

May 27, 2022

Ms. Tracy Zinn T&B Planning Inc. 3200 El Camino Real, Suite 100 Irvine, CA 92602

SUBJECT: SIERRA BUSINESS CENTER (COMPRISED OF THE SIERRA INDUSTRIAL FACILITY [SHEA PROJECT]

& NORTH FONTANA INDUSTRIAL COMPLEX [ACACIA PROJECT]) NOISE ASSESSMENT

Dear Ms. Tracy Zinn:

Urban Crossroads, Inc. is pleased to provide the following Noise Assessment for the Sierra Business Center development (referred to as "Project") located east of Sierra Avenue and south of Duncan Canyon Road in the City of Fontana. The Project includes two separate and independent but adjacent projects: the Sierra Industrial Facility (Shea Project) and the North Fontana Industrial Complex (Acacia Project). The purpose of this Noise Assessment is to describe the cumulative off-site traffic noise level increases, as well as the operational and construction noise impacts both the Acacia and Shea projects since they are adjacent to one another and are expected to be entitled and constructed on similar timeframes.

The Shea Project provides for the development of an approximately 11.1-acre site with a single commerce center building with a maximum of 199,999 sf, including up to 19,900 sf of office space. The structure would be supported by a screened truck yard and trailer storage area along the south side of the structure, vehicular parking areas, drive aisles, and landscaping. The typical height of the building is designed to reach 41.0 feet above finished floor elevation; however, the building would have a varied roofline and the maximum height (including parapets) would extend to 46.0 feet above finished floor elevation. The building would be constructed of tilt-up panels and low-reflective, blue glass. The Shea Project would require a General Plan Amendment and a Zone change, revising the General Plan designation from Multi-Family High Density Residential (R-MFH) to Light Industrial (I-L) and the zoning designation from Multi-Family High Density Residential (R-5) to Light Industrial (M-1).

The Acacia Project provides for the development of an approximately 19.0-acre site with two commerce center buildings with a total maximum of 385,043 square feet (sf). Building 1 would consist of 296,297 sf and Building 2 would consist of 88,746 sf. The structures would be supported by a screened truck yard and trailer storage area along the south side of Building 1 and the west side of Building 2, vehicular parking areas, drive aisles, and landscaping. The typical heights of both Building 1 and Building 2 are designed to reach 40 feet 6 inches above finished floor elevation; however, the buildings would have a varied roofline and the maximum height (including parapets) would extend to 45 feet 6 inches above finished floor elevation. Both buildings would be constructed of tilt-up panels and low-reflective, blue glass. The Acacia Project would require a General Plan Amendment and a

Zone change, revising the General Plan designation from Multi-Family High Density Residential (R-MFH) and General Commercial (C-G) to Light Industrial (I-L) and the zoning designation from Multi-Family High Density Residential (R-5) and General Commercial (C-2) to Light Industrial (M-1).

OFF-SITE TRAFFIC NOISE METHODS AND PROCEDURES

The following section outlines the methods and procedures used to estimate and analyze the future traffic noise environment needed to describe the off-site Project-related traffic noise level increases.

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. (1) 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. (2) 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. (3)

OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 1 presents the roadway parameters used to assess the Project-related off-site traffic noise level increases. Table 1 identifies the six off-site study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the City of Fontana General Plan, and the posted vehicle speeds. The without project ADT volumes used in this study area presented on Table 2 are based on *North Fontana Industrial Complex (Acacia) Traffic Study by Urban Crossroads, Inc.* for the following traffic scenarios. (4)

- 1. Existing (2021)
- 2. Existing (2021) plus Project (E+P)
- 3. Existing plus Ambient Growth without Project (EA)
- 4. Existing plus Ambient Growth with Project (EAP) (Acacia + Shea Sites)
- 5. Opening Year Cumulative (2024) without Project (OYC)
- 6. Opening Year Cumulative (2024) with Project (OYCP)



The ADT volumes vary for each roadway segment based on the existing traffic volumes and the combination of (Acacia + Shea Sites) Project trip generation. This analysis relies on a comparative evaluation of the off-site traffic noise impacts at the boundary of the right-of-way of the receiving adjacent land use, without and with project ADT traffic volumes.

TABLE 1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Classification ¹	Receiving Land Use ²	Distance from Centerline to Receiving Land Use (Feet) ³	Vehicle Speed (mph)
1	Sierra Av.	n/o Riverside Av.	Major Highway	Non-Sensitive	66'	55
2	Sierra Av.	n/o Terra Vista Dr.	Major Highway	Sensitive	66'	55
3	Sierra Av.	n/o Duncan Canyon Rd.	Major Highway	Sensitive	66'	55
4	Sierra Av.	s/o Dwy. 2	Major Highway	Sensitive	66'	55
5	Riverside Av.	e/o Sierra Av.	Major Highway	Sensitive	66'	55
6	Duncan Canyon Rd.	e/o Sierra Av.	Collector Street	Sensitive	34'	45

¹ North Fontana Industrial Complex (Acacia) Traffic Study, Urban Crossroads, Inc.

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.

TABLE 2: AVERAGE DAILY TRAFFIC VOLUMES

			Average Daily Traffic Volumes ¹						
ID	Roadway	Segment	Existing (2021)		Existing plus Ambient		Opening Year (2024)		
			Without Project	With Project	Without Project	With Project	Without Project	With Project	
1	Sierra Av.	n/o Riverside Av.	25,275	25,681	26,898	27,304	29,996	30,402	
2	Sierra Av.	n/o Terra Vista Dr.	12,442	12,894	13,280	13,731	17,355	17,806	
3	Sierra Av.	n/o Duncan Canyon Rd.	15,184	15,635	16,189	16,640	20,263	20,714	
4	Sierra Av.	s/o Dwy. 2	15,538	16,169	16,871	17,502	21,600	22,231	
5	Riverside Av.	e/o Sierra Av.	13,423	13,468	14,245	14,289	15,221	15,265	
6	Duncan Canyon Rd.	e/o Sierra Av.	425	829	451	855	451	855	

 $^{^{\}rm 1}$ North Fontana Industrial Complex (Acacia) Traffic Study, Urban Crossroads, Inc.



² Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

³ Distance to receiving land use is based upon the right-of-way distances.

Table 3 provides the time of day (daytime, evening, and nighttime) vehicle splits. Table 4 shows the traffic flow by vehicle type (vehicle mix) used for all without Project traffic scenarios, and Tables 5 to 7 show the vehicle mixes used for the with Project (Acacia + Shea Sites) traffic scenarios. Due to the added Project truck trips, the increase 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.

TABLE 3: TIME OF DAY VEHICLE SPLITS

Vahiala Tura		Total of Time of		
Vehicle Type	Daytime	Evening	Nighttime	Day Splits
Autos	77.50%	12.90%	9.60%	100.00%
Medium Trucks	84.80%	4.90%	10.30%	100.00%
Heavy Trucks	86.50%	2.70%	10.80%	100.00%

¹ Typical Southern California vehicle mix. Values rounded to the nearest one-hundredth.

TABLE 4: WITHOUT PROJECT VEHICLE MIX

Classification		Total % Traffic Flow		Total
Classification	Autos	Medium Trucks	Heavy Trucks	Total
All Segments	89.82%	3.92%	6.27%	100.00%

Based on an existing vehicle count taken at Sierra Avenue and Riverside Avenue (North Fontana Industrial Complex (Acacia) Traffic Study, Urban Crossroads, Inc.). Vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 5: EXISTING WITH PROJECT VEHICLE MIX

			With Project ¹					
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²		
1	Sierra Av.	n/o Riverside Av.	93.21%	3.80%	2.99%	100.00%		
2	Sierra Av.	n/o Terra Vista Dr.	92.98%	3.81%	3.21%	100.00%		
3	Sierra Av.	n/o Duncan Canyon Rd.	93.06%	3.81%	3.13%	100.00%		
4	Sierra Av.	s/o Dwy. 2	93.15%	3.76%	3.09%	100.00%		
5	Riverside Av.	e/o Sierra Av.	93.49%	3.77%	2.74%	100.00%		
6	Duncan Canyon Rd.	e/o Sierra Av.	96.65%	1.94%	1.41%	100.00%		

¹ Total of vehicle mix percentage values rounded to the nearest one-hundredth.



[&]quot;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.

TABLE 6: EXISTING PLUS AMBIENT WITH PROJECT VEHICLE MIX

			With Project ¹					
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²		
1	Sierra Av.	n/o Riverside Av.	93.23%	3.80%	2.97%	100.00%		
2	Sierra Av.	n/o Terra Vista Dr.	93.01%	3.81%	3.18%	100.00%		
3	Sierra Av.	n/o Duncan Canyon Rd.	93.09%	3.80%	3.11%	100.00%		
4	Sierra Av.	s/o Dwy. 2	93.17%	3.76%	3.06%	100.00%		
5	Riverside Av.	e/o Sierra Av.	93.49%	3.77%	2.74%	100.00%		
6	Duncan Canyon Rd.	e/o Sierra Av.	96.55%	2.00%	1.45%	100.00%		

¹ Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 7: OPENING YEAR CUMULATIVE 2024 WITH PROJECT VEHICLE MIX

			With Project ¹					
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²		
1	Sierra Av.	n/o Riverside Av.	93.25%	3.80%	2.95%	100.00%		
2	Sierra Av.	n/o Terra Vista Dr.	93.11%	3.80%	3.09%	100.00%		
3	Sierra Av.	n/o Duncan Canyon Rd.	93.16%	3.80%	3.04%	100.00%		
4	Sierra Av.	s/o Dwy. 2	93.24%	3.77%	3.00%	100.00%		
5	Riverside Av.	e/o Sierra Av.	93.49%	3.77%	2.74%	100.00%		
6	Duncan Canyon Rd.	e/o Sierra Av.	96.55%	2.00%	1.45%	100.00%		

¹ Total of vehicle mix percentage values rounded to the nearest one-hundredth.

OFF-SITE TRAFFIC NOISE ANALYSIS

To assess the off-site traffic CNEL noise level impacts associated with the Project, noise contours were developed based on an estimate of without and with (Acacia + Shea Sites) Project traffic volumes. Noise contours were used to assess the Project's incremental 24-hour dBA CNEL traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. 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 CNEL 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 8 through 13 present a summary of the exterior

dBA CNEL traffic noise levels without barrier attenuation. Appendix A includes a summary of the dBA CNEL traffic noise level contours for each of the traffic scenarios.

TABLE 8: EXISTING WITHOUT PROJECT CONTOURS

10	Dood	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
ID	Road				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Sierra Av.	n/o Riverside Av.	Non-Sensitive	76.5	178	383	826
2	Sierra Av.	n/o Terra Vista Dr.	Sensitive	73.4	111	239	515
3	Sierra Av.	n/o Duncan Canyon Rd.	Sensitive	74.2	127	273	588
4	Sierra Av.	s/o Dwy. 2	Sensitive	74.3	129	277	597
5	Riverside Av.	e/o Sierra Av.	Sensitive	73.7	117	251	542
6	Duncan Canyon Rd.	e/o Sierra Av.	Sensitive	59.3	RW	RW	RW

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

TABLE 9: EXISTING WITH PROJECT CONTOURS

-	ID Road Segm	Sagment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
טו		Segment			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Sierra Av.	n/o Riverside Av.	Non-Sensitive	76.7	183	393	847
2	Sierra Av.	n/o Terra Vista Dr.	Sensitive	73.8	117	252	542
3	Sierra Av.	n/o Duncan Canyon Rd.	Sensitive	74.6	132	285	614
4	Sierra Av.	s/o Dwy. 2	Sensitive	74.7	134	289	624
5	Riverside Av.	e/o Sierra Av.	Sensitive	73.7	117	252	542
6	Duncan Canyon Rd.	e/o Sierra Av.	Sensitive	60.5	RW	RW	RW

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.



² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

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

 $^{^{\}rm 2}$ The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

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

TABLE 10: EA WITHOUT PROJECT CONTOURS

10	Bood	Road Segment	Receiving	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
ID	Koad		Land Use ¹		70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Sierra Av.	n/o Riverside Av.	Non-Sensitive	76.7	185	400	861
2	Sierra Av.	n/o Terra Vista Dr.	Sensitive	73.7	116	250	538
3	Sierra Av.	n/o Duncan Canyon Rd.	Sensitive	74.5	132	285	614
4	Sierra Av.	s/o Dwy. 2	Sensitive	74.7	136	293	631
5	Riverside Av.	e/o Sierra Av.	Sensitive	74.0	121	262	564
6	Duncan Canyon Rd.	e/o Sierra Av.	Sensitive	59.6	RW	RW	RW

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

TABLE 11: EA WITH PROJECT CONTOURS

10	Bood	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
ID Road	Road				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Sierra Av.	n/o Riverside Av.	Non-Sensitive	76.9	190	409	882
2	Sierra Av.	n/o Terra Vista Dr.	Sensitive	74.1	122	262	565
3	Sierra Av.	n/o Duncan Canyon Rd.	Sensitive	74.9	138	296	639
4	Sierra Av.	s/o Dwy. 2	Sensitive	75.1	141	305	657
5	Riverside Av.	e/o Sierra Av.	Sensitive	74.0	121	262	564
6	Duncan Canyon Rd.	e/o Sierra Av.	Sensitive	60.7	RW	RW	RW

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.



 $^{^{2}}$ The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

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

² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

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

TABLE 12: OYC 2024 WITHOUT PROJECT CONTOURS

10	Dood	Sa marant	Receiving	CNEL at Receiving	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	Sierra Av.	n/o Riverside Av.	Non-Sensitive	77.2	199	430	926
2	Sierra Av.	n/o Terra Vista Dr.	Sensitive	74.8	138	298	643
3	Sierra Av.	n/o Duncan Canyon Rd.	Sensitive	75.5	154	331	713
4	Sierra Av.	s/o Dwy. 2	Sensitive	75.8	160	345	744
5	Riverside Av.	e/o Sierra Av.	Sensitive	74.3	127	273	589
6	Duncan Canyon Rd.	e/o Sierra Av.	Sensitive	59.6	RW	RW	RW

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

TABLE 13: OYC 2024 WITH PROJECT CONTOURS

ID	Road	Segment	Receiving	CNEL at Receiving	Distance to Contour from Centerline (Feet)			
ID	NOdu	Jegment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Sierra Av.	n/o Riverside Av.	Non-Sensitive	77.4	204	439	946	
2	Sierra Av.	n/o Terra Vista Dr.	Sensitive	75.2	144	310	667	
3	Sierra Av.	n/o Duncan Canyon Rd.	Sensitive	75.8	159	342	736	
4	Sierra Av.	s/o Dwy. 2	Sensitive	76.1	165	356	768	
5	Riverside Av.	e/o Sierra Av.	Sensitive	74.3	127	274	589	
6	Duncan Canyon Rd.	e/o Sierra Av.	Sensitive	60.7	RW	RW	RW	

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

OFF-SITE TRAFFIC NOISE LEVEL INCREASES

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines. Under CEQA, consideration must be given to the magnitude of the increase, the existing baseline ambient noise levels, and the location of 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. (5) This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important



² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

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

² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

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

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. 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) (6) 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 (Lea).

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 2008 California Court of Appeal ruling on Gray v. County of Madera. (5) 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, a readily perceptible 5 dBA or greater project-related noise level increase is considered a significant impact when the without project noise levels are below 60 dBA. 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. The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increase in baseline ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without Project (baseline) noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dBA or readily perceptible, 3 dBA or barely perceptible, and 1.5 dBA depending on the underlying without Project noise levels for noise-sensitive uses. These levels of increases and their perceived acceptance are consistent with guidance provided by both the Federal Highway Administration (7 p. 9) and Caltrans (8 p. 2 48).

EXISTING PROJECT TRAFFIC NOISE LEVEL INCREASES

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 existing traffic scenarios identified in the Traffic Study. However, the analysis of existing off-site traffic noise levels plus traffic noise generated by the proposed Project scenario will not actually occur since the Project would not be fully constructed and operational until 2024 conditions. Table 8 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels range from 59.3 to 76.5 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 9 shows the Existing with Project conditions ranging from 60.5 to 76.7 dBA CNEL. Table 14 shows



that the Project off-site traffic noise level increases range from 0.0 to 1.2 dBA CNEL on the study area roadway segments. Based on the significance criteria for off-site traffic noise, 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.

EA TRAFFIC NOISE LEVEL INCREASES

Table 10 presents the EA 2024 without Project conditions CNEL noise levels. The EA without Project exterior noise levels range from 59.6 to 76.7 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 11 shows that the EA with Project conditions will range from 60.7 to 76.9 dBA CNEL. Table 15 shows that the Project off-site traffic noise level increases range from 0.0 to 1.1 dBA CNEL on the study area roadway segments. Based on the significance criteria for off-site traffic noise, 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.

OYC 2024 TRAFFIC NOISE LEVEL INCREASES

Table 12 presents the OYC 2024 without Project conditions CNEL noise levels. The OYC 2024 without Project exterior noise levels range from 59.6 to 77.2 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 13 shows that the OYC 2024 with Project conditions will range from 60.7 to 77.4 dBA CNEL. Table 16 shows that the Project off-site traffic noise level increases range from 0.0 to 1.1 dBA CNEL on the study area roadway segments. Based on the significance criteria for off-site traffic noise, 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 14: EXISTING WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving		EL at Rece nd Use (d	Incremental Noise Level Increase Threshold ³		
			Land Use ¹	No Project	With Project	Project Addition	Limit	Exceeded?
1	Sierra Av.	n/o Riverside Av.	Non-Sensitive	76.5	76.7	0.2	3.0	No
2	Sierra Av.	n/o Terra Vista Dr.	Sensitive	73.4	73.8	0.4	1.5	No
3	Sierra Av.	n/o Duncan Canyon Rd.	Sensitive	74.2	74.6	0.4	1.5	No
4	Sierra Av.	s/o Dwy. 2	Sensitive	74.3	74.7	0.4	1.5	No
5	Riverside Av.	e/o Sierra Av.	Sensitive	73.7	73.7	0.0	1.5	No
6	Duncan Canyon Rd.	e/o Sierra Av.	Sensitive	59.3	60.5	1.2	5.0	No

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.



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

³ Does the Project create an incremental noise level increase exceeding the significance criteria?

TABLE 15: EA WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	ID Road	Segment	Receiving		EL at Rece nd Use (d	Incremental Noise Level Increase Threshold ³		
			Land Use ¹	No Project	With Project	Project Addition	Limit	Exceeded?
1	Sierra Av.	n/o Riverside Av.	Non-Sensitive	76.7	76.9	0.2	3.0	No
2	Sierra Av.	n/o Terra Vista Dr.	Sensitive	73.7	74.1	0.4	1.5	No
3	Sierra Av.	n/o Duncan Canyon Rd.	Sensitive	74.5	74.9	0.4	1.5	No
4	Sierra Av.	s/o Dwy. 2	Sensitive	74.7	75.1	0.4	1.5	No
5	Riverside Av.	e/o Sierra Av.	Sensitive	74.0	74.0	0.0	1.5	No
6	Duncan Canyon Rd.	e/o Sierra Av.	Sensitive	59.6	60.7	1.1	5.0	No

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

TABLE 16: OYC 2024 WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	ID Road	Segment	Receiving		EL at Rece nd Use (d	Incremental Noise Level Increase Threshold ³		
	ŭ	Land Use ¹	No Project	With Project	Project Addition	Limit	Exceeded?	
1	Sierra Av.	n/o Riverside Av.	Non-Sensitive	77.2	77.4	0.2	3.0	No
2	Sierra Av.	n/o Terra Vista Dr.	Sensitive	74.8	75.2	0.4	1.5	No
3	Sierra Av.	n/o Duncan Canyon Rd.	Sensitive	75.5	75.8	0.3	1.5	No
4	Sierra Av.	s/o Dwy. 2	Sensitive	75.8	76.1	0.3	1.5	No
5	Riverside Av.	e/o Sierra Av.	Sensitive	74.3	74.3	0.0	1.5	No
6	Duncan Canyon Rd.	e/o Sierra Av.	Sensitive	59.6	60.7	1.1	5.0	No

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

NOISE PREDICTION MODEL

To fully describe the exterior operational and construction 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 9613-2 protocol, CadnaA will calculate



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

³ Does the Project create an incremental noise level increase exceeding the significance criteria?

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

³ Does the Project create an incremental noise level increase exceeding the significance criteria?

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. The noise level calculations provided in this noise assessment 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. A default ground attenuation factor of 0.5 was used in the noise analysis to account for mixed ground representing a combination of hard and soft surfaces.

OPERATIONAL NOISE

This section analyzes the potential stationary-source operational noise impacts at the nearby receiver locations resulting from the operation of the proposed Sierra Business Center Project. Using the same approach for the Shea and Acacia projects, this operational noise analysis is intended to describe noise level impacts associated with the expected typical of daytime and nighttime activities from the combined Sierra Business Center Project site. The on-site Sierra Business Center related noise sources are expected to include loading dock activity, roof-top, air-conditioning units, trash enclosure activity, parking lot vehicle movements, and truck movements. Exhibit A identifies the noise source locations used to assess the operational noise levels.

OPERATIONAL NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the City of Fontana and the City of Rialto exterior noise level standards at nearby noise-sensitive receiver locations. Table 17 shows that the operational noise levels associated with Sierra Business Center Project will satisfy the City of Fontana and the City of Rialto daytime and nighttime hourly exterior noise level standards at all nearby receiver locations. Therefore, the operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations. Appendix B includes the detailed noise model inputs and calculations used to estimate the Project operational noise levels presented in this section.



EXHIBIT A: OPERATIONAL NOISE SOURCE LOCATIONS

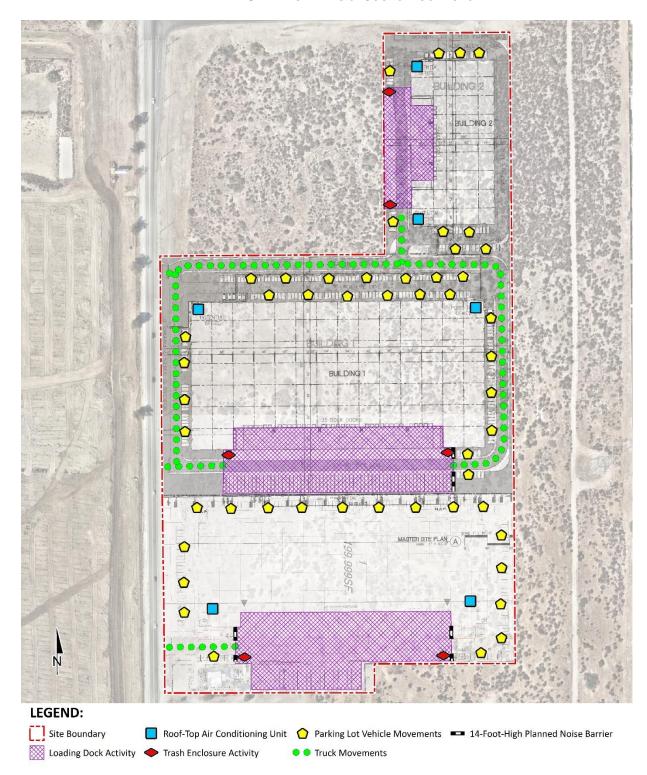




TABLE 17: OPERATIONAL NOISE LEVELS

Receiver Location	City		perational s (dBA L _{eq}) ¹	Noise Leve (dBA		Noise Level Standards Exceeded? ³		
Location		Daytime	Daytime Nighttime Daytime Nighttime		e Daytime Night			
R1	Fontana	48.0	46.7	70	65	No	No	
R2	Rialto	44.3 43.0		55	45	No	No	
R3	Rialto	42.5	41.4	55	45	No	No	
R4	Fontana	49.9 48.9		70	65	No	No	
R5	Fontana	47.9 46.8		70	65	No	No	

¹ Proposed Project operational noise level calculations are included in Appendix B.

PROJECT OPERATIONAL NOISE LEVEL INCREASES

To describe the Project operational noise level increases, 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. (9) 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 describes the Project noise level increases to the existing ambient noise environment. As indicated on Table 18, the Project will generate a daytime noise operational level increase ranging from 0.7 to 1.6 dBA L_{eq} at the nearest receiver locations. Table 19 shows that the Project will generate a nighttime operational noise level increase ranging from 1.0 to 4.6 dBA L_{eq} at the nearest receiver locations. A review of the operational noise level increases shows that the nighttime increases are somewhat higher than the daytime increases. This is largely due to the lower nighttime ambient conditions that when combined with the Project produce a higher relative increase.

The project-related operational noise level increases will satisfy the operational noise level increase significance criteria. Therefore, the incremental Project operational noise level increase is considered *less than significant* at all receiver locations.



² City of Fontana Development Code Section 30-543 and City of Rialto Municipal Code Section 9.50.050[B].

³ Do the estimated Project operational noise source activities exceed the noise level standards?

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

TABLE 18: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES

Receiver Location	Total Project Operational Noise Level ¹	Reference Ambient Noise Levels ²	Combined Project and Ambient ³	Project Increase ⁴	Increase Criteria ⁵	Increase Criteria Exceeded?
R1	48.0	54.5	55.4	0.9	5.0	No
R2	44.3	50.2	51.2	1.0	5.0	No
R3	42.5	50.2	50.9	0.7	5.0	No
R4	49.9	54.3	55.6	1.3	5.0	No
R5	47.9	51.4	53.0	1.6	5.0	No

¹ Total Project daytime operational noise levels as shown on Table 17.

TABLE 19: NIGHTTIME OPERATIONAL NOISE LEVEL INCREASES

Receiver Location	Total Project Operational Noise Level ¹	Reference Ambient Noise Levels ²	Combined Project and Ambient ³	Project Increase ⁴	Increase Criteria ⁵	Increase Criteria Exceeded?
R1	46.7	52.8	53.8	1.0	5.0	No
R2	43.0	45.3	47.3	2.0	5.0	No
R3	41.4	45.3	46.8	1.5	5.0	No
R4	48.9	47.8	51.4	3.6	5.0	No
R5	46.8	44.0	48.6	4.6	5.0	No

¹ Total Project nighttime operational noise levels as shown on Table 17.



² Observed daytime ambient noise levels.

Represents the combined ambient conditions plus the Project activities.
 The noise level increase expected with the addition of the proposed Project activities.

⁵ Significance increase criteria, FICON 1992.

² Observed nighttime ambient noise levels.

³ Represents the combined ambient conditions plus the Project activities.

⁴ The noise level increase expected with the addition of the proposed Project activities.

⁶ Significance increase criteria, FICON 1992.

CONSTRUCTION NOISE

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit B shows the construction activity boundaries in relation to the nearest sensitive receiver locations

CONSTRUCTION NOISE SOURCES

To describe construction noise activities, this construction noise analysis was prepared using reference construction equipment noise levels from the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model (RCNM), which includes a national database of construction equipment reference noise emission levels. (10) The RCNM equipment database, provides a comprehensive list of the noise generating characteristics for specific types of construction equipment. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. Consistent with FTA guidance for general construction noise assessment, the Project construction noise analysis relies on the combined noise levels for the loudest construction equipment, assuming they operate at the same time, with the highest reference noise level of 83 dBA Leq. Appendix C includes the detailed CadnaA construction noise model inputs.

CONSTRUCTION NOISE LEVEL COMPLIANCE

The construction noise analysis shows that the highest construction noise levels will occur when construction activities take place at the closest point from the edge of primary construction activity to each of the nearby receiver locations. Project construction noise levels are considered exempt if activities occur within the hours specified in the City of Fontana Municipal Code, Section 18-63(7) of 7:00 a.m. to 6:00 p.m. on weekdays and between the hours of 8:00 a.m. to 5:00 p.m. on Saturdays.

If Project construction activity occurs outside of the hours specified in the Municipal Code, noise levels shall satisfy the City of Fontana construction noise level thresholds of 70 dBA L_{eq} during the daytime hours and 65 dBA L_{eq} during the nighttime hours. No Project construction activity is planned within the hours specified in the City of Fontana Municipal Code, Section 18-63(7). As shown on Table 20, the noise impacts due to project construction noise is considered *less than significant* at all receiver locations.



EXHIBIT B: CONSTRUCTION NOISE SOURCE AND RECEIVER LOCATIONS

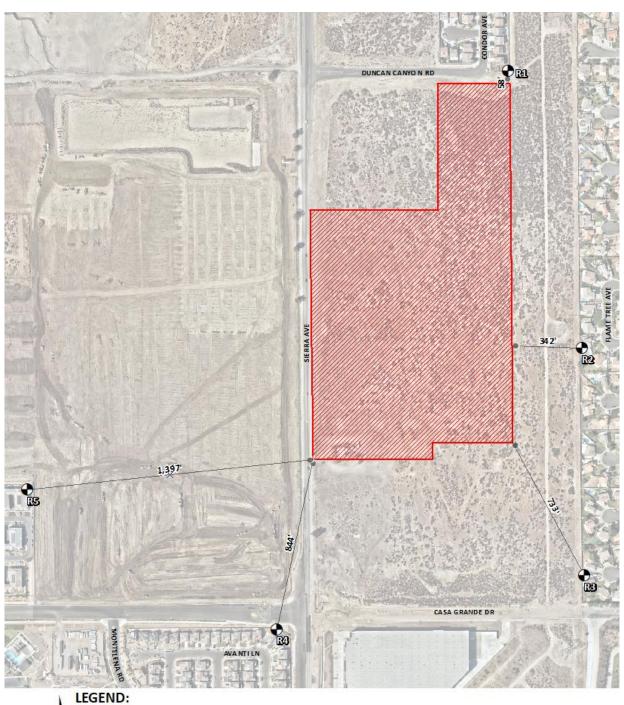




TABLE 20: TYPICAL CONSTRUCTION NOISE LEVEL COMPLIANCE

		Constru	ction Noise Leve	ls (dBA L _{eq})	
	Highest		Specified		
Receiver Location	Construction Noise Levels ¹	Construction Noise Specified Specified Specified		Outside of Specified Hours Nighttime ³	Hours Threshold Exceeded? ⁴
R1	59.8	Exempt	70	65	No
R2	50.5	Exempt	Exempt 70 65		No
R3	46.5	46.5 Exempt 70		65	No
R4	52.7	Exempt	70	65	No
R5	49.9	Exempt	70	65	No

¹ Highest construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations.

