APPENDIX G

NOISE ACOUSTICAL ANALYSIS

ACOUSTICAL ANALYSIS

WEST END-SAND CITY
SAND CITY, CALIFORNIA

WJVA Report No. 17-023

PREPARED FOR

DBO DEVELOPMENT NO. 30, LLC
10 HARRIS COURT, SUITE B-1
MONTEREY, CA 93940

PREPARED BY

WJV ACOUSTICS, INC.
VISALIA, CALIFORNIA

wjv acoustics

OCTOBER 5, 2017

1. INTRODUCTION

Project Description:

The project program envisions a multi-phased development. The first phase of the project development will consist of the complete demolition of all existing buildings, site improvements, utilities, and roadways to accommodate new grading, public roadways (new and/or re-aligned roads to be constructed by developer and dedicated back to City), utility infrastructure, and the preparation of four (4) new parcels to accommodate future build-out in subsequent phases.

The subsequent phases will consist of specific site improvements and vertical buildings for each of the four (4) new parcels. The four (4) new parcels are as follows:

- Parcel H1: 135 room hotel with associated amenities (allow for up to a 5% total room increase (142 rooms max.) upon final building development plan refinement).
- Parcel H2: 81 room hotel with associated amenities (allow for up to a 5% total room increase (85 rooms max.) upon final building development plan refinement).
- Parcel R1: 100 unit multi-family residential with associated amenities (allow for up to 80 DUs/acre density upon final building development plan refinement).
- Parcel R2 (consisting of R2-A & R2-B): 320 unit multi-family residential with associated amenities (allow for up to 80 DUs/acre density upon final building development plan refinement).

Environmental Noise Assessment:

This environmental noise assessment has been prepared to determine if significant noise impacts will be produced by the project and to describe mitigation measures for noise if significant impacts are determined. The environmental noise assessment, prepared by WJV Acoustics, Inc. (WJVA), is based upon the project Entitlement Submittals dated April 17 and June 5, 2017, Vesting Tentative Map dated June 5, 2017, a traffic impact analysis prepared by Keith Higgins and a project site visit on July 12-13, 2017. Revisions to the site plan, traffic impact analysis or other project-related information available to WJVA at the time the analysis was prepared may require a reevaluation of the findings and/or recommendations of the report.

Appendix A provides definitions of the acoustical terminology used in this report. Unless otherwise stated, all sound levels reported in this analysis are A-weighted sound pressure levels in decibels (dB). A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards utilize A-weighted sound levels, as they correlate well with public reaction to noise. Appendix B provides examples of sound levels for reference.

2. THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines indicate that significant noise impacts occur when the project exposes people to noise levels in excess of standards established in local noise ordinances or general plan noise elements, or causes a substantial permanent or temporary increase in noise levels above levels existing without the project.

a. Noise Level Standards

SAND CITY

The Public Safety and Noise Element of the Sand City General Plan (hereafter referred to as Noise Element, adopted February 2002) establishes land use compatibility criteria in terms of the Day-Night Average Level (L_{dn}) or Community Noise Equivalent Level (CNEL) to describe noise exposure for noise compatibility planning purposes. Both the L_{dn} and CNEL represent the time-weighted energy average noise level for a 24-hour day, with a 10 dB penalty added to noise levels occurring during the nighttime hours (10:00 p.m.-7:00 a.m.). The CNEL includes an additional penalty of 5 dB (technically 4.77 dB) that is added to noise levels occurring during the evening hours between 7:00 p.m. and 10:00 p.m. The CNEL is utilized to describe aircraft noise exposure as required by the State of California. Both the L_{dn} and CNEL represent cumulative exposure to noise over an extended period of time and are therefore calculated based upon *annual average* conditions. The L_{dn} and CNEL are considered to be equivalent descriptors of the community noise environment for the purposes of this study and this report will generally use the L_{dn} descriptor hereafter.

For transportation noise sources, the Noise Element establishes an exterior noise level criterion of 60 dB L_{dn} for outdoor activity areas of residential land uses. Outdoor activity areas generally include backyards of single-family residences, individual patios or decks of multi-family developments and common outdoor recreation areas of multi-family developments. The intent of the exterior noise level requirement is to provide an acceptable noise environment for outdoor activities and recreation.

The Noise Element also requires that interior noise levels attributable to exterior sources not exceed 45 dB L_{dn}. This standard is consistent with interior noise level criteria applied by the State of California and the U.S. Department of Housing and Urban Development (HUD). The intent of the interior noise level standard is to provide an acceptable noise environment for indoor communication and sleep.

Table I (Table 6-2 within the Noise Element) provides applicable Sand City exterior and interior noise levels standards for transportation noise sources.

TABLE I

SAND CITY OUTDOOR NOISE LIMITS (dBA)
TRANSPORTATION NOISE SOURCES

LAND USE	Outdoor Activity Areas[1], L_{dn}/CNEL	Interior Spaces	
		Ldn/CNEL dB	Leq, dB[2]
Residential	60[3]	45	--
Transient Lodging	60[3]	45	--
Hospitals, Nursing Homes	60	45	--
Theaters, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls	60[3]	--	40
Office Buildings	--	--	45
Schools, Libraries, Museums	--	--	45
Playgrounds, Parks	70	--	--

[1] The exterior noise-level standard shall be applied to the outdoor activity area of the receiving land use. Outdoor activity areas are normally located near or adjacent to the main structures and often occupied by porches, patios, balconies, etc.
[2] AS Determined for a typical worst-case hour during periods of use.
[3] Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn}/CNEL or less using a practical application of the best-available, noise-reduction measures; higher exterior noise levels may be allowed provided that practical exterior noise-level reduction measures have been implemented and that interior noise levels are in compliance with this table. Exceptions to this standard may be allowed where ocean views are to be maintained.
4 In the case of hotel/motel facilities or other transient lodging, outdoor activity areas such as pool areas may not be included in the project design. In these cases, only the interior noise-level criterial will apply.

Source: Sand City General Plan

Table II (Table 6-3 within the Noise Element) provides applicable Sand City exterior noise levels standards for non-transportation noise sources.

TABLE II

SAND CITY EXTERIOR NOISE LEVEL LIMITS (dBA)
NON-TRANSPORTATION NOISE SOURCES

NOISE LEVEL DESCRIPTOR	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Hourly L_{eq}, dB	55	45
Maximum (L_{max}) Level, dB	75	65
Source: Sand City General Plan		

State of California

There are no state noise standards that are applicable to the project.

Federal Noise Standards

There are no federal noise standards that are applicable to the project.

b. Construction Noise

There are no state or federal standards that specifically address construction noise. Additionally, the Sand City General Plan does not specifically limit hours during which construction may occur. However, it is a common practice to limit hours of construction activity to minimize construction noise impacts in residential areas during the early morning and late evening hours, and on weekends and holidays. Although not specifically stated in the General Plan, it is also a standard requirement of many jurisdictions that all construction equipment be properly maintained and muffled to minimize noise generation at the source. Additional guidance can be provided by section 14-8.02A of the California Department of Transportation (Caltrans) Standard Specifications document which suggests that construction equipment should *not exceed 86 dBA L_{max} at a distance of 50 feet from job site activities from 9 p.m. to 6 a.m.*

There are no state or federal standards that specifically address construction vibration. Additionally, the Sand City General Plan does not specifically provide vibration guidelines or standards. Some guidance is provided by the Caltrans Transportation and Construction Vibration Guidance Manual. The Manual provides guidance for determining annoyance potential criteria and damage potential threshold criteria. These criteria are provided below in Table II and Table III, and are presented in terms of peak particle velocity (PPV) in inches per second (in/sec).

TABLE III

GUIDELINE VIBRATION ANNOYANCE POTENTIAL CRITERIA

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely Perceptible	0.04	0.01
Distinctly Perceptible	0.25	0.04
Strongly Perceptible	0.9	0.1
Severe	2.0	0.4
Source: Caltrans		

TABLE IV

GUIDELINE VIBRATION DAMAGE POTENTIAL THRESHOLD CRITERIA

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile, historic buildings, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5
Source: Caltrans		

Substantial Noise Increases:

CEQA does not define what constitutes a substantial increase in noise levels. Some guidance is provided by the 1992 findings of the Federal Interagency Committee on Noise (FICON)[2], which assessed changes in ambient noise levels resulting from aircraft operations. The FICON recommendations are based upon studies that relate aircraft and traffic noise levels to the percentage of persons highly annoyed by the noise. The rationale for the FICON recommendations is that it is possible to consistently describe the annoyance of people exposed to transportation noise in terms of the DNL (or CNEL). Annoyance is a summary measure of the general adverse reaction of people to noise that results in speech interference, sleep disturbance, or interference with other daily activities.

Although the FICON recommendations were specifically developed to address aircraft noise impacts, they are used in this analysis for all transportation noise sources that are described in terms of cumulative noise exposure metrics such as the DNL or CNEL. Table V summarizes the FICON recommendations.

TABLE V

MEASURES OF
SUBSTANTIAL NOISE INCREASE FOR TRANSPORTATION SOURCES

Ambient Noise Level Without Project (DNL/CNEL)	Significant Impact Assumed to Occur if the Project Increases Ambient Noise Levels By:
<60 dB	+ 5 dB or more
60-65 dB	+3 dB or more
>65 dB	+1.5 dB or more
Source: FICON, 1992, as applied by WJV Acoustics, Inc.	

For noise sources that are not transportation related, which usually includes commercial or industrial activities and other stationary noise sources, it is common to assume that a 3-5 dB

increase in noise levels represents a substantial increase in ambient noise levels. This is based on laboratory tests that indicate that a 3 dB increase is the minimum change perceptible to most people, and a 5 dB increase is perceived as a "definitely noticeable change."

3. SETTING

The proposed project site is 10.64-acre lot consisting of several individual parcels located in Sand City, California. The existing site consists of multiple parcels with varying degrees of development, mostly consisting of single and double story industrial use structures. Current and previous uses include fish cannery/packing company, contractor fabrication and staging yards, construction material sales and fabrication, rock climbing gym, bounce-house family entertainment, and other miscellaneous commercial and manufacturing uses. The project site plan is provided as Figure 1. The project site and vicinity are provided as Figure 2.

a. Background Noise Level Measurements

Existing noise levels in the project vicinity are dominated by traffic noise along Del Monte Boulevard, California Avenue, Tioga Avenue and California State Route 1 (SR 1), aircraft overflight noise levels associated with Monterey Regional Airport (MRY) as well as noise sources associated with commercial and industrial activities both within, and nearby the project site.

Measurements of existing ambient noise levels in the project vicinity were conducted on July 12 and 13, 2017. Long-term (24-hour) ambient noise level measurements were conducted at three (3) locations (sites LT1, LT2 and LT3) Noise monitoring at sites LT1 and LT2 was conducted for two (2) days while noise monitoring at site LT3 was conducted for one (1) day. Site LT1 was located near the east side of the project site, and was exposed to noise associated with traffic along California Avenue and noise related to activities associated with nearby commercial/industrial activities. Site LT2 was located near the north side of the project site and was exposed noise associated with traffic along Tioga Avenue as well as noise associated with retail land uses to the north. Site LT3 was located near the south side of the project site and was exposed to noise associated with traffic along California Avenue as well as noise associated with the Graniterock ready mix concrete facility located south of the project site.

Additionally, short-term (15-minute) ambient noise level measurements were conducted at eight (8) locations (Sites ST1 through ST8). The locations of the noise monitoring sites are shown on Figure 2. Two (2) individual measurements were taken at each of the eight short-term sites to quantify ambient noise levels in the morning and afternoon hours. The locations of the long-term and short-term sites are shown in Figure 2.

Noise monitoring equipment consisted of Larson-Davis Laboratories Model LDL-820 sound level analyzers equipped with B&K Type 4176 1/2" microphones. The equipment complies with the specifications of the American National Standards Institute (ANSI) for Type I (Precision) sound level meters. The meters were calibrated with a B&K Type 4230 acoustic calibrator to ensure the accuracy of the measurements.

