CITY OF RANCHO MIRAGE

69-825 Highway 111
Rancho Mirage, California 92270
Phone: (760) 328-2266
Fax: (760) 324-9851

DESERT ISLAND HOTEL
ENVIRONMENTAL INITIAL STUDY
APPENDIX

Appendix A

California Emissions Estimator Model (CalEEMod), Version 2020.4.0.

Appendix B

Noise and Vibration Impact Analysis, Urban Crossroads, Inc. May 2022.

Appendix C

Desert Island VMT Evaluation, Urban Crossroads, Inc., May 2022.

Appendix D

Desert Island Hotel Focused Traffic Analysis, Urban Crossroads, Inc. May 2022.

Appendix E

Agua Caliente Band of Cahuilla Indians Letter, September 2022

DESERT ISLAND HOTEL
APPENDIX

Appendix A

California Emissions Estimator Model (CalEEMod), Version 2020.4.0.

Desert Island SP - Amendment - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Desert Island SP - Amendment

Riverside-Salton Sea County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	8.00	1000sqft	0.18	8,000.00	0
Parking Lot	228.00	Space	2.05	91,200.00	0
Golf Course	3.50	Acre	3.50	152,460.00	0
Health Club	6.30	1000sqft	0.14	6,300.00	0
Hotel	42.00	Room	1.40	60,984.00	0
Recreational Swimming Pool	13.10	1000sqft	0.30	13,100.00	0
Single Family Housing	11.00	Dwelling Unit	3.57	19,800.00	21

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	15			**Operational Year**	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - This model accounts for the proposed SP build-out condition with a tentative construction start date of May 1, 2023 for modeling purposes.

Land Use - Population total is based on 1.87 PPH for RM per CADF. GC size is based on combined driving range and desert gardens acreage. Health Club includes pool cafe, yoga pavilion, and restroom SF. GLI solely applies to the 8,000 SF golf course maintenance building for modeling purposes and does not imply the presence of traditional general light industry uses.

Demolition - This model accounts for 5,400 tons of debris associated with 2,700 CY of hardscape and building material removal at a conservative rate of 2 tons per CY.

Architectural Coating - SCAQMD Rule 1113 VOC Content Limits Apply as a Requirement

Desert Island SP - Amendment - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Vehicle Trips - Consistent with the traffic assessment, the trip generating uses are the hotel rooms/keys, residential units, and golf course driving range facilities. The trip rates are default to the CalEEMod parameters.

Woodstoves - SCAQMD Rule 445 is applied pertaining to wood burning.

Area Coating - SCAQMD Rule 1113 VOC Content Limits are applied

Construction Off-road Equipment Mitigation - Dust control measures are a requirement under SCAQMD Rule 403/403.1 and Section 15.64.630 of the Rancho Mirage Municipal Code.

Area Mitigation - SCAQMD Rule 1113 VOC Content Limits Apply

Energy Mitigation - High efficiency lighting would be in the form of LED.

Waste Mitigation -

Trips and VMT -

Grading - Exported material (2,700 CY) corresponds to demolition of existing facilities.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	20
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblFireplaces	NumberWood	1.10	0.00
tblGrading	MaterialExported	0.00	2,700.00
tblLandUse	Population	31.00	21.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	4.96	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	28.82	0.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.2045	1.8555	1.9134	4.3500e-003	0.3902	0.0795	0.4697	0.1400	0.0741	0.2141	0.0000	388.4797	388.4797	0.0755	0.0117	393.8507
2024	0.4397	1.5278	2.0441	4.3800e-003	0.1381	0.0637	0.2018	0.0373	0.0599	0.0971	0.0000	391.1172	391.1172	0.0604	0.0125	396.3503
Maximum	**0.4397**	**1.8555**	**2.0441**	**4.3800e-003**	**0.3902**	**0.0795**	**0.4697**	**0.1400**	**0.0741**	**0.2141**	**0.0000**	**391.1172**	**391.1172**	**0.0755**	**0.0125**	**396.3503**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.2045	1.8555	1.9134	4.3500e-003	0.1716	0.0795	0.2511	0.0575	0.0741	0.1317	0.0000	388.4794	388.4794	0.0755	0.0117	393.8504
2024	0.4397	1.5278	2.0441	4.3800e-003	0.1150	0.0637	0.1787	0.0316	0.0599	0.0915	0.0000	391.1169	391.1169	0.0604	0.0125	396.3501
Maximum	**0.4397**	**1.8555**	**2.0441**	**4.3800e-003**	**0.1716**	**0.0795**	**0.2511**	**0.0575**	**0.0741**	**0.1317**	**0.0000**	**391.1169**	**391.1169**	**0.0755**	**0.0125**	**396.3501**

Desert Island SP - Amendment - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**45.76**	**0.00**	**36.00**	**49.71**	**0.00**	**28.31**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**5-1-2023**	**7-31-2023**	1.0496	1.0496
2	**8-1-2023**	**10-31-2023**	0.6022	0.6022
3	**11-1-2023**	**1-31-2024**	0.5915	0.5915
4	**2-1-2024**	**4-30-2024**	0.5545	0.5545
5	**5-1-2024**	**7-31-2024**	0.5653	0.5653
6	**8-1-2024**	**9-30-2024**	0.3362	0.3362
		Highest	1.0496	1.0496

Desert Island SP - Amendment - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4107	7.5000e-003	0.1206	1.5000e-004		6.4400e-003	6.4400e-003		6.4400e-003	6.4400e-003	0.7362	7.0701	7.8063	3.7200e-003	1.3000e-004	7.9370
Energy	0.0237	0.2148	0.1745	1.2900e-003		0.0164	0.0164		0.0164	0.0164	0.0000	469.8604	469.8604	0.0243	6.7100e-003	472.4683
Mobile	0.1587	0.1985	1.2819	2.6500e-003	0.2833	2.2300e-003	0.2855	0.0757	2.0900e-003	0.0778	0.0000	250.7839	250.7839	0.0163	0.0141	255.3884
Waste						0.0000	0.0000		0.0000	0.0000	31.5387	0.0000	31.5387	1.8639	0.0000	78.1358
Water						0.0000	0.0000		0.0000	0.0000	1.5163	21.7625	23.2788	0.1576	3.9000e-003	28.3804
Total	**0.5931**	**0.4207**	**1.5770**	**4.0900e-003**	**0.2833**	**0.0251**	**0.3083**	**0.0757**	**0.0249**	**0.1006**	**33.7912**	**749.4768**	**783.2680**	**2.0658**	**0.0248**	**842.3100**

Desert Island SP - Amendment - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3785	9.6000e-004	0.0844	0.0000		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	0.1388	0.1388	1.4000e-004	0.0000	0.1423
Energy	0.0237	0.2148	0.1745	1.2900e-003		0.0164	0.0164		0.0164	0.0164	0.0000	457.8500	457.8500	0.0233	6.5900e-003	460.3960
Mobile	0.1587	0.1985	1.2819	2.6500e-003	0.2833	2.2300e-003	0.2855	0.0757	2.0900e-003	0.0778	0.0000	250.7839	250.7839	0.0163	0.0141	255.3884
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	1.2131	18.9008	20.1139	0.1262	3.1400e-003	24.2029
Total	**0.5610**	**0.4142**	**1.5408**	**3.9400e-003**	**0.2833**	**0.0191**	**0.3023**	**0.0757**	**0.0189**	**0.0946**	**1.2131**	**727.6735**	**728.8866**	**0.1659**	**0.0238**	**740.1296**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**5.42**	**1.55**	**2.30**	**3.67**	**0.00**	**23.86**	**1.94**	**0.00**	**24.00**	**5.94**	**96.41**	**2.91**	**6.94**	**91.97**	**4.07**	**12.13**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2023	5/26/2023	5	20	
2	Site Preparation	Site Preparation	5/27/2023	6/9/2023	5	10	
3	Grading	Grading	6/10/2023	7/21/2023	5	30	

4	Building Construction	Building Construction	7/22/2023	9/13/2024	5	300	
5	Paving	Paving	9/14/2024	10/11/2024	5	20	
6	Architectural Coating	Architectural Coating	10/12/2024	11/8/2024	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 2.05

Residential Indoor: 40,095; Residential Outdoor: 13,365; Non-Residential Indoor: 112,926; Non-Residential Outdoor: 37,642; Striped Parking Area: 5,472 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Scrapers	2	8.00	367	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	534.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	338.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	143.00	56.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	29.00	0.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0581	0.0000	0.0581	8.8000e-003	0.0000	8.8000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0227	0.2148	0.1964	3.9000e-004		9.9800e-003	9.9800e-003		9.2800e-003	9.2800e-003	0.0000	33.9921	33.9921	9.5200e-003	0.0000	34.2301
Total	**0.0227**	**0.2148**	**0.1964**	**3.9000e-004**	**0.0581**	**9.9800e-003**	**0.0681**	**8.8000e-003**	**9.2800e-003**	**0.0181**	**0.0000**	**33.9921**	**33.9921**	**9.5200e-003**	**0.0000**	**34.2301**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.6000e-004	0.0281	7.4000e-003	1.5000e-004	4.6100e-003	3.2000e-004	4.9300e-003	1.2600e-003	3.1000e-004	1.5700e-003	0.0000	14.2226	14.2226	2.0000e-004	2.2400e-003	14.8955
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	2.9000e-004	3.7100e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.3000e-004	0.0000	0.9565	0.9565	3.0000e-005	3.0000e-005	0.9653
Total	**9.7000e-004**	**0.0284**	**0.0111**	**1.6000e-004**	**5.8400e-003**	**3.3000e-004**	**6.1700e-003**	**1.5900e-003**	**3.2000e-004**	**1.9000e-003**	**0.0000**	**15.1791**	**15.1791**	**2.3000e-004**	**2.2700e-003**	**15.8607**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0181	0.0000	0.0181	2.7500e-003	0.0000	2.7500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0227	0.2148	0.1964	3.9000e-004		9.9800e-003	9.9800e-003		9.2800e-003	9.2800e-003	0.0000	33.9920	33.9920	9.5200e-003	0.0000	34.2300
Total	**0.0227**	**0.2148**	**0.1964**	**3.9000e-004**	**0.0181**	**9.9800e-003**	**0.0281**	**2.7500e-003**	**9.2800e-003**	**0.0120**	**0.0000**	**33.9920**	**33.9920**	**9.5200e-003**	**0.0000**	**34.2300**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.6000e-004	0.0281	7.4000e-003	1.5000e-004	3.9100e-003	3.2000e-004	4.2300e-003	1.0900e-003	3.1000e-004	1.4000e-003	0.0000	14.2226	14.2226	2.0000e-004	2.2400e-003	14.8955
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	2.9000e-004	3.7100e-003	1.0000e-005	1.0200e-003	1.0000e-005	1.0300e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.9565	0.9565	3.0000e-005	3.0000e-005	0.9653
Total	**9.7000e-004**	**0.0284**	**0.0111**	**1.6000e-004**	**4.9300e-003**	**3.3000e-004**	**5.2600e-003**	**1.3700e-003**	**3.2000e-004**	**1.6800e-003**	**0.0000**	**15.1791**	**15.1791**	**2.3000e-004**	**2.2700e-003**	**15.8607**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0985	0.0000	0.0985	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0985**	**6.3300e-003**	**0.1048**	**0.0505**	**5.8200e-003**	**0.0564**	**0.0000**	**16.7254**	**16.7254**	**5.4100e-003**	**0.0000**	**16.8606**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.6000e-004	0.0178	4.6800e-003	9.0000e-005	2.9100e-003	2.0000e-004	3.1200e-003	8.0000e-004	1.9000e-004	1.0000e-003	0.0000	9.0023	9.0023	1.3000e-004	1.4200e-003	9.4282
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.7000e-004	2.2300e-003	1.0000e-005	7.4000e-004	0.0000	7.4000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.5739	0.5739	2.0000e-005	2.0000e-005	0.5792
Total	**6.1000e-004**	**0.0180**	**6.9100e-003**	**1.0000e-004**	**3.6500e-003**	**2.0000e-004**	**3.8600e-003**	**1.0000e-003**	**1.9000e-004**	**1.2000e-003**	**0.0000**	**9.5762**	**9.5762**	**1.5000e-004**	**1.4400e-003**	**10.0074**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0307	0.0000	0.0307	0.0158	0.0000	0.0158	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0307**	**6.3300e-003**	**0.0371**	**0.0158**	**5.8200e-003**	**0.0216**	**0.0000**	**16.7253**	**16.7253**	**5.4100e-003**	**0.0000**	**16.8606**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.6000e-004	0.0178	4.6800e-003	9.0000e-005	2.4800e-003	2.0000e-004	2.6800e-003	6.9000e-004	1.9000e-004	8.9000e-004	0.0000	9.0023	9.0023	1.3000e-004	1.4200e-003	9.4282
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.7000e-004	2.2300e-003	1.0000e-005	6.1000e-004	0.0000	6.2000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.5739	0.5739	2.0000e-005	2.0000e-005	0.5792
Total	**6.1000e-004**	**0.0180**	**6.9100e-003**	**1.0000e-004**	**3.0900e-003**	**2.0000e-004**	**3.3000e-003**	**8.6000e-004**	**1.9000e-004**	**1.0600e-003**	**0.0000**	**9.5762**	**9.5762**	**1.5000e-004**	**1.4400e-003**	**10.0074**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1381	0.0000	0.1381	0.0548	0.0000	0.0548	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.5177	0.4208	9.3000e-004		0.0214	0.0214		0.0197	0.0197	0.0000	81.8028	81.8028	0.0265	0.0000	82.4642
Total	**0.0498**	**0.5177**	**0.4208**	**9.3000e-004**	**0.1381**	**0.0214**	**0.1594**	**0.0548**	**0.0197**	**0.0745**	**0.0000**	**81.8028**	**81.8028**	**0.0265**	**0.0000**	**82.4642**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.8000e-004	7.4300e-003	2.0000e-005	2.4700e-003	1.0000e-005	2.4800e-003	6.6000e-004	1.0000e-005	6.7000e-004	0.0000	1.9131	1.9131	6.0000e-005	5.0000e-005	1.9305
Total	**8.2000e-004**	**5.8000e-004**	**7.4300e-003**	**2.0000e-005**	**2.4700e-003**	**1.0000e-005**	**2.4800e-003**	**6.6000e-004**	**1.0000e-005**	**6.7000e-004**	**0.0000**	**1.9131**	**1.9131**	**6.0000e-005**	**5.0000e-005**	**1.9305**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0431	0.0000	0.0431	0.0171	0.0000	0.0171	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.5177	0.4208	9.3000e-004		0.0214	0.0214		0.0197	0.0197	0.0000	81.8027	81.8027	0.0265	0.0000	82.4641
Total	**0.0498**	**0.5177**	**0.4208**	**9.3000e-004**	**0.0431**	**0.0214**	**0.0644**	**0.0171**	**0.0197**	**0.0368**	**0.0000**	**81.8027**	**81.8027**	**0.0265**	**0.0000**	**82.4641**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.8000e-004	7.4300e-003	2.0000e-005	2.0400e-003	1.0000e-005	2.0500e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.9131	1.9131	6.0000e-005	5.0000e-005	1.9305
Total	**8.2000e-004**	**5.8000e-004**	**7.4300e-003**	**2.0000e-005**	**2.0400e-003**	**1.0000e-005**	**2.0500e-003**	**5.5000e-004**	**1.0000e-005**	**5.6000e-004**	**0.0000**	**1.9131**	**1.9131**	**6.0000e-005**	**5.0000e-005**	**1.9305**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0904	0.8271	0.9340	1.5500e-003		0.0402	0.0402		0.0379	0.0379	0.0000	133.2877	133.2877	0.0317	0.0000	134.0804
Total	**0.0904**	**0.8271**	**0.9340**	**1.5500e-003**		**0.0402**	**0.0402**		**0.0379**	**0.0379**	**0.0000**	**133.2877**	**133.2877**	**0.0317**	**0.0000**	**134.0804**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2400e-003	0.0954	0.0420	4.5000e-004	0.0159	7.2000e-004	0.0167	4.6000e-003	6.9000e-004	5.2900e-003	0.0000	43.5694	43.5694	4.6000e-004	6.4500e-003	45.5044
Worker	0.0226	0.0158	0.2036	5.6000e-004	0.0677	3.3000e-004	0.0680	0.0180	3.1000e-004	0.0183	0.0000	52.4339	52.4339	1.5100e-003	1.4800e-003	52.9124
Total	**0.0258**	**0.1112**	**0.2455**	**1.0100e-003**	**0.0836**	**1.0500e-003**	**0.0846**	**0.0226**	**1.0000e-003**	**0.0236**	**0.0000**	**96.0033**	**96.0033**	**1.9700e-003**	**7.9300e-003**	**98.4168**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0904	0.8271	0.9340	1.5500e-003		0.0402	0.0402		0.0379	0.0379	0.0000	133.2876	133.2876	0.0317	0.0000	134.0803
Total	**0.0904**	**0.8271**	**0.9340**	**1.5500e-003**		**0.0402**	**0.0402**		**0.0379**	**0.0379**	**0.0000**	**133.2876**	**133.2876**	**0.0317**	**0.0000**	**134.0803**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2400e-003	0.0954	0.0420	4.5000e-004	0.0137	7.2000e-004	0.0144	4.0500e-003	6.9000e-004	4.7400e-003	0.0000	43.5694	43.5694	4.6000e-004	6.4500e-003	45.5044
Worker	0.0226	0.0158	0.2036	5.6000e-004	0.0559	3.3000e-004	0.0563	0.0151	3.1000e-004	0.0154	0.0000	52.4339	52.4339	1.5100e-003	1.4800e-003	52.9124
Total	**0.0258**	**0.1112**	**0.2455**	**1.0100e-003**	**0.0696**	**1.0500e-003**	**0.0707**	**0.0191**	**1.0000e-003**	**0.0201**	**0.0000**	**96.0033**	**96.0033**	**1.9700e-003**	**7.9300e-003**	**98.4168**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1361	1.2436	1.4954	2.4900e-003		0.0567	0.0567		0.0534	0.0534	0.0000	214.4604	214.4604	0.0507	0.0000	215.7283
Total	**0.1361**	**1.2436**	**1.4954**	**2.4900e-003**		**0.0567**	**0.0567**		**0.0534**	**0.0534**	**0.0000**	**214.4604**	**214.4604**	**0.0507**	**0.0000**	**215.7283**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.1300e-003	0.1534	0.0668	7.2000e-004	0.0256	1.1600e-003	0.0268	7.4000e-003	1.1100e-003	8.5100e-003	0.0000	69.0097	69.0097	7.6000e-004	0.0102	72.0708
Worker	0.0339	0.0227	0.3073	8.8000e-004	0.1088	5.1000e-004	0.1093	0.0289	4.7000e-004	0.0294	0.0000	82.3287	82.3287	2.2100e-003	2.2100e-003	83.0436
Total	**0.0390**	**0.1761**	**0.3741**	**1.6000e-003**	**0.1345**	**1.6700e-003**	**0.1361**	**0.0363**	**1.5800e-003**	**0.0379**	**0.0000**	**151.3384**	**151.3384**	**2.9700e-003**	**0.0124**	**155.1144**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1361	1.2436	1.4954	2.4900e-003		0.0567	0.0567		0.0534	0.0534	0.0000	214.4602	214.4602	0.0507	0.0000	215.7280
Total	**0.1361**	**1.2436**	**1.4954**	**2.4900e-003**		**0.0567**	**0.0567**		**0.0534**	**0.0534**	**0.0000**	**214.4602**	**214.4602**	**0.0507**	**0.0000**	**215.7280**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.1300e-003	0.1534	0.0668	7.2000e-004	0.0220	1.1600e-003	0.0232	6.5100e-003	1.1100e-003	7.6200e-003	0.0000	69.0097	69.0097	7.6000e-004	0.0102	72.0708
Worker	0.0339	0.0227	0.3073	8.8000e-004	0.0900	5.1000e-004	0.0905	0.0243	4.7000e-004	0.0247	0.0000	82.3287	82.3287	2.2100e-003	2.2100e-003	83.0436
Total	**0.0390**	**0.1761**	**0.3741**	**1.6000e-003**	**0.1120**	**1.6700e-003**	**0.1136**	**0.0308**	**1.5800e-003**	**0.0324**	**0.0000**	**151.3384**	**151.3384**	**2.9700e-003**	**0.0124**	**155.1144**

Desert Island SP - Amendment - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1885
Paving	2.6900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0126**	**0.0953**	**0.1463**	**2.3000e-004**		**4.6900e-003**	**4.6900e-003**		**4.3100e-003**	**4.3100e-003**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1885**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.6000e-004	3.4800e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.3000e-004	0.0000	0.9336	0.9336	3.0000e-005	3.0000e-005	0.9417
Total	**3.8000e-004**	**2.6000e-004**	**3.4800e-003**	**1.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9336**	**0.9336**	**3.0000e-005**	**3.0000e-005**	**0.9417**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1884
Paving	2.6900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0126**	**0.0953**	**0.1463**	**2.3000e-004**		**4.6900e-003**	**4.6900e-003**		**4.3100e-003**	**4.3100e-003**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1884**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.6000e-004	3.4800e-003	1.0000e-005	1.0200e-003	1.0000e-005	1.0300e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.9336	0.9336	3.0000e-005	3.0000e-005	0.9417
Total	**3.8000e-004**	**2.6000e-004**	**3.4800e-003**	**1.0000e-005**	**1.0200e-003**	**1.0000e-005**	**1.0300e-003**	**2.8000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.9336**	**0.9336**	**3.0000e-005**	**3.0000e-005**	**0.9417**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2491					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
Total	**0.2509**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5569**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4000e-004	5.0000e-004	6.7400e-003	2.0000e-005	2.3900e-003	1.0000e-005	2.4000e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	1.8050	1.8050	5.0000e-005	5.0000e-005	1.8207
Total	**7.4000e-004**	**5.0000e-004**	**6.7400e-003**	**2.0000e-005**	**2.3900e-003**	**1.0000e-005**	**2.4000e-003**	**6.3000e-004**	**1.0000e-005**	**6.4000e-004**	**0.0000**	**1.8050**	**1.8050**	**5.0000e-005**	**5.0000e-005**	**1.8207**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2491					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
Total	**0.2509**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5568**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4000e-004	5.0000e-004	6.7400e-003	2.0000e-005	1.9700e-003	1.0000e-005	1.9800e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.8050	1.8050	5.0000e-005	5.0000e-005	1.8207
Total	**7.4000e-004**	**5.0000e-004**	**6.7400e-003**	**2.0000e-005**	**1.9700e-003**	**1.0000e-005**	**1.9800e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.8050**	**1.8050**	**5.0000e-005**	**5.0000e-005**	**1.8207**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1587	0.1985	1.2819	2.6500e-003	0.2833	2.2300e-003	0.2855	0.0757	2.0900e-003	0.0778	0.0000	250.7839	250.7839	0.0163	0.0141	255.3884
Unmitigated	0.1587	0.1985	1.2819	2.6500e-003	0.2833	2.2300e-003	0.2855	0.0757	2.0900e-003	0.0778	0.0000	250.7839	250.7839	0.0163	0.0141	255.3884

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Golf Course	13.09	13.09	13.09	21,130	21,130
Health Club	0.00	0.00	0.00		
Hotel	351.12	343.98	249.90	498,439	498,439
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Single Family Housing	103.84	104.94	94.05	229,505	229,505
Total	468.05	462.01	357.04	749,074	749,074

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	12.50	4.20	5.40	59.00	28.00	13.00	92	5	3

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Golf Course	12.50	4.20	5.40	33.00	48.00	19.00	52	39	9
Health Club	12.50	4.20	5.40	16.90	64.10	19.00	52	39	9
Hotel	12.50	4.20	5.40	19.40	61.60	19.00	58	38	4
Parking Lot	12.50	4.20	5.40	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	12.50	4.20	5.40	33.00	48.00	19.00	52	39	9
Single Family Housing	11.00	3.50	4.50	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932
Golf Course	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932
Health Club	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932
Hotel	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932
Parking Lot	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932
Recreational Swimming Pool	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932
Single Family Housing	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Desert Island SP - Amendment - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	223.0714	223.0714	0.0188	2.2800e-003	224.2222
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	235.0818	235.0818	0.0198	2.4100e-003	236.2946
NaturalGas Mitigated	0.0237	0.2148	0.1745	1.2900e-003		0.0164	0.0164		0.0164	0.0164	0.0000	234.7786	234.7786	4.5000e-003	4.3000e-003	236.1737
NaturalGas Unmitigated	0.0237	0.2148	0.1745	1.2900e-003		0.0164	0.0164		0.0164	0.0164	0.0000	234.7786	234.7786	4.5000e-003	4.3000e-003	236.1737

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	258640	1.3900e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004	0.0000	13.8020	13.8020	2.6000e-004	2.5000e-004	13.8840
Golf Course	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Health Club	203679	1.1000e-003	9.9800e-003	8.3900e-003	6.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	10.8691	10.8691	2.1000e-004	2.0000e-004	10.9337
Hotel	3.62611e+006	0.0196	0.1778	0.1493	1.0700e-003		0.0135	0.0135		0.0135	0.0135	0.0000	193.5030	193.5030	3.7100e-003	3.5500e-003	194.6529
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	311156	1.6800e-003	0.0143	6.1000e-003	9.0000e-005		1.1600e-003	1.1600e-003		1.1600e-003	1.1600e-003	0.0000	16.6045	16.6045	3.2000e-004	3.0000e-004	16.7032
Total		**0.0237**	**0.2148**	**0.1745**	**1.3000e-003**		**0.0164**	**0.0164**		**0.0164**	**0.0164**	**0.0000**	**234.7786**	**234.7786**	**4.5000e-003**	**4.3000e-003**	**236.1737**

Desert Island SP - Amendment - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	258640	1.3900e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004	0.0000	13.8020	13.8020	2.6000e-004	2.5000e-004	13.8840
Golf Course	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Health Club	203679	1.1000e-003	9.9800e-003	8.3900e-003	6.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	10.8691	10.8691	2.1000e-004	2.0000e-004	10.9337
Hotel	3.62611e+006	0.0196	0.1778	0.1493	1.0700e-003		0.0135	0.0135		0.0135	0.0135	0.0000	193.5030	193.5030	3.7100e-003	3.5500e-003	194.6529
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	311156	1.6800e-003	0.0143	6.1000e-003	9.0000e-005		1.1600e-003	1.1600e-003		1.1600e-003	1.1600e-003	0.0000	16.6045	16.6045	3.2000e-004	3.0000e-004	16.7032
Total		**0.0237**	**0.2148**	**0.1745**	**1.3000e-003**		**0.0164**	**0.0164**		**0.0164**	**0.0164**	**0.0000**	**234.7786**	**234.7786**	**4.5000e-003**	**4.3000e-003**	**236.1737**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	79360	14.0741	1.1900e-003	1.4000e-004	14.1468
Golf Course	0	0.0000	0.0000	0.0000	0.0000
Health Club	62496	11.0834	9.4000e-004	1.1000e-004	11.1406
Hotel	1.06417e+006	188.7260	0.0159	1.9300e-003	189.6996
Parking Lot	31920	5.6609	4.8000e-004	6.0000e-005	5.6901
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	87611.3	15.5375	1.3100e-003	1.6000e-004	15.6176
Total		**235.0818**	**0.0199**	**2.4000e-003**	**236.2946**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	75609.6	13.4090	1.1300e-003	1.4000e-004	13.4782
Golf Course	0	0.0000	0.0000	0.0000	0.0000
Health Club	59542.6	10.5596	8.9000e-004	1.1000e-004	10.6141
Hotel	1.01109e+006	179.3124	0.0151	1.8300e-003	180.2374
Parking Lot	26812.8	4.7551	4.0000e-004	5.0000e-005	4.7797
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	84779.7	15.0353	1.2700e-003	1.5000e-004	15.1129
Total		**223.0714**	**0.0188**	**2.2800e-003**	**224.2222**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3785	9.6000e-004	0.0844	0.0000		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	0.1388	0.1388	1.4000e-004	0.0000	0.1423
Unmitigated	0.4107	7.5000e-003	0.1206	1.5000e-004		6.4400e-003	6.4400e-003		6.4400e-003	6.4400e-003	0.7362	7.0701	7.8063	3.7200e-003	1.3000e-004	7.9370

