NOISE ELEMENT OF THE GENERAL PLAN
CITY OF SELMA, CALIFORNIA

PREPARED FOR

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MAY 12, 2009

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CHAPTER ONE

INTRODUCTION

1.1 Purpose and Scope

The Noise Element of the General Plan is a planning document which provides a policy framework for addressing potential noise impacts encountered in the planning process.

The content of the Noise Element and the methods used in its preparation have been determined by the requirements of Section 65302 (f) of the California Government Code and by the *Guidelines for the Preparation and Content of Noise Elements of the General Plan* adopted and published by the California Office of Noise Control (ONC) in 1976. The ONC Guidelines require that major noise sources be quantified by preparing generalized noise exposure contours for current and projected conditions. The Noise Element shall be used as a guide for establishing land use patterns that minimize noise impacts on the Community and shall include measures and solutions to address existing and foreseeable noise conflicts.

According to the Government Code requirements, noise exposure information should be included in the Noise Element for the following major noise sources:

1. Highways and freeways
2. Primary arterials and major local streets
3. Railroad operations
4. Aircraft and airport operations
5. Local industrial facilities
6. Other stationary sources

Noise-sensitive uses identified by the Government Code and the City of Selma include the following:

1. Residential development
2. Schools
3. Hospitals, nursing homes
4. Churches
5. Libraries

The Noise Element is intended to minimizing future noise conflicts, whereas a noise control ordinance resolves existing noise conflicts. A noise control ordinance may be used to address noise levels generated by existing local industrial, commercial, agricultural and residential uses which are not regulated by federal or state noise level standards. The regulation of noise sources such as traffic on public roadways, railroad line operations and aircraft in flight is preempted by existing federal and/or state regulations, meaning that such sources generally may not be addressed by a local noise control ordinance. The Noise Element addresses the prevention of noise conflicts through the planning process.

1.2 Relationship to Other Elements of the General Plan

The Noise Element is related to the Land Use, Housing, Circulation and Open Space Elements of the General Plan. Recognition of the interrelationship of the Noise Element and these four other mandated elements is necessary to prepare an integrated general plan and to implement actions to achieve an acceptable noise environment within the community as defined by the Noise Element. The relationship between these elements is briefly discussed below.

1. Land Use: An objective of the Noise Element is to provide noise exposure information for use in the Land Use Element. When integrated with the Noise Element, the Land Use Element will show acceptable land uses in relation to existing and projected noise levels.

2. Housing: The Housing Element considers the provision of adequate sites for new housing and standards for housing stock. Since residential land uses are considered noise-sensitive, the noise exposure information of the Noise Element must be considered when planning the locations of new housing. The State Noise Insulation Standards may influence the locations and construction costs of multi-family dwellings, which should be considered by the Housing Element.

3. Circulation: The circulation system, which is a major source of noise, must be correlated with the Land Use Element. This is especially true for roadways which carry significant numbers of trucks. Noise exposure will thus be a decisive factor in the location and design of new transportation facilities, and in the mitigation of noise produced by existing facilities upon existing and planned land uses.

4. Open Space: Excessive noise adversely affects the enjoyment of recreational pursuits in designated open space areas, particularly in areas where quiet is a valued part of the recreational experience. Thus, noise exposure should be considered in planning for these types of open space uses. Conversely, open space can be used to buffer noise-sensitive uses from noise sources by providing setbacks and visual screening.

1.3 Definition of Key Terms

1. A-Weighted Sound Level: All sound levels referred to in this policy document are in A-weighted decibels. 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-weighting, as it provides a high degree of correlation with human annoyance and potential adverse health effects.

2. Community Noise Equivalent Level (CNEL): The time-weighted average sound level during a 24-hour day, obtained after addition of approximately 5 dB to sound levels during the evening hours (7:00 p.m.-10:00 p.m.) and 10 dB to sound levels during the nighttime hours (10:00 p.m.-7:00 a.m.). The State of California requires that aircraft noise exposure be defined in terms of the annual average CNEL.

3. Day/Night Average Sound Level (DNL): The time-weighted average sound level during a 24-hour day, obtained after addition of 10 dB to sound levels during the nighttime hours (10:00 p.m.-7:00 a.m.). The DNL and CNEL are similar descriptors of the community noise environment and are generally considered to be equivalent within ±1.0 dB.

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

5. New Development: Projects requiring land use or building permits, but excluding remodeling or additions to existing structures.

6. Noise-Sensitive Land Use: Residential land uses, transient lodging, schools, libraries, churches, hospitals and nursing homes.

7. Outdoor Activity Areas: Patios, decks, balconies, outdoor eating areas, swimming pool areas, yards of dwellings and other areas which have been designated for outdoor activities and recreation.

8. Stationary Noise Source: Any fixed or mobile source *not* preempted from local control by federal or state regulations. Examples of such sources include agricultural, industrial and commercial facilities and vehicle movements on private property.

9. Transportation Noise Source: Traffic on public roadways, railroad line operations and aircraft in flight. Control of noise from these sources is preempted by federal or state regulations. However, the effects of noise from transportation sources may be controlled by regulating the locations and design of adjacent land uses.

CHAPTER TWO

EXISTING AND FUTURE NOISE ENVIRONMENT

2.1 Overview of Sources

Based on the requirements of the Government Code and the field studies conducted during the preparation of the Noise Element, it was determined that there are four potentially significant sources of community noise within the City of Selma. These sources include traffic on State Highway 99 (SR 99), traffic on major local roadways, commercial/industrial facilities, operations on the Union Pacific Railroad (UPRR) and aircraft operations at two nearby airports.

2.2 Methods Used to Develop Noise Exposure Information

According to the Government Code and ONC Guidelines, noise exposure contours should be developed in terms of the Day-Night Average Level (DNL) or Community Noise Equivalent Level (CNEL) for transportation-related noise sources. Both of these descriptors represents the time-weighted energy noise level for a 24-hour day after inclusion of a 10 dB penalty for noise levels occurring at night between the hours of 10:00 p.m. and 7:00 a.m. The CNEL descriptor also includes a penalty of 4.8 dB for noise levels occurring during the evening hours of 7:00 p.m. and 10:00 p.m. The CNEL descriptor was developed for the quantification of aircraft noise, and its use is required when preparing noise exposure maps for airports within the State of California. The CNEL and DNL descriptors are generally considered to be equivalent to each other for most community noise environments within ±1.0 dB.

Analytical noise modeling techniques were used to develop generalized DNL contours for major transportation noise sources within the City of Selma for existing and projected future conditions. A combination of analytical methods and actual noise measurements was used to develop noise exposure information for stationary noise sources. Since the standards to be applied to stationary noise sources are based upon the equivalent energy sound level (L_{eq}) during any one-hour period, noise exposure information was developed for these sources in terms of the L_{eq}.

The noise exposure information developed during the preparation of the Noise Element does not include all conceivable sources of industrial, commercial or transportation noise within the City, but rather is a representative sampling of typical sources. The noise exposure information developed for the sources identified for study should be used as an indicator of potential noise impacts when other, similar sources are considered.