Measured hourly energy average noise levels (L_{eq}) at site LT1 ranged from a low of 39.2 dB between 3:00 a.m. and 4:00 a.m. on July 12 to a high of 58.4 dBA between 2:00 p.m. and 3:00 p.m. on July 13 Hourly maximum (L_{max}) noise levels at site LT1 ranged from 53.8 to 79.8 dBA. Residual noise levels at the monitoring site, as defined by the L_{90}, ranged from 36.4-51.0 dBA. The L_{90} is a statistical descriptor that defines the noise level exceeded 90% of the time during each hour of the sample period. The L_{90} is generally considered to represent the residual (or background) noise level in the absence of identifiable single noise events from traffic, aircraft and other local noise sources. The measured L_{dn} value at site LT1 during the two individual days of noise monitoring was 56.2 dB L_{dn} for both days. Figure 3 graphically depicts hourly variations in ambient noise levels at site LT1.

Measured hourly L_{eq} noise levels at site LT2 ranged from a low of 46.0 dB between 2:00 a.m and 3:00 a.m. on July 12 to a high of 58.0 dBA between 8:00 a.m. and 9:00 a.m. on July 12. Hourly L_{max} noise levels at site LT2 ranged from 50.1 to 82.3 dBA. Residual noise levels at the monitoring site, as defined by the L_{90}, ranged from 44.0 to 50.2 dBA. The measured L_{dn} value at site LT2 during the two individual days of noise monitoring was 56.4 dB L_{dn} on July 12 and 56.5 dB L_{dn} on July 13. Figure 4 graphically depicts hourly variations in ambient noise levels at site LT2.

Measured hourly L_{eq} noise levels at site LT3 ranged from a low of 40.4 dB between 1:00 a.m and 2:00 a.m. on July 12 to a high of 64.2 dBA between 8:00 a.m. and 9:00 a.m. on July 12. Hourly L_{max} noise levels at site LT2 ranged from 49.3 to 84.4 dBA. Residual noise levels at the monitoring site, as defined by the L_{90}, ranged from 34.4 to 57.1 dBA. The measured L_{dn} value at site LT2 during the one individual day of noise monitoring was 62.3 dB L_{dn} on July 13. Figure 5 graphically depicts hourly variations in ambient noise levels at site LT3.

Table VI summarizes short-term noise measurement results. The noise measurement data included energy average (L_{eq}) maximum (L_{max}) as well as five individual statistical parameters. Observations were made of the dominant noise sources affecting the measurements. The statistical parameters describe the percent of time a noise level was exceeded during the measurement period. For instance, the L_{90} describes the noise level exceeded 90 percent of the time during the measurement period, and is generally considered to represent the residual (or background) noise level in the absence of identifiable single noise events from traffic, aircraft and other local noise sources.

TABLE VI

SUMMARY OF SHORT-TERM NOISE MEASUREMENT DATA
WEST END, SAND CITY
JULY 12 & 13, 2017

Site	Time	A-Weighted Decibels, dBA							Sources
		L_{eq}	L_{max}	L_2	L_8	L_{25}	L_{50}	L_{90}	
ST1	8:58 a.m.	62.3	72.3	70.5	67.5	62.6	56.6	52.3	TR, IC, AC
ST1	12:53 p.m.	61.0	73.1	70.0	66.2	60.4	54.8	52.2	TR, IC
ST2	1:14 p.m.	57.4	77.8	64.0	53.8	49.7	46.9	44.2	TR, AC
ST2	3:27 p.m.	55.9	76.4	62.2	53.4	50.1	45.0	43.3	TR, AC
ST3	8:40 a.m.	61.7	79.9	69.3	66.4	62.1	58.5	53.0	TR, IC
ST3	1:34 p.m.	61.5	77.6	72.1	66.4	55.8	52.4	48.3	TR, IC
ST4	8:20 a.m.	59.7	76.8	67.9	61.8	56.5	53.6	50.1	TR, D
ST4	1:52 p.m.	62.2	80.5	71.9	64.4	58.8	56.9	54.3	TR, V
ST5	9:45 a.m.	61.1	69.9	67.0	64.4	61.5	59.3	57.8	TR, V, HV
ST5	2:49 p.m.	66.0	79.0	75.1	69.1	65.1	62.8	59.6	TR, HV, AC
ST6	10:06 a.m.	49.1	53.2	51.0	50.3	49.6	48.9	48.0	TR, V,
ST6	3:13 p.m.	53.1	70.1	64.4	54.5	47.1	46.5	45.1	TR, V
ST7	10:25 a.m.	50.9	66.9	63.0	52.8	44.8	43.5	42.1	TR
ST7	3:33 p.m.	51.2	59.7	55.7	53.6	51.8	50.6	48.5	TR
ST8	10:45 a.m.	52.9	61.5	58.3	54.2	51.7	51.0	48.6	TR, V,D
ST8	3:52 p.m.	52.6	62.4	59.2	55.3	52.6	51.0	49.5	TR, V, IC

TR: Traffic AC: Aircraft V: Voices D: Dogs Barking IC: Industrial/Commercial Activity HV: HVAC
Source: WJV Acoustics, Inc.

Short-term noise measurements were conducted for 15-minute periods. Sites ST1-ST5 were located adjacent to roadways and vehicle traffic dominated the noise environment. Site ST6-ST8 were located off roadways and the noise environment at these sites were dominated by nearby commercial/industrial activities and to a lesser extent, traffic from local roadways and SR 1 (ST7).

The overall noise measurement data indicate that noise in the project vicinity is highly influenced by vehicular traffic on California Avenue and Tioga Avenue as well as nearby commercial and industrial land uses.

4. PROJECT IMPACTS AND MITIGATION MEASURES

a. Project Traffic Noise Impacts on Existing Noise-Sensitive Land Uses Outside Project Site (Less Than Significant)

WJVA utilized the FHWA Traffic Noise Model to quantify expected project-related increases in traffic noise exposure along roadways in the project vicinity. In order to validate the accuracy of the noise model, noise level measurements and concurrent traffic counts were conducted by WJVA at two (2) locations within the project site on July 13, 2017. One model calibration measurement was conducted along Del Monte Boulevard (south of Tioga Avenue) and another was conducted along Tioga Avenue (west of Metz Road), both in the vicinity of the project site.

The FHWA Model is a standard analytical method used by state and local agencies for roadway traffic noise prediction. The model is based upon reference energy emission levels for automobiles, medium trucks (2 axles) and heavy trucks (3 or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within ±1.5 dB. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Noise measurements were conducted in terms of the equivalent energy sound level (L_{eq}). Measured L_{eq} values were compared to L_{eq} values calculated (predicted) by the FHWA Model using as inputs the traffic volumes, truck mix and vehicle speed observed during the noise measurements. The results of that comparison are shown in Table VII.

TABLE VII

COMPARISON OF MEASURED AND PREDICTED (FHWA MODEL) NOISE LEVELS
WEST END, SAND CITY
JULY 13, 2017

	Del Monte Boulevard	**Tioga Avenue**
Start Time	10:00 a.m.	10:25 a.m.
Microphone Height, Ft. (above the ground)	5	5
Observed # Autos/Hr.	712	180
Observed # Medium Trucks/Hr.	20	4
Observed # Heavy Trucks/Hr.	12	0
Posted Speed (MPH)	35	25
Distance, ft.	50	50
L_{eq}, dBA (Measured)	65.5	54.1
L_{eq}, dBA (Predicted)	64.1	52.8
Difference between Measured and Predicted L_{eq}, dB	**+1.4**	**+1.9**

Note: FHWA "soft site" assumed for calculations
Source: WJV Acoustics, Inc.

From Table VII it may be determined that the predicted traffic noise levels were 1.4 to 1.9 dB lower than the measured noise level for the traffic conditions observed at the time of the noise measurements. This slight over-prediction by the model is expected, and is due to the presence of other, non-traffic (commercial, retail, etc.) noise sources contributing to the overall noise exposure measured during the monitoring period. However, this is considered reasonable agreement between modeled and measured noise levels, therefore an adjustment (offset) to modeled noise levels in the project vicinity is not required.

Traffic noise exposure for Existing, Existing Plus Project, Cumulative No Project and Cumulative Plus Project traffic conditions was calculated based upon the FHWA Model and traffic volumes provided

in the project Traffic Impact Analysis prepared by the Traffic Consultant, Keith Higgins. The posted vehicle speed limits on the analyzed roadways vary throughout the project site. For the sake of this analysis speed limits were assumed to be 35 miles per hour (mph). The intent of the analysis is the demonstrate relative project-related changes in traffic noise exposure that would be expected to occur throughout the project area. The Noise modeling assumptions used to calculate project traffic noise are provided as Appendix C. Table VIII provides existing and existing with project noise levels and Table IX provides cumulative and cumulative with project noise levels. The noise exposure levels were calculated at a reference distance of 100 feet from the center of the analyzed roadways.

TABLE VIII

EXISTING AND EXISTING PLUS PROJECT TRAFFIC NOISE LEVELS WEST END-SAND CITY

Roadway Name (segment description)	L_{dn}, dB[1]		Change	Significant Impact?
	No Project	With Project		
California Avenue (n/o Monterey Road)	53.7	53.7	0.0	No
California Avenue (s/o Monterey Road)	58.8	59.1	+0.3	No
California Avenue (n/o Playa Avenue)	55.2	55.8	+0.6	No
California Avenue (s/o Tioga Avenue)	52.6	55.0	+2.4	No
California Avenue (w/o Holly Street)	48.8	50.1	+1.3	No
California Avenue (e/o Holly Street)	50.7	51.9	+1.2	No
California Avenue (e/o Contra Costa Street)	48.4	49.4	+1.0	No
North Bound SR 1 Offramp (w/o California Avenue)	55.1	55.1	0.0	No
Monterey Road (e/o California Avenue)	59.2	59.5	+0.3	No
Monterey Road (w/o Fremont Boulevard)	59.2	59.5	+0.3	No
Monterey Road (e/o Fremont Boulevard)	57.8	57.8	0.0	No
SR 1 Ramps (n/o Monterey Road)	62.3	62.5	+0.2	No
Fremont Boulevard (s/o Monterey Road)	62.2	62.2	0.0	No
Fremont Boulevard (n/o Del Monte Boulevard)	62.2	62.2	0.0	No
Fremont Boulevard (s/o Del Monte Boulevard)	60.7	60.7	0.0	No
Del Monte Boulevard (w/o Fremont Boulevard)	56.2	56.6	+0.4	No
Del Monte Boulevard (n/o Ord Grove Avenue)	56.7	57.0	+0.3	No
Del Monte Boulevard (s/o Ord Grove Avenue)	57.5	57.8	+0.3	No
Del Monte Boulevard (n/o Playa Avenue)	57.5	57.9	+0.4	No
Del Monte Boulevard (s/o Playa Avenue)	59.4	59.7	+0.3	No
Del Monte Boulevard (n/o La Salle Avenue)	59.4	59.6	+0.2	No
Del Monte Boulevard (s/o La Salle Avenue)	59.8	60.1	+0.3	No
Del Monte Boulevard (n/o Tioga Avenue)	59.9	60.2	+0.3	No
Del Monte Boulevard (s/o Tioga Avenue)	60.2	60.4	+0.2	No
Del Monte Boulevard (n/o Contra Costa Avenue)	60.6	60.8	+0.2	No
Del Monte Boulevard (s/o Contra Costa Avenue)	61.1	61.2	+0.1	No
Del Monte Boulevard (n/o Broadway Avenue)	60.9	61.2	+0.3	No
Del Monte Boulevard (s/o Broadway Avenue)	62.5	62.5	0.0	No
Del Monte Boulevard (n/o Canyon Del Rey Boulevard)	63.0	63.0	0.0	No
Del Monte Boulevard (s/o Canyon Del Rey Boulevard)	62.5	62.5	0.0	No
Military Avenue (e/o Fremont Boulevard)	49.3	49.3	0.0	No

TABLE VIII (continued)