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0249					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3787					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.4100e-003	6.5300e-003	0.0363	1.5000e-004		5.9800e-003	5.9800e-003		5.9800e-003	5.9800e-003	0.7362	6.9313	7.6675	3.5700e-003	1.3000e-004	7.7947
Landscaping	2.7000e-003	9.6000e-004	0.0844	0.0000		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	0.1388	0.1388	1.4000e-004	0.0000	0.1423
Total	**0.4107**	**7.4900e-003**	**0.1206**	**1.5000e-004**		**6.4400e-003**	**6.4400e-003**		**6.4400e-003**	**6.4400e-003**	**0.7362**	**7.0701**	**7.8063**	**3.7100e-003**	**1.3000e-004**	**7.9370**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0249					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3509					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.7000e-003	9.6000e-004	0.0844	0.0000		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	0.1388	0.1388	1.4000e-004	0.0000	0.1423
Total	**0.3785**	**9.6000e-004**	**0.0844**	**0.0000**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**0.1388**	**0.1388**	**1.4000e-004**	**0.0000**	**0.1423**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

Desert Island SP - Amendment - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	20.1139	0.1262	3.1400e-003	24.2029
Unmitigated	23.2788	0.1576	3.9000e-003	28.3804

Desert Island SP - Amendment - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	1.85 / 0	4.8590	0.0606	1.4700e-003	6.8122
Golf Course	0 / 4.17018	8.2166	6.9000e-004	8.0000e-005	8.2589
Health Club	0.372602 / 0.228369	1.4286	0.0123	3.0000e-004	1.8243
Hotel	1.0654 / 0.118378	3.0315	0.0349	8.5000e-004	4.1576
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.774775 / 0.474862	2.9706	0.0255	6.2000e-004	3.7934
Single Family Housing	0.716694 / 0.451829	2.7726	0.0236	5.8000e-004	3.5339
Total		**23.2788**	**0.1576**	**3.9000e-003**	**28.3804**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	1.48 / 0	3.8872	0.0485	1.1700e-003	5.4498
Golf Course	0 / 3.9158	7.7153	6.5000e-004	8.0000e-005	7.7551
Health Club	0.298081 / 0.214438	1.2054	9.8100e-003	2.4000e-004	1.5223
Hotel	0.852323 / 0.111157	2.4576	0.0280	6.8000e-004	3.3587
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.61982 / 0.445896	2.5065	0.0204	5.0000e-004	3.1654
Single Family Housing	0.573355 / 0.424267	2.3418	0.0189	4.6000e-004	2.9515
Total		**20.1139**	**0.1262**	**3.1300e-003**	**24.2028**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Desert Island SP - Amendment - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	31.5387	1.8639	0.0000	78.1358

Desert Island SP - Amendment - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	9.92	2.0137	0.1190	0.0000	4.9888
Golf Course	3.26	0.6618	0.0391	0.0000	1.6395
Health Club	35.91	7.2894	0.4308	0.0000	18.0592
Hotel	23	4.6688	0.2759	0.0000	11.5667
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	74.67	15.1573	0.8958	0.0000	37.5517
Single Family Housing	8.61	1.7478	0.1033	0.0000	4.3300
Total		**31.5387**	**1.8639**	**0.0000**	**78.1358**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry		0.0000	0.0000	0.0000	0.0000
Golf Course		0.0000	0.0000	0.0000	0.0000
Health Club		0.0000	0.0000	0.0000	0.0000
Hotel		0.0000	0.0000	0.0000	0.0000
Parking Lot		0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool		0.0000	0.0000	0.0000	0.0000
Single Family Housing		0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Desert Island SP - Amendment

Riverside-Salton Sea County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	8.00	1000sqft	0.18	8,000.00	0
Parking Lot	228.00	Space	2.05	91,200.00	0
Golf Course	3.50	Acre	3.50	152,460.00	0
Health Club	6.30	1000sqft	0.14	6,300.00	0
Hotel	42.00	Room	1.40	60,984.00	0
Recreational Swimming Pool	13.10	1000sqft	0.30	13,100.00	0
Single Family Housing	11.00	Dwelling Unit	3.57	19,800.00	21

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	15			**Operational Year**	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - This model accounts for the proposed SP build-out condition with a tentative construction start date of May 1, 2023 for modeling purposes.

Land Use - Population total is based on 1.87 PPH for RM per CADF. GC size is based on combined driving range and desert gardens acreage. Health Club includes pool cafe, yoga pavilion, and restroom SF. GLI solely applies to the 8,000 SF golf course maintenance building for modeling purposes and does not imply the presence of traditional general light industry uses.

Demolition - This model accounts for 5,400 tons of debris associated with 2,700 CY of hardscape and building material removal at a conservative rate of 2 tons per CY.

Architectural Coating - SCAQMD Rule 1113 VOC Content Limits Apply as a Requirement

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Vehicle Trips - Consistent with the traffic assessment, the trip generating uses are the hotel rooms/keys, residential units, and golf course driving range facilities. The trip rates are default to the CalEEMod parameters.

Woodstoves - SCAQMD Rule 445 is applied pertaining to wood burning.

Area Coating - SCAQMD Rule 1113 VOC Content Limits are applied

Construction Off-road Equipment Mitigation - Dust control measures are a requirement under SCAQMD Rule 403/403.1 and Section 15.64.630 of the Rancho Mirage Municipal Code.

Area Mitigation - SCAQMD Rule 1113 VOC Content Limits Apply

Energy Mitigation - High efficiency lighting would be in the form of LED.

Waste Mitigation -

Trips and VMT -

Grading - Exported material (2,700 CY) corresponds to demolition of existing facilities.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	20
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblFireplaces	NumberWood	1.10	0.00
tblGrading	MaterialExported	0.00	2,700.00
tblLandUse	Population	31.00	21.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	4.96	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	28.82	0.00

2.0 Emissions Summary

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.3845	34.5517	28.6229	0.0636	20.4334	1.4253	21.7409	10.3098	1.3113	11.5141	0.0000	6,163.0505	6,163.0505	1.9482	0.3160	6,212.8904
2024	25.1755	15.2572	20.7096	0.0449	1.4775	0.6313	2.1088	0.3983	0.5939	0.9922	0.0000	4,434.5976	4,434.5976	0.7167	0.1468	4,494.3148
Maximum	**25.1755**	**34.5517**	**28.6229**	**0.0636**	**20.4334**	**1.4253**	**21.7409**	**10.3098**	**1.3113**	**11.5141**	**0.0000**	**6,163.0505**	**6,163.0505**	**1.9482**	**0.3160**	**6,212.8904**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.3845	34.5517	28.6229	0.0636	6.7703	1.4253	8.0778	3.3273	1.3113	4.5317	0.0000	6,163.0505	6,163.0505	1.9482	0.3160	6,212.8904
2024	25.1755	15.2572	20.7096	0.0449	1.2295	0.6313	1.8608	0.3374	0.5939	0.9314	0.0000	4,434.5976	4,434.5976	0.7167	0.1468	4,494.3148
Maximum	**25.1755**	**34.5517**	**28.6229**	**0.0636**	**6.7703**	**1.4253**	**8.0778**	**3.3273**	**1.3113**	**4.5317**	**0.0000**	**6,163.0505**	**6,163.0505**	**1.9482**	**0.3160**	**6,212.8904**

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	63.49	0.00	58.33	65.78	0.00	56.32	0.00	0.00	0.00	0.00	0.00	0.00

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3491	0.1701	1.8214	3.6600e-003		0.1510	0.1510		0.1510	0.1510	19.7921	188.0529	207.8450	0.0978	3.4200e-003	211.3089
Energy	0.1300	1.1767	0.9559	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,418.0770	1,418.0770	0.0272	0.0260	1,426.5040
Mobile	1.0968	1.0673	7.7570	0.0160	1.6421	0.0128	1.6549	0.4381	0.0119	0.4500		1,668.0799	1,668.0799	0.0980	0.0864	1,696.2836
Total	**3.5759**	**2.4141**	**10.5343**	**0.0267**	**1.6421**	**0.2536**	**1.8957**	**0.4381**	**0.2528**	**0.6908**	**19.7921**	**3,274.2098**	**3,294.0019**	**0.2230**	**0.1158**	**3,334.0964**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0894	0.0107	0.9373	5.0000e-005		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003	0.0000	1.6999	1.6999	1.7400e-003	0.0000	1.7433
Energy	0.1300	1.1767	0.9559	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,418.0770	1,418.0770	0.0272	0.0260	1,426.5040
Mobile	1.0968	1.0673	7.7570	0.0160	1.6421	0.0128	1.6549	0.4381	0.0119	0.4500		1,668.0799	1,668.0799	0.0980	0.0864	1,696.2836
Total	**3.3162**	**2.2547**	**9.6502**	**0.0231**	**1.6421**	**0.1077**	**1.7498**	**0.4381**	**0.1069**	**0.5449**	**0.0000**	**3,087.8569**	**3,087.8569**	**0.1269**	**0.1124**	**3,124.5309**

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**7.26**	**6.60**	**8.39**	**13.51**	**0.00**	**57.53**	**7.70**	**0.00**	**57.71**	**21.12**	**100.00**	**5.69**	**6.26**	**43.09**	**2.95**	**6.29**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2023	5/26/2023	5	20	
2	Site Preparation	Site Preparation	5/27/2023	6/9/2023	5	10	
3	Grading	Grading	6/10/2023	7/21/2023	5	30	
4	Building Construction	Building Construction	7/22/2023	9/13/2024	5	300	
5	Paving	Paving	9/14/2024	10/11/2024	5	20	
6	Architectural Coating	Architectural Coating	10/12/2024	11/8/2024	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 2.05

Residential Indoor: 40,095; Residential Outdoor: 13,365; Non-Residential Indoor: 112,926; Non-Residential Outdoor: 37,642; Striped Parking Area: 5,472 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Scrapers	2	8.00	367	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	534.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	338.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	143.00	56.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	29.00	0.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.8134	0.0000	5.8134	0.8802	0.0000	0.8802			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**5.8134**	**0.9975**	**6.8109**	**0.8802**	**0.9280**	**1.8082**		**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0584	2.6664	0.7332	0.0147	0.4673	0.0322	0.4995	0.1281	0.0308	0.1589		1,566.7445	1,566.7445	0.0222	0.2469	1,640.8698
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0471	0.0271	0.4288	1.1100e-003	0.1255	6.1000e-004	0.1261	0.0333	5.6000e-004	0.0339		113.6796	113.6796	2.9900e-003	2.8600e-003	114.6051
Total	**0.1055**	**2.6935**	**1.1620**	**0.0158**	**0.5928**	**0.0328**	**0.6256**	**0.1614**	**0.0314**	**0.1928**		**1,680.4240**	**1,680.4240**	**0.0252**	**0.2497**	**1,755.4750**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.8138	0.0000	1.8138	0.2746	0.0000	0.2746			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**1.8138**	**0.9975**	**2.8113**	**0.2746**	**0.9280**	**1.2026**	**0.0000**	**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0584	2.6664	0.7332	0.0147	0.3967	0.0322	0.4289	0.1108	0.0308	0.1416		1,566.7445	1,566.7445	0.0222	0.2469	1,640.8698
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0471	0.0271	0.4288	1.1100e-003	0.1037	6.1000e-004	0.1043	0.0279	5.6000e-004	0.0285		113.6796	113.6796	2.9900e-003	2.8600e-003	114.6051
Total	**0.1055**	**2.6935**	**1.1620**	**0.0158**	**0.5004**	**0.0328**	**0.5332**	**0.1387**	**0.0314**	**0.1701**		**1,680.4240**	**1,680.4240**	**0.0252**	**0.2497**	**1,755.4750**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6912	0.0000	19.6912	10.1076	0.0000	10.1076			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6912**	**1.2660**	**20.9572**	**10.1076**	**1.1647**	**11.2724**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0740	3.3754	0.9282	0.0186	0.5916	0.0407	0.6323	0.1622	0.0390	0.2012		1,983.3694	1,983.3694	0.0281	0.3125	2,077.2060
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0565	0.0325	0.5146	1.3300e-003	0.1506	7.3000e-004	0.1513	0.0400	6.7000e-004	0.0406		136.4155	136.4155	3.5900e-003	3.4300e-003	137.5262
Total	**0.1305**	**3.4079**	**1.4428**	**0.0199**	**0.7422**	**0.0415**	**0.7836**	**0.2021**	**0.0397**	**0.2418**		**2,119.7849**	**2,119.7849**	**0.0317**	**0.3160**	**2,214.7322**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1437	0.0000	6.1437	3.1536	0.0000	3.1536			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**6.1437**	**1.2660**	**7.4097**	**3.1536**	**1.1647**	**4.3183**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0740	3.3754	0.9282	0.0186	0.5022	0.0407	0.5429	0.1402	0.0390	0.1792		1,983.3694	1,983.3694	0.0281	0.3125	2,077.2060
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0565	0.0325	0.5146	1.3300e-003	0.1244	7.3000e-004	0.1252	0.0335	6.7000e-004	0.0342		136.4155	136.4155	3.5900e-003	3.4300e-003	137.5262
Total	**0.1305**	**3.4079**	**1.4428**	**0.0199**	**0.6266**	**0.0415**	**0.6681**	**0.1738**	**0.0397**	**0.2134**		**2,119.7849**	**2,119.7849**	**0.0317**	**0.3160**	**2,214.7322**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.2036**	**1.4245**	**10.6281**	**3.6538**	**1.3105**	**4.9643**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0628	0.0361	0.5718	1.4800e-003	0.1673	8.1000e-004	0.1681	0.0444	7.4000e-004	0.0451		151.5728	151.5728	3.9800e-003	3.8100e-003	152.8069
Total	**0.0628**	**0.0361**	**0.5718**	**1.4800e-003**	**0.1673**	**8.1000e-004**	**0.1681**	**0.0444**	**7.4000e-004**	**0.0451**		**151.5728**	**151.5728**	**3.9800e-003**	**3.8100e-003**	**152.8069**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.8715	0.0000	2.8715	1.1400	0.0000	1.1400			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**2.8715**	**1.4245**	**4.2960**	**1.1400**	**1.3105**	**2.4505**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0628	0.0361	0.5718	1.4800e-003	0.1383	8.1000e-004	0.1391	0.0372	7.4000e-004	0.0380		151.5728	151.5728	3.9800e-003	3.8100e-003	152.8069
Total	**0.0628**	**0.0361**	**0.5718**	**1.4800e-003**	**0.1383**	**8.1000e-004**	**0.1391**	**0.0372**	**7.4000e-004**	**0.0380**		**151.5728**	**151.5728**	**3.9800e-003**	**3.8100e-003**	**152.8069**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0587	1.5832	0.7178	7.8700e-003	0.2810	0.0126	0.2936	0.0810	0.0120	0.0930		834.1701	834.1701	8.8500e-003	0.1235	871.1950
Worker	0.4491	0.2581	4.0882	0.0106	1.1964	5.7800e-003	1.2022	0.3174	5.3200e-003	0.3227		1,083.7452	1,083.7452	0.0285	0.0272	1,092.5690
Total	**0.5077**	**1.8414**	**4.8060**	**0.0185**	**1.4775**	**0.0183**	**1.4958**	**0.3983**	**0.0173**	**0.4156**		**1,917.9153**	**1,917.9153**	**0.0373**	**0.1507**	**1,963.7640**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0587	1.5832	0.7178	7.8700e-003	0.2411	0.0126	0.2536	0.0711	0.0120	0.0832		834.1701	834.1701	8.8500e-003	0.1235	871.1950
Worker	0.4491	0.2581	4.0882	0.0106	0.9885	5.7800e-003	0.9943	0.2663	5.3200e-003	0.2716		1,083.7452	1,083.7452	0.0285	0.0272	1,092.5690
Total	**0.5077**	**1.8414**	**4.8060**	**0.0185**	**1.2295**	**0.0183**	**1.2479**	**0.3374**	**0.0173**	**0.3548**		**1,917.9153**	**1,917.9153**	**0.0373**	**0.1507**	**1,963.7640**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0578	1.5828	0.7102	7.7400e-003	0.2810	0.0125	0.2935	0.0810	0.0119	0.0929		821.3058	821.3058	9.1400e-003	0.1214	857.7174
Worker	0.4182	0.2306	3.8326	0.0103	1.1964	5.5200e-003	1.2020	0.3174	5.0800e-003	0.3224		1,057.5929	1,057.5929	0.0259	0.0253	1,065.7897
Total	**0.4760**	**1.8135**	**4.5428**	**0.0180**	**1.4775**	**0.0180**	**1.4955**	**0.3983**	**0.0170**	**0.4153**		**1,878.8987**	**1,878.8987**	**0.0350**	**0.1468**	**1,923.5071**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0578	1.5828	0.7102	7.7400e-003	0.2410	0.0125	0.2535	0.0711	0.0119	0.0831		821.3058	821.3058	9.1400e-003	0.1214	857.7174
Worker	0.4182	0.2306	3.8326	0.0103	0.9885	5.5200e-003	0.9940	0.2663	5.0800e-003	0.2714		1,057.5929	1,057.5929	0.0259	0.0253	1,065.7897
Total	**0.4760**	**1.8135**	**4.5428**	**0.0180**	**1.2295**	**0.0180**	**1.2475**	**0.3374**	**0.0170**	**0.3545**		**1,878.8987**	**1,878.8987**	**0.0350**	**0.1468**	**1,923.5071**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.2686					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2567**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0439	0.0242	0.4020	1.0800e-003	0.1255	5.8000e-004	0.1261	0.0333	5.3000e-004	0.0338		110.9363	110.9363	2.7100e-003	2.6600e-003	111.7961
Total	**0.0439**	**0.0242**	**0.4020**	**1.0800e-003**	**0.1255**	**5.8000e-004**	**0.1261**	**0.0333**	**5.3000e-004**	**0.0338**		**110.9363**	**110.9363**	**2.7100e-003**	**2.6600e-003**	**111.7961**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.2686					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2567**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0439	0.0242	0.4020	1.0800e-003	0.1037	5.8000e-004	0.1043	0.0279	5.3000e-004	0.0285		110.9363	110.9363	2.7100e-003	2.6600e-003	111.7961
Total	**0.0439**	**0.0242**	**0.4020**	**1.0800e-003**	**0.1037**	**5.8000e-004**	**0.1043**	**0.0279**	**5.3000e-004**	**0.0285**		**110.9363**	**110.9363**	**2.7100e-003**	**2.6600e-003**	**111.7961**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	24.9099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**25.0906**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0848	0.0468	0.7773	2.0800e-003	0.2426	1.1200e-003	0.2438	0.0644	1.0300e-003	0.0654		214.4769	214.4769	5.2400e-003	5.1400e-003	216.1392
Total	**0.0848**	**0.0468**	**0.7773**	**2.0800e-003**	**0.2426**	**1.1200e-003**	**0.2438**	**0.0644**	**1.0300e-003**	**0.0654**		**214.4769**	**214.4769**	**5.2400e-003**	**5.1400e-003**	**216.1392**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	24.9099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**25.0906**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0848	0.0468	0.7773	2.0800e-003	0.2005	1.1200e-003	0.2016	0.0540	1.0300e-003	0.0550		214.4769	214.4769	5.2400e-003	5.1400e-003	216.1392
Total	**0.0848**	**0.0468**	**0.7773**	**2.0800e-003**	**0.2005**	**1.1200e-003**	**0.2016**	**0.0540**	**1.0300e-003**	**0.0550**		**214.4769**	**214.4769**	**5.2400e-003**	**5.1400e-003**	**216.1392**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0968	1.0673	7.7570	0.0160	1.6421	0.0128	1.6549	0.4381	0.0119	0.4500		1,668.0799	1,668.0799	0.0980	0.0864	1,696.2836
Unmitigated	1.0968	1.0673	7.7570	0.0160	1.6421	0.0128	1.6549	0.4381	0.0119	0.4500		1,668.0799	1,668.0799	0.0980	0.0864	1,696.2836

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Golf Course	13.09	13.09	13.09	21,130	21,130
Health Club	0.00	0.00	0.00		
Hotel	351.12	343.98	249.90	498,439	498,439
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Single Family Housing	103.84	104.94	94.05	229,505	229,505
Total	468.05	462.01	357.04	749,074	749,074

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	12.50	4.20	5.40	59.00	28.00	13.00	92	5	3
Golf Course	12.50	4.20	5.40	33.00	48.00	19.00	52	39	9
Health Club	12.50	4.20	5.40	16.90	64.10	19.00	52	39	9
Hotel	12.50	4.20	5.40	19.40	61.60	19.00	58	38	4
Parking Lot	12.50	4.20	5.40	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Recreational Swimming Pool	12.50	4.20	5.40	33.00	48.00	19.00	52	39	9
Single Family Housing	11.00	3.50	4.50	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932
Golf Course	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932
Health Club	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932
Hotel	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932
Parking Lot	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932
Recreational Swimming Pool	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932
Single Family Housing	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1300	1.1767	0.9559	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,418.0770	1,418.0770	0.0272	0.0260	1,426.5040
NaturalGas Unmitigated	0.1300	1.1767	0.9559	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,418.0770	1,418.0770	0.0272	0.0260	1,426.5040

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	708.603	7.6400e-003	0.0695	0.0584	4.2000e-004		5.2800e-003	5.2800e-003		5.2800e-003	5.2800e-003		83.3650	83.3650	1.6000e-003	1.5300e-003	83.8604
Golf Course	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Health Club	558.025	6.0200e-003	0.0547	0.0460	3.3000e-004		4.1600e-003	4.1600e-003		4.1600e-003	4.1600e-003		65.6500	65.6500	1.2600e-003	1.2000e-003	66.0401
Hotel	9934.54	0.1071	0.9740	0.8181	5.8400e-003		0.0740	0.0740		0.0740	0.0740		1,168.7699	1,168.7699	0.0224	0.0214	1,175.7153
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	852.483	9.1900e-003	0.0786	0.0334	5.0000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003		100.2921	100.2921	1.9200e-003	1.8400e-003	100.8881
Total		**0.1300**	**1.1767**	**0.9559**	**7.0900e-003**		**0.0898**	**0.0898**		**0.0898**	**0.0898**		**1,418.0770**	**1,418.0770**	**0.0272**	**0.0260**	**1,426.5039**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.708603	7.6400e-003	0.0695	0.0584	4.2000e-004		5.2800e-003	5.2800e-003		5.2800e-003	5.2800e-003		83.3650	83.3650	1.6000e-003	1.5300e-003	83.8604
Golf Course	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Health Club	0.558025	6.0200e-003	0.0547	0.0460	3.3000e-004		4.1600e-003	4.1600e-003		4.1600e-003	4.1600e-003		65.6500	65.6500	1.2600e-003	1.2000e-003	66.0401
Hotel	9.93454	0.1071	0.9740	0.8181	5.8400e-003		0.0740	0.0740		0.0740	0.0740		1,168.7699	1,168.7699	0.0224	0.0214	1,175.7153
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.852483	9.1900e-003	0.0786	0.0334	5.0000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003		100.2921	100.2921	1.9200e-003	1.8400e-003	100.8881
Total		**0.1300**	**1.1767**	**0.9559**	**7.0900e-003**		**0.0898**	**0.0898**		**0.0898**	**0.0898**		**1,418.0770**	**1,418.0770**	**0.0272**	**0.0260**	**1,426.5039**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Desert Island SP - Amendment - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.0894	0.0107	0.9373	5.0000e-005		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003	0.0000	1.6999	1.6999	1.7400e-003	0.0000	1.7433
Unmitigated	2.3491	0.1701	1.8214	3.6600e-003		0.1510	0.1510		0.1510	0.1510	19.7921	188.0529	207.8450	0.0978	3.4200e-003	211.3089

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1365					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0750					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1076	0.1594	0.8841	3.6100e-003		0.1459	0.1459		0.1459	0.1459	19.7921	186.3529	206.1450	0.0961	3.4200e-003	209.5655
Landscaping	0.0300	0.0107	0.9373	5.0000e-005		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003		1.6999	1.6999	1.7400e-003		1.7433
Total	**2.3491**	**0.1701**	**1.8214**	**3.6600e-003**		**0.1510**	**0.1510**		**0.1510**	**0.1510**	**19.7921**	**188.0529**	**207.8450**	**0.0978**	**3.4200e-003**	**211.3089**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1365					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.9228					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0300	0.0107	0.9373	5.0000e-005		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003		1.6999	1.6999	1.7400e-003		1.7433
Total	**2.0894**	**0.0107**	**0.9373**	**5.0000e-005**		**5.1400e-003**	**5.1400e-003**		**5.1400e-003**	**5.1400e-003**	**0.0000**	**1.6999**	**1.6999**	**1.7400e-003**	**0.0000**	**1.7433**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Desert Island SP - Amendment

Riverside-Salton Sea County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	8.00	1000sqft	0.18	8,000.00	0
Parking Lot	228.00	Space	2.05	91,200.00	0
Golf Course	3.50	Acre	3.50	152,460.00	0
Health Club	6.30	1000sqft	0.14	6,300.00	0
Hotel	42.00	Room	1.40	60,984.00	0
Recreational Swimming Pool	13.10	1000sqft	0.30	13,100.00	0
Single Family Housing	11.00	Dwelling Unit	3.57	19,800.00	21

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	15			**Operational Year**	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - This model accounts for the proposed SP build-out condition with a tentative construction start date of May 1, 2023 for modeling purposes.

Land Use - Population total is based on 1.87 PPH for RM per CADF. GC size is based on combined driving range and desert gardens acreage. Health Club includes pool cafe, yoga pavilion, and restroom SF. GLI solely applies to the 8,000 SF golf course maintenance building for modeling purposes and does not imply the presence of traditional general light industry uses.

Demolition - This model accounts for 5,400 tons of debris associated with 2,700 CY of hardscape and building material removal at a conservative rate of 2 tons per CY.

