77.			
	74.0	-	74.6 73.0		69.2		68	-	75.6		75.			
	74.0	-	78.3		73.8		73	_	80.7		80.			
Medium Trucks:	70 1	9			10.8		13		00.7		oU.			
Heavy Trucks: Vehicle Noise:	79.2 81.6		80.7		77.0		75	.8	83.1		83.			
Heavy Trucks: Vehicle Noise:	81.6	3	80.7		77.0		75	.8	83.1	1	83.			
Heavy Trucks:	81.6	3	80.7	70 dE		65	75 dBA		83.1 60 dBA		83. dBA			
Heavy Trucks: Vehicle Noise:	81.6	otour (in feet	80.7	70 dE		65		6		55				

	FH\	WA-RD-77-108	HIGH	WAY N	IOISE PE	REDICTI	ON MO	DEL						
	o: HY (Propose: Van Buren t: w/o Meridia	BI.			Project Name: Meridian South Campus Job Number: 12761									
	PECIFIC IN	IPUT DATA			NOISE MODEL INPUTS									
Highway Data					Site Con	ditions (Hard =	10, Sc	ft = 15)					
Average Daily T	raffic (Adt):	65,083 vehicle	es					Autos:	15					
Peak Hour F	Percentage:	7.73%			Me	dium Tru	cks (2 .	Axles):	15					
Peak Ho	our Volume:	5,031 vehicles	3		He	avy Truc	ks (3+ .	Axles):	15					
Veh	icle Speed:	55 mph			Vehicle I	Mix								
Near/Far Lan	e Distance:	73 feet			Veh	icleType		Day	Evening	Night	Daily			
Site Data						A	utos:	71.1%	10.9%	18.0%	88.12			
Barı	rier Heiaht:	0.0 feet			Me	edium Tr	ucks:	73.6%	7.7%	18.6%	5.029			
Barrier Type (0-Wa		0.0			F	Heavy Tr	ucks:	75.6%	6.7%	17.8%	6.85			
Centerline Dis	t. to Barrier:	55.0 feet		1	Voise Sc	urce Ele	evation	s (in fe	eet)					
Centerline Dist. to	o Observer:	55.0 feet		F		Autos		000	,					
Barrier Distance to	o Observer:	0.0 feet			Mediu	m Trucks		297						
Observer Height (A		5.0 feet				y Trucks		004	Grade Ad	justment	: 0.0			
	d Elevation:	0.0 feet				•								
	d Elevation:	0.0 feet		1	Lane Eq				eet)					
R	Road Grade:	0.0%				Autos		.446						
	Left View:	-90.0 degree				m Trucks		.232						
	Right View:	90.0 degree	es		Heav	y Trucks	: 41.	.253						
FHWA Noise Mode	l Calculation													
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite		Fresi		Barrier Att	en Ber	m Atter			
Autos:	71.78	3.76		1.1		-1.20		-4.67		000	0.00			
Medium Trucks:	82.40	-8.68		1.1		-1.20		-4.87		000	0.00			
Heavy Trucks:	86.40	-7.33		1.1	5	-1.20		-5.38	0.0	000	0.00			
Unmitigated Noise														
	Leq Peak Hou	- 1 - 7		Leq E		Leq I			Ldn	_	NEL			
Autos:	75		74.3		72.2		69.		77.0		77			
Medium Trucks:			72.7		68.9		68.	-	75.3	-	75			
Heavy Trucks:	79		78.1		73.6		73.		80.5		80			
Vehicle Noise:	81	.4	80.4		76.8		75.	5	82.9	9	83			
Centerline Distance	e to Noise Co	ontour (in feet)	70	10.4	05					10.4			
			,	70 c		65 c			iO dBA		dBA			
			Ldn: NFI:		398		858		1,848		3,98			
			415		895)	1.928		4.15					

