

APPENDIX D

NOISE MODELING DATA

Project Number: BMD 1101 Sheet 2 of 6
 Project Name: Larkspur SMART Station Area Plan
 Test Personnel: Cathy Brown

Noise Measurement Survey

Site Number: ST-2 Date: 1/24/13 Time: From 1:53 To 2:08

Site Location: Plaza between dwelling units & back of shopping/retail area (Bon-Air). Access road for deliveries, parking for customers & employees. Dwelling units have yards screened by 6 ft wooden fences. Many trees & shrubs. Observed peds, bikes, trucks (vans, delivery trucks, pick-ups)

Primary Noise Sources: Delivery vehicles, HVAC on roof of commercial bldg, seagulls, utility meter squeak, minor remodeling/cleanup activity.

Measurement Results

	dBA
Leq	51.9
Lmax	72.3
Lmin	43.7
Lpeak	
L2	60.7
L8	55.6
L25	49.4
L50	47.0
SEL	—

Observed Noise Sources/Events

Time	Noise Source/Event	dBA

Comments: _____

Equipment: Larson Davis 720 SLM; Kestrel 3000 Calibration Offset: 27.5 dBA
 Settings: A-Weighted Other _____ Slow Fast Windscreen

Atmospheric Conditions:

Maximum Wind Velocity (mph)	Average Wind Velocity (mph)	Temperature (F)	Relative Humidity (%)	
2.2	0.8	65.4	72	
Comments: _____				

Project Number: BMD 1101 Sheet 3 of 6
 Project Name: Larkspur SMART Station Area Plan
 Test Personnel: Cathy Brown

Noise Measurement Survey

Site Number: ST-3 Date: 1/24/13 Time: From 10:53 To 11:08

Site Location: Greenbrae School Park, approx 1-acre bounded by ~~residences~~ ^{road} on N & S sides, and residences on E & W. Residences ~~are~~ on E & W are protected w/ wood fences (6 ft) & vegetation

Primary Noise Sources: Leaf blower continued intermittently for 10 min. from beginning of monitoring, 100 yds away. Occasional vehicle passing by. Garbage truck backing up 100 yds away.

Measurement Results

	dBA
Leq	50.4
Lmax	73.9
Lmin	40.5
Lpeak	
L2	58.2
L8	53.2
L25	51.5
L50	46.2
SEL	—

Observed Noise Sources/Events

Time	Noise Source/Event	dBA

Comments: No people in park during monitoring

Equipment: Larson Davis 720 SLM; Kestrel 3000 Calibration Offset: 27.4 dBA
 Settings: A-Weighted Other Slow Fast Windscreen

Atmospheric Conditions:

Maximum Wind Velocity (mph)	Average Wind Velocity (mph)	Temperature (F)	Relative Humidity (%)
3.3	1.0	58.4	82
Comments:			

Project Number: BMD 1101 Sheet 6 of 6
 Project Name: Larkspur SMART Station Area Plan
 Test Personnel: Cathy Brown

Noise Measurement Survey

Site Number: ST-6 Date: 1/24/13 Time: From 12:08 To 12:23

Site Location: Outdoor use area of office complex, open area surrounded by two-story office buildings. Many trees, most taller than bldgs. Pathways to parking lots

Primary Noise Sources: Constant hum from freeway (101), vehicles on nearby surface/access streets, HVAC, people talking, horn honking, dumpster lid banging

Measurement Results

	dB(A)
Leq	56.1
Lmax	89.5
Lmin	47.2
Lpeak	
L2	58.4
L8	52.7
L25	50.7
L50	49.8
SEL	81.2

Observed Noise Sources/Events

Time	Noise Source/Event	dB(A)

Comments: _____

Equipment: Larson Davis 720 SLM; Kestrel 3000 Calibration Offset: 27.4 dB(A)
 Settings: A-Weighted Other _____ Slow Fast Windscreen

Atmospheric Conditions:

Maximum Wind Velocity (mph)	Average Wind Velocity (mph)	Temperature (F)	Relative Humidity (%)	
3.0	1.1	61.0	74	
Comments:				

TABLE Existing-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Highway 101 - Sir Francis Drake Boulevard to I-580

NOTES: Larkspur SMART - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 141000 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

DAY NIGHT

--- -

AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 48 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 79.12

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
-----	-----	-----	-----
349.7	747.7	1607.9	3462.3

TABLE Existing-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013
ROADWAY SEGMENT: Sir Francis Drake Boulevard - La Cuesta Drive to Eliseo Drive
NOTES: Larkspur SMART - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 41200 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.80

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
-----	-----	-----	-----
72.0	148.1	315.7	678.6

TABLE Existing-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013
ROADWAY SEGMENT: Sir Francis Drake Boulevard - Eliseo Drive to US-101 SB
Ramps
NOTES: Larkspur SMART - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 47900 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.45