Architectural Coating - SCAQMD Rule 1113 VOC Content Limits Apply as a Requirement

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Vehicle Trips - Consistent with the traffic assessment, the trip generating uses are the hotel rooms/keys, residential units, and golf course driving range facilities. The trip rates are default to the CalEEMod parameters.

Woodstoves - SCAQMD Rule 445 is applied pertaining to wood burning.

Area Coating - SCAQMD Rule 1113 VOC Content Limits are applied

Construction Off-road Equipment Mitigation - Dust control measures are a requirement under SCAQMD Rule 403/403.1 and Section 15.64.630 of the Rancho Mirage Municipal Code.

Area Mitigation - SCAQMD Rule 1113 VOC Content Limits Apply

Energy Mitigation - High efficiency lighting would be in the form of LED.

Waste Mitigation -

Trips and VMT -

Grading - Exported material (2,700 CY) corresponds to demolition of existing facilities.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	20
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblFireplaces	NumberWood	1.10	0.00
tblGrading	MaterialExported	0.00	2,700.00
tblLandUse	Population	31.00	21.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	4.96	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	28.82	0.00

2.0 Emissions Summary

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.3792	34.5531	28.5229	0.0634	20.4334	1.4253	21.7409	10.3098	1.3113	11.5142	0.0000	6,148.8834	6,148.8834	1.9483	0.3165	6,198.7525
2024	25.1684	15.3636	20.0671	0.0440	1.4775	0.6314	2.1088	0.3983	0.5940	0.9923	0.0000	4,338.4774	4,338.4774	0.7167	0.1478	4,398.5254
Maximum	**25.1684**	**34.5531**	**28.5229**	**0.0634**	**20.4334**	**1.4253**	**21.7409**	**10.3098**	**1.3113**	**11.5142**	**0.0000**	**6,148.8834**	**6,148.8834**	**1.9483**	**0.3165**	**6,198.7525**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.3792	34.5531	28.5229	0.0634	6.7703	1.4253	8.0778	3.3273	1.3113	4.5318	0.0000	6,148.8834	6,148.8834	1.9483	0.3165	6,198.7525
2024	25.1684	15.3636	20.0671	0.0440	1.2295	0.6314	1.8609	0.3374	0.5940	0.9314	0.0000	4,338.4774	4,338.4774	0.7167	0.1478	4,398.5254
Maximum	**25.1684**	**34.5531**	**28.5229**	**0.0634**	**6.7703**	**1.4253**	**8.0778**	**3.3273**	**1.3113**	**4.5318**	**0.0000**	**6,148.8834**	**6,148.8834**	**1.9483**	**0.3165**	**6,198.7525**

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	63.49	0.00	58.33	65.78	0.00	56.32	0.00	0.00	0.00	0.00	0.00	0.00

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3491	0.1701	1.8214	3.6600e-003		0.1510	0.1510		0.1510	0.1510	19.7921	188.0529	207.8450	0.0978	3.4200e-003	211.3089
Energy	0.1300	1.1767	0.9559	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,418.0770	1,418.0770	0.0272	0.0260	1,426.5040
Mobile	0.8942	1.1325	7.1438	0.0149	1.6421	0.0128	1.6549	0.4381	0.0120	0.4500		1,552.6760	1,552.6760	0.1031	0.0884	1,581.5819
Total	**3.3732**	**2.4793**	**9.9211**	**0.0256**	**1.6421**	**0.2536**	**1.8957**	**0.4381**	**0.2528**	**0.6908**	**19.7921**	**3,158.8059**	**3,178.5979**	**0.2282**	**0.1178**	**3,219.3947**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0894	0.0107	0.9373	5.0000e-005		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003	0.0000	1.6999	1.6999	1.7400e-003	0.0000	1.7433
Energy	0.1300	1.1767	0.9559	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,418.0770	1,418.0770	0.0272	0.0260	1,426.5040
Mobile	0.8942	1.1325	7.1438	0.0149	1.6421	0.0128	1.6549	0.4381	0.0120	0.4500		1,552.6760	1,552.6760	0.1031	0.0884	1,581.5819
Total	**3.1135**	**2.3199**	**9.0370**	**0.0220**	**1.6421**	**0.1077**	**1.7498**	**0.4381**	**0.1069**	**0.5450**	**0.0000**	**2,972.4529**	**2,972.4529**	**0.1321**	**0.1144**	**3,009.8292**

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	7.70	6.43	8.91	14.09	0.00	57.53	7.70	0.00	57.71	21.12	100.00	5.90	6.49	42.12	2.90	6.51

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2023	5/26/2023	5	20	
2	Site Preparation	Site Preparation	5/27/2023	6/9/2023	5	10	
3	Grading	Grading	6/10/2023	7/21/2023	5	30	
4	Building Construction	Building Construction	7/22/2023	9/13/2024	5	300	
5	Paving	Paving	9/14/2024	10/11/2024	5	20	
6	Architectural Coating	Architectural Coating	10/12/2024	11/8/2024	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 2.05

Residential Indoor: 40,095; Residential Outdoor: 13,365; Non-Residential Indoor: 112,926; Non-Residential Outdoor: 37,642; Striped Parking Area: 5,472 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Scrapers	2	8.00	367	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	534.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	338.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	143.00	56.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	29.00	0.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.8134	0.0000	5.8134	0.8802	0.0000	0.8802			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**5.8134**	**0.9975**	**6.8109**	**0.8802**	**0.9280**	**1.8082**		**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0537	2.8252	0.7487	0.0147	0.4673	0.0322	0.4995	0.1281	0.0308	0.1589		1,569.1947	1,569.1947	0.0220	0.2473	1,643.4299
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0431	0.0281	0.3538	1.0100e-003	0.1255	6.1000e-004	0.1261	0.0333	5.6000e-004	0.0339		103.0543	103.0543	3.0500e-003	2.9200e-003	104.0017
Total	**0.0968**	**2.8533**	**1.1024**	**0.0157**	**0.5928**	**0.0328**	**0.6256**	**0.1614**	**0.0314**	**0.1928**		**1,672.2490**	**1,672.2490**	**0.0251**	**0.2502**	**1,747.4315**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.8138	0.0000	1.8138	0.2746	0.0000	0.2746			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**1.8138**	**0.9975**	**2.8113**	**0.2746**	**0.9280**	**1.2026**	**0.0000**	**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0537	2.8252	0.7487	0.0147	0.3967	0.0322	0.4289	0.1108	0.0308	0.1416		1,569.1947	1,569.1947	0.0220	0.2473	1,643.4299
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0431	0.0281	0.3538	1.0100e-003	0.1037	6.1000e-004	0.1043	0.0279	5.6000e-004	0.0285		103.0543	103.0543	3.0500e-003	2.9200e-003	104.0017
Total	**0.0968**	**2.8533**	**1.1024**	**0.0157**	**0.5004**	**0.0328**	**0.5332**	**0.1387**	**0.0314**	**0.1701**		**1,672.2490**	**1,672.2490**	**0.0251**	**0.2502**	**1,747.4315**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6912	0.0000	19.6912	10.1076	0.0000	10.1076			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6912**	**1.2660**	**20.9572**	**10.1076**	**1.1647**	**11.2724**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0680	3.5765	0.9477	0.0186	0.5916	0.0408	0.6324	0.1622	0.0390	0.2012		1,986.4712	1,986.4712	0.0278	0.3130	2,080.4468
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0517	0.0337	0.4245	1.2100e-003	0.1506	7.3000e-004	0.1513	0.0400	6.7000e-004	0.0406		123.6651	123.6651	3.6600e-003	3.5100e-003	124.8020
Total	**0.1197**	**3.6103**	**1.3723**	**0.0198**	**0.7422**	**0.0415**	**0.7837**	**0.2021**	**0.0397**	**0.2418**		**2,110.1363**	**2,110.1363**	**0.0315**	**0.3165**	**2,205.2488**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1437	0.0000	6.1437	3.1536	0.0000	3.1536			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**6.1437**	**1.2660**	**7.4097**	**3.1536**	**1.1647**	**4.3183**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0680	3.5765	0.9477	0.0186	0.5022	0.0408	0.5430	0.1402	0.0390	0.1793		1,986.4712	1,986.4712	0.0278	0.3130	2,080.4468
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0517	0.0337	0.4245	1.2100e-003	0.1244	7.3000e-004	0.1252	0.0335	6.7000e-004	0.0342		123.6651	123.6651	3.6600e-003	3.5100e-003	124.8020
Total	**0.1197**	**3.6103**	**1.3723**	**0.0198**	**0.6266**	**0.0415**	**0.6681**	**0.1738**	**0.0397**	**0.2135**		**2,110.1363**	**2,110.1363**	**0.0315**	**0.3165**	**2,205.2488**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.2036**	**1.4245**	**10.6281**	**3.6538**	**1.3105**	**4.9643**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0575	0.0375	0.4717	1.3400e-003	0.1673	8.1000e-004	0.1681	0.0444	7.4000e-004	0.0451		137.4057	137.4057	4.0600e-003	3.9000e-003	138.6689
Total	**0.0575**	**0.0375**	**0.4717**	**1.3400e-003**	**0.1673**	**8.1000e-004**	**0.1681**	**0.0444**	**7.4000e-004**	**0.0451**		**137.4057**	**137.4057**	**4.0600e-003**	**3.9000e-003**	**138.6689**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.8715	0.0000	2.8715	1.1400	0.0000	1.1400			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**2.8715**	**1.4245**	**4.2960**	**1.1400**	**1.3105**	**2.4505**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0575	0.0375	0.4717	1.3400e-003	0.1383	8.1000e-004	0.1391	0.0372	7.4000e-004	0.0380		137.4057	137.4057	4.0600e-003	3.9000e-003	138.6689
Total	**0.0575**	**0.0375**	**0.4717**	**1.3400e-003**	**0.1383**	**8.1000e-004**	**0.1391**	**0.0372**	**7.4000e-004**	**0.0380**		**137.4057**	**137.4057**	**4.0600e-003**	**3.9000e-003**	**138.6689**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0539	1.6809	0.7436	7.8900e-003	0.2810	0.0126	0.2936	0.0810	0.0121	0.0930		836.7457	836.7457	8.6500e-003	0.1240	873.9115
Worker	0.4109	0.2679	3.3725	9.6000e-003	1.1964	5.7800e-003	1.2022	0.3174	5.3200e-003	0.3227		982.4505	982.4505	0.0290	0.0279	991.4826
Total	**0.4648**	**1.9488**	**4.1161**	**0.0175**	**1.4775**	**0.0184**	**1.4959**	**0.3983**	**0.0174**	**0.4157**		**1,819.1962**	**1,819.1962**	**0.0377**	**0.1519**	**1,865.3941**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0539	1.6809	0.7436	7.8900e-003	0.2411	0.0126	0.2537	0.0711	0.0121	0.0832		836.7457	836.7457	8.6500e-003	0.1240	873.9115
Worker	0.4109	0.2679	3.3725	9.6000e-003	0.9885	5.7800e-003	0.9943	0.2663	5.3200e-003	0.2716		982.4505	982.4505	0.0290	0.0279	991.4826
Total	**0.4648**	**1.9488**	**4.1161**	**0.0175**	**1.2295**	**0.0184**	**1.2479**	**0.3374**	**0.0174**	**0.3548**		**1,819.1962**	**1,819.1962**	**0.0377**	**0.1519**	**1,865.3941**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0531	1.6806	0.7358	7.7700e-003	0.2810	0.0125	0.2936	0.0810	0.0120	0.0929		823.8593	823.8593	8.9300e-003	0.1219	860.4089
Worker	0.3836	0.2392	3.1645	9.3000e-003	1.1964	5.5200e-003	1.2020	0.3174	5.0800e-003	0.3224		958.9192	958.9192	0.0264	0.0259	967.3088
Total	**0.4367**	**1.9199**	**3.9003**	**0.0171**	**1.4775**	**0.0181**	**1.4955**	**0.3983**	**0.0171**	**0.4154**		**1,782.7785**	**1,782.7785**	**0.0353**	**0.1478**	**1,827.7178**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0531	1.6806	0.7358	7.7700e-003	0.2410	0.0125	0.2536	0.0711	0.0120	0.0831		823.8593	823.8593	8.9300e-003	0.1219	860.4089
Worker	0.3836	0.2392	3.1645	9.3000e-003	0.9885	5.5200e-003	0.9940	0.2663	5.0800e-003	0.2714		958.9192	958.9192	0.0264	0.0259	967.3088
Total	**0.4367**	**1.9199**	**3.9003**	**0.0171**	**1.2295**	**0.0181**	**1.2476**	**0.3374**	**0.0171**	**0.3545**		**1,782.7785**	**1,782.7785**	**0.0353**	**0.1478**	**1,827.7178**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.2686					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2567**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0402	0.0251	0.3319	9.8000e-004	0.1255	5.8000e-004	0.1261	0.0333	5.3000e-004	0.0338		100.5859	100.5859	2.7700e-003	2.7200e-003	101.4660
Total	**0.0402**	**0.0251**	**0.3319**	**9.8000e-004**	**0.1255**	**5.8000e-004**	**0.1261**	**0.0333**	**5.3000e-004**	**0.0338**		**100.5859**	**100.5859**	**2.7700e-003**	**2.7200e-003**	**101.4660**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.2686					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2567**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0402	0.0251	0.3319	9.8000e-004	0.1037	5.8000e-004	0.1043	0.0279	5.3000e-004	0.0285		100.5859	100.5859	2.7700e-003	2.7200e-003	101.4660
Total	**0.0402**	**0.0251**	**0.3319**	**9.8000e-004**	**0.1037**	**5.8000e-004**	**0.1043**	**0.0279**	**5.3000e-004**	**0.0285**		**100.5859**	**100.5859**	**2.7700e-003**	**2.7200e-003**	**101.4660**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	24.9099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**25.0906**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0778	0.0485	0.6418	1.8900e-003	0.2426	1.1200e-003	0.2438	0.0644	1.0300e-003	0.0654		194.4661	194.4661	5.3600e-003	5.2600e-003	196.1675
Total	**0.0778**	**0.0485**	**0.6418**	**1.8900e-003**	**0.2426**	**1.1200e-003**	**0.2438**	**0.0644**	**1.0300e-003**	**0.0654**		**194.4661**	**194.4661**	**5.3600e-003**	**5.2600e-003**	**196.1675**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	24.9099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**25.0906**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0778	0.0485	0.6418	1.8900e-003	0.2005	1.1200e-003	0.2016	0.0540	1.0300e-003	0.0550		194.4661	194.4661	5.3600e-003	5.2600e-003	196.1675
Total	**0.0778**	**0.0485**	**0.6418**	**1.8900e-003**	**0.2005**	**1.1200e-003**	**0.2016**	**0.0540**	**1.0300e-003**	**0.0550**		**194.4661**	**194.4661**	**5.3600e-003**	**5.2600e-003**	**196.1675**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.8942	1.1325	7.1438	0.0149	1.6421	0.0128	1.6549	0.4381	0.0120	0.4500		1,552.6760	1,552.6760	0.1031	0.0884	1,581.5819
Unmitigated	0.8942	1.1325	7.1438	0.0149	1.6421	0.0128	1.6549	0.4381	0.0120	0.4500		1,552.6760	1,552.6760	0.1031	0.0884	1,581.5819

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Golf Course	13.09	13.09	13.09	21,130	21,130
Health Club	0.00	0.00	0.00		
Hotel	351.12	343.98	249.90	498,439	498,439
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Single Family Housing	103.84	104.94	94.05	229,505	229,505
Total	468.05	462.01	357.04	749,074	749,074

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	12.50	4.20	5.40	59.00	28.00	13.00	92	5	3
Golf Course	12.50	4.20	5.40	33.00	48.00	19.00	52	39	9
Health Club	12.50	4.20	5.40	16.90	64.10	19.00	52	39	9
Hotel	12.50	4.20	5.40	19.40	61.60	19.00	58	38	4
Parking Lot	12.50	4.20	5.40	0.00	0.00	0.00	0	0	0

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Recreational Swimming Pool	12.50	4.20	5.40	33.00	48.00	19.00	52	39	9
Single Family Housing	11.00	3.50	4.50	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932
Golf Course	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932
Health Club	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932
Hotel	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932
Parking Lot	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932
Recreational Swimming Pool	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932
Single Family Housing	0.540541	0.056458	0.173793	0.136090	0.025268	0.007074	0.011525	0.018705	0.000610	0.000304	0.023606	0.001094	0.004932

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1300	1.1767	0.9559	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,418.0770	1,418.0770	0.0272	0.0260	1,426.5040
NaturalGas Unmitigated	0.1300	1.1767	0.9559	7.0900e-003		0.0898	0.0898		0.0898	0.0898		1,418.0770	1,418.0770	0.0272	0.0260	1,426.5040

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	708.603	7.6400e-003	0.0695	0.0584	4.2000e-004		5.2800e-003	5.2800e-003		5.2800e-003	5.2800e-003		83.3650	83.3650	1.6000e-003	1.5300e-003	83.8604
Golf Course	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Health Club	558.025	6.0200e-003	0.0547	0.0460	3.3000e-004		4.1600e-003	4.1600e-003		4.1600e-003	4.1600e-003		65.6500	65.6500	1.2600e-003	1.2000e-003	66.0401
Hotel	9934.54	0.1071	0.9740	0.8181	5.8400e-003		0.0740	0.0740		0.0740	0.0740		1,168.7699	1,168.7699	0.0224	0.0214	1,175.7153
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	852.483	9.1900e-003	0.0786	0.0334	5.0000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003		100.2921	100.2921	1.9200e-003	1.8400e-003	100.8881
Total		**0.1300**	**1.1767**	**0.9559**	**7.0900e-003**		**0.0898**	**0.0898**		**0.0898**	**0.0898**		**1,418.0770**	**1,418.0770**	**0.0272**	**0.0260**	**1,426.5039**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.708603	7.6400e-003	0.0695	0.0584	4.2000e-004		5.2800e-003	5.2800e-003		5.2800e-003	5.2800e-003		83.3650	83.3650	1.6000e-003	1.5300e-003	83.8604
Golf Course	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Health Club	0.558025	6.0200e-003	0.0547	0.0460	3.3000e-004		4.1600e-003	4.1600e-003		4.1600e-003	4.1600e-003		65.6500	65.6500	1.2600e-003	1.2000e-003	66.0401
Hotel	9.93454	0.1071	0.9740	0.8181	5.8400e-003		0.0740	0.0740		0.0740	0.0740		1,168.7699	1,168.7699	0.0224	0.0214	1,175.7153
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.852483	9.1900e-003	0.0786	0.0334	5.0000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003		100.2921	100.2921	1.9200e-003	1.8400e-003	100.8881
Total		**0.1300**	**1.1767**	**0.9559**	**7.0900e-003**		**0.0898**	**0.0898**		**0.0898**	**0.0898**		**1,418.0770**	**1,418.0770**	**0.0272**	**0.0260**	**1,426.5039**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Desert Island SP - Amendment - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.0894	0.0107	0.9373	5.0000e-005		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003	0.0000	1.6999	1.6999	1.7400e-003	0.0000	1.7433
Unmitigated	2.3491	0.1701	1.8214	3.6600e-003		0.1510	0.1510		0.1510	0.1510	19.7921	188.0529	207.8450	0.0978	3.4200e-003	211.3089

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1365					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0750					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1076	0.1594	0.8841	3.6100e-003		0.1459	0.1459		0.1459	0.1459	19.7921	186.3529	206.1450	0.0961	3.4200e-003	209.5655
Landscaping	0.0300	0.0107	0.9373	5.0000e-005		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003		1.6999	1.6999	1.7400e-003		1.7433
Total	**2.3491**	**0.1701**	**1.8214**	**3.6600e-003**		**0.1510**	**0.1510**		**0.1510**	**0.1510**	**19.7921**	**188.0529**	**207.8450**	**0.0978**	**3.4200e-003**	**211.3089**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1365					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.9228					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0300	0.0107	0.9373	5.0000e-005		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003		1.6999	1.6999	1.7400e-003		1.7433
Total	**2.0894**	**0.0107**	**0.9373**	**5.0000e-005**		**5.1400e-003**	**5.1400e-003**		**5.1400e-003**	**5.1400e-003**	**0.0000**	**1.6999**	**1.6999**	**1.7400e-003**	**0.0000**	**1.7433**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

DESERT ISLAND HOTEL
APPENDIX

Appendix B

Noise and Vibration Impact Analysis, Urban Crossroads, Inc. May 2022.

Desert Island Hotel

NOISE AND VIBRATION IMPACT ANALYSIS

CITY OF RANCHO MIRAGE

PREPARED BY:

William Maddux
bmaddux@urbanxroads.com
(619) 778-1971

MAY 26, 2022

TABLE OF CONTENTS

APPENDICES

LIST OF EXHIBITS

LIST OF TABLES

LIST OF ABBREVIATED TERMS

(1)	Reference
ANSI	American National Standards Institute
Calveno	California Vehicle Noise
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
mph	Miles per hour
PPV	Peak Particle Velocity
Project	Desert Island Hotel
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
VdB	Vibration Decibels

EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the noise exposure and the necessary noise mitigation measures for the proposed Desert Island Hotel development ("Project"). The Project site is located south of Frank Sinatra Drive and adjacent to Island Drive in the City of Rancho Mirage. The Project proposes to develop a 42-key boutique hotel (with tennis, pool, and yoga amenities), 11 private residences, and a golf training facility. This noise study has been prepared to satisfy applicable City of Rancho Mirage noise standards and significance criteria based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (1).

The results of this Noise and Vibration Impact Analysis are summarized below based on the significance criteria in Section 4 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA before and after any required mitigation measures.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Off-Site Traffic Noise	7	*Less Than Significant*	-
Operational Noise	9	*Less Than Significant*	-
Construction Noise	10	*Less Than Significant*	-
Construction Vibration		*Less Than Significant*	-

This page intentionally left blank

1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Desert Island Hotel ("Project"). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, sets out the regulatory setting, presents the study methods and procedures for noise analysis, evaluates the future off-site noise impacts, evaluates long-term stationary-source noise, and evaluated short-term construction noise and vibration impacts.

1.1 SITE LOCATION

The proposed Project is located south of Frank Sinatra Drive and adjacent to Island Drive in the City of Rancho Mirage, as shown on Exhibit 1-A.

1.2 PROJECT DESCRIPTION

The Project is proposed to repurpose approximately 13.3 acres of the existing golf driving range and a portion of the existing golf course with new facilities to accommodate a 42-key boutique hotel (with tennis, pool, and yoga amenities), 11 private residences, and a golf training facility.

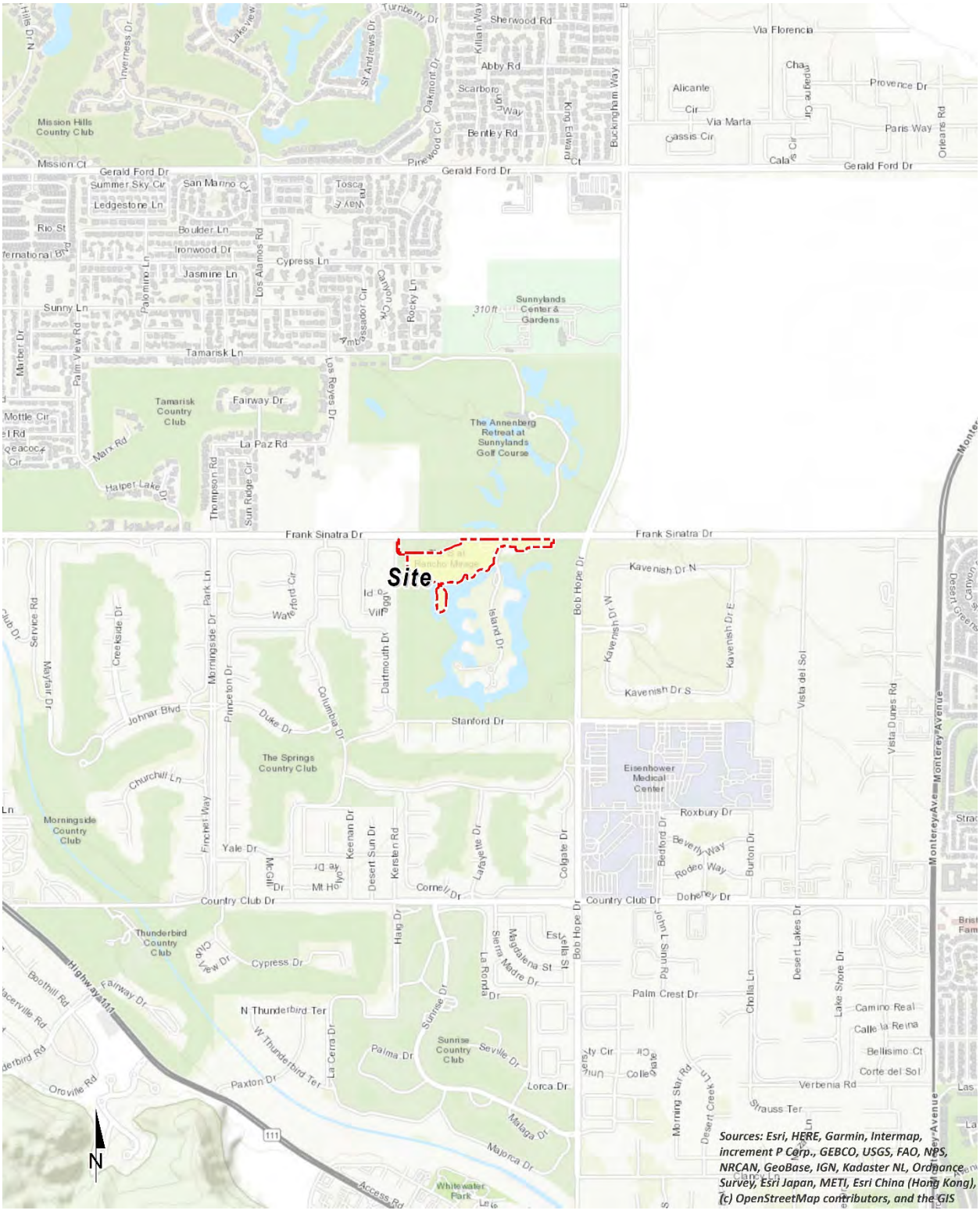
The existing driving range will be removed to make room for the new facilities. The existing golf maintenance structure will be replaced by a new building along with an expanded parking lot east of the main entry. The existing clubhouse will remain and continue to provide services to golfers, Desert Island residents, and the general public, with occasional events for up to 300 persons. It is anticipated that events with more than 300 persons in the existing clubhouse building would require a Temporary Use Permit, accompanied by a parking and traffic management plan if necessary. The existing golf course will continue to operate as an 18-hole facility with minor routing adjustments to 9th and 18th Fairways to accommodate the hotel.

Amenities which are complementary to the new hotel include a hotel pool, a small pool café, a tennis court for hotel guests, and a shaded yoga platform located on the island south of the lake accessed by foot from the existing bridge.