Friday, April 24, 2020

	FHW <i>A</i>	A-RD-77-108	HIGHWA	AY N	OISE PI	REDICT	ION MO	DEL						
Scenario: HY (Road Name: Van Road Segment: e/o (Buren Bl.						t Name: lumber:		an South Ca	ampus				
SITE SPECI	FIC INP	UT DATA			NOISE MODEL INPUTS									
Highway Data				S	Site Conditions (Hard = 10, Soft = 15)									
Average Daily Traffic ('Adt): 74	4,150 vehicle	es					Autos	15					
Peak Hour Percen	tage:	7.73%			Me	dium Ti	ucks (2)	Axles)	: 15					
Peak Hour Vol	ume: 5	,732 vehicles	\$		He	avy Tru	cks (3+)	Axles)	: 15					
Vehicle Sp		55 mph		ı	ehicle l	Wix								
Near/Far Lane Dista	ance:	73 feet		F		icleType	9	Day	Evening	Night	Daily			
Site Data							Autos:	71.19	6 10.9%	18.0%	88.52%			
Barrier He	iaht.	0.0 feet			M	edium 7	rucks:	73.69	6 7.7%	18.6%	4.98%			
Barrier Type (0-Wall, 1-B		0.0			- 1	Heavy 7	rucks:	75.69	6.7%	17.8%	6.50%			
Centerline Dist. to Ba		55.0 feet			Inina Ca	voo E	levation	o (in f	0.041					
Centerline Dist. to Obse	erver:	55.0 feet		,	ioise sc	Auto		000	eet)					
Barrier Distance to Obse	erver:	0.0 feet			Modiu	Auto m Truck		000 297						
Observer Height (Above I	Pad):	5.0 feet				n Truck vy Truck		004	Grade Adj	uetman	- 0.0			
Pad Eleva	ation:	0.0 feet			i icat	y much	is. 0.	004	Grade Auj	usuncin	. 0.0			
Road Eleva	ation:	0.0 feet		L	ane Eq	uivalen	t Distan	ce (in	feet)					
Road G	rade:	0.0%				Auto	s: 41.	446						
Left 1	View:	-90.0 degree	es			m Truck		232						
Right	View:	90.0 degree	es		Heav	y Truck	s: 41.	253						
FHWA Noise Model Calcu	ılations													
VehicleType REM		raffic Flow	Distan			Road	Fresi	_	Barrier Atte		m Atten			
Autos:	71.78	4.34		1.12	-	-1.20		-4.67	0.0		0.000			
Medium Trucks:	82.40	-8.15		1.15		-1.20		-4.87	0.0		0.000			
Heavy Trucks:	86.40	-7.00		1.15		-1.20		-5.38	0.0	00	0.000			
Unmitigated Noise Levels	•		$\overline{}$	_										
VehicleType Leq Pe	ak Hour	Leq Day		eq Ev	ening 72.8	Leq	Night 70.2		Ldn 77.5		NEL 77.9			
Autos: Medium Trucks:	76.0 74.2		74.9 73.2		72.8 69.4		68.5	_	77.5 75.8		77.9 76.1			
Heavy Trucks:	79.4		78.5		74.0		73.4	-	80.8		81.0			
Vehicle Noise:		80.9		77.2		76.0		83.3		83.6				
Centerline Distance to No	oise Con	tour (in feet))											
		,/		70 a	IBA .	65	dBA		60 dBA	55	dBA			
	426 917 1,975				4,256									
		CI	VEL:		444 957 2,061 4,					4,441				

Friday, April 24, 2020 Friday, April 24, 2020

	FH'	WA-RD-77-108	HIGH	WAY N	IOISE P	REDICT	ION MC	DEL							
Road Na	me: I-215 Fwy.				Project Name: Meridian South Campus Job Number: 12761										
Road Segmi	ent: n/o Alessa	naro BI.													
	SPECIFIC II	NPUT DATA			NOISE MODEL INPUTS										
Highway Data				Site Cor	ditions	(Hard =									
Average Daily	Traffic (Adt):	151,986 vehicle	es					Autos:							
	r Percentage:	7.73%				edium Tri		,							
	Hour Volume:	, .	S		He	eavy Truc	cks (3+	Axles):	15						
	ehicle Speed:	65 mph		Vehicle	Mix										
Near/Far L	ane Distance:	130 feet	F	Veh	icleType		Day	Evening	Night	Daily					
Site Data							Autos:	71.1%	10.9%	18.09	90.46%				
R	arrier Height:	0.0 feet			М	edium T	rucks:	73.6%	7.7%	18.69	4.76%				
Barrier Type (0-1		0.0				Heavy Ti	rucks:	75.6%	6.7%	17.89	4.78%				
,,,,	Dist. to Barrier:	125.0 feet			Maina C	ource El	lovotio r	o (in f	0041						
Centerline Dist	t. to Observer:	125.0 feet		Ľ	worse 30			•	eei)						
Barrier Distance	e to Observer:	0.0 feet			1.4	Auto		.000							
Observer Height	(Above Pad):	5.0 feet			Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0										
- 1	Pad Elevation:	0.0 feet			Hea	vy Truck	s: 8	.004	Grade Au,	jusurier	ı. U.U				
Ro	oad Elevation:	0.0 feet		1	Lane Eq	uivalent	Distan	ce (in	feet)						
	Road Grade:	0.0%				Auto	s: 106	.888							
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 106	.805							
	Right View:	90.0 degre	es		Hea	vy Truck	s: 106	.813							
FHWA Noise Mod	del Calculation	ıs													
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten				
Autos		6.83		-5.0	5	-1.20		-4.79	0.0	000	0.000				
Medium Trucks	: 84.86			-5.0	5	-1.20		-4.88	0.0	000	0.000				
Heavy Trucks	: 88.18	-5.94		-5.0	5	-1.20		-5.11	0.0	000	0.000				
Unmitigated Nois	se Levels (with	out Topo and	barrie	er atten	uation)										
VehicleType	Leq Peak Ho			Leq E	vening		Night		Ldn		NEL				
Autos		5.1	74.0		71.9		69.	_	76.6	-	77.0				
Medium Trucks		2.7	71.7		67.9		66.	-	74.2	_	74.5				
Heavy Trucks		3.0	75.1		70.6		70.		77.5		77.7				
Vehicle Noise	: 79	9.6	78.6		75.2		73.	7	81.1	1	81.4				
Centerline Distar	nce to Noise C	ontour (in feet)	70	10.4		10.4			-	- 10.4				
			Lata	70 (dBA	65	dBA		60 dBA		5 dBA				
		_	Ldn: NFI:		684 1,474 3,176 716 1,542 3,322				6,843						
			/16		1,542	<u>-</u>	3,322		7,157						