2.3 Existing Conditions

2.3.1 Community Noise Survey

The purpose of the community noise survey was to document existing background (ambient) noise levels at representative locations within the City that are both near and removed from obvious noise sources. Two residences and two commercial business locations were selected for the survey. One of the commercial business locations was an older house that has been converted to a professional office use. The monitoring site locations are shown in Figure 1. Noise measurements were conducted continuously for 24 hours using automated sound level analyzers.

The community noise survey findings are summarized in Appendix A. Shown are the measured hourly noise levels during the survey period, as defined by the L_{eq}, L_{min} and L_{max} descriptors. The L_{max} and L_{min} represent the highest (maximum) and lowest (minimum) noise levels occurring during the hour, respectively. As previously noted, the L_{eq} is the energy average noise level during the hour. The measured DNL values for the 24-hour measurement period at each site are also noted on the figures.

Measured DNL values at the community noise survey sites were in the range of 60-70 dBA during the noise measurement period. The highest measured DNL occurred at Site 4 due its proximity to the UPRR and a railroad grade crossing at McCall Avenue. The lowest measured DNL occurred at Site 2, which is a residence in a quiet neighborhood. It was noted that ambient noise levels were higher than would normally be expected within a residential neighborhood at Sites 2 and 3 during certain hours of the noise measurement period. Such elevated noise levels may have been caused by residential maintenance, construction or other temporary activities. Without the contribution of these higher-than-normal hourly noise levels, measured DNL values would have been in the range of 55-60 dBA at Sites 2 and 3. Such levels are typical of small communities at locations located away from major noise sources.

2.3.2 Major Stationary Noise Sources

The production of noise is an inherent part of many industrial, commercial and agricultural processes, even when the best available noise control technology is applied. Noise production within industrial or commercial facilities is controlled indirectly by federal and state employee health and safety regulations (OHSA and Cal-OSHA), but exterior noise emissions from such operations have the potential to exceed locally acceptable standards at nearby noise-sensitive land uses.

The following discussion provides generalized information concerning the relative noise impacts of four major industrial noise sources within the City of Selma. The industrial uses identified for study were Blocklite, Selma Disposal and Recycling, Selma Cold and Dry Storage and the Sunmaid Plant No. 8. Other industrial or commercial noise sources may exist within the City, but such sources were not identified at the time of the study.

Noise measurements were conducted at each of the above-referenced industrial operations on July 3, 2007. Based upon those measurements, worst-case 50 and 55 dBA hourly L_{eq} contours were calculated. Table I summarizes noise level measurements and calculations for each of the identified industries.

TABLE I SUMMARY OF MEASURED AND CALCULATED NOISE LEVELS SELECTED STATIONARY NOISE SOURCES JULY 3, 2007					
Industry	**Distance**	**L_{eq}, dBA**	**L_{max}, dBA**	**Distance to 50 dBA, L_{eq}**	**Distance to 55 dBA, L_{eq}**
Blocklite Park St. & McCall Ave.	300′	68.2	71.9	2440′	1371′
Selma Disposal & Recycling Golden State & Dockery	100′	55.1	57.0	180′	101′
Selma Cold & Dry Storage* Park St. & Front St.	--	--	--	--	--
Sunmaid Plant No. 8* Nebraska Ave. & Golden State Ave.	--	--	--	--	--
*Sporadic noise from trucks, but not audible at property line. Source: Brown-Buntin Associates, Inc.					

Table I shows that the generalized 50 dBA L_{eq} contour can be as far as 2440 feet from the center of the Blocklite plant. In practice, it may not be possible to discern plant noise at distances greater than 500 feet during most times of the day because of other community noise sources (traffic, etc.), and the effects of atmospheric conditions. The generalized 50 dBA L_{eq} contour shown in Figure 2 for Blocklite should be used as a screening device to determine when potential noise-related land use conflicts may occur, and when site-specific studies should be required to properly evaluate noise at a given noise-sensitive receiver location.

2.3.3 Existing Traffic Noise Exposure

The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used to develop DNL contours for SR 99 and major local roadways. The FHWA Model is an analytical method favored by most state and local agencies, including Caltrans, for highway traffic noise prediction. The FHWA Model is based upon reference energy emission levels for automobiles, medium trucks (2 axles) and heavily trucks (3 or more axles), with consideration given to vehicles 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. The FHWA Model assumes a clear view of traffic with no shielding at the receiver location.

Annual Average Daily Traffic (AADT) was estimated for major local streets based upon peak hourly traffic volumes obtained from the Traffic Impact Study prepared by Peters Engineering Group. AADT for SR99 was obtained from Caltrans. The day/night distribution of traffic and the percentage of trucks on major local streets were estimated based upon studies along similar roadways. The percentages of trucks on SR99 and SR43 (Highland Avenue) were obtained from Caltrans. Appendix B-1 summarizes the noise modeling assumptions used to calculate traffic noise exposure for existing conditions along state highways and major local streets.

Table II summarizes distances to DNL contours for existing traffic conditions in tabular form. Figure 3 shows the roadways where distances to DNL contours were calculated for existing traffic conditions. The streets are color coded to indicate the approximate distances to the 60 dB DNL noise contours. Traffic noise exposure information is generalized for flat terrain and the absence of acoustical shielding or reflections that may be caused by site-specific conditions.

TABLE II
DISTANCE (FEET) TO GENERALIZED TRAFFIC NOISE EXPOSURE CONTOURS
EXISTING CONDITIONS

Roadway	Segment	60 dB DNL	65 dB DNL
Manning	SR99 to DeWolf	179	83
	DeWolf-McCall	181	84
	McCall-Del Rey	187	87
	Del Rey-Indianola	188	87
Dinuba	Temperance-DeWolf	12	6
	DeWolf-SR99	--	--
	SR99-Golden State	8	4
	Golden State-Highland	86	40
	Highland-McCall	95	44
	McCall-Dockery	83	39
Floral	DeWolf-Highland	54	25
	Highland-Whitson	124	58
	Whitson-McCall	85	39
	McCall-Orange	70	32
	Orange-Del Rey	101	47
	Del Rey-Amber	100	47
Whitson/Golden State	Mtn. View-Second	114	53
	Second-Thompson	110	51
	Thompson-Floral	145	67
	Floral-Highland	110	51
	Highland-Dinuba	114	53
	Dinuba-Manning	152	70
McCall	Mtn. View-Second	46	21
	Second-Floral	54	25
	Floral-Dinuba	70	32
	Dinuba-Manning	92	43
Nebraska	DeWolf-Highland	55	26
	Highland-Thompson	70	32
	Thompson-Second	53	24
	Dockery-Del Rey	17	8
Second	Nebraska-SR99	73	34
	SR99-Whitson	89	42
	Whitson-McCall	89	42
Highland/SR43	Mtn. View-Nebraska	235	109
	Nebraska-Rose	254	118
	Rose-Floral	273	127
	Floral-Dinuba	145	67

TABLE II (CONCLUDED) DISTANCE (FEET) TO GENERALIZED TRAFFIC NOISE EXPOSURE CONTOURS EXISTING CONDITIONS			
Roadway	**Segment**	**60 dB DNL**	**65 dB DNL**
Thompson	Mtn. View-Nebraska	50	23
Rose	DeWolf-Highland	60	28
Del Rey	Nebraska-Floral	0	0
	Floral-Dinuba	23	11
	Dinuba-Manning	22	10
Mtn. View	DeWolf-Highland	48	22
	Highland-McCall	61	28
	McCall-SR99	76	35
	SR99-Golden State	151	70
	Golden State-Bethel	153	71
SR99	South of Jct. SR43	2062	957
	North of Jct. SR43	2471	1147
Source: Brown-Buntin Associates, Inc.			