EXISTING AND EXISTING PLUS PROJECT TRAFFIC NOISE LEVELS WEST END-SAND CITY

Roadway Name (segment description)	L_{dn}, dB[1]		Change	Significant Impact?
	No Project	With Project		
Ord Grove Avenue (e/o Del Monte Boulevard)	51.0	51.3	+0.3	No
Playa Avenue (w/o California Avenue)	57.4	57.4	0.0	No
Playa Avenue (e/o California Avenue)	58.7	58.7	0.0	No
Playa Avenue (w/o Del Monte Boulevard)	58.9	58.9	0.0	No
Playa Avenue (e/o Del Monte Boulevard)	56.6	56.7	+0.1	No
La Salle Avenue (e/o Del Monte Boulevard	54.6	54.7	+0.1	No
Metz Road (n/o Tioga Avenue)	51.9	52.1	+0.2	No
Tioga Avenue (w/o Metz Road)	54.1	55.9	+1.8	No
Tioga Avenue (e/o Metz Road)	53.3	55.5	+2.2	No
Tioga Avenue (w/o California Avenue)	53.2	54.7	+1.5	No
Tioga Avenue (e/o California Avenue)	56.9	57.8	+0.9	No
Tioga Avenue (w/o Del Monte Boulevard)	56.9	57.8	+0.9	No
Commercial Driveway (n/o Tioga Avenue)	55.7	56.6	+0.9	No
Commercial Driveway (n/o Tioga Avenue)	55.7	56.3	+0.6	No
Commercial Driveway (n/o California Avenue)	29.2	29.2	0.0	No
Commercial Driveway (e/o Del Monte Boulevard)	32.2	32.2	0.0	No
Auto Center Parkway (e/o Del Monte Boulevard)	53.7	53.7	0.0	No
Holly Street (s/o California Avenue)	46.4	47.2	+0.8	No
Contra Costa Street (n/o California Avenue)	44.5	44.5	0.0	No
Contra Costa Street (s/o California Avenue)	49.5	49.9	+0.4	No
Contra Costa Street (n/o Ortiz Avenue)	51.6	52.1	+0.5	No
Contra Costa Street (s/o Ortiz Avenue)	52.4	52.6	+0.2	No
Contra Costa Street (w/o Del Monte Boulevard)	55.9	55.9	0.0	No
Ortiz Avenue (w/o Contra Costa Street)	48.0	48.7	+0.7	No
Ortiz Avenue (e/o Contra Costa Street)	49.3	49.3	0.0	No
Broadway Avenue (e/o Del Monte Boulevard)	56.1	56.3	+0.2	No
State Park Entrance (n/o Sand Dunes Drive)	45.4	45.4	0.0	No
Canyon Del Rey Boulevard (s/o Sand Dunes Drive)	55.8	57.1	+1.3	No
Canyon Del Rey Boulevard (n/o SB SR 1 Ramps)	55.8	57.1	+1.3	No
Canyon Del Rey Boulevard (s/o SB SR 1 Ramps)	59.2	59.6	+0.4	No
Canyon Del Rey Boulevard (n/o NB SR 1 Ramps)	59.2	59.6	+0.4	No
Canyon Del Rey Boulevard (s/o NB SR 1 Ramps)	62.0	62.0	0.0	No
Canyon Del Red Boulevard (n/o Del Monte Boulevard)	61.6	61.7	+0.1	No
Canyon Del Red Boulevard (s/o Del Monte Boulevard)	62.1	62.1	0.0	No
Sand Dunes Drive (w/o Canyon Del Rey Boulevard)	51.5	51.5	0.0	No
Sand Dunes Drive (e/o Canyon Del Rey Boulevard)	53.9	55.8	+1.9	No
Southbound SR 1 Ramps (e/o Canyon Del Rey Boulevard)	55.2	55.2	0.0	No
Northbound SR 1 Ramps (w/o Canyon Del Rey Boulevard)	55.0	56.0	+1.0	No
Northbound SR 1 Ramps (e/o Canyon Del Rey Boulevard)	57.9	57.9	0.0	No

[1]At a reference setback distance of 100 feet from the center of the roadway.

Source: WJV Acoustics, Inc.

TABLE IX

CUMULATIVE AND CUMULATIVE PLUS PROJECT TRAFFIC NOISE LEVELS WEST END-SAND CITY

Roadway Name (segment description)	L_{dn}, dB[1]		Change	Significant Impact?
	No Project	With Project		
California Avenue (n/o Monterey Road)	58.1	58.1	0.0	No
California Avenue (s/o Monterey Road)	59.7	59.9	+0.2	No
California Avenue (n/o Playa Avenue)	57.0	57.4	+0.4	No
California Avenue (s/o Tioga Avenue)	53.5	55.6	+2.1	No
California Avenue (w/o Holly Street)	51.1	51.9	+0.8	No
California Avenue (e/o Holly Street)	52.4	53.2	+0.8	No
California Avenue (e/o Contra Costa Street)	50.7	51.4	+0.7	No
North Bound SR 1 Offramp (w/o California Avenue)	58.4	58.4	0.0	No
Monterey Road (e/o California Avenue)	62.0	62.1	+0.1	No
Monterey Road (w/o Fremont Boulevard)	62.0	62.1	+0.1	No
Monterey Road (e/o Fremont Boulevard)	62.8	62.8	0.0	No
SR 1 Ramps (n/o Monterey Road)	64.1	64.2	+0.1	No
Fremont Boulevard (s/o Monterey Road)	63.7	63.8	+0.1	No
Fremont Boulevard (n/o Del Monte Boulevard)	63.7	63.8	+0.1	No
Fremont Boulevard (s/o Del Monte Boulevard)	62.1	62.1	0.0	No
Del Monte Boulevard (w/o Fremont Boulevard)	58.3	58.5	+0.2	No
Del Monte Boulevard (n/o Ord Grove Avenue)	58.6	58.8	+0.2	No
Del Monte Boulevard (s/o Ord Grove Avenue)	59.1	59.4	+0.3	No
Del Monte Boulevard (n/o Playa Avenue)	59.1	59.3	+0.2	No
Del Monte Boulevard (s/o Playa Avenue)	60.6	60.8	+0.2	No
Del Monte Boulevard (n/o La Salle Avenue)	60.4	60.6	+0.2	No
Del Monte Boulevard (s/o La Salle Avenue)	60.8	61.1	+0.3	No
Del Monte Boulevard (n/o Tioga Avenue)	60.9	61.1	+0.2	No
Del Monte Boulevard (s/o Tioga Avenue)	61.5	61.6	+0.1	No
Del Monte Boulevard (n/o Contra Costa Avenue)	62.5	62.6	+0.1	No
Del Monte Boulevard (s/o Contra Costa Avenue)	62.9	63.0	+0.1	No
Del Monte Boulevard (n/o Broadway Avenue)	62.9	63.0	+0.1	No
Del Monte Boulevard (s/o Broadway Avenue)	64.3	64.5	+0.2	No
Del Monte Boulevard (n/o Canyon Del Rey Boulevard)	63.8	63.8	0.0	No
Del Monte Boulevard (s/o Canyon Del Rey Boulevard)	64.2	64.2	0.0	No
Military Avenue (e/o Fremont Boulevard)	49.3	49.3	0.0	No
Ord Grove Avenue (e/o Del Monte Boulevard)	51.0	51.3	+0.3	No
Playa Avenue (w/o California Avenue)	59.3	59.3	0.0	No
Playa Avenue (e/o California Avenue)	59.6	59.6	0.0	No
Playa Avenue (w/o Del Monte Boulevard)	59.3	59.7	+0.4	No
Playa Avenue (e/o Del Monte Boulevard)	57.4	57.5	+0.1	No
La Salle Avenue (e/o Del Monte Boulevard	54.8	54.9	+0.1	No
Metz Road (n/o Tioga Avenue)	51.9	52.1	+0.2	No
Tioga Avenue (w/o Metz Road)	55.3	56.8	+1.5	No
Tioga Avenue (e/o Metz Road)	54.7	56.4	+1.7	No
Tioga Avenue (w/o California Avenue)	54.7	55.8	+1.1	No
Tioga Avenue (e/o California Avenue)	57.9	58.6	+0.7	No
Tioga Avenue (w/o Del Monte Boulevard)	58.0	58.7	+0.7	No
Commercial Driveway (s/o Playa Avenue)	56.4	56.9	+0.5	No

TABLE IX (continued)

CUMULATIVE AND CUMULATIVE PLUS PROJECT TRAFFIC NOISE LEVELS WEST END-SAND CITY

Roadway Name (segment description)	L_{dn}, dB[1]		Change	Significant Impact?
	No Project	With Project		
Commercial Driveway (n/o Tioga Avenue)	55.8	56.4	+0.6	No
Commercial Driveway (n/o California Avenue)	29.2	29.2	0.0	No
Commercial Driveway (e/o Del Monte Boulevard)	32.2	32.2	0.0	No
Auto Center Parkway (e/o Del Monte Boulevard)	53.7	53.7	0.0	No
Holly Street (s/o California Avenue)	46.8	47.5	+0.7	No
Contra Costa Street (n/o California Avenue)	45.4	45.4	0.0	No
Contra Costa Street (s/o California Avenue)	51.5	51.7	+0.2	No
Contra Costa Street (n/o Ortiz Avenue)	52.9	53.3	+0.4	No
Contra Costa Street (s/o Ortiz Avenue)	53.6	53.7	+0.1	No
Contra Costa Street (w/o Del Monte Boulevard)	56.8	56.8	0.0	No
Ortiz Avenue (w/o Contra Costa Street)	48.7	49.4	+0.7	No
Ortiz Avenue (e/o Contra Costa Street)	49.2	49.3	+0.1	No
Broadway Avenue (e/o Del Monte Boulevard)	60.2	60.2	0.0	No
State Park Entrance (n/o Sand Dunes Drive)	45.4	45.4	0.0	No
Canyon Del Rey Boulevard (s/o Sand Dunes Drive)	56.7	57.8	+1.1	No
Canyon Del Rey Boulevard (n/o SB SR 1 Ramps)	57.1	58.1	+1.0	No
Canyon Del Rey Boulevard (s/o SB SR 1 Ramps)	60.2	60.5	+0.3	No
Canyon Del Rey Boulevard (n/o NB SR 1 Ramps)	60.2	60.5	+0.3	No
Canyon Del Rey Boulevard (s/o NB SR 1 Ramps)	62.8	62.8	0.0	No
Canyon Del Red Boulevard (n/o Del Monte Boulevard)	62.5	62.5	0.0	No
Canyon Del Red Boulevard (s/o Del Monte Boulevard)	62.9	62.9	0.0	No
Sand Dunes Drive (w/o Canyon Del Rey Boulevard)	51.5	51.5	0.0	No
Sand Dunes Drive (e/o Canyon Del Rey Boulevard)	55.3	56.7	+1.4	No
Southbound SR 1 Ramps (e/o Canyon Del Rey Boulevard)	55.5	55.5	0.0	No
Northbound SR 1 Ramps (w/o Canyon Del Rey Boulevard)	56.6	57.3	+0.7	No
Northbound SR 1 Ramps (e/o Canyon Del Rey Boulevard)	58.0	58.0	0.0	No

[1]At a reference setback distance of 100 feet from the center of the roadway.

Source: WJV Acoustics, Inc.

Reference to Table VIII and Table IX indicate that traffic noise exposure at existing land uses in the project vicinity would be expected to increase by approximately 0.0 to 2.1 dB throughout the project vicinity, as a result of the project. This is not considered to be a significant impact. It should be noted, although some traffic noise levels described in Table VIII and Table IX exceed the City's applicable exterior noise level standard along several of the analyzed roadway segments, the exceedance is not a result of the project, and therefore does not indicate a project-related impact. Additionally, noise levels described in Table VIII and Table IX do not take into consideration any site-specific shielding that may occur, and are considered to be a generalized worst-case assessment of traffic noise levels in the project area. It should also be noted; the majority of the analyzed roadways do not have land uses considered "sensitive" as described in Table I.

b. Project Noise Impacts from Operational On-Site Sources (Less Than Significant)

Sources of operational noise from the proposed development would typically be limited to parking lot vehicle movements, outdoor human activity and Mechanical/HVAC systems.