Friday, April 24, 2	020
---------------------	-----

FHWA-RD-77	-108 HIGHWA	Y NOISE PR	EDICTION MOD	DEL						
Scenario: HY (Proposed) Road Name: I-215 Fwy. Road Segment: s/o Cactus Av.		Project Name: Meridian South Campus Job Number: 12761								
SITE SPECIFIC INPUT DA	TA			ODEL INPUTS						
Highway Data		Site Cond	itions (Hard =	10, Soft = 15)						
Average Daily Traffic (Adt): 159,458 ve	hicles		-	Autos: 15						
Peak Hour Percentage: 7.73%			lium Trucks (2 A							
Peak Hour Volume: 12,326 veh	nicles	Hea	vy Trucks (3+ A	xles): 15						
Vehicle Speed: 65 mp		Vehicle M	ïx							
Near/Far Lane Distance: 130 fee	t	Vehic	eleType I	Day Evening N	light Daily					
Site Data			Autos:	71.1% 10.9%	18.0% 90.47%					
Barrier Height: 0.0 fe	et	Me	dium Trucks:	73.6% 7.7%	18.6% 4.75%					
Barrier Type (0-Wall, 1-Berm): 0.0		H	eavy Trucks:	75.6% 6.7%	17.8% 4.78%					
Centerline Dist. to Barrier: 125.0 fe	et	Noise Sou	ırce Elevations	(in feet)						
Centerline Dist. to Observer: 125.0 fe	et	110,00 001	Autos: 0.0	. ,						
Barrier Distance to Observer: 0.0 fe	et	Medium	Trucks: 2.2	97						
Observer Height (Above Pad): 5.0 fe		Heavy	Trucks: 8.0	04 Grade Adjus	stment: 0.0					
Pad Elevation: 0.0 fe										
Road Elevation: 0.0 fe	et	Lane Equ	ivalent Distanc	, ,						
Road Grade: 0.0%		A des eller con	Autos: 106.8							
Left View: -90.0 de Right View: 90.0 de			Trucks: 106.8							
	grees	Heavy	11ucks. 100.0	713						
FHWA Noise Model Calculations	Distant	- Finite f	Daniel E	-1 Danie Attan	D A#					
VehicleType REMEL Traffic FI		e Finite F 5.05		el Barrier Atten						
		5.05		-4.79 0.00 -4.88 0.00						
		5.05		-5.11 0.00						
Unmitigated Noise Levels (without Topo	and harrier at	tenuation)								
		g Evening	Leg Night	Ldn	CNEL					
Autos: 75.3	74.2	72.1	69.4	76.8	77.2					
Medium Trucks: 72.9	71.9	68.1	67.1	74.5	74.7					
Heavy Trucks: 76.2	75.3	70.8	70.3	77.7	77.9					
Vehicle Noise: 79.8	78.8	75.4	73.9	81.3	81.6					
Centerline Distance to Noise Contour (in										
		70 dBA	65 dBA	60 dBA	55 dBA					
	Ldn:	706	1,522	3,278	7,063					
	CNEL:	739	1,591	3,429	7,387					