NIGHTTIME CONCRETE POUR NOISE ANALYSIS

Nighttime concrete pouring activities are often used to support reduced concrete mixer truck transit times and lower air temperatures than during the daytime hours and are generally limited to the actual building pad area as shown on Exhibit C. Since the nighttime concrete pours will take place outside the permitted City of Fontana Municipal Code, Section 18-63(b)(7) hours of 7:00 a.m. and 6:00 p.m. on weekdays and between the hours of 8:00 a.m. and 5:00 p.m. on Saturdays the Project Applicant will be required to obtain authorization for nighttime work from the City of Fontana. Any nighttime construction noise activities shall satisfy the residential noise limit categories.

NIGHTTIME CONCRETE POUR REFERENCE NOISE LEVEL MEASUREMENTS

To estimate the noise levels due to nighttime concrete pour activities, sample reference noise level measurements were taken during a nighttime concrete pour at a construction site. Urban Crossroads, Inc. collected short-term nighttime concrete pour reference noise level measurements during the noise-sensitive nighttime hours between 1:00 a.m. to 2:00 a.m. The reference noise levels describe the expected concrete pour noise sources that may include concrete mixer truck movements and pouring activities, concrete paving equipment, rear mounted concrete mixer truck backup alarms, engine idling, air brakes, generators, and workers communicating/whistling. To describe the nighttime concrete pour noise levels associated with the construction of the Sierra Business Center, this analysis relies on reference sound power level of 100.3 dBA L_w. While the Project noise levels will depend on the actual duration of activities and specific equipment fleet in use at the time of construction, the



² Specified hours of 7:00 a.m. to 6:00 p.m. on weekdays and between the hours of 8:00 a.m. to 5:00 p.m. on Saturdays as per the City of Fontana Municipal Code Section 18-63(7).

³ City of Fontana Development Code Section 30-543 exterior noise level standards for residential land use.

⁴ Do the estimated Project construction noise levels exceed the construction noise level threshold during the specified hours mentioned in The City of Fontana Municipal Code Section 18-63(7)?

reference sound power level of $100.3~dBA~L_w$ is used to describe the expected Project nighttime concrete pour noise activities.

NIGHTTIME CONCRETE POUR NOISE LEVEL COMPLIANCE

As shown on Table 21, the noise levels associated with the nighttime concrete pour activities are estimated to range from 31.8 to 48.0 dBA L_{eq} and will satisfy the City of Fontana 65 dBA L_{eq} nighttime stationary-source exterior hourly average L_{eq} residential noise level threshold at all the receiver locations. Based on the results of this analysis, all nearest noise receiver locations will experience *less than significant* impacts due to the Project related nighttime concrete pour activities. Appendix D includes the CadnaA nighttime concrete pour noise model inputs.

TABLE 5: NIGHTTIME CONCRETE POUR NOISE LEVEL COMPLIANCE

Receiver	Construction Noise Levels (dBA Leq)								
Location ¹	Paving Construction ²	Nighttime Threshold ³	Threshold Exceeded? ⁴						
R1	48.0	65	No						
R2	36.3	65	No						
R3	31.8	65	No						
R4	37.4	65	No						
R5	35.2	65	No						

¹ Noise receiver locations are shown on Exhibit C.

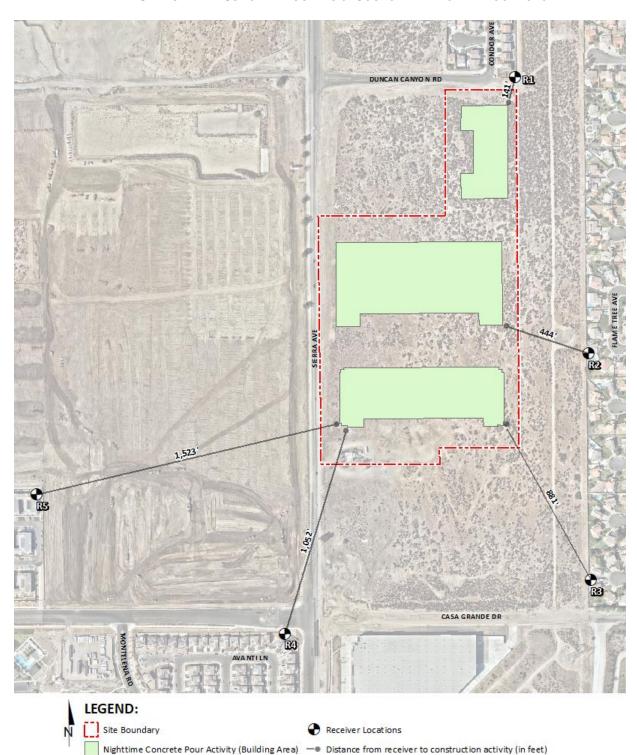


² Paving construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations.

³ Exterior noise level standards based on the City of Fontana Development Code Section 30-543.

⁴ Do the estimated Project construction noise levels exceed the nighttime construction noise level threshold?

EXHIBIT C: NIGHTTIME CONCRETE POUR NOISE SOURCE AND RECEIVER LOCATIONS





CONSTRUCTION VIBRATION ANALYSIS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods employed. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Ground vibration levels associated with various types of construction equipment are summarized on Table 22. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential for human response (annoyance) and building damage using the following vibration assessment methods defined by the FTA. To describe the vibration impacts the FTA provides the following equation: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

TABLE 22: 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

Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual

Table 23 presents the expected Project related vibration levels at the nearby receiver locations. At distances ranging from 58 to 1,397 feet from Project construction activities, construction vibration velocity levels are estimated to range from 0.000 to 0.025 in/sec PPV. Based on maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec), the typical Project construction vibration levels will fall below the building damage thresholds at all the noise sensitive receiver locations. Therefore, the Project-related vibration impacts are considered *less than significant* during typical construction activities at the Project site. Moreover, the vibration levels reported at the sensitive receiver locations are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

TABLE 23: PROJECT CONSTRUCTION VIBRATION LEVELS

Receiver ¹	Distance to Typical Construction Vibration Levels PPV (in/sec) ³						Thresholds	Thresholds
	Const. Activity (Feet) ²	Small bulldozer	Jackhammer	Loaded Trucks	Large bulldozer	Highest Vibration Level	PPV (in/sec) ⁴	Exceeded? ⁵
R1	58'	0.001	0.010	0.022	0.025	0.025	0.3	No
R2	342'	0.000	0.001	0.002	0.002	0.002	0.3	No
R3	733'	0.000	0.000	0.000	0.001	0.001	0.3	No
R4	844'	0.000	0.000	0.000	0.000	0.000	0.3	No
R5	1,397'	0.000	0.000	0.000	0.000	0.000	0.3	No

¹ Receiver locations are shown on Exhibit B.

CONCLUSIONS

This Noise Assessment demonstrates that the off-site study area roadway segments will experience less than significant Project-related traffic noise level increases. In addition, the operational noise levels associated with Sierra Business Center Project will satisfy the City of Fontana exterior noise level standards at all nearby receiver locations. Therefore, the operational noise impacts are considered less than significant at the nearby noise-sensitive receiver locations and the Project construction noise is not expected to result in significant noise impacts. If you have any questions, please contact me directly at (949) 584-3148.

Respectfully submitted,

URBAN CROSSROADS, INC.

Bill Lawson, P.E., INCE Principal



² Distance from receiver location to Project construction boundary (Project site boundary).

³ Based on the Vibration Source Levels of Construction Equipment (Table 22).

⁴ Caltrans Transportation and Construction Vibration Guidance Manual, April 2020, Table 19, p. 38.

⁵ Does the peak vibration exceed the acceptable vibration thresholds?

[&]quot;PPV" = Peak Particle Velocity

REFERENCES

- 1. **U.S. Department of Transportation, Federal Highway Administration.** *FHWA Highway Traffic Noise Prediction Model.* December 1978. FHWA-RD-77-108.
- 2. 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.
- 3. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report.* June 1995. FHWA/CA/TL-95/23.
- 4. **Urban Crossroads, Inc.** North Fontana Industrial Complex (Acacia) Traffic Study. January 2022.
- 5. California Court of Appeal. *Gray v. County of Madera, F053661.* 167 Cal.App.4th 1099; Cal.Rptr.3d, October 2008.
- 6. **Federal Interagency Committee on Noise.** Federal Agency Review of Selected Airport Noise Analysis Issues. August 1992.
- 7. 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.
- 8. **California Department of Transportation.** *Technical Noise Supplement.* November 2009.
- 9. California Department of Transportation Environmental Program. *Technical Noise Supplement A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA: s.n., September 2013.
- 10. U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning. FHWA Roadway Construction Noise Model. January, 2006.
- 11. City of Bakersfield. Metropolitan Bakersfield General Plan. December 2002.



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APPENDIX A

OFF-SITE TRAFFIC NOISE CONTOURS



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	FHWA-R	D-77-108 HIGH	IWAY	NOISE	PREDIC	CTION M	ODEL	(9/12/2	021)		
Road Na	ario: E me: Sierra Av. ent: n/o Rivers	ide Av.					Name: umber:		Business (Center	
	SPECIFIC I	NPUT DATA							L INPUT	S	
Highway Data				3	ite Cor	ditions	(Hara =				
-	y Traffic (Adt):	25,275 vehicl	es					Autos:			
	ır Percentage:	8.81%				edium Tru		,			
	Hour Volume:	_,	S		He	eavy Truc	cks (3+	Axles):	15		
	ehicle Speed:	55 mph		ν	'ehicle	Mix					
Near/Far L	.ane Distance:	90 feet			Ver	icleType		Day	Evening	Night	Daily
Site Data							Autos:	71.9%	12.2%	15.9%	93.47%
F	arrier Height:	0.0 feet			M	edium Ti	rucks:	75.3%	7.0%	17.7%	3.78%
Barrier Type (0-		0.0				Heavy Ti	rucks:	60.4%	12.0%	27.6%	2.75%
	Dist. to Barrier:	66.0 feet		٨	loise S	ource El	evation	ıs (in f	eet)		
Centerline Dis	t. to Observer:	66.0 feet				Auto:		.000	,		
Barrier Distanc	e to Observer:	0.0 feet			Mediu	m Trucks	s: 2	297			
Observer Heigh	Observer Height (Above Pad):				Hea	vy Trucks	s: 8	.004	Grade Ad	liustmen	t: 0.0
	Pad Elevation:									,	
R	Road Elevation: 0			L	ane Eq	uivalent		_ •	feet)		
	Road Grade:	0.0%				Autos		.539			
	Left View:	-90.0 degrees			Medium Trucks: 48.356						
	Right View:	90.0 degre	es		Heavy Trucks: 48.374						
FHWA Noise Mo	del Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Auto	s: 71.78	3 0.47		0.09	9	-1.20		-4.71	0.0	000	0.000
Medium Truck	s: 82.40	-13.46		0.11		-1.20		-4.88	0.0	000	0.000
Heavy Truck	s: 86.40	-14.83		0.11		-1.20		-5.30	0.0	000	0.000
Unmitigated Noi			barri	er atteni	uation)						
VehicleType	Leq Peak Ho	ur Leq Da	<i>y</i>	Leq Ev	ening	Leq	Night		Ldn	C	NEL
Auto	s: 7	1.1	69.5		67.8		64.	2	71.	8	72.2
Medium Truck		7.9	66.4		62.1		61.	.3	68.7		69.0
	Heavy Trucks: 7		68.0 72.9		67.0		65.	-	72.	-	73.0
Vehicle Noise	Vehicle Noise: 74.8				71.0		69.	.0	76.	1	76.5
Centerline Dista	nce to Noise C	ontour (in feet)								
			L	70 d		65 (dBA	_	60 dBA		dBA
		_	Ldn:		169		363	-	783		1,686
		С	NEL:		178		383	3	826	6	1,779

	FHWA-RI	D-77-108 HIGH	IWAY N	OISE	PREDIC	TION N	ODEL (9/12/2	(021)		
Road Nam	io: EA 2024 ne: Sierra Av. nt: n/o Riversi	de Av.					Name: S lumber:		Business C	enter	
SITE	SPECIFIC IN	IPUT DATA				- 1	IOISE N	/ODE	L INPUT	3	
Highway Data				S	ite Con	ditions	(Hard =	10, S	oft = 15)		
	Percentage:	26,898 vehicle 8.81%					ucks (2 A	,	: 15		
	lour Volume:	2,370 vehicle	S		не	avy Iru	cks (3+ A	axies)	: 15		
	hicle Speed:	55 mph		ν	/ehicle l	Vlix					
Near/Far La	ne Distance:	90 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	71.99	6 12.2%	15.9%	93.47%
Rai	rrier Height:	0.0 feet			M	edium T	rucks:	75.39	6 7.0%	17.7%	3.78%
Barrier Type (0-W		0.0			I	Heavy T	rucks:	60.49	6 12.0%	27.6%	2.75%
Centerline Di	st. to Barrier:	66.0 feet		^	loise Sc	urce F	levations	s (in f	eet)		
Centerline Dist.	to Observer:	66.0 feet		F	.0.00 00	Auto		000	001)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height ('Above Pad):	5.0 feet				y Truck		004	Grade Adj	ustment	- 0.0
Pa	ad Elevation:	0.0 feet		L							
Roa	ad Elevation:	0.0 feet		L	ane Eq		t Distanc	_	feet)		
i i	Road Grade:	0.0%				Auto		539			
	Left View:	-90.0 degree	es			m Truck		356			
	Right View:	90.0 degree	es		Heav	ry Truck	s: 48.	374			
FHWA Noise Mode	el Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresn	el	Barrier Atte	en Bei	m Atten
Autos:	71.78	0.74		0.09	9	-1.20		-4.71	0.0	100	0.000
Medium Trucks:	82.40	-13.19		0.11	I	-1.20		-4.88	0.0	00	0.000
Heavy Trucks:	86.40	-14.56		0.11	I	-1.20		-5.30	0.0	00	0.000
Unmitigated Noise	Levels (with	out Topo and	barrier	atteni	uation)						
VehicleType	Leq Peak Hou			Leq Ev	rening	Leq	Night		Ldn		NEL
Autos:			69.7		68.1		64.4		72.0		72.5
Medium Trucks:	68		66.7		62.3		61.6		69.0		69.3
Heavy Trucks:			68.3		67.3		66.2		72.9		73.2
Vehicle Noise:	75	5.1	73.2		71.3		69.2	2	76.4		76.7
Centerline Distanc	e to Noise C	ontour (in feet)								
			L	70 d		65	dBA		60 dBA	55	dBA
			Ldn:		176		379		816		1,758
			NEL:		185		400		861		1,855

)-77-108 HIGH	WAY	NOISE	PREDIC			•			
Scenari									Business (Center	
	e: Sierra Av.					Job N	lumber.	14283			
Road Segmei	nt: n/o Riversid	le Av.									
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Con	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	25,681 vehicle	S					Autos:	15		
Peak Hour	Percentage:	8.81%			Me	dium Tr	ucks (2	Axles):	15		
Peak H	our Volume:	2,263 vehicles			He	avy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	55 mph		H	Vehicle I	Vix					
Near/Far La	ne Distance:	90 feet		ŀ		icleType		Dav	Evenina	Night	Dailv
Site Data							Autos:	71.9%			93.219
	rier Heiaht:	0.0 feet			Me	edium T	rucks:	75.3%		17.7%	
Barrier Type (0-W		0.0 feet			F	leavy T	rucks:	60.4%	12.0%	27.6%	2.999
Centerline Dis	. ,	66.0 feet		L							
Centerline Dist		66.0 feet		L	Noise Sc				eet)		
Barrier Distance		0.0 feet				Auto		0.000			
Observer Height (5.0 feet				m Truck	-	2.297			
	ad Elevation:	0.0 feet			Heav	y Truck	s: 8	3.004	Grade Ad	justment	: 0.0
	d Elevation:	0.0 feet		f	Lane Eq	uivalen	t Distai	nce (in	feet)		
	Road Grade:	0.0%		ı		Auto	s: 48	3.539	,		
	Left View:	-90.0 degree	s		Mediui	m Truck	s: 48	3.356			
	Right View:	90.0 degree			Heav	y Truck	s: 48	3.374			
FHWA Noise Mode	I Calculation										
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	71.78	0.53		0.0		-1.20		-4.71		000	0.00
Medium Trucks:	82.40	-13.36		0.1	11	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	86.40	-14.41		0.1	11	-1.20		-5.30	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and I	barrie	er atter	nuation)						
VehicleType	Leq Peak Hou	r Leq Day		Leq E	vening	Leq	Night		Ldn	C	NEL
Autos:	71	.2 (39.5		67.9		64	.2	71.8	В	72.
Medium Trucks:	68	.0 (6.5		62.2		61	.4	68.	В	69.
Heavy Trucks:	70	.9 (38.5		67.5		66	.3	73.	1	73.
Vehicle Noise:	75	.0	73.1		71.2		69	.2	76.	3	76.
Centerline Distanc	e to Noise Co	ntour (in feet)									
			L	70	dBA	65	dBA		60 dBA		dBA
			Ldn:		175		37		811		1,748
			IEL:		184		39		856		

Friday, May 27, 2022

	FHWA-RI	D-77-108 HIGH	WAY NO	ISE PREDIC	CTION M	ODEL (9/12/2	021)	
Road Nar	rio: EAP 2024 ne: Sierra Av. ent: n/o Riversio	de Av.				Name: umber:		Business C	enter
SITE	SPECIFIC IN	IPUT DATA						L INPUTS	1
Highway Data				Site Cor	ditions	(Hard =	10, S	oft = 15)	
Average Daily	Traffic (Adt):	27,304 vehicle	:S				Autos.	15	
Peak Hou	r Percentage:	8.81%		Me	edium Tru	ıcks (2 i	4xles).	15	
Peak i	Hour Volume:	2,406 vehicles	3	He	eavy Truc	ks (3+)	4xles).	15	
V	ehicle Speed:	55 mph		Vehicle	Mix				
Near/Far La	ane Distance:	90 feet			icleTvpe		Day	Evenina	Night Daily
Site Data					,,, .	lutos:	71.99		15.9% 93.23%
P.	arrier Height:	0.0 feet		M	edium Tr		75.39		17.7% 3.80%
Barrier Type (0-V		0.0 feet			Heavy Tr	ucks:	60.49	6 12.0%	27.6% 2.97%
	ist. to Barrier:	66.0 feet							
Centerline Dist		66.0 feet		Noise S				eet)	
Barrier Distance		0.0 feet			Autos		000		
Observer Height		5.0 feet			m Trucks		297		
	Pad Flevation:	0.0 feet		Hea	vy Trucks	s: 8.	004	Grade Adju	ıstment: 0.0
Ro	ad Elevation:	0.0 feet		Lane Eq	uivalent	Distan	ce (in	feet)	
	Road Grade:	0.0%		·	Autos	s: 48.	539	· ·	
	Left View:	-90.0 degree	es.	Mediu	m Trucks	3: 48.	356		
	Right View:	90.0 degree		Hea	vy Trucks	3: 48.	374		
FHWA Noise Mod	lel Calculation	s							
VehicleType	REMEL	Traffic Flow	Distant	ce Finite	Road	Fresi	nel	Barrier Atte	n Berm Atten
Autos	71.78	0.80		0.09	-1.20		-4.71	0.0	0.00
Medium Trucks	82.40	-13.10		0.11	-1.20		-4.88	0.0	0.00
Heavy Trucks	86.40	-14.16		0.11	-1.20		-5.30	0.00	0.00
Inmitigated Nois				,					
Vehicle Type	Leq Peak Hou			q Evening		Night		Ldn	CNEL
Autos			69.8	68.1		64.		72.1	72.
Medium Trucks			66.7	62.4		61.		69.1	69.3
Heavy Trucks			68.7	67.7		66.0		73.3	73.
Vehicle Noise			73.4	71.5	i	69.	5	76.6	76.
Centerline Distan	ce to Noise Co	ontour (in feet)	_	70 dBA		dBA	1	60 dBA	55 dBA
			Ldn:	70 dBA 182	00 (392 392		844	33 aBA 1.818
			Lan: VEL:	192		413		890	1,918
		Cr	VEL.	192		413	'	890	1,918

Friday, May 27, 2022 Friday, May 27, 2022

	FHWA-RD-	-77-108 HIGH	WAY	NOISE	PREDIC	CTION M	IODEL	9/12/2	021)		
Road Na	nrio: OYC 2024 me: Sierra Av. ent: n/o Riverside	e Av.					Name: lumber:		Business (Center	
	SPECIFIC IN	PUT DATA			0:4- 0				L INPUT	S	
Highway Data					Site Cor	aitions	(Hara =				
		29,996 vehicle	es					Autos:			
	r Percentage:	8.81%				edium Tru		,			
		2,643 vehicles	8		H	eavy Truc	CKS (3+	Axies):	15		
	ehicle Speed: ane Distance:	55 mph 90 feet			Vehicle	Mix					
	arie Distance.	90 leet			Veh	icleType	•	Day	Evening	Night	Daily
Site Data							Autos:	71.9%		15.9%	93.47%
Bi	arrier Height:	0.0 feet				ledium Ti		75.3%		17.7%	
Barrier Type (0-1	Vall, 1-Berm):	0.0				Heavy Ti	rucks:	60.4%	12.0%	27.6%	2.75%
Centerline D	ist. to Barrier:	66.0 feet		ŀ	Noise S	ource El	evation	s (in f	eet)		
Centerline Dist	to Observer:	66.0 feet		ŀ		Auto		.000	,		
Barrier Distance	e to Observer:	0.0 feet			Mediu	m Trucks		297			
Observer Height	. ,	5.0 feet			Hea	vy Trucks	s: 8	.004	Grade Ad	justmen	t: 0.0
-	Pad Elevation:	0.0 feet		-							
Re	oad Elevation:	0.0 feet		-	Lane Eq			_ •	feet)		
	Road Grade:	0.0%				Auto		.539			
	Left View:	-90.0 degree				m Trucks		.356			
	Right View:	90.0 degree	es		неа	vy Truck:	s: 48	.374			
FHWA Noise Mod	del Calculations										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos		1.22		0.0	-	-1.20		-4.71		000	0.000
Medium Trucks		-12.72		0.1		-1.20		-4.88		000	0.000
Heavy Trucks	: 86.40	-14.09		0.1	1	-1.20		-5.30	0.0	000	0.000
Unmitigated Nois										1	
VehicleType	Leq Peak Hour		_	Leq E	vening		Night		Ldn		NEL
Autos		-	70.2		68.5		64.	-	72.	-	72.9
Medium Trucks		-	67.1		62.8		62.		69.		69.7
Heavy Trucks			68.8		67.8		66.	_	73.4		73.7
Vehicle Noise			73.7		71.8	1	69.	7	76.9	9	77.2
Centerline Distar	ice to Noise Coi	ntour (in feet))	70	dBA	65.	dBA		50 dBA	E1	dBA
			Ldn:	70	189	050	407 407		877		1.890
			VEL:		199		430		926		1,090
		0,			.55		.00		320		.,000

	FHWA-RI	D-77-108 HIGH	WAY NO	DISE	PREDIC	TION N	MODEL (S	/12/2	021)		
Scenari Road Nam	io: ne: Sierra Av.		-			.,	t Name: S lumber: 1		Business C	enter	
	nt: n/o Riversi	de Av.				0001	ramber.	7200			
	SPECIFIC IN	IPUT DATA							L INPUTS	•	
Highway Data				S	ite Con	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	29,996 vehicle	es					Autos:	15		
Peak Hour	Percentage:	8.81%			Me	dium Tr	ucks (2 A	xles):	15		
Peak H	lour Volume:	2,643 vehicles	S		He	avy Tru	cks (3+ A	xles):	15		
Ve	hicle Speed:	55 mph		V	'ehicle i	Miv					
Near/Far La	ne Distance:	90 feet		-		icleType	9	Day	Evening	Night	Daily
Site Data				-				71.9%	-	15.9%	93.47%
Par	rrier Height:	0.0 feet			М	edium T	rucks:	75.3%	7.0%	17.7%	3.78%
Barrier Type (0-W		0.0			1	Heavy T	rucks:	60.4%	12.0%	27.6%	2.75%
Centerline Di	st. to Barrier:	66.0 feet			Inisa Si	urco F	levations	(in f	not)		
Centerline Dist.	to Observer:	66.0 feet		-	10/36 00	Auto		000			
Barrier Distance	to Observer:	0.0 feet			Madiu	m Truck	0.0	97			
Observer Height ((Above Pad):	5.0 feet				/y Truck		004	Grade Adju	istment.	0.0
Pa	ad Elevation:	0.0 feet			rical	ry IIIUCH	3. 0.0	704	Ordao riaje	30111101111.	0.0
Roa	ad Elevation:	0.0 feet		L	ane Eq	uivalen	t Distanc	e (in	feet)		
	Road Grade:	0.0%				Auto	s: 48.5	539			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 48.3	356			
	Right View:	90.0 degree	es		Heav	y Truck	s: 48.3	374			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distar	псе	Finite	Road	Fresn	el	Barrier Atte	n Beri	n Atten
Autos:	71.78	1.22		0.09	9	-1.20		-4.71	0.0	00	0.000
Medium Trucks:	82.40			0.11		-1.20		-4.88	0.0		0.000
Heavy Trucks:	86.40	-14.09		0.11		-1.20		-5.30	0.0	00	0.000
Unmitigated Noise			barrier a	attenı	uation)						
VehicleType	Leq Peak Hou			eq Ev	ening		Night		Ldn	CN	IEL
Autos:			70.2		68.5		64.9		72.5		72.9
Medium Trucks:			67.1		62.8		62.1		69.5		69.7
Heavy Trucks:			68.8		67.8		66.6		73.4		73.7
Vehicle Noise:	75	5.6	73.7		71.8		69.7		76.9		77.2
Centerline Distanc	ce to Noise Co	ontour (in feet)	70	-		10.4				
			느	70 d		65	dBA		60 dBA	55	dBA
			Ldn:		189		407		877		1,890
		Ci	VEL:		199		430		926		1,995

D-77-108 HIGH									
				.,			Business (Center	
				Job Nu	ımber:	14283			
NPUT DATA			Site Con					S	
20 400 vehiel			one con	unions (
,	es		Ma	dium Teu					
						,			
,	es .		He	avy iruci	KS (3+)	4xies):	15		
		Ī	Vehicle I	Иiх					
90 feet			Veh	icleType		Day	Evening	Night	Daily
				A	utos:	71.9%	12.2%	15.9%	93.25%
0.0 feet			M	edium Tru	ucks:	75.3%	7.0%	17.7%	3.80%
0.0			1	leavy Tru	ucks:	60.4%	12.0%	27.6%	2.95%
66.0 feet									
66.0 feet			Noise So				eet)		
0.0 feet									
5.0 feet									
0.0 feet			Heav	y Trucks	: 8.	004	Grade Ad	ustment	0.0
0.0 feet		Ī	Lane Eq	uivalent	Distan	ce (in i	feet)		
0.0%		Ī		Autos	: 48	539			
-90.0 degre	es		Mediu	m Trucks	: 48	356			
			Heav	y Trucks	: 48	374			
-	0:	-4	F1-14-	D/	F	1	D 44	D	44
					Fresi				m Atten 0.000
									0.000
									0.000
				-1.20		-5.30	0.0	000	0.000
					E-lat	1	1 -1		
	_	Leq E		Leq N		1			73.0
						-		-	69.8
						_		-	74.1
						-			77.4
***			12.0		00.				11.5
ontour (in fee	t)	70	dBA	65 d	IRA	-	0 dBA	55	dBA
	Ldn:		195		420		904		1.948
	9.81% 2,678 vehicle 55 mph 90 feet 0.0 feet 0.0 fe	30,402 vehicles 8.81% 2,678 vehicles 55 mph 90 feet 0.0 feet 0.1 feet 0.0 f	30,402 vehicles	Site Con Site Con	NPUT DATA	Noise Site Conditions (Hard = 30,402 vehicles 8.81% Medium Trucks (2 + 2,678 vehicles 55 mph 90 feet Medium Trucks (3 + 2,678 vehicles 66.0 feet 0.0 feet Medium Trucks 2.660 feet 2.660 feet	NPUT DATA NOISE MODE	NPUT DATA	Noise Nois

Friday, May 27, 2022

	FHWA-RD-	77-108 HIGH	WAY	NOISE	PREDIC	TION MO	DDEL (9/12/20	021)		
Scenario:						Project I	Vame:	Sierra	Business (Center	
Road Name:						Job Nu	mber:	14283			
Road Segment: 1	n/o Riverside	Av.									
	ECIFIC INP	UT DATA			0:4- 0				L INPUT	S	
Highway Data					Site Con	aitions (
Average Daily Tra		0,809 vehicle	S					Autos:	15		
Peak Hour Per		8.81%				dium Tru					
Peak Hour		,714 vehicles			He	avy Truci	ks (3+ /	Axles):	15		
	e Speed:	55 mph		f	Vehicle I	Nix					
Near/Far Lane I	Distance:	90 feet		İ	Vehi	cleType		Day	Evening	Night	Daily
ite Data						A	utos:	71.9%	12.2%	15.9%	93.04%
Barrie	r Heiaht:	0.0 feet			Me	edium Tru	icks:	75.3%	7.0%	17.7%	3.82%
Barrier Type (0-Wall,		0.0			F	leavy Tru	icks:	60.4%	12.0%	27.6%	3.14%
Centerline Dist. to	,	66.0 feet			Noise So	uraa Ela	vetion	a (in fe	nad)		
Centerline Dist. to C	Observer:	66.0 feet		F	Noise 30	Autos			et)		
Barrier Distance to C	Observer:	0.0 feet					٠.	000 297			
Observer Height (Abo	ove Pad):	5.0 feet				n Trucks			Crodo Ad	ii iatma n	t. 0.0
Pad E	levation:	0.0 feet			Heav	y Trucks	8.	004	Grade Ad	jusunem	. 0.0
Road E	levation:	0.0 feet		Ī	Lane Equ	uivalent	Distan	ce (in i	feet)		
Roa	d Grade:	0.0%				Autos	48.	539			
L	.eft View:	-90.0 degree	s		Mediur	n Trucks	48.	356			
Ri	ght View:	90.0 degree	s		Heav	y Trucks	48.	374			
HWA Noise Model C	alculations										
,,, .		Traffic Flow	Dist	tance	Finite		Fresr	-	Barrier Att		rm Atten
Autos:	71.78	1.31		0.0	-	-1.20		-4.71		000	0.000
Medium Trucks:	82.40	-12.55		0.1		-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-13.40		0.1	1	-1.20		-5.30	0.0	000	0.000
Inmitigated Noise Le	vels (withou	it Topo and	barrie	r atter	uation)						
VehicleType Led	q Peak Hour	Leq Day		Leq E	vening	Leq N	light		Ldn	С	NEL
Autos:	72.0		70.3		68.6		65.0		72.	-	73.0
Medium Trucks:	68.8		37.3		63.0		62.2	2	69.	6	69.9
Heavy Trucks:	71.9		39.5		68.5		67.3		74.	•	74.4
Vehicle Noise:	75.9		74.0		72.1		70.	1	77.:	2	77.6
Centerline Distance t	o Noise Con	tour (in feet)									
				70	dBA	65 d	BA	6	60 dBA	55	dBA
			Ldn:		201		432		931		2,006
		CI	IEL:		212		456		982		2,116