Vehicles accessing the project site would enter and exit via one of three roadways entering the project site, two located off of California Avenue and one located off of Tioga Avenue. Parking for the residential uses will be located within the bottom two floors of the buildings while parking for the hotel uses will be located outdoors at ground level.

Noise due to traffic in parking lots is typically limited by low speeds and is not usually considered to be significant. Human activity in parking lots that can produce noise includes voices, stereo systems and the opening and closing of car doors and trunk lids. Such activities can occur at any time during regular hours of operation. The noise levels associated with these activities cannot be precisely defined due to variables such as the number of parking movements, time of day and other factors. It is typical for a passing car in a parking lot to produce a maximum noise level of 60 to 65 dBA at a distance of 50 feet, which is comparable to the level of a raised voice. For this project, the closest proposed parking would be located approximately 600 feet from the closest existing residential uses. At such a distance, noise levels associated with parking lots and vehicle movements would not exceed applicable noise level standards and would be below existing ambient noise levels at nearby residential land uses. Parking lot vehicle movement and human activity noise would not be considered a significant impact.

The project will include roof-mounted Mechanical/HVAC and air handling units on the buildings. Based upon data collected by WJVA for previous acoustical studies, it is estimated that noise levels from roof-mounted units at the closest off-site land uses to the project site would be in the range of 35-45 dBA. These levels would generally not be audible above existing ambient noise levels at adjacent land-uses and would not exceed any applicable noise level standards.

c. Noise from Construction

Construction noise could occur at various locations within the project site through the demolition and build-out period. Table X provides typical construction-related noise levels at reference distances of 25 feet, 50 feet, and 100 feet.

Construction noise is not usually considered to be a significant impact if construction is limited to the daytime hours and construction equipment is adequately maintained and muffled. Extraordinary noise-producing activities (e.g., pile driving) are not anticipated.

TABLE X

TYPICAL CONSTRUCTION EQUIPMENT
MAXIMUM NOISE LEVELS, dBA

Type of Equipment	25 Ft.	50 Ft.	100 Ft.
Backhoe	84	78	72
Concrete Saw	96	90	84
Crane	87	81	75
Excavator	87	81	75
Front End Loader	85	79	73
Jackhammer	95	89	83
Paver	83	77	71
Pneumatic Tools	91	85	79
Dozer	88	82	76
Rollers	86	80	74
Trucks	92	86	80
Pumps	86	80	74
Scrapers	93	87	81
Portable Generators	86	80	74
Front Loader	92	86	80
Backhoe	92	86	80
Excavator	92	86	80
Grader	92	86	80

Source: FHWA
Noise Control for Buildings and Manufacturing Plants, Bolt, Beranek & Newman, 1987

d. Vibration Impacts (Less Than Significant)

The dominant sources of man-made vibration are sonic booms, blasting, pile driving, pavement breaking, demolition, diesel locomotives, and rail-car coupling. Vibration from construction activities could be detected at the closest sensitive land uses, especially during movements by heavy equipment or loaded trucks and during some paving activities. The closest existing residences to the project site are located approximately 300 feet to the west. Typical vibration levels at distance of 300 feet are summarized by Table XI.

TABLE XI

TYPICAL VIBRATION LEVELS DURING CONSTRUCTION

	PPV (in/sec)
Equipment	**@ 300´**
Bulldozer (Large)	0.006
Bulldozer (Small)	0.00019
Loaded Truck	0.005
Jackhammer	0.002
Vibratory Roller	0.013
Caisson Drilling	0.006

Source: *Caltrans*

Table XI indicates that the equipment with the highest potential vibration levels would be a vibratory roller. While in use, a roller could produce vibration levels of approximately 0.013 PPV (in/sec) at the closest residence. As described in Table III and Table IV, such levels would not be expected to cause damage to any of the described building types and would be "barely noticeable" at the closest residence if the equipment was used continuously or frequently. Such levels are not considered to be a significant impact.

After full project build out, it is not expected that ongoing operational activities will result in any vibration impacts at nearby sensitive uses. Activities involved in trash bin collection could result in minor on-site vibrations as the bin is placed back onto the ground. Such vibrations would not be expected to be felt at the closest off-site sensitive uses.

d. Noise Impacts to On-Site Proposed Noise-Sensitive Uses (Less Than Significant)

The proposed project includes proposed hotel and multi-family residential land uses. Transient lodging (hotels and motels) are considered to be a noise-sensitive land use as described by the City's Noise Element. The Noise Element establishes an exterior noise level standard of 60 dB L_{dn} and an interior noise level standard of 45 dB L_{dn} for both residential and transient lodging land uses.

Exterior Noise Exposure:

The exterior noise level standard of 60 dB L_{dn} would be applied to common outdoor activity areas of the hotel and residential land uses such as pool areas, common outdoor courtyard areas and individual patios or balconies. Neither of the proposed hotels will have individual balconies, however, some units of the residential buildings (R1 and R2) will include balconies. Reference to the ambient noise measurements as well as modeled traffic noise levels provided in Table VIII and Table IX indicate that project site noise exposure typically ranges from approximately 55-60 dB $L_{dn,}$ with the highest project-site noise exposure near the southern portion of the project area, in the vicinity of Granitrock, where ambient noise levels were measured to be approximately 62 dB L_{dn}. At the location of the hotels the noise level exposure at the exterior east-facing façades would be approximately 60 dB L_{dn}. Exterior noise levels at the proposed residential land uses (R1 and R2) would be approximately 55 dB L_{dn} at the east-facing facades.

State Route 1 (SR 1) Noise Exposure:

WJVA used traffic data provided by Caltrans to model project-site traffic noise exposure related to traffic on SR 1. Data used to model SR 1 traffic noise exposure within the project site included annual average daily traffic volumes, percentages of heavy and medium trucks and vehicle speed limits. Using the above-described FHWA traffic model and data obtained from Caltrans, SR 1 traffic noise exposure was calculated to be approximately 58 dB L_{dn} at the closest west-facing hotel façade to SR 1.

However, SR 1 is approximately twenty (20) feet below project grade in the vicinity of the project

site (project site finished grade varies), with the intervening dunes elevating up to thirty (30) feet above grade of SR 1. The dunes will provide significant acoustic shielding of SR 1 traffic noise at the lower floors (and to a lesser extent, the upper floors) of the proposed R1 and R2 residential buildings.

WJVA utilized the FHWA Traffic Noise Model Version 2.5 (TNM 2.5) to calculate the insertion loss (noise reduction) provided by the intervening sand dunes. TNM 2.5 is a computer model based on two FHWA reports: FHWA-PD-96-009 and FHWA-PD-96-010 (FHWA 1998a, 1998b). Key inputs to the traffic noise model were the location of the roadway, shielding features (e.g., topography and buildings), noise barriers, ground type, and receivers. The model calculates the insertion loss of a barrier (or intervening topographic features) of a given height based on the effective height of the noise source, height of the receiver, distance from the receiver to the barrier, and distance from the noise source to the barrier. The standard assumptions used in the sound barrier calculations are effective source heights of 8, 2 and 0 feet above the roadway for heavy trucks, medium trucks and automobiles, respectively. The standard height of a residential receiver is five feet above the ground elevation.

Based upon the above-described assumptions and method of analysis, the noise level insertion loss values for the sand dunes were calculated. The calculations indicated that the intervening sand dunes would reduce traffic noise exposure in the range of 5-8 dB at the lower floors and by approximately 2-4 dB at the upper floors, at the proposed R1 and R2 residential buildings. The resulting SR 1 traffic noise exposure at the west-facing (toward SR 1) facades of R1 and R2 would be in the range of 50-56 dB L_{dn}. Such levels do not exceed the City's applicable exterior noise level standard of 60 dB L_{dn}.

In regards to SR 1 traffic noise exposure at the west-facing hotel (H1 and H2) facades, the proposed R1 and R2 residential would provide further acoustical shielding at the west-facing hotel facades. SR 1 traffic noise exposure at the west-facing hotel facades would be expected to be in the range of 45-50 dB L_{dn}.

Potential Commuter Rail Noise Exposure:

It should be noted, the Transportation Agency for Monterey County (TAMC) currently owns the railroad right-of-way located 115 feet east of the project site. The railroad is not currently in service for any rail use, however, TAMC long-range plans include the possibility of passenger rail or bus use on the railroad right-of-way. No timeframe or funding for either service has been established at this time.

If commuter rail service were to operate along the railroad line, it is unknown as to the type of equipment, time of day or frequency of the operations that may occur. Noise levels associated with commuter (or light rail) operations are typically lower than those that occur with freight train or Amtrak passenger train operations. Additionally, noise levels associated with train operations can vary widely as a function of allowed speeds and the presence of required grade crossing warning horns.

Railroad noise is typically quantified in terms of the sound exposure level (SEL). The SEL is a measure of the total energy of a noise event, including consideration of event duration. The SEL is not actually heard, but is a derived value used for the calculation of energy-based noise exposure metrics such as the L_{dn}.

Railroad noise exposure may be quantified in terms of the L_{dn} using the following formula:

L_{dn} *=SEL+ 10 log Neq – 49.4*

where,

SEL is the average SEL for a train pass-by, Neq is the equivalent number of pass-bys in a typical 24-hour period determined by adding 10 times the number of nighttime movements (10 p.m.-7 a.m.) to the actual number of daytime movements (7 a.m.-10 p.m.). 49.4 is a time constant equal to 10 times the log of the number of seconds in a day.

This distance between the railroad right-of-way to the closest proposed project sensitive land use is approximately 200 feet (H1 and H2 hotels). At a distance of approximately 200 feet from a commuter train passby (event), noise levels could be expected to be in the range of approximately 80-90 dB SEL. Hypothetically speaking, if we assume one train every hour over a 24-hour day, and apply the above described formula and range of train event noise levels, the resulting train noise exposure would be in the range of 50-60 dB L_{dn} at the closest proposed hotel facades.

If commuter rail operations were to be established along the TAMC right-of-way railroad line, a site-specific noise analysis should be conducted based upon specific equipment noise levels and time and frequency of operations.

Interior Noise Exposure:

A specific analysis of interior noise levels was not performed. However, it may be assumed that commercial construction methods complying with current building code requirements will reduce exterior noise levels by a minimum of 25 dB if windows and doors are closed. Therefore, compliance with the noise element would require a minimum outdoor-to-indoor noise level reduction (NLR) of 15 dB (60-45=15) at the hotels and 10 dB (56-45=11) at the proposed residential buildings. This will be sufficient for compliance with the City's 45 dB L_{dn} interior noise level standard.

e. Noise Impacts from Nearby Airports or Airstrips (Less Than Significant)

The Project site is located less than two miles from the Monterey Regional Airport (MRY). According to the Monterey Regional Airport Land Use Compatibility Plan, the project site is located within the Airport Influence Area Zone, but no aircraft noise concerns would be expected as the project site is well outside the airport's 65 dB CNEL noise exposure contour. Therefore, the Project would not expose people working or utilizing the Project to excessive noise levels. Additional mitigation is not required.

5. IMPACT SUMMARY

Project-related noise levels resulting from the proposed West End Development, to be located in the City of Sand City, are not expected to exceed any applicable Sand City noise level standards or result in any significant long-term increases in ambient noise levels in the project vicinity or throughout the City. Project site demolition and project construction could result in-short term increases in localized ambient noise levels. However, construction-related noise levels are not considered to be a significant impact if local construction noise time limits are observed and equipment is properly maintained and muffled. Additional mitigation is not required.