	FHW.	A-RD-77-108	HIG	I YAWH	NOISE PF	REDICTION	OM MO	DEL					
Scenario: HY (Pro Road Name: I-215 Fo Road Segment: s/o Ales	vy.	,				Project I Job Nu			n South C	ampus			
SITE SPECIFIC	INF	UT DATA			NOISE MODEL INPUTS								
Highway Data					Site Con	ditions (Hard =	10, Sc	ft = 15)				
Average Daily Traffic (Ad	t): 15	8,692 vehicle	es					Autos:	15				
Peak Hour Percentag	e:	7.73%			Me	dium Tru	cks (2 /	Axles):	15				
Peak Hour Volum	e: 12	2,267 vehicle	S		He	avy Truci	ks (3+ /	Axles):	15				
Vehicle Spee		65 mph		ŀ	Vehicle I	1ix							
Near/Far Lane Distanc	e:	130 feet		ŀ	Vehi	cleType		Day	Evening	Night	Daily		
Site Data						A	utos:	71.1%	10.9%	18.0%	90.519		
Barrier Heigh	ıt:	0.0 feet			Me	edium Tru	ıcks:	73.6%	7.7%	18.6%	4.759		
Barrier Type (0-Wall, 1-Bern		0.0			F	łeavy Tro	ıcks:	75.6%	6.7%	17.8%	4.74		
Centerline Dist. to Barrie		125.0 feet			Noise So	urce Ele	vation	s (in fe	et)				
Centerline Dist. to Observe		125.0 feet				Autos		000	- /				
Barrier Distance to Observe	er:	0.0 feet			Mediur	n Trucks	. 2	297					
Observer Height (Above Pad	,	5.0 feet			Heav	y Trucks	: 8.	004	Grade Ad	iustment	: 0.0		
Pad Elevation		0.0 feet		L									
Road Elevation		0.0 feet			Lane Equ				eet)				
Road Grad		0.0%					: 106.						
Left Vie		-90.0 degree				n Trucks							
Right Vie	W:	90.0 degre	es		Heav	y Trucks	. 106.	813					
FHWA Noise Model Calculat													
VehicleType REMEL		Traffic Flow		stance	Finite		Fresr		Barrier Att		m Atten		
	.55	7.02		-5.0		-1.20		-4.79		000	0.00		
	.86	-5.78		-5.0	-	-1.20		-4.88		000	0.00		
	.18	-5.79		-5.0		-1.20		-5.11	0.0	000	0.00		
Unmitigated Noise Levels (v			-										
VehicleType Leq Peak Autos:	75.3		74.2	Leq E	vening 72.0	Leq N	lignt 69.4		Ldn 76.8		NEL 77.		
Autos: Medium Trucks:	72.5		71.8		68.1		67.1		70.8		74		
Heavy Trucks:	76.1	,	75.3		70.7		70.2		77.6		77.		
Vehicle Noise:	79.7		78.7		75.4		73.9		81.2		81		
Centerline Distance to Noise	- Cor	tour (in feet)										
		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		70	dBA	65 d	BA	6	0 dBA	55	dBA		
			I dn:						0.000		7.00		
			Luii.		703		1,514		3,262		7,02		

Friday, April 24, 2020

	FHV	VA-RD-77-108	HIGHWAY	NOISE P	REDICTION	ON MOD	EL					
Scenario. Road Name. Road Segment.		,				Vame: M Imber: 12	leridian So 2761	outh Cam	pus			
	PECIFIC IN	PUT DATA		NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15)								
Highway Data				Site Cor	ditions (•					
Average Daily Ti	. ,		s				utos: 1					
Peak Hour P		7.73%			edium Tru		,					
		2,539 vehicles	3	He	eavy Truci	ks (3+ A)	kles): 1	5				
	cle Speed:	65 mph		Vehicle	Mix							
Near/Far Lane	e Distance:	130 feet		Veh	icleType	E	Day Eve	ning N	ight Daily			
Site Data									8.0% 91.02%			
Barri	ier Height:	0.0 feet			ledium Tru				8.6% 4.69%			
Barrier Type (0-Wa	II, 1-Berm):	0.0			Heavy Tru	ıcks: 7	5.6%	5.7% 1	7.8% 4.29%			
Centerline Dist.	to Barrier:	125.0 feet		Noise S	ource Ele	vations	(in feet)					
Centerline Dist. to		125.0 feet			Autos							
Barrier Distance to		0.0 feet		Mediu	m Trucks	2.29	97					
Observer Height (A	,	5.0 feet		Hea	vy Trucks	: 8.00)4 Grad	de Adjus	tment: 0.0			
	l Elevation:	0.0 feet		ļ		n						
	l Elevation:	0.0 feet		Lane Eq	uivalent							
Ro	oad Grade:	0.0%		A 4 15-	Autos							
	Left View:	-90.0 degree			m Trucks vy Trucks							
,	Right View:	90.0 degree	s	пеа	vy Trucks	. 100.0	13					
FHWA Noise Model	Calculations	5										
VehicleType	REMEL	Traffic Flow	Distance		Road	Fresne		ier Atten	Berm Atten			
Autos:	74.55	7.14		.05	-1.20		4.79	0.000				
Medium Trucks:	84.86	-5.74		.05	-1.20		4.88	0.000				
Heavy Trucks:	88.18	-6.13		.05	-1.20	-4	5.11	0.000	0.000			
Unmitigated Noise I												
.,	eq Peak Hou			Evening	Leq N		Ldn		CNEL			
Autos:	75.		74.3	72.2		69.5		76.9	77.3			
Medium Trucks:	72		71.9	68.1		67.2		74.5	74.7			
Heavy Trucks: Vehicle Noise:	75. 79.		74.9 78.6	70.4 75.3		69.9 73.8		77.3 81.2	77.5 81.5			
Centerline Distance	to Noise Co	ntour (in feet)									
		(1001)) dBA	65 d	'BA	60 dB	iA .	55 dBA			
	Ldn:	693 1,493 3,216			6,929							
		VEL:						7,250				

APPENDIX 9.1:

REFERENCE DISTRIBUTION/WAREHOUSE NOISE SOURCE PHOTOS



This page intentionally left blank



JN:12761 Reference Noise Source Photos





1.1_Truck Activities

1.2_Truck Activities



1.3_Truck Activities



2.1_Roof-Top AC 32, 50' 32.308900"116, 59' 26.656400"