2.3.4 Railroad Noise Exposure

The Union Pacific Railroad (UPRR) mainline passes through Selma in a northwest-southeast direction adjacent to Golden State Boulevard/Front Street. According to the UPRR, about 22 freight trains daily pass through Selma. Grade crossings are located at several locations within the city. Train engineers are required to sound the warning horn when approaching within approximately 1000 feet of a grade crossing. Train noise levels are therefore higher at locations near grade crossings.

Railroad noise exposure within the City of Selma was calculated based upon the above-described operations data from the UPRR and noise level data from similar studies conducted by Brown-Buntin Associates, Inc. (BBA) along the UPRR in the central San Joaquin Valley. It was assumed for the calculations that train operations may occur at any time of the day or night and that operations are equally distributed over a 24-hour day. At locations within 1000 feet of a grade crossing, the calculated distance to the 60 dB DNL contour is 760 feet from the center of the tracks. At distances greater than 1000 feet from a grade crossing, the calculated distance to the 60 dB DNL contour is 160 feet from the center of the tracks. Calculated distances are generalized and do not take into consideration site-specific conditions such as acoustic shielding or reflections caused by nearby buildings.

2.3.5 Aircraft Noise Exposure

There are two privately owned airports within the City's sphere of influence. The Quinn Airport is located near Golden State Boulevard and Dinuba Avenue and the Selma Aerodrome is located near Huntsman and Temperance Avenues. Only a few aircraft are based at the Quinn Airport and there are no records of annual operations or noise contours at that airport known to BBA. Occasional aircraft operations at the Quinn Airport may be audible at times within the community, but it is unlikely that noise from the airport is of concern in terms of the CNEL noise metric.

According to FAA records, there were 15,000 annual operations at the Selma Aerodrome in 2007. The only noise exposure contours on record were prepared in 1980. Both the data and the methodology used to prepare those contours are considered by BBA to be out of date. The 1980 contours on file in the Fresno County Airport Land Use Commission Adopted Plans & Policies should therefore not be used for land use compatibility planning purposes at this time.

2.4 Future Conditions

Future traffic noise exposure was calculated based upon the above-described FHWA Model and traffic data obtained from the Peters Engineering Group and Caltrans. Traffic noise modeling assumptions for future (2035) conditions are summarized in Appendix B-2. It was not possible to develop future noise exposure information for stationary noise sources, railroad operations or airport operations, since estimates of future activities for these sources were not known to BBA at the time of the study.

2.4.1 Future Traffic Noise Exposure

Table III summarizes distances to DNL contours for future (2035) traffic conditions in tabular form. Figure 4 shows the roadways where distances to DNL contours were calculated for future traffic conditions. The streets are color coded to indicate the approximate distances to the 60 dB DNL noise contours. Future traffic noise exposure information is generalized for flat terrain and the absence of acoustical shielding or reflections that may be caused by site-specific conditions.

TABLE III
DISTANCE (FEET) TO GENERALIZED TRAFFIC NOISE EXPOSURE CONTOURS
FUTURE CONDITIONS - 2035

Roadway	Segment	60 dB DNL	65 dB DNL
Manning	SR99 to DeWolf	269	125
	DeWolf-McCall	301	140
	McCall-Del Rey	300	139
	Del Rey-Indianola	272	126
Dinuba	Temperance-DeWolf	96	44
	DeWolf-SR99	165	77
	SR99-Golden State	112	52
	Golden State-Highland	175	81
	Highland-McCall	172	80
	McCall-Dockery	175	81
Floral	DeWolf-Highland	158	73
	Highland-Whitson	212	98
	Whitson-McCall	186	87
	McCall-Orange	149	69
	Orange-Del Rey	189	88
	Del Rey-Amber	173	80

TABLE III (CONCLUDED) DISTANCE (FEET) TO GENERALIZED TRAFFIC NOISE EXPOSURE CONTOURS FUTURE CONDITIONS - 2035			
Roadway	**Segment**	**60 dB DNL**	**65 dB DNL**
Whitson/Golden State	Mtn. View-Second	361	168
	Second-Thompson	286	133
	Thompson-Floral	239	111
	Floral-Highland	196	91
	Highland-Dinuba	290	135
	Dinuba-Manning	313	145
McCall	Mtn. View-Second	172	80
	Second-Floral	103	48
	Floral-Dinuba	132	61
	Dinuba-Manning	175	81
Nebraska	DeWolf-Highland	156	73
	Highland-Thompson	159	74
	Thompson-Second	122	57
	Dockery-Del Rey	77	36
Second	Nebraska-SR99	132	61
	SR99-Whitson	152	71
	Whitson-McCall	147	68
Highland/SR43	Mtn. View-Nebraska	401	186
	Nebraska-Rose	382	178
	Rose-Floral	444	206
	Floral-Dinuba	266	123
Thompson	Mtn. View-Nebraska	108	50
Rose	DeWolf-Highland	136	63
Del Rey	Nebraska-Floral	122	57
	Floral-Dinuba	132	61
	Dinuba-Manning	74	35
Mtn. View	DeWolf-Highland	163	76
	Highland-McCall	188	87
	McCall-SR99	274	127
	SR99-Golden State	398	185
	Golden State-Bethel	323	150
SR99	South of Jct. SR43	2531	1175
	North of Jct. SR43	3033	1408
Source: Brown-Buntin Associates, Inc.			