	FHWA-RI	D-77-108 HIGH	WAY	NOISE	PREDIC	TION M	ODEL	(9/12/20	021)		
	rio: ne: Sierra Av. ent: n/o Riversi	de Av.						Sierra l 14283	Business (Center	
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data				3	Site Cor	ditions (Hard =				
Average Daily	. ,	91 vehicle	es					Autos:	15		
	r Percentage:	8.81%				dium Tru		,	15		
	Hour Volume:	8 vehicle	S		He	avy Truc	ks (3+	Axles):	15		
	ehicle Speed:	55 mph		١	/ehicle	Mix					
Near/Far La	ane Distance:	90 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						- A	utos:	71.9%	12.2%	15.99	6 93.47%
Rs	arrier Heiaht:	0.0 feet			М	edium Tr	ucks:	75.3%	7.0%	17.79	6 3.78%
Barrier Type (0-V		0.0				Heavy Tr	ucks:	60.4%	12.0%	27.69	6 2.75%
Centerline D	ist. to Barrier:	66.0 feet		,	Voise S	ource Ele	evation	ns (in fe	et)		
Centerline Dist	to Observer:	66.0 feet				Autos		.000			
Barrier Distance	to Observer:	0.0 feet			Mediu	m Trucks		297			
Observer Height	(Above Pad):	5.0 feet			Hear	vy Trucks	: 8	.004	Grade Ad	iustmer	nt: 0.0
F	Pad Elevation:	0.0 feet									
Ro	ad Elevation:	0.0 feet		L	.ane Eq	uivalent		_ •	eet)		
	Road Grade:	0.0%				Autos		.539			
	Left View:	-90.0 degree	es			m Trucks		.356			
	Right View:	90.0 degree	es		Hea	y Trucks	s: 48	.374			
FHWA Noise Mod	lel Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fres		Barrier Att	en Be	erm Atten
Autos.	71.78	-23.96		0.09	9	-1.20		-4.71	0.0	000	0.000
Medium Trucks.	82.40	-37.90		0.1	1	-1.20		-4.88	0.0	000	0.000
Heavy Trucks.	86.40	-39.27		0.1	1	-1.20		-5.30	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barri	er atten	uation)						
VehicleType	Leq Peak Hou	. , . ,		Leg Ev	rening	Leq I	Night		Ldn		CNEL
Autos.		5.7	45.0		43.4		39.		47.3	-	47.8
Medium Trucks.			42.0		37.6		36.	-	44.3	-	44.6
Heavy Trucks.			43.6		42.6		41.	_	48.2		48.5
Vehicle Noise	50).4	48.5		46.6		44.	.5	51.	7	52.0
Centerline Distant	ce to Noise Co	ontour (in feet)								
			L	70 c		65 0			0 dBA		5 dBA
			Ldn:		4			9	18		40
		C	NEL:		4		9	9	19	1	42

	FHWA-RD-	77-108 HIGH	WAY NO	ISE PRE	DICTION N	IODEL	(9/12/2	021)		
Scenario: E Road Name: S Road Segment: n	Sierra Av.	ta Dr.					: Sierra : 14283	Business (Center	
SITE SPE	CIFIC INF	UT DATA			-	NOISE	MODE	L INPUT	S	
Highway Data				Site	Conditions	(Hard	= 10, S	oft = 15)		
Average Daily Traf	ffic (Adt): 1	2,442 vehicle	s				Autos	15		
Peak Hour Per	centage:	8.81%			Medium Tr	ucks (2	Axles).	15		
Peak Hour	Volume: 1	1,096 vehicles			Heavy Tru	cks (3+	Axles).	15		
	e Speed:	55 mph		Vehic	le Mix					
Near/Far Lane D	Distance:	90 feet			/ehicleType	9	Dav	Evening	Night	Daily
Site Data						Autos:	71.9%	6 12.2%	15.9%	93.47%
Rarrier	Height:	0.0 feet			Medium T	rucks:	75.3%	7.0%	17.7%	3.78%
Barrier Type (0-Wall,		0.0			Heavy T	rucks:	60.4%	6 12.0%	27.6%	2.75%
Centerline Dist. to		66.0 feet		Noise	Source E	levatio	ns (in f	eet)		
Centerline Dist. to O		66.0 feet			Auto	s: (0.000	,		
Barrier Distance to O		0.0 feet		Me	dium Truck	s:	2.297			
Observer Height (Abo	,	5.0 feet		F	eavy Truck	:s: 8	3.004	Grade Ad	justment	0.0
	levation:	0.0 feet			- 	4 Di-4-	//	£4)		
	levation:	0.0 feet		Lane	Equivalen Auto		nce (in 8.539	reet)		
	d Grade: eft View:	0.0%		14	Auto dium Truck		8.356			
_	en view: ght View:	-90.0 degree			eavy Truck		8.374			
FHWA Noise Model Ca	alculations									
VehicleType F	REMEL	Traffic Flow	Distan	ce Fi	nite Road	Fres	snel	Barrier Att	en Ber	m Atten
Autos:	71.78	-2.60		0.09	-1.20		-4.71	0.0	000	0.000
Medium Trucks:	82.40	-16.54		0.11	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	86.40	-17.91		0.11	-1.20		-5.30	0.0	000	0.000
Unmitigated Noise Le	vels (withou	ut Topo and I	oarrier a	ttenuatio	n)					
VehicleType Leq	Peak Hour	Leq Day	Le	q Evenin	g Leq	Night		Ldn	C	NEL
Autos:	68.1		6.4	-	4.7	61		68.		69.1
Medium Trucks:	64.8		33.3	-	9.0	58		65.		65.9
Heavy Trucks:	67.4		35.0		4.0	62		69.0	-	69.9
Vehicle Noise:	71.7		89.8	6	8.0	65	.9	73.0	ט	73.4
Centerline Distance to	Noise Cor	tour (in feet)		70 dBA	65	dBA		60 dBA	55	dBA
			.dn:		05	22		488		1.051

FHWA-R	D-77-108 HIGHV	VAY N	OISE	PREDIC	TION M	ODEL (9/12/20	021)		
Scenario:								Business (Center	
Road Name: Sierra Av.	d = . A				Job Nu	ımber:	14283			
Road Segment: n/o Riversi										
SITE SPECIFIC II Highway Data	NPUT DATA			Site Con	Ni ditions (L INPUT ft = 15)	S	
Average Daily Traffic (Adt):	904 vehicles	,					Autos:	15		
Peak Hour Percentage:	8.81%			Me	dium Tru			15		
Peak Hour Volume:	80 vehicles				avy Truc			15		
Vehicle Speed:	55 mph		L			(
Near/Far Lane Distance:	90 feet		١	/ehicle I			D	Cinn	A Contra	D-#-
Di4- D-4-				veni	cleType	utos:	Day 71.9%	Evening 12.2%	Night	78.77°
Site Data			-	1.4	A dium Tn		71.9%		17.7%	
Barrier Height:	0.0 feet				leavy Tri		60.4%			16.129
Barrier Type (0-Wall, 1-Berm):	0.0			,	icavy III	Juna.	00.470	12.070	27.070	10.12
Centerline Dist. to Barrier:	66.0 feet		٨	Voise So	urce Ele	vation	s (in fe	et)		
Centerline Dist. to Observer:	66.0 feet				Autos	: 0.	000			
Barrier Distance to Observer:	0.0 feet			Mediur	n Trucks	: 2.	297			
Observer Height (Above Pad):	5.0 feet			Heav	y Trucks	: 8.	004	Grade Ad	justment	. 0.0
Pad Elevation:	0.0 feet		١.			D : 4				
Road Elevation:	0.0 feet		L	.ane Equ	uivalent			eet)		
Road Grade:	0.0%				Autos		539			
Left View:	-90.0 degrees				n Trucks		356			
Right View:	90.0 degrees	8		Heav	y Trucks	: 48.	374			
FHWA Noise Model Calculation	s									
VehicleType REMEL	Traffic Flow	Dista		Finite		Fresi		Barrier Att	_	rm Atten
Autos: 71.78			0.09		-1.20		-4.71		000	0.00
Medium Trucks: 82.40			0.11		-1.20		-4.88		000	0.00
Heavy Trucks: 86.40	-21.62		0.11	1	-1.20		-5.30	0.0	000	0.00
Unmitigated Noise Levels (with									_	
VehicleType Leq Peak Ho		_	Leq Ev		Leq N	_		Ldn	_	NEL
		4.3		52.6		49.0	-	56.	-	57
		3.2		48.9		48.2	_	55.0		55
		1.3		60.2		59.		65.9 66.7		66 67
Centerline Distance to Noise C				01.2		00.1	_	30.	•	- 51
Demenine Distance to Noise C	untour (In reet)		70 d	IBA	65 a	IBA	6	0 dBA	55	dBA
	L	dn:		40		86		184		39

Friday, May 27, 2022

	FHWA-RI	D-77-108 HIGH	WAY N	OISE	PREDIC	TION M	ODEL	(9/12/2	(021)		
Road Nar	rio: E+P ne: Sierra Av. ent: n/o Terra V	rista Dr.						Sierra 14283	Business (Center	
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data					Site Con	ditions	(Hard	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	12,894 vehicle	es					Autos			
Peak Hou	r Percentage:	8.81%				dium Tru					
	Hour Volume:	1,136 vehicles	3		He	avy Truc	ks (3+	Axles)	: 15		
	ehicle Speed:	55 mph		١	/ehicle l	Wix					
Near/Far La	ane Distance:	90 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						F	lutos:	71.99	6 12.2%	15.9%	92.98%
Ra	arrier Height:	0.0 feet			M	edium Tr	ucks:	75.39	6 7.0%	17.7%	3.81%
Barrier Type (0-V		0.0			- 1	Heavy Tr	ucks:	60.49	6 12.0%	27.6%	3.21%
Centerline D	ist. to Barrier:	66.0 feet		-	Vaina Ca	ource Ele	overtie	na (in i	in net)		
Centerline Dist	to Observer:	66.0 feet		,	voise sc	Autos		0.000	eei)		
Barrier Distance	to Observer:	0.0 feet				m Trucks		297			
Observer Height	(Above Pad):	5.0 feet				m Trucks vy Trucks		.004	Grade Ad	iustman	
F	Pad Elevation:	0.0 feet			пеач	ry Trucks	s. c	.004	Orauc Au	justinem	. 0.0
Ro	oad Elevation:	0.0 feet		I	ane Eq	uivalent	Distar	nce (in	feet)		
	Road Grade:	0.0%				Autos	s: 48	3.539			
	Left View:	-90.0 degree	es		Mediu	m Trucks	s: 48	3.356			
	Right View:	90.0 degree	es		Heav	y Trucks	s: 48	3.374			
FHWA Noise Mod	lel Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista		Finite		Fres		Barrier Att		rm Atten
Autos				0.09	-	-1.20		-4.71		000	0.000
Medium Trucks				0.1		-1.20		-4.88		000	0.000
Heavy Trucks				0.1		-1.20		-5.30	0.0	000	0.000
Unmitigated Nois							h II I-4		Ldn		NFL.
VehicleType Autos	Leq Peak Hot		66.5	ey E	ening 64.8	Leq	Night 61	2	Lan 68.		NEL 69.3
Medium Trucks			63.5		59.2		58		65.1		66.1
Heavy Trucks			65.8		64.8		63		70.4	-	70.7
Vehicle Noise			70.2		68.4		66		73.		73.8
Centerline Distan	ce to Noise C	ontour (in feet))								
				70 c	IBA	65 (dBA		60 dBA	55	dBA
			Ldn:		113		24	3	524	,	1,130
	CNEL:				119 257 553 1,19				1.191		

	FHWA-RD	0-77-108 HIGH	IWAY	NOISI	E PREDI	CTION N	IODEL	(9/12/2	021)		
Road Nam	io: EA 2024 ne: Sierra Av. nt: n/o Terra V	ista Dr.					t Name: lumber:		Business (Center	
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Co	nditions	(Hard :	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	13,280 vehicle	es					Autos:	15		
Peak Hour	Percentage:	8.81%			М	edium Tr	ucks (2	Axles).	15		
Peak H	lour Volume:	1,170 vehicle	S		H	eavy Tru	cks (3+	Axles).	15		
Ve	hicle Speed:	55 mph			Vehicle	Mix					
Near/Far La	ne Distance:	90 feet				nicleType		Day	Evening	Night	Daily
Site Data							Autos:	71.9%	6 12.2%	15.9%	6 93.47%
Rai	rrier Height:	0.0 feet			Λ.	ledium T	rucks:	75.3%	7.0%	17.79	6 3.78%
Barrier Type (0-W		0.0				Heavy T	rucks:	60.4%	6 12.0%	27.69	6 2.75%
Centerline Di	st. to Barrier:	66.0 feet			Noise S	ource E	levatio	ns (in f	eet)		
Centerline Dist.	to Observer:	66.0 feet				Auto		.000	,		
Barrier Distance	to Observer:	0.0 feet			Medii	ım Truck		.297			
Observer Height ((Above Pad):	5.0 feet			Hea	vy Truck		.004	Grade Ad	liustmen	t: 0.0
Pa	ad Elevation:	0.0 feet								,	
Roa	ad Elevation:	0.0 feet			Lane Ed	uivalen			feet)		
1	Road Grade:	0.0%				Auto		3.539			
	Left View:	-90.0 degre	es			ım Truck		3.356			
	Right View:	90.0 degre	es		Hea	vy Truck	s: 48	3.374			
FHWA Noise Mode	el Calculations	s									
VehicleType	REMEL	Traffic Flow		tance	_	Road	Fres		Barrier Att		rm Atten
Autos:	71.78	-2.32			09	-1.20		-4.71		000	0.000
Medium Trucks:	82.40	-16.25			11	-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-17.63		0.	11	-1.20		-5.30	0.0	000	0.000
Unmitigated Noise								_			
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn		NEL
Autos:	68		66.7		65.0		61		69.	-	69.4
Medium Trucks:	65		63.6		59.3		58		65.		66.2
Heavy Trucks: Vehicle Noise:	67 72		65.2 70.1		64.2		63 66		69. 73.	-	70.2
Centerline Distance			1								
Contenine Distant		our (iii řeet		70	dBA	65	dBA	1	60 dBA	5	5 dBA
			Ldn:		110		23	7	510)	1,098
		C	NEL:		116		25	0	538	3	1,159

	FHWA-RI	D-77-108 HIGH	WAY NO	DISE	PREDIC	TION M	IODEL	(9/12/2	(021)		
	rio: OYC 2024 ne: Sierra Av.						Name: lumber:		Business (Center	
Road Segme	nt: n/o Terra V	ista Dr.									
SITE	SPECIFIC IN	PUT DATA				N	IOISE	MODE	L INPUT	s	
Highway Data				S	ite Con	ditions	(Hard :	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	17,355 vehicle	es					Autos	: 15		
Peak Hour	Percentage:	8.81%			Me	dium Tr	ucks (2	Axles)	: 15		
Peak H	Hour Volume:	1,529 vehicles	3		He	avy Tru	cks (3+	Axles)	: 15		
Ve	ehicle Speed:	55 mph		V	ehicle i	Miv					
Near/Far La	ne Distance:	90 feet		-		icleType		Day	Evening	Night	Daily
Site Data							Autos:	71.99	-	15.9%	
	rrier Height:	0.0 feet			М	edium T		75.39		17.7%	
Barrier Type (0-V		0.0 feet				Heavy T	rucks:	60.49	6 12.0%	27.6%	2.75%
*, ,	ist. to Barrier:	66.0 feet		L							
Centerline Dist		66.0 feet		٨	loise So	ource El			eet)		
Barrier Distance	to Observer:	0.0 feet				Auto		.000			
Observer Height	(Above Pad):	5.0 feet				m Truck		.297			
P			Heav	ry Truck	s: 8	.004	Grade Ad	justmen	: 0.0		
Ro	ad Elevation:	0.0 feet 0.0 feet		L	ane Eq	uivalent	Distar	ce (in	feet)		
	Road Grade:	0.0%				Auto	s: 48	.539			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 48	.356			
	Right View:	90.0 degree			Heav	y Truck	s: 48	.374			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distar			Road	Fres		Barrier Att		rm Atten
Autos:		-1.16		0.09		-1.20		-4.71		000	0.000
Medium Trucks:		-15.09		0.11		-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-16.47		0.11		-1.20		-5.30	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier a	ttenu	ıation)						
VehicleType	Leq Peak Hou			eq Ev	ening		Night		Ldn		NEL
Autos:			67.8		66.2		62		70.		70.6
Medium Trucks:			64.8		60.4		59		67.		67.4
Heavy Trucks:			66.4		65.4		64		71.0		71.3
Vehicle Noise:	73	.2	71.3		69.4		67	.3	74.	5	74.8
Centerline Distan	ce to Noise Co	ontour (in feet)	1					_		1	
			L	70 d		65	dBA		60 dBA		dBA
			Ldn:		131		28		609		1,312
		CI	VEL:		138		29	5	643	5	1,385

0	FAD 0004					Desire	4.8/		Duning of		_			
	o: EAP 2024 e: Sierra Av							r: 14283	Business (Jenter				
	e: Sierra Av. nt: n/o Terra Vi	eta Dr				JOD I	vumbe	r: 14283						
						_								
Highway Data	SPECIFIC IN	PUT DATA			Site Con				L INPUT oft = 15)	5				
Average Daily	Traffic (Adt):	13.731 vehicles	s				•	Autos:	15					
	Percentage:	8.81%			Me	dium Ti	rucks (2 Axles):						
		1.210 vehicles						+ Axles):						
	hicle Speed:	55 mph		-				/						
Near/Far Lar		90 feet		- 1	Vehicle I		_	D	E in	A Contra	D-11.			
Site Data				-	veni	cleTyp	e Autos:	Day 71.9%	Evening 12.2%	Night 15.9%	93.01			
					14	edium 1				17.7%				
	rier Height:	0.0 feet				leavy 7				27.6%				
Barrier Type (0-W	. ,	0.0			,	icavy i	rucho.	00.4%	12.070	21.070	3.10			
Centerline Dis		66.0 feet		1	Noise So	urce E	levatio	ons (in fe	eet)					
Centerline Dist.		66.0 feet				Auto	os.	0.000						
Barrier Distance t		0.0 feet			Mediur	n Truck	(S.	2.297						
Observer Height (,	5.0 feet			Heav	y Truck	(S.	8.004	Grade Ad	ade Adjustment: 0.0				
	d Elevation:	0.0 feet		١.			4 Di-4		£4)					
	d Elevation:	0.0 feet		-	Lane Equ				reet)					
F	Road Grade:	0.0%				Auto		8.539						
	Left View:	-90.0 degrees				n Truck		8.356						
	Right View:	90.0 degrees	5		Heav	y Truck	(S: 4	8.374						
FHWA Noise Mode														
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite		Fre		Barrier Att		m Atter			
Autos:	71.78	-2.20		0.09	-	-1.20		-4.71		000	0.0			
Medium Trucks:	82.40	-16.07		0.1		-1.20		-4.88		000	0.00			
Heavy Trucks:	86.40	-16.85		0.1	1	-1.20		-5.30	0.0	000	0.00			
Unmitigated Noise								-						
	Leq Peak Hou		_	Leq E		Leq	Night		Ldn		NEL			
Autos:	68.		6.8		65.1		-	1.5	69.		69			
Medium Trucks:	65.		3.8		59.5		-	8.7	66.		66			
Heavy Trucks:	68.	-	6.0		65.0		-	3.9	70.0	-	70			
Vehicle Noise:	72.		0.5		68.6		6	6.6	73.	В	74			
Centerline Distanc	e to Noise Co	ntour (in feet)	_	70 -	JDA I	65	dD A		en ana		dD A			
		,	dn:	70 c		05	dBA	_	0 dBA		dBA			
		_	.dn: EL:		117 124			53 67	545 575		1,17			

Friday, May 27, 2022

	FHWA-RI	D-77-108 HIGH	WAY	NOISE	PREDIC	TION N	IODEL	(9/12/2	2021)		
Road Na	ario: OYCP 202 me: Sierra Av. ent: n/o Terra V							: Sierra : 14283	Business (Center	
	SPECIFIC IN	NPUT DATA			0				EL INPUT	s	
Highway Data					Site Con	aitions	(Hara				
	y Traffic (Adt):	17,806 vehicle	es					Autos			
	ır Percentage:	8.81%				dium Tr					
	Hour Volume:	1,569 vehicles	3		He	avy Tru	cks (3+	- Axles)	: 15		
	ehicle Speed:	55 mph		İ	Vehicle I	Mix					
Near/Far L	.ane Distance:	90 feet		İ	Veh	icleType	,	Day	Evening	Night	Daily
Site Data							Autos:	71.99	6 12.2%	15.9%	93.11%
B	arrier Height:	0.0 feet			М	edium T	rucks:	75.39	6 7.0%	17.7%	3.80%
Barrier Type (0-		0.0			1	Heavy T	rucks:	60.49	6 12.0%	27.6%	3.09%
Centerline L	Dist. to Barrier:	66.0 feet		ł	Noise So	ource Fl	levatio	ns (in t	feet)		
Centerline Dis	t. to Observer:	66.0 feet		ŀ		Auto		0.000	000,		
Barrier Distanc	e to Observer:	0.0 feet			Modiu	m Truck		2.297			
Observer Heigh	t (Above Pad):	5.0 feet				n Truck vy Truck	٠.	B.004	Grade Ad	iustmani	. 0 0
1	Pad Elevation:	0.0 feet			пеач	ry Truck	S	5.004	Orauc Au	ustricii	. 0.0
R	oad Elevation:	0.0 feet			Lane Eq	uivalen	t Dista	nce (in	feet)		
	Road Grade:	0.0%				Auto	s: 4	8.539			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 4	8.356			
	Right View:	90.0 degree	es		Heav	y Truck	s: 4	8.374			
FHWA Noise Mo	del Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fre	snel	Barrier Att	en Bei	m Atten
Autos	3: 71.78	-1.06		0.0)9	-1.20		-4.71	0.0	000	0.000
Medium Trucks	82.40	-14.95		0.1	11	-1.20		-4.88	0.0	000	0.000
Heavy Trucks	86.40	-15.86		0.1	11	-1.20		-5.30	0.0	000	0.000
Unmitigated Noi	se Levels (with	out Topo and	barrie	er attei	nuation)						
VehicleType	Leq Peak Hot			Leq E	vening		Night		Ldn		NEL
Autos			67.9		66.3			2.6	70.2	_	70.7
Medium Trucks			64.9		60.6			9.8	67.2	_	67.5
Heavy Trucks			67.0		66.0			1.9	71.6		71.9
Vehicle Noise	e: 73	3.5	71.6		69.7		67	.7	74.8	3	75.2
Centerline Dista	nce to Noise C	ontour (in feet))								
			L	70	dBA	65	dBA		60 dBA		dBA
			Ldn:		138		29	-	642		1,383
		CI	VEL:		146		31	4	677		1,459

	FHWA-RI	D-77-108 HIGH	IWAY	NOISE	PREDIC	TION M	ODEL	(9/12/20	21)		
	rio: ne: Sierra Av. ent: n/o Terra V	rista Dr.						Sierra I 14283	Business (Center	
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data					Site Cor	ditions (Hard =	= 10, So	ft = 15)		
Average Daily	Traffic (Adt):	17,355 vehicle	es					Autos:	15		
Peak Hour	Percentage:	8.81%			Me	dium Tru	icks (2	Axles):	15		
Peak I	Hour Volume:	1,529 vehicle	S		He	avy Truc	ks (3+	Axles):	15		
Ve	ehicle Speed:	55 mph		h	/ehicle	Mix					
Near/Far La	ane Distance:	90 feet		Ė		icleType		Day	Evening	Night	Daily
Site Data						A	utos:	71.9%	12.2%	15.9%	93.47%
Ba	rrier Height:	0.0 feet			М	edium Tr	ucks:	75.3%	7.0%	17.7%	3.78%
Barrier Type (0-V		0.0				Heavy Tr	ucks:	60.4%	12.0%	27.6%	2.75%
Centerline D	ist. to Barrier:	66.0 feet		- 1	Voise S	ource Ele	vation	ns (in fe	et)		
Centerline Dist.	to Observer:	66.0 feet		F.	10,00 0	Autos		.000	0.,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Trucks		297			
Observer Height	(Above Pad):	5.0 feet				y Trucks			Grade Ad	liustmen	t: 0.0
P	ad Elevation:	0.0 feet			1100	ry Trucks	. 0	.004	0,440,714	juoumom	0.0
Ro	ad Elevation:	0.0 feet		1	Lane Eq	uivalent	Distar	ice (in f	eet)		
	Road Grade:	0.0%				Autos		3.539			
	Left View:	-90.0 degre	es		Mediu	m Trucks	: 48	3.356			
	Right View:	90.0 degre	es		Hea	y Trucks	: 48	3.374			
FHWA Noise Mod	lel Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos:	71.78	-1.16		0.0	9	-1.20		-4.71	0.0	000	0.000
Medium Trucks:	82.40	-15.09		0.1	1	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	86.40	-16.47		0.1	1	-1.20		-5.30	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barri	er atten	uation)						
VehicleType	Leq Peak Hou			Leq E		Leq I			Ldn		NEL
Autos:		9.5	67.8		66.2		62.	-	70.		70.6
Medium Trucks:		5.2	64.8		60.4		59.		67.		67.4
Heavy Trucks:		3.8	66.4		65.4		64.		71.		71.3
Vehicle Noise:	73	3.2	71.3		69.4		67.	.3	74.	5	74.8
Centerline Distan	ce to Noise C	ontour (in feet)								
				70 c	iBA	65 d	iBA	6	0 dBA	55	5 dBA
			Ldn:		131		283	-	609		1,312
		C	NEL:		138		29	8	643	3	1,385

	FHWA-RD)-77-108 HIGH	WAY N	OISE PREDI	CTION N	10DEL (9/12	/2021)				
Scenari Road Name Road Segmen	e: Sierra Av.	ista Dr.				t Name: Sieri Iumber: 1428	ra Business C 33	Center			
SITE S	SPECIFIC IN	PUT DATA				NOISE MOD	EL INPUT	S			
Highway Data				Site Cor	nditions	(Hard = 10,	Soft = 15)				
Peak H	Percentage: our Volume: hicle Speed:	92 vehicle 8.81% 8 vehicle 55 mph 90 feet		Vehicle	eavy Tru Mix	Auto rucks (2 Axles cks (3+ Axles	s): 15 s): 15				
	io Diotarioo.	30 1001		Vel	nicleType			Night Daily			
Site Data Barrier Type (0-W	rier Height: all, 1-Berm):	0.0 feet 0.0			ledium 7 Heavy 7		3% 7.0%	15.9% 93.47% 17.7% 3.78% 27.6% 2.75%			
Centerline Dis	t. to Barrier:	66.0 feet		Noise S	ource E	levations (in	feet)				
Roa	to Observer:	66.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0% -90.0 degree		Hea Lane Eq	Autos: 0,000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: (ane Equivalent Distance (in feet) Autos: 48.539 Medium Trucks: 48.356 Heavy Trucks: 48.374						
FHWA Noise Mode	l Calculations	S		-							
VehicleType	REMEL	Traffic Flow	Dista	nce Finite	Road	Fresnel	Barrier Atte	en Berm Atten			
Autos:	71.78	-23.91		0.09	-1.20	-4.7	1 0.0	0.00			
Medium Trucks:	82.40	-37.85		0.11	-1.20	-4.8					
Heavy Trucks:	86.40	-39.22		0.11	-1.20	-5.3	0.0	0.00			
Unmitigated Noise	Levels (with	out Topo and	barrier	attenuation)							
VehicleType	Leq Peak Hou	r Leq Day	' 1	Leq Evening	Leq	Night	Ldn	CNEL			
Autos:	46		45.1	43.4		39.8	47.4				
Medium Trucks:	43		42.0	37.7		37.0	44.4				
Heavy Trucks:	46		43.7	42.6		41.5	48.3				
Vehicle Noise:	50	.4	48.5	46.6	i	44.6	51.7	52.			
Centerline Distanc	e to Noise Co	ntour (in feet)		70 dBA		dBA	60 dBA	55 dBA			
			Ldn:	70 dBA 4		<i>ава</i> 9	60 dBA	55 dBA 40			
			Lan: VEL:	4		9	19 20	40			
		Ci	VEL:	4		9	20	42			