2.2_Roof Top AC 32, 50' 32.230000"116, 59' 26.960000"



3.1_Parking Lot 33, 39' 58.790000"117, 40' 20.490000"

JN:12761 Reference Noise Source Photos



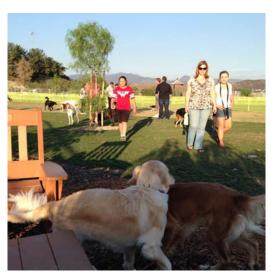
3.2_Parking Lot 33, 39' 58.790000"117, 40' 20.490000"



3.3_Parking Lot 33, 39' 58.790000"117, 40' 20.490000"



4.1_Dog Park



4.2_Dog Park



4.3_Dog Park



4.4_Dog Park

APPENDIX 9.2:

OPERATIONAL CADNAA NOISE PREDICTION MODEL INPUTS



This page intentionally left blank



12761

CadnaA Noise Prediction Model: 12761.cna

Date: 25.04.20 Analyst: B. Lawson

Receiver Noise Levels

Name	M.	ID		Level Lr		Lir	nit. Val	ue		Land	Use	Height		C	oordinates	
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Χ	Υ	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
R01		R01	44.6	44.2	50.9	55.0	45.0	0.0				5.00	а	6239455.92	2268384.83	5.00
R02		R02	44.1	43.0	49.7	55.0	45.0	0.0				5.00	а	6241902.62	2268307.48	5.00
R03		R03	43.1	42.8	49.4	55.0	45.0	0.0				5.00	а	6243119.57	2268271.13	5.00
R04		R04	41.3	41.0	47.7	55.0	45.0	0.0				5.00	а	6245025.61	2268242.15	5.00
R05		R05	43.1	42.7	49.4	65.0	45.0	0.0				5.00	а	6247100.75	2266469.38	5.00
R06		R06	41.5	41.3	48.0	65.0	45.0	0.0				5.00	а	6246010.11	2264536.82	5.00
R07		R07	44.7	44.6	51.2	65.0	45.0	0.0				5.00	а	6244916.51	2264556.70	5.00
R08		R08	42.5	42.3	49.0	65.0	45.0	0.0				5.00	а	6244158.05	2264111.95	5.00
R09		R09	45.9	44.3	51.0	55.0	45.0	0.0				5.00	а	6238680.22	2265730.24	5.00
R10		R10	46.0	45.7	52.4	55.0	45.0	0.0				5.00	а	6238696.41	2267200.81	5.00
R11		R11	53.1	53.0	59.6	55.0	55.0	0.0				5.00	а	6240879.27	2266753.71	5.00
R12		R12	45.9	45.1	51.8	55.0	55.0	0.0				5.00	а	6242873.26	2267798.69	5.00
R13		R13	49.4	49.3	56.0	55.0	55.0	0.0				5.00	а	6244059.89	2265693.22	5.00
R14		R14	40.2	40.0	46.6	65.0	45.0	0.0				5.00	а	6246527.70	2264616.83	5.00
R15		R15	35.8	35.5	42.2	65.0	45.0	0.0				5.00	а	6246671.32	2263138.50	5.00

Point Source(s)

Name	M.	ID	R	esult. PW	L		Lw/L	i	Оре	erating Ti	me	K0	Height	:	Co	oordinates	
			Day	Evening	Night	Туре	Value	norm.	Day	Special	Night				Х	Υ	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(dB)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6239199.24	2268155.47	40.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	а	6239870.87	2268092.11	40.00
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6240449.56	2268075.21	40.00
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	а	6241049.38	2268075.21	40.00
POINTSOURCE		AC05	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	а	6241915.30	2268062.54	40.00
POINTSOURCE		AC06	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6242781.23	2267509.19	40.00
POINTSOURCE		AC07	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	а	6244141.37	2266685.50	40.00
POINTSOURCE		AC08	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	а	6245636.68	2266719.30	40.00
POINTSOURCE		AC09	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	а	6238933.13	2266820.67	40.00
POINTSOURCE		AC10	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	а	6238895.11	2265751.99	40.00
POINTSOURCE		AC11	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6240398.87	2267167.04	40.00
POINTSOURCE		AC12	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	а	6239866.64	2267175.49	40.00
POINTSOURCE		AC13	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	а	6239845.52	2266216.63	40.00
POINTSOURCE		AC14	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	a	6240365.08	2266203.96	40.00
POINTSOURCE		AC15	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	а	6241133.86	2267078.34	40.00
POINTSOURCE		AC16	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	а	6244517.31	2265452.08	40.00
POINTSOURCE		AC17	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	а	6245007.30	2265688.63	40.00
POINTSOURCE		AC18	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	40.00	а	6246510.48	2266512.49	40.00

Area Source(s)