FIGURE 1: PROJECT SITE PLAN

WEST END
SAND CITY, CA

TCA ARCHITECTS

DBO DEVELOPMENT
NO. 30 LLC
TCA # 2016-022

ENTITLEMENT SET
SUBMITTAL 1 - APRIL 17, 2017
SUBMITTAL 2 - JUNE 5, 2017

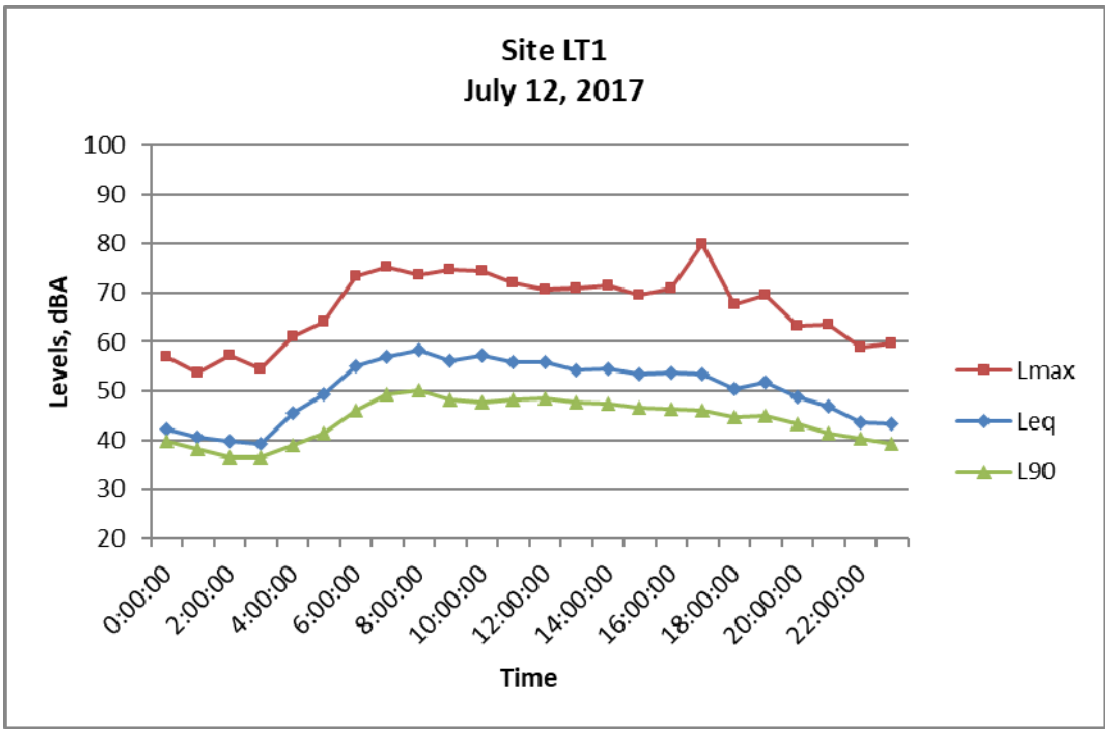
0' 40' 80' 160'

ILLUSTRATIVE SITE PLAN

A-MP
4.0

FIGURE 2: PROJECT VICINITY AND AMBIENT NOISE MONITORING SITES

FIGURE 3: HOURLY NOISE LEVELS AT SITE LT1



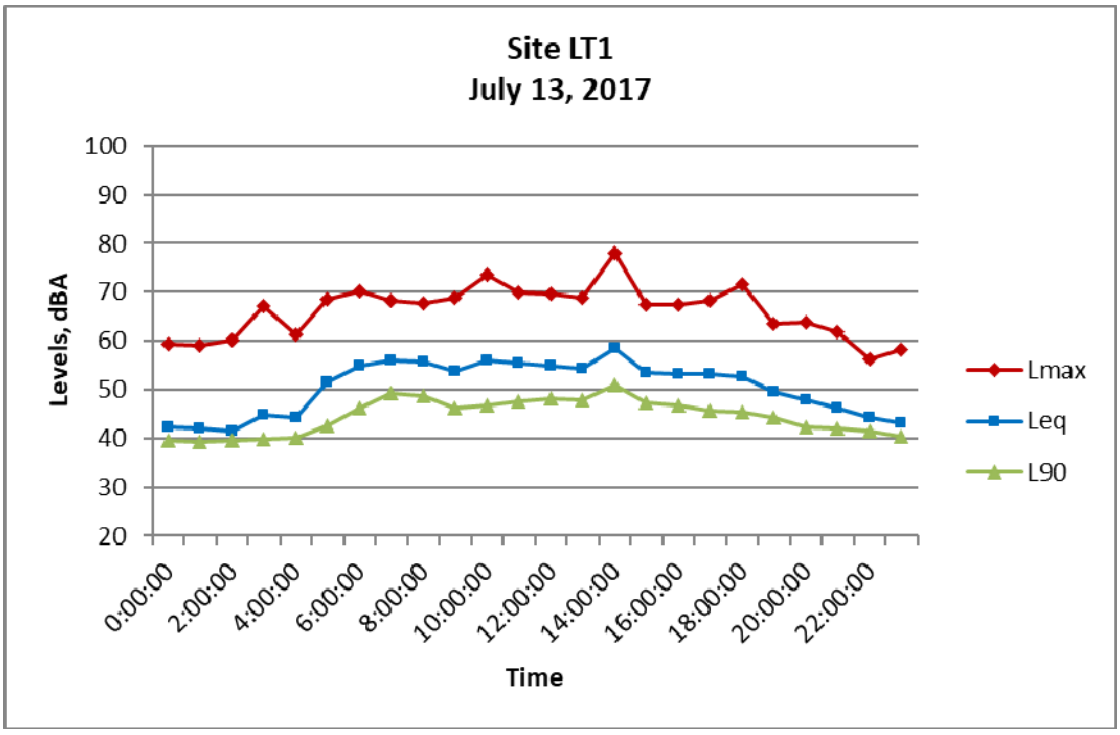
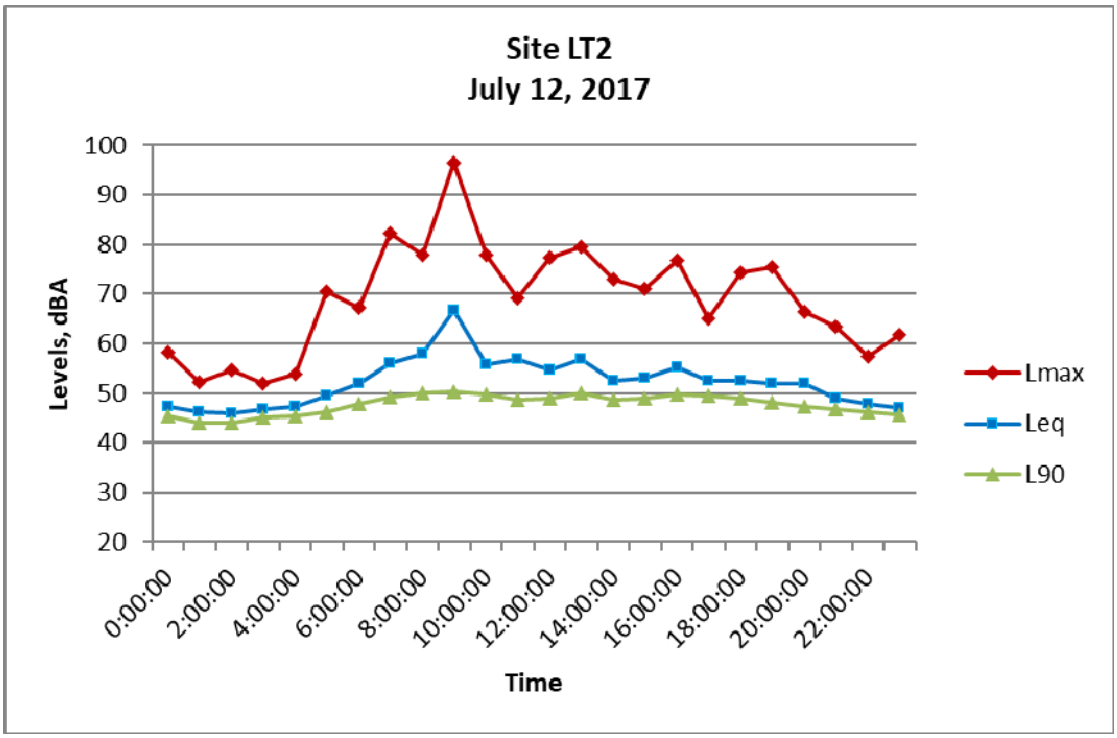


FIGURE 4: HOURLY NOISE LEVELS AT SITE LT2



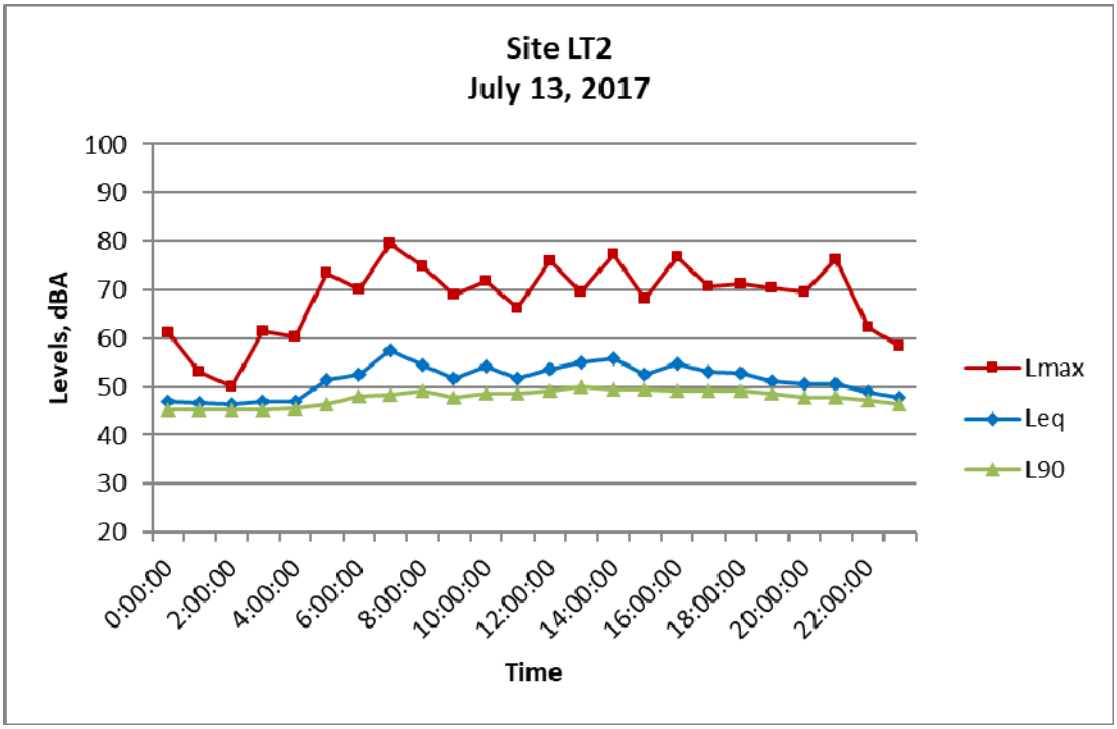
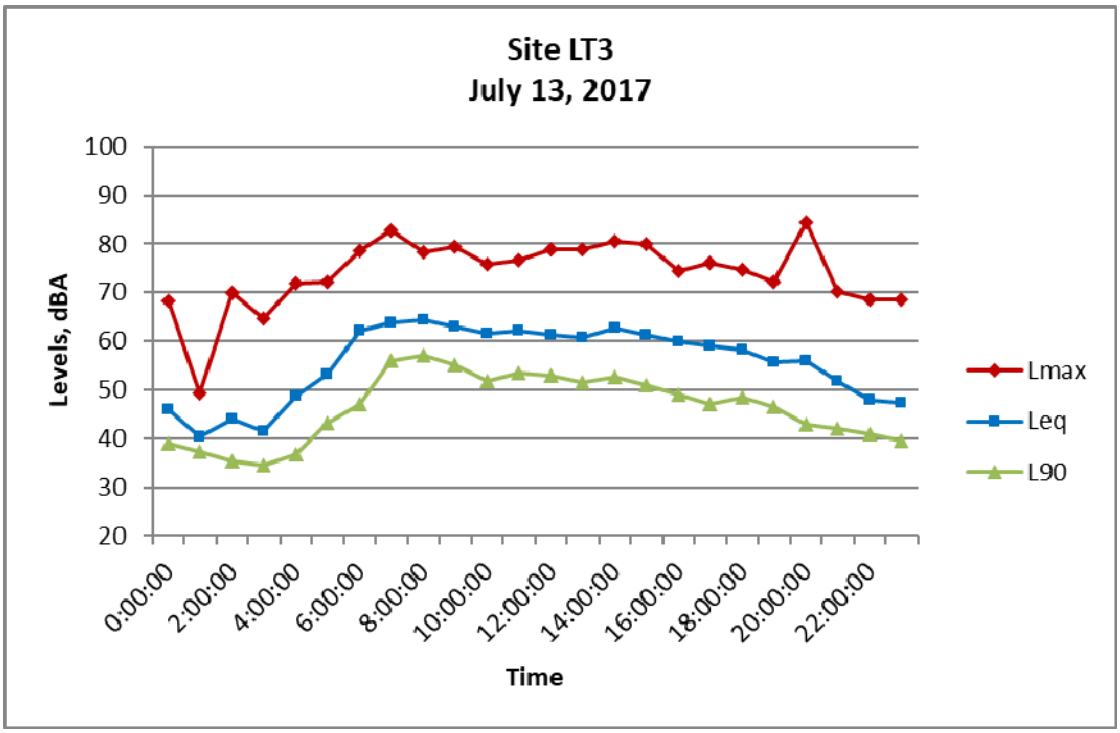