Figure 1: Community Noise Survey Sites

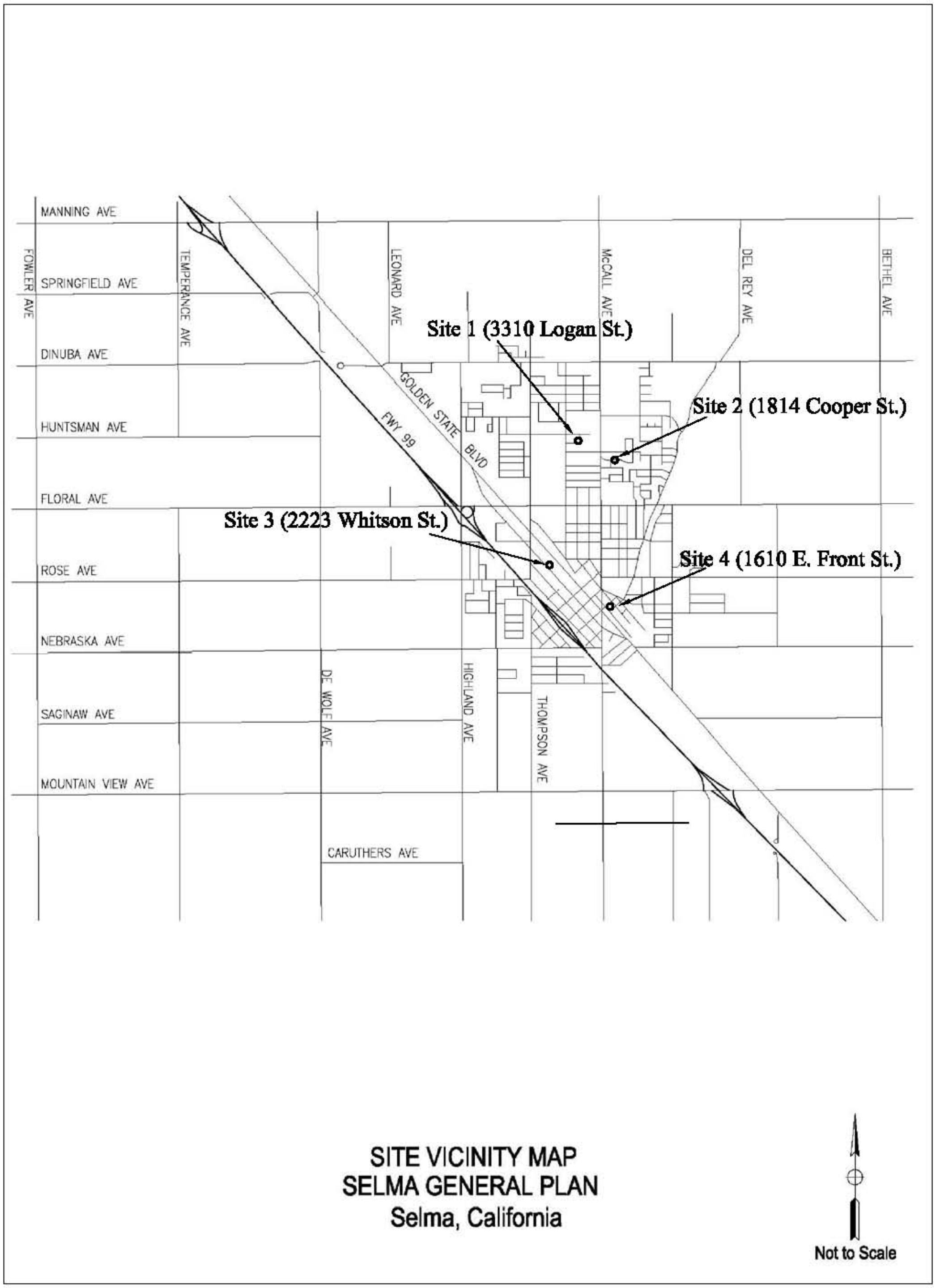


Figure 2: 50 dBA Leq Contour-Blocklite

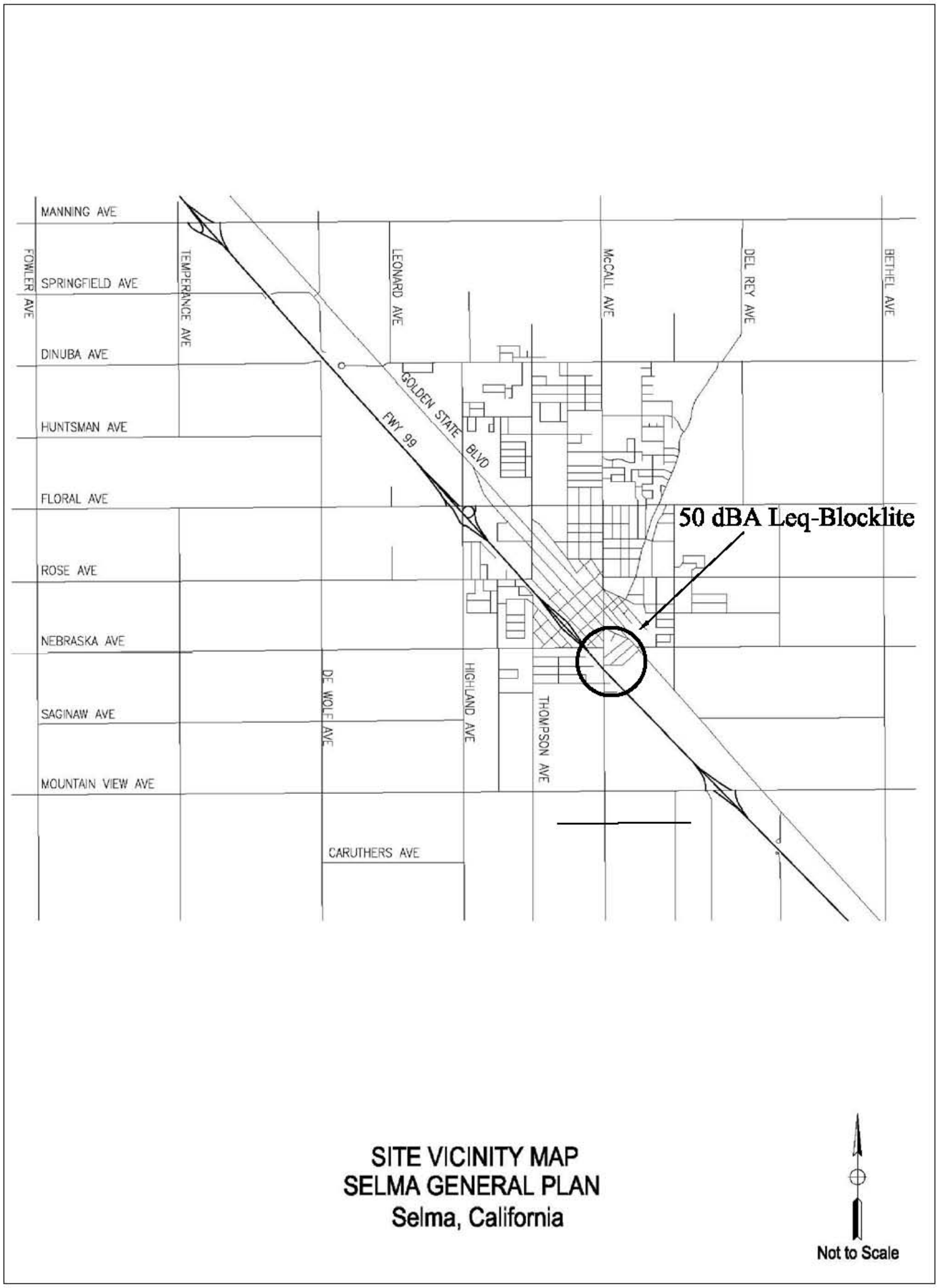
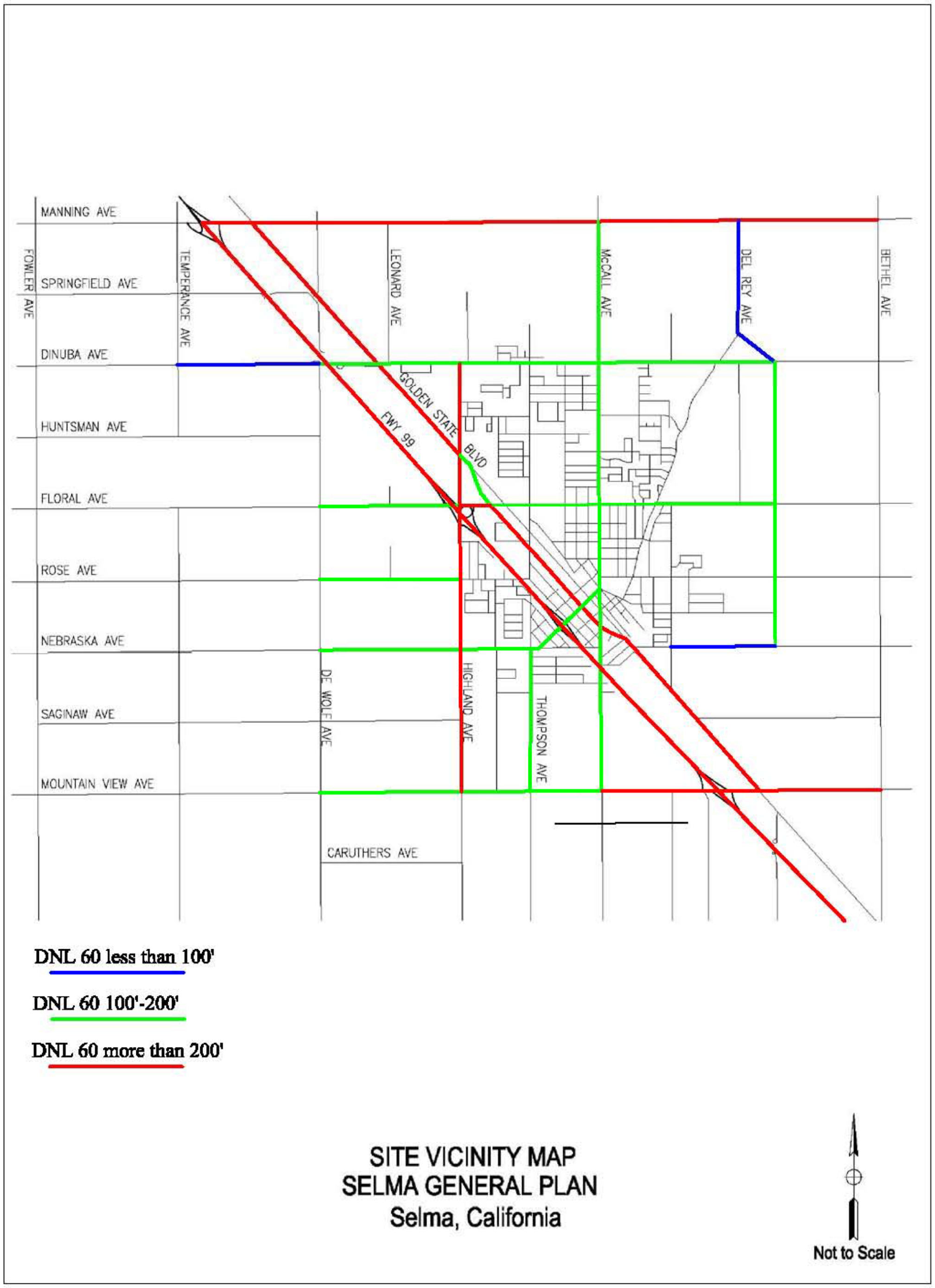