	FHWA-RD	-77-108 HIGHV	VAY I	NOISE	PREDIC	TION MC	DDEL (9/12/2	021)		
Scenario	į.					Project N	lame: \$	Sierra	Business (Center	
Road Name						Job Nu	mber:	14283			
Road Segment	n/o Terra Vi	sta Dr.									
	PECIFIC IN	PUT DATA			0				L INPUT	S	
Highway Data				- 1	Site Con	ditions (l					
Average Daily T	. ,	18,258 vehicles	5				-	Autos:	15		
Peak Hour P	Percentage:	8.81%				dium Truc					
Peak Ho	ur Volume:	1,609 vehicles			He	avy Truck	(S (3+ A	(xles	15		
Vehi	icle Speed:	55 mph		1	Vehicle I	Mix					
Near/Far Land	e Distance:	90 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						Au	ıtos:	71.9%	12.2%	15.9%	92.779
Barr	ier Height:	0.0 feet			Me	edium Tru	icks:	75.3%	7.0%	17.7%	3.839
Barrier Type (0-Wa		0.0			F	Heavy Tru	icks:	60.4%	12.0%	27.6%	3.40%
Centerline Dist	to Barrier:	66.0 feet		-	Maiaa Ca	ource Ele	ration	n (im f	not)		
Centerline Dist. to	Observer:	66.0 feet		ľ	worse sc	Autos:		000	et)		
Barrier Distance to	Observer:	0.0 feet			Modiu	m Trucks:		297			
Observer Height (A	bove Pad):	5.0 feet				n Trucks. vy Trucks:		297 004	Grade Ad	iustman	+ n n
Pad	d Elevation:	0.0 feet			пеач	y Trucks.	0.1	004	Grade Au	usunen	. 0.0
Road	d Elevation:	0.0 feet		I	Lane Eq	uivalent l	Distand	e (in	feet)		
R	oad Grade:	0.0%				Autos:	48.	539			
	Left View:	-90.0 degrees			Mediui	m Trucks:	48.	356			
	Right View:	90.0 degrees			Heav	y Trucks:	48.	374			
FHWA Noise Model	Calculations	;									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresn	el .	Barrier Att	en Be	rm Atten
Autos:	71.78	-0.97		0.0	9	-1.20		-4.71	0.0	000	0.00
Medium Trucks:	82.40	-14.82		0.1	1	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	86.40	-15.33		0.1	1	-1.20		-5.30	0.0	000	0.00
Unmitigated Noise	•		arrie	r atten	uation)					,	
	.eq Peak Hou			Leq E	vening	Leq N	•		Ldn		NEL
Autos:	69.		8.0		66.4		62.7		70.3	-	70.
Medium Trucks:	66.		5.0		60.7		60.0		67.4		67.
Heavy Trucks:	70.		7.5		66.5		65.4		72.2		72.
Vehicle Noise:	73.	8 7	1.8		70.0		68.0)	75.1	1	75.
Centerline Distance	to Noise Co	ntour (in feet)		70	dBA	CF 4			20 404		
		,	dn:	///		65 di			60 dBA		dBA
		CN			145		313		674		1,452
		CN	EL.		153		330		710		1,531

Friday, May 27, 2022

	FHWA-RD	-77-108 HIGH	WAY	NOIS	PREDIC	TION M	ODEL (9/12/2	021)		
Scenario:						Project	Name:	Sierra	Business (Center	
Road Name: S						Job Ni	ımber:	14283			
Road Segment: r	n/o Terra Vis	sta Dr.									
	CIFIC IN	PUT DATA			0:4- 0				L INPUT	S	
Highway Data					Site Con	aitions (
Average Daily Trat	. ,	995 vehicle	es					Autos:			
Peak Hour Per		8.81%				dium Tru					
Peak Hour		88 vehicles	S		He	avy Truc	ks (3+ .	Axles):	15		
	e Speed:	55 mph			Vehicle I	Mix					
Near/Far Lane L	Distance:	90 feet				icleType		Day	Evening	Night	Daily
Site Data						Α	utos:	71.9%	12.2%	15.9%	80.70%
Rarrio	Heiaht:	0.0 feet			Me	edium Tr	ucks:	75.3%	7.0%	17.7%	4.65%
Barrier Type (0-Wall,		0.0			F	Heavy Tr	ucks:	60.4%	12.0%	27.6%	14.65%
Centerline Dist. to	,	66.0 feet			Noise Sc	uraa Ele	wation	a (in f	n o é l		
Centerline Dist. to C	bserver:	66.0 feet			Noise Sc				eet)		
Barrier Distance to C	bserver:	0.0 feet				Autos	. 0.	000			
Observer Height (Abo	ve Pad):	5.0 feet				m Trucks		297	0	·	4. 0.0
	levation:	0.0 feet			Heav	y Trucks	: 8.	004	Grade Ad	justmen	r: U.U
Road E	levation:	0.0 feet			Lane Eq	uivalent	Distan	ce (in	feet)		
Roa	d Grade:	0.0%				Autos	: 48	539			
L	eft View:	-90.0 degree	es		Mediui	m Trucks	: 48	356			
Rig	ght View:	90.0 degree			Heav	y Trucks	: 48	374			
HWA Noise Model C	alculations										
VehicleType F	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresi	-	Barrier Att	en Be	rm Atten
Autos:	71.78	-14.21		0.0	09	-1.20		-4.71	0.0	000	0.000
Medium Trucks:	82.40	-26.61		0.	11	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	86.40	-21.62		0.	11	-1.20		-5.30	0.0	000	0.000
Inmitigated Noise Le	vels (witho	ut Topo and	barrie	er atte	nuation)						
VehicleType Leq	Peak Hour	Leq Day	′	Leq E	vening	Leq I	Vight		Ldn	C	NEL
Autos:	56.	5	54.8		53.1		49.	5	57.	1	57.5
Medium Trucks:	54.	7	53.2		48.9		48.	2	55.0	6	55.8
Heavy Trucks:	63.	7	61.3		60.2		59.	1	65.	9	66.2
Vehicle Noise:	64.	9	62.7		61.3		59.	9	66.	7	67.
Centerline Distance to	Noise Co	ntour (in feet))								
			П	70	dBA	65 c	lBA	6	60 dBA	55	dBA
			Ldn:		40		86		186	,	400
		CI	NEL:		42		91		195	;	421

	FHWA-RD	0-77-108 HIGH	WAY	NOIS	E PREDIC	CTION M	ODEL	9/12/2	021)		
Scenar									Business (Center	
	e: Sierra Av.					Job N	umber:	14283			
Road Segme	nt: n/o Duncan	Canyon Rd.									
	SPECIFIC IN	PUT DATA			0:4- 0				L INPUT	S	
Highway Data					Site Cor	nditions	(Hara =				
Average Daily	. ,	15,184 vehicle	es					Autos:			
Peak Hour	Percentage:	8.81%				edium Tru		,			
Peak H	lour Volume:	1,338 vehicle	3		He	eavy Truc	ks (3+	Axles):	15		
Ve	hicle Speed:	55 mph		ı	Vehicle	Mix					
Near/Far La	ne Distance:	90 feet		İ	Veh	icleType		Day	Evening	Night	Daily
Site Data						A	Autos:	71.9%	12.2%	15.9	% 93.47%
Bai	rrier Heiaht:	0.0 feet			M	ledium Tr	ucks:	75.3%	7.0%	17.7	% 3.78%
Barrier Type (0-W		0.0				Heavy Ti	ucks:	60.4%	12.0%	27.6	% 2.75%
Centerline Dis	st. to Barrier:	66.0 feet		ı	Noise S	ource El	evation	s (in f	eet)		
Centerline Dist.	to Observer:	66.0 feet		İ		Auto:	s. 0	.000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Trucks		297			
Observer Height ((Above Pad):	5.0 feet				vy Trucks		.004	Grade Ad	iustme	nt: 0.0
Pa	ad Elevation:	0.0 feet			7700	,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	J. 0				
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distan	ce (in	feet)		
1	Road Grade:	0.0%				Autos	s: 48	.539			
	Left View:	-90.0 degree	es		Mediu	m Trucks	s: 48	.356			
	Right View:	90.0 degree	es		Hea	vy Trucks	s: 48	.374			
FHWA Noise Mode	el Calculation:	S									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fres		Barrier Att	en B	erm Atten
Autos:	71.78	-1.74		0.0	09	-1.20		-4.71	0.0	000	0.000
Medium Trucks:	82.40	-15.67		0.	11	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	86.40	-17.05		0.	11	-1.20		-5.30	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrie	r atte	nuation)						
VehicleType	Leq Peak Hou	r Leq Day	,	Leq E	vening	Leq	Night		Ldn		CNEL
Autos:	68	.9	67.3		65.6		62.	0	69.	5	70.0
Medium Trucks:	65	.6	64.2		59.9)	59.	1	66.	5	66.8
Heavy Trucks:	68	.3	65.8		64.8	}	63.	7	70.4	4	70.7
Vehicle Noise:	72	.6	70.7		68.8		66.	7	73.9	9	74.2
Centerline Distance	ce to Noise Co	ntour (in feet									
				70	dBA	65 (dBA	- (60 dBA		55 dBA
			Ldn:		120		259)	557	_	1,201
		C	VEL:		127		273	3	588		1,267

	FHWA-RI	D-77-108 HIGH	IWAY NO	DISE F	PREDIC	CTION	MODEL (9)	12/202	:1)		
	o: EA 2024 e: Sierra Av. nt: n/o Duncar	n Canyon Rd.				.,	t Name: S lumber: 14		usiness Cer	iter	
SITE S	SPECIFIC IN	NPUT DATA					NOISE M	ODEL	INPUTS		
Highway Data				S	ite Con	ditions	(Hard = 1	0, Soft	! = 15)		
Average Daily	Traffic (Adt):	16,189 vehicle	es				Α	utos:	15		
Peak Hour	Percentage:	8.81%			Me	edium Ti	rucks (2 A)	des):	15		
Peak H	our Volume:	1,426 vehicle	s		He	eavy Tru	cks (3+ A)	(les):	15		
Vel	hicle Speed:	55 mph		V	ehicle i	Miv					
Near/Far Lar	ne Distance:	90 feet		- 1		icleType	a [ay E	Evening N	ight Da	aily
Site Data				\dashv	****			1.9%	-		47%
		0.0 feet			М	edium 7		5.3%			78%
Barrier Type (0-W	rier Height:	0.0 reet 0.0				Heavy 7		0.4%			75%
Centerline Dis	. ,	66.0 feet		L							
Centerline Dist. 1		66.0 feet		N	oise So		levations		t)		
Barrier Distance t		0.0 feet				Auto					
Observer Height (5.0 feet				m Truck					
	d Elevation:	0.0 feet			Heav	vy Truck	rs: 8.00)4 (Grade Adjus	tment: 0.0	
	d Elevation:	0.0 feet		Li	ane Eq	uivalen	t Distance	(in fe	et)		
F	Road Grade:	0.0%				Auto	s: 48.5	39			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 48.3	56			
	Right View:	90.0 degre	es		Heav	vy Truck	s: 48.3	74			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Distar		Finite	Road	Fresne		arrier Atten	Berm At	
Autos:	71.78			0.09		-1.20		4.71	0.000		0.000
Medium Trucks:	82.40			0.11		-1.20		4.88	0.000		0.00
Heavy Trucks:	86.40			0.11		-1.20	-:	5.30	0.000		0.00
Unmitigated Noise										01/5	
VehicleType Autos:	Leq Peak Hou			eq Eve			Night	L	.dn	CNEL	70.1
Medium Trucks:		9.2 5.9	67.5 64.5		65.9 60.1		62.2 59.4		69.8 66.8		70.3 67.3
Heavy Trucks:		3.5	66.1		65.1		64.0		70.7		71.0
Vehicle Noise:		2.9	71.0		69.1		67.0		74.2		74.
Centerline Distanc	e to Noise Co	ontour (in feet)								
				70 dE	ВА	65	dBA	60	dBA	55 dBA	
			Ldn:		125		270		582	1,	,253
		C	NEL:		132		285		614	1,	,322

Average Daily Traffic (Adt): 15,635 vehicles Peak Hour Potencentage: 8.81% Peak Hour Potencentage: 1,377 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 90 feet Vehicle Mix VehicleType Day Evening Night Lending Night Lending Night Lending Night Lending Night Lending Night		FHWA-RI	D-77-108 HIGHV	VAY NO	ISE	PREDIC	TION MO	DDEL (9/12/2	021)					
Site Specific Input DATA Noise Mobel Inputs										Business (Center				
SITE SPECIFIC INPUT DATA			Canyon Pd				Job Nu	mber:	14283						
Average Daily Traffic (Adt):					Т						_				
Average Daily Traffic (Adt): 15,635 vehicles Peak Hour Percentage: 8,81% Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15		SPECIFIC II	IPUT DATA		s	Site Con					5				
Peak Hour Percentage:		V Traffic (Adt):	15.635 vehicles	3					Autos:	15					
Peak Hour Volume:			-,			Me	dium Tru	cks (2)	Axles):	15					
Near/Far Lane Distance: 90 feet VehicleType Day Evening Night It		-	1.377 vehicles												
Near/Far Lane Distance: 90 feet VehicleType Day Evening Night I	V	ehicle Speed:	55 mph			/- l- i - I									
Autos: 71.9% 12.2% 15.9% 9 Medium Trucks: 75.3% 7.0% 17.7% 17.					V				Day	Evenina	Night	Dailv			
Barrier Height: 0.0 feet	Sito Data				+	Verii		itos.							
Barrier Type (0-Wall, 1-Berm):					-	Me									
Centerline Dist. to Darrier: 66.0 feet Get Centerline Dist. to Darrier: 66.0 feet Get Centerline Dist. to Darrier: 66.0 feet Get Centerline Dist. to Darrier: 66.0 feet Get Centerline Dist. to Darrier: 66.0 feet Get Centerline Dist. to Darrier: 66.0 feet Get Centerline Dist. to Darrier: 66.0 feet Get Centerline Dist. to Diserver: 66.0 feet Get Centerline Dist. to Diserver: 66.0 feet Get Centerline Dist. to Diserver: 66.0 feet Get Centerline Dist. to Diserver: 66.0 feet Get Centerline Dist. to Diserver: 66.0 feet Get Centerline Dist. to Diserver: 66.0 feet Get Centerline Dist. to Diserver: 66.0 feet Get Centerline Dist. to Diserver: 66.0 feet Get Centerline Dist. to Dist. Get Centerline Dist.		-													
Centerline Dist. to Observer: Barrier Distance to Observer: Barrier Distance to Observer: Dosever Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Rejart View: 90.0 degrees Right View: 90.0 degrees Rejart View: 90.0 degrees Rejart View: 90.0 degrees Rejart View: 90.0 degrees Rejart View: 90.0 degrees Rejart View: 90.0 degrees Rejart View: 90.0 degrees Rejart View: 90.0 degrees Rejart View: 90.0 degrees Rejart View: 90.0 degrees Rejart View: 90.0 degrees Rejart View: 90.0 degrees Rejart View: 90.0 degrees Rejart View: 90.0 degrees Rejart View: 90.0 degrees Rejart View: 90.0 degrees Rejart View: 90.0 degrees Rejart View: 90.0 degrees Rejart View: 48.356 Rejart View: 90.0 degrees Rejart View: 48.374 Rejart View: 90.0 degrees Rejart View: 48.374 R		. ,					1001) 110		00.470	12.070	21.07	0.107			
Barrier Distance to Observer: 0.00 feet Autos: 0.000					٨	Voise So	ource Ele	vation	s (in fe	eet)					
Diserver Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0%							Autos	0.	000						
Pad Elevation: 0.0 feet Heavy Trucks: 8.004 Grade Agustiment: 0.1						Mediur	m Trucks	2.	297						
Road Elevation: 0.0 feet Road Grade: 0.0% Autos: 48.539 Autos: 48.539 Right View: 90.0 degrees Right View: 90.0 degrees Heavy Trucks: 48.374 REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berrin Autos: 17.78 -1.63 0.09 -1.20 -4.77 0.000 Redium Trucks: 82.40 -15.51 0.11 -1.20 -4.88 0.000 Redium Trucks: 86.40 -16.36 0.11 -1.20 -4.88 0.000 Redium Trucks: 86.40 -16.36 0.11 -1.20 -5.30 0.000 Redium Trucks: 86.40 -16.36 0.11 -1.20 -5.30 0.000 Redium Trucks: 86.40 -16.36 0.11 -1.20 -5.30 0.000 Redium Trucks: 86.40 -16.36 0.11 -1.20 -5.30 0.000 Redium Trucks: 86.40 -16.36 0.11 -1.20 -5.30 0.000 Redium Trucks: 86.40 84.30 85.70 86.71 86		, ,				Heav	y Trucks	8.	004	Grade Ad	justmen	t: 0.0			
Road Grade: 0.0%					L	ane Equ	uivalent	Distan	ce (in i	feet)					
Left View: 90.0 degrees	710				F					,					
Right View: 90.0 degrees						Mediur	m Trucks								
VehicleType									374						
VehicleType	FHWA Noise Mod	del Calculation	s												
Medium Trucks: 82.40				Distan	ce	Finite	Road	Fresi	nel	Barrier Att	en Be	rm Atten			
Heavy Trucks: 86.40 -16.36 0.11 -1.20 -5.30 0.000	Autos	71.78	-1.63		0.09)	-1.20		-4.71	0.0	000	0.00			
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEI	Medium Trucks	82.40	-15.51		0.11	1	-1.20		-4.88	0.0	000	0.00			
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEI Autos: 69.0 67.4 65.7 62.1 69.6 69.6 Medium Trucks: 65.8 64.3 60.0 59.3 66.7 16.7 14.2 71.1 71.1 71.1 71.1 71.1 71.1 72.9 71.0 69.2 67.2 74.3 74.3 74.3 74.3 75.2 74.3 75.2 74.3 75.2 74.3 75.2 74.3 75.2 74.3 75.2 <td>Heavy Trucks</td> <td>: 86.40</td> <td>-16.36</td> <td></td> <td>0.11</td> <td>1</td> <td>-1.20</td> <td></td> <td>-5.30</td> <td>0.0</td> <td>000</td> <td>0.00</td>	Heavy Trucks	: 86.40	-16.36		0.11	1	-1.20		-5.30	0.0	000	0.00			
Autos: 69.0 67.4 65.7 62.1 69.6 Medium Trucks: 65.8 64.3 60.0 59.3 66.7 Heavy Trucks: 68.9 66.5 65.5 64.4 71.1 Vehicle Noise: 72.9 71.0 69.2 67.2 74.3 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dB Ldn: 127 274 591	Unmitigated Nois	se Levels (with	out Topo and b	arrier a	ttenı	uation)									
Medium Trucks: 65.8 64.3 60.0 59.3 66.7 Heavy Trucks: 68.9 66.5 65.5 64.4 71.1 Vehicle Noise: 72.9 71.0 69.2 67.2 74.3 Centerline Distance to Noise: Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dB Ldn: 127 274 591	VehicleType	Leq Peak Hot	ur Leq Day	Le	q Ev	rening	Leq N	light		Ldn	(CNEL			
Heavy Trucks: 68.9 66.5 65.5 64.4 71.1	Autos	: 69	9.0 6	7.4		65.7		62.	1	69.	6	70.			
Vehicle Noise: 72.9 71.0 69.2 67.2 74.3 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dB Ldn: 127 274 591	Medium Trucks	: 65	5.8 6	4.3		60.0		59.3	3	66.	7	66.			
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dB Ldn: 127 274 591												71.			
70 dBA 65 dBA 60 dBA 55 dB Ldn: 127 274 591	Vehicle Noise	: 72	2.9 7	1.0		69.2		67.2	2	74.	3	74.			
Ldn: 127 274 591	Centerline Distar	nce to Noise C	ontour (in feet)		70.		05								
· · · · · · · · · · · · · · · · · · ·					/U d		65 d								
CNEL: 134 290 624												1,274			
			CN	EL:		134		290		624	+	1,34			

Friday, May 27, 2022

	FHWA-RI	D-77-108 HIGH	WAY N	OISE	PREDIC	TION N	IODEL	(9/12/2	(021)		
Road Na	ario: EAP 2024 me: Sierra Av. ent: n/o Duncar	n Canyon Rd.						: Sierra : 14283	Business (Center	
SITE	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data				5	ite Con	ditions	(Hard	= 10, S	oft = 15)		
Average Dail	y Traffic (Adt):	16,640 vehicle	es.					Autos	: 15		
Peak Hou	ır Percentage:	8.81%			Me	dium Tr	ucks (2	Axles)	: 15		
Peak	Hour Volume:	1,466 vehicles			He	avy Tru	cks (3+	Axles)	: 15		
V	ehicle Speed:	55 mph		,	/ehicle l	Miv					
Near/Far L	.ane Distance:	90 feet		ŀ.		icleType		Day	Evening	Night	Daily
Site Data				7			Autos:	71.99	-	15.9%	,
	arrier Height:	0.0 feet			М	edium T	rucks:	75.39	6 7.0%	17.7%	
Barrier Type (0-		0.0			- 1	Heavy T	rucks:	60.49	6 12.0%	27.6%	3.11%
Centerline L	Dist. to Barrier:	66.0 feet			loico Sa	ource El	lovatio	ne (in t	inot)		
Centerline Dis	t. to Observer:	66.0 feet		· ·	10/36 00	Auto		0.000	ccij		
Barrier Distanc	e to Observer:	0.0 feet			Modiu	m Truck	'	2.297			
Observer Heigh	t (Above Pad):	5.0 feet				ry Truck		3.004	Grade Ad	iustmant	. 0 0
	Pad Elevation:	0.0 feet			1 Icas	ry IIUCK	J. (3.004	Orado riaj	4011110111	. 0.0
R	oad Elevation:	0.0 feet		L	ane Eq	uivalen	Dista	nce (in	feet)		
	Road Grade:	0.0%				Auto	s: 4	3.539			
	Left View:	-90.0 degree	s		Mediu	m Truck	s: 4	3.356			
	Right View:	90.0 degree	es		Heav	y Truck	s: 4	3.374			
FHWA Noise Mo	del Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fre	snel	Barrier Att	en Bei	m Atten
Autos	3: 71.78	-1.36		0.09)	-1.20		-4.71	0.0	000	0.000
Medium Trucks	82.40	-15.24		0.11		-1.20		-4.88	0.0	000	0.000
Heavy Trucks	86.40	-16.12		0.11		-1.20		-5.30	0.0	000	0.000
Unmitigated Noi	se Levels (with	out Topo and	barrier	atteni	uation)						
VehicleType	Leq Peak Hou			.eq Ev		Leq	Night		Ldn		NEL
Autos			67.6		66.0		62		69.9		70.4
Medium Trucks			64.6		60.3		59		67.0		67.2
Heavy Trucks			86.8		65.7		64		71.4		71.7
Vehicle Noise	e: 73	3.2	71.3		69.4		67	.4	74.5	5	74.9
Centerline Dista	nce to Noise C	ontour (in feet)									
			L	70 d		65	dBA		60 dBA		dBA
			Ldn:		133		28	-	615		1,325
		CI	VEL:		140		30	7	649		1,398

FHWA-F	D-77-1	08 HIGH	WAY	NOIS	E PRED	ICTION I	MODEL	. (9/12/2	2021)				
Scenario: OYC 2024 Road Name: Sierra Av. Road Segment: n/o Dunca		on Rd.						: Sierra : 14283	Business	Center			
SITE SPECIFIC I	NPUT	DATA							EL INPUT	s			
Highway Data					Site Co	onditions	(Hard	= 10, S	oft = 15)				
Average Daily Traffic (Adt):	20,26	3 vehicle	es					Autos.	: 15				
Peak Hour Percentage:	8.81	1%			/	∕ledium Ti	rucks (2	Axles)	: 15				
Peak Hour Volume:	1,785	vehicles	3		I	Heavy Tru	icks (3+	Axles)	: 15				
Vehicle Speed:	55	5 mph			Vehicl	Mix							
Near/Far Lane Distance:	90) feet				ehicle Typ	е	Day	Evening	Night	Daily		
Site Data							Autos:	71.99	6 12.2%	15.99	6 93.47%		
Barrier Height:	0.	0 feet				Medium 1	rucks:	75.39	6 7.0%	17.79	6 3.78%		
Barrier Type (0-Wall, 1-Berm):	0					Heavy 1	rucks:	60.49	6 12.0%	27.69	6 2.75%		
Centerline Dist. to Barrier:	66	.0 feet			Noise	Source E	levatio	ns (in f	eet)				
Centerline Dist. to Observer:	66	.0 feet			,,,,,,,	Auto		0.000	001)				
Barrier Distance to Observer:	0	.0 feet			Med	ium Truck		2.297					
Observer Height (Above Pad):	5	.0 feet				avy Truci		B.004	Grade Adjustment: 0.0				
Pad Elevation:	0	.0 feet			770	avy muci	10.	0.004	0/440/10	, ao anton	. 0.0		
Road Elevation:	0	.0 feet			Lane E	quivalen	t Dista	nce (in	feet)				
Road Grade:	0.0	%				Auto	os: 4	8.539					
Left View:	-90	.0 degree	es			ium Truck		8.356					
Right View:	90	.0 degree	es		He	avy Truci	ks: 4	8.374					
FHWA Noise Model Calculatio	ns												
VehicleType REMEL	Traff	ic Flow	Di	stance	Fini	te Road	Fre	snel	Barrier At	ten Be	rm Atten		
Autos: 71.7	3	-0.49		0.	09	-1.20		-4.71	0.	000	0.000		
Medium Trucks: 82.4)	-14.42		0.	11	-1.20		-4.88	0.	000	0.000		
Heavy Trucks: 86.4)	-15.79		0.	11	-1.20		-5.30	0.	000	0.000		
Unmitigated Noise Levels (wit			_			_							
VehicleType Leq Peak Ho	_	Leq Day	_	Leq I	Evening		Night		Ldn		CNEL		
	0.2		68.5		66			3.2	70.	-	71.2		
	6.9		65.4		61).4	67.		68.0		
	9.5		67.1 72.0		66 70	• •		1.9 3.0	71. 75.	<u> </u>	72.0 75.1		
Centerline Distance to Noise C					70		00		70.		. 0.0		
Centennie Distance to Noise C	ontou	(iii leet)	· 	70	dBA	65	dBA		60 dBA	55	5 dBA		
			Ldn:		14	6	31	14	675	5	1,455		
	CNEL:					154 331 713 1,					1,536		

	FHWA-RD)-77-108 HIGH	WAY	NOISE	PREDIC	CTION M	ODEL	(9/12/2	(021)		
	io: ie: Sierra Av. nt: n/o Duncan	Canyon Rd.						Sierra 14283	Business	Center	
SITE :	SPECIFIC IN	PUT DATA			Site Con				L INPUT	s	
Average Daily Peak Hour	Traffic (Adt): Percentage: lour Volume:	20,263 vehicle 8.81% 1,785 vehicles			Ме	edium True	icks (2	Autos Axles)	: 15 : 15		
	hicle Speed:	55 mph			Vehicle	Mix					
Near/Far La	ne Distance:	90 feet		İ	Veh	icleType		Day	Evening	Night	Daily
	rrier Height:	0.0 feet				A edium Tr Heavv Tr		71.99 75.39 60.49	6 7.0%	15.9% 17.7% 27.6%	3.78%
Barrier Type (0-W Centerline Dis	. ,	0.0 66.0 feet			Noise So	,				27.070	2.75%
Barrier Distance Observer Height (Centerline Dist. to Observer: Barrier Distance to Observer: Observer Height (Above Pad): Pad Elevation:				Mediu	Autos m Trucks vy Trucks	s: 0 s: 2	0.000 2.297 3.004	Grade Ad	ljustment	± 0.0
Roa	ad Elevation:	0.0 feet		[Lane Eq	uivalent	Distar	nce (in	feet)		
ı	Road Grade: Left View: Right View:	0.0% -90.0 degree 90.0 degree				Autos m Trucks vy Trucks	6: 48	3.539 3.356 3.374			
FHWA Noise Mode	el Calculations	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	snel	Barrier At	ten Bei	m Atten
Autos:	71.78	-0.49		0.0	09	-1.20		-4.71	0.	000	0.000
Medium Trucks:	82.40	-14.42		0.		-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-15.79		0.		-1.20		-5.30	0.	000	0.000
Unmitigated Noise								-			
	Leq Peak Hou			Leq E	ening	Leq			Ldn		NEL 71.2
Autos: Medium Trucks:	70		68.5 65.4		66.8 61.1		63 60		70. 67.	-	68.0
Medium Trucks: 66.9 65.4 Heavy Trucks: 69.5 67.1					66.1		64		71.	-	72.0
Vehicle Noise:	73		72.0		70.1		68		75.		75.5
Centerline Distanc	e to Noise Co	ntour (in feet))								
		-	П	70	dBA	65 (60 dBA		dBA
			Ldn:		146		31		675		1,455
		CI	VEL:		154		33	1	713	3	1,536