ID	Result. PWL			Re	esult. PW	L"	Lw	/Li	Ope	erating Ti	me	М	oving Pt. S	Src	Height
	Day	Evening	Night	Day	Evening	Night	Туре	Value	Day	Special	Night	Number			
	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			(min)	(min)	(min)	Day	Evening	Night	(ft)
DOG	83.7	83.7	83.7	42.8	42.8	42.8	Lw"	42.8	900.00	0.00	0.00				5
PARKING01	86.1	86.1	86.1	41.7	41.7	41.7	Lw"	41.7							5
PARKING02	80.8	80.8	80.8	41.7	41.7	41.7	Lw"	41.7							5
PARKING03	83.0	83.0	83.0	41.7	41.7	41.7	Lw"	41.7							5
PARKING04	84.5	84.5	84.5	41.7	41.7	41.7	Lw"	41.7							5
PARKING05	79.7	79.7	79.7	41.7	41.7	41.7	Lw"	41.7							5
PARKING06	88.8	88.8	88.8	41.7	41.7	41.7	Lw"	41.7							5
PARKING07	79.8	79.8	79.8	41.7	41.7	41.7	Lw"	41.7							5
PARKING08	85.8	85.8	85.8	41.7	41.7	41.7	Lw"	41.7							5
PARKING09	87.1	87.1	87.1	41.7	41.7	41.7	Lw"	41.7							5
PARKING10	80.0	80.0	80.0	41.7	41.7	41.7	Lw"	41.7							5
TRUCK01	99.5	99.5	99.5	49.6	49.6	49.6	Lw	99.5							8
TRUCK02	99.5	99.5	99.5	52.7	52.7	52.7	Lw	99.5							8
TRUCK03	99.5	99.5	99.5	57.7	57.7	57.7	Lw	99.5							8
TRUCK04	99.5	99.5	99.5	57.6	57.6	57.6	Lw	99.5							8
TRUCK05	99.5	99.5	99.5	54.3	54.3	54.3	Lw	99.5							8
TRUCK06	99.5	99.5	99.5	46.3	46.3	46.3	Lw	99.5							8
TRUCK07	99.5	99.5	99.5	53.6	53.6	53.6	Lw	99.5							8

Name	ŀ	lei	ght		Coordinates						
	Begin		Begin		End		х	у	z	Ground	
	(ft)		(ft) (ft)		(ft)	(ft)	(ft)	(ft)			
AREASOURCE	5.00 a		5.00 a		6238807.14	2265930.84	5.00	0.00			
					6239202.53	2265929.12	5.00	0.00			
					6239198.19	2265594.92	5.00	0.00			

Name	ŀ	lei	ght				
	Begin	Н	End	X	У	Z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
ADEACOURCE	г оо		-	6238795.41		5.00	0.00
AREASOURCE	5.00	a		6238933.19 6238824.26	2267302.15 2267302.26	5.00	0.00
		Н		6238840.05	2268231.67	5.00	0.00
		Н		6239392.72	2268229.14	5.00	0.00
		П		6239466.48	2268219.89	5.00	0.00
				6239839.89	2268174.20	5.00	0.00
				6240305.80	2268146.45	5.00	0.00
				6240731.42	2268141.26	5.00	0.00
		Ц		6240726.09	2268039.73	5.00	0.00
		Н		6240133.18		5.00	0.00
		Н		6239579.99		5.00	0.00
ADEACOURCE	F 00			6238944.53		5.00	0.00
AREASOURCE	5.00	a		6238904.82 6238811.51		5.00	0.00
		Н		6238823.10	2267234.15	5.00	0.00
		Н		6238924.68	2267228.39	5.00	0.00
AREASOURCE	5.00	а		6239721.84	2267446.83	5.00	0.00
		H		6240538.86	2267455.34	5.00	0.00
		П		6240527.51	2267253.92	5.00	0.00
				6239721.84	2267287.96	5.00	0.00
AREASOURCE	5.00	а		6240863.06	2268150.12	5.00	0.00
		П		6241184.24	2268150.12	5.00	0.00
		Ц		6241185.97		5.00	0.00
		Ц		6241227.81	2268021.30	5.00	0.00
		Н		6241286.41		5.00	0.00
		Н		6241317.88		5.00	0.00
		Н		6241328.73		5.00	0.00
		Н		6241320.05 6241334.15	2267728.33 2267674.08	5.00	0.00
		Н		6241334.13		5.00	0.00
		Н		6240842.40		5.00	0.00
AREASOURCE	5.00	a		6240936.10		5.00	0.00
				6240933.18		5.00	0.00
		П		6240890.73		5.00	0.00
		П		6240797.67	2266970.21	5.00	0.00
		П		6240828.22	2267290.80	5.00	0.00
				6240836.73	2267353.21	5.00	0.00
				6240842.40	2267676.61	5.00	0.00
AREASOURCE	5.00	а		6241619.37	2268148.30	5.00	0.00
		Ц		6241688.56	2268137.18	5.00	0.00
		Н		6242095.36	2268130.29	5.00	0.00
		Н		6242207.02	2268119.66	5.00	0.00
		Н		6242260.62 6242292.75	2268113.70 2268082.81	5.00	0.00
		Н		6242333.52		5.00	0.00
		Н		6242251.97		5.00	0.00
		Н			2267557.71	5.00	0.00
		П		6242973.43	2267467.65	5.00	0.00
		П		6242233.17	2267611.23	5.00	0.00
		П		6242147.01	2267188.80	5.00	0.00
				6242070.35	2267199.40	5.00	0.00
		Ц		6242008.57	2267297.01	5.00	0.00
		Ц		6241710.80		5.00	0.00
		Ц		6241609.49		5.00	0.00
AREASOURCE	5.00	а		6239730.78		5.00	0.00
		Н		6240466.96		5.00	0.00
		Н		6240466.59		5.00	0.00
AREASOURCE	5.00	1		6239723.15 6238811.51		5.00	0.00
ANEASOUNCE	3.00	a		6239483.54		5.00	0.00
		H		6239472.93		5.00	0.00
		H		6239528.05		5.00	0.00
		H		6238807.14		5.00	0.00
AREASOURCE	5.00	а		6246598.67		5.00	0.00
				6246691.98		5.00	0.00
				6246715.73	2267088.00	5.00	0.00
				6246737.56	2266866.82	5.00	0.00
				6246722.37	2266097.48	5.00	0.00
		П		6246665.94	2266038.89	5.00	0.00
		Ц		6246622.76	2266036.78	5.00	0.00
		Ц		6246493.24		5.00	0.00
					2266070 75	E 00	0.00
		Ц		6246313.41		5.00	
				6246176.15	2266112.77	5.00	0.00
					2266112.77 2266194.67		0.00 0.00 0.00