Figure 3: DNL Contour Distances-Existing Traffic Conditions

Figure 4: DNL Contour Distances-Future (2035) Traffic Conditions



CHAPTER THREE

GOALS AND POLICIES

3.1 Goals

The goals of the City of Selma Noise Element are:

1. To protect the citizens of the City from the harmful and annoying effects of exposure to excessive noise.

2. To protect the economic base of the City by preventing incompatible land uses from encroaching upon existing or planned noise-producing uses.

3. To preserve the tranquility of residential and other noise-sensitive areas by preventing noise-producing uses from encroaching upon existing or planned noise-sensitive uses.

4. To educate the citizens of the City concerning the effects of exposure to excessive noise and the methods available for minimizing such exposure.

3.2 Policies

The following specific policies have been adopted by the City of Selma to accomplish the goals of the Noise Element.

Transportation Noise Sources:

Policy 1 New development of noise-sensitive land uses shall not be permitted in areas exposed to existing or projected future noise levels from transportation noise sources exceeding 60 dB DNL (CNEL for aircraft exposure) within outdoor activity areas unless appropriate noise mitigation measures have been incorporated into the final project design. An exterior exposure of up to 65 dB DNL/CNL within outdoor activity areas may be allowed if a good-faith effort has been made to mitigate exterior noise exposure using a practical application of available noise mitigation measures *and* interior noise exposure due to exterior sources will not exceed 45 dB DNL/CNEL.

Policy 2 Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so as not to exceed 60 dB DNL/CNEL within outdoor activity areas and 45 dB DNL/CNEL within interior living spaces of existing noise-sensitive land uses.

Stationary Noise Sources:

Policy 3 The new development of noise-sensitive land uses shall not be permitted in areas where noise levels from existing stationary noises sources may exceed the noise level standards summarized in Table IV.

Policy 4 Noise created by proposed stationary noise sources, or existing stationary noise sources which undergo modifications that may increase noise levels, shall be mitigated so as not to exceed the noise level standards of Table IV within outdoor activity areas of existing or planned noise-sensitive land uses.

TABLE IV

ALLOWABLE NOISE EXPOSURE-STATIONARY NOISE SOURCES[1]

	Daytime (7 a.m. to 10:00 p.m.)	**Nighttime (10 p.m.-7 a.m.)**
Hourly L_{eq}, dBA	55	45
Maximum level, dBA	70	65

[1]As determined within outdoor activity areas of existing or planned noise-sensitive uses. If outdoor activity area locations are unknown, the allowable noise exposure shall be determined at the property line of the noise-sensitive use.

CHAPTER FOUR

IMPLEMENTATION MEASURES

To achieve compliance with the policies the Noise Element, the City of Selma shall undertake the following implementation program. The implementation program focuses on the prevention of new noise-related land use conflicts by requiring that new development be reviewed to determine whether it complies with the policies of the Noise Element.

1. The City shall review new public and private development proposals to determine conformance with the policies of the Noise Element.

2. Where the development of a project may result in land uses being exposed to existing or projected future noise levels exceeding the levels specified by the policies of the Noise Element, the City shall require an acoustical analysis early in the review process so that noise mitigation may be included in the project design. For development not subject to environmental review, the requirements for an acoustical analysis shall be implemented prior to the issuance of a building permit.