FHWA-	RD-77-108	HIGHW	AY NO	ISE	PREDIC	TION N	IODEL (9/12/2	(021)		
Scenario: OYCP 20									Business (Center	
Road Name: Sierra Av	•					Job N	lumber:	14283			
Road Segment: n/o Duno	- ,			_							
SITE SPECIFIC	INPUT D	ATA		4	Site Con				EL INPUT	S	
• ,				\dashv	Site Con	uilions	(naru -				
Average Daily Traffic (Adt).	- /	vehicles						Autos			
Peak Hour Percentage.							ucks (2				
Peak Hour Volume.	.,				He	avy Tru	cks (3+	Axles)	: 15		
Vehicle Speed.				ı	Vehicle I	Лiх					
Near/Far Lane Distance.	90 f	eet		Ī	Vehi	cleType		Day	Evening	Night	Daily
Site Data				T			Autos:	71.99	6 12.2%	15.9%	93.16%
Barrier Height	0.0	feet		T	Me	edium T	rucks:	75.39	6 7.0%	17.7%	3.80%
Barrier Type (0-Wall, 1-Berm)					F	leavy T	rucks:	60.49	6 12.0%	27.6%	3.04%
Centerline Dist. to Barrier		feet		ŀ	Noise So	urco E	lovation	e (in f	inati		
Centerline Dist. to Observer	66.0	feet		H	Noise 30	Auto		٠,	eei)		
Barrier Distance to Observer	0.0	feet			A decellors			000			
Observer Height (Above Pad)	5.0	feet			Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0						4. 0.0
Pad Elevation		feet			Heavy Trucks: 8.004 Grade Adjustment. 0						t: U.U
Road Elevation	0.0	feet		ı	Lane Equ	uivalen	t Distan	ce (in	feet)		
Road Grade	0.0%			ı		Auto	s: 48	.539			
Left View	-90.0	degrees			Mediur	n Truck	s: 48	356			
Right View	90.0	degrees			Heav	y Truck	s: 48	.374			
HWA Noise Model Calculation	ns										
VehicleType REMEL	Traffic	Flow	Distan	се	Finite	Road	Fresi	nel	Barrier Att	en Be	rm Atten
Autos: 71.7	'8	-0.40		0.0	9	-1.20		-4.71	0.0	000	0.000
Medium Trucks: 82.4	٠ 0	-14.30		0.1	11	-1.20		-4.88	0.0	000	0.000
Heavy Trucks: 86.4	10 -	-15.27		0.1	11	-1.20		-5.30	0.0	000	0.000
Inmitigated Noise Levels (wi	thout Top	o and b	arrier a	tter	nuation)						
VehicleType Leq Peak H	our Le	eq Day	Le	q E	vening	Leq	Night		Ldn	С	NEL
	70.3	-	3.6		66.9		63.	3	70.9	9	71.3
Medium Trucks:	67.0	6	5.5		61.2		60.	5	67.9	9	68.
	70.0		7.6		66.6		65.	-	72.2		72.5
Vehicle Noise:	74.1	7:	2.2		70.3		68.	3	75.4	1	75.8
Centerline Distance to Noise	Contour (i	in feet)						_			
				70	dBA	65	dBA		60 dBA		dBA
		L	dn:		152		328		707		1,522
	CNEL:				161 346 745 1,60						

Friday, May 27, 2022

	FHWA-RI	D-77-108 HIGHV	VAY N	OISE	PREDIC	TION M	ODEL	(9/12/2	021)			
	ario: me: Sierra Av. ent: n/o Duncar	n Canyon Rd.						Sierra 14283	Business (Center		
SITE Highway Data	SPECIFIC IN	IPUT DATA			ito Con	N ditions			L INPUT	s		
Average Dail Peak Hou Peak	y Traffic (Adt): ir Percentage: Hour Volume: 'ehicle Speed:	21,166 vehicles 8.81% 1,865 vehicles 55 mph	3		Me He	dium Tru avy Truc	icks (2	Autos Axles)	15 15			
	ane Distance:	90 feet		ν	ehicle I	Mix icleType		Dav	Evening	Night	Daily	
Site Data B	arrier Height:	0.0 feet					lutos: rucks:	71.99 75.39	6 12.2%	15.9% 17.7%	92.87%	
Barrier Type (0-	Wall, 1-Berm):	0.0 66.0 feet			- 1	Heavy Tr	ucks:	60.49	6 12.0%	27.6%	3.31%	
Centerline Dis Barrier Distance Observer Height	Centerline Dist. to Barrier: 66.0 feet Centerline Dist. to Observer: 66.0 feet Barrier Distance to Observer: 0.0 feet bbserver Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0 Lane Equivalent Distance (in feet)							
Α.	Road Grade: Left View: Right View:	0.0 feet 0.0% -90.0 degrees 90.0 degrees			Autos: 48.539 Medium Trucks: 48.356 Heavy Trucks: 48.374							
FHWA Noise Mo	del Calculation	s										
VehicleType Autos Medium Trucks	82.40	-14.18	Dista	0.09)	-1.20 -1.20	Fres	-4.71 -4.88	0.	000	0.000 0.000	
Heavy Trucks Unmitigated Nois			avviav	0.11		-1.20		-5.30	0.	000	0.000	
VehicleType	Leg Peak Hou			.eq Ev		Leq	Night		Ldn	C	NEL	
Autos			8.7	,	67.0		63	.4	71.		71.4	
Medium Trucks	: 67	7.1 6	5.7		61.4		60	.6	68.	0	68.3	
Heavy Trucks			8.1		67.1		65		72.		73.0	
Vehicle Noise			2.4		70.6		68	.6	75.	7	76.1	
Centerline Distar	nce to Noise Co	ontour (in feet)		70 d	BA	65 /	dBA		60 dBA	55	dBA	
		L	dn:	, , , u	159	551	34		737		1,588	
	CNEL:				167		36	1	777	,	1,675	

	FHWA-RE	0-77-108 HIGH	IWAY	NOISI	E PREDIC	CTION N	IODEL	(9/12/2	021)		
	io: ne: Sierra Av. nt: n/o Duncan	Canyon Rd.					t Name: lumber:		Business (Center	
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data					Site Cor	nditions	(Hard	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	93 vehicle	es					Autos:	15		
Peak Hour	Percentage:	8.81%			Me	edium Tr	ucks (2	Axles):	15		
Peak H	lour Volume:	8 vehicle	S		He	eavy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	55 mph			Vehicle	Mix					
Near/Far La	ne Distance:	90 feet				icleType		Day	Evening	Night	Daily
Site Data							Autos:	71.9%	6 12.2%	15.9%	93.47%
Ra	rrier Height:	0.0 feet			N	ledium T	rucks:	75.3%	7.0%	17.7%	3.78%
Barrier Type (0-W		0.0				Heavy T	rucks:	60.4%	6 12.0%	27.6%	2.75%
Centerline Di	st. to Barrier:	66.0 feet			Noise S	ource F	lovatio	ne (in f	oot)		
Centerline Dist.	to Observer:	66.0 feet			110/30 0	Auto		.000	ccij		
Barrier Distance	to Observer:	0.0 feet			Modi	m Truck		297			
Observer Height	(Above Pad):	5.0 feet				vy Truck	-	.004	Grade Ad	liuetman	- 00
P	ad Elevation:	0.0 feet			rica	vy IIIUCK	.s. c	1.004	Orauc Au	jusanen	. 0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distai	nce (in	feet)		
	Road Grade:	0.0%				Auto	s: 48	3.539			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 48	3.356			
	Right View:	90.0 degre	es		Hea	vy Truck	s: 48	3.374			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos:	71.78	-23.87		0.0	09	-1.20		-4.71	0.0	000	0.00
Medium Trucks:	82.40	-37.80		0.	11	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	86.40	-39.18		0.	11	-1.20		-5.30	0.0	000	0.00
Unmitigated Noise	e Levels (with	out Topo and	barrie	er atte	nuation)						
VehicleType	Leq Peak Hou			Leq E	ening		Night		Ldn	_	NEL
Autos:	46		45.1		43.5		39	-	47.		47.
Medium Trucks:	43		42.0		37.7		37		44.		44.0
Heavy Trucks: Vehicle Noise:	46 50		43.7 48.6		42.7 46.7		41		48. 51.	-	48.0 52.1
					40.7		44	.0	51.	U	52.
Centerline Distant	ce to Noise Co	ontour (in feet)	70	dBA	65	dBA	1 .	60 dBA	55	dBA
			Ldn:	. 0	4	30		9	19		40
		С	NEL:		4			9	20		42
					_			_	20		74

	FHWA-RI	D-77-108 HIGH	1 YAWI	NOISE	PREDIC	TION N	IODEL	(9/12/2	021)		
Scenari Road Nam Road Segmen	e: Sierra Av.						Name: lumber:		Business (Center	
SITE S	SPECIFIC IN	IPUT DATA				1	IOISE	MODE	L INPUT	S	
Highway Data				S	ite Con	ditions	(Hard :	= 10, S	oft = 15)		
Average Daily	. ,	15,538 vehicle	es					Autos			
Peak Hour	Percentage:	8.81%			Me	dium Tr	ucks (2	Axles).	15		
Peak H	our Volume:	1,369 vehicle	s		He	avy Tru	cks (3+	Axles).	15		
Vel	nicle Speed:	55 mph		v	/ehicle l	Mix					
Near/Far Lar	ne Distance:	90 feet		F		icleType		Day	Evening	Night	Daily
Site Data							Autos:	71.9%	6 12.2%	15.9%	93.47%
Rar	rier Height:	0.0 feet			M	edium T	rucks:	75.3%	7.0%	17.7%	3.78%
Barrier Type (0-W		0.0			I	Heavy T	rucks:	60.4%	6 12.0%	27.6%	2.75%
Centerline Dis	t. to Barrier:	66.0 feet		٨	loise Sc	ource E	levatio	ns (in f	eet)		
Centerline Dist. t		66.0 feet				Auto	s: O	.000	,		
Barrier Distance t		0.0 feet			Mediu	m Truck	s: 2	.297			
Observer Height (Above Pad):	5.0 feet			Heav	y Truck	s A	.004	Grade Ad	liustment	0.0
	d Elevation:	0.0 feet		L							
	d Elevation:	0.0 feet		L	ane Eq			_	feet)		
F	Road Grade:	0.0%				Auto		.539			
	Left View:	-90.0 degre				m Truck		.356			
	Right View:	90.0 degre	es		Heav	ry Truck	s: 48	.374			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	71.78	-1.64		0.09	9	-1.20		-4.71	0.0	000	0.000
Medium Trucks:	82.40	-15.57		0.11	I	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	86.40	-16.95		0.11	I	-1.20		-5.30	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrie	r atteni	uation)						
VehicleType	Leq Peak Hou	ur Leq Day		Leq Ev		Leq	Night		Ldn		VEL
Autos:		0.0	67.4		65.7		62		69.		70.1
Medium Trucks:		5.7	64.3		60.0		59		66.		66.9
Heavy Trucks:		3.4	65.9		64.9		63		70.		70.8
Vehicle Noise:	72	2.7	70.8		68.9		66	.8	74.	0	74.3
Centerline Distanc	e to Noise Co	ontour (in feet)								
			L	70 d		65	dBA		60 dBA		dBA
			Ldn:		122		26		566		1,219
		C	NEL:		129		27	7	597	,	1,286

Scenari	io:	D-77-108 HIG						•	Business (Center	
Road Nam	e: Sierra Av.						umber:				
Road Segmer	nt: n/o Duncar	Canyon Rd.									
SITE :	SPECIFIC IN	IPUT DATA				N	OISE	MODE	L INPUT	s	
Highway Data					Site Con	ditions	(Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	996 vehic	les					Autos:	15		
Peak Hour	Percentage:	8.81%			Me	dium Tru	icks (2	Axles):	15		
Peak H	our Volume:	88 vehicle	es		He	avy Truc	cks (3+	Axles):	15		
Ve	hicle Speed:	55 mph		-	Vehicle I	Miss					
Near/Far Lai	ne Distance:	90 feet		-				Dav	Evenina	Minht	Dailv
Site Data					ven	icleType	lutos:	71.9%		Night	80.719
						edium Tı		75.3%		17.7%	4.659
	rier Height:	0.0 feet				Heavy Ti		60.4%			14.649
Barrier Type (0-W	. ,	0.0			,	icavy II	ucns.	00.470	12.070	21.070	14.047
Centerline Dis		66.0 feet			Noise So	ource El	evation	s (in fe	et)		
Centerline Dist.		66.0 feet				Auto	s: 0	.000			
Barrier Distance		0.0 feet			Mediu	m Trucks	s: 2	.297			
Observer Height (,	5.0 feet			Heav	y Trucks	s: 8	.004	Grade Ad	iustment.	0.0
	ad Elevation:	0.0 feet			Lane Eq	uivalant	Dieten	aa (in i	[nat]		
	ad Elevation:	0.0 feet		Ľ,	Lane Eq	uivaient Auto:		.539	eet)		
,	Road Grade:	0.0%			A decestion	Auto: m Truck:		.539			
	Left View:	-90.0 degre				m Truck: vy Truck:		.374			
	Right View:	90.0 degre	ees		неач	ry iruck	5. 48	.374			
FHWA Noise Mode					1						
VehicleType	REMEL	Traffic Flow		stance		Road	Fresi		Barrier Att		m Atten
Autos:	71.78	-14.2	-	0.0	-	-1.20		-4.71		000	0.00
Medium Trucks:	82.40	-26.60	-	0.1		-1.20 -1.20		-4.88		000	0.00
Heavy Trucks:	86.40			0.1		-1.20		-5.30	0.0	000	0.00
Unmitigated Noise VehicleType	Lea Peak Ho				vening	100	Night	1	Ldn	CI	VEL
Autos:	- 1	ii Leq Da	54.8	Ley L	53.1	Leq	49.	5	57.		57.
Medium Trucks:		1.7	53.2		48.9		48.		55.6		55.
Heavy Trucks:	63		61.3		60.2		59.	-	65.9		66.
Vehicle Noise:		.9	62.7		61.3		59.		66.7		67.
Centerline Distanc	e to Noise C	ontour (in fee	t)								
				70 (dBA	65	dBA	6	0 dBA	55	dBA
			Ldn:		40		86	3	186		400
	CNEL:					42 91 195 42					

Friday, May 27, 2022

FHWA-R	D-77-108 HIGH\	WAY NOIS	E PREDIC	TION M	IODEL (9/12/2	(021)		
Scenario: E+P Road Name: Sierra Av. Road Segment: s/o Dwy. 2					Name: S lumber:		Business (Center	
SITE SPECIFIC II	NPUT DATA						L INPUT	S	
Highway Data			Site Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily Traffic (Adt):	16,169 vehicle	S				Autos			
Peak Hour Percentage:	8.81%		1		ucks (2 A	,			
Peak Hour Volume:	1,424 vehicles		He	avy Tru	cks (3+ A	(xles	: 15		
Vehicle Speed:	55 mph		Vehicle	Mix					
Near/Far Lane Distance:	90 feet		Veh	icleType		Day	Evening	Night	Daily
Site Data				,	Autos:	71.99	6 12.2%	15.99	6 93.15%
Barrier Height:	0.0 feet		М	edium T	rucks:	75.39	6 7.0%	17.79	6 3.76%
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy T	rucks:	60.49	6 12.0%	27.69	6 3.09%
Centerline Dist. to Barrier:	66.0 feet		Noise S	ource Fl	evations	: (in f	eet)		
Centerline Dist. to Observer:	66.0 feet		710,00 01	Auto.		000	000		
Barrier Distance to Observer:	0.0 feet		Mediu	m Truck	0.0	297			
Observer Height (Above Pad):	5.0 feet			vy Truck		004	Grade Ad	iustmer	nt: 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	Heav	y Truck	s: 48.	374			
FHWA Noise Model Calculation									
VehicleType REMEL	Traffic Flow	Distance		Road	Fresn		Barrier Atte		erm Atten
Autos: 71.78		-	.09	-1.20		-4.71		000	0.000
Medium Trucks: 82.40		-	.11	-1.20		-4.88		000	0.000
Heavy Trucks: 86.40	-16.28	0.	.11	-1.20		-5.30	0.0	000	0.000
Unmitigated Noise Levels (with									
VehicleType Leq Peak Ho			Evening	,	Night		Ldn		CNEL
		67.5 64.4	65.8 60.1		62.2 59.4		69.8 66.8		70.2 67.0
		66.6	65.6		59.4 64.5		71.2		67.0 71.5
		71.1	69.3		67.3		71.2		71.5
Centerline Distance to Noise C	ontour (in feet)								
Dictance to Noise o	541 (1001)	70) dBA	65	dBA		60 dBA	5	5 dBA
	ı	dn:	130		279	•	601		1,296
	CN	IEL:	137		294		634		1,367

Friday, May 27, 2022 Friday, May 27, 2022

	FHWA-RI	D-77-108 HIGH	IWAY	NOISE	PREDIC	CTION N	IODEL	(9/12/20	021)		
Road Na	nrio: EA 2024 me: Sierra Av. ent: s/o Dwy. 2						Name: lumber:		Business (Center	
	SPECIFIC IN	IPUT DATA				N ditions			L INPUT	S	
Highway Data				٥	ite Cor	laitions	(Hara =				
	/ Traffic (Adt):	16,871 vehicle	es					Autos:	15		
	r Percentage:	8.81%				edium Tr	,	,			
	Hour Volume:	1,486 vehicle	S		He	eavy Tru	cks (3+	Axles):	15		
	ehicle Speed:	55 mph		ν	ehicle	Mix					
Near/Far L	ane Distance:	90 feet			Veh	icleType	,	Day	Evening	Night	Daily
Site Data						,	Autos:	71.9%	12.2%	15.9%	93.47%
B	arrier Height:	0.0 feet			М	edium T	rucks:	75.3%	7.0%	17.7%	3.78%
Barrier Type (0-I		0.0				Heavy T	rucks:	60.4%	12.0%	27.6%	2.75%
	ist. to Barrier:	66.0 feet		٨	loise S	ource El	evation	ns (in fe	eet)		
Centerline Dist	to Observer:	66.0 feet				Auto		.000	,		
Barrier Distance	e to Observer:	0.0 feet			Mediu	m Truck	s: 2	297			
Observer Height	(Above Pad):	5.0 feet			Hear	vy Truck	s: 8	.004	Grade Ad	liustmen	t: 0.0
F	Pad Elevation:	0.0 feet								,	
Re	oad Elevation:	0.0 feet		L	ane Eq	uivalent		_ •	feet)		
	Road Grade:	0.0%				Auto		3.539			
	Left View:	-90.0 degre	es			m Truck		3.356			
	Right View:	90.0 degre	es		Hea	vy Truck	s: 48	3.374			
FHWA Noise Mod											
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		rm Atten
Autos				0.09		-1.20		-4.71		000	0.00
Medium Trucks				0.11		-1.20		-4.88		000	0.000
Heavy Trucks				0.11		-1.20		-5.30	0.0	000	0.000
Unmitigated Nois			_					-		1 -	
VehicleType	Leq Peak Hou			Leq Ev			Night	<u> </u>	Ldn	_	NEL
Autos		0.4	67.7		66.0		62.		70.	-	70.4
Medium Trucks			64.6		60.3		59.	-	67.		67.2
Heavy Trucks Vehicle Noise		3.7 3.1	71.2		65.3 69.3		64. 67.		70. 74.	-	71.2 74.7
Centerline Distar	ce to Noise Co	ontour (in feet)								
				70 d	BA	65	dBA	6	i0 dBA	55	dBA
			Ldn:		129		27		598		1,288
		C	NEL:		136		293	3	631		1,359

						5		0:	n .		
	rio: OYC 2024 ne: Sierra Av.							Sierra 14283	Business (Center	
						JOD IV	umber:	14283			
Road Segine	nt: s/o Dwy. 2										
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data					Site Con	ditions	Hard :	= 10, Sc			
Average Daily	Traffic (Adt):	21,600 vehic	cles					Autos:			
Peak Hour	Percentage:	8.81%				dium Tru		,			
Peak H	lour Volume:	1,903 vehicle	es		He	avy Truc	ks (3+	Axles):	15		
	hicle Speed:	55 mph			Vehicle I	Mix					
Near/Far La	ne Distance:	90 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						A	lutos:	71.9%	12.2%	15.9%	93.47%
Ra	rrier Height:	0.0 feet			М	edium Tr	ucks:	75.3%	7.0%	17.7%	3.78%
Barrier Type (0-W		0.0				Heavy Tr	ucks:	60.4%	12.0%	27.6%	2.75%
Centerline Di	st. to Barrier:	66.0 feet			Noise So	roo El	overtio	aa (in fi	2041		
Centerline Dist.	to Observer:	66.0 feet			Noise 30	Autos		.000	ei)		
Barrier Distance	to Observer:	0.0 feet			A decedio	Autos m Trucks		.000			
Observer Height	(Above Pad):	5.0 feet						.004	Grade Ad	liustmant	. 0.0
P	ad Elevation:	0.0 feet			Heat	y Trucks	s: e	.004	Grade Ad	justinent	0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distar	ice (in	feet)		
	Road Grade:	0.0%				Autos	3: 48	3.539			
	Left View:	-90.0 degre	ees		Mediu	m Trucks	3: 48	3.356			
	Right View:	90.0 degre	ees		Heav	y Trucks	3: 48	3.374			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	D	istance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	71.78	-0.2	1	0.	09	-1.20		-4.71	0.0	000	0.000
Medium Trucks:	82.40	-14.1	4	0.	11	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	86.40	-15.5	2	0.	11	-1.20		-5.30	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	d barı	ier atte	nuation)						
VehicleType	Leq Peak Hou		-		vening	Leq			Ldn	-	VEL
Autos:	70		68.8		67.1		63		71.		71.5
Medium Trucks:			65.7		61.4		60		68.		68.3
Heavy Trucks:			67.4		66.4		65		72.	-	72.3
Vehicle Noise:	74	.1	72.2		70.3		68	.3	75.	4	75.8
Centerline Distan	ce to Noise Co	ntour (in fee	et)							1	
					dBA	65 (60 dBA		dBA
			Ldn.		152		32		705		1,519 1.602
			CNEL		160		34		744		

	FHWA-RD	-77-108 HIGHW	AY NO	SE	PREDIC	TION MO	DDEL (9/12/2	021)		
Road Nan	rio: EAP 2024 ne: Sierra Av. nt: s/o Dwy. 2					Project I Job Nu			Business (Center	
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data				1	Site Con	ditions (Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	17,502 vehicles						Autos:	15		
Peak Hour	Percentage:	8.81%			Me	dium Tru	cks (2 /	4xles):	15		
Peak I	lour Volume:	1,542 vehicles			He	avy Truci	ks (3+)	4xles):	15		
Ve	ehicle Speed:	55 mph		h	Vehicle I	Лix					
Near/Far La	ne Distance:	90 feet		ŀ	Vehi	cleType		Day	Evening	Night	Daily
Site Data				Ť		A	utos:	71.9%	12.2%	15.9	6 93.179
Ba	rrier Height:	0.0 feet		7	Me	edium Tru	ıcks:	75.3%	7.0%	17.79	% 3.76%
Barrier Type (0-V	-	0.0			F	leavy Tru	ıcks:	60.4%	12.0%	27.6	% 3.069
Centerline D	ist. to Barrier:	66.0 feet		-	Noise So	urco Flo	vation	e (in f	not)		
Centerline Dist.	to Observer:	66.0 feet		ť	10/36 00	Autos		000			
Barrier Distance	to Observer:	0.0 feet			Mediu	n Trucks		297			
Observer Height	(Above Pad):	5.0 feet				y Trucks		004	Grade Ad	iustmei	nt: 0.0
P	ad Elevation:	0.0 feet		L	ricav	y ITUCKS	. 0.	004	Orauc Au	justino	n. 0.0
Ro	ad Elevation:	0.0 feet		1	Lane Equ	uivalent l	Distan	ce (in	feet)		
	Road Grade:	0.0%				Autos	: 48.	539			
	Left View:	-90.0 degrees			Mediur	n Trucks	: 48.	356			
	Right View:	90.0 degrees			Heav	y Trucks	: 48.	374			
FHWA Noise Mod	el Calculations										
VehicleType	REMEL	Traffic Flow	Distanc	е	Finite	Road	Fresi	nel	Barrier Att	en B	erm Atten
Autos:	71.78	-1.14		0.0	9	-1.20		-4.71	0.0	000	0.00
Medium Trucks:	82.40	-15.07		0.1	1	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	86.40	-15.97		0.1	1	-1.20		-5.30	0.0	000	0.00
Unmitigated Nois	e Levels (witho	ut Topo and b	arrier at	ten	uation)						
VehicleType	Leq Peak Hour			qΕ	vening	Leq N	_		Ldn		CNEL
Autos:			7.9		66.2		62.0		70.		70.
Medium Trucks:			4.8		60.5		59.		67.		67.
Heavy Trucks: Vehicle Noise:			5.9 1.5		65.9 69.6		64.6		71. 74.	_	71. 75.
			1.0		05.0		07.0	,	74.	'	75.
Centerline Distan	ce to Noise Co	ntour (in feet)		70 d	dBA	65 d	BA		60 dBA	5	5 dBA
		L	dn:		136	00 0	294		632	_	1.362
		CNE			144		310		667		1,437
											, .

Friday, May 27, 2022

	FHWA-RI	D-77-108 HIGH\	WAY N	IOISE	PREDIC	TION M	ODEL	(9/12/2	(021)		
Road Na	ario: OYCP 202 me: Sierra Av. ent: s/o Dwy. 2	4						Sierra 14283	Business (Center	
SITE Highway Data	SPECIFIC IN	IPUT DATA			ita Can				EL INPUT oft = 15)	S	
Average Dail Peak Hou	y Traffic (Adt): ir Percentage: Hour Volume:	22,231 vehicle 8.81% 1,959 vehicles			Ме	dium Tru	ıcks (2	Autos Axles)	: 15		
	'ehicle Speed: ane Distance:	55 mph 90 feet		١	/ehicle l	Wix					
	arie Distance.	90 leet			Veh	icleType		Day	Evening	Night	Daily
Site Data B Barrier Type (0-	arrier Height: Wall, 1-Berm):	0.0 feet 0.0				A edium Tr Heavy Tr		71.99 75.39 60.49	6 7.0%	15.9% 17.7% 27.6%	3.77%
Centerline L	Dist. to Barrier:	66.0 feet			loico Sa	urco El	ovatio	ne (in f	inati		
Barrier Distance	Centerline Dist. to Observer: 66.0 feet Barrier Distance to Observer: 0.0 feet bserver Height (Above Pad): 5.0 feet				Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297						
	Pad Elevation:	0.0 feet			Heav	y Trucks	s: 8	3.004	Grade Ad	ljustmen	t: 0.0
	oad Elevation:	0.0 feet		L	ane Eq	uivalent	Distar	nce (in	feet)		
	Road Grade:	0.0%				Autos		3.539	,		
	Left View: Right View:	-90.0 degree 90.0 degree			Medium Trucks: 48.356 Heavy Trucks: 48.374						
FHWA Noise Mo	del Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fres	inel	Barrier Att	en Be	rm Atten
Autos	: 71.78	-0.09		0.09	9	-1.20		-4.71	0.0	000	0.000
Medium Trucks				0.11		-1.20		-4.88		000	0.000
Heavy Trucks				0.11		-1.20		-5.30	0.0	000	0.000
Unmitigated Nois											
VehicleType	Leq Peak Hou			Leq Ev			Night		Ldn		NEL
Autos			38.9		67.2		63		71.		71.6
Medium Trucks			35.8 37.9		61.5 66.8		60 65		68.: 72.:	_	68.4 72.8
Heavy Trucks Vehicle Noise			72.5		70.6		68		75.		76.1
Centerline Distar	nce to Noise C	ontour (in feet)									
				70 d	IBA .	65 (dΒA		60 dBA	55	dBA
		ı	Ldn:		159 342 737 1,			1,587			
		CN	IEL:		167		36	1	777	7	1,675

	FHWA-RD	-77-108 HIGH	WAY N	OISE	PREDIC	CTION N	IODEL	(9/12/2	021)		
	ne: Sierra Av. nt: s/o Dwy. 2						Name: lumber:		Business (Center	
SITE Highway Data	SPECIFIC IN	PUT DATA			Cita Car				L INPUT	S	
					one Con	iuitions	(naru -				
Average Daily	. ,	21,600 vehicle	es					Autos:			
	Percentage:	8.81%				edium Tr eavy Tru		,			
	lour Volume: hicle Speed:	1,903 vehicles	5		пе	avy IIu	CKS (ST	Axies).	15		
	ne Distance:	55 mph 90 feet		١	/ehicle	Mix					
Neal/Fal La	ne Distance.	90 leet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	71.9%		15.9%	93.47%
Ba	rrier Height:	0.0 feet			М	edium T	rucks:	75.3%	7.0%	17.7%	3.78%
Barrier Type (0-W	/all, 1-Berm):	0.0				Heavy T	rucks:	60.4%	12.0%	27.6%	2.75%
Centerline Di	st. to Barrier:	66.0 feet		,	Voise S	ource E	levation	s (in f	oet)		
Centerline Dist.	to Observer:	66.0 feet		F	.0.00 0	Auto		.000	301)		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck		.297			
Observer Height	(Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	liustment	0.0
Pi	ad Elevation:	0.0 feet		L	7700	,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0. 0	.001		,	
Ro	ad Elevation:	0.0 feet		L	.ane Eq	uivalen		_ •	feet)		
	Road Grade:	0.0%				Auto		.539			
	Left View:	-90.0 degree	es			m Truck		.356			
	Right View:	90.0 degree	es		Hea	vy Truck	s: 48	.374			
FHWA Noise Mode	el Calculations	1									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fres		Barrier Att	en Bei	rm Atten
Autos:	71.78	-0.21		0.09	-	-1.20		-4.71		000	0.000
Medium Trucks:	82.40	-14.14		0.1		-1.20		-4.88		000	0.000
Heavy Trucks:		-15.52		0.1		-1.20		-5.30	0.0	000	0.000
Unmitigated Noise				atten	uation)						
VehicleType	Leq Peak Hou		_	.eq E	ening/		Night		Ldn		NEL
Autos:	70.	-	68.8		67.1		63.	-	71.		71.5
Medium Trucks:	67.		65.7		61.4		60.		68.		68.3
Heavy Trucks: Vehicle Noise:	69. 74		67.4 72.2		66.4 70.3		65. 68.		72.0 75.4		72.3 75.8
Centerline Distant		•			. 0.0		50.	-	. 0		. 5.0
Centernile Distant	LE IO NOISE CO	inoui (III leet)		70 c	iBA	65	dBA	1	60 dBA	55	dBA
			Ldn:		152		32	7	705	5	1,519
	CNEL:					160 345 744 1,6					1,602