FIGURE 5: HOURLY NOISE LEVELS AT SITE LT3



APPENDIX A-1

ACOUSTICAL TERMINOLOGY

AMBIENT NOISE LEVEL: The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

CNEL: Community Noise Equivalent Level. The average equivalent sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m.

DECIBEL, dB: A unit for describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

DNL/L_{dn}: Day/Night Average Sound Level. The average equivalent sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m.

L_{eq}: Equivalent Sound Level. The sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is typically computed over 1, 8 and 24-hour sample periods.

NOTE: The CNEL and DNL represent daily levels of noise exposure averaged on an annual basis, while L_{eq} represents the average noise exposure for a shorter time period, typically one hour.

L_{max}: The maximum noise level recorded during a noise event.

L_n: The sound level exceeded "n" percent of the time during a sample interval (L_{90}, L_{50}, L_{10}, etc.). For example, L_{10} equals the level exceeded 10 percent of the time.

ACOUSTICAL TERMINOLOGY

NOISE EXPOSURE CONTOURS: Lines drawn about a noise source indicating constant levels of noise exposure. CNEL and DNL contours are frequently utilized to describe community exposure to noise.

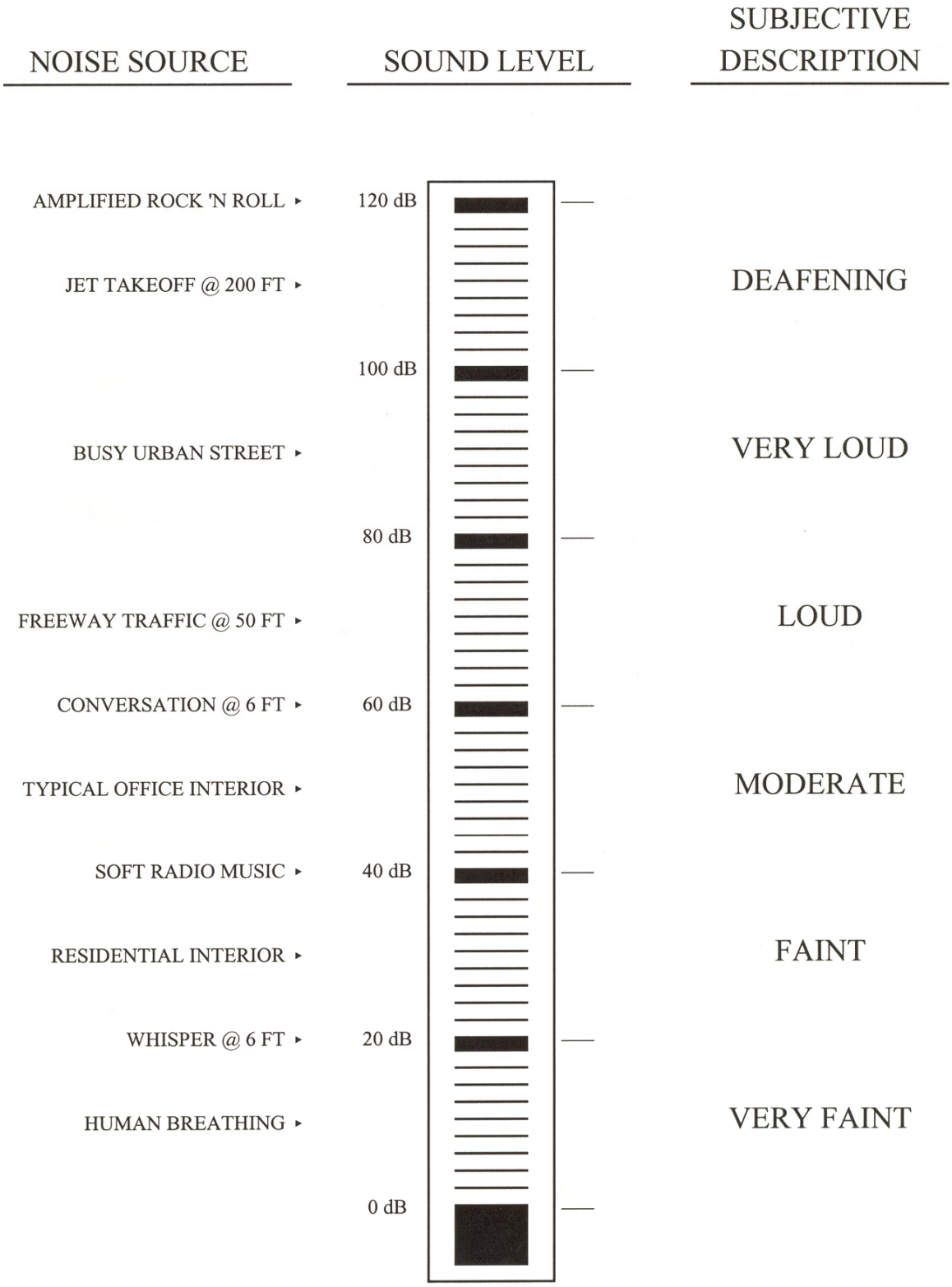
NOISE LEVEL REDUCTION (NLR): The noise reduction between indoor and outdoor environments or between two rooms that is the numerical difference, in decibels, of the average sound pressure levels in those areas or rooms. A measurement of Anoise level reduction" combines the effect of the transmission loss performance of the structure plus the effect of acoustic absorption present in the receiving room.

SEL or SENEL: Sound Exposure Level or Single Event Noise Exposure Level. The level of noise accumulated during a single noise event, such as an aircraft overflight, with reference to a duration of one second. More specifically, it is the time-integrated A-weighted squared sound pressure for a stated time interval or event, based on a reference pressure of 20 micropascals and a reference duration of one second.

SOUND LEVEL: The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

SOUND TRANSMISSION CLASS (STC): The single-number rating of sound transmission loss for a construction element (window, door, etc.) over a frequency range where speech intelligibility largely occurs.

APPENDIX B
EXAMPLES OF SOUND LEVELS



APPENDIX C

TRAFFIC NOISE MODELING CALCULATIONS

WJV Acoustics, Inc
FHWA-RD-77-108
Calculation Sheets
August 28, 2017

Project #:	17-023
Description:	Existing No Proj
Ldn/Cnel:	Ldn
Site Type:	Soft

Contour Levels (dB)	60	65	70	75					

Segment	Roadway Name	Segment Description	ADT	%Day	%Evening	%Night	%Med	%Heavy	Speed	Distance	Offset
1	California Ave	n/o Monterey Rd	2820	90		10	2	1	35	100	
2	California Ave	s/o Monterey Rd	9060	90		10	2	1	35	100	
3	NB SR1 Offramp	w/o California Ave	3910	90		10	2	1	35	100	
4	Monterey Rd	e/o California Ave	9970	90		10	2	1	35	100	
5	SR 1 Ramps	n/o Monterey Rd.	20530	90		10	2	1	35	100	
6	Fremont Blvd	s/o Monterey Rd	19730	90		10	2	1	35	100	
7	Monterey Rd	w/o Fremont Blvd	9970	90		10	2	1	35	100	
8	Monterey Rd	e/o Fremont Blvd	7210	90		10	2	1	35	100	
9	Fremont Blvd	n/o Del Monte Blvd	19730	90		10	2	1	35	100	
10	Fremont Blvd	s/o Del Monte Blvd	14040	90		10	2	1	35	100	
11	Del Monte Blvd	w/o Fremont Blvd	5040	90		10	2	1	35	100	
12	Military Ave	e/o Fremont Blvd	1030	90		10	2	1	35	100	
13	Del Monte Blvd	n/o Ord Grove Ave	5580	90		10	2	1	35	100	
14	Del Monte Blvd	s/o Ord Grove Ave	3750	90		10	2	1	35	100	
15	Ord Grove Ave	e/o Del Monte Blvd	1510	90		10	2	1	35	100	
16	California Ave	n/o Playa Ave	3950	90		10	2	1	35	100	
17	Commercial Dwy	s/o Playa Ave	4460	90		10	2	1	35	100	
18	Playa Ave	w/o California Ave	6670	90		10	2	1	35	100	
19	Playa Ave	e/o California Ave	8950	90		10	2	1	35	100	
20	Del Monte Blvd	n/o Playa Ave	6820	90		10	2	1	35	100	
21	Del Monte Blvd	s/o Playa Ave	10480	90		10	2	1	35	100	
22	Playa Ave	w/o Del Monte Blvd	9250	90		10	2	1	35	100	
23	Playa Ave	e/o Del Monte Blvd	5470	90		10	2	1	35	100	
24	Del Monte Blvd	n/o La Salle Ave	10350	90		10	2	1	35	100	
25	Del Monte Blvd	s/o La Sallle Ave	11560	90		10	2	1	35	100	
26	La Salle Ave	e/o Del Monte Blvd	3430	90		10	2	1	35	100	
27	Metz Rd	n/o Tioga Ave	1870	90		10	2	1	35	100	
28	Tioga Ave	w/o Metz Rd	3070	90		10	2	1	35	100	
29	Tioga Ave	e/o Metz Rd	2540	90		10	2	1	35	100	
30	Commercial Dwy	n/o Tioga Ave	4450	90		10	2	1	35	100	
31	California Ave	s/o Tioga Ave	2200	90		10	2	1	35	100	
32	Tioga Ave	w/o California Ave	2520	90		10	2	1	35	100	
33	Tioga Ave	e/o California Ave	5890	90		10	2	1	35	100	
34	Del Monte Blvd	n/o Tioga Ave	11630	90		10	2	1	35	100	
35	Del Monte Blvd	s/o Tioga Ave	12620	90		10	2	1	35	100	
36	Tioga Ave	w/o Del Monte Blvd	5890	90		10	2	1	35	100	
37	Auto Center Pkwy	e/o Del Monte Blvd	2800	90		10	2	1	35	100	
38	Commercial Dwy	n/o California Ave	10	90		10	2	1	35	100	
39	Holly St	s/o California Ave	530	90		10	2	1	35	100	