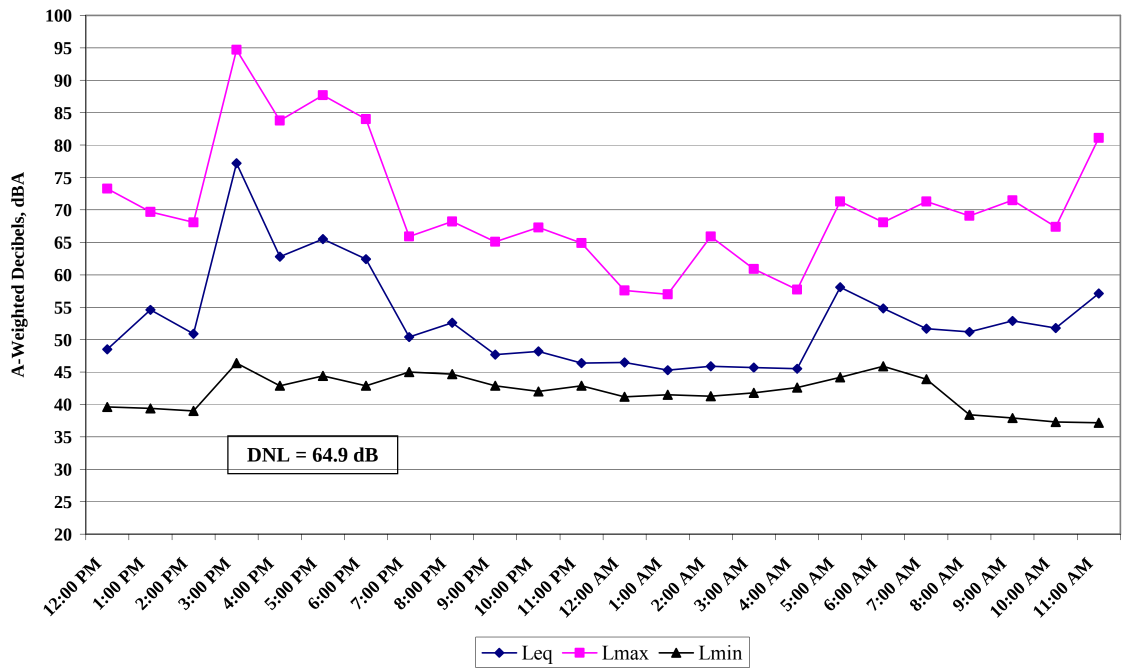
3. The City shall develop and employ procedures to ensure that noise mitigation measures required pursuant to an acoustical analysis are implemented in the development review and building permit processes.

4. The City shall develop and employ procedures to monitor compliance with the policies of the Noise Element after completion of projects where noise mitigation measures have been required.

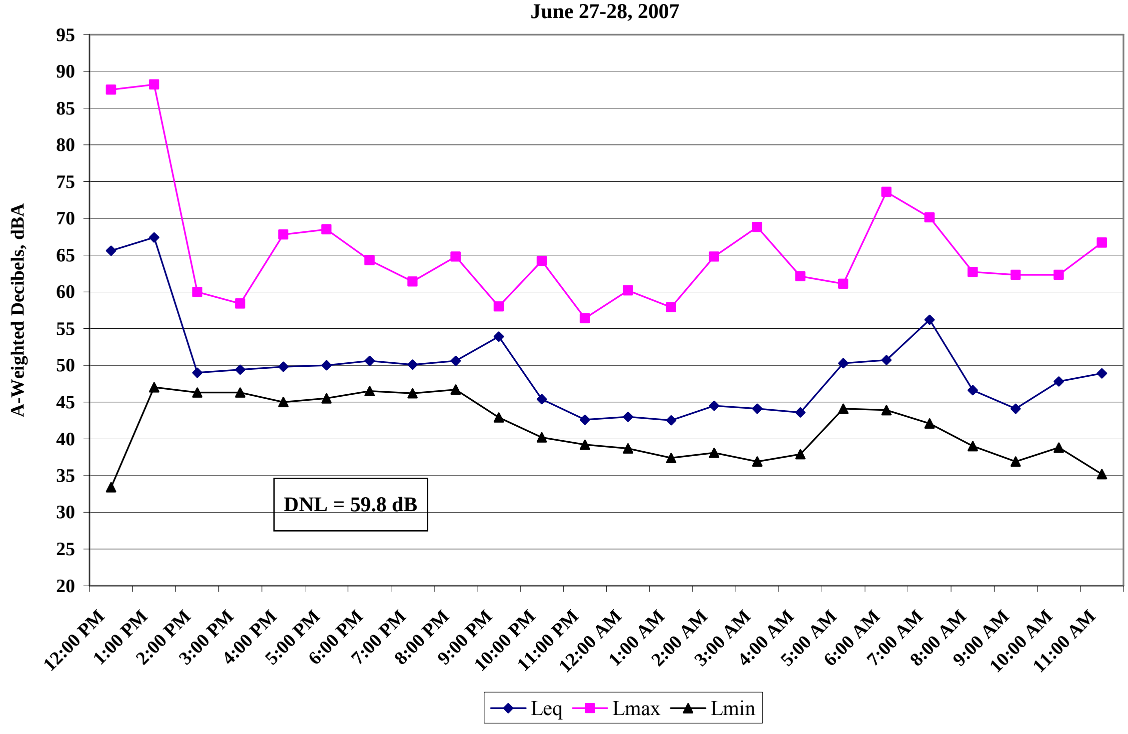
Resource information available to the City for use in the review process includes the tables and noise exposure maps contained within this document. The tables and noise exposure maps are intended as screening devices to determine when a proposed development may result in excessive noise levels that require mitigation and to provide guidance in the long range planning processes. Generally, the tables and noise exposure maps provide a conservative (worst-case) assessment of noise exposure for the major noise sources identified in this Noise Element. It is possible that other major sources of noise may be identified during the project review process. This may be especially true of stationary noise sources, since only a representative sample of such sources was evaluated during the preparation of this document.

Appendix A
Measured Hourly Noise Levels-Community Noise Survey

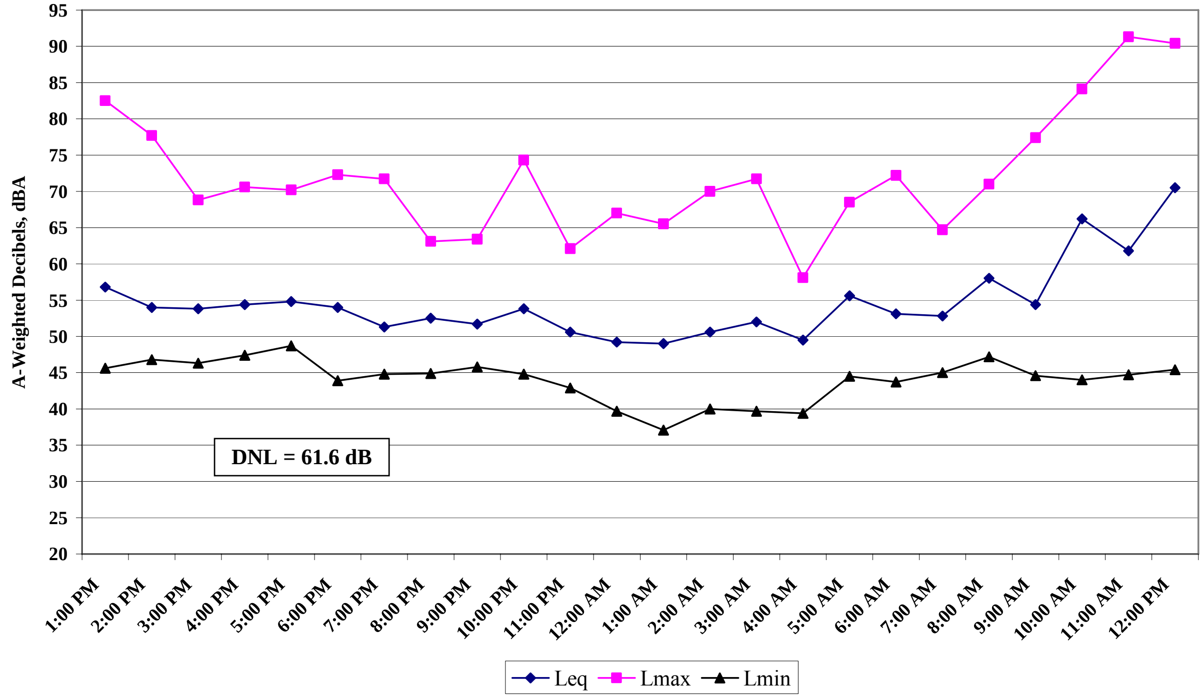
Site 1
3310 Logan Street
June 27-28, 2007