Name	ŀ	Height			Coordinat	es	
	Begin	Er	ıd _	х	у	z	Ground
	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)
				6245389.90		5.00	0.00
			_	6245191.69	2266126.94 2266066.42	5.00	0.00
				6245051.69 6244958.81		5.00	0.00
			\dashv	6244814.77	2265995.57	5.00	0.00
				6244667.25		5.00	0.00
				6243408.56	2265997.66	5.00	0.00
				6243410.14	2266065.52	5.00	0.00
				6244326.75	2266065.07	5.00	0.00
				6244660.83	2266053.42	5.00	0.00
				6244928.88	2266111.69	5.00	0.00
			_	6245243.54 6245515.47	2266228.23 2266298.15	5.00 5.00	0.00
				6245756.33	2266309.81	5.00	0.00
				6245973.87	2266274.85	5.00	0.00
				6246214.73	2266189.38	5.00	0.00
				6246436.16	2266127.23	5.00	0.00
				6246634.28	2266111.69	5.00	0.00
				6246642.05		5.00	0.00
AREASOURCE	5.00	a		6244308.18	2265802.56	5.00	0.00
				6244309.17 6244708.48	2265876.13 2265871.79	5.00	0.00
			+	6244708.48	2265871.79	5.00	0.00
			+	6244887.96	2265903.93	5.00	0.00
			\top	6245292.25	2266032.38	5.00	0.00
				6245246.17	2265940.23	5.00	0.00
				6244773.47	2265795.22	5.00	0.00
AREASOURCE	8.00	a		6238933.19	2267302.15	8.00	0.00
				6238944.53	2268119.16	8.00	0.00
				6239109.88	2268113.26	8.00	0.00
			+	6239469.70 6239681.71	2268100.41 2268086.56	8.00 8.00	0.00
			+	6240066.01	2268049.11	8.00	0.00
				6240311.89		8.00	0.00
				6240726.09	2268039.73	8.00	0.00
				6240720.42	2267591.51	8.00	0.00
				6240692.05	2267568.81	8.00	0.00
				6239653.75	2267574.49	8.00	0.00
			_	6239599.85	2267574.49	8.00	0.00
			_	6239560.14	2267574.49	8.00	0.00
			+	6239517.58 6239497.72	2267537.61 2267495.05	8.00 8.00	0.00
				6239489.21	2267287.96	8.00	0.00
AREASOURCE	8.00	a		6238924.68	2267228.39	8.00	0.00
				6239469.36	2267219.88	8.00	0.00
				6239500.56	2267188.67	8.00	0.00
				6239483.54	2266334.77	8.00	0.00
					2266337.61	8.00	0.00
AREASOURCE	8.00	a			2267148.95	8.00	0.00
				_	2267140.44	8.00	0.00
			_	6239778.57	2266238.32 2266252.50	8.00 8.00	0.00
AREASOURCE	8.00	a	+	6240459.42		8.00	0.00
				6240640.98		8.00	0.00
				6240618.29		8.00	0.00
				6240431.06	2266241.16	8.00	0.00
AREASOURCE	8.00	a	I	6240936.10	2267676.13	8.00	0.00
			4	6241334.15		8.00	0.00
			-	6241350.43		8.00	0.00
		\perp	+	6241333.07		8.00	0.00
		\vdash	+	6241324.39 6241391.12		8.00 8.00	0.00
		\vdash	+	6241391.12		8.00	0.00
			†	6241471.69		8.00	0.00
				6241525.02		8.00	0.00
				6240890.73		8.00	0.00
			I	6240930.78	2267328.47	8.00	0.00
AREASOURCE	8.00	a	4	6243410.14		8.00	0.00
		Н—	4	6243423.76		8.00	0.00
			+	6243482.35		8.00	0.00
			+	6243734.09		8.00	0.00
		\vdash	+	6244187.64 6244291.81		8.00	0.00
			+	6244291.81		8.00 8.00	0.00
			+	6244482.78		8.00	0.00
			1	6244606.84		8.00	0.00
				6244830.01		8.00	0.00
			_				