	FHWA-RI	D-77-108 HIGH	IWAY	NOISE I	PREDIC	CTION N	MODEL (9	/12/202	1)		
Scenario Road Name Road Segmen	e: Sierra Av.						t Name: S Number: 1		usiness Ce	enter	
SITE S		NOISE MODEL INPUTS									
Highway Data				S	ite Cor	ditions	(Hard = 1	10, Soft	= 15)		
Average Daily	Traffic (Adt):	94 vehicle	es				Α	utos:	15		
Peak Hour I	Percentage:	8.81%			Me	edium Ti	rucks (2 A.	xles):	15		
Peak Ho	our Volume:	8 vehicle	S		He	eavy Tru	icks (3+ A.	xles):	15		
Vel	nicle Speed:	55 mph		v	ehicle	Miv					
Near/Far Lar	90 feet				icleType	۰ ۲	Day E	vening	Night Daily		
Site Data					V C//			71.9%	12.2%	15.9% 93.47	
	rier Heiaht:	0.0 feet			М	edium 7		75.3%	7.0%	17.7% 3.78	
Barrier Type (0-Wa		0.0 reet 0.0				Heavy 7		30.4%	12.0%	27.6% 2.75	
Centerline Dis		66.0 feet				,					
Centerline Dist. 1		66.0 feet		Ν	oise S		levations	•	t)		
Barrier Distance t		0.0 feet				Auto					
Observer Height (5.0 feet			Medium Trucks: 2.297							
Pa	0.0 feet			Hear	vy Truck	ks: 8.0	04 0	Grade Adju	stment: 0.0		
Roa	0.0 feet		L	ane Eq	uivalen	t Distance	e (in fe	et)			
F	0.0%										
,	-90.0 degrees			Medium Trucks: 48.356							
	es		Heavy Trucks: 48.374								
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresne	el B	arrier Attei	n Berm Atter	
Autos:	71.78	-23.82		0.09		-1.20	-	4.71	0.00	0.00	
Medium Trucks:	82.40	-37.75		0.11		-1.20	-	4.88	0.00	0.00	
Heavy Trucks:	86.40	-39.13		0.11	0.11 -1.20 -5.30 0.000					0.00	
Unmitigated Noise	Levels (with	out Topo and	barrie	er attenu	ıation)						
	Leq Peak Hou			Leq Ev			Night	L	.dn	CNEL	
Autos:	46	.8 45.2			43.5		39.9		47.5	47	
Medium Trucks:		43.6 42.1			37.8		37.0		44.4	44.	
		43.7		42.7 41.6							
Vehicle Noise:	50).5	48.6		46.7		44.7		51.8	52	
Centerline Distanc	e to Noise Co	ontour (in feet)	70 d			dBA		-(D.4	55 dBA	
			Ldn:	7 U a	ва 4	05	aBA 9	00	dBA 19	55 dBA 4	
		0	Lan: NEL:		4		9		19 20	4	
		C	IVEL:		4		9		20	4	

	FRWA-KL)-77-108 HIGH\	VATE	NOISE	PREDIC	IION N	IODEL	(9/12/20	J21)				
Scenari	io:					Project	Name.	Sierra	Business (Center			
Road Nam	e: Sierra Av.					Job N	lumber.	14283					
Road Segmer	nt: s/o Dwy. 2												
	SPECIFIC IN	PUT DATA			0'' 0				L INPUT	S			
Highway Data					Site Con	aitions	(Hara						
Average Daily	Traffic (Adt):	22,861 vehicle	S					Autos:	15				
Peak Hour	Percentage:	8.81%			Medium Trucks (2 Axles): 15								
Peak H	our Volume:	2,014 vehicles			He	avy Tru	cks (3+	Axles):	15				
Ve	hicle Speed:	55 mph		f	Vehicle I	Nix							
Near/Far Lai	ne Distance:	90 feet		ŀ		cleType	,	Day	Evening	Night	Daily		
Site Data							Autos:	71.9%	12.2%	15.9%	93.02		
Rar	rier Height:	0.0 feet			Medium Trucks: 75.3%		7.0%	17.7%	3.76				
Barrier Type (0-W	-	0.0			Heavy Trucks: 60.4% 12.0% 27.6%						3.23		
Centerline Dis	. ,	66.0 feet			Noise So	uraa E	lovetio	na (in f	nad)				
Centerline Dist.	to Observer:	66.0 feet		H	Noise So			- '	eet)				
Barrier Distance	to Observer:	0.0 feet			Martin	Auto n Truck		2.000					
Observer Height (Above Pad):	5.0 feet							Crodo Ad	iuatmant			
Pad Elevation:		0.0 feet			Heav	y Truck	S: 6	1.004	Grade Ad	iusimeni.	0.0		
Roa	ad Elevation:	0.0 feet			Lane Equivalent Distance (in feet)								
F	Road Grade:	0.0%			Autos: 48.539								
	Left View:	-90.0 degrees Medium Trucks: 48.356											
	Right View:	90.0 degree	8		Heav	y Truck	s: 48	3.374					
FHWA Noise Mode	el Calculations	3											
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atter		
Autos:	71.78	0.02		0.0	9	-1.20		-4.71	0.0	000	0.0		
Medium Trucks: 82.40		-13.92		0.1	1	-1.20		-4.88	0.0	000	0.0		
Heavy Trucks: 86.40		-14.58		0.1	1	-1.20		-5.30	0.0	000	0.0		
Unmitigated Noise	Levels (with	out Topo and b	arrie	r atter	uation)								
VehicleType	Leq Peak Hou	r Leq Day		Leq E	vening	Leq	Night		Ldn		VEL		
Autos: 70		.7 6	69.0		67.3		63	.7	71.3	3	71		
		.4 65.9			61.6		60	.9	68.3	3	68		
		.7 68.3			67.3		66		72.		73		
Vehicle Noise:	74	.6 7	2.7		70.9		68	.9	76.0)	76		
Centerline Distanc	e to Noise Co	ntour (in feet)		70			·						
				70	dBA	65	dBA	6	60 dBA	55	dBA		
										*			
			.dn:		165 175		35 37		768 810		1,65 1,74		

Friday, May 27, 2022

	FHWA-RI	D-77-108 HIGH	WAY NOIS	SE PREDIC	CTION M	ODEL (9/12/2	021)				
	ario: me: Sierra Av. ent: s/o Dwy. 2					Name: umber:		Business C	enter			
SITE	NOISE MODEL INPUTS											
Highway Data				Site Con	ditions	(Hard =	10, Sc	oft = 15)				
Average Dail	y Traffic (Adt):	1,355 vehicle	:S				Autos:	15				
Peak Hou	ır Percentage:	8.81%		Medium Trucks (2 Axles): 15								
Peak	Hour Volume:	119 vehicles	3	Heavy Trucks (3+ Axles): 15								
V	ehicle Speed:	55 mph		Vehicle Mix								
Near/Far L	ane Distance:	90 feet			icleType		Day	Evening	Night	Daily		
Site Data					- A	lutos:	71.9%	12.2%	15.9%	85.82%		
B	arrier Height:	0.0 feet		М	edium Ti	ucks:	75.3%	7.0%	17.7%	3.42%		
Barrier Type (0-		0.0			Heavy Ti	ucks:	60.4%	12.0%	27.6%	10.76%		
	Dist. to Barrier:	66.0 feet		Maiae O			- /: #	41				
Centerline Dis	t. to Observer:	66.0 feet		Noise S	Noise Source Elevations (in feet)							
Barrier Distanc	e to Observer:	0.0 feet		Autos: 0.000								
Observer Height (Above Pad):		5.0 feet			m Trucks		297	0				
	Pad Elevation:	0.0 feet		Hear	vy Truck:	s: 8.	004	Grade Adj	ustment	. 0.0		
R	oad Elevation:	0.0 feet		Lane Eq	uivalent	Distan	ce (in	feet)				
	Road Grade:	0.0%			Auto	s: 48.	539					
	Left View:	-90.0 degree	es.	Medium Trucks: 48.356								
	es .	Heavy Trucks: 48.374										
FHWA Noise Mo	del Calculation	s										
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresr	nel	Barrier Atte	en Bei	m Atten		
Autos	3: 71.78	-12.60	0	.09	-1.20	-4.71		0.0	00	0.000		
Medium Trucks	Medium Trucks: 82.40		-26.60 0.		-1.20		-4.88			0.000		
Heavy Trucks	Heavy Trucks: 86.40 -21.62 0		.11	11 -1.20 -5.30 0.000				00	0.000			
Unmitigated Noi	se Levels (with	out Topo and	barrier att	enuation)								
VehicleType	Leq Peak Hou			Evening		Night		Ldn	_	NEL		
Autos		3.1 56.4		54.7 51.					59.1			
			53.2	48.9		48.2				55.8		
Heavy Trucks: 63			61.3	60.2		59.1		65.9		66.2		
Vehicle Noise	e: 65	5.2	63.0	61.6		60.0)	66.9	1	67.3		
Centerline Dista	nce to Noise C	ontour (in feet)		0 dBA	C.F.	-(D.4	_	50 dBA		dBA		
	Ldn:		<i>0 ава</i> 41	00	65 dBA 89		192		413			
	Lan: CNEL:			41	94 202			413				
		Cr	VLL.	43		94		202		434		

	FHWA-R	D-77-108 HIGH	lWAY	NOISE	PREDIC	CTION M	ODEL	(9/12/20	021)		
Road Na	ario: E me: Riverside i ent: e/o Sierra						Name: umber:		Business (Center	
	SPECIFIC I	NPUT DATA							L INPUT	S	
Highway Data				3	ite Cor	ditions	(Hara =				
-	y Traffic (Adt):	13,423 vehicl	es					Autos:	15		
	ır Percentage:	8.81%				edium Tru		,			
	Hour Volume:	1,183 vehicle	S		He	eavy Truc	cks (3+	Axles):	15		
	ehicle Speed:	55 mph		ν	ehicle	Mix					
Near/Far L	.ane Distance:	90 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	71.9%	12.2%	15.9%	93.47%
F	arrier Height:	0.0 feet			М	edium Ti	rucks:	75.3%	7.0%	17.7%	3.78%
Barrier Type (0-	Wall, 1-Berm):	0.0				Heavy Ti	rucks:	60.4%	12.0%	27.6%	2.75%
	Dist. to Barrier:	66.0 feet		٨	loise S	ource El	evation	ıs (in fe	eet)		
	t. to Observer:	66.0 feet				Autos	s: 0	.000	,		
Barrier Distanc	e to Observer:	0.0 feet			Mediu	m Trucks	s: 2	.297			
Observer Heigh		5.0 feet			Hear	vy Trucks	s: 8	.004	Grade Ad	justmen	t: 0.0
	Pad Elevation:	0.0 feet		-							
R	oad Elevation:	0.0 feet		L	ane Eq	uivalent		_ •	feet)		
	Road Grade:	0.0%				Autos		.539			
	Left View:	-90.0 degre				m Trucks		.356			
	Right View:	90.0 degre	es		Hea	vy Trucks	s: 48	.374			
FHWA Noise Mo	del Calculation	าร									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Auto	s: 71.78	3 -2.27		0.09)	-1.20		-4.71	0.0	000	0.000
Medium Truck	s: 82.40	-16.21		0.11		-1.20		-4.88	0.0	000	0.000
Heavy Trucks	s: 86.40	-17.58		0.11		-1.20		-5.30	0.0	000	0.000
Unmitigated Noi			barri	er atteni	uation)						
VehicleType	Leq Peak Ho	ur Leq Da	<i>y</i>	Leq Ev	ening	Leq	Night		Ldn	С	NEL
Auto	s: 6	8.4	66.7		65.0		61.	.4	69.0)	69.5
Medium Truck		5.1	63.6		59.3		58.	.6	66.0)	66.2
Heavy Truck		7.7	65.3		64.3		63.		69.9		70.2
Vehicle Noise	9: 7	2.1	70.2		68.3		66.	2	73.4	4	73.7
Centerline Dista	nce to Noise C	ontour (in feet)				·5.4				
			1 -1	70 d		65 (dBA		0 dBA		dBA
		_	Ldn:		111		238	-	513		1,106
		C	NEL:		117		251	1	542	!	1,167

	FHWA-RI	D-77-108 HIGH	WAY N	OISE F	PREDIC	TION N	10DEL (9/12	2/2021)			
	o: EA 2024 e: Riverside A t: e/o Sierra A						Name: Sier lumber: 142	ra Business (83	Center		
SITE S	PECIFIC IN	NPUT DATA					IOISE MO	DEL INPUT	S		
Highway Data				S	ite Con	ditions	(Hard = 10,	Soft = 15)			
Average Daily 1	raffic (Adt):	14,245 vehicl	es				Aut	os: 15			
Peak Hour I	Percentage:	8.81%			Me	dium Tr	ucks (2 Axle	s): 15			
Peak Ho	our Volume:	1,255 vehicle	s		He	avy Tru	cks (3+ Axle	s): 15			
Veh	icle Speed:	55 mph		V	ehicle i	Mix					
Near/Far Lan	e Distance:	90 feet		-		icleType	Da	y Evening	Night	Daily	
Site Data					****		Autos: 71		15.9%		
Por	rier Height:	0.0 feet			М	edium T	rucks: 75.		17.7%		
Barrier Type (0-Wa		0.0 feet				Heavy T	rucks: 60.	4% 12.0%	27.6%	2.75%	
Centerline Dis	. ,	66.0 feet		_							
Centerline Dist. t		66.0 feet		N	oise So		levations (ii				
Barrier Distance t		0.0 feet				Auto	0.000				
Observer Height (A		5.0 feet				m Truck					
	d Elevation:	0.0 feet			Heavy Trucks: 8.004 Grade Adjustment: 0.0						
Roa	d Elevation:	0.0 feet		Li	ane Eq	uivalen	t Distance (in feet)			
R	load Grade:	0.0%				Auto	s: 48.539	1			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 48.356				
	Right View:	90.0 degre	es		Heav	ry Truck	s: 48.374				
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista		Finite	Road	Fresnel	Barrier Att		rm Atten	
Autos:	71.78			0.09		-1.20	-4.1		000	0.000	
Medium Trucks:	82.40			0.11		-1.20	-4.6		000	0.000	
Heavy Trucks:	86.40			0.11		-1.20	-5.3	30 0.	000	0.000	
Unmitigated Noise									1		
	Leq Peak Hou			.eq Eve		Leq	Night	Ldn		NEL	
Autos:		3.7	67.0		65.3		61.7	69.		69.7	
Medium Trucks:		5.4	63.9		59.6		58.9	66.	-	66.5	
Heavy Trucks:		3.0	65.6		64.5		63.4	70.		70.5	
Vehicle Noise:		2.3	70.4		68.5		66.5	73.	0	74.0	
Centerline Distance	e to Noise C	ontour (in feet)	70 dE	BA	65	dBA	60 dBA	55	dBA	
			Ldn:		115		248	534		1.151	
							248				

Scenari	F.D					Danie 1	Mana	0:	December 1) 4	
	o: E+P e: Riverside A						Name: umber:		Business C	enter	
Road Segmer						JOD IN	umber:	14283			
•				-							
SITE : Highway Data	SPECIFIC IN	IPUT DATA			Site Con				L INPUT	S	
	T 05 (4 11)				Site Con	uitions	•				
Average Daily	. ,	13,468 vehicle	es					Autos:	15		
	Percentage:	8.81%				dium Tr	,	,			
	our Volume:	1,187 vehicle	S		He	avy Tru	CKS (3+	Axies):	15		
	hicle Speed:	55 mph		1	Vehicle	Mix					
Near/Far Lai	ne Distance:	90 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						,	Autos:	71.9%	12.2%	15.9%	93.499
Bar	rier Heiaht:	0.0 feet			М	edium T	rucks:	75.3%	7.0%	17.7%	3.779
Barrier Type (0-W		0.0				Heavy T	rucks:	60.4%	12.0%	27.6%	2.749
Centerline Dis	st. to Barrier:	66.0 feet			Noise S	ource F	ovation	e (in f	not)		
Centerline Dist.	to Observer:	66.0 feet		F.	10/36 01	Auto		.000	,01)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height (Above Pad):	5.0 feet				v Truck		.004	Grade Ad	iustmant	. 0 0
Pa	ad Elevation:	0.0 feet			i icai	ry IIUCK	3. 0	.004	Orauc Auj	usunone	0.0
Roa	ad Elevation:	0.0 feet		1	Lane Eq	uivalen	Distan	ce (in	feet)		
F	Road Grade:	0.0%				Auto	s: 48	.539			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 48	.356			
	Right View:	90.0 degre	es		Hear	y Truck	s: 48	.374			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten
Autos:	71.78	-2.26		0.0	9	-1.20		-4.71	0.0	000	0.00
Medium Trucks:	82.40	-16.21		0.1	1	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	86.40	-17.58		0.1	1	-1.20		-5.30	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barrie	er atten	uation)						
VehicleType	Leq Peak Hou	ır Leq Day	/	Leq E	vening	Leq	Night		Ldn	C	NEL
Autos:	68	3.4	66.7		65.1		61.	4	69.0)	69.
Medium Trucks:	65		63.6		59.3		58.	-	66.0	-	66.
Heavy Trucks:	67	'.7	65.3		64.3		63.	1	69.9	9	70.
Vehicle Noise:	72	2.1	70.2		68.3		66.	2	73.4	1	73.
Centerline Distanc	e to Noise C	ontour (in feet)								
			L	70 0		65	dBA		60 dBA		dBA
			Ldn:		111		238	3	514		1,107
			NEL:		117		252		542		1.168

Friday, May 27, 2022

	FHWA-RI	D-77-108 HIGHV	WAY NOIS	SE PREDIC	CTION M	ODEL	(9/12/2	(021)		
Road Nar	rio: EAP 2024 me: Riverside A ent: e/o Sierra A						Sierra 14283	Business (Center	
SITE Highway Data	SPECIFIC IN	IPUT DATA		Site Con	N nditions (EL INPUT	s	
Average Daily Peak Hou	r Traffic (Adt): r Percentage: Hour Volume:	14,289 vehicles 8.81% 1.259 vehicles		Ме	edium Tru eavy Truc	ıcks (2	Autos Axles)	: 15 : 15		
	ehicle Speed: ane Distance:	55 mph 90 feet		Vehicle	Mix nicleType		Day	Evening	Night	Daily
	arrier Height:	0.0 feet		Autos: 71.9% 12.2% 15.9% 93.4% Medium Trucks: 75.3% 7.0% 17.7% 3.77 Heavy Trucks: 60.4% 12.0% 27.6% 2.74						
Centerline D Centerline Dist	arrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 66.0 feet Centerline Dist. to Observer: 66.0 feet Barrier Distance to Observer: 0.0 feet bserver Height (Above Pad): 5 0 feet				Noise Source Elevations (in feet) Autos: 0.000					
Observer Height F			Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.1 Lane Equivalent Distance (in feet)						t: 0.0	
,	Road Grade: Left View: Right View:	0.0 feet 0.0% -90.0 degrees 90.0 degrees		Mediu	Autos m Trucks vy Trucks	s: 48 s: 48	3.539 3.356 3.374	,		
FHWA Noise Mod	lel Calculation	s		1						
VehicleType Autos Medium Trucks	82.40		0).09).11	-1.20 -1.20	Fres	-4.71 -4.88	0.	000	0.000 0.000
Heavy Trucks Unmitigated Nois).11	-1.20		-5.30	0.	000	0.000
VehicleType	Leq Peak Hou			Evening	Leq I	Night		Ldn	С	NEL
Autos. Medium Trucks.	65	5.4 6	67.0 63.9	65.3 59.6		61 58	.9	69. 66.	3	69.1 66.5
Heavy Trucks Vehicle Noise			0.4	64.5 68.5		63 66		70. 73.		70.5 74.0
Centerline Distan	ce to Noise Co	ontour (in feet)								
	Ldn:			0 dBA 115	65 (dBA 24		60 dBA 534		1,151
	CNEL:					26	2	564	ļ	1,215

	FHWA-R	D-77-108 HIGH	IWAY	NOISE	PREDIC	CTION M	ODEL	(9/12/20	021)			
Road Na	ario: OYC 2024 me: Riverside i ent: e/o Sierra	Av.					Name: umber:		Business (Center		
	SPECIFIC I	NPUT DATA			0:: 0				L INPUT	S		
Highway Data					Site Con	ditions	(Hara =					
-	y Traffic (Adt):	15,221 vehicl	es					Autos:	15			
	ır Percentage:	8.81%				dium Tri		,	15 15			
	Hour Volume:	1,341 vehicle	S		HE	eavy Truc	CKS (3+	Axies):	15			
	/ehicle Speed: ane Distance:	55 mph 90 feet			Vehicle	Mix						
ivear/r-ar L	ane Distance:	90 feet			Veh	icleType		Day	Evening	Night	Daily	
Site Data							Autos:	71.9%	12.2%	15.9%	93.47%	
В	arrier Height:	0.0 feet				edium Ti		75.3%	7.0%	17.7%	3.78%	
Barrier Type (0-	Wall, 1-Berm):	0.0				Heavy Ti	rucks:	60.4%	12.0%	27.6%	2.75%	
Centerline L	Dist. to Barrier:	66.0 feet			Noisa S	ource El	ovation	e (in fa	not)			
Centerline Dis	t. to Observer:	66.0 feet		· ·	110/36 01	Auto:		.000	.01)			
Barrier Distanc	e to Observer:	0.0 feet			Mediu	m Truck		297				
Observer Heigh	t (Above Pad):	5.0 feet			Heavy Trucks: 8.004 Grade Adjustment: 0.0							
	Pad Elevation:	0.0 feet		L						,		
R	oad Elevation:	0.0 feet		1	Lane Eq	uivalent		_ •	feet)			
	Road Grade:	0.0%				Auto		.539				
	Left View:	-90.0 degre	es			m Truck		.356				
	Right View:	90.0 degre	es		Hea	vy Truck	s: 48	.374				
FHWA Noise Mo	del Calculation	าร										
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att	en Be	rm Atten	
Autos				0.0		-1.20		-4.71		000	0.000	
Medium Trucks				0.1		-1.20		-4.88		000	0.000	
Heavy Trucks				0.1		-1.20		-5.30	0.0	000	0.000	
Unmitigated Noi								_				
VehicleType	Leq Peak Ho			Leq E	vening	-	Night		Ldn		NEL	
Autos		8.9	67.3		65.6		62.	-	69.	-	70.0	
Medium Trucks		5.7	64.2		59.9		59.		66.		66.8	
Heavy Trucks Vehicle Noise		8.3 2.6	65.8 70.7		64.8		63. 66.		70. 73.	<u> </u>	70.8 74.3	
Centerline Dista	nce to Noise C	ontour (in feet	9									
January Diotal		(111 1001	,	70 (dBA	65	dBA	6	0 dBA	55	dBA	
			Ldn:		120		259)	558	,	1,203	
		С	NEL:		127		273	3	589)	1,269	

	FHWA-RD	-77-108 HIGH	WAY N	IOISE I	PREDIC	TION N	/IODEL (9/1	2/202	1)		
Scenario: Road Name: R Road Segment: e							t Name: Sie lumber: 14		ısiness Cen	ter	
SITE SPE	CIFIC IN	PUT DATA				1	NOISE MC	DEL	INPUTS		
Highway Data				S	ite Cor	ditions	(Hard = 10	, Soft	= 15)		
Average Daily Traff Peak Hour Pero Peak Hour \ Vehicle	entage:	15,221 vehicle 8.81% 1,341 vehicle 55 mph			He	avy Tru	Au rucks (2 Axi icks (3+ Axi	/	15 15 15		
Near/Far Lane D	-,	90 feet		V	ehicle			-			
Site Data							Autos: 71	.9%	12.2% 1	5.9% 93	aily .47%
Barrier	Height:	0.0 feet				edium T		.3%			.78%
Barrier Type (0-Wall, 1	I-Berm):	0.0				Heavy T	rucks: 60).4%	12.0% 2	7.6% 2	.75%
Centerline Dist. to	Barrier:	66.0 feet		N	oise S	ource E	levations (in feet	t)		
Barrier Distance to Ol Observer Height (Abov Pad El Road El	Centerline Dist. to Observer: 66.0 feet Barrier Distance to Observer: 0.0 feet Dbserver Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.1 feet						os: 0.00 (s: 2.29 (s: 8.00 t Distance	7 4 G (in fee	irade Adjust	ment: 0.0)
Le	eft View: ht View:	-90.0 degree				m Truck /y Truck		-			
	EMEL	Traffic Flow	Dista	nco	Einite	Road	Fresnel	٠. ا	arrier Atten	Berm A	tton
Autos:	71.78	-1.73	Dist	0.09		-1.20		.71	0.000		0.00
Medium Trucks:	82.40	-15.66		0.11		-1.20		.88	0.000		0.00
Heavy Trucks:	86.40	-17.04		0.11		-1.20		.30	0.000		0.00
Unmitigated Noise Lev											
	Peak Hou			Leq Ev			Night	L	.dn	CNEL	
Autos:	68.	-	67.3		65.6		62.0		69.5		70.
Medium Trucks:	65.		64.2		59.9		59.1		66.5		66.
Heavy Trucks:	68.		65.8		64.8		63.7		70.4		70.
Vehicle Noise:	72.	-	70.7		68.8		66.8		73.9		74.
Centerline Distance to	Noise Co	ntour (in feet)	70 d	BA	65	dBA	60	dBA	55 dBA	1
			Ldn:	. 0 0	120		259		558		.203
			VEL:		127		273		589		,269

	FHWA-RD	-77-108 HIGH	WAY NO	JISE F	REDIC	HON MO	DEL (9	/12/20	121)		
	: OYCP 2024 : Riverside Av : e/o Sierra A	<i>i</i> .				Project N Job Nur			Business (Center	
	PECIFIC IN	PUT DATA							L INPUT	s	
Highway Data				Si	ite Con	ditions (H					
Average Daily T	. ,	15,265 vehicle	:S					lutos:	15		
Peak Hour P	-	8.81%				dium Truc		,	15		
		1,345 vehicles	3		He	avy Truck	s (3+ A	xles):	15		
	icle Speed:	55 mph		V	ehicle N	Лix					
Near/Far Land	e Distance:	90 feet			Vehi	cleType		Day	Evening	Night	Daily
Site Data						Au	tos:	71.9%	12.2%	15.9%	93.499
Rarr	ier Heiaht:	0.0 feet			Ме	edium Tru	cks:	75.3%	7.0%	17.7%	3.779
Barrier Type (0-Wa		0.0			F	leavy Tru	cks:	60.4%	12.0%	27.6%	2.749
Centerline Dist		66.0 feet		N	oise So	urce Elev	ations	(in fe	et)		
Centerline Dist. to	Observer:	66.0 feet				Autos:		•	- ,		
Barrier Distance to	Observer:	0.0 feet			Mediur	n Trucks:					
Observer Height (A	,	5.0 feet			Heav	v Trucks:	8.0	04	Grade Ad	iustment	: 0.0
	l Elevation:	0.0 feet				,					
	l Elevation:	0.0 feet		Li	ane Equ	ıivalent D			eet)		
R	oad Grade:	0.0%				Autos:					
	Left View:	-90.0 degree				n Trucks:					
,	Right View:	90.0 degree	es.		Heav	y Trucks:	48.3	174			
FHWA Noise Model											
VehicleType	REMEL	Traffic Flow	Distai		Finite		Fresn	_	Barrier Att		m Atten
Autos:	71.78	-1.71		0.09		-1.20		4.71		000	0.00
Medium Trucks:	82.40	-15.66		0.11		-1.20		4.88		000	0.00
Heavy Trucks:	86.40	-17.04		0.11		-1.20		5.30	0.0	000	0.00
Unmitigated Noise I VehicleType L	Levels (witho .eq Peak Houl			attenu eq Eve		Leg Ni	iaht		Ldn		NEL
Autos:	.ey r eax r loui		67.3	-4 -VC	65.6	LUG IVI	62.0		69.1		70
Medium Trucks:	65.	-	64.2		59.9		59.1		66.	-	66
Heavy Trucks:	68.		65.8		64.8		63.7		70.4	-	70
Vehicle Noise:	72.		70.7		68.8		66.8		73.9		74.
Centerline Distance	to Noise Co	ntour (in feet)									
			L	70 dE	ВА	65 dE	3A	6	0 dBA	55	dBA
			Ldn:		120		259		559	1	1,20

Friday, May 27, 2022

	FHWA-RI	D-77-108 HIGH\	WAY NO	ISE	PREDIC	TION M	ODEL	(9/12/2	2021)		
	rio: ne: Riverside A nt: e/o Sierra A							Sierra 14283	Business (Center	
	SPECIFIC IN	IPUT DATA							EL INPUT	S	
Highway Data	T 65 (4 10)	45.040 111		3	ite Con	aitions	Hara	Autos	oft = 15)		
Average Daily	. ,	15,310 vehicle: 8.81%	S		140	dium Tru	ieke (2				
	Percentage:	1.349 vehicles				avy Truc					
	hicle Speed:	,			пе	avy IIuc	KS (3+	Axies)	. 15		
	ne Distance:	55 mph 90 feet		ν	'ehicle l	Viix					
Nedi/Fai La	ine Distance.	90 leet			Veh	icleType		Day	Evening	Night	Daily
Site Data						A	lutos:	71.99	6 12.2%	15.9%	93.51%
Ba	rrier Height:	0.0 feet			Me	edium Tr	ucks:	75.39	6 7.0%	17.7%	3.76%
Barrier Type (0-W		0.0			F	Heavy Tr	ucks:	60.49	6 12.0%	27.6%	2.74%
Centerline Di	st. to Barrier:	66.0 feet			loisa Sc	ource Ele	ovatio	ne (in t	foot)		
Centerline Dist.	to Observer:	66.0 feet		-	10/36 00	Autos		0.000	ccij		
Barrier Distance	to Observer:	0.0 feet			Madiu	m Trucks		2.297			
Observer Height	(Above Pad):	5.0 feet				y Trucks		3.004	Grade Ad	liuetman	t- 0.0
P	ad Elevation:	0.0 feet			пеач	ry Trucks	s. c	0.004	Orado Ad	justinem	. 0.0
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distar	nce (in	feet)		
	Road Grade:	0.0%				Autos	s: 48	3.539			
	Left View:	-90.0 degree	s		Mediui	m Trucks	s: 48	3.356			
	Right View:	90.0 degree	S		Heav	y Trucks	s: 48	3.374			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distan			Road	Fres		Barrier Att		rm Atten
Autos:	71.78	-1.70		0.09		-1.20		-4.71		000	0.000
Medium Trucks:		-15.66		0.11		-1.20		-4.88		000	0.000
Heavy Trucks:		-17.04		0.11		-1.20		-5.30	0.	000	0.000
Unmitigated Noise VehicleType	e Levels (with				uation) ening	100	Night		Ldn		NFL
Venicie i ype Autos:			7.3	y ⊏v	ening 65.6		vignt 62	0	69.		NEL 70.0
Medium Trucks:			34.2		59.9		59		66.		66.8
Heavy Trucks:			14.2 15.8		64.8		63		70.	-	70.8
Vehicle Noise:			0.7		68.8		66		73.		74.3
Centerline Distan	ce to Noise Co	ontour (in feet)									
				70 d	BA	65 (dΒA		60 dBA	55	dBA
		L	dn:		120		25	9	559)	1,204
		CN	IEL:		127		27	4	590)	1,271