40	California Ave	w/o Holly St	910	90		10	2	1	35	100	
41	California Ave	e/o Holly St	1420	90		10	2	1	35	100	
42	Contra Costa St	n/o California Ave	340	90		10	2	1	35	100	
43	Contra Costa St	s/o California Ave	1070	90		10	2	1	35	100	
44	California Ave	e/o Contra Costa St	830	90		10	2	1	35	100	
45	Contra Costa St	n/o Ortiz Ave	1720	90		10	2	1	35	100	
46	Contra Costa St	s/o Ortiz Ave	2100	90		10	2	1	35	100	
47	Oritz Ave	w/o Contra Costa Ave	750	90		10	2	1	35	100	
48	Ortiz Ave	e/o Contra Costa St	1030	90		10	2	1	35	100	
49	Del Monte Blvd	n/o Contra Costa St	13920	90		10	2	1	35	100	
50	Del Monte Blvd	s/o Contra Costa St	15540	90		10	2	1	35	100	
51	Contra Costa St	w/o Del Monte Blvd	4700	90		10	2	1	35	100	
52	Commercial Dwy	e/o Del Monte Blvd	20	90		10	2	1	35	100	
53	Del Monte Blvd	n/o Broadway Ave	14940	90		10	2	1	35	100	
54	Del Monte Blvd	s/o Broadway Ave	21220	90		10	2	1	35	100	
55	Broadway Ave	e/o Del Monte Blvd	4900	90		10	2	1	35	100	
56	State Park Entrance	n/o Sand Dunes Dr	420	90		10	2	1	35	100	
57	Canyon Del Rey Blvd	s/o Sand Dunes Dr	4560	90		10	2	1	35	100	
58	Sand Dunes Dr	w/o Canyon Del Rey Blvd	1700	90		10	2	1	35	100	
59	Sand Dunes Dr	e/o Canyon Del Rey Blvd	2920	90		10	2	1	35	100	
60	Canyon Del Rey Blvd	n/o SB SR 1 Ramps	4560	90		10	2	1	35	100	
61	Canyon Del Rey Blvd	s/o SB SR 1 Ramps	9940	90		10	2	1	35	100	
62	SB SR 1 Ramps	e/o Canyon Del Rey Blvd	3970	90		10	2	1	35	100	
63	Canyon Del Rey Blvd	n/o NB SR 1	9940	90		10	2	1	35	100	
64	Canyon Del Rey Blvd	s/o NB SR 1	18970	90		10	2	1	35	100	
65	NB SR 1	w/o Canyon Del Rey Blvd	3800	90		10	2	1	35	100	
66	NB SR 1	e/o Canyon Del Rey Blvd	7330	90		10	2	1	35	100	
67	Canyon Del Rey Blvd	n/o Del Monte Blvd	17420	90		10	2	1	35	100	
68	Canyon Del Rey Blvd	s/o Del Monte Blvd	19510	90		10	2	1	35	100	
69	Del Monte Blvd	w/o Canyon Del Rey Blvd	24070	90		10	2	1	35	100	
70	Del Monte Blvd	e/o Canyon Del Rey Blvd	21220	90		10	2	1	35	100	

WJV Acoustics, Inc
FHWA-RD-77-108
Calculation Sheets
August 28, 2017

Project #:	17-023
Description:	Existing + Proj
Ldn/Cnel:	Ldn
Site Type:	Soft

Contour Levels (dB)	60	65	70	75					

Segment	Roadway Name	Segment Description	ADT	%Day	%Evening	%Night	%Med	%Heavy	Speed	Distance	Offset
1	California Ave	n/o Monterey Rd	2820	90		10	2	1	35	100	
2	California Ave	s/o Monterey Rd	9690	90		10	2	1	35	100	
3	NB SR1 Offramp	w/o California Ave	3910	90		10	2	1	35	100	
4	Monterey Rd	e/o California Ave	10600	90		10	2	1	35	100	
5	SR 1 Ramps	n/o Monterey Rd.	21580	90		10	2	1	35	100	
6	Fremont Blvd	s/o Monterey Rd	20150	90		10	2	1	35	100	
7	Monterey Rd	w/o Fremont Blvd	10600	90		10	2	1	35	100	
8	Monterey Rd	e/o Fremont Blvd	7210	90		10	2	1	35	100	
9	Fremont Blvd	n/o Del Monte Blvd	20150	90		10	2	1	35	100	
10	Fremont Blvd	s/o Del Monte Blvd	14040	90		10	2	1	35	100	
11	Del Monte Blvd	w/o Fremont Blvd	5460	90		10	2	1	35	100	
12	Military Ave	e/o Fremont Blvd	1030	90		10	2	1	35	100	
13	Del Monte Blvd	n/o Ord Grove Ave	6000	90		10	2	1	35	100	
14	Del Monte Blvd	s/o Ord Grove Ave	6750	90		10	2	1	35	100	
15	Ord Grove Ave	e/o Del Monte Blvd	1630	90		10	2	1	35	100	
16	California Ave	n/o Playa Ave	4610	90		10	2	1	35	100	
17	Commercial Dwy	s/o Playa Ave	5530	90		10	2	1	35	100	
18	Playa Ave	w/o California Ave	6670	90		10	2	1	35	100	
19	Playa Ave	e/o California Ave	8950	90		10	2	1	35	100	
20	Del Monte Blvd	n/o Playa Ave	7360	90		10	2	1	35	100	
21	Del Monte Blvd	s/o Playa Ave	11190	90		10	2	1	35	100	
22	Playa Ave	w/o Del Monte Blvd	9250	90		10	2	1	35	100	
23	Playa Ave	e/o Del Monte Blvd	5640	90		10	2	1	35	100	
24	Del Monte Blvd	n/o La Salle Ave	11060	90		10	2	1	35	100	
25	Del Monte Blvd	s/o La Sallle Ave	12390	90		10	2	1	35	100	
26	La Salle Ave	e/o Del Monte Blvd	3550	90		10	2	1	35	100	
27	Metz Rd	n/o Tioga Ave	1950	90		10	2	1	35	100	
28	Tioga Ave	w/o Metz Rd	4680	90		10	2	1	35	100	
29	Tioga Ave	e/o Metz Rd	4230	90		10	2	1	35	100	
30	Commercial Dwy	n/o Tioga Ave	5170	90		10	2	1	35	100	
31	California Ave	s/o Tioga Ave	3840	90		10	2	1	35	100	
32	Tioga Ave	w/o California Ave	3530	90		10	2	1	35	100	
33	Tioga Ave	e/o California Ave	7180	90		10	2	1	35	100	
34	Del Monte Blvd	n/o Tioga Ave	12460	90		10	2	1	35	100	
35	Del Monte Blvd	s/o Tioga Ave	13080	90		10	2	1	35	100	
36	Tioga Ave	w/o Del Monte Blvd	7180	90		10	2	1	35	100	
37	Auto Center Pkwy	e/o Del Monte Blvd	2800	90		10	2	1	35	100	
38	Commercial Dwy	n/o California Ave	10	90		10	2	1	35	100	
39	Holly St	s/o California Ave	630	90		10	2	1	35	100	
40	California Ave	w/o Holly St	1230	90		10	2	1	35	100	
41	California Ave	e/o Holly St	1850	90		10	2	1	35	100	

42	Contra Costa St	n/o California Ave	340	90		10	2	1	35	100	
43	Contra Costa St	s/o California Ave	1170	90		10	2	1	35	100	
44	California Ave	e/o Contra Costa St	1050	90		10	2	1	35	100	
45	Contra Costa St	n/o Ortiz Ave	1940	90		10	2	1	35	100	
46	Contra Costa St	s/o Ortiz Ave	2170	90		10	2	1	35	100	
47	Oritz Ave	w/o Contra Costa Ave	900	90		10	2	1	35	100	
48	Ortiz Ave	e/o Contra Costa St	1030	90		10	2	1	35	100	
49	Del Monte Blvd	n/o Contra Costa St	14380	90		10	2	1	35	100	
50	Del Monte Blvd	s/o Contra Costa St	16000	90		10	2	1	35	100	
51	Contra Costa St	w/o Del Monte Blvd	4700	90		10	2	1	35	100	
52	Commercial Dwy	e/o Del Monte Blvd	20	90		10	2	1	35	100	
53	Del Monte Blvd	n/o Broadway Ave	16000	90		10	2	1	35	100	
54	Del Monte Blvd	s/o Broadway Ave	21480	90		10	2	1	35	100	
55	Broadway Ave	e/o Del Monte Blvd	5100	90		10	2	1	35	100	
56	State Park Entrance	n/o Sand Dunes Dr	420	90		10	2	1	35	100	
57	Canyon Del Rey Blvd	s/o Sand Dunes Dr	6170	90		10	2	1	35	100	
58	Sand Dunes Dr	w/o Canyon Del Rey Blvd	1700	90		10	2	1	35	100	
59	Sand Dunes Dr	e/o Canyon Del Rey Blvd	4530	90		10	2	1	35	100	
60	Canyon Del Rey Blvd	n/o SB SR 1 Ramps	6170	90		10	2	1	35	100	
61	Canyon Del Rey Blvd	s/o SB SR 1 Ramps	10890	90		10	2	1	35	100	
62	SB SR 1 Ramps	e/o Canyon Del Rey Blvd	3970	90		10	2	1	35	100	
63	Canyon Del Rey Blvd	n/o NB SR 1	10890	90		10	2	1	35	100	
64	Canyon Del Rey Blvd	s/o NB SR 1	19180	90		10	2	1	35	100	
65	NB SR 1	w/o Canyon Del Rey Blvd	4800	90		10	2	1	35	100	
66	NB SR 1	e/o Canyon Del Rey Blvd	7330	90		10	2	1	35	100	
67	Canyon Del Rey Blvd	n/o Del Monte Blvd	17640	90		10	2	1	35	100	
68	Canyon Del Rey Blvd	s/o Del Monte Blvd	19710	90		10	2	1	35	100	
69	Del Monte Blvd	w/o Canyon Del Rey Blvd	24070	90		10	2	1	35	100	
70	Del Monte Blvd	e/o Canyon Del Rey Blvd	21480	90		10	2	1	35	100	