The new private duplex-style condominium residences (11 units) will be managed and maintained by the hotel operator. When not in use by individual owners, these units will be made available for rental by the hotel operator.

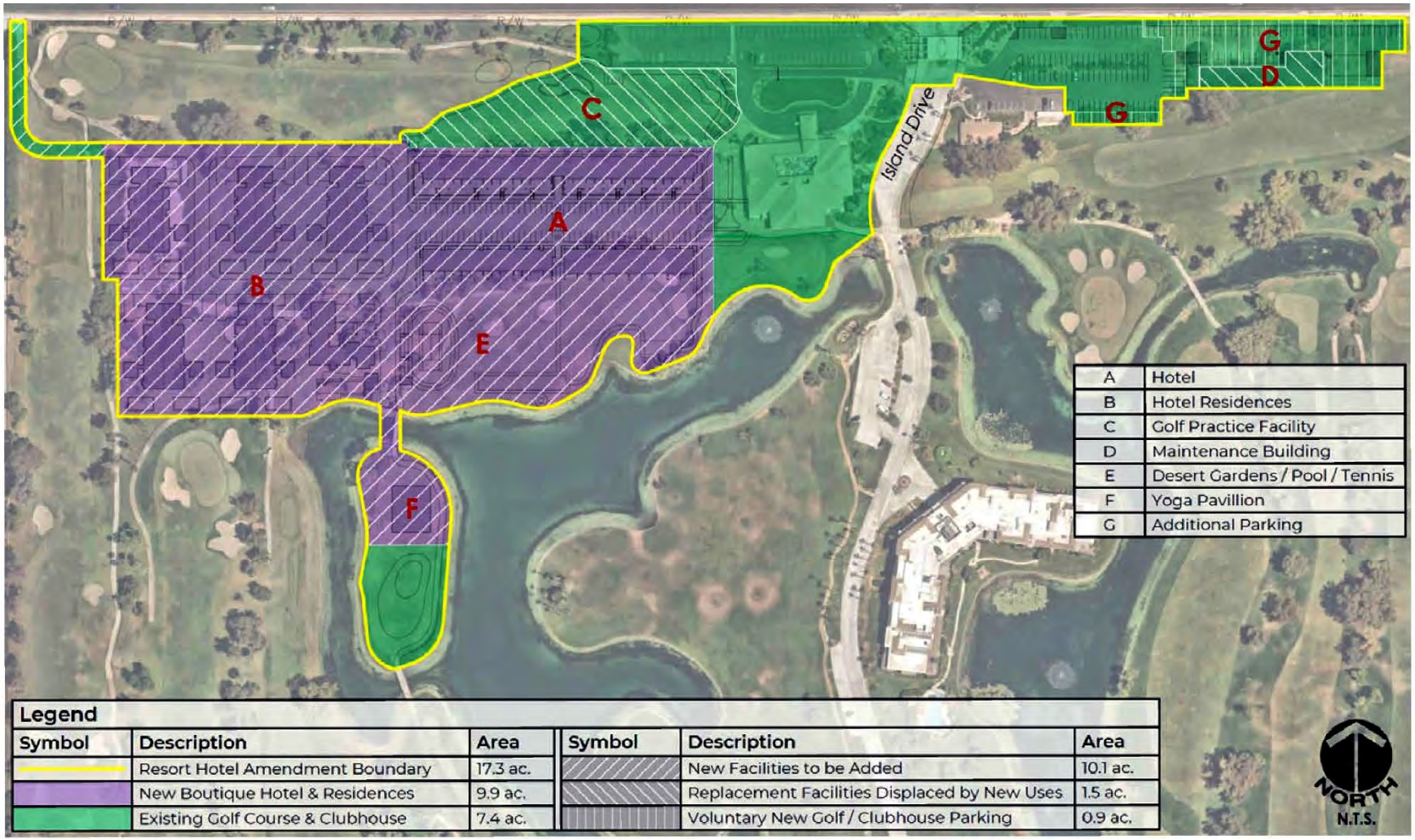
The new golf training park will replace the current driving range. It will consist of an 18-hole tournament putting green, short game training areas, and virtual golf simulator stations. In order to evaluate the potential increase in practice golf park activity which maybe higher than the existing driving range, the employment associated with golf practice activity is estimated to increase by 10 employees.

EXHIBIT 1-A: LOCATION MAP



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS

EXHIBIT 1-B: SITE PLAN



This page intentionally left blank

2 FUNDAMENTALS

Noise is simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

EXHIBIT 2-A: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140	INTOLERABLE OR DEAFENING	HEARING LOSS
NEAR JET ENGINE		130		
		120		
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100	VERY NOISY	
GAS LAWN MOWER AT 1m (3 ft)		90		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80		SPEECH INTERFERENCE
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD	
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60		
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	SLEEP DISTURBANCE
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		
QUIET SUBURBAN NIGHTTIME	LIBRARY	30	FAINT	NO EFFECT
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0		

Source: Environmental Protection Agency Office of Noise Abatement and Control, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA/ONAC 550/9-74-004) March 1974.

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (2) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA

at approximately 1,000 feet, which can cause serious discomfort. (3) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most used metric is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the "average" noise levels within the environment.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time-of-day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when noise can become more intrusive. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of Rancho Mirage relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 SOUND PROPAGATION

When sound propagates over a distance, it changes in level and frequency content. The way noise reduces with distance depends on the following factors.

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (2)

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually

sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (4)

2.3.3 ATMOSPHERIC EFFECTS

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (2)

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an "out of sight, out of mind" effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby residents. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of-sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The Federal Highway Administration (FHWA) does not consider the planting of vegetation to be a noise abatement measure. (5)

2.4 NOISE CONTROL

Noise control is the process of obtaining an acceptable noise environment for an observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to these three elements.

2.5 NOISE BARRIER ATTENUATION

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must block the line-of-sight path of sound from the noise source.

2.6 LAND USE COMPATIBILITY WITH NOISE

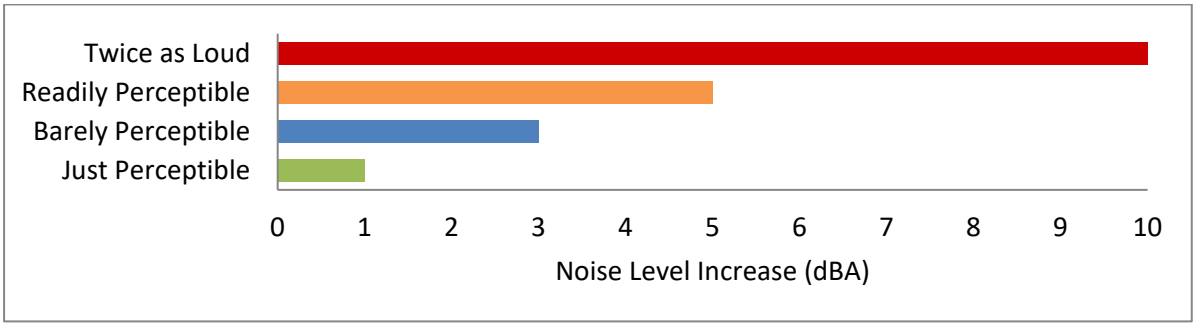
Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (6)

2.7 COMMUNITY RESPONSE TO NOISE

Approximately sixteen percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints may occur. Twenty to thirty percent of the population will not complain even in very severe noise environments. (7 pp. 8-6) Thus, a variety of reactions can be expected from people exposed to any given noise environment.

Surveys have shown that community response to noise varies from no reaction to vigorous action for newly introduced noises averaging from 10 dB below existing to 25 dB above existing. (8) According to research originally published in the Noise Effects Handbook (7), the percentage of high annoyance ranges from approximately 0 percent at 45 dB or less, 10 percent are highly annoyed around 60 dB, and increases rapidly to approximately 70 percent being highly annoyed at approximately 85 dB or greater. Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. A change of 3 dBA is considered barely perceptible, and changes of 5 dBA are considered readily perceptible. (4)

EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION



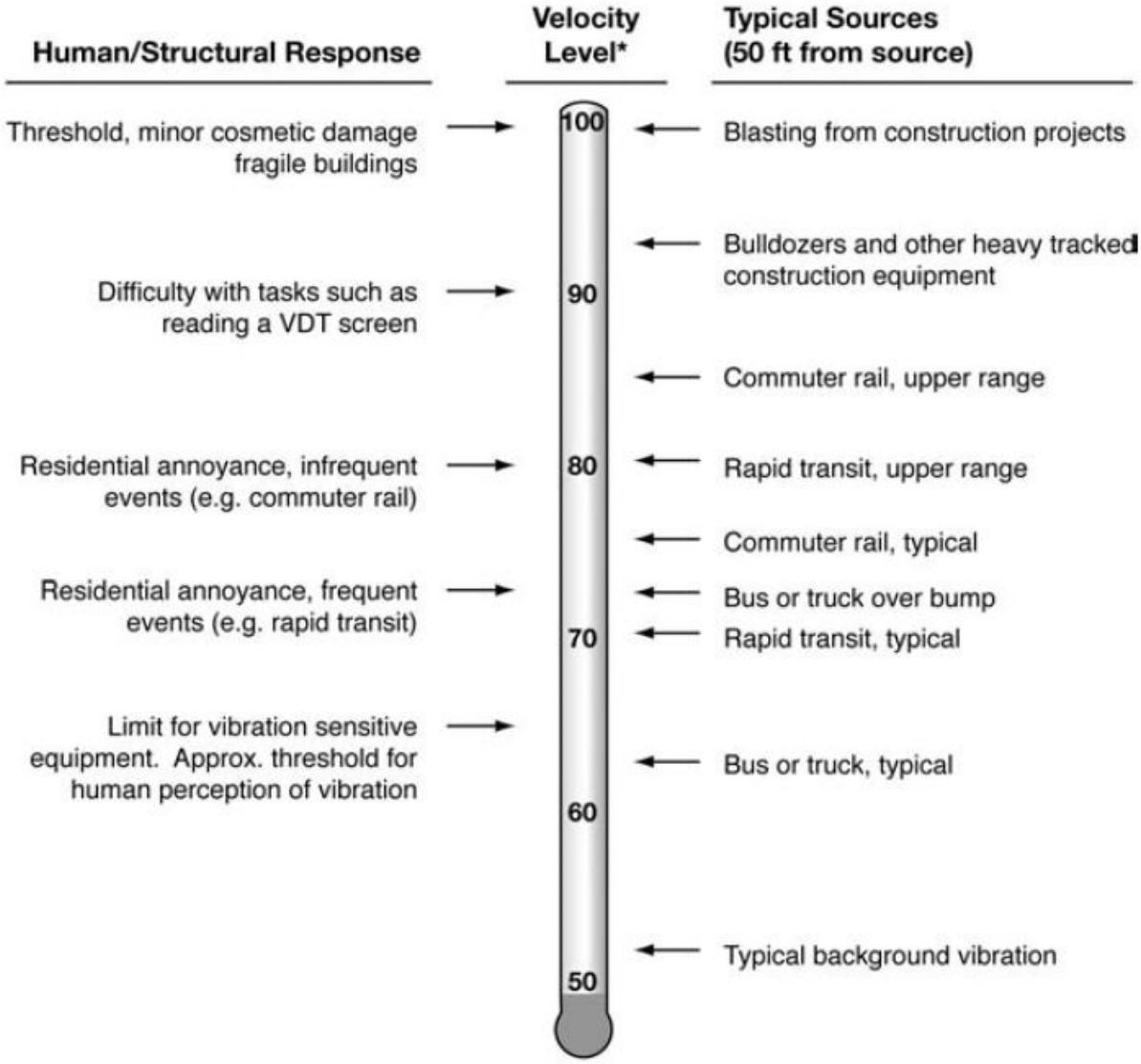
2.8 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Impact Assessment Manual* (8) , vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment and/or activities.

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-C illustrates common vibration sources and the human and structural response to ground-borne vibration.

EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION



** RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second*

Source: Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual.

3 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research (OPR). (9) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.1.1 RESIDENTIAL CONSTRUCTION

The State of California's noise insulation standards for all residential units are codified in the California Code of Regulations (CCR), Title 24, Building Standards Administrative Code, Section 1206 to 1207.11.2. These noise standards are applied to new construction that contains dwelling units or sleeping units, such as residential and hotel or motel uses, in California for controlling interior noise levels resulting from exterior noise sources. For new buildings, the acceptable interior noise limit is 45 dBA CNEL in habitable rooms (10).

3.1.2 NON-RESIDENTIAL CONSTRUCTION

The State of California's Green Building Standards Code contains mandatory measures for non-residential building construction in Section 5.507 on Environmental Comfort (11). These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when non-residential structures are developed in areas where the exterior noise levels exceed 65 dBA CNEL, such as within a noise contour of an airport, freeway, railroad, and other noise source. If the development falls within an airport or freeway 65 dBA CNEL noise contour, buildings shall be construction to provide an interior noise level environment attributable to exterior sources that does not exceed an hourly equivalent level of 50 dBA L_{eq} in occupied areas during any hour of operation.

3.2 CITY OF RANCHO MIRAGE GENERAL PLAN NOISE ELEMENT

The City of Rancho Mirage has adopted a Noise Element of the General Plan (2017) to control and abate environmental noise, and to protect the citizens of and visitors to the City of Rancho Mirage from excessive exposure to noise. The Noise Element is intended to help align the community's various land uses with the existing and future noise environment and thus ensure that any negative effects of noise are minimized or completely avoided.

The noise criteria identified in the City of Rancho Mirage Noise Element are guidelines to evaluate the land use compatibility of transportation related noise. To assist the City in the planning compatible uses, a range of exterior noise thresholds for various land uses have been developed. Particularly sensitive land uses include residences, schools, libraries, churches, hospitals and nursing homes, and destination resort areas. In addition, parks, golf courses, and other outdoor activity areas can be sensitive to noise disturbances. Less sensitive land uses include commercial uses, conventional hotels and motels, and playgrounds. Least sensitive to noise are heavy commercial uses, transportation, communication, and utility land uses.

To protect noise sensitive land uses, and minimize the effects of excessive and nuisance noise, the City of Rancho Mirage General Plan Noise Element has outlined the following noise policies with the goal (Goal N 1) of a noise environment providing peace and quiet that complements and is consistent with Rancho Mirage's resort residential character:

Policy N 1.1: Land use patterns, associated traffic and its distribution, and individual developments shall be assessed for their potential to generate adverse and incompatible noise impacts. Noise exceeding normally acceptable levels shall be appropriately mitigated.

Policy N 1.2 Noise sensitive land uses, including residences, resorts, community open space, schools, libraries, churches, hospitals, and convalescent homes, shall be protected from high noise levels emitted by both existing and future noise sources.

Policy N 1.3 Project designs shall be required to include measures that assure that interior noise levels for residential development do not exceed 45 dBA CNEL.

Policy N 1.4 Land uses allowed adjacent to Rancho Mirage's major arterial roads and highways, or the Southern Pacific Railroad/I-10 corridor, should generally be limited to those that are compatible with higher noise levels to maximize noise-related land use compatibility.

Policy N 1.5 Develop and maintain a circulation plan that is consistent with the resort residential character of Rancho Mirage, avoids impacts to existing and planned sensitive receptors/uses, and provides fixed routes for existing and future truck traffic.

The Noise Level and Land Use Compatibility matrix in the Noise Element shown on Exhibit 3-A provides guidelines to evaluate the acceptability of the transportation related noise level impacts. Single-family residential land uses are considered *normally acceptable* with exterior noise levels below 60 dBA CNEL and *conditionally acceptable* with noise levels below 70 dBA CNEL. Multi-family residential land uses are considered *normally acceptable* with exterior noise levels below 65 dBA CNEL and *conditionally acceptable* with noise levels below 70 dBA CNEL. For

conditionally acceptable land use, *new construction or development undertaken only after a detailed analysis of the noise reduction requirements is made and necessary noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply system or air conditioning will normally suffice. Outdoor environment will seem noisy.*

3.3 OPERATIONAL NOISE STANDARDS

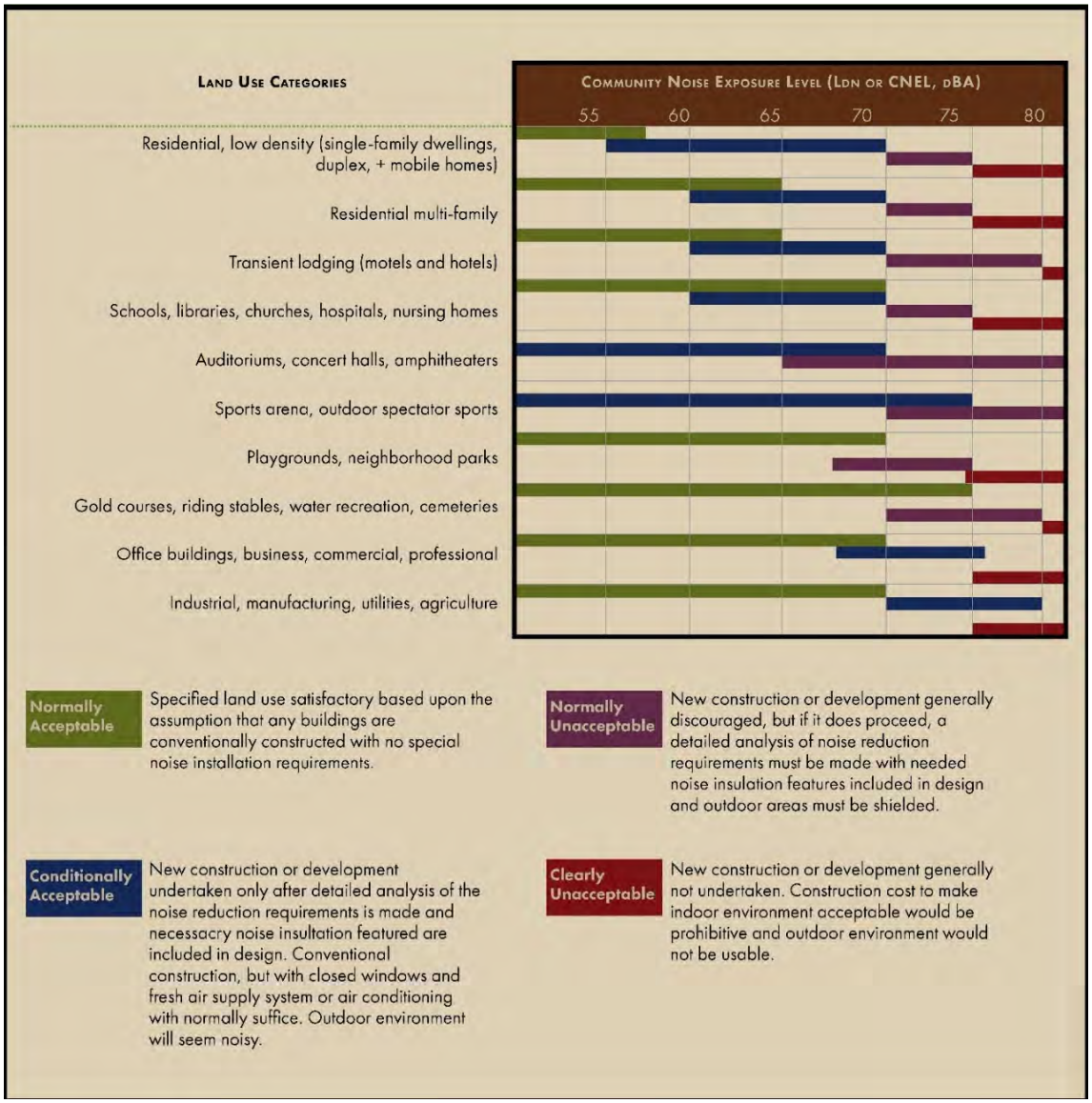
To analyze noise impacts originating from a designated fixed location or private property such as the Desert Island Hotel Project, stationary-source (operational) noise such as the expected outdoor recreational and training activities, trash enclosure activities, roof-top air conditioning units, ground mounted air conditioning units, packaged terminal air conditioning units, swimming pools, and parking lot activities are typically evaluated against standards established under a jurisdiction's Municipal Code. The City of Rancho Mirage Municipal Code noise standards are provided in Appendix 3.1. The City of Rancho Mirage Municipal Code (RMMC), Chapter 8.45 establishes the noise level standards for stationary noise sources. The Project's land use will potentially impact nearby noise-sensitive uses in the Project study area. For nearby noise-sensitive residential land uses in the Project study area, Section 8.45.030 identifies the base exterior noise level standard of 55 dBA L_{eq} during the daytime hours (7:00 a.m. to 6:00 p.m.), 50 dBA L_{eq} during the evening hours (6:00 p.m. to 10:00 p.m.) and 45 dBA L_{eq} during the nighttime hours (10:00 p.m. to 7:00 a.m.). (12) Table 3-1 provides a summary of the City of Rancho Mirage operational exterior noise level standards for all land use types.

TABLE 3-1: OPERATIONAL NOISE STANDARDS

Land Use[1]	Zone[2]	Time Period	Exterior Noise Level Standards (dBA L_{eq})[3]
Residential (Low Density)	R-E, H-R, R-L-2, R-L-3	Daytime (7:00 a.m. to 6:00 p.m.)	55
		Evening (6:00 p.m. to 10:00 p.m.)	50
		Nighttime (10:00 p.m. to 7:00 a.m.)	45
Residential (Medium and High Density, Hospital, Open Space)	OS, R-M, R-H, MHP	Daytime (7:00 a.m. to 6:00 p.m.)	60
		Evening (6:00 p.m. to 10:00 p.m.)	55
		Nighttime (10:00 p.m. to 7:00 a.m.)	50
Commercial Office, Resort Commercial, Mixed Use, Institutional	O, P, Rs-H, M-U	Daytime (7:00 a.m. to 6:00 p.m.)	65
		Evening (6:00 p.m. to 10:00 p.m.)	60
		Nighttime (10:00 p.m. to 7:00 a.m.)	55
Commercial Neighborhood, General Commercial, Commercial Recreation, Light Industrial	C-N, C-G, I-L	Daytime (7:00 a.m. to 6:00 p.m.)	70
		Evening (6:00 p.m. to 10:00 p.m.)	65
		Nighttime (10:00 p.m. to 7:00 a.m.)	60

[1] City of Rancho Mirage Municipal Code, Section 8.45.030 Exterior noise level limits (Appendix 3.1).
[2] City of Rancho Mirage Land Use and Zoning Map
[3] L_{eq} represents a steady state sound level containing the same total energy as a time varying signal over a given sample period.

EXHIBIT 3-A: NOISE LEVEL AND LAND USE COMPATIBILITY



Source: City of Rancho Mirage General Plan Noise Element (2017) Exhibit 20

3.4 CONSTRUCTION NOISE STANDARDS

To analyze noise impacts originating from the construction of Desert Island Hotel, noise from construction activities is typically evaluated against standards established under a City's Municipal Code. To control noise impacts associated with the construction of the proposed Project, the City has established limits to the hours of operation. The RMMC Section 15.04.030[A][11] indicates that construction, shall be limited to the hours of 7:00 a.m. and 7:00 p.m. with no activity on Sundays and holidays (13). The City recognizes that construction noise is difficult to control and restricts allowable hours for this intrusion. Still, construction, even when restricted to within these hours, presents a nuisance value when conducted in proximity to sensitive receptors (14). However, neither the City of Rancho Mirage General Plan nor Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers. Therefore, a numerical construction threshold based on Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* is used for analysis of daytime construction impacts, as discussed below.

According to the FTA, local noise ordinances are typically not very useful in evaluating construction noise. They usually relate to nuisance and hours of allowed activity, and sometimes specify limits in terms of maximum levels, but are generally not practical for assessing the impact of a construction project. Project construction noise criteria should account for the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the adjacent land use. Due to the lack of standardized construction noise thresholds, the FTA provides guidelines that can be considered reasonable criteria for construction noise assessment. The FTA considers a daytime exterior construction noise level of 80 dBA L_{eq} as a reasonable threshold for noise sensitive residential land use (8 p. 179).

3.5 VIBRATION STANDARDS

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Construction vibration is generally associated with pile driving and rock blasting. Other construction equipment such as air compressors, light trucks, hydraulic loaders, etc., generates little or no ground vibration (8).

To analyze vibration impacts associated with the Desert Island Hotel, vibration-generating activities are appropriately evaluated against standards established under a City's Municipal Code if such standards exist. While Section 17.18.080 of the RMMC requires that *no vibration associated with any use shall be allowed which is discernable beyond the boundary line of the subject property,* the City of Rancho Mirage does not identify specific construction vibration level limits. Therefore, for analysis purposes, the Caltrans *Transportation and Construction Vibration Guidance Manual*, (15 p. 38) Table 19, vibration damage are used in this noise study to assess potential temporary construction-related impacts at adjacent building locations. The nearest noise sensitive buildings adjacent to the Project site can best be described as "older residential structures" with a maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec).

This page intentionally left blank

4 SIGNIFICANCE CRITERIA

The following significance criteria are based on currently adopted guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines (1). For the purposes of this report, impacts would be potentially significant if the Project results in or causes:

A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

B. Generation of excessive ground-borne vibration or ground-borne noise levels?

C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

4.1 NOISE LEVEL INCREASES (THRESHOLD A)

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach *recognizes that there is no single noise increase that renders the noise impact significant.* (16) This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment.

In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. The Federal Interagency Committee on Noise (FICON) (17) developed guidance to be used for the assessment of project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level (L_{eq}). The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increase in ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without Project noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dBA or *readily perceptible*, 3 dBA or *barely perceptible*, and 1.5 dBA depending on the underlying without Project noise levels for noise-sensitive uses. These levels of increases and their perceived acceptance are consistent with guidance provided by both the Federal Highway Administration (4 p. 9) and Caltrans (18 p. 2_48).

4.2 VIBRATION (THRESHOLD B)

As described in Section 3.5, the vibration impacts originating from the construction of the Desert Island Hotel, vibration-generating activities are appropriately evaluated using the Caltrans vibration damage thresholds to assess potential temporary construction-related impacts at adjacent building locations. The nearest noise sensitive buildings adjacent to the Project site can best be described as "older residential structures" with a maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec).

4.3 CEQA GUIDELINES NOT FURTHER ANALYZED (THRESHOLD C)

CEQA Noise Threshold C applies when there are nearby public and private airports and/or air strips and focuses on land use compatibility of the Project to nearby airports and airstrips. The Project site is not located within two miles of an airport or airstrip. The closest airport is the Palm Springs International Airport located approximately 5.7 miles northwest of the Project site. As such, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts are considered *less than significant,* and no further noise analysis is conducted in relation to Appendix G to the CEQA Guidelines, Noise Threshold C.

4.4 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-1 shows the significance criteria summary matrix that includes the allowable criteria used to identify potentially significant incremental noise level increases.