	FHWA-R	D-77-108 HIGH	IWAY	NOISE	PREDIC	CTION M	ODEL	(9/12/2	021)		
	ario: me: Riverside / ent: e/o Sierra /						Name: umber:		Business	Center	
	SPECIFIC II	IPUT DATA							L INPUT	S	
Highway Data				S	ite Cor	ditions	(Hard =				
	y Traffic (Adt):	95 vehicle	es					Autos:			
	ır Percentage:	8.81%				edium Tri		,			
	Hour Volume:	8 vehicle	S		He	eavy Truc	cks (3+	Axles):	15		
	'ehicle Speed:	55 mph		ν	ehicle	Mix					
Near/Far L	ane Distance:	90 feet			Veh	icleType		Dav	Evening	Niaht	Dailv
Site Data							Autos:	71.9%	6 12.2%	15.99	6 93.47%
R	arrier Height:	0.0 feet			М	edium Ti	rucks:	75.3%	6 7.0%	17.79	6 3.78%
Barrier Type (0-		0.0				Heavy Ti	rucks:	60.4%	6 12.0%	27.69	% 2.75%
	Dist. to Barrier:	66.0 feet		۸	loise S	ource El	evation	s (in f	eet)		
Centerline Dis	t. to Observer:	66.0 feet				Auto		.000	,		
Barrier Distanc	e to Observer:	0.0 feet			Mediu	m Truck		.297			
Observer Height	t (Above Pad):	5.0 feet			Hear	vy Truck	s: 8	.004	Grade Ad	liustmer	nt: 0.0
	Pad Elevation:	0.0 feet								,	
R	oad Elevation:	0.0 feet		L	ane Eq	uivalent		_ •	feet)		
	Road Grade:	0.0%				Auto		.539			
	Left View:	-90.0 degre	es			m Truck		.356			
	Right View:	90.0 degre	es		Hea	vy Truck	s: 48	.374			
FHWA Noise Mo	del Calculation	s									
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier At		erm Atten
Autos				0.09		-1.20		-4.71		000	0.000
Medium Trucks				0.11		-1.20		-4.88		000	0.000
Heavy Trucks				0.11		-1.20		-5.30	0.	000	0.000
Unmitigated Nois			_					_		,	
VehicleType	Leq Peak Ho			Leq Ev		-	Night		Ldn		CNEL
Autos		5.9	45.2		43.5		39.	-	47.	-	47.9
Medium Trucks		3.6	42.1		37.8		37.		44.	-	44.7
Heavy Trucks Vehicle Noise		0.6	43.8		42.8		41.	-	48. 51.		48.7 52.2
Centerline Dista					70.0		77.	•	J1.		52.2
Centerline Distal	ice to Noise C	uniour (in feet	,	70 d	BA	65	dBA		60 dBA	5	5 dBA
			Ldn:		4		(9	19)	41
		C	NEL:		4		9	9	20)	43

)-77-108 HIGH						•			
Scenari									Business (Center	
	e: Duncan Ca					Job Ni	umber	14283			
Road Segmer	nt: e/o Sierra A	.V.									
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Con	ditions (Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	425 vehicle	es					Autos:			
Peak Hour	Percentage:	8.81%				dium Tru		,			
Peak H	lour Volume:	37 vehicle	S		He	avy Truc	ks (3+	Axles):	15		
Ve	hicle Speed:	45 mph		1	Vehicle I	Mix					
Near/Far La	ne Distance:	14 feet				icleType		Day	Evening	Night	Daily
Site Data						Α	utos:	71.9%	12.2%	15.9%	93.47%
Bai	rrier Height:	0.0 feet			M	edium Tr	ucks:	75.3%	7.0%	17.7%	3.78%
Barrier Type (0-W		0.0			I	Heavy Tr	ucks:	60.4%	12.0%	27.6%	2.75%
Centerline Dis	st. to Barrier:	34.0 feet		-	Noise Sc	urce Fle	vatio	ne (in f	not)		
Centerline Dist.	to Observer:	34.0 feet			110/36 00	Autos		0.000			
Barrier Distance	to Observer:	0.0 feet			Modiu	m Trucks		2.297			
Observer Height (Above Pad):	5.0 feet				v Trucks		3.004	Grade Ad	liustment	. 0.0
Pa	ad Elevation:	0.0 feet				,				juotimom	. 0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalent	Dista	nce (in	feet)		
I	Road Grade:	0.0%				Autos		3.645			
	Left View:	-90.0 degree	es			m Trucks		3.381			
	Right View:	90.0 degree	es		Heav	y Trucks	: 3	3.407			
FHWA Noise Mode	el Calculation:	3									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fre	snel	Barrier Att	en Ber	m Atten
Autos:	68.46	-16.39		2.4		-1.20		-4.53		000	0.000
Medium Trucks:	79.45	-30.33		2.5		-1.20		-4.86		000	0.000
Heavy Trucks:	84.25	-31.70		2.5	52	-1.20		-5.67	0.0	000	0.000
Unmitigated Noise			barri	er atte	nuation)						
	Leq Peak Hou			Leq E	vening	Leq I	-		Ldn		NEL
Autos:	53	-	51.7		50.0		46		53.		54.4
Medium Trucks:	50	-	49.0		44.7		43		51.	-	51.6
Heavy Trucks:	53	-	51.4		50.4		49		56.	-	56.4
Vehicle Noise:	57	.6	55.6		53.8		51	.8	59.	0	59.3
Centerline Distanc	e to Noise Co	ntour (in feet)	70	-/04	65	/D.4		CO 4D4		-(D.4
			, ,,,_	70	dBA	65 0			60 dBA		dBA
			Ldn: NFL:		6 7			3	29		62
		Ci	VEL:		- /		1	4	31		66

Scenario Road Name Road Segmen	: Riverside A						Name: umber:		Business (Center	
SITE S Highway Data	PECIFIC IN	IPUT DATA			Site Con				L INPUT	s	
		405			Site Con	uitions	(riaru -	Autos:	15		
Average Daily 1	. ,	185 vehicl	es			-ti			15		
Peak Hour F	-	8.81% 16 vehicle				edium Tri eavy True		,			
	our Volume: icle Speed:	55 mph	s		пе	avy IIu	JKS (3+	Axies).	15		
veri Near/Far Lan		90 feet			Vehicle	Mix					
Near/Far Lan	e Distance:	90 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						/	Autos:	71.9%	12.2%	15.9%	96.649
Barı	ier Height:	0.0 feet			М	edium T	rucks:	75.3%	7.0%	17.7%	1.949
Barrier Type (0-Wa	all, 1-Berm):	0.0				Heavy Ti	rucks:	60.4%	12.0%	27.6%	1.429
Centerline Dis	t. to Barrier:	66.0 feet		ŀ	Noise S	ourco El	ovation	ne (in fo	nof)		
Centerline Dist. to	Observer:	66.0 feet		ŀ	NOISE S	Auto.		.000	ei)		
Barrier Distance to	o Observer:	0.0 feet			Modiu	m Truck.		.000			
Observer Height (A	Above Pad):	5.0 feet				/y Truck		.004	Grade Ad	iustmant	0.0
Pa	d Elevation:	0.0 feet			i icai	ry ITUCK	3. 0	.004	Orauc Au	ustriciit.	0.0
Roa	d Elevation:	0.0 feet			Lane Eq	uivalent	Distan	ice (in t	eet)		
R	load Grade:	0.0%				Auto.	s: 48	.539			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 48	.356			
	Right View:	90.0 degre	es		Hear	y Truck	s: 48	.374			
FHWA Noise Mode				,							
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atten
Autos:	71.78			0.0		-1.20		-4.71		000	0.00
Medium Trucks:	82.40			0.1		-1.20		-4.88		000	0.00
Heavy Trucks:	86.40			0.1		-1.20		-5.30	0.0	000	0.00
Unmitigated Noise								1		1 0	
	Leq Peak Hou			Leq E	vening		Night	^	Ldn	_	VEL
Autos:		9.9 3.6	48.3 42.1		46.6 37.8		42. 37	-	50.5 44.5	-	51 44
Medium Trucks:			42.1		37.8 42.8		37. 41.			•	
Heavy Trucks: Vehicle Noise:		3.2	50.3		42.8		41.	-	48.4 53.2		48 53
					48.5		46.	.0	53.2	4	53
Centerline Distance	e to Noise C	ontour (in fee	t)	70	dBA	65	dBA	6	i0 dBA	55	dBA
			L	, ,		- 00					
			Ldn:		5		11	1	23		51

Friday, May 27, 2022

	FHWA-RI	D-77-108 HIGH	WAY	NOISE	PREDIC	TION M	DDEL (9/12/2	021)		
Road Nam	io: E+P ne: Duncan Ca nt: e/o Sierra A					Project i Job Nu			Business C	enter	
	SPECIFIC IN	IPUT DATA							L INPUTS	3	
Highway Data					Site Con	ditions (Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	829 vehicle	es					Autos:	15		
Peak Hour	Percentage:	8.81%			Me	dium Tru	cks (2 .	4xles):	15		
Peak H	lour Volume:	73 vehicle	s		He	avy Truc	ks (3+ .	4xles):	15		
Ve	hicle Speed:	45 mph		}	Vehicle I	Nix					
Near/Far La	ne Distance:	14 feet		-		cleType		Dav	Evening	Night	Daily
Site Data							utos:	71.9%	-	15.9%	
Pa	rrier Height:	0.0 feet			Me	edium Tr	ıcks:	75.3%	7.0%	17.7%	1.94%
Barrier Type (0-W		0.0			F	leavy Tri	ıcks:	60.4%	12.0%	27.6%	1.41%
Centerline Di	. ,	34.0 feet		-							
Centerline Dist	to Observer:	34.0 feet		ŀ	Noise Sc				eet)		
Barrier Distance	to Observer:	0.0 feet				Autos		000			
Observer Height (5.0 feet				n Trucks		297			
	ad Elevation:	0.0 feet			Heav	y Trucks	: 8.	004	Grade Adj	ustment	0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distan	ce (in	feet)		
	Road Grade:	0.0%				Autos	: 33	645			
	Left View:	-90.0 degre	es		Mediui	n Trucks	33	381			
	Right View:	90.0 degre	es		Heav	y Trucks	33	407			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow		stance	Finite		Fresi		Barrier Atte		m Atten
Autos:	68.46	-13.35		2.4		-1.20		-4.53	0.0		0.000
Medium Trucks:				2.5		-1.20		-4.86	0.0		0.000
Heavy Trucks:	84.25	-31.70		2.5	52	-1.20		-5.67	0.0	00	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrie	er attei	nuation)						
VehicleType	Leq Peak Hou			Leq E	vening	Leq N	-		Ldn	-	VEL
Autos:	56		54.7		53.0		49.		57.0		57.4
Medium Trucks:	50		49.0		44.7		43.	-	51.3		51.6
Heavy Trucks:	53		51.4		50.4		49.		56.0		56.4
Vehicle Noise:	59	0.0	57.1		55.3		52.	9	60.2		60.5
Centerline Distand	ce to Noise Co	ontour (in feet)								
			L	70	dBA	65 a			60 dBA	55	dBA
		_	Ldn:		8		16		35		75
		С	NEL:		8		17		37		79

Friday, May 27, 2022 Friday, May 27, 2022

	FHWA-R	D-77-108 HIGH	IWAY	NOISE	PREDIC	CTION M	ODEL	(9/12/2	021)		
Road Na	ario: EA 2024 me: Duncan Ca ent: e/o Sierra						Name: umber:		Business (Center	
	SPECIFIC II	NPUT DATA			i4- O				L INPUT	S	
Highway Data				3	ne con	ditions	(Hara =				
-	y Traffic (Adt):	451 vehicle	es					Autos:			
	ır Percentage:	8.81%				edium Tri		,			
	Hour Volume:	40 vehicle	S		He	eavy Truc	CKS (3+	Axies):	15		
	/ehicle Speed:	45 mph		ν	ehicle	Mix					
Near/Far L	.ane Distance:	14 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						-	Autos:	71.9%	12.2%	15.9%	93.47%
Е	arrier Height:	0.0 feet			М	edium Ti	rucks:	75.3%	7.0%	17.7%	3.78%
Barrier Type (0-		0.0				Heavy Ti	rucks:	60.4%	12.0%	27.6%	2.75%
	Dist. to Barrier:	34.0 feet		۸	loise S	ource El	evation	ıs (in fe	eet)		
Centerline Dis	t. to Observer:	34.0 feet				Auto		.000	,		
Barrier Distanc	e to Observer:	0.0 feet			Mediu	m Truck	s: 2	.297			
Observer Heigh	t (Above Pad):	5.0 feet			Hear	vy Truck	s: 8	.004	Grade Ad	liustmen	t: 0.0
	Pad Elevation:	0.0 feet								,	
R	oad Elevation:	0.0 feet		L	ane Eq	uivalent			feet)		
	Road Grade:	0.0%				Auto		.645			
	Left View:	-90.0 degre				m Truck		.381			
	Right View:	90.0 degre	es		Hea	vy Truck	s: 33	.407			
FHWA Noise Mo		,									
VehicleType	REMEL	Traffic Flow		tance		Road	Fres		Barrier Att		rm Atten
Auto				2.48		-1.20		-4.53		000	0.000
Medium Truck				2.53		-1.20		-4.86		000	0.000
Heavy Truck				2.52		-1.20		-5.67	0.0	000	0.000
Unmitigated Noi			_							,	
VehicleType	Leq Peak Ho			Leq Ev		-	Night		Ldn		NEL
Auto		3.6	51.9		50.3		46.	-	54.	_	54.7
Medium Truck		0.7	49.2		44.9		44.	_	51.		51.8
Heavy Trucks Vehicle Noise		4.1 7.8	51.7		50.7 54.1		49. 52.	-	56. 59.	-	56.6 59.6
Centerline Dista					31.1		02.			_	00.0
Contenine Dista	100 10 140/36 0	ontour (III leet		70 d	BA	65	dBA	6	60 dBA	55	dBA
			Ldn:		6		14	4	30)	65
		C	NEL:		7		15	5	32	2	68

	FRWA-RL	-77-108 HIGH	WAY	NOISI	PREDIC	TION IV	IODEL	(9/12/2	021)		
Road Nam	io: OYC 2024 ne: Duncan Car nt: e/o Sierra A							Sierra 14283	Business (Center	
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data					Site Cor	ditions	(Hard	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	451 vehicle	es					Autos	: 15		
Peak Hour	Percentage:	8.81%			Me	dium Tr	ucks (2	Axles)	: 15		
Peak H	lour Volume:	40 vehicles	S		He	avy Tru	cks (3+	Axles)	: 15		
Ve	hicle Speed:	45 mph		ł	Vehicle	Mix					
Near/Far La	ne Distance:	14 feet		1	Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	71.99	6 12.2%	15.9%	93.47%
Bai	rrier Height:	0.0 feet			М	edium T	rucks:	75.39	6 7.0%	17.7%	3.78%
Barrier Type (0-W		0.0				Heavy T	rucks:	60.49	6 12.0%	27.6%	2.75%
Centerline Di	st. to Barrier:	34.0 feet		-	Noise S	urce Fl	ovatio	ne (in t	oot)		
Centerline Dist.	to Observer:	34.0 feet			110/36 01	Auto		0.000	001)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck	(297			
Observer Height ((Above Pad):	5.0 feet				/y Truck	-	3.004	Grade Ad	liustmen	t· 0.0
Pa	ad Elevation:	0.0 feet			i ica	ry IIUCK	s. c	.004	07440714	, ao an ao an	0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalent	t Distai	nce (in	feet)		
	Road Grade:	0.0%				Auto	s: 30	3.645			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 30	3.381			
	Right View:	90.0 degree	es		Hea	y Truck	s: 30	3.407			
FHWA Noise Mode	el Calculations	3									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	ten Be	rm Atten
Autos:	68.46	-16.14		2.4	48	-1.20		-4.53	0.0	000	0.00
Medium Trucks:	79.45	-30.07		2.5	53	-1.20		-4.86	0.0	000	0.00
Heavy Trucks:	84.25	-31.44		2.	52	-1.20		-5.67	0.0	000	0.000
Unmitigated Noise	e Levels (witho	out Topo and	barrie	er atte	nuation)						
VehicleType	Leq Peak Hou			Leq E	ening		Night		Ldn		NEL
Autos:	53	-	51.9		50.3		46		54.		54.7
Medium Trucks:	50		49.2		44.9		44		51.	-	51.8
Heavy Trucks:	54.		51.7		50.7		49		56.	-	56.6
Vehicle Noise:	57.	.8	55.9		54.1		52	.1	59.	2	59.6
Centerline Distanc	ce to Noise Co	ntour (in feet)		10.4						
				70	dBA 6	65	dBA	4	60 dBA		dBA
			Ldn: NFL:		6 7			4 5	30		65 68
		Ci	VEL.		/		1	υ	32	-	68

Scenari	o: EAP 2024					Project	Name:	Sierra I	Business (Center	
Road Name	e: Duncan Ca	nyon Rd.				Job N	umber:	14283			
Road Segmen	t: e/o Sierra A	Av.									
SITE S	SPECIFIC IN	IPUT DATA				N	OISE	MODE	L INPUT	s	
Highway Data					Site Con	ditions	(Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	855 vehicl	es					Autos:	15		
Peak Hour	Percentage:	8.81%			Me	dium Tru	icks (2	Axles):	15		
Peak H	our Volume:	75 vehicle	s		He	avy Truc	cks (3+ .	Axles):	15		
Vel	hicle Speed:	45 mph		-	Vehicle I	Miss					
Near/Far Lar	ne Distance:	14 feet		F.		icleType		Dav	Evening	Night	Daily
Site Data					Ven		lutos:	71.9%		15.9%	
					1.4	edium Tı		75.3%		17.7%	2.00%
	rier Height:	0.0 feet				Heavy Tr		60.4%		27.6%	
Barrier Type (0-W	. ,	0.0			,	icavy ii	acns.	00.470	12.070	21.070	1.407
Centerline Dis		34.0 feet		1	Noise So	ource Ele	evation	s (in fe	et)		
Centerline Dist.		34.0 feet				Autos	s: 0.	000			
Barrier Distance t		0.0 feet			Mediu	m Trucks	s: 2.	297			
Observer Height (,	5.0 feet			Heav	y Trucks	s: 8.	004	Grade Ad	iustment.	0.0
	d Elevation:	0.0 feet		-	l ana Ea	uivalent	Dieten	oo (in f	in a #1		
	d Elevation:	0.0 feet		-	Larie Eq				eei)		
F	Road Grade:	0.0%				Autos		645			
	Left View:	-90.0 degre				m Trucks		381			
	Right View:	90.0 degre	es		neav	y Trucks	s: 33	407			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow		stance		Road	Fresi		Barrier Att		m Atten
Autos:	68.46	-13.22		2.4	-	-1.20		-4.53		000	0.00
Medium Trucks:	79.45			2.5	-	-1.20		-4.86		000	0.00
Heavy Trucks:	84.25	-31.44		2.5	2	-1.20		-5.67	0.0	000	0.000
Unmitigated Noise					_			1			
	Leq Peak Hou		_	Leg E			Night		Ldn		VEL
Autos:	56		54.8		53.2		49.	-	57.1		57.6
Medium Trucks:	50		49.2		44.9		44.	_	51.6	-	51.8
Heavy Trucks:	54		51.7		50.7		49.	-	56.3		56.6
Vehicle Noise:	59		57.3		55.5		53.	1	60.4	1	60.7
Centerline Distanc	e to Noise Co	ontour (in fee	t)	70			-ID 4	1 -	0 404		-/0.4
			1 -1	70 c		65 (dBA		0 dBA		dBA
			Ldn:		8		17		36		77
		_	NEL:		8		18		38		82

Friday, May 27, 2022

	FHWA-RD	-77-108 HIGH	WAY N	DISE I	PREDIC	TION M	DDEL (9/12/2	021)		
Scenario: Road Name: Road Segment:		yon Rd.				Project i Job Nu			Business (Center	
	PECIFIC IN	PUT DATA							L INPUT	s	
Highway Data				5	ite Con	ditions (
Average Daily Tr	. ,	855 vehicle	:S					Autos:			
Peak Hour Pe		8.81%				dium Tru					
	ır Volume:	75 vehicles	3		He	avy Truc	ks (3+ .	Axles):	15		
	cle Speed:	45 mph		ν	ehicle I	Лix					
Near/Far Lane	Distance:	14 feet			Vehi	cleType		Day	Evening	Night	Daily
Site Data						Α	utos:	71.9%	12.2%	15.99	96.55%
Barri	er Heiaht:	0.0 feet			Me	edium Tri	ucks:	75.3%	7.0%	17.79	6 2.00%
Barrier Type (0-Wall		0.0			F	leavy Tri	ucks:	60.4%	12.0%	27.69	1.45%
Centerline Dist.	. ,	34.0 feet			laiaa Ca	urce Ele	uration	a (in f	n o é l		
Centerline Dist. to	Observer:	34.0 feet		N	oise su	Autos			eu)		
Barrier Distance to	Observer:	0.0 feet					. 0.	000			
Observer Height (Al	ove Pad):	5.0 feet				n Trucks		297	Grade Ad	livotmor	<i>t</i> : 0.0
Pad	Elevation:	0.0 feet			Heav	y Trucks	. 8.	004	Grade Ad	ijusiirieri	t. 0.0
Road	Elevation:	0.0 feet		L	ane Equ	uivalent	Distan	ce (in	feet)		
Ro	ad Grade:	0.0%				Autos	: 33.	645			
	Left View:	-90.0 degree	es.		Mediur	n Trucks	: 33	381			
F	Right View:	90.0 degree	es		Heav	y Trucks	33	407			
FHWA Noise Model											
VehicleType	REMEL	Traffic Flow	Distai		Finite		Fresi	-	Barrier Att		rm Atten
Autos:	68.46	-13.22		2.48		-1.20		-4.53		000	0.000
Medium Trucks:	79.45	-30.07		2.53		-1.20		-4.86		000	0.000
Heavy Trucks:	84.25	-31.44		2.52		-1.20		-5.67	0.	000	0.000
Inmitigated Noise L											
	eq Peak Houi			eq Ev		Leq N	-		Ldn		NEL
Autos:	56.	-	54.8		53.2		49.	-	57.		57.6
Medium Trucks:	50.	-	49.2		44.9		44.	_	51.	-	51.8
Heavy Trucks:	54.		51.7		50.7		49.	-	56.	-	56.6
Vehicle Noise:	59.		57.3		55.5		53.	1	60.	4	60.7
Centerline Distance	to Noise Co	ntour (in feet)									
				70 d		65 a			60 dBA		5 dBA
			Ldn:		8		17		36		77
		CI	VEL:		8		18		38	3	82

	FHWA-R	D-77-108 HIGH	IWAY	NOISE	PREDIC	CTION M	ODEL	(9/12/2	021)		
	ario: ame: Duncan Ca aent: e/o Sierra							Sierra 14283	Business (Center	
	E SPECIFIC II	NPUT DATA							L INPUT	S	
Highway Data				S	ite Cor	ditions	(Hard =				
Average Dai	ly Traffic (Adt):	451 vehicl	es					Autos:			
Peak Ho	ur Percentage:	8.81%				edium Tru		,			
Peak	Hour Volume:	40 vehicle	S		He	eavy Truc	cks (3+	Axles):	15		
1	/ehicle Speed:	45 mph		v	ehicle	Mix					
Near/Far I	ane Distance:	14 feet		F		icleType		Day	Evening	Night	Daily
Site Data							Autos:	71.9%		15.99	6 93.47%
F	arrier Height:	0.0 feet			М	edium Ti	rucks:	75.3%	7.0%	17.79	6 3.78%
Barrier Type (0-		0.0				Heavy Ti	rucks:	60.4%	12.0%	27.69	6 2.75%
	Dist. to Barrier:	34.0 feet		٨	loise S	ource El	evation	ns (in fe	eet)		
Centerline Dis	t. to Observer:	34.0 feet				Auto:		.000	,		
Barrier Distanc	e to Observer:	0.0 feet			Mediu	m Trucks	s: 2	297			
Observer Heigh	t (Above Pad):	5.0 feet			Hear	vy Trucks	s: 8	.004	Grade Ad	liustmer	nt: 0.0
	Pad Elevation:	0.0 feet									
F	load Elevation:	0.0 feet		L	ane Eq	uivalent		_ •	feet)		
	Road Grade:	0.0%				Autos		1.645			
	Left View:	-90.0 degre				m Trucks		3.381			
	Right View:	90.0 degre	es		Hea	vy Trucks	s: 33	3.407			
FHWA Noise Mo	del Calculation	15									
VehicleType	REMEL	Traffic Flow		tance		Road	Fres		Barrier Att	en Be	erm Atten
Auto	s: 68.46	-16.14		2.48	3	-1.20		-4.53	0.0	000	0.000
Medium Truck	s: 79.45	-30.07		2.53		-1.20		-4.86	0.0	000	0.000
Heavy Truck	s: 84.25	-31.44		2.52	2	-1.20		-5.67	0.0	000	0.000
Unmitigated No.			_								
VehicleType	Leq Peak Ho		_	Leq Ev		- 1	Night		Ldn	_	CNEL
Auto		3.6	51.9		50.3		46.	-	54.	_	54.7
Medium Truck		0.7	49.2		44.9		44.	_	51.		51.8
Heavy Truck		4.1	51.7		50.7		49.		56.	-	56.6
Vehicle Nois		7.8	55.9		54.1		52.	.1	59.	2	59.6
Centerline Dista	nce to Noise C	ontour (in feet)	70 d	RΔ	65.	dBA	-	60 dBA	5	5 dBA
			Ldn:	,,,,	6	1 000	14	_	30		65 65
		С	NEL:		7		15		32		68
								-			

	FHWA-RE	0-77-108 HIGH	WAY NO	ISE PRE	DICTION	MODEL (9/12/2	(021)		
Scenario Road Name Road Segment	: Duncan Ca					ct Name: Number:		Business C	enter	
	PECIFIC IN	PUT DATA						EL INPUTS	3	
Highway Data				Site	Condition	s (Hard =	10, S	oft = 15)		
Average Daily T	raffic (Adt):	96 vehicle	es				Autos	: 15		
Peak Hour F	Percentage:	8.81%			Medium 7	rucks (2	Axles)	: 15		
Peak Ho	ur Volume:	8 vehicles	3		Heavy Tr	ucks (3+)	Axles)	: 15		
Veh	icle Speed:	45 mph		Vehi	cle Mix					
Near/Far Lan	e Distance:	14 feet			Vehicle Typ	e	Day	Evening	Night	Daily
Site Data					, ,	Autos:	71.99	-	15.9%	93.47%
Rarr	ier Heiaht:	0.0 feet			Medium	Trucks:	75.39	6 7.0%	17.7%	3.78%
Barrier Type (0-Wa		0.0			Heavy	Trucks:	60.49	6 12.0%	27.6%	2.75%
Centerline Dist		34.0 feet		Nois	e Source	Elevation	s (in t	eet)		
Centerline Dist. to		34.0 feet			Aut	os: 0.	000	,		
Barrier Distance to		0.0 feet		М	edium Truc	ks: 2.	297			
Observer Height (A	,	5.0 feet		1	leavy Truc	ks: 8.	004	Grade Adju	ustment:	0.0
	d Elevation:	0.0 feet		Lone	Fauivala	nt Diatan	oo (in	foot)		
	d Elevation:	0.0 feet		Laire	Equivale:		.645	reet)		
K	load Grade:	0.0%			Aut edium Truc		381			
	Right View:	-90.0 degree			leavy Truc		407			
FHWA Noise Model	Calculation:	s								
VehicleType	REMEL	Traffic Flow	Distan	ce F	nite Road	Fresi	nel	Barrier Atte	n Beri	n Atten
Autos:	68.46	-22.86		2.48	-1.20)	-4.53	0.0	00	0.000
Medium Trucks:	79.45	-36.79		2.53	-1.20		-4.86			0.000
Heavy Trucks:	84.25	-38.17		2.52	-1.20)	-5.67	0.0	00	0.000
Unmitigated Noise										
.,	∟eq Peak Hoι			q Evenii	-	q Night		Ldn	CN	IEL
Autos:	46		45.2		3.5	39.		47.5		47.9
Medium Trucks:	44		42.5		88.2	37.		44.9		45.1
Heavy Trucks: Vehicle Noise:	47 51		45.0 49.2		14.0 17.3	42.		49.6 52.5		49.9 52.8
					11.3	45.4	+	52.5		52.8
Centerline Distance	e to Noise Co		70 dBA	6	5 dBA		60 dBA	55	dBA	
				2	5	j	11		23	
		CI	VEL:		2	5	,	11		24

	io: ne: Duncan Can nt: e/o Sierra Av						Name: umber:		Business (Center	
SITE :	SPECIFIC INF	UT DATA			ita Can	N ditions			L INPUT	S	
• •				3	ne con	uitions					
Average Daily	. ,	1,258 vehicle	es					Autos:	15		
	Percentage:	8.81%				dium Tru			15		
	lour Volume:	111 vehicles	3		не	avy Truc	CKS (3+)	4xies):	15		
	hicle Speed:	45 mph		ν	ehicle l	Mix					
Near/Far Lai	ne Distance:	14 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						A	lutos:	71.9%	12.2%	15.9%	97.66%
Rai	rrier Heiaht:	0.0 feet			M	edium Ti	rucks:	75.3%	7.0%	17.7%	1.36%
Barrier Type (0-W		0.0			- 1	Heavy Ti	ucks:	60.4%	12.0%	27.6%	0.99%
Centerline Dis	. ,	34.0 feet		-							
Centerline Dist		34.0 feet		N	oise Sc	ource El			et)		
Barrier Distance	to Observer:	0.0 feet				Auto		000			
Observer Height (Ahove Pad):	5.0 feet				m Trucks		297			
	ad Elevation:	0.0 feet			Heav	y Truck	s: 8.	004	Grade Adj	ustment	0.0
Ros	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in f	eet)		
	Road Grade:	0.0%				Auto	s: 33.	645			
	Left View:	-90.0 degree	es		Mediu	m Trucks	s: 33.	381			
	Right View:	90.0 degree			Heav	y Truck	s: 33.	407			
FHWA Noise Mode	el Calculations			<u> </u>							
VehicleType		Traffic Flow	Dis	stance		Road	Fresi		Barrier Atte		m Atten
Autos:	68.46	-11.49		2.48		-1.20		-4.53	0.0		0.00
Medium Trucks:	79.45	-30.07		2.53		-1.20		-4.86		000	0.00
Heavy Trucks:	84.25	-31.44		2.52		-1.20		-5.67	0.0	000	0.00
Unmitigated Noise	•		_					1			
,,, .	Leq Peak Hour			Leq Ev		Leq	Night		Ldn		VEL
Autos:	58.2		56.6		54.9		51.3 44.3		58.8		59.
Medium Trucks:	50.7		49.2		44.9			_	51.6		51.
Heavy Trucks: Vehicle Noise:	54.1 60.2		51.7 58.4		50.7 56.6		49.0 54.0		56.3 61.3		56. 61.
Centerline Distanc	e to Noise Cor	ntour (in feet))								
		,		70 di	BA	65	dBA	6	0 dBA	55	dBA
								-			
			Ldn:		9		19		41		89