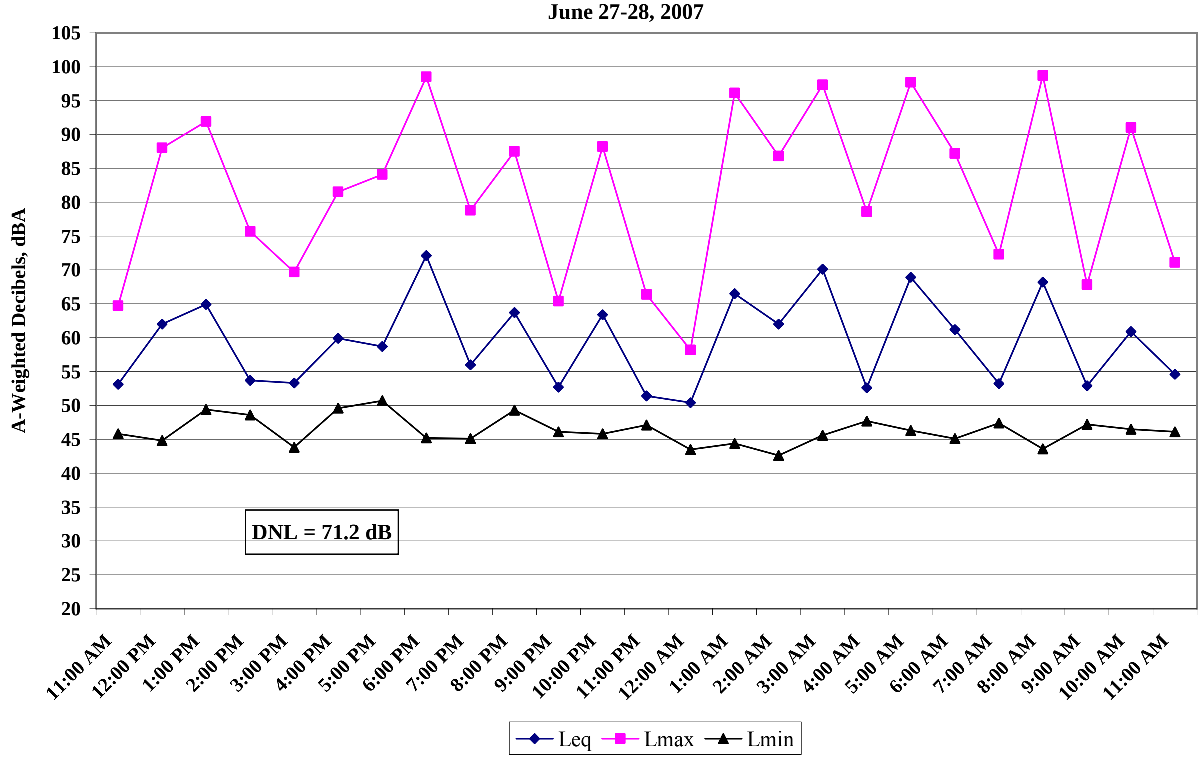
Site 2
1814 Cooper Street
June 27-28, 2007



Site 3
2223 Whitson Street
June 27-28, 2007



Site 4
1610 Front Street
June 27-28, 2007



Brown Buntin Associates, Inc
FHWA-RD-77-108
Calculation Sheets
May 18, 2009

Project #: 07-040

Contour Levels (dB) 55 | 60 | 65 | 70

Description: Selma Noise Element-Existing Traffic
Ldn/Cnel: Ldn
Site Type: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	Truck % Med	Truck % Hvy	Speed mph	Dist ft	Offset dB
1	Manning	SR99-DeWolf	13400	90		10	3	2	45	75	
2	Manning	DeWolf-McCall	13600	90		10	3	2	45	75	
3	Manning	McCall-Del Rey	14320	90		10	3	2	45	75	
4	Manning	Del Rey-Indianola	14460	90		10	3	2	45	75	
5	Dinuba	Temperance-DeWolf	270	90		10	2	1	45	75	
6	Dinuba	DeWolf-SR99		90		10	2	1	35	75	
7	Dinuba	SR99-Golden State	280	90		10	2	1	35	75	
8	Dinuba	Golden State-Highland	5250	90		10	2	1	45	75	
9	Dinuba	Highland-McCall	6140	90		10	2	1	45	75	
10	Dinuba	McCall-Dockery	5010	90		10	2	1	45	75	
11	Floral	DeWolf-Highland	2600	90		10	2	1	45	75	
12	Floral	Highland-Whitson	16630	90		10	2	1	35	75	
13	Floral	Whitson-McCall	9400	90		10	2	1	35	75	
14	Floral	McCall-Orange	6970	90		10	2	1	35	75	
15	Floral	Orange-Del Rey	6700	90		10	2	1	45	75	
16	Floral	Del Rey-Amber	6630	90		10	2	1	45	75	
17	Whitson/GS	Mtn. View-Second	6840	90		10	3	2	45	75	
18	Whitson/GS	Second-Thompson	6430	90		10	3	2	45	75	
19	Whitson/GS	Thompson-Floral	9730	90		10	3	2	45	75	
20	Whitson/GS	Floral-Highland	6410	90		10	3	2	45	75	
21	Whitson/GS	Highland-Dinuba	6780	90		10	3	2	45	75	