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Receiving Land Use	Condition(s)	Significance Criteria
Off-Site Traffic	Noise-Sensitive[1]	If ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase
		If ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase
		If ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase
	Non-Noise-Sensitive[1,2]	If ambient is < 70 dBA CNEL	≥ 5 dBA CNEL Project increase
		If ambient is > 70 dBA CNEL	≥ 3 dBA CNEL Project increase
Operational	All[3]	Exterior Noise Level Standards	See Table 3-1
Construction	Noise-Sensitive	Shall be limited to the hours of 7:00 a.m. and 7:00 p.m. with no activity on Sundays and holidays[4]	
		Noise Level Threshold[5]	80 dBA L_{eq}
	All	Vibration Level Threshold[6]	0.3 PPV (in/sec)

[1] FICON, 1992.
[2] City of Rancho Mirage General Plan Noise Element.
[3] City of Rancho Mirage General Plan Municipal Code, Section 8.45.030
[4] City of Rancho Mirage General Plan Municipal Code, Section15.04.030[A][10].
[5] Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.
[6] Caltrans Transportation and Construction Vibration Manual, April 2020 Table 19.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

This page intentionally left blank

5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at six locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Tuesday, April 5, 2022. Appendix 5.1 includes study area photos.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the equivalent daytime and nighttime hourly noise levels. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (19)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources*. (2) Further, FTA guidance states, t*hat it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community* (8).

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence (8). In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels

and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels.

5.3 NOISE MEASUREMENT RESULTS

The noise measurements presented below focus on the equivalent or the hourly energy average sound levels (L_{eq}). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 6:00 p.m.), evening (6:00 p.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location.

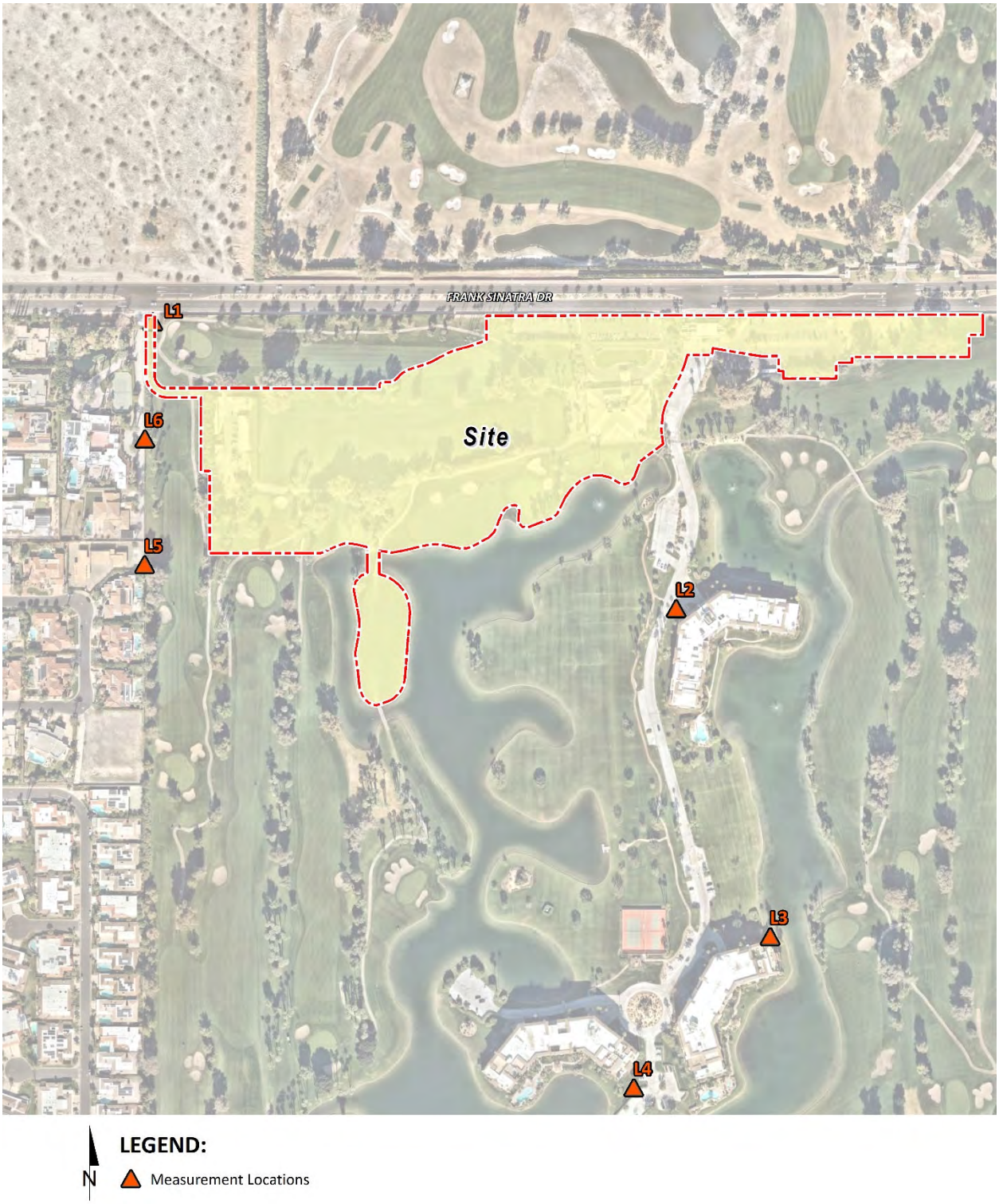
TABLE 5-1: AMBIENT NOISE LEVEL MEASUREMENTS

Location[1]	Description	Energy Average Noise Level (dBA L_{eq})[2]		
		Daytime	Evening	Nighttime
L1	Located northwest of the Project site near single-family residence at 1 Von Dehn Road.	70.9	66.3	63.7
L2	Located south of the Project site near multi-family residence at 910 Island Drive.	54.8	48.8	48.9
L3	Located south of the Project site near multi-family residence at 900 Island Drive.	53.5	47.5	47.9
L4	Located south of the Project site near multi-family residence at 899 Island Drive.	49.4	46.3	45.0
L5	Located southwest of the Project site near single-family residence at 3 Vohn Dehn Road.	53.1	49.6	51.0
L6	Located west of the Project site near single-family residence at 1 Vohn Dehn Road.	54.1	51.6	51.9

[1] See Exhibit 5-A for the noise level measurement locations.
[2] Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2.
"Daytime" = 7:00 a.m. to 6:00 p.m.; "Evening" = 6:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Table 5-1 provides the equivalent noise levels used to describe the daytime, evening, and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each of the daytime and nighttime hours.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



This page intentionally left blank

6 TRAFFIC NOISE METHODS AND PROCEDURES

The following section outlines the methods and procedures used to estimate and analyze the future traffic noise environment. Consistent with the City of Rancho Mirage *Land Use Compatibility* guidelines, all transportation related noise levels are presented in terms of the 24-hour CNEL.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The expected roadway noise level increases from vehicular traffic were calculated by Urban Crossroads, Inc. using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (20) The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California, the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. (21) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period. Research conducted by Caltrans has shown that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis. (22)

6.1.1 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-1 presents the roadway parameters used to assess the Project's off-site transportation noise impacts. Table 6-1 identifies the six off-site study area roadway segments, the distance from the centerline to adjacent receiving land use based on the functional roadway classifications per the City of Rancho Mirage General Plans Circulation Element, and the posted vehicle speeds. The ADT volumes used in this study are presented on Table 6-2 are based on the *Desert Island Hotel Focused Traffic Analysis*, prepared by Urban Crossroads, Inc. (23) for the following traffic conditions:

- Existing Without Project Conditions
- Existing With Project Conditions
- Existing Plus Ambient Growth (EA) Without Project Conditions (EA)
- EA With Project Conditions (with a proposed roadway connection completed) (EA with Project)
- Existing Plus Ambient Growth Plus Cumulative (EAC) Without Project Conditions (EAC)
- EAC With Project Conditions (with a proposed roadway connection completed) (EAC with Project)

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Classification[1]	Distance from Centerline to Receiving Land Use (Feet)[3]	Vehicle Speed (mph)
1	Frank Sinatra Drive	w/o Island Drive	Minor Arterial	55'	45
2	Frank Sinatra Drive	e/o Island Drive	Minor Arterial	55'	45
3	Frank Sinatra Drive	e/o Bob Hope Drive	Minor Arterial	55'	45
4	Bob Hope Drive	n/o Frank Sinatra Drive	Major Arterial	60'	45
5	Bob Hope Drive	s/o Frank Sinatra Drive	Minor Arterial	55'	45
6	Island Drive	s/o Frank Sinatra Drive	Local	30'	25

[1] City of Rancho Mirage General Plans Circulation Element
[2] Distance to receiving land use is based upon the right-of-way distances.

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Average Daily Traffic Volumes[1]					
			Existing		Existing Plus Ambient Growth		Existing Plus Ambient Groth Plus Cumualtive	
			Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Frank Sinatra Drive	w/o Island Drive	13,700	13,950	14,250	14,500	17,550	17,800
2	Frank Sinatra Drive	e/o Island Drive	13,300	14,050	13,850	14,600	17,050	17,800
3	Frank Sinatra Drive	e/o Bob Hope Drive	13,100	13,300	13,600	13,800	16,000	16,200
4	Bob Hope Drive	n/o Frank Sinatra Drive	18,600	18,900	19,400	19,700	22,900	23,200
5	Bob Hope Drive	s/o Frank Sinatra Drive	21,300	21,320	22,380	22,400	25,980	26,000
6	Island Drive	s/o Frank Sinatra Drive	1,000	1,100	1,900	2,000	1,900	2,000

[1] Desert Island Focused Traffic Analysis, Urban Crossroads.

The ADT volumes vary for each roadway segment based on the existing traffic volumes and the combination of project traffic distributions. Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits and Table 6-4 presents the traffic flow distributions (vehicle mix) used for this analysis. The vehicle mix provides the hourly distribution percentages of automobile, medium trucks, and heavy trucks for input into the FHWA noise prediction model.

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

Vehicle Type	Time of Day Splits[1]			Total of Time of Day Splits
	Daytime	Evening	Nighttime	
Autos	77.50%	12.90%	9.60%	100.00%
Medium Trucks	84.80%	4.90%	10.30%	100.00%
Heavy Trucks	86.50%	2.70%	10.80%	100.00%

[1] Typical Southern California vehicle mix.
"Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

TABLE 6-4: TRAFFIC FLOW BY VEHICLE TYPE (VEHICLE MIX)

Classification	Total % Traffic Flow			Total
	Autos	Medium Trucks	Heavy Trucks	
All Roadways[1]	97.42%	1.84%	0.74%	100.00%

[1] Typical Southern California vehicle mix.

This page intentionally left blank

7 OFF-SITE TRAFFIC NOISE ANALYSIS

To assess the off-site transportation CNEL noise level impacts associated with development of the proposed Project, noise contours were developed based on the Desert Island Hotel Focused Traffic Analysis. (23) Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway.

7.1 NOISE CONTOURS

Noise contours were used to assess the Project's incremental 24-hour dBA CNEL traffic-related noise impacts at receiving land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA CNEL noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area.

Tables 7-1 through 7-6 present a summary of the exterior dBA CNEL traffic noise levels without barrier attenuation. Roadway segments are analyzed from the without Project to the with Project conditions in each of the following timeframes:

- Existing Without Project Conditions
- Existing With Project Conditions
- EA Without Project Conditions
- EA With Project Conditions (with a proposed roadway connection completed)
- EAC Without Project Conditions
- EAC With Project Conditions (with a proposed roadway connection completed)

Appendix 7.1 includes a summary of the dBA CNEL traffic noise level contours for each of the traffic scenarios.

TABLE 7-1: EXISTING WITHOUT PROJECT CONTOURS

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Frank Sinatra Drive	w/o Island Drive	68.2	42	91	195
2	Frank Sinatra Drive	e/o Island Drive	68.1	41	89	191
3	Frank Sinatra Drive	e/o Bob Hope Drive	68.1	41	88	189
4	Bob Hope Drive	n/o Frank Sinatra Drive	70.3	63	135	291
5	Bob Hope Drive	s/o Frank Sinatra Drive	70.2	56	122	262
6	Island Drive	s/o Frank Sinatra Drive	53.7	2	5	11

[1] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-2: EXISTING WITH PROJECT CONTOURS

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Frank Sinatra Drive	w/o Island Drive	68.3	43	92	197
2	Frank Sinatra Drive	e/o Island Drive	68.4	43	92	198
3	Frank Sinatra Drive	e/o Bob Hope Drive	68.1	41	89	191
4	Bob Hope Drive	n/o Frank Sinatra Drive	70.4	63	137	294
5	Bob Hope Drive	s/o Frank Sinatra Drive	70.2	56	122	262
6	Island Drive	s/o Frank Sinatra Drive	54.1	3	6	12

[1] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-3: EA WITHOUT PROJECT CONTOURS

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Frank Sinatra Drive	w/o Island Drive	68.4	43	93	200
2	Frank Sinatra Drive	e/o Island Drive	68.3	42	91	197
3	Frank Sinatra Drive	e/o Bob Hope Drive	68.2	42	90	194
4	Bob Hope Drive	n/o Frank Sinatra Drive	70.5	65	139	299
5	Bob Hope Drive	s/o Frank Sinatra Drive	70.4	58	126	271
6	Island Drive	s/o Frank Sinatra Drive	56.5	4	8	18

[1] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-4: EA WITH PROJECT CONTOURS

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Frank Sinatra Drive	w/o Island Drive	68.5	44	94	203
2	Frank Sinatra Drive	e/o Island Drive	68.5	44	94	204
3	Frank Sinatra Drive	e/o Bob Hope Drive	68.3	42	91	196
4	Bob Hope Drive	n/o Frank Sinatra Drive	70.5	65	140	302
5	Bob Hope Drive	s/o Frank Sinatra Drive	70.4	58	126	271
6	Island Drive	s/o Frank Sinatra Drive	56.7	4	8	18

[1] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-5: EAC WITHOUR PROJECT CONTOURS

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Frank Sinatra Drive	w/o Island Drive	69.3	50	107	230
2	Frank Sinatra Drive	e/o Island Drive	69.2	49	105	226
3	Frank Sinatra Drive	e/o Bob Hope Drive	68.9	47	100	216
4	Bob Hope Drive	n/o Frank Sinatra Drive	71.2	72	155	334
5	Bob Hope Drive	s/o Frank Sinatra Drive	71.0	64	139	299
6	Island Drive	s/o Frank Sinatra Drive	56.5	4	8	18

[1] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-6: EAC WITH PROJECT CONTOURS

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Frank Sinatra Drive	w/o Island Drive	69.4	50	108	232
2	Frank Sinatra Drive	e/o Island Drive	69.4	50	108	232
3	Frank Sinatra Drive	e/o Bob Hope Drive	69.0	47	101	218
4	Bob Hope Drive	n/o Frank Sinatra Drive	71.2	73	157	337
5	Bob Hope Drive	s/o Frank Sinatra Drive	71.0	64	139	299
6	Island Drive	s/o Frank Sinatra Drive	56.7	4	8	18

[1] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

7.2 EXISTING PROJECT TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report to fully analyze all the existing traffic scenarios identified in the *Desert Island Hotel Specific Plan Traffic Analysis*. This condition is provided solely for informational purposes and will not occur, since the Project will not be fully developed and occupied under Existing conditions. Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels are expected to range from 53.7 to 70.3 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows the Existing with Project conditions will range from 54.1 to 70.4 dBA CNEL. Table 7-7 shows that the Project off-site traffic noise level impacts will range from 0.0 to 0.4 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.

7.3 EXISTING PLUS AMBIENT GROWTH PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-3 presents the EA without Project conditions CNEL noise levels. The EA without Project exterior noise levels are expected to range from 56.5 to 70.5 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-4 presents the E+A with Project conditions CNEL noise levels. The EA with Project exterior noise levels are expected to range from 56.7 to 70.5 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-8 shows that the Project off-site traffic noise level increases will range from 0.0 to 0.2 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.

7.4 EXISTING PLUS AMBIENT GROWTH PLUS CUMULATIVE PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-5 presents the EAC without Project conditions CNEL noise levels. The EAC without Project exterior noise levels are expected to range from 56.5 to 71.2 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-6 shows the EAC with Project conditions will range from 56.7 to 71.2 dBA CNEL. Table 7-9 shows that the Project off-site traffic noise level increases will range from 0.0 to 0.2 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.

TABLE 7-7: EXISTING WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[1]			Incremental Noise Level Increase Threshold[2]	
			No Project	With Project	Project Addition	Limit	Exceeded?
1	Frank Sinatra Drive	w/o Island Drive	68.2	68.3	0.1	1.5	No
2	Frank Sinatra Drive	e/o Island Drive	68.1	68.4	0.3	1.5	No
3	Frank Sinatra Drive	e/o Bob Hope Drive	68.1	68.1	0.0	1.5	No
4	Bob Hope Drive	n/o Frank Sinatra Drive	70.3	70.4	0.1	1.5	No
5	Bob Hope Drive	s/o Frank Sinatra Drive	70.2	70.2	0.0	1.5	No
6	Island Drive	s/o Frank Sinatra Drive	53.7	54.1	0.4	5.0	No

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[2] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

TABLE 7-8: E+A WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[1]			Incremental Noise Level Increase Threshold[2]	
			No Project	With Project	Project Addition	Limit	Exceeded?
1	Frank Sinatra Drive	w/o Island Drive	68.4	68.5	0.1	1.5	No
2	Frank Sinatra Drive	e/o Island Drive	68.3	68.5	0.2	1.5	No
3	Frank Sinatra Drive	e/o Bob Hope Drive	68.2	68.3	0.1	1.5	No
4	Bob Hope Drive	n/o Frank Sinatra Drive	70.5	70.5	0.0	1.5	No
5	Bob Hope Drive	s/o Frank Sinatra Drive	70.4	70.4	0.0	1.5	No
6	Island Drive	s/o Frank Sinatra Drive	56.5	56.7	0.2	5.0	No

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[2] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

TABLE 7-9: E+A+C WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[1]			Incremental Noise Level Increase Threshold[2]	
			No Project	With Project	Project Addition	Limit	Exceeded?
1	Frank Sinatra Drive	w/o Island Drive	69.3	69.4	0.1	1.5	No
2	Frank Sinatra Drive	e/o Island Drive	69.2	69.4	0.2	1.5	No
3	Frank Sinatra Drive	e/o Bob Hope Drive	68.9	69.0	0.1	1.5	No
4	Bob Hope Drive	n/o Frank Sinatra Drive	71.2	71.2	0.0	1.5	No
5	Bob Hope Drive	s/o Frank Sinatra Drive	71.0	71.0	0.0	1.5	No
6	Island Drive	s/o Frank Sinatra Drive	56.5	56.7	0.2	5.0	No

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[2] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

This page intentionally left blank

8 RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, the following sensitive receiver locations, as shown on Exhibit 8-A, were identified as representative locations for analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

To describe the potential off-site Project noise levels, six receiver locations in the vicinity of the Project site were identified. All distances are measured from the Project site boundary to the outdoor living areas (e.g., private backyards) or at the building façade, whichever is closer to the Project site. The selection of receiver locations is based on FHWA guidelines and is consistent with additional guidance provided by Caltrans and the FTA, as previously described in Section 5.2. Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. Distance is measured in a straight line from the project boundary to each receiver location.

R1: Location R1 represents the existing noise sensitive residence at 1 Von Dehn Road, approximately 244 feet northwest of the Project site. Receiver R1 is placed in the private outdoor living areas (backyards) facing the Project site. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.

R2: Location R2 represents the existing noise sensitive residence at 910 Island Drive, approximately 395 feet southeast of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R2 is placed at the building façade. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.

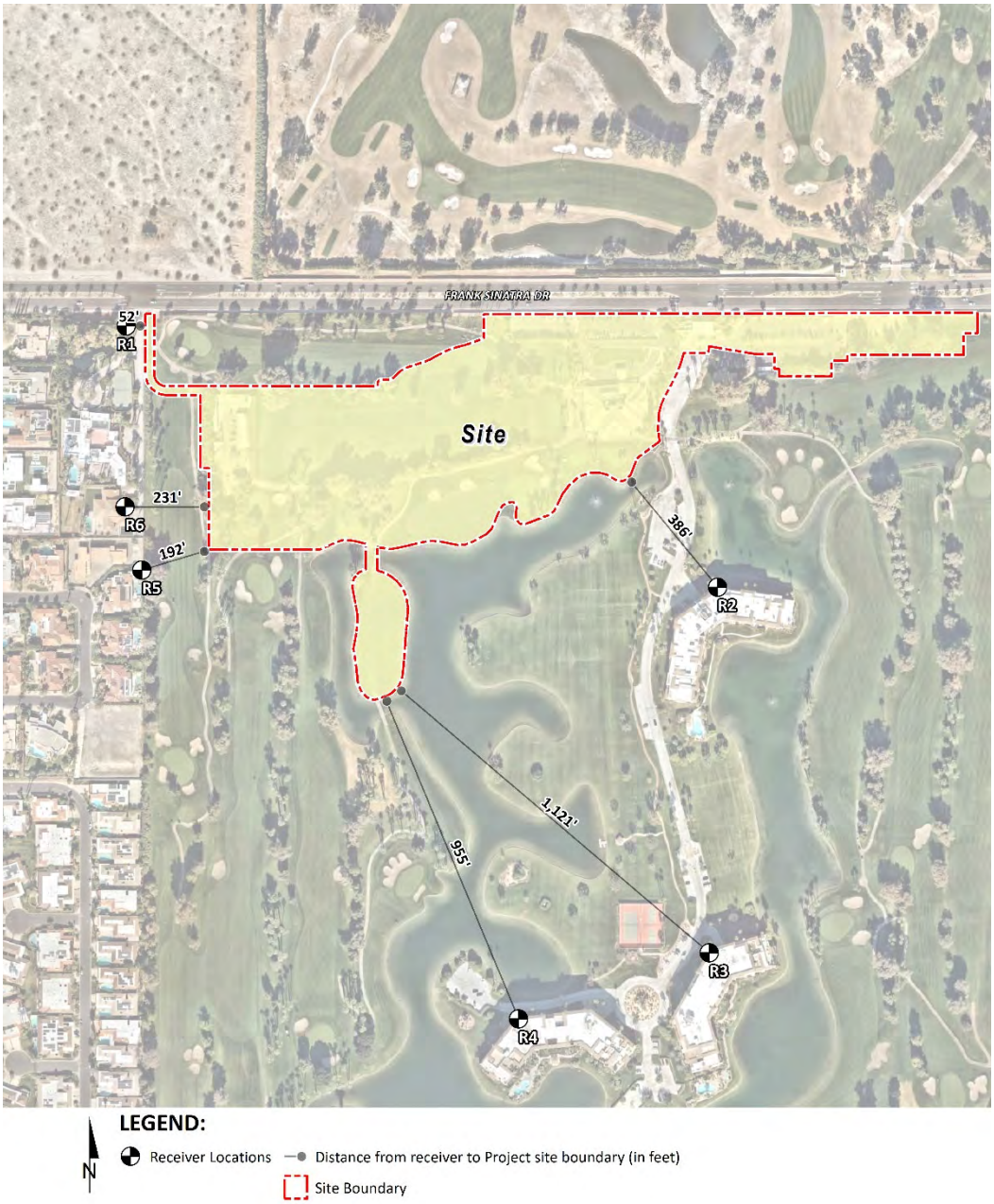
R3: Location R3 represents the existing noise sensitive residence at 900 Island Drive, approximately 1,114 feet southeast of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R3 is placed at the building façade. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.

R4: Location R4 represents the existing noise sensitive residence at 899 Island Drive, approximately 961 feet south of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R4 is placed at the building façade. A 24-hour noise measurement was taken near this location, L4, to describe the existing ambient noise environment.

R5: Location R5 represents the existing noise sensitive residence at 30 Villaggio Place, approximately 193 feet southwest of the Project site. Receiver R5 is placed in the private outdoor living areas (backyards) facing the Project site. A 24-hour noise measurement was taken near this location, L5, to describe the existing ambient noise environment.

R6: Location R6 represents the existing noise sensitive residence at 3 Von Dehn Road, approximately 231 feet west of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R6 is placed at the building façade. A 24-hour noise measurement was taken near this location, L6, to describe the existing ambient noise environment.

EXHIBIT 8-A: RECEIVER LOCATIONS



9 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at the nearest receiver locations, identified in Section 8, resulting from the operation of uses allowed by the Desert Island Hotel. The residential areas within the Desert Island Hotel are considered a noise-sensitive receiving land use and are not expected to include any meaningful sources of noise activity. Exhibit 9-A identifies the representative noise source locations used to assess stationary noise sources.

9.1 OPERATIONAL NOISE SOURCES

This operational noise analysis is intended to describe noise level impacts associated with the expected typical daytime and nighttime activities at the Project site. The on-site Project-related noise sources are expected to include: outdoor recreational and training activities, trash enclosure activities, roof-top air conditioning units, ground mounted air conditioning units, packaged terminal air conditioning units, swimming pools, and parking lot activities.

9.2 REFERENCE NOISE LEVELS

To estimate the Project operational noise impacts, reference noise level measurements were collected from similar types of activities, or taken from manufactures specification sheets, to represent the noise levels expected with the development of the proposed Project. This section provides a detailed description of the reference noise levels shown on Table 9-1 used to estimate the Project operational noise impacts. It is important to note that the following projected noise levels assume the worst-case noise environment with the outdoor recreational and training activities, trash enclosure activities, roof-top air conditioning units, ground mounted air conditioning units, packaged terminal air conditioning units, swimming pools, and parking lot activities all operating at the same time. These sources of noise activity will likely vary throughout the day.