Friday, May 27, 2022

	FHWA-RD-	-77-108 HIGH	WAY N	OISE	PREDIC	TION M	ODEL (9/12/2	021)		
	o: e: Duncan Can t: e/o Sierra Av						Name: ımber:		Business (Center	
	PECIFIC IN	PUT DATA							L INPUT	s	
Highway Data					Site Con	ditions (
Average Daily T	. ,	902 vehicle	S					Autos:			
Peak Hour F		8.81%				dium Tru					
	our Volume:	80 vehicles			He	avy Truc	ks (3+ /	Axles):	15		
	icle Speed:	45 mph		١	/ehicle I	Mix					
Near/Far Lan	e Distance:	14 feet			Vehi	icleType		Day	Evening	Night	Daily
Site Data						Α	utos:	71.9%	12.2%	15.99	6 99.31%
Rari	rier Heiaht:	0.0 feet			Me	edium Tr	ucks:	75.3%	7.0%	17.79	6 0.40%
Barrier Type (0-Wa		0.0			F	Heavy Tr	ucks:	60.4%	12.0%	27.69	6 0.29%
Centerline Dis	. ,	34.0 feet		-	Vaine Co	ource Ele	uration	a (in f	n o é l		
Centerline Dist. to	o Observer:	34.0 feet		,	voise 30	Autos			eu)		
Barrier Distance to	o Observer:	0.0 feet					. 0.	000			
Observer Height (A	Above Pad):	5.0 feet				m Trucks		297	Grade Ad	livotmov	st. 0.0
Pa	d Elevation:	0.0 feet			Heav	y Trucks	. 8.	004	Grade Ad	ijusirier	n. 0.0
Roa	d Elevation:	0.0 feet		L	ane Equ	uivalent	Distan	ce (in	feet)		
R	Road Grade:	0.0%				Autos	: 33.	645			
	Left View:	-90.0 degree	s		Mediur	m Trucks	: 33.	381			
	Right View:	90.0 degree	s		Heav	y Trucks	33.	407			
FHWA Noise Mode											
VehicleType		Traffic Flow	Dista	ance	Finite		Fresi	-	Barrier Att		erm Atten
Autos:	68.46	-12.86		2.48	-	-1.20		-4.53		000	0.000
Medium Trucks:	79.45	-36.79		2.53	-	-1.20		-4.86		000	0.000
Heavy Trucks:	84.25	-38.17		2.52	2	-1.20		-5.67	0.	000	0.000
Inmitigated Noise		 									
	Leq Peak Hour			Leq Ev		Leq I	-		Ldn		CNEL
Autos:	56.9		55.2		53.5		49.9		57.	-	57.9
Medium Trucks:	44.0	-	12.5		38.2		37.	-	44.	-	45.
Heavy Trucks:	47.4		45.0		44.0		42.8		49.	-	49.9
Vehicle Noise:	57.5	5 5	55.8		54.1		50.9	9	58.	3	58.8
Centerline Distance	e to Noise Cor	ntour (in feet)									
				70 a		65 c			60 dBA		5 dBA
		-	Ldn:		6		12		26		57
		CN	IEL:		6		13		28	3	60



APPENDIX B

OPERATIONAL NOISE LEVEL CALCULATIONS





14283 - Sierra Business Center

CadnaA Noise Prediction Model: 14283_06_Acacia+ Shea.cna

Date: 13.04.22 Analyst: B. Lawson

Calculation Configuration

Configurat	tion
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID		Level Lr		Lir	nit. Val	ue		Land	Use	Height	:	Co	oordinates	
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Υ	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	48.0	46.7	53.2	70.0	65.0	0.0				5.00	а	6203825.03	2369601.69	5.00
RECEIVERS		R2	44.3	43.0	49.5	55.0	45.0	0.0				5.00	а	6204157.27	2368253.24	5.00
RECEIVERS		R3	42.5	41.4	47.8	55.0	45.0	0.0				5.00	а	6204143.03	2367148.53	5.00
RECEIVERS		R4	49.9	48.9	55.3	70.0	65.0	0.0				5.00	а	6202651.19	2366912.74	5.00
RECEIVERS		R5	47.9	46.8	53.2	70.0	65.0	0.0				5.00	a	6201448.49	2367611.31	5.00

Point Source(s)

Name	M.	ID	R	esult. PW	/L		Lw/L	i	Ope	erating Ti	me	Heigh	t	Co	oordinates	
			Day	Evening	Night	Туре	Value	norm.	Day	Special	Night			Х	Υ	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		PARK50	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203492.41	2369449.24	5.00
POINTSOURCE		PARK49	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203628.80	2369496.13	5.00
POINTSOURCE		PARK48	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203687.85	2369496.22	5.00
POINTSOURCE		PARK47	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203740.32	2369495.33	5.00
POINTSOURCE		PARK46	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203494.06	2369031.51	5.00
POINTSOURCE		PARK45	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203632.43	2369001.82	5.00
POINTSOURCE		PARK44	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203704.56	2368999.50	5.00
POINTSOURCE		PARK43	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203665.50	2368953.15	5.00
POINTSOURCE		PARK42	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203749.67	2368951.72	5.00
POINTSOURCE		PARK41	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203684.97	2368876.27	5.00
POINTSOURCE		PARK40	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203611.69	2368875.33	5.00
POINTSOURCE		PARK39	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203526.37	2368873.50	5.00
POINTSOURCE		PARK38	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203418.18	2368877.53	5.00

Name	М.	ID	R	esult. PW	<u></u>		Lw / L	i	Ope	erating Ti	me	Heigh	t	C	oordinates	
			Day	Evening	Night	Туре	Value	norm.	Day	Special	Night		_	Х	Υ	Z
			(dBA)	(dBA)	(dBA)	.,,,,		dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		PARK37	87.8	87.8	87.8	Lw	87.8	. (,	900.00	0.00	540.00	5.00	a	6203313.20	2368877.12	5.00
POINTSOURCE		PARK36	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203194.07	2368880.24	5.00
POINTSOURCE		PARK35	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203097.85	2368880.78	5.00
POINTSOURCE		PARK34	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203147.36	2368834.01	5.00
POINTSOURCE		PARK33	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203255.60	2368833.27	5.00
POINTSOURCE		PARK32	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203363.75	2368827.06	5.00
POINTSOURCE		PARK31	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203475.28	2368827.35	5.00
POINTSOURCE		PARK30	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203564.98	2368829.11	5.00
POINTSOURCE		PARK29	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203648.06	2368827.69	5.00
POINTSOURCE		PARK28	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203757.53	2368448.59	5.00
POINTSOURCE		PARK27	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203758.22	2368553.55	5.00
POINTSOURCE		PARK26	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203759.93	2368654.12	5.00
POINTSOURCE		PARK25	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203760.63	2368760.17	5.00
POINTSOURCE		PARK24	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6202913.64	2368722.08	5.00
POINTSOURCE		PARK23	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6202909.15	2368651.08	5.00
POINTSOURCE		PARK22	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6202908.50	2368548.30	5.00
POINTSOURCE		PARK21	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6202908.09	2368459.74	5.00
POINTSOURCE		PARK20	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203689.73	2368384.13	5.00
POINTSOURCE		PARK19	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203690.95	2368327.25	5.00
POINTSOURCE		PARK18	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6202976.33	2367835.71	5.00
POINTSOURCE		PARK17	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203718.54	2367832.89	5.00
POINTSOURCE		PARK16	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6202900.38	2367960.36	5.00
POINTSOURCE		PARK15	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6202901.79	2368043.53	5.00
POINTSOURCE		PARK14	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6202901.32	2368143.36	5.00
POINTSOURCE		PARK13	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6202937.75	2368244.02	5.00
POINTSOURCE		PARK12	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203032.52	2368244.58	5.00
POINTSOURCE		PARK11	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203133.78	2368243.58	5.00
POINTSOURCE		PARK10	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203229.96	2368241.95	5.00
POINTSOURCE		PARK09	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203342.80	2368241.48	5.00
POINTSOURCE		PARK08	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203443.35	2368241.21	5.00
POINTSOURCE		PARK07	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203543.13	2368238.07	5.00
POINTSOURCE		PARK06	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203650.17	2368236.98	5.00
POINTSOURCE		PARK05	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203731.13	2368233.43	5.00
POINTSOURCE		PARK04	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203773.23	2368156.76	5.00
POINTSOURCE		PARK03	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203773.08	2368062.72	5.00
POINTSOURCE		PARK02	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203772.19	2367967.97	5.00
POINTSOURCE		PARK01	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203772.75	2367873.20	5.00
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6202960.89	2367945.59	50.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6203692.60	2367962.64	50.00
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6202950.70	2368797.49	50.00
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6202930.70	2368788.89	50.00
POINTSOURCE		AC05	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6203563.98	2369036.99	50.00
POINTSOURCE		AC06	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6203567.70	2369460.06	50.00
POINTSOURCE		TRASH03	89.0	89.0	89.0	Lw	89.0		150.00	0.00	90.00	5.00	a	6203488.94	2369390.65	5.00
POINTSOURCE		TRASH04	89.0	89.0	89.0	Lw	89.0		150.00	0.00	90.00	5.00	a	6203486.58	2369078.41	5.00
POINTSOURCE		TRASH05	89.0	89.0	89.0	Lw	89.0		150.00	0.00	90.00	5.00	a	6203634.54	2368388.88	5.00
POINTSOURCE		TRASH06	89.0	89.0	89.0	Lw	89.0		150.00	0.00	90.00	5.00	a	6203034.34	2368392.12	5.00
POINTSOURCE		TRASH01	89.0	89.0	89.0	Lw	89.0		150.00	0.00	90.00	5.00	a	6203054.54	2367829.91	5.00
POINTSOURCE		TRASH02	89.0	89.0	89.0	Lw	89.0		150.00	0.00	90.00	5.00	a	6203620.32	2367824.03	5.00
1 SHV13OUNCE		111/1/2/10/2	05.0	05.0	05.0	LVV	33.0		130.00	0.00	30.00	5.00	Lª.	0203020.32	2307024.03	5.00

Line Source(s)

Name	M.	ID	R	esult. PW	L	Result. PWL'			Lw / Li			Ор	erating Ti	me		Moving	Pt. Src		Heigl	nt
			Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night		Number		Speed		
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)	
LINESOURCE		TRUCK01	87.7	71.0	78.8	69.9	53.2	61.0	PWL-Pt	93.2					47.0	1.0	6.0	6.2	8	а
LINESOURCE		TRUCK02	90.9	76.4	81.8	73.8	59.2	64.7	PWL-Pt	93.2					114.0	4.0	14.0	6.2	8	а
LINESOURCE		TRUCK03	95.9	81.3	86.8	73.8	59.2	64.7	PWL-Pt	93.2					114.0	4.0	14.0	6.2	8	а
LINESOURCE		TRUCK04	90.5	75.9	81.4	73.8	59.2	64.7	PWL-Pt	93.2					114.0	4.0	14.0	6.2	8	а
LINESOURCE		TRUCK05	100.7	86.1	91.6	73.8	59.2	64.7	PWL-Pt	93.2					114.0	4.0	14.0	6.2	8	а

Name	ŀ	lei	ght			Coordinat	es	
	Begin		End		х	У	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
LINESOURCE	8.00	а			6203037.61	2367859.76	8.00	0.00
					6202840.61	2367863.65	8.00	0.00
LINESOURCE	8.00	а			6203012.33	2368363.75	8.00	0.00
					6202842.45	2368362.37	8.00	0.00
LINESOURCE	8.00	а			6202882.94	2368362.70	8.00	0.00
					6202888.90	2368897.17	8.00	0.00
LINESOURCE	8.00	а			6203517.73	2369068.10	8.00	0.00
					6203516.22	2368913.71	8.00	0.00
LINESOURCE	8.00	а			6202846.53	2368902.03	8.00	0.00
					6202888.90	2368897.17	8.00	0.00
					6202901.64	2368912.55	8.00	0.00
					6202920.45	2368918.47	8.00	0.00
					6202933.97	2368918.24	8.00	0.00

Name	He	ight		Coordinat	es	
	Begin	End	х	у	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			6203516.22	2368913.71	8.00	0.00
			6203766.66 2368906.17		8.00	0.00
			6203789.35	2368895.39	8.00	0.00
			6203790.51	2368412.89	8.00	0.00
			6203780.75	2368389.14	8.00	0.00
			6203773.21	2368373.67	8.00	0.00
			6203756.40	2368363.56	8.00	0.00
			6203739.64	2368356.57	8.00	0.00
			6203649.19	2368353.89	8.00	0.00

Area Source(s)

Name	M.	ID	R	esult. PW	'L	Re	esult. PW	L"		Lw/L	i	Ope	erating Ti	me	Heigh	t
			Day Evening Night			Day	Evening	Night	Туре	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA) (dBA) (dBA) (dBA)		(dBA)	dBA) (dBA) (dBA)			dB(A)			(min)	(min)		
AREASOURCE		DOCK01	111.5	111.5	111.5	71.6	71.6	71.6	Lw	111.5		900.00	0.00	540.00	8	а
AREASOURCE		DOCK02	111.5	111.5	111.5	71.3	71.3	71.3	Lw	111.5		900.00	0.00	540.00	8	а
AREASOURCE		DOCK03	111.5	111.5	111.5	76.1	76.1	76.1	Lw	111.5		900.00	0.00	540.00	8	а

Name	ŀ	lei	ght		Coordinat	es	
	Begin		End	х	У	Z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
AREASOURCE	8.00	а		6203054.34	2367955.31	8.00	0.00
				6203635.96	2367948.69	8.00	0.00
				6203635.75	2367909.07	8.00	0.00
				6203633.13	2367811.67	8.00	0.00
				6203385.11	2367813.96	8.00	0.00
				6203383.28	2367735.64	8.00	0.00
				6203080.52	2367741.31	8.00	0.00
				6203079.09	2367811.74	8.00	0.00
				6203036.65	2367811.74	8.00	0.00
				6203038.71	2367915.33	8.00	0.00
	COLUNCT 0.00 -		6203052.72	2367915.25	8.00	0.00	
AREASOURCE	8.00	а		6203041.99	2368467.16	8.00	0.00
				6203622.42	2368462.12	8.00	0.00
				6203621.96	2368403.70	8.00	0.00
				6203649.68	2368403.23	8.00	0.00
				6203648.45	2368280.12	8.00	0.00
				6203010.20	2368287.08	8.00	0.00
				6203013.52	2368406.53	8.00	0.00
				6203040.95	2368406.07	8.00	0.00
AREASOURCE	8.00	а		6203474.86	2369401.30	8.00	0.00
				6203550.40	2369402.60	8.00	0.00
				6203549.09	2369351.56	8.00	0.00
				6203610.19	2369351.06	8.00	0.00
				6203607.21	2369144.20	8.00	0.00
				6203546.10	2369144.17	8.00	0.00
				6203545.46	2369067.96	8.00	0.00
				6203472.23	2369068.34	8.00	0.00

Barrier(s)

Name	M.	ID	Abso	rption	Z-Ext.	Canti	lever	H	lei	ght			Coordinat	es	
			left	right		horz.	vert.	Begin		End		х	У	Z	Ground
					(ft)	(ft)	(ft)	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
BARRIERTEMP		0						14.00	а			6203636.12	2367909.07	14.00	0.00
												6203635.12	2367871.72	14.00	0.00
BARRIERTEMP		0						14.00	14.00 a			6203037.19	2367838.62	14.00	0.00
												6203036.81	2367819.83	14.00	0.00
BARRIERTEMP		0						14.00	а			6203038.71	2367915.33	14.00	0.00
												6203037.98	2367878.49	14.00	0.00
BARRIEREXISTING		0						7.00	а			6204134.92	2367013.98	7.00	0.00
												6204157.70	2370287.00	7.00	0.00
BARRIEREXISTING		0						14.00	а			6203650.65	2368403.31	14.00	0.00
												6203650.45	2368376.88	14.00	0.00
BARRIEREXISTING		0						14.00	а			6203649.66	2368330.71	14.00	0.00
·												6203649.07	2368280.01	14.00	0.00
BARRIEREXISTING		0						14.00	а			6203634.47	2367847.82	14.00	0.00
												6203633.53	2367811.57	14.00	0.00

Building(s)

							t Co				
Name	M.	ID	RB	Residents	Absorption	Height			Coordinat	es	
						Begin		х	у	Z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING		BUILDING00001	х	0		45.00	а	6202939.85	2368185.66	45.00	0.00
								6202944.53	2368186.51	45.00	0.00

Name	M.	ID	RB	Residents	Absorption	Height			Coordinat	es	
						Begin		х	у	z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
								6202944.77	2368200.96	45.00	0.00
								6202960.61	2368200.22	45.00	0.00
								6202961.19	2368206.74	45.00	0.00
								6203715.70	2368197.18	45.00	0.00
								6203715.53	2368187.40	45.00	0.00
								6203731.38	2368187.59	45.00	0.00
								6203732.53	2368172.66	45.00	0.00
								6203740.45	2368172.52	45.00	0.00
								6203738.63	2367928.30	45.00	0.00
								6203734.44	2367928.37	45.00	0.00
								6203735.57	2367912.97	45.00	0.00
								6203705.73	2367912.54	45.00	0.00
								6203705.66	2367908.35	45.00	0.00
								6203635.75	2367909.07	45.00	0.00
								6203635.96	2367948.69	45.00	0.00
								6203054.34	2367955.31	45.00	0.00
								6203052.72	2367915.25	45.00	0.00
								6202970.23	2367915.72	45.00	0.00
								6202971.73	2367921.75	45.00	0.00
								6202941.88	2367920.86	45.00	0.00
								6202942.16	2367937.64	45.00	0.00
								6202937.05	2367938.65	45.00	0.00
BUILDING		BUILDING00001	х	0		45.00	а	6202931.62	2368816.91	45.00	0.00
								6203741.92	2368806.90	45.00	0.00
								6203737.71	2368401.73	45.00	0.00
								6203621.96	2368403.70	45.00	0.00
								6203622.42	2368462.12	45.00	0.00
								6203041.99	2368467.16	45.00	0.00
								6203040.95	2368406.07	45.00	0.00
								6202924.67	2368408.04	45.00	0.00
BUILDING		BUILDING00002	х	0		45.00	a	6203552.23	2369473.72	45.00	0.00
								6203781.63	2369472.50	45.00	0.00
								6203774.99	2369018.60	45.00	0.00
								6203545.05	2369019.29	45.00	0.00
								6203546.10	2369144.17	45.00	0.00
								6203607.21	2369144.20	45.00	0.00
								6203610.19	2369351.06	45.00	0.00
								6203549.09	2369351.56	45.00	0.00

Ground Absorption(s)

Name	М.	ID	G	Coord	inates
				x	У
				(ft)	(ft)
GROUND		0	1.0	6203807.85	2367020.69
				6203883.57	2370250.68
				6204126.37	2370232.67
				6204087.39	2367016.66

APPENDIX C

CONSTRUCTION NOISE LEVEL CALCULATIONS





14283 - Sierra Business Center

CadnaA Noise Prediction Model: 14283_06_Acacia+ Shea_Construction.cna

Date: 13.04.22 Analyst: B. Lawson

Calculation Configuration

Configurat	ion
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID		Level Lr		Limit. Value				Use	Height	:	Co	oordinates		
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto Noise Type				Х	Υ	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	59.8	59.8	66.4	70.0	65.0	0.0				5.00	а	6203825.03	2369601.69	5.00
RECEIVERS		R2	50.5	50.5	57.2	55.0	45.0	0.0				5.00	а	6204157.27	2368253.24	5.00
RECEIVERS		R3	46.5	46.5	53.1	55.0	45.0	0.0				5.00	а	6204143.03	2367148.53	5.00
RECEIVERS		R4	52.7	52.7	59.3	70.0	65.0	0.0				5.00	а	6202651.19	2366912.74	5.00
RECEIVERS		R5	49.9	49.9	56.6	70.0	65.0	0.0				5.00	а	6201448.49	2367611.31	5.00

Area Source(s)

Name	M.	ID	R	esult. PW	'L	Result. PWL"				Lw/L	i	Op	erating Ti	ime	Heigh	t
			Day	Evening	Night	Day	Day Evening N		Туре	Value	norm.	Day	Special	Night	(ft)	
			(dBA) (dBA) (dBA) (dBA)		(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)			
SITEBOUNDARY		CONSTRUCTION	115.0	115.0	115.0	66.0	66.0	66.0	Lw	115					8	а
SITEBOUNDARY		CONSTRUCTION	N 115.0 115.0 115.0		68.3	68.3	68.3	Lw	115					8	а	

Name	ŀ	lei	ght		Coordinates						
	Begin	End		х	у	Z	Ground				
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)			
SITEBOUNDARY	8.00	а			6203475.34	2369552.66	8.00	0.00			
					6203825.73	2369550.46	8.00	0.00			
					6203815.85	2368272.37	8.00	0.00			
					6202841.85	2368283.18	8.00	0.00			
					6202846.87	2368946.79	8.00	0.00			
					6203468.62	2368940.92	8.00	0.00			
SITEBOUNDARY	8.00	а			6202843.54	2368283.63	8.00	0.00			

Name	He	eight		Coordinates								
	Begin	End		х	у	Z	Ground					
	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)					
				6203814.67	2368271.98	8.00	0.00					
				6203811.24	2367800.98	8.00	0.00					
				6203421.08	2367806.84	8.00	0.00					
				6203420.50	2367726.80	8.00	0.00					
			П	6202839.72	2367735.86	8.00	0.00					

Barrier(s)

Name	М.	ID	Abso	Absorption Z-Ext.		Z-Ext. Cantilever			lei	ght		Coordinates				
			left	right		horz.	vert.	Begin		End	x	у	z	Ground		
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)		
BARRIEREXISTING		0						7.00	а		6204134.92	2367013.98	7.00	0.00		
											6204157.70	2370287.00	7.00	0.00		

Ground Absorption(s)

Name	M.	ID	G	Coordinates			
				х	у		
				(ft)	(ft)		
GROUND		0	1.0	6203807.85	2367020.69		
				6203883.57	2370250.68		
				6204126.37	2370232.67		
				6204087.39	2367016.66		

APPENDIX D

CADNAA CONCRETE POUR NOISE MODEL INPUTS





14283 - Sierra Business Center

CadnaA Noise Prediction Model: 14283_06_Acacia+ Shea_ConcretePour.cna

Date: 13.04.22 Analyst: B. Lawson

Calculation Configuration

Calculation Configuration Configuration									
Parameter	Value								
General	value								
Max. Error (dB)	0.00								
Max. Search Radius (#(Unit,LEN))	2000.01								
Min. Dist Src to Rcvr	0.00								
Partition	0.00								
Raster Factor	0.50								
Max. Length of Section (#(Unit,LEN))									
Min. Length of Section (#(Unit,LEN))	1.01								
Min. Length of Section (%)	0.00								
Proj. Line Sources	On								
Proj. Area Sources	On								
Ref. Time	i i i								
Reference Time Day (min)	960.00								
Reference Time Night (min)	480.00								
Daytime Penalty (dB)	0.00								
Recr. Time Penalty (dB)	5.00								
Night-time Penalty (dB)	10.00								
DTM	10.00								
Standard Height (m)	0.00								
Model of Terrain	Triangulation								
Reflection	mangalation								
max. Order of Reflection	2								
Search Radius Src	100.00								
Search Radius Rovr	100.00								
Max. Distance Source - Rcvr	1000.00 1000.00								
Min. Distance Rvcr - Reflector	1.00 1.00								
Min. Distance Source - Reflector	0.10								
Industrial (ISO 9613)	0.10								
Lateral Diffraction	some Obj								
Obst. within Area Src do not shield	On								
Screening	Incl. Ground Att. over Barrier								
	Dz with limit (20/25)								
Barrier Coefficients C1,2,3	3.0 20.0 0.0								
Temperature (#(Unit,TEMP))	10								
rel. Humidity (%)	70								
Ground Absorption G	0.50								
Wind Speed for Dir. (#(Unit,SPEED))	3.0								
Roads (TNM)									
Railways (FTA/FRA)									
Aircraft (???)									
Strictly acc. to AzB									
Julian, activity rep	l .								

Receiver Noise Levels

Name	M.	ID	Level Lr		Limit. Value			Land Use			Height		Coordinates			
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Υ	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	48.0	48.0	54.7	70.0	65.0	0.0				5.00	а	6203825.03	2369601.69	5.00
RECEIVERS		R2	36.3	36.3	43.0	55.0	45.0	0.0				5.00	а	6204157.27	2368253.24	5.00
RECEIVERS		R3	31.8	31.8	38.5	55.0	45.0	0.0				5.00	а	6204143.03	2367148.53	5.00
RECEIVERS		R4	37.4	37.4	44.1	70.0	65.0	0.0				5.00	а	6202651.19	2366912.74	5.00
RECEIVERS		R5	35.2	35.2	41.8	70.0	65.0	0.0				5.00	a	6201448.49	2367611.31	5.00

Area Source(s)

Name	M.	ID	R	esult. PW	/L	Result. PWL"			Lw / Li			Operating Time			Height	_
			Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night	(ft)	Π
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
BUILDING		CONCRETEPOUR01	100.3	100.3	100.3	61.0	61.0	61.0	Lw	100.3					6	а
BUILDING		CONCRETEPOUR02	100.3	100.3	100.3	55.9	55.9	55.9	Lw	100.3					6	а
BUILDING		CONCRETEPOUR03	100.3	100.3	100.3	57.4	57.4	57.4	Lw	100.3					6	а

Name	H	lei	ght		Coordinates							
	Begin		End		х	у	z	Ground				
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)				
BUILDING	6.00	a			6203552.23	2369473.72	6.00	0.00				
		Г			6203781.63	2369472.50	6.00	0.00				
					6203774.99	2369018.60	6.00	0.00				
					6203545.05	2369019.29	6.00	0.00				
					6203546.10	2369144.17	6.00	0.00				
					6203607.21	2369144.20	6.00	0.00				

Name	Height				Coordinat	es	
	Begin		End	x	У	z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
				6203610.19	2369351.06	6.00	0.00
				6203549.09	2369351.56	6.00	0.00
BUILDING	6.00	а		6202931.62	2368816.91	6.00	0.00
				6203741.92	2368806.90	6.00	0.00
				6203737.71	2368401.73	6.00	0.00
				6203621.96	2368403.70	6.00	0.00
				6203622.42	2368462.12	6.00	0.00
				6203041.99	2368467.16	6.00	0.00
				6203040.95	2368406.07	6.00	0.00
				6202924.67	2368408.04	6.00	0.00
BUILDING	6.00	a		6202939.85	2368185.66	6.00	0.00
				6202944.53	2368186.51	6.00	0.00
				6202944.77	2368200.96	6.00	0.00
				6202960.61	2368200.22	6.00	0.00
				6202961.19	2368206.74	6.00	0.00
		П		6203715.70	2368197.18	6.00	0.00
				6203715.53	2368187.40	6.00	0.00
				6203731.38	2368187.59	6.00	0.00
				6203732.53	2368172.66	6.00	0.00
				6203740.45	2368172.52	6.00	0.00
				6203738.63	2367928.30	6.00	0.00
				6203734.44	2367928.37	6.00	0.00
				6203735.57	2367912.97	6.00	0.00
				6203705.73	2367912.54	6.00	0.00
				6203705.66	2367908.35	6.00	0.00
				6203635.75	2367909.07	6.00	0.00
				6203635.96	2367948.69	6.00	0.00
				6203054.34	2367955.31	6.00	0.00
				6203052.72	2367915.25	6.00	0.00
				6202970.23	2367915.72	6.00	0.00
		Г		6202971.73	2367921.75	6.00	0.00
				6202941.88	2367920.86	6.00	0.00
				6202942.16	2367937.64	6.00	0.00
		Г		6202937.05	2367938.65	6.00	0.00

Barrier(s)

Name	M.	ID	Abso	Absorption Z-Ext.			Cantilever			ght	Coordinates				
			left	right		horz.	vert.	Begin		End	х	у	Z	Ground	
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)	
BARRIEREXISTING		0						7.00	а		6204134.92	2367013.98	7.00	0.00	
											6204157.70	2370287.00	7.00	0.00	

Ground Absorption(s)

Name	M.	ID	G	Coordinates				
				х	у			
				(ft)	(ft)			
GROUND		0	1.0	6203807.85	2367020.69			
				6203883.57	2370250.68			
				6204126.37	2370232.67			
				6204087.39	2367016.66			