Name	ŀ	leig	ht	Coordinates							
	Begin End			х	У	Z	Ground				
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)				
		П		6244895.11	2266794.10	8.00	0.00				
				6244947.19	2266774.57	8.00	0.00				
				6245099.10	2266807.12	8.00	0.00				
		П		6245157.70	2266844.01	8.00	0.00				
				6245339.99	2266798.44	8.00	0.00				
		П		6245402.92	2266791.93	8.00	0.00				
		П		6245524.45	2266835.33	8.00	0.00				
				6245691.55	2266820.14	8.00	0.00				
		П		6245841.29	2266904.78	8.00	0.00				
				6245904.22	2266870.05	8.00	0.00				
				6246001.88	2266841.84	8.00	0.00				
				6246064.81	2266859.20	8.00	0.00				
				6246093.03	2266878.73	8.00	0.00				
				6246197.19	2266969.88	8.00	0.00				
				6246320.89	2266985.07	8.00	0.00				
				6246429.40	2267041.49	8.00	0.00				
				6246509.69	2267074.05	8.00	0.00				
				6246598.67	2267154.34	8.00	0.00				
				6246642.05	2266950.79	8.00	0.00				
				6246634.28	2266111.69	8.00	0.00				
				6246436.16	2266127.23	8.00	0.00				
				6246214.73	2266189.38	8.00	0.00				
				6245973.87	2266274.85	8.00	0.00				
				6245756.33	2266309.81	8.00	0.00				
				6245515.47	2266298.15	8.00	0.00				
				6245334.24	2266251.55	8.00	0.00				
				6245243.54	2266228.23	8.00	0.00				
				6244928.88	2266111.69	8.00	0.00				
				6244756.47	2266074.21	8.00	0.00				
				6244660.83	2266053.42	8.00	0.00				
AREASOURCE	8.00	a		6244308.18	2265802.56	8.00	0.00				
				6244773.47	2265795.22	8.00	0.00				
				6245246.17	2265940.23	8.00	0.00				
				6245003.62	2265455.12	8.00	0.00				
				6244760.56	2265539.76	8.00	0.00				
				6244702.20	2265392.63	8.00	0.00				
		\prod		6244659.30	2265318.86	8.00	0.00				
				6244595.63	2265233.77	8.00	0.00				
				6244524.16	2265145.73	8.00	0.00				
				6244391.84	2265002.55	8.00	0.00				
		\Box		6244296.15	2264912.59	8.00	0.00				

Barrier(s)

Name	M.	ID	Absorption Z-Ext. Cantilever Height Coord				Coordinat	Coordinates						
			left	right		horz.	vert.	Begin		End	x	У	z	Ground
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
BARRIERS		BARRIERS00001						6.00	а		6238823.39	2268732.50	6.00	0.00
											6238833.81	2268529.37	6.00	0.00
											6239339.02	2268388.75	6.00	0.00
											6239560.37	2268339.27	6.00	0.00
											6239977.04	2268295.00	6.00	0.00
											6240596.83	2268284.58	6.00	0.00
											6240711.41	2268281.98	6.00	0.00
BARRIERS		BARRIERS00002						6.00	а		6240836.41	2268284.58	6.00	0.00
											6241430.16	2268281.98	6.00	0.00
											6241966.62	2268279.37	6.00	0.00
											6242266.10	2268258.54	6.00	0.00
											6242297.35	2268266.35	6.00	0.00
											6242328.60	2268443.44	6.00	0.00
											6242404.12	2268602.29	6.00	0.00
BARRIERS		BARRIERS00003						6.00	а		6238659.33	2267253.33	6.00	0.00
											6238724.43	2267235.10	6.00	0.00
											6238737.46	2267130.94	6.00	0.00
											6238719.23	2266352.29	6.00	0.00
											6238672.35	2266323.64	6.00	0.00
BARRIERS		BARRIERS00004						6.00	а		6238693.18	2266261.14	6.00	0.00
											6238727.04	2266211.67	6.00	0.00
											6238719.23	2265643.96	6.00	0.00
											6238674.96	2265612.71	6.00	0.00
BARRIERS		BARRIERS00005						6.00	а		6238656.73	2265534.58	6.00	0.00
											6238706.21	2265516.35	6.00	0.00
											6238706.21	2265466.87	6.00	0.00
											6238703.60	2264406.98	6.00	0.00
											6238701.00	2264318.44	6.00	0.00
											6238661.93	2264281.98	6.00	0.00
											6238625.48	2264279.37	6.00	0.00