9.2.1 MEASUREMENT PROCEDURES

Unless noted in the following descriptions, the reference noise level measurements presented in this section were collected using a Larson Davis LxT Type 1 precisions sound level meter (serial number 01146). The LxT sound level meter was calibrated using a Larson-Davis calibrator, Model CAL 200, was programmed in "slow" mode to record noise levels in "A" weighted form and was located at approximately five feet above the ground elevation for each measurement. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (19)

EXHIBIT 9-A: STATIONARY SOURCE NOISE LOCATIONS

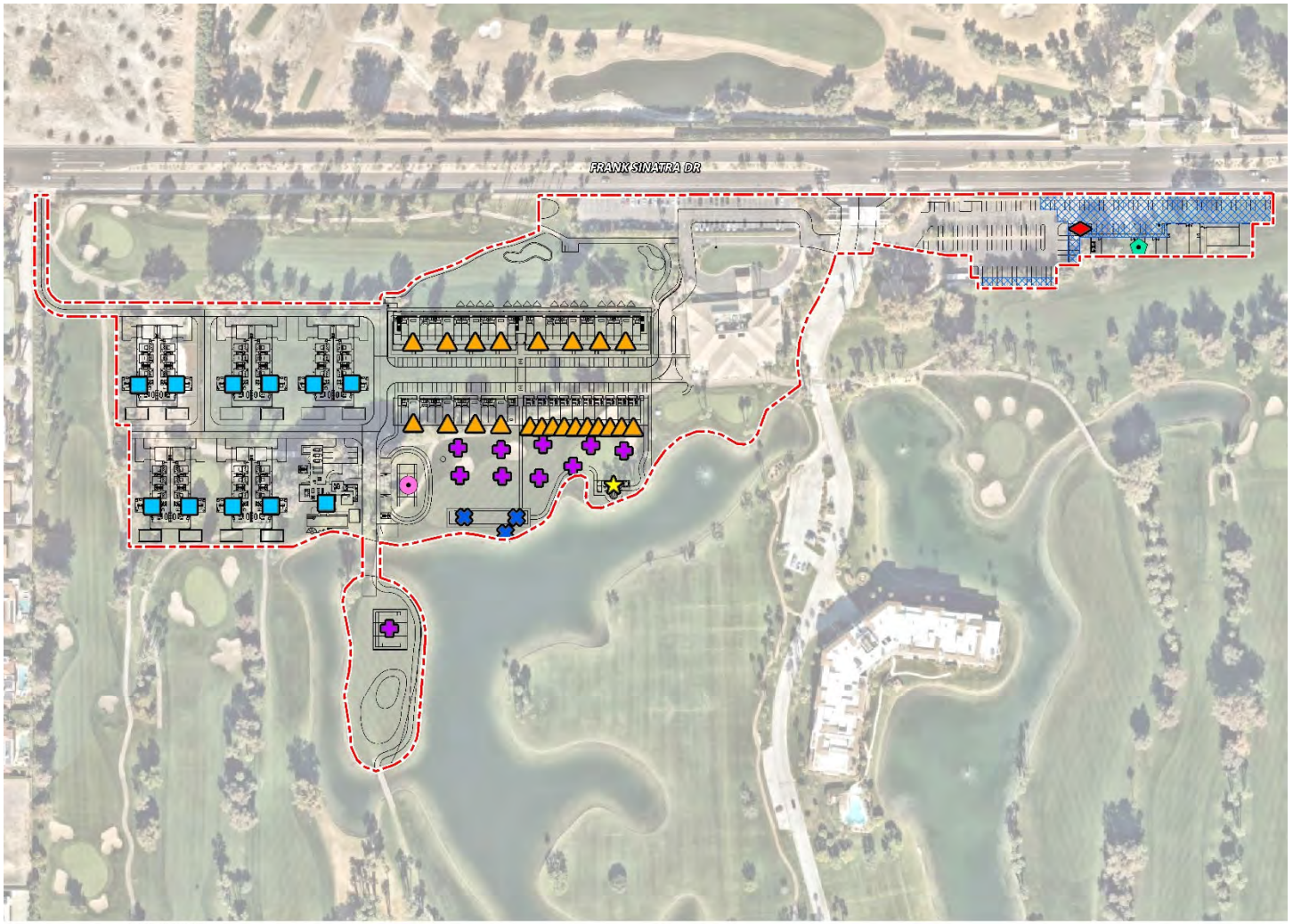


TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

Noise Source	Noise Source Height (Feet)	Min./Hour[1]			Reference Noise Level @50 feet (dBA L_{eq})	Sound Power Level (dBA)[2]
		Day	Eve.	Night		
Outdoor Recreational Activities	5'	60'	60'	0'	59.8	91.5
Trash Enclosure Activities	8'	10'	10'	10'	56.8	89.0
Roof-Top Air Conditioning Units	5'	39'	39'	28'	57.2	88.9
Ground Air Conditioning Units	4'	60'	60'	60'	43.4	75.0
Packaged Terminal Air Conditioning Units	4'	60'	60'	60'	29.6	61.2
Swimming Pool Activities	5'	60'	60'	0'	57.7	89.3
Parking Lot Activities	5'	60'	60'	30'	56.1	87.8

[1] Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site.
[2] Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source.
"Day" = 7:00 a.m. to 6:00 p.m.; "Evening" = 6:00 p.m. to 10:00 p.m.; "Night" = 10:00 p.m. to 7:00 a.m.

9.2.2 OUTDOOR RECREATIONAL ACTIVITIES

To describe the outdoor recreational and golf training activities within common areas, courtyards, and golf warm up locations a reference noise level measurement a reference noise level is 59.8 dBA L_{eq} at 50 feet was used. The reference noise level measurement included outdoor dining, drinking, laughing and talking, dancing, and background music. This noise level is considered representative of several other activities, including golf training activities. Outdoor recreational activities are modeled at 5 feet above ground level and are limited to the daytime and evening hours with 30 minutes per hour of activity during the nighttime hours to represent reduced activity at night.

9.2.3 TRASH ENCLOSURE ACTIVITIES

To describe the noise levels associated with a trash enclosure activity, Urban Crossroads collected a reference noise level measurement at an existing trash enclosure containing two dumpster bins. The trash enclosure noise levels describe metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels, and trash dropping into the metal dumpster. The reference noise levels describe trash enclosure noise activities when trash is dropped into an empty metal dumpster, as would occur at the Project site. The measured reference noise level at the uniform 50-foot reference distance is 56.8 dBA L_{eq} for the trash enclosure activity. The reference noise level describes the expected noise source activities associated with the trash enclosures for the Project's proposed buildings. Typical trash enclosure activities are estimated to occur for 10 minutes per hour.

9.2.4 ROOF-TOP AIR CONDITIONING UNITS

To assess the noise levels created by the roof-top air conditioning units, reference noise level measurements were collected from a Lennox SCA120 series 10-ton model packaged air conditioning unit. At the uniform reference distance of 50 feet, the reference noise levels are

57.2 dBA L_{eq}. For this noise analysis, the air conditioning units are expected operate continuously for 60 minutes per hour and will be located four feet above the roof elevation of the Project buildings. This reference noise level describes the expected roof-top air conditioning units located 5 feet above the roof for the planned air conditioning units at the Project site.

9.2.5 GROUND MOUNTED AIR CONDITIONING UNITS

To assess the noise levels created by the residential air conditioning units, reference noise levels were taken from the Carrier model 24ACC4 product data sheet. The product data sheet for Carrier model 24ACC4 planned for the Project will produce a maximum sound power level of 75 dBA L_w. For this noise analysis, the air conditioning units are expected operate continuously for 60 minutes per hour and will be located four feet above the ground elevation.

9.2.6 PACKAGED TERMINAL AIR CONDITIONING UNITS

To assess the noise levels created by the hotel packaged terminal air conditioning (PTAC) units, reference noise levels were taken from the Trane model TEF1502HAA product data sheet. The product data sheet for Trane model TEF1502HAA will produce a maximum sound power level of 61.2 dBA L_w. For this noise analysis, the air conditioning units are expected operate continuously for 60 minutes per hour and will be located four feet above the ground elevation.

9.2.7 SWIMMING POOL ACTIVITIES

To represent the noise levels associated with pool activities, Urban Crossroads collected a reference noise level measurement at an existing outdoor pool and spa. The measured reference noise level at the uniform 50-foot reference distance is 54.7 dBA L_{eq} for pool activity. The pool activity noise levels include kids playing, running, screaming, splashing, playing with a ball, and parents talking. Noise associated with pool activities is expected to occur for the entire hour (60 minutes) during daytime and evening hours with 30 minutes of activity during the nighttime hours to represent reduced activity at night.

9.2.8 PARKING LOT ACTIVITIES

To describe the on-site parking lot activity a reference noise level of 56.1 dBA L_{eq} at 50 feet is used. Parking lot activity are expected to take place during the full hour (60 minutes) throughout the daytime and evening hours with 30 minutes of activity during the nighttime hours. The parking lot noise levels are mainly due to cars pulling in and out of parking spaces.

9.3 CADNAA NOISE PREDICTION MODEL

To fully describe the exterior operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels.

Using the ISO 9613-2 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation

inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source. Consistent with the ISO 9613-2 protocol, the CadnaA noise prediction model relies on the reference sound power level (L_w) to describe individual noise sources. While sound pressure levels (e.g., L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (L_w) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish because of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment. The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor of 0.5 was used in the noise analysis to account for mixed ground representing a combination of hard and soft surfaces.

9.4 PROJECT OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include, Urban Crossroads, Inc. calculated the operational source noise levels that are expected to be generated from the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Tables 9-2 shows the calculated Project operational noise levels during the daytime hours of 7:00 a.m. to 6:00 p.m., evening hours of 6:00 p.m. to 10:00 p.m. and the nighttime hours of 10:00 p.m. to 7:00 a.m. Table 9-2 shows that the Project operational noise levels will range from 26.0 to 43.3 dBA L_{eq}.

TABLE 9-2: PROJECT OPERATIONAL NOISE LEVELS

Receiver Location[1]	Project Operational Noise Levels (dBA Leq)[2]			Noise Level Standards (dBA Leq)[3]			Threshold Exceeded?[4]		
	Day	Eve.	Night	Day	Eve.	Night	Day	Eve.	Night
R1	43.3	43.3	34.6	55	50	45	No	No	No
R2	37.0	37.0	27.6	55	50	45	No	No	No
R3	36.8	36.8	26.0	55	50	45	No	No	No
R4	39.4	39.4	28.8	55	50	45	No	No	No
R5	40.9	40.9	30.3	55	50	45	No	No	No
R6	40.6	40.6	30.6	55	50	45	No	No	No

[1] See Exhibit 8-A for the receiver locations.
[2] Proposed Project operational noise level calculations included in Appendix 9.1.
[3] City of Rancho Mirage exterior noise level standards by land use, as shown on Table 3-1.
[4] Do the estimated Project operational noise source activities exceed the noise level standards?
"Day" = 7:00 a.m. to 6:00 p.m.; "Evening" = 6:00 p.m. to 10:00 p.m.; "Night" = 10:00 p.m. to 7:00 a.m.

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the City of Rancho Mirage exterior noise level standards at nearby noise-sensitive receiver locations. Table 9-2 shows that the

operational noise levels associated with Desert Island Hotel Project will satisfy the City of Rancho Mirage daytime, evening, and nighttime exterior noise level standards at all nearby receiver locations. Therefore, the operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.

9.6 PROJECT OPERATIONAL NOISE LEVEL INCREASES

To describe the Project operational noise level increases, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearby receiver locations potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-stationary source and existing ambient noise levels cannot be combined using standard arithmetic equations. (2) Instead, they must be logarithmically added using the following base equation:

$$SPL_{Total} = 10\log_{10}[10^{SPL1/10} + 10^{SPL2/10} + \ldots 10^{SPLn/10}]$$

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describes the Project noise level increases to the existing ambient noise environment. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime, evening, and nighttime ambient conditions are presented on Tables 9-3, 9-4, and 9-5, respectively. As indicated on Tables 9-3, 9-4 and 9-5, the Project will generate an unmitigated operational noise level increases ranging from 0.0 to 0.8 dBA L_{eq} at the nearby receiver locations.

Tables 9-3, 9-4 and 9-5 show that the Project operational noise level contributions satisfy the operational noise level increase significance criteria presented in Table 4-1. Therefore, the Project related operational noise level increases at all sensitive receiver locations will be *less than significant.*

TABLE 9-3: DAYTIME PROJECT STATIONARY SOURCE NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?[7]
R1	43.3	L1	70.9	70.9	0.0	1.5	No
R2	37.0	L2	54.8	54.9	0.1	5.0	No
R3	36.8	L3	53.5	53.6	0.1	5.0	No
R4	39.4	L4	49.4	49.8	0.4	5.0	No
R5	40.9	L5	53.1	53.4	0.3	5.0	No

[1] See Exhibit 8-A for the receiver locations.
[2] Total Project operational noise levels as shown on Table 9-2.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed daytime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance Criteria as defined in Section 4.

TABLE 9-4: EVENING PROJECT STATIONARY SOURCE NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?[7]
R1	43.3	L1	66.3	66.3	0.0	1.5	No
R2	37.0	L2	48.8	49.1	0.3	5.0	No
R3	36.8	L3	47.5	47.9	0.4	5.0	No
R4	39.4	L4	46.3	47.1	0.8	5.0	No
R5	40.9	L5	49.6	50.1	0.5	5.0	No

[1] See Exhibit 8-A for the receiver locations.
[2] Total Project operational noise levels as shown on Table 9-2.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed evening ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance Criteria as defined in Section 4.

TABLE 9-5: NIGHTTIME PROJECT STATIONARY SOURCE NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?[7]
R1	34.6	L1	63.7	63.7	0.0	3.0	No
R2	27.6	L2	48.9	48.9	0.0	5.0	No
R3	26.0	L3	47.9	47.9	0.0	5.0	No
R4	28.8	L4	45.0	45.1	0.1	5.0	No
R5	30.3	L5	51.0	51.0	0.0	5.0	No

[1] See Exhibit 8-A for the receiver locations.
[2] Total Project operational noise levels as shown on Table 9-2.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed nighttime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance Criteria as defined in Section 4.

10 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 10-A shows the construction noise source locations in relation to the nearest sensitive receiver locations previously described in Section 8.

10.1 CONSTRUCTION NOISE LEVELS

The FTA *Transit Noise and Vibration Impact Assessment Manual* recognizes that construction projects are accomplished in several different stages and outlines the procedures for assessing noise impacts during construction. Each stage has a specific equipment mix, depending on the work to be completed during that stage. As a result of the equipment mix, each stage has its own noise characteristics; some stages have higher continuous noise levels than others, and some have higher impact noise levels than others. The Project construction activities are expected to occur in the following stages:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

10.2 CONSTRUCTION REFERENCE NOISE LEVELS

To describe construction noise activities, this construction noise analysis was prepared using reference construction equipment noise levels from the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model (RCNM), which includes a national database of construction equipment reference noise emission levels. (24) The RCNM equipment database, provides a comprehensive list of the noise generating characteristics for specific types of construction equipment. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.

EXHIBIT 10-A: TYPICAL CONSTRUCTION NOISE SOURCE LOCATIONS

10.3 CONSTRUCTION NOISE ANALYSIS

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. Consistent with FTA guidance for general construction noise assessment, Table 10-1 presents the combined noise levels for the loudest construction equipment, assuming they operate at the same time. As shown on Table 10-2, the construction noise levels are expected to range from 48.8 to 63.0 dBA L_{eq} at the nearby receiver locations. Appendix 10.1 includes the detailed CadnaA construction noise model inputs.

TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Activity	Reference Noise Level @ 50 Feet (dBA L_{eq})[1]	Combined Noise Level (dBA L_{eq})[2]	Combined Sound Power Level (PWL)[3]
Site Preparation	Crawler Tractors	78.0	80.0	111.6
	Hauling Trucks	72.0		
	Rubber Tired Dozers	75.0		
Grading	Graders	81.0	83.0	114.6
	Excavators	77.0		
	Compactors	76.0		
Building Construction	Cranes	73.0	81.0	112.6
	Tractors	80.0		
	Welders	70.0		
Paving	Pavers	74.0	83.0	114.6
	Paving Equipment	82.0		
	Rollers	73.0		
Architectural Coating	Cranes	73.0	77.0	108.6
	Air Compressors	74.0		
	Generator Sets	70.0		

[1] FHWA Roadway Construction Noise Model (RCNM).
[2] Represents the combined noise level for all equipment assuming they operate at the same time consistent with FTA Transit Noise and Vibration Impact Assessment guidance.
[3] Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calibrated using the CadnaA noise model at the reference distance to the noise source.

TABLE 10-2: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})					
	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels[2]
R1	60.0	63.0	61.0	63.0	57.0	63.0
R2	58.8	61.8	59.8	61.8	55.8	61.8
R3	52.4	55.4	53.4	55.4	49.4	55.4
R4	51.8	54.8	52.8	54.8	48.8	54.8
R5	58.6	61.6	59.6	61.6	55.6	61.6
R6	59.0	62.0	60.0	62.0	56.0	62.0

[1] Noise receiver locations are shown on Exhibit 10-A.
[2] Construction noise level calculations based on distance from the construction activity, which is measured from the Project site boundary to the nearest receiver locations. CadnaA construction noise model inputs are included in Appendix 10.1.

10.4 CONSTRUCTION NOISE LEVEL COMPLIANCE

To evaluate whether the Project will generate potentially significant short-term noise levels at nearest receiver locations, a construction-related daytime noise level threshold of 80 dBA L_{eq} is used as a reasonable threshold to assess the daytime construction noise level impacts. The construction noise analysis shows that the nearest receiver locations will satisfy the reasonable daytime 80 dBA L_{eq} significance threshold during Project construction activities as shown on Table 10-3. Therefore, the noise impacts due to Project construction noise are considered *less than significant* at all receiver locations.

TABLE 10-3: CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})		
	Highest Construction Noise Levels[2]	Threshold[3]	Threshold Exceeded?[4]
R1	63.0	80	No
R2	61.8	80	No
R3	55.4	80	No
R4	54.8	80	No
R5	61.6	80	No
R6	62.0	80	No

[1] Noise receiver locations are shown on Exhibit 10-A.
[2] Highest construction noise level calculations based on distance from the construction noise source activity to the nearest receiver locations as shown on Table 10-2.
[3] Construction noise level thresholds as shown on Table 4-1.
[4] Do the estimated Project construction noise levels exceed the construction noise level threshold?

10.5 CONSTRUCTION VIBRATION ANALYSIS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods employed. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Ground vibration levels associated with various types of construction equipment are summarized on Table 10-4. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential for human response (annoyance) and building damage using the following vibration assessment methods defined by Caltrans. To calculate vibration levels at distance, Caltrans provides the following equation: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

TABLE 10-4: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large bulldozer	0.089
Vibratory Roller	0.210

Caltrans Transportation and Construction Vibration Guidance Manual, April 2020.

Table 10-5 presents the expected Project related vibration levels at the nearby receiver building façade locations. At distances ranging from 52 to 1,222 feet from the building façade to the Project construction activities, construction vibration velocity levels are estimated to range from 0.00 to 0.07 in/sec PPV. Based on maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec), the typical Project construction vibration levels will fall below the building damage thresholds at all the noise sensitive receiver locations. Therefore, the Project-related vibration impacts are considered *less than significant* during typical construction activities at the Project site. Moreover, the vibration levels reported at the sensitive receiver locations are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

TABLE 10-5: PROJECT CONSTRUCTION VIBRATION LEVELS

Location[1]	Distance to Const. Activity (Feet)[2]	Typical Construction Vibration Levels PPV (in/sec)[3]						Thresholds PPV (in/sec)[4]	Thresholds Exceeded?[5]
		Small bulldozer	Jackhammer	Loaded Trucks	Large bulldozer	Vibratory Roller	Highest Vibration Level		
R1	52'	0.00	0.01	0.03	0.03	0.07	0.07	0.30	No
R2	495'	0.00	0.00	0.00	0.00	0.00	0.00	0.30	No
R3	1,222'	0.00	0.00	0.00	0.00	0.00	0.00	0.30	No
R4	1,122'	0.00	0.00	0.00	0.00	0.00	0.00	0.30	No
R5	193'	0.00	0.00	0.00	0.00	0.01	0.01	0.30	No
R6	231'	0.00	0.00	0.00	0.00	0.01	0.01	0.30	No

[1] Receiver locations are shown on Exhibit 10-A.
[2] Distance from receiver building facade to Project construction boundary (Project site boundary).
[3] Based on the Vibration Source Levels of Construction Equipment (Table 10-4).
[4] Caltrans Transportation and Construction Vibration Guidance Manual, April 2020, Table 19, p. 38.
[5] Does the peak vibration exceed the acceptable vibration thresholds?
"PPV" = Peak Particle Velocity

Moreover, the impacts at the site of the nearest sensitive receiver locations are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

11 REFERENCES

1. **State of California.** *California Environmental Quality Act, Appendix G.* 2018.
2. **California Department of Transportation Environmental Program.** *Technical Noise Supplement - A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA : s.n., September 2013.
3. **Environmental Protection Agency Office of Noise Abatement and Control.** *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.* March 1974. EPA/ONAC 550/9/74-004.
4. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch.** *Highway Traffic Noise Analysis and Abatement Policy and Guidance.* December 2011.
5. **U.S. Department of Transportation Federal Highway Administration.** *Highway Noise Barrier Design Handbook.* 2001.
6. **U.S. Department of Transportation, Federal Highway Administration.** *Highway Traffic Noise in the United States, Problem and Response.* April 2000. p. 3.
7. **U.S. Environmental Protection Agency Office of Noise Abatement and Control.** *Noise Effects Handbook-A Desk Reference to Health and Welfare Effects of Noise.* October 1979 (revised July 1981). EPA 550/9/82/106.
8. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment Manual.* September 2018.
9. **Office of Planning and Research.** *State of California General Plan Guidelines.* October 2017.
10. **State of California.** California Code of Regulations, Title 24, Part 2, Volume 1, Chapter 12, Section 1206.4, Allowable Interior Noise Level. *ICC Digital Coes.* [Online] 2019. https://codes.iccsafe.org/content/CABCV12019/chapter-12-interior-environment.
11. —. *2019 California Green Building Standards Code*. January 2020.
12. **City of Rancho Mirage.** *Municipal Code, Chapter 8.45 Noise.*
13. —. *Municipal Code, Sections 15.04.030.*
14. —. *General Plan Update Draft Environmental Impact Report.* 2005.
15. **California Department of Transportation.** *Transportation and Construction Vibration Guidance Manual.* April 2020.
16. **California Court of Appeal.** *Gray v. County of Madera, F053661.* 167 Cal.App.4th 1099; - Cal.Rptr.3d, October 2008.
17. **Federal Interagency Committee on Noise.** *Federal Agency Review of Selected Airport Noise Analysis Issues.* August 1992.
18. **California Department of Transportation.** *Technical Noise Supplement.* November 2009.
19. **American National Standards Institute (ANSI).** *Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013.*
20. **U.S. Department of Transportation, Federal Highway Administration.** *FHWA Highway Traffic Noise Prediction Model.* December 1978. FHWA-RD-77-108.

21. **California Department of Transportation Environmental Program, Office of Environmental Engineering.** *Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction.* September 1995. TAN 95-03.

22. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report.* June 1995. FHWA/CA/TL-95/23.

23. **Urban Crossroads, Inc.** *Desert Island Hotel Focused Traffic Analysis.* 2022.

24. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning.** *FHWA Roadway Construction Noise Model.* January, 2006.

12 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Desert Island Hotel Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (619) 788-1971.

William Maddux
Senior Associate
URBAN CROSSROADS, INC.
(619) 788-1971
bmaddux@urbanxroads.com

EDUCATION

Bachelor of Science in Urban and Regional Planning
California Polytechnic State University, Pomona • June 2000

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
INCE – Institute of Noise Control Engineers

PROFESSIONAL CERTIFICATIONS

Approved Acoustical Consultant • County of San Diego
FHWA Traffic Noise Model of Training • November 2004
CadnaA Basic and Advanced Training Certificate • October 2008.

This page intentionally left blank

APPENDIX 3.1:

CITY OF RANCHO MIRAGE MUNICIPAL CODE

This page intentionally left blank

Rancho Mirage, California Municipal Code

Title 8 HEALTH AND SAFETY

Chapter 8.45 NOISE

8.45.010 Purpose.

The city has established a quality of life and environment in which peace and quiet is highly valued by its residents, visitors and businesses. The existence of excessive noise within the city is a condition which is detrimental to the health, safety, comfort, welfare and quality of life of the citizenry and shall be regulated in the public interest. This chapter has been created to implement the goals and policies of the noise element of the city's general plan and to prohibit undesirable noises in the community. This chapter shall be referred to and cited as the Rancho Mirage noise ordinance. (Ord. 633 § 1(Exh. A), 1995)

8.45.020 Definitions.

Ambient noise level means the all encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding the alleged offensive noise, at the location and approximate time at which a comparison with the alleged offensive noise is to be made.

Cumulative period means an additive period of time consisting of individual time segments which may be continuous or interrupted.

Decibel (dBA) means a unit of sound level measured on a sound level meter using the A-weighting network.

Emergency means any occurrence or set of circumstances involving actual or imminent physical danger, crisis, trauma or property damage which demands immediate action.

Noise level means the same as sound level the terms are interchangeable.

Person means any individual, association, partnership, corporation, organization, or public agency, including associated officer(s), employee(s) or department(s).

Sound level means the quantity of decibels measured using the frequency weighting of A of a sound level meter.

Sound level meter means an instrument meeting the American National Standards Institute's standard S1.4-1983 or later revision, for Type 1 or Type 2 specifications; or an instrument and the associated recording and analyzing equipment which will provide equivalent data. (Ord. 633 § 1(Exh. A), 1995)

8.45.030 Exterior noise level limits.

No person shall operate or cause to be operated any source of sound or allow the creation of sound or noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level, as measured on any other property, to exceed:

A. The noise level for the applicable zone specified in Table A-1 for a cumulative period of more than thirty minutes in any hour of the applicable time period.

Table A-1

Land Use/Zone	Time of Day	Noise Level (dBA)
Residential, Low Density (R-E, H-R, R-L-2, R-L-3)	7:00 a.m. to 6:00 p.m.	55
	6:00 p.m. to 10:00 p.m.	50
	10:00 p.m. to 7:00 a.m.	45
Residential, Medium and High Density, Hospital, Open Space (OS, R-M, R-H, MHP)	7:00 a.m. to 6:00 p.m.	60
	6:00 p.m. to 10:00 p.m.	55
	10:00 p.m. to 7:00 a.m.	50
Commercial Office, Resort Commercial, Mixed Use, Institutional (O, P, Rs-H, M-U)	7:00 a.m. to 6:00 p.m.	65
	6:00 p.m. to 10:00 p.m.	60
	10:00 p.m. to 7:00 a.m.	55
Commercial Neighborhood, General Commercial, Commercial Recreation, Light Industrial (C-N, C-G, I-L)	7:00 a.m. to 6:00 p.m.	70
	6:00 p.m. to 10:00 p.m.	65
	10:00 p.m. to 7:00 a.m.	60

B. For cumulative periods of time less than thirty minutes in an hour, all the noise standards in Table A-1 are increased according to Table B-1.

Table B-1

Duration of Sound	dBA Adjustment
15—30 minutes per hour	+ 3
10—15 minutes per hour	+ 5
5—10 minutes per hour	+ 10
1—5 minutes per hour	+ 15
Any period of time less than 1 minute per hour	+ 20

C. If the measured ambient noise level exceeds the dBA limits in Table A-1, the noise limits and their adjustments for the first three categories in Table B-1 shall be increased in five dBA increments as needed to encompass or reflect said ambient noise level. The maximum noise level under the last two categories in Table B-1 shall be increased, if necessary, only to equal the ambient noise level. (Ord. 1015 § 2, 2011; Ord. 633 § 1(Exh. A), 1995)

8.45.040 Noise level measurement.

A. The location selected for measuring exterior noise levels shall be at the point of the property line of the affected property nearest the alleged offending noise source. If possible, the ambient noise shall be measured at the same location along the property line.

B. If the measurement location is on a boundary between two different locations, the noise level limit applicable to the lower noise zone shall apply.