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
-----	-----	-----	-----
78.8	163.4	348.9	750.2

TABLE Existing-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013
ROADWAY SEGMENT: Sir Francis Drake Boulevard - US-101 NB Ramps to
Larkspur Landing Circle
NOTES: Larkspur SMART - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 37100 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY ---	NIGHT -----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.96

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn -----	65 Ldn -----	60 Ldn -----	55 Ldn -----
70.0	139.5	294.9	632.7

TABLE Existing-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Sir Francis Drake Boulevard - Larkspur Landing Circle to
Larkspur Landing Circle

NOTES: Larkspur SMART - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 23700 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.40

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
-----	-----	-----	-----
0.0	103.9	219.1	469.8

TABLE Existing-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013
ROADWAY SEGMENT: Sir Francis Drake Boulevard - Larkspur Landing Circle to
Drakes Cove Road
NOTES: Larkspur SMART - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25700 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY ---	NIGHT -----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn -----	65 Ldn -----	60 Ldn -----	55 Ldn -----
0.0	108.3	230.7	495.8

TABLE Existing-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Eliseo Drive - Sir Fancis Drake Boulevard to Bretano Way

NOTES: Larkspur SMART - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4100 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY ---	NIGHT -----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 55.87

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn -----	65 Ldn -----	60 Ldn -----	55 Ldn -----
0.0	0.0	0.0	70.5

TABLE Existing-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013
ROADWAY SEGMENT: Larkspur Landing Circle - Sir Francis Drake Boulevard to Old Quarry Road S.
NOTES: Larkspur SMART - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8900 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY ---	NIGHT -----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn -----	65 Ldn -----	60 Ldn -----	55 Ldn -----
0.0	0.0	57.0	117.8

TABLE Existing-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013
ROADWAY SEGMENT: Larkspur Landing Circle - Drakes Way to Sir Francis
Drake Boulevard
NOTES: Larkspur SMART - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7100 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
-----	-----	-----	-----
0.0	0.0	0.0	101.7

TABLE Existing Plus Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Sir Francis Drake Boulevard - La Cuesta Drive to Eliseo Drive

NOTES: Larkspur SMART - Existing Plus Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 42000 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY ---	NIGHT -----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.88

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn -----	65 Ldn -----	60 Ldn -----	55 Ldn -----
72.8	150.0	319.8	687.3

TABLE Existing Plus Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Sir Francis Drake Boulevard - Eliseo Drive to US-101 SB
Ramps

NOTES: Larkspur SMART - Existing Plus Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 49200 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY ---	NIGHT -----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.57

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn -----	65 Ldn -----	60 Ldn -----	55 Ldn -----
80.1	166.3	355.2	763.7

TABLE Existing Plus Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013
ROADWAY SEGMENT: Sir Francis Drake Boulevard - US-101 NB Ramps to
Larkspur Landing Circle
NOTES: Larkspur SMART - Existing Plus Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 41100 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.41

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
-----	-----	-----	-----
74.1	148.9	315.6	677.3

TABLE Existing Plus Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Sir Francis Drake Boulevard - Larkspur Landing Circle to
Larkspur Landing Circle

NOTES: Larkspur SMART - Existing Plus Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25900 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY ---	NIGHT -----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.78

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn -----	65 Ldn -----	60 Ldn -----	55 Ldn -----
0.0	109.9	232.3	498.3

TABLE Existing Plus Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Sir Francis Drake Boulevard - Larkspur Landing Circle to
Drakes Cove Road

NOTES: Larkspur SMART - Existing Plus Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 26500 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY ---	NIGHT -----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn -----	65 Ldn -----	60 Ldn -----	55 Ldn -----
53.7	110.4	235.4	505.9

TABLE Existing Plus Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Eliseo Drive - Sir Fancis Drake Boulevard to Bretano Way

NOTES: Larkspur SMART - Existing Plus Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4200 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY ---	NIGHT -----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 55.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn -----	65 Ldn -----	60 Ldn -----	55 Ldn -----
0.0	0.0	0.0	71.6

TABLE Existing Plus Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Larkspur Landing Circle - Sir Francis Drake Boulevard to
Old Quarry Road S.

NOTES: Larkspur SMART - Existing Plus Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9900 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
-----	-----	-----	-----
0.0	0.0	60.7	126.2

TABLE Existing Plus Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Larkspur Landing Circle - Drakes Way to Sir Francis
Drake Boulevard

NOTES: Larkspur SMART - Existing Plus Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9500 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.02

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
-----	-----	-----	-----
0.0	0.0	59.2	122.9

TABLE Cumulative No Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Sir Francis Drake Boulevard - La Cuesta Drive to Eliseo Drive

NOTES: Larkspur SMART - Cumulative No Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 49400 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY ---	NIGHT -----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.59

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn -----	65 Ldn -----	60 Ldn -----	55 Ldn -----
80.3	166.7	356.1	765.7

