

**Appendix H:
Noise Supporting Information**

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Mobile Construction Activity Noise Calculation

Receptor:		Noise Level Calculation Prior to Implementation of Noise Attenuation Requirements									
No.	Equipment Description	Reference (dBA) 50 ft	Quantity	Usage factor[1]	Distance to Receptor	Ground Effect[2]	Shielding (dBA)[3]	Calculated (dBA)		Energy	
		Lmax						Leq			
1	Backhoe	80	1	40	170	1	3	66.4	57.1	510062.318	
2	Front End Loader	80	1	40	170	1	3	66.4	57.1	510062.318	
3	Scraper	85	1	40	170	1	3	71.4	62.1	1612958.673	
4	Rubber Tired Dozer	85	1	40	170	1	3	71.4	62.1	1612958.673	
5	Grader	85	1	40	170	1	3	71.4	62.1	1612958.673	
6											
7											
8											
9											
10											
								Lmax[4]	71	Leq	68

Notes:

- [1] Percentage of time activity occurs each hour
- [2] Soft ground terrain between project site and receptor.
- [3] Shielding due to terrain or structures
- [4] Calculated Lmax is the Loudest value.

Ldn Calculations					
	Time	Hourly Leq	Leq'	0.1*Leq	antiLog
Night	12:00 AM	0.0	10.0	1	10
	1:00 AM	0.0	10.0	1	10
	2:00 AM	0.0	10.0	1	10
	3:00 AM	0.0	10.0	1	10
	4:00 AM	0.0	10.0	1	10
	5:00 AM	0.0	10.0	1	10
Day	6:00 AM	0.0	10.0	1	10
	7:00 AM	0.0	0.0	0	1
	8:00 AM	67.7	67.7	6.767823547	5859000.656
	9:00 AM	67.7	67.7	6.767823547	5859000.656
	10:00 AM	67.7	67.7	6.767823547	5859000.656
	11:00 AM	67.7	67.7	6.767823547	5859000.656
	12:00 PM	0.0	0.0	0	1
	1:00 PM	67.7	67.7	6.767823547	5859000.656
	2:00 PM	67.7	67.7	6.767823547	5859000.656
	3:00 PM	67.7	67.7	6.767823547	5859000.656
	4:00 PM	67.7	67.7	6.767823547	5859000.656
	5:00 PM	67.7	67.7	6.767823547	5859000.656
	6:00 PM	0.0	0.0	0	1
	7:00 PM	0.0	0.0	0	1
Night	8:00 PM	0.0	0.0	0	1
	9:00 PM	0.0	0.0	0	1
	10:00 PM	0.0	10.0	1	10
	11:00 PM	0.0	10.0	1	10
Sum					52731101.9
Sum/24					2197129.246
Log10(Sum/24)					6.341855605
10*Log10(Sum/24)					63.41855605
24 Hour Ldn					63

TABLE Existing-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/16/2022

ROADWAY SEGMENT: Sir Francis Drake Boulevard - Anderson Drive to Proposed Site Access

NOTES: Oak Hill Apartments Project - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21800 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.58

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	82.9	178.2	383.7

TABLE Existing-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/16/2022

ROADWAY SEGMENT: Sir Francis Drake Boulevard - Proposed Site Access to
Drakes Cove Road

NOTES: Oak Hill Apartments Project - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21900 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

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

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.02

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	83.7	178.9	384.7

TABLE Existing-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/16/2022
ROADWAY SEGMENT: Sir Francis Drake Boulevard - Drakes Cove Road to
Larkspur Landing Circle
NOTES: Oak Hill Apartments Project - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21900 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

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

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	86.2	179.9	384.8

TABLE Existing with Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/16/2022

ROADWAY SEGMENT: Sir Francis Drake Boulevard - Anderson Drive to Proposed Site Access

NOTES: Oak Hill Apartments Project - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22000 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.62

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	83.4	179.3	386.0

TABLE Existing with Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/16/2022

ROADWAY SEGMENT: Sir Francis Drake Boulevard - Proposed Site Access to
Drakes Cove Road

NOTES: Oak Hill Apartments Project - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22700 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

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

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	85.7	183.2	394.0

TABLE Existing with Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/16/2022

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

NOTES: Oak Hill Apartments Project - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22700 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

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

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.25

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	88.1	184.2	394.1

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