C. Upon receipt of a complaint or a request to investigate, the code compliance officer, equipped with an American National Standards Institute Type 2 or better sound level meter, may investigate the complaint. The investigation shall consist of measurements and the gathering of data to adequately define the noise problem and shall include the following:

1. Type and measurement of noise source;

2. Location of noise source relative to complainant's or affected property;

3. Time period during which noise source is considered to be intrusive;

4. Total duration of noise levels measured;

5. Date(s) and time(s) of noise measurement survey. (Ord. 633 § 1(Exh. A), 1995)

8.45.050 Special provisions and exemptions.

The following activities and noise sources shall be exempted from the provisions of this chapter:

A. School bands, school athletic and other activities occurring on a school campus;

B. Outdoor gatherings, dance, shows, entertainment for events authorized through the city's special events process;

C. Activities conducted in public parks and public playgrounds that are dependent upon such facilities for their operation;

D. Any emission of sound for purposes of alerting persons to an emergency or the general emission of sound during performance of emergency work;

E. Construction, alteration, repair, grading or improvement of any building, structure, road or improvement to real property for which a permit has been issued by the city if said construction occurs within the allowable hours set forth in Section 15.04.030(A)(10);

F. The operation of any equipment and machinery at any time within any zone by the city, its employees, or any agent or franchisee of the city in the course of performing maintenance, construction or trash collection. (Ord. 633 § 1(Exh. A), 1995)

8.45.060 Additional prohibition.

It is unlawful and a nuisance for any person to keep, maintain or permit upon any lot or parcel of land within the city under his or her control any animal, including any fowl, which by any sound or cry shall habitually disturb the peace and comfort of any person in the reasonable and comfortable enjoyment of life or property. (Ord. 633 § 1(Exh. A), 1995)

8.45.065 Landscape maintenance.

A. It is unlawful and a public nuisance for any person to permit or perform for-hire landscape and non- emergency exterior hardscape maintenance activities such as, but not limited to, tree trimming, re-seeding, lawn mowing, leaf blowing, dust and debris clearing and any other landscaping or nonemergency exterior hardscape maintenance activities which utilize any motorized saw, sander, drill, grinder, leaf-blower, lawnmower, hedge trimmer, edger, or any other similar tool or device any time on Saturday and Sunday and between the hours of six p.m. and seven a.m. the next day during weekdays, unless otherwise provided in this section.

B. The regular mowing or grooming of golf courses, grass tennis courts, grass croquet courts, and lawn bowling areas shall be exempt from the restrictions set forth in this section. The allowed work hours for mowing or green preparation for golf courses, grass tennis courts, grass croquet courts, and lawn bowling areas shall be between five thirty a.m. and seven p.m., seven days per week and during all seasons of the year.

C. Nothing set forth in this section shall permit any person from engaging in any activities that exceed the exterior noise level limits set forth in Section 8.45.030 or otherwise constitute a public nuisance as set forth in Section 14.60.325 of the Municipal Code. (Ord. 979, § 1, 2009; Ord. 936, § 3, 2006)

8.45.070 Administration.

The noise control program established by this chapter shall be administered by and is the responsibility of the code compliance division as directed by the director of the community development department. (Ord. 633 § 1(Exh. A), 1995)

8.45.080 Violations and enforcement procedures.

Violations of this chapter are declared to be a nuisance and subject to the procedures, remedies and penalties set forth in Title 14. (Ord. 916 §4, 2006; Ord. 633 § 1(Exh. A), 1995)

Contact:

City Clerk: 760-324-4511

APPENDIX 5.1:

STUDY AREA PHOTOS

This page intentionally left blank

JN: 14747 Study Area Photos

L1_E
33, 46' 20.200000"116, 25' 0.350000"

L1_N
33, 46' 20.230000"116, 25' 0.320000"

L1_S
33, 46' 20.240000"116, 25' 0.320000"

L1_W
33, 46' 20.210000"116, 25' 0.350000"

L2_E
33, 46' 12.500000"116, 24' 43.400000"

L2_N
33, 46' 12.540000"116, 24' 43.370000"

JN: 14747 Study Area Photos

L2_S
33, 46' 12.520000"116, 24' 43.460000"

L2_W
33, 46' 12.500000"116, 24' 43.400000"

L3_E
33, 46' 3.620000"116, 24' 40.330000"

L3_N
33, 46' 3.830000"116, 24' 40.410000"

L3_S
33, 46' 3.680000"116, 24' 40.410000"

L3_W
33, 46' 3.650000"116, 24' 40.330000"

JN: 14747 Study Area Photos

L4_E
33, 45' 59.410000"116, 24' 44.770000"

L4_N
33, 45' 59.600000"116, 24' 44.800000"

L4_S
33, 45' 59.610000"116, 24' 44.800000"

L4_W
33, 45' 59.440000"116, 24' 44.770000"

L5_E
33, 46' 17.040000"116, 25' 0.600000"

L5_N
33, 46' 17.060000"116, 25' 0.570000"

JN: 14747 Study Area Photos

L5_S
33, 46' 17.030000"116, 25' 0.620000"

L5_W
33, 46' 17.060000"116, 25' 0.600000"

L6_E
33, 46' 13.680000"116, 25' 0.600000"

L6_N
33, 46' 13.570000"116, 25' 0.620000"

L6_S
33, 46' 13.570000"116, 25' 0.600000"

L6_W
33, 46' 13.620000"116, 25' 0.600000"

APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

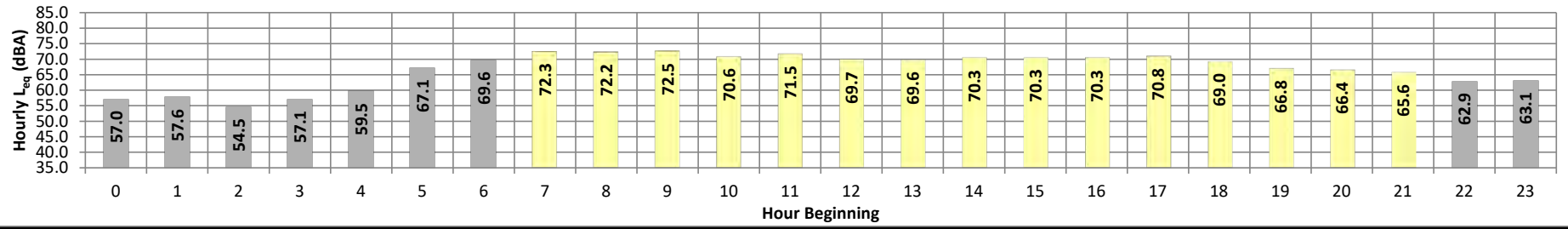
This page intentionally left blank

24-Hour Noise Level Measurement Summary

Date: Tuesday, April 5, 2022 | *Location:* L1 - Located northwest of the Project site near single-family | *Meter:* Piccolo II | *JN:* 14747

Project: 2717 Desert Island | *Source:* residence at 1 Von Dehn Road. | *Analyst:* A. Khan

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	57.0	71.0	36.7	70.3	69.0	65.1	61.4	48.0	41.0	37.5	37.2	36.8	57.0	10.0	67.0
	1	57.6	72.4	36.4	71.8	70.3	65.0	60.3	45.6	40.3	37.0	36.8	36.5	57.6	10.0	67.6
	2	54.5	68.3	39.1	67.6	66.3	62.4	59.2	46.7	41.9	39.7	39.5	39.2	54.5	10.0	64.5
	3	57.1	71.1	38.5	70.4	69.1	64.7	61.5	49.5	42.8	39.2	38.9	38.6	57.1	10.0	67.1
	4	59.5	72.7	42.4	72.0	70.7	67.0	64.6	55.8	47.4	43.0	42.8	42.5	59.5	10.0	69.5
	5	67.1	78.3	53.1	77.7	76.6	74.0	72.4	66.2	61.5	54.9	54.1	53.3	67.1	10.0	77.1
	6	69.6	80.4	52.5	79.7	78.6	76.1	74.7	69.8	63.7	54.4	53.4	52.7	69.6	10.0	79.6
Day	7	72.3	83.4	54.8	82.7	81.5	78.3	76.5	72.7	68.2	57.9	56.0	55.0	72.3	0.0	72.3
	8	72.2	81.1	59.8	80.5	79.5	77.6	76.5	73.5	69.1	62.0	61.1	60.1	72.2	0.0	72.2
	9	72.5	80.3	59.3	79.8	79.1	77.8	76.9	73.8	70.1	62.2	61.0	59.6	72.5	0.0	72.5
	10	70.6	79.9	51.6	79.2	78.3	76.5	75.5	71.7	67.3	56.8	54.4	51.9	70.6	0.0	70.6
	11	71.5	84.0	52.2	83.0	81.5	77.4	75.2	71.1	66.8	56.0	54.0	52.4	71.5	0.0	71.5
	12	69.7	78.8	50.6	78.2	77.4	75.6	74.6	70.9	66.4	54.9	52.6	50.8	69.7	0.0	69.7
	13	69.6	79.7	51.0	79.1	78.1	75.5	74.1	70.4	65.8	55.3	53.0	51.3	69.6	0.0	69.6
	14	70.3	80.4	50.6	79.7	78.6	75.9	74.7	71.1	67.0	55.7	53.3	51.1	70.3	0.0	70.3
	15	70.3	79.4	50.8	78.8	77.9	76.0	74.9	71.6	67.3	56.6	53.7	51.1	70.3	0.0	70.3
	16	70.3	79.9	49.0	79.2	78.1	76.0	74.9	71.5	66.8	54.2	51.3	49.4	70.3	0.0	70.3
	17	70.8	82.0	49.4	81.3	79.9	76.8	75.3	71.1	66.3	54.2	52.1	49.9	70.8	0.0	70.8
	18	69.0	78.6	47.3	78.0	77.1	75.4	74.4	70.1	63.8	51.2	49.9	47.8	69.0	0.0	69.0
	19	66.8	77.8	46.3	77.1	76.1	73.6	72.3	66.8	59.0	48.3	47.0	46.6	66.8	5.0	71.8
	20	66.4	78.5	43.9	77.8	76.7	73.5	71.6	65.5	57.4	46.2	44.9	44.0	66.4	5.0	71.4
	21	65.6	77.1	45.3	76.4	75.3	72.8	71.3	64.9	56.3	46.7	46.0	45.4	65.6	5.0	70.6
Night	22	62.9	75.3	41.2	74.7	73.6	70.4	68.3	60.3	51.0	42.5	42.0	41.4	62.9	10.0	72.9
	23	63.1	76.6	40.4	75.7	74.2	70.3	68.1	59.7	50.8	42.1	41.3	40.6	63.1	10.0	73.1

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	65.6	77.1	43.9	76.4	75.3	72.8	71.3	64.9	56.3	46.2	44.9	44.0
	Max	72.5	84.0	59.8	83.0	81.5	78.3	76.9	73.8	70.1	62.2	61.1	60.1
Energy Average		70.3	Average:		79.4	78.3	75.9	74.6	70.5	65.2	54.5	52.7	51.1
Night	Min	54.5	68.3	36.4	67.6	66.3	62.4	59.2	45.6	40.3	37.0	36.8	36.5
	Max	69.6	80.4	53.1	79.7	78.6	76.1	74.7	69.8	63.7	54.9	54.1	53.3
Energy Average		63.7	Average:		73.3	72.0	68.3	65.6	55.7	48.9	43.4	42.9	42.4

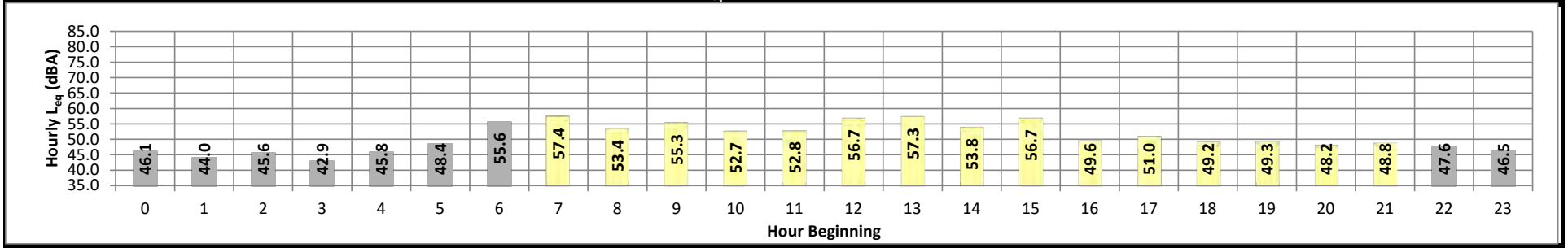
L_{eq} (dBA)		
24-Hour	Daytime (7am-10pm)	Nighttime (10pm-7am)
68.8	**70.3**	**63.7**

24-Hour Noise Level Measurement Summary

Date: Wednesday, March 23, 2022 *Location:* L2 - Located south of the Project site near multi-family *Meter:* Piccolo II *JN:* 14747

Project: 2717 Desert Island *Source:* residence at 910 Island Drive. *Analyst:* A. Khan

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	46.1	51.1	42.5	50.8	50.4	49.7	49.2	47.2	45.2	42.8	42.7	42.5	46.1	10.0	56.1
	1	44.0	48.3	41.9	48.1	47.7	46.8	46.0	44.4	43.3	42.3	42.1	41.9	44.0	10.0	54.0
	2	45.6	53.5	40.7	53.3	52.9	52.2	50.9	44.6	42.2	41.0	40.9	40.7	45.6	10.0	55.6
	3	42.9	47.1	40.3	46.8	46.4	45.5	45.0	43.6	42.4	40.8	40.6	40.4	42.9	10.0	52.9
	4	45.8	52.3	43.2	51.8	51.3	49.7	47.6	45.8	45.0	43.8	43.5	43.3	45.8	10.0	55.8
	5	48.4	53.5	45.1	53.2	52.6	51.7	51.0	49.3	47.4	45.7	45.5	45.2	48.4	10.0	58.4
	6	55.6	62.1	53.0	61.1	60.1	58.2	57.3	55.9	55.0	53.7	53.5	53.2	55.6	10.0	65.6
Day	7	57.4	61.8	55.0	61.5	61.2	60.0	59.3	57.8	56.9	55.6	55.3	55.1	57.4	0.0	57.4
	8	53.4	60.9	50.3	60.4	59.9	57.9	56.3	53.3	52.0	50.8	50.6	50.4	53.4	0.0	53.4
	9	55.3	62.7	48.2	62.0	61.4	59.9	58.8	56.0	53.8	50.2	49.4	48.5	55.3	0.0	55.3
	10	52.7	62.5	46.2	61.9	61.2	59.0	56.8	51.9	49.6	47.2	46.8	46.3	52.7	0.0	52.7
	11	52.8	62.9	45.7	61.8	60.8	58.3	56.9	53.1	49.8	46.6	46.3	45.9	52.8	0.0	52.8
	12	56.7	63.4	48.2	63.2	62.8	61.7	60.7	57.2	55.4	51.0	49.6	48.5	56.7	0.0	56.7
	13	57.3	66.0	45.8	65.7	65.3	63.6	62.5	57.9	53.3	46.8	46.4	45.9	57.3	0.0	57.3
	14	53.8	66.7	43.5	66.0	64.7	60.6	57.4	51.4	47.8	44.3	43.9	43.6	53.8	0.0	53.8
	15	56.7	67.3	48.7	65.8	64.8	61.9	60.6	57.2	53.6	49.3	49.1	48.8	56.7	0.0	56.7
	16	49.6	58.7	43.1	58.3	57.8	55.6	53.6	49.6	46.8	44.0	43.6	43.2	49.6	0.0	49.6
	17	51.0	61.6	43.6	60.7	59.6	57.2	55.1	50.4	47.7	44.6	44.3	43.8	51.0	0.0	51.0
	18	49.2	58.5	43.5	58.1	57.4	54.7	52.6	49.0	46.5	44.5	44.2	43.7	49.2	0.0	49.2
	19	49.3	57.4	43.4	56.9	56.5	55.0	53.5	49.8	46.6	44.0	43.8	43.5	49.3	5.0	54.3
	20	48.2	55.4	44.9	54.8	54.2	52.6	51.2	48.2	46.9	45.5	45.3	45.0	48.2	5.0	53.2
	21	48.8	54.8	44.7	54.4	54.1	53.0	52.1	49.5	47.4	45.4	45.1	44.8	48.8	5.0	53.8
Night	22	47.6	51.8	44.7	51.5	51.2	50.5	49.9	48.3	47.0	45.2	45.0	44.8	47.6	10.0	57.6
	23	46.5	51.9	43.3	51.6	51.2	49.8	49.2	47.0	45.6	43.9	43.7	43.4	46.5	10.0	56.5

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	48.2	54.8	43.1	54.4	54.1	52.6	51.2	48.2	46.5	44.0	43.6	43.2
	Max	57.4	67.3	55.0	66.0	65.3	63.6	62.5	57.9	56.9	55.6	55.3	55.1
Energy Average		53.9	Average:		60.8	60.1	58.1	56.5	52.8	50.3	47.3	46.9	46.5
Night	Min	42.9	47.1	40.3	46.8	46.4	45.5	45.0	43.6	42.2	40.8	40.6	40.4
	Max	55.6	62.1	53.0	61.1	60.1	58.2	57.3	55.9	55.0	53.7	53.5	53.2
Energy Average		48.9	Average:		52.0	51.5	50.5	49.6	47.3	45.9	44.4	44.2	43.9

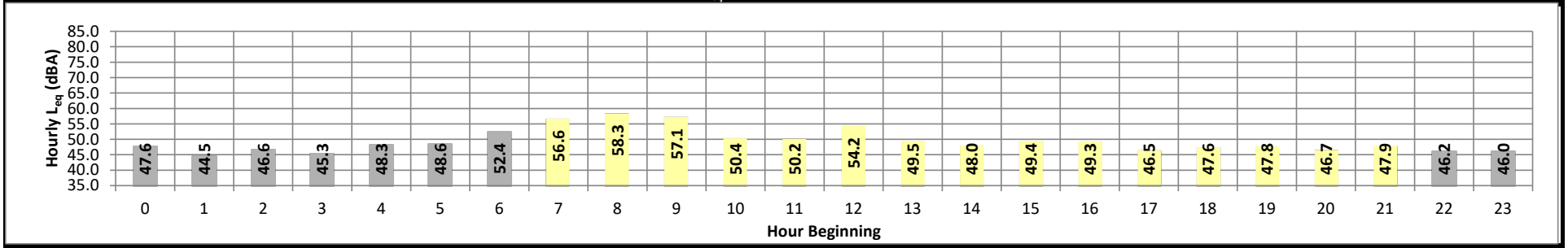
L_{eq} (dBA)		
24-Hour	Daytime (7am-10pm)	Nighttime (10pm-7am)
52.6	**53.9**	**48.9**

24-Hour Noise Level Measurement Summary

Date: Wednesday, March 23, 2022 *Location:* L3 - Located south of the Project site near multi-family *Meter:* Piccolo II *JN:* 14747

Project: 2717 Desert Island *Source:* residence at 900 Island Drive. *Analyst:* A. Khan

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	47.6	52.9	44.0	52.5	52.2	51.3	50.8	48.7	46.2	44.5	44.3	44.0	47.6	10.0	57.6
	1	44.5	48.2	42.6	47.8	47.5	47.0	46.5	45.0	44.0	43.0	42.9	42.6	44.5	10.0	54.5
	2	46.6	53.1	41.3	52.8	52.6	52.1	51.6	47.0	43.8	41.8	41.6	41.4	46.6	10.0	56.6
	3	45.3	47.9	43.6	47.7	47.5	47.0	46.7	45.9	45.1	44.0	43.8	43.6	45.3	10.0	55.3
	4	48.3	51.9	46.6	51.7	51.4	50.4	49.8	48.7	48.0	47.0	46.8	46.7	48.3	10.0	58.3
	5	48.6	52.3	46.2	52.0	51.7	51.0	50.5	49.0	48.1	46.8	46.6	46.3	48.6	10.0	58.6
	6	52.4	58.6	49.8	57.9	57.6	56.4	54.8	52.3	51.6	50.3	50.1	49.9	52.4	10.0	62.4
Day	7	56.6	59.6	54.0	59.3	59.1	58.7	58.5	57.6	56.1	54.7	54.4	54.1	56.6	0.0	56.6
	8	58.3	63.9	54.8	63.0	62.5	61.3	60.6	58.9	57.7	55.8	55.3	54.9	58.3	0.0	58.3
	9	57.1	62.3	50.8	61.8	61.4	60.9	60.5	58.2	56.1	52.5	51.7	51.0	57.1	0.0	57.1
	10	50.4	56.7	46.5	56.0	55.4	54.0	53.4	51.0	49.6	47.3	46.9	46.6	50.4	0.0	50.4
	11	50.2	55.8	46.0	55.2	54.7	53.8	53.2	51.4	49.1	46.8	46.5	46.1	50.2	0.0	50.2
	12	54.2	68.4	44.3	66.7	64.7	59.4	57.5	52.5	48.2	45.3	44.9	44.5	54.2	0.0	54.2
	13	49.5	55.6	44.5	55.1	54.7	54.0	53.2	50.4	47.8	45.2	45.0	44.6	49.5	0.0	49.5
	14	48.0	56.0	43.0	55.2	54.5	52.6	51.6	48.6	46.0	43.7	43.4	43.1	48.0	0.0	48.0
	15	49.4	55.9	43.6	55.4	54.9	53.8	53.2	50.6	47.5	44.8	44.2	43.7	49.4	0.0	49.4
	16	49.3	54.7	46.4	54.2	53.6	52.5	52.0	49.7	48.6	46.7	46.6	46.4	49.3	0.0	49.3
	17	46.5	51.7	43.0	51.0	50.6	49.7	49.2	47.4	45.5	43.7	43.5	43.2	46.5	0.0	46.5
	18	47.6	52.7	44.5	52.3	51.9	50.8	50.1	48.4	46.6	45.0	44.8	44.6	47.6	0.0	47.6
	19	47.8	53.1	44.4	52.7	52.2	51.3	50.7	48.5	46.7	45.0	44.8	44.5	47.8	5.0	52.8
	20	46.7	50.6	44.0	50.4	50.2	49.3	48.9	47.3	46.1	44.7	44.4	44.1	46.7	5.0	51.7
	21	47.9	53.5	44.3	53.2	52.7	51.6	51.2	48.7	46.6	44.8	44.6	44.3	47.9	5.0	52.9
Night	22	46.2	50.3	43.7	49.9	49.5	48.8	48.3	46.8	45.6	44.2	44.0	43.8	46.2	10.0	56.2
	23	46.0	49.8	43.6	49.5	49.2	48.6	48.2	46.8	45.2	44.1	43.9	43.7	46.0	10.0	56.0

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	46.5	50.6	43.0	50.4	50.2	49.3	48.9	47.3	45.5	43.7	43.4	43.1
	Max	58.3	68.4	54.8	66.7	64.7	61.3	60.6	58.9	57.7	55.8	55.3	54.9
Energy Average		52.6	Average:		56.1	55.5	54.2	53.6	51.3	49.2	47.1	46.7	46.4
Night	Min	44.5	47.9	41.3	47.7	47.5	47.0	46.5	45.0	43.8	41.8	41.6	41.4
	Max	52.4	58.6	49.8	57.9	57.6	56.4	54.8	52.3	51.6	50.3	50.1	49.9
Energy Average		47.9	Average:		51.3	51.0	50.3	49.7	47.8	46.4	45.1	44.9	44.7

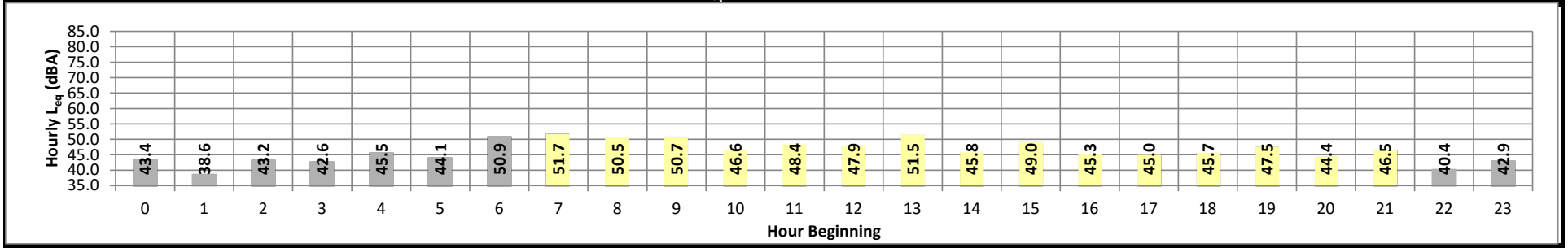
L_{eq} (dBA)		
24-Hour	Daytime (7am-10pm)	Nighttime (10pm-7am)
51.4	**52.6**	**47.9**

24-Hour Noise Level Measurement Summary

Date: Wednesday, March 23, 2022 *Location:* L4 - Located south of the Project site near multi-family *Meter:* Piccolo II *JN:* 14747

Project: 2717 Desert Island *Source:* residence at 899 Island Drive. *Analyst:* A. Khan

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	43.4	47.8	39.8	47.5	47.3	46.7	46.3	44.6	42.5	40.3	40.1	39.9	43.4	10.0	53.4
	1	38.6	42.1	37.4	41.8	41.5	40.7	40.1	38.7	38.3	37.7	37.6	37.5	38.6	10.0	48.6
	2	43.2	49.6	37.6	49.4	49.3	48.8	48.4	43.5	40.1	38.1	37.9	37.7	43.2	10.0	53.2
	3	42.6	45.6	41.1	45.2	44.8	44.2	43.8	43.1	42.3	41.4	41.3	41.2	42.6	10.0	52.6
	4	45.5	48.9	43.9	48.5	48.2	47.6	47.2	45.9	45.1	44.3	44.2	44.0	45.5	10.0	55.5
	5	44.1	48.3	42.3	47.8	47.4	46.5	45.8	44.4	43.7	42.8	42.6	42.4	44.1	10.0	54.1
	6	50.9	53.6	48.6	53.3	53.1	52.8	52.5	51.5	50.6	49.3	49.1	48.8	50.9	10.0	60.9
Day	7	51.7	54.8	49.5	54.5	54.3	53.8	53.4	52.3	51.3	50.1	49.9	49.6	51.7	0.0	51.7
	8	50.5	57.8	46.7	57.0	56.5	55.2	54.1	50.8	48.8	47.4	47.2	46.9	50.5	0.0	50.5
	9	50.7	57.1	45.8	56.6	56.0	55.1	54.6	51.5	48.9	46.7	46.4	46.0	50.7	0.0	50.7
	10	46.6	52.7	43.3	52.0	51.4	50.2	49.4	47.1	45.5	44.0	43.7	43.5	46.6	0.0	46.6
	11	48.4	55.6	42.9	54.7	54.0	52.9	52.2	49.6	46.0	43.7	43.4	43.1	48.4	0.0	48.4
	12	47.9	54.5	43.5	53.9	53.2	52.1	51.1	48.6	46.3	44.4	44.0	43.7	47.9	0.0	47.9
	13	51.5	58.8	43.4	58.3	58.0	57.3	56.6	52.2	48.1	44.4	44.1	43.8	51.5	0.0	51.5
	14	45.8	52.5	40.9	51.9	51.5	50.2	49.4	46.8	44.2	41.6	41.3	41.1	45.8	0.0	45.8
	15	49.0	57.2	40.3	56.6	55.9	54.4	53.7	50.5	45.1	41.4	41.0	40.5	49.0	0.0	49.0
	16	45.3	53.3	39.7	52.6	52.0	50.4	49.2	46.1	43.1	40.3	40.1	39.8	45.3	0.0	45.3
	17	45.0	51.6	40.4	51.0	50.3	48.8	48.1	46.0	43.7	41.1	40.9	40.6	45.0	0.0	45.0
	18	45.7	51.4	41.8	51.0	50.7	49.7	49.0	46.7	44.2	42.5	42.2	41.9	45.7	0.0	45.7
	19	47.5	52.9	42.9	52.5	52.0	51.3	50.9	48.9	45.9	43.7	43.4	43.1	47.5	5.0	52.5
	20	44.4	49.8	42.1	49.2	48.4	47.4	46.6	45.0	43.7	42.6	42.4	42.2	44.4	5.0	49.4
	21	46.5	53.2	40.4	52.9	52.7	51.9	51.5	47.4	42.7	40.9	40.7	40.5	46.5	5.0	51.5
Night	22	40.4	44.6	38.1	44.1	43.6	42.7	42.3	41.0	39.9	38.6	38.4	38.2	40.4	10.0	50.4
	23	42.9	48.5	38.3	48.0	47.6	47.0	46.5	43.9	41.5	38.9	38.7	38.5	42.9	10.0	52.9