WJV Acoustics, Inc
FHWA-RD-77-108
Calculation Sheets
August 28, 2017

Project #:	17-023
Description:	Cumulative no proj
Ldn/Cnel:	Ldn
Site Type:	Soft

Contour Levels (dB) 60 65 70 75

Segment	Roadway Name	Segment Description	ADT	%Day	%Evening	%Night	%Med	%Heavy	Speed	Distance	Offset
1	California Ave	n/o Monterey Rd	7710	90		10	2	1	35	100	
2	California Ave	s/o Monterey Rd	11140	90		10	2	1	35	100	
3	NB SR1 Offramp	w/o California Ave	8360	90		10	2	1	35	100	
4	Monterey Rd	e/o California Ave	18890	90		10	2	1	35	100	
5	SR 1 Ramps	n/o Monterey Rd.	30670	90		10	2	1	35	100	
6	Fremont Blvd	s/o Monterey Rd	28230	90		10	2	1	35	100	
7	Monterey Rd	w/o Fremont Blvd	18890	90		10	2	1	35	100	
8	Monterey Rd	e/o Fremont Blvd	22850	90		10	2	1	35	100	
9	Fremont Blvd	n/o Del Monte Blvd	28080	90		10	2	1	35	100	
10	Fremont Blvd	s/o Del Monte Blvd	19290	90		10	2	1	35	100	
11	Del Monte Blvd	w/o Fremont Blvd	8140	90		10	2	1	35	100	
12	Military Ave	e/o Fremont Blvd	1030	90		10	2	1	35	100	
13	Del Monte Blvd	n/o Ord Grove Ave	8680	90		10	2	1	35	100	
14	Del Monte Blvd	s/o Ord Grove Ave	9850	90		10	2	1	35	100	
15	Ord Grove Ave	e/o Del Monte Blvd	1510	90		10	2	1	35	100	
16	California Ave	n/o Playa Ave	6010	90		10	2	1	35	100	
17	Commercial Dwy	s/o Playa Ave	5240	90		10	2	1	35	100	
18	Playa Ave	w/o California Ave	10290	90		10	2	1	35	100	
19	Playa Ave	e/o California Ave	10880	90		10	2	1	35	100	
20	Del Monte Blvd	n/o Playa Ave	9800	90		10	2	1	35	100	
21	Del Monte Blvd	s/o Playa Ave	13840	90		10	2	1	35	100	
22	Playa Ave	w/o Del Monte Blvd	10200	90		10	2	1	35	100	
23	Playa Ave	e/o Del Monte Blvd	6540	90		10	2	1	35	100	
24	Del Monte Blvd	n/o La Salle Ave	13160	90		10	2	1	35	100	
25	Del Monte Blvd	s/o La Sallle Ave	14570	90		10	2	1	35	100	
26	La Salle Ave	e/o Del Monte Blvd	3630	90		10	2	1	35	100	
27	Metz Rd	n/o Tioga Ave	1870	90		10	2	1	35	100	
28	Tioga Ave	w/o Metz Rd	4080	90		10	2	1	35	100	
29	Tioga Ave	e/o Metz Rd	3550	90		10	2	1	35	100	
30	Commercial Dwy	n/o Tioga Ave	4520	90		10	2	1	35	100	
31	California Ave	s/o Tioga Ave	2700	90		10	2	1	35	100	
32	Tioga Ave	w/o California Ave	3580	90		10	2	1	35	100	
33	Tioga Ave	e/o California Ave	7380	90		10	2	1	35	100	
34	Del Monte Blvd	n/o Tioga Ave	14660	90		10	2	1	35	100	
35	Del Monte Blvd	s/o Tioga Ave	16890	90		10	2	1	35	100	
36	Tioga Ave	w/o Del Monte Blvd	7530	90		10	2	1	35	100	
37	Auto Center Pkwy	e/o Del Monte Blvd	2800	90		10	2	1	35	100	
38	Commercial Dwy	n/o California Ave	10	90		10	2	1	35	100	
39	Holly St	s/o California Ave	570	90		10	2	1	35	100	
40	California Ave	w/o Holly St	1540	90		10	2	1	35	100	
41	California Ave	e/o Holly St	2100	90		10	2	1	35	100	

42	Contra Costa St	n/o California Ave	420	90		10	2	1	35	100	
43	Contra Costa St	s/o California Ave	1680	90		10	2	1	35	100	
44	California Ave	e/o Contra Costa St	1420	90		10	2	1	35	100	
45	Contra Costa St	n/o Ortiz Ave	2330	90		10	2	1	35	100	
46	Contra Costa St	s/o Ortiz Ave	2750	90		10	2	1	35	100	
47	Oritz Ave	w/o Contra Costa Ave	890	90		10	2	1	35	100	
48	Ortiz Ave	e/o Contra Costa St	1010	90		10	2	1	35	100	
49	Del Monte Blvd	n/o Contra Costa St	21210	90		10	2	1	35	100	
50	Del Monte Blvd	s/o Contra Costa St	23360	90		10	2	1	35	100	
51	Contra Costa St	w/o Del Monte Blvd	5730	90		10	2	1	35	100	
52	Commercial Dwy	e/o Del Monte Blvd	20	90		10	2	1	35	100	
53	Del Monte Blvd	n/o Broadway Ave	23410	90		10	2	1	35	100	
54	Del Monte Blvd	s/o Broadway Ave	32260	90		10	2	1	35	100	
55	Broadway Ave	e/o Del Monte Blvd	12510	90		10	2	1	35	100	
56	State Park Entrance	n/o Sand Dunes Dr	420	90		10	2	1	35	100	
57	Canyon Del Rey Blvd	s/o Sand Dunes Dr	5680	90		10	2	1	35	100	
58	Sand Dunes Dr	w/o Canyon Del Rey Blvd	1700	90		10	2	1	35	100	
59	Sand Dunes Dr	e/o Canyon Del Rey Blvd	4040	90		10	2	1	35	100	
60	Canyon Del Rey Blvd	n/o SB SR 1 Ramps	6110	90		10	2	1	35	100	
61	Canyon Del Rey Blvd	s/o SB SR 1 Ramps	12610	90		10	2	1	35	100	
62	SB SR 1 Ramps	e/o Canyon Del Rey Blvd	4260	90		10	2	1	35	100	
63	Canyon Del Rey Blvd	n/o NB SR 1	12610	90		10	2	1	35	100	
64	Canyon Del Rey Blvd	s/o NB SR 1	22730	90		10	2	1	35	100	
65	NB SR 1	w/o Canyon Del Rey Blvd	5430	90		10	2	1	35	100	
66	NB SR 1	e/o Canyon Del Rey Blvd	7590	90		10	2	1	35	100	
67	Canyon Del Rey Blvd	n/o Del Monte Blvd	21270	90		10	2	1	35	100	
68	Canyon Del Rey Blvd	s/o Del Monte Blvd	23240	90		10	2	1	35	100	
69	Del Monte Blvd	w/o Canyon Del Rey Blvd	28640	90		10	2	1	35	100	
70	Del Monte Blvd	e/o Canyon Del Rey Blvd	31250	90		10	2	1	35	100	

WJV Acoustics, Inc
FHWA-RD-77-108
Calculation Sheets
August 28, 2017

Project #:	17-023
Description:	Cumulative
Ldn/Cnel:	Ldn
Site Type:	Soft

Contour Levels (dB)	60	65	70	75					

Segment	Roadway Name	Segment Description	ADT	%Day	%Evening	%Night	%Med	%Heavy	Speed	Distance	Offset
1	California Ave	n/o Monterey Rd	7710	90		10	2	1	35	100	
2	California Ave	s/o Monterey Rd	11770	90		10	2	1	35	100	
3	NB SR1 Offramp	w/o California Ave	8360	90		10	2	1	35	100	
4	Monterey Rd	e/o California Ave	19520	90		10	2	1	35	100	
5	SR 1 Ramps	n/o Monterey Rd.	31720	90		10	2	1	35	100	
6	Fremont Blvd	s/o Monterey Rd	28650	90		10	2	1	35	100	
7	Monterey Rd	w/o Fremont Blvd	19520	90		10	2	1	35	100	
8	Monterey Rd	e/o Fremont Blvd	22850	90		10	2	1	35	100	
9	Fremont Blvd	n/o Del Monte Blvd	28500	90		10	2	1	35	100	
10	Fremont Blvd	s/o Del Monte Blvd	19290	90		10	2	1	35	100	
11	Del Monte Blvd	w/o Fremont Blvd	8560	90		10	2	1	35	100	
12	Military Ave	e/o Fremont Blvd	1030	90		10	2	1	35	100	
13	Del Monte Blvd	n/o Ord Grove Ave	9100	90		10	2	1	35	100	
14	Del Monte Blvd	s/o Ord Grove Ave	10390	90		10	2	1	35	100	
15	Ord Grove Ave	e/o Del Monte Blvd	1630	90		10	2	1	35	100	
16	California Ave	n/o Playa Ave	6670	90		10	2	1	35	100	
17	Commercial Dwy	s/o Playa Ave	5900	90		10	2	1	35	100	
18	Playa Ave	w/o California Ave	10290	90		10	2	1	35	100	
19	Playa Ave	e/o California Ave	10880	90		10	2	1	35	100	
20	Del Monte Blvd	n/o Playa Ave	10340	90		10	2	1	35	100	
21	Del Monte Blvd	s/o Playa Ave	14370	90		10	2	1	35	100	
22	Playa Ave	w/o Del Monte Blvd	11100	90		10	2	1	35	100	
23	Playa Ave	e/o Del Monte Blvd	6710	90		10	2	1	35	100	
24	Del Monte Blvd	n/o La Salle Ave	13870	90		10	2	1	35	100	
25	Del Monte Blvd	s/o La Sallle Ave	15400	90		10	2	1	35	100	
26	La Salle Ave	e/o Del Monte Blvd	3750	90		10	2	1	35	100	
27	Metz Rd	n/o Tioga Ave	1950	90		10	2	1	35	100	
28	Tioga Ave	w/o Metz Rd	5690	90		10	2	1	35	100	
29	Tioga Ave	e/o Metz Rd	5240	90		10	2	1	35	100	
30	Commercial Dwy	n/o Tioga Ave	5240	90		10	2	1	35	100	
31	California Ave	s/o Tioga Ave	4340	90		10	2	1	35	100	
32	Tioga Ave	w/o California Ave	4590	90		10	2	1	35	100	
33	Tioga Ave	e/o California Ave	8670	90		10	2	1	35	100	
34	Del Monte Blvd	n/o Tioga Ave	15490	90		10	2	1	35	100	
35	Del Monte Blvd	s/o Tioga Ave	17350	90		10	2	1	35	100	
36	Tioga Ave	w/o Del Monte Blvd	8820	90		10	2	1	35	100	
37	Auto Center Pkwy	e/o Del Monte Blvd	2800	90		10	2	1	35	100	
38	Commercial Dwy	n/o California Ave	10	90		10	2	1	35	100	
39	Holly St	s/o California Ave	670	90		10	2	1	35	100	
40	California Ave	w/o Holly St	1860	90		10	2	1	35	100	
41	California Ave	e/o Holly St	2520	90		10	2	1	35	100	

42	Contra Costa St	n/o California Ave	420	90		10	2	1	35	100	
43	Contra Costa St	s/o California Ave	1780	90		10	2	1	35	100	
44	California Ave	e/o Contra Costa St	1640	90		10	2	1	35	100	
45	Contra Costa St	n/o Ortiz Ave	2550	90		10	2	1	35	100	
46	Contra Costa St	s/o Ortiz Ave	2820	90		10	2	1	35	100	
47	Oritz Ave	w/o Contra Costa Ave	1040	90		10	2	1	35	100	
48	Ortiz Ave	e/o Contra Costa St	1030	90		10	2	1	35	100	
49	Del Monte Blvd	n/o Contra Costa St	21670	90		10	2	1	35	100	
50	Del Monte Blvd	s/o Contra Costa St	23820	90		10	2	1	35	100	
51	Contra Costa St	w/o Del Monte Blvd	5730	90		10	2	1	35	100	
52	Commercial Dwy	e/o Del Monte Blvd	20	90		10	2	1	35	100	
53	Del Monte Blvd	n/o Broadway Ave	23870	90		10	2	1	35	100	
54	Del Monte Blvd	s/o Broadway Ave	33620	90		10	2	1	35	100	
55	Broadway Ave	e/o Del Monte Blvd	12710	90		10	2	1	35	100	
56	State Park Entrance	n/o Sand Dunes Dr	420	90		10	2	1	35	100	
57	Canyon Del Rey Blvd	s/o Sand Dunes Dr	7290	90		10	2	1	35	100	
58	Sand Dunes Dr	w/o Canyon Del Rey Blvd	1700	90		10	2	1	35	100	
59	Sand Dunes Dr	e/o Canyon Del Rey Blvd	5650	90		10	2	1	35	100	
60	Canyon Del Rey Blvd	n/o SB SR 1 Ramps	7720	90		10	2	1	35	100	
61	Canyon Del Rey Blvd	s/o SB SR 1 Ramps	13560	90		10	2	1	35	100	
62	SB SR 1 Ramps	e/o Canyon Del Rey Blvd	4260	90		10	2	1	35	100	
63	Canyon Del Rey Blvd	n/o NB SR 1	13560	90		10	2	1	35	100	
64	Canyon Del Rey Blvd	s/o NB SR 1	22940	90		10	2	1	35	100	
65	NB SR 1	w/o Canyon Del Rey Blvd	6430	90		10	2	1	35	100	
66	NB SR 1	e/o Canyon Del Rey Blvd	7590	90		10	2	1	35	100	
67	Canyon Del Rey Blvd	n/o Del Monte Blvd	21490	90		10	2	1	35	100	
68	Canyon Del Rey Blvd	s/o Del Monte Blvd	23440	90		10	2	1	35	100	
69	Del Monte Blvd	w/o Canyon Del Rey Blvd	28640	90		10	2	1	35	100	
70	Del Monte Blvd	e/o Canyon Del Rey Blvd	31510	90		10	2	1	35	100	