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Appendix B-1

Project #: 07-040

Description: Selma Noise Element-Existing Traffic

Ldn/Cnel: Ldn

Site Type: Soft

Contour Levels (dB): 55 | 60 | 65 | 70

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	Truck % Med	Truck % Hvy	Speed mph	Dist ft	Offset dB
22	Whitson/GS	Dinuba-Manning	10430	90		10	3	2	45	75	
23	McCall	Mtn. View-Second	2080	90		10	2	1	45	75	
24	McCall	Second-Floral	4810	90		10	2	1	35	75	
25	McCall	Floral-Dinuba	7020	90		10	2	1	35	75	
26	McCall	Dinuba-Manning	5820	90		10	2	1	45	75	
27	Nebraska	DeWolf-Highland	2690	90		10	2	1	45	75	
28	Nebraska	Highland-Thompson	3850	90		10	2	1	45	75	
29	Nebraska	Thompson-Second	4590	90		10	2	1	35	75	
30	Nebraska	Dockery-Del Rey	820	90		10	2	1	35	75	
31	Second	Nebraska-SR99	7570	90		10	2	1	35	75	
32	Second	SR99-Whitson	10160	90		10	2	1	35	75	
33	Second	Whitson-McCall	10160	90		10	2	1	35	75	
34	Highland/SR43	Mtn. View-Nebraska	10150	90		10	3.9	10.1	45	75	
35	Highland/SR43	Nebraska-Rose	11440	90		10	3.9	10.1	45	75	
36	Highland/SR43	Rose-Floral	12760	90		10	3.9	10.1	45	75	
37	Highland	Floral-Dinuba	9740	90		10	3	2	45	75	
38	Thompson	Mtn. View-Nebraska	2370	90		10	2	1	45	75	
39	Rose	DeWolf-Highland	3060	90		10	2	1	45	75	
40	Del Rey	Nebraska-Floral		90		10	2	1	45	75	
41	Del Rey	Floral-Dinuba	720	90		10	2	1	45	75	
42	Del Rey	Dinuba-Manning	670	90		10	2	1	45	75	

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Project #: 07-040

Contour Levels (dB)

55	60	65	70	

Description: Selma Noise Element-Existing Traffic
Ldn/Cnel: Ldn
Site Type: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	Truck % Med	Truck % Hvy	Speed mph	Dist ft	Offset dB
43	Mtn. View	DeWolf-Highland	1830	90		10	3	2	45	75	
44	Mtn. View	Highland-McCall	2630	90		10	3	2	45	75	
45	Mtn. View	McCall-SR99	3670	90		10	3	2	45	75	
46	Mtn. View	SR99-Golden State	10320	90		10	3	2	45	75	
47	Mtn. View	Golden State-Bethel	10550	90		10	3	2	45	75	
48	SR99	s/o Jct SR43	60000	73		27	4.7	17.3	65	200	
49	SR99	n/o Jct SR43	81000	73		27	4.5	16.5	65	200	

Brown Buntin Associates, Inc Appendix B-2

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Project #:	07-040	**Contour Levels (dB)**	55 / 60 / 65 / 70
Description:	Selma Noise Element-2035 Traffic		
Ldn/Cnel:	Ldn		
Site Type:	Soft		

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	Truck % Med	Truck % Hvy	Speed mph	Dist ft	Offset dB
1	Manning	SR99-DeWolf	24590	90		10	3	2	45	75	
2	Manning	DeWolf-McCall	29210	90		10	3	2	45	75	
3	Manning	McCall-Del Rey	29060	90		10	3	2	45	75	
4	Manning	Del Rey-Indianola	25070	90		10	3	2	45	75	
5	Dinuba	Temperance-DeWolf	6170	90		10	2	1	45	75	
6	Dinuba	DeWolf-SR99	25450	90		10	2	1	35	75	
7	Dinuba	SR99-Golden State	14250	90		10	2	1	35	75	
8	Dinuba	Golden State-Highland	15300	90		10	2	1	45	75	
9	Dinuba	Highland-McCall	14950	90		10	2	1	45	75	
10	Dinuba	McCall-Dockery	15240	90		10	2	1	45	75	
11	Floral	DeWolf-Highland	13150	90		10	2	1	45	75	
12	Floral	Highland-Whitson	37120	90		10	2	1	35	75	
13	Floral	Whitson-McCall	30580	90		10	2	1	35	75	
14	Floral	McCall-Orange	21950	90		10	2	1	35	75	
15	Floral	Orange-Del Rey	17130	90		10	2	1	45	75	
16	Floral	Del Rey-Amber	14970	90		10	2	1	45	75	
17	Whitson/GS	Mtn. View-Second	38340	90		10	3	2	45	75	
18	Whitson/GS	Second-Thompson	27050	90		10	3	2	45	75	
19	Whitson/GS	Thompson-Floral	20670	90		10	3	2	45	75	
20	Whitson/GS	Floral-Highland	15310	90		10	3	2	45	75	
21	Whitson/GS	Highland-Dinuba	27640	90		10	3	2	45	75	

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Project #: 07-040
Description: Selma Noise Element-2035 Traffic
Ldn/Cnel: Ldn
Site Type: Soft

Contour Levels (dB): 55 | 60 | 65 | 70

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	Truck % Med	Truck % Hvy	Speed mph	Dist ft	Offset dB
22	Whitson/GS	Dinuba-Manning	30990	90		10	3	2	45	75	
23	McCall	Mtn. View-Second	14880	90		10	2	1	45	75	
24	McCall	Second-Floral	12650	90		10	2	1	35	75	
25	McCall	Floral-Dinuba	18320	90		10	2	1	35	75	
26	McCall	Dinuba-Manning	15250	90		10	2	1	45	75	
27	Nebraska	DeWolf-Highland	12900	90		10	2	1	45	75	
28	Nebraska	Highland-Thompson	13280	90		10	2	1	45	75	
29	Nebraska	Thompson-Second	16210	90		10	2	1	35	75	
30	Nebraska	Dockery-Del Rey	8050	90		10	2	1	35	75	
31	Second	Nebraska-SR99	18200	90		10	2	1	35	75	
32	Second	SR99-Whitson	22610	90		10	2	1	35	75	
33	Second	Whitson-McCall	21420	90		10	2	1	35	75	
34	Highland/SR43	Mtn. View-Nebraska	22660	90		10	3.9	10.1	45	75	
35	Highland/SR43	Nebraska-Rose	21120	90		10	3.9	10.1	45	75	
36	Highland/SR43	Rose-Floral	26440	90		10	3.9	10.1	45	75	
37	Highland	Floral-Dinuba	24210	90		10	3	2	45	75	
38	Thompson	Mtn. View-Nebraska	7460	90		10	2	1	45	75	
39	Rose	DeWolf-Highland	10430	90		10	2	1	45	75	
40	Del Rey	Nebraska-Floral	8920	90		10	2	1	45	75	
41	Del Rey	Floral-Dinuba	9990	90		10	2	1	45	75	
42	Del Rey	Dinuba-Manning	4240	90		10	2	1	45	75	

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Project #: 07-040
Description: Selma Noise Element-2035 Traffic
Ldn/Cnel: Ldn
Site Type: Soft

Contour Levels (dB): 55 | 60 | 65 | 70

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	Truck % Med	Truck % Hvy	Speed mph	Dist ft	Offset dB
43	Mtn. View	DeWolf-Highland	11660	90		10	3	2	45	75	
44	Mtn. View	Highland-McCall	14410	90		10	3	2	45	75	
45	Mtn. View	McCall-SR99	25290	90		10	3	2	45	75	
46	Mtn. View	SR99-Golden State	44310	90		10	3	2	45	75	
47	Mtn. View	Golden State-Bethel	32460	90		10	3	2	45	75	
48	SR99	s/o Jct SR43	81600	73		27	4.7	17.3	65	200	
49	SR99	n/o Jct SR43	110160	73		27	4.5	16.5	65	200	