TABLE Cumulative No Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Sir Francis Drake Boulevard - Eliseo Drive to US-101 SB
Ramps

NOTES: Larkspur SMART - Cumulative No Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 57400 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY ---	NIGHT -----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.24

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn -----	65 Ldn -----	60 Ldn -----	55 Ldn -----
88.0	183.9	393.4	846.2

TABLE Cumulative No Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013
ROADWAY SEGMENT: Sir Francis Drake Boulevard - US-101 NB Ramps to Larkspur Landing Circle
NOTES: Larkspur SMART - Cumulative No Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 48900 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
-----	-----	-----	-----
81.7	166.5	354.0	760.4

TABLE Cumulative No Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Sir Francis Drake Boulevard - Larkspur Landing Circle to
Larkspur Landing Circle

NOTES: Larkspur SMART - Cumulative No Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 33600 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY ---	NIGHT -----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.91

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn -----	65 Ldn -----	60 Ldn -----	55 Ldn -----
63.9	129.8	275.9	592.4

TABLE Cumulative No Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Sir Francis Drake Boulevard - Larkspur Landing Circle to
Drakes Cove Road

NOTES: Larkspur SMART - Cumulative No Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 36700 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY ---	NIGHT -----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn -----	65 Ldn -----	60 Ldn -----	55 Ldn -----
65.4	136.6	292.2	628.4

TABLE Cumulative No Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Eliseo Drive - Sir Fancis Drake Boulevard to Bretano Way

NOTES: Larkspur SMART - Cumulative No Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4600 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY ---	NIGHT -----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.37

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn -----	65 Ldn -----	60 Ldn -----	55 Ldn -----
0.0	0.0	0.0	76.0

TABLE Cumulative No Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Larkspur Landing Circle - Sir Francis Drake Boulevard to Old Quarry Road S.

NOTES: Larkspur SMART - Cumulative No Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10200 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY ---	NIGHT -----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.33

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn -----	65 Ldn -----	60 Ldn -----	55 Ldn -----
0.0	0.0	61.8	128.7

TABLE Cumulative No Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Larkspur Landing Circle - Drakes Way to Sir Francis
Drake Boulevard

NOTES: Larkspur SMART - Cumulative No Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8800 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.69

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
-----	-----	-----	-----
0.0	0.0	56.6	116.9

TABLE Cumulative Plus Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013
ROADWAY SEGMENT: Sir Francis Drake Boulevard - La Cuesta Drive to Eliseo Drive
NOTES: Larkspur SMART - Cumulative Plus Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 50200 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	NIGHT
	----	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.66

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
-----	-----	-----	-----
81.0	168.5	359.9	774.0

TABLE Cumulative Plus Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Sir Francis Drake Boulevard - Eliseo Drive to US-101 SB
Ramps

NOTES: Larkspur SMART - Cumulative Plus Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 58500 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.32

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
-----	-----	-----	-----
89.0	186.2	398.4	857.0

TABLE Cumulative Plus Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013
ROADWAY SEGMENT: Sir Francis Drake Boulevard - US-101 NB Ramps to Larkspur Landing Circle
NOTES: Larkspur SMART - Cumulative Plus Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 52800 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.50

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
-----	-----	-----	-----
85.4	174.9	372.4	800.2

TABLE Cumulative Plus Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Sir Francis Drake Boulevard - Larkspur Landing Circle to
Larkspur Landing Circle

NOTES: Larkspur SMART - Cumulative Plus Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35600 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
-----	-----	-----	-----
66.1	134.7	286.6	615.7

TABLE Cumulative Plus Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Sir Francis Drake Boulevard - Larkspur Landing Circle to
Drakes Cove Road

NOTES: Larkspur SMART - Cumulative Plus Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 37500 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.82

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
-----	-----	-----	-----
66.3	138.5	296.4	637.5

TABLE Cumulative Plus Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Eliseo Drive - Sir Fancis Drake Boulevard to Bretano Way

NOTES: Larkspur SMART - Cumulative Plus Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4600 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY ---	NIGHT -----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.37

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn -----	65 Ldn -----	60 Ldn -----	55 Ldn -----
0.0	0.0	0.0	76.0

TABLE Cumulative Plus Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Larkspur Landing Circle - Sir Francis Drake Boulevard to
Old Quarry Road S.

NOTES: Larkspur SMART - Cumulative Plus Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11100 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY ---	NIGHT -----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.70

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn -----	65 Ldn -----	60 Ldn -----	55 Ldn -----
0.0	0.0	65.1	136.0

TABLE Cumulative Plus Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/28/2013

ROADWAY SEGMENT: Larkspur Landing Circle - Drakes Way to Sir Francis
Drake Boulevard

NOTES: Larkspur SMART - Cumulative Plus Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11300 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY ---	NIGHT -----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.78

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn -----	65 Ldn -----	60 Ldn -----	55 Ldn -----
0.0	0.0	65.9	137.6