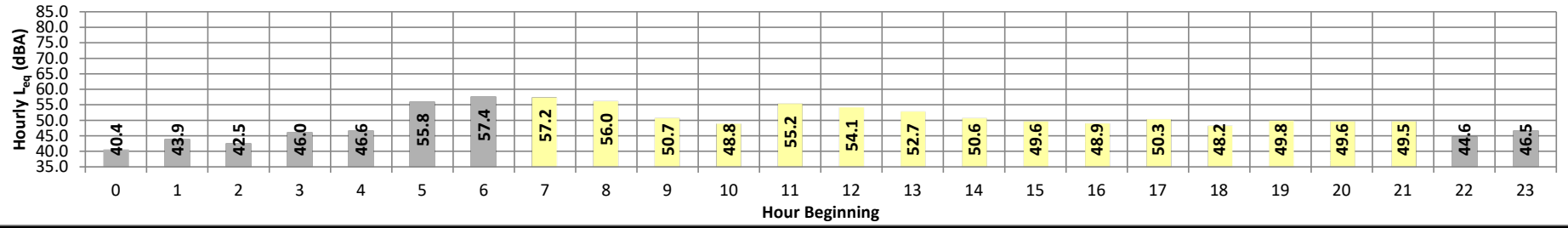
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	44.4	49.8	39.7	49.2	48.4	47.4	46.6	45.0	42.7	40.3	40.1	39.8
	Max	51.7	58.8	49.5	58.3	58.0	57.3	56.6	52.3	51.3	50.1	49.9	49.6
Energy Average		48.4	Average:		53.6	53.1	52.1	51.3	48.6	45.8	43.7	43.4	43.1
Night	Min	38.6	42.1	37.4	41.8	41.5	40.7	40.1	38.7	38.3	37.7	37.6	37.5
	Max	50.9	53.6	48.6	53.3	53.1	52.8	52.5	51.5	50.6	49.3	49.1	48.8
Energy Average		45.0	Average:		47.3	47.0	46.3	45.9	44.1	42.7	41.3	41.1	40.9

L_{eq} (dBA)		
24-Hour	Daytime (7am-10pm)	Nighttime (10pm-7am)
47.4	**48.4**	**45.0**

24-Hour Noise Level Measurement Summary

Date: Tuesday, April 5, 2022 | *Location:* L5 - Located southwest of the Project site near single-family | *Meter:* Piccolo II | *JN:* 14747
Project: 2717 Desert Island | *Source:* residence at 3 Vohn Dehn Road. | *Analyst:* A. Khan

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	40.4	45.0	37.5	44.8	44.5	43.7	43.0	41.1	39.6	38.0	37.8	37.6	40.4	10.0	50.4
	1	43.9	51.0	39.6	50.3	49.9	48.8	47.8	44.3	42.1	40.1	39.9	39.7	43.9	10.0	53.9
	2	42.5	49.1	39.3	48.7	48.2	47.1	45.7	42.7	41.0	39.7	39.6	39.3	42.5	10.0	52.5
	3	46.0	53.0	42.0	52.8	52.4	51.4	49.9	45.8	43.8	42.5	42.3	42.1	46.0	10.0	56.0
	4	46.6	49.2	44.7	49.0	48.8	48.4	48.2	47.2	46.2	45.2	45.1	44.9	46.6	10.0	56.6
	5	55.8	60.4	51.3	60.2	60.0	59.5	58.8	56.8	54.9	52.6	52.0	51.5	55.8	10.0	65.8
	6	57.4	62.0	54.5	61.6	61.4	60.3	59.6	58.0	56.9	55.1	54.9	54.6	57.4	10.0	67.4
Day	7	57.2	60.5	54.8	60.3	60.1	59.4	59.0	57.7	56.8	55.6	55.3	55.0	57.2	0.0	57.2
	8	56.0	59.8	52.7	59.5	59.3	58.8	58.5	56.7	55.3	53.4	53.2	52.8	56.0	0.0	56.0
	9	50.7	54.5	47.2	54.2	54.0	53.5	53.0	51.4	50.2	48.0	47.7	47.3	50.7	0.0	50.7
	10	48.8	55.1	42.7	54.6	54.3	53.5	52.9	49.9	47.1	43.9	43.4	42.8	48.8	0.0	48.8
	11	55.2	59.6	52.5	59.4	59.1	58.3	57.6	55.6	54.4	53.1	52.9	52.6	55.2	0.0	55.2
	12	54.1	60.6	48.2	60.1	59.7	58.3	57.6	55.4	52.3	49.2	48.8	48.3	54.1	0.0	54.1
	13	52.7	70.3	49.2	68.5	66.6	64.5	63.7	58.6	54.9	50.5	50.0	49.4	52.7	0.0	52.7
	14	50.6	59.6	44.1	59.1	58.7	57.3	56.6	53.9	49.0	45.1	44.7	44.2	50.6	0.0	50.6
	15	49.6	56.3	43.1	55.8	55.3	54.6	54.0	50.5	47.5	44.2	43.7	43.3	49.6	0.0	49.6
	16	48.9	54.8	42.9	54.5	54.2	53.5	52.7	49.9	47.6	44.1	43.6	43.1	48.9	0.0	48.9
	17	50.3	57.6	43.1	57.2	56.7	55.9	54.8	50.8	47.9	44.2	43.7	43.2	50.3	0.0	50.3
	18	48.2	54.6	43.4	54.1	53.3	52.1	51.3	48.9	47.1	44.2	43.9	43.6	48.2	0.0	48.2
	19	49.8	56.5	44.3	56.1	55.8	55.1	54.2	50.4	47.5	45.1	44.8	44.4	49.8	5.0	54.8
	20	49.6	55.1	45.0	54.8	54.5	53.9	53.4	50.4	48.0	45.7	45.4	45.2	49.6	5.0	54.6
	21	49.5	56.5	45.4	55.8	55.1	53.7	53.0	50.0	47.9	46.0	45.8	45.5	49.5	5.0	54.5
Night	22	44.6	49.0	40.8	48.8	48.6	48.0	47.5	45.5	43.7	41.6	41.3	40.9	44.6	10.0	54.6
	23	46.5	53.9	39.5	53.5	53.2	52.4	51.6	47.1	43.4	40.2	40.0	39.6	46.5	10.0	56.5

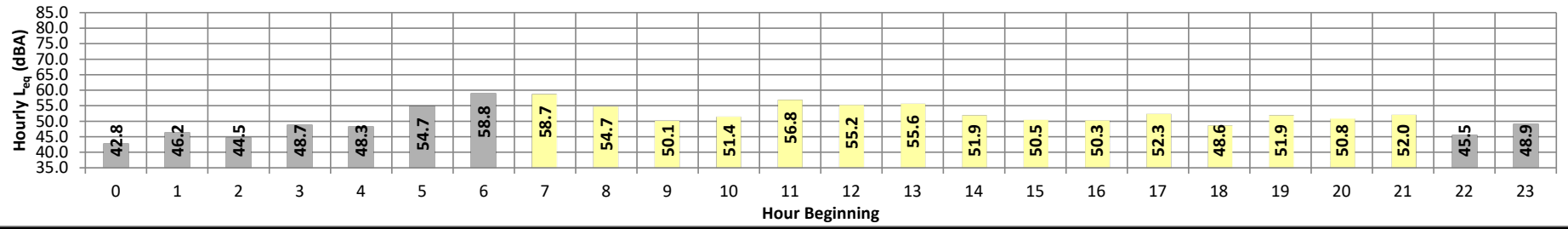
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	48.2	54.5	42.7	54.1	53.3	52.1	51.3	48.9	47.1	43.9	43.4	42.8
	Max	57.2	70.3	54.8	68.5	66.6	64.5	63.7	58.6	56.8	55.6	55.3	55.0
Energy Average		52.4	Average:		57.6	57.1	56.2	55.5	52.7	50.2	47.5	47.1	46.7
Night	Min	40.4	45.0	37.5	44.8	44.5	43.7	43.0	41.1	39.6	38.0	37.8	37.6
	Max	57.4	62.0	54.5	61.6	61.4	60.3	59.6	58.0	56.9	55.1	54.9	54.6
Energy Average		51.0	Average:		52.2	51.9	51.1	50.2	47.6	45.7	43.9	43.6	43.4

L_{eq} (dBA)		
24-Hour	Daytime (7am-10pm)	Nighttime (10pm-7am)
51.9	**52.4**	**51.0**

24-Hour Noise Level Measurement Summary

Date: Tuesday, April 5, 2022
Project: 2717 Desert Island
Location: L6 - Located west of the Project site near single-family residence at 1 Vohn Dehn Road.
Meter: Piccolo II
JN: 14747
Analyst: A. Khan

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	42.8	46.3	40.3	45.9	45.6	45.0	44.7	43.5	42.4	40.9	40.7	40.4	42.8	10.0	52.8
	1	46.2	51.1	43.3	50.8	50.4	49.4	48.8	46.9	45.2	43.8	43.5	43.4	46.2	10.0	56.2
	2	44.5	49.5	42.2	49.1	48.8	47.4	46.7	44.7	43.7	42.8	42.5	42.3	44.5	10.0	54.5
	3	48.7	55.1	44.3	54.8	54.7	53.9	53.3	48.7	46.7	44.8	44.6	44.4	48.7	10.0	58.7
	4	48.3	50.5	46.6	50.3	50.1	49.7	49.5	48.8	48.0	47.0	46.8	46.6	48.3	10.0	58.3
	5	54.7	58.6	50.8	58.4	58.3	57.7	57.2	55.8	54.2	51.8	51.3	51.0	54.7	10.0	64.7
	6	58.8	64.6	56.6	64.2	63.9	63.0	62.5	59.9	58.7	57.2	57.0	56.7	58.8	10.0	68.8
Day	7	58.7	61.0	56.8	60.8	60.5	60.1	59.8	59.2	58.5	57.4	57.2	56.9	58.7	0.0	58.7
	8	54.7	60.0	53.3	59.7	59.5	59.1	58.8	57.7	56.4	54.2	53.9	53.4	54.7	0.0	54.7
	9	50.1	55.0	47.4	54.3	53.7	52.8	52.3	50.6	49.6	48.2	47.9	47.6	50.1	0.0	50.1
	10	51.4	58.9	44.2	58.5	57.9	57.0	56.2	51.7	48.8	45.5	45.0	44.4	51.4	0.0	51.4
	11	56.8	63.4	52.9	62.8	62.4	61.0	59.9	57.2	55.5	53.7	53.4	53.1	56.8	0.0	56.8
	12	55.2	63.2	50.6	62.6	62.2	61.2	60.5	57.0	54.2	51.6	51.2	50.7	55.2	0.0	55.2
	13	55.6	72.9	49.7	71.8	70.9	66.0	63.8	59.4	56.2	51.3	50.7	49.9	55.6	0.0	55.6
	14	51.9	63.5	45.6	62.7	62.1	60.9	60.1	55.3	50.3	46.5	46.1	45.8	51.9	0.0	51.9
	15	50.5	57.1	44.4	56.8	56.6	56.0	55.2	51.2	47.4	45.2	44.8	44.5	50.5	0.0	50.5
	16	50.3	55.9	45.8	55.4	54.9	54.2	53.7	51.2	48.8	46.5	46.2	45.9	50.3	0.0	50.3
	17	52.3	59.7	44.6	59.3	58.9	58.2	57.3	53.1	49.0	45.5	45.2	44.7	52.3	0.0	52.3
	18	48.6	52.9	44.7	52.6	52.4	51.6	51.2	49.6	47.9	45.5	45.2	44.9	48.6	0.0	48.6
	19	51.9	58.6	46.2	58.3	58.0	57.2	56.3	52.8	49.3	46.9	46.7	46.4	51.9	5.0	56.9
	20	50.8	55.7	46.7	55.5	55.3	54.5	53.9	51.8	49.8	47.3	47.0	46.8	50.8	5.0	55.8
	21	52.0	58.3	47.6	57.8	57.3	56.4	55.8	52.9	50.1	48.2	48.0	47.7	52.0	5.0	57.0
Night	22	45.5	49.8	42.7	49.5	49.1	48.4	48.0	46.0	44.8	43.3	43.1	42.8	45.5	10.0	55.5
	23	48.9	62.0	43.5	59.5	58.4	56.4	55.3	50.7	46.5	44.1	43.8	43.6	48.9	10.0	58.9

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	48.6	52.9	44.2	52.6	52.4	51.6	51.2	49.6	47.4	45.2	44.8	44.4
	Max	58.7	72.9	56.8	71.8	70.9	66.0	63.8	59.4	58.5	57.4	57.2	56.9
Energy Average		53.7	Average:		59.3	58.9	57.7	57.0	54.1	51.5	48.9	48.6	48.2
Night	Min	42.8	46.3	40.3	45.9	45.6	45.0	44.7	43.5	42.4	40.9	40.7	40.4
	Max	58.8	64.6	56.6	64.2	63.9	63.0	62.5	59.9	58.7	57.2	57.0	56.7
Energy Average		51.9	Average:		53.6	53.3	52.3	51.8	49.4	47.8	46.2	45.9	45.7

L_{eq} (dBA)		
24-Hour	Daytime (7am-10pm)	Nighttime (10pm-7am)
53.1	**53.7**	**51.9**

APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE LEVEL CALCULATIONS

This page intentionally left blank

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E
Road Name: Frank Sinatra Drive
Road Segment: w/o Island Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,700 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,370 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.58	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-17.82	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-21.78	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.1	63.3	57.3	65.9	66.5
Medium Trucks:	60.8	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	61.6	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	68.8	67.1	63.9	59.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	182	392
CNEL:	42	91	195	420

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E
Road Name: Frank Sinatra Drive
Road Segment: e/o Island Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,300 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,330 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.71	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-17.95	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-21.91	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	64.9	63.2	57.1	65.8	66.4
Medium Trucks:	60.6	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	61.5	60.0	51.0	52.3	60.6	60.7
Vehicle Noise:	68.7	66.9	63.8	59.1	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	178	384
CNEL:	41	89	191	412

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E
Road Name: Frank Sinatra Drive
Road Segment: e/o Bob Hope Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,100 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,310 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.78	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-18.02	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-21.97	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	60.6	59.1	52.7	51.1	59.6	59.8
Heavy Trucks:	61.4	60.0	50.9	52.2	60.6	60.7
Vehicle Noise:	68.6	66.9	63.7	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	380
CNEL:	41	88	189	408

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E
Road Name: Bob Hope Drive
Road Segment: n/o Frank Sinatra Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,600 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,860 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	86 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.143
Medium Trucks:	41.932
Heavy Trucks:	41.953

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.74	1.01	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-16.49	1.04	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.45	1.04	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	62.8	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	63.6	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.9	69.1	66.0	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	271	585
CNEL:	63	135	291	627

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E
Road Name: Bob Hope Drive
Road Segment: s/o Frank Sinatra Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,300 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,130 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.33	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-15.91	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-19.86	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	62.7	61.2	54.8	53.3	61.7	61.9
Heavy Trucks:	63.5	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.7	69.0	65.8	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	113	244	526
CNEL:	56	122	262	564

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E
Road Name: Island Drive
Road Segment: s/o Frank Sinatra Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,000 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	100 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-9.40	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	70.80	-26.64	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	77.97	-30.59	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.4	49.5	47.7	41.7	50.3	50.9
Medium Trucks:	46.3	44.8	38.4	36.9	45.3	45.6
Heavy Trucks:	49.5	48.1	39.0	40.3	48.7	48.8
Vehicle Noise:	54.3	52.6	48.7	44.8	53.3	53.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	2	5	11	23
CNEL:	2	5	11	25

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E+P
Road Name: Frank Sinatra Drive
Road Segment: w/o Island Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,950 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,395 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.51	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-17.74	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-21.70	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	65.2	63.4	57.3	66.0	66.6
Medium Trucks:	60.8	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	61.7	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	68.9	67.2	64.0	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	85	184	397
CNEL:	43	92	197	425

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E+P
Road Name: Frank Sinatra Drive
Road Segment: e/o Island Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,050 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,405 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.47	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-17.71	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-21.67	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.9	59.4	53.0	51.4	59.9	60.1
Heavy Trucks:	61.7	60.3	51.2	52.5	60.9	61.0
Vehicle Noise:	68.9	67.2	64.0	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	185	398
CNEL:	43	92	198	427

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E+P
Road Name: Frank Sinatra Drive
Road Segment: e/o Bob Hope Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,300 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,330 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.71	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-17.95	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-21.91	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	64.9	63.2	57.1	65.8	66.4
Medium Trucks:	60.6	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	61.5	60.0	51.0	52.3	60.6	60.7
Vehicle Noise:	68.7	66.9	63.8	59.1	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	178	384
CNEL:	41	89	191	412

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E+P
Road Name: Bob Hope Drive
Road Segment: n/o Frank Sinatra Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,900 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,890 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	86 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.143
Medium Trucks:	41.932
Heavy Trucks:	41.953

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.81	1.01	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-16.42	1.04	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.38	1.04	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.9	61.4	55.0	53.5	61.9	62.1
Heavy Trucks:	63.7	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.9	69.2	66.0	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	274	591
CNEL:	63	137	294	634

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E+P
Road Name: Bob Hope Drive
Road Segment: s/o Frank Sinatra Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,320 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,132 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.34	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-15.90	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-19.86	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	62.7	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	63.5	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.7	69.0	65.8	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	113	244	526
CNEL:	56	122	262	564

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E+P
Road Name: Island Drive
Road Segment: s/o Frank Sinatra Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,100 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	110 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-8.98	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	70.80	-26.22	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	77.97	-30.18	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.8	49.9	48.1	42.1	50.7	51.3
Medium Trucks:	46.7	45.2	38.8	37.3	45.7	46.0
Heavy Trucks:	49.9	48.5	39.5	40.7	49.1	49.2
Vehicle Noise:	54.7	53.1	49.1	45.2	53.7	54.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	2	5	11	25
CNEL:	3	6	12	26

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Frank Sinatra Drive
Road Segment: w/o Island Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,250 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,425 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.41	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-17.65	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-21.61	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	65.2	63.5	57.4	66.0	66.7
Medium Trucks:	60.9	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	61.8	60.3	51.3	52.6	60.9	61.0
Vehicle Noise:	69.0	67.2	64.1	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	87	187	402
CNEL:	43	93	200	431

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Frank Sinatra Drive
Road Segment: e/o Island Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,850 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,385 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.54	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-17.77	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-21.73	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.1	63.4	57.3	65.9	66.5
Medium Trucks:	60.8	59.3	52.9	51.4	59.8	60.1
Heavy Trucks:	61.6	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	68.9	67.1	64.0	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	395
CNEL:	42	91	197	423

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Frank Sinatra Drive
Road Segment: e/o Bob Hope Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,600 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,360 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.62	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-17.85	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-21.81	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.0	63.3	57.2	65.8	66.5
Medium Trucks:	60.7	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	61.6	60.1	51.1	52.4	60.7	60.8
Vehicle Noise:	68.8	67.0	63.9	59.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	181	390
CNEL:	42	90	194	418

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Bob Hope Drive
Road Segment: n/o Frank Sinatra Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,400 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,940 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	86 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.143
Medium Trucks:	41.932
Heavy Trucks:	41.953

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.93	1.01	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-16.31	1.04	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.27	1.04	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	63.0	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	63.8	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	71.0	69.3	66.1	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	279	601
CNEL:	65	139	299	645

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Bob Hope Drive
Road Segment: s/o Frank Sinatra Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,380 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,238 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.55	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-15.69	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-19.65	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.9	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	63.7	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	71.0	69.2	66.1	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	252	544
CNEL:	58	126	271	583

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Island Drive
Road Segment: s/o Frank Sinatra Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,900 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	190 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.61	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	70.80	-23.85	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	77.97	-27.80	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.2	52.3	50.5	44.5	53.1	53.7
Medium Trucks:	49.1	47.6	41.2	39.7	48.1	48.4
Heavy Trucks:	52.3	50.9	41.8	43.1	51.4	51.6
Vehicle Noise:	57.1	55.4	51.5	47.6	56.1	56.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	8	17	36
CNEL:	4	8	18	38

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP
Road Name: Frank Sinatra Drive
Road Segment: w/o Island Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,500 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,450 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.34	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-17.58	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-21.53	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	65.3	63.6	57.5	66.1	66.7
Medium Trucks:	61.0	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	61.8	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	69.1	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	88	189	407
CNEL:	44	94	203	437

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP
Road Name: Frank Sinatra Drive
Road Segment: e/o Island Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,600 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,460 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.31	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-17.55	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-21.50	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	65.4	63.6	57.5	66.2	66.8
Medium Trucks:	61.0	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	61.9	60.5	51.4	52.7	61.0	61.1
Vehicle Noise:	69.1	67.4	64.2	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	88	190	409
CNEL:	44	94	204	439

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP
Road Name: Frank Sinatra Drive
Road Segment: e/o Bob Hope Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,800 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,380 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.55	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-17.79	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-21.75	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	65.1	63.3	57.3	65.9	66.5
Medium Trucks:	60.8	59.3	52.9	51.4	59.8	60.1
Heavy Trucks:	61.6	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	68.9	67.1	64.0	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	394
CNEL:	42	91	196	422

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP
Road Name: Bob Hope Drive
Road Segment: n/o Frank Sinatra Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,700 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,970 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	86 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.143
Medium Trucks:	41.932
Heavy Trucks:	41.953

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.99	1.01	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-16.24	1.04	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.20	1.04	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	63.0	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	63.9	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	71.1	69.4	66.2	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	282	608
CNEL:	65	140	302	652

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP
Road Name: Bob Hope Drive
Road Segment: s/o Frank Sinatra Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,400 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,240 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.55	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-15.69	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-19.64	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.9	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	63.7	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	71.0	69.2	66.1	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	252	544
CNEL:	58	126	271	583

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP
Road Name: Island Drive
Road Segment: s/o Frank Sinatra Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,000 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	200 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.39	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	70.80	-23.63	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	77.97	-27.58	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.4	52.5	50.7	44.7	53.3	53.9
Medium Trucks:	49.3	47.8	41.4	39.9	48.3	48.6
Heavy Trucks:	52.5	51.1	42.1	43.3	51.7	51.8
Vehicle Noise:	57.3	55.6	51.7	47.8	56.3	56.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	8	17	37
CNEL:	4	8	18	39

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Frank Sinatra Drive
Road Segment: w/o Island Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,550 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,755 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.49	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-16.75	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-20.70	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	66.2	64.4	58.3	67.0	67.6
Medium Trucks:	61.8	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	62.7	61.3	52.2	53.5	61.8	61.9
Vehicle Noise:	69.9	68.2	65.0	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	462
CNEL:	50	107	230	496

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Frank Sinatra Drive
Road Segment: e/o Island Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,050 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,705 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.37	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-16.87	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-20.83	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.0	64.3	58.2	66.8	67.4
Medium Trucks:	61.7	60.2	53.8	52.3	60.7	61.0
Heavy Trucks:	62.5	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	69.8	68.0	64.9	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	98	210	453
CNEL:	49	105	226	486

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Frank Sinatra Drive
Road Segment: e/o Bob Hope Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,000 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,600 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.09	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-17.15	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-21.10	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	65.8	64.0	57.9	66.6	67.2
Medium Trucks:	61.4	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	62.3	60.9	51.8	53.1	61.4	61.5
Vehicle Noise:	69.5	67.8	64.6	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	94	202	435
CNEL:	47	100	216	466

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Bob Hope Drive
Road Segment: n/o Frank Sinatra Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,900 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,290 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	86 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.143
Medium Trucks:	41.932
Heavy Trucks:	41.953

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.65	1.01	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-15.59	1.04	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.55	1.04	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	63.7	62.2	55.8	54.3	62.7	63.0
Heavy Trucks:	64.5	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.8	70.0	66.9	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	312	672
CNEL:	72	155	334	720

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Bob Hope Drive
Road Segment: s/o Frank Sinatra Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,980 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,598 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.20	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-15.04	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-19.00	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	63.5	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	64.4	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.6	69.9	66.7	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	279	600
CNEL:	64	139	299	644

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Island Drive
Road Segment: s/o Frank Sinatra Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,900 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	190 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.61	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	70.80	-23.85	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	77.97	-27.80	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.2	52.3	50.5	44.5	53.1	53.7
Medium Trucks:	49.1	47.6	41.2	39.7	48.1	48.4
Heavy Trucks:	52.3	50.9	41.8	43.1	51.4	51.6
Vehicle Noise:	57.1	55.4	51.5	47.6	56.1	56.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	8	17	36
CNEL:	4	8	18	38

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Frank Sinatra Drive
Road Segment: w/o Island Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,800 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,780 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.55	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-16.69	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-20.64	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	61.9	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	62.7	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	70.0	68.2	65.1	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	467
CNEL:	50	108	232	500

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Frank Sinatra Drive
Road Segment: e/o Island Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,800 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,780 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.55	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-16.69	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-20.64	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	61.9	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	62.7	61.3	52.3	53.5	61.9	62.0
Vehicle Noise:	70.0	68.2	65.1	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	467
CNEL:	50	108	232	500

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Frank Sinatra Drive
Road Segment: e/o Bob Hope Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,200 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,620 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.14	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-17.09	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-21.05	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	61.5	60.0	53.6	52.1	60.5	60.8
Heavy Trucks:	62.3	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	69.5	67.8	64.7	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	94	203	438
CNEL:	47	101	218	470

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Bob Hope Drive
Road Segment: n/o Frank Sinatra Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,200 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,320 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	86 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	42.143
Medium Trucks:	41.932
Heavy Trucks:	41.953

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.70	1.01	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-15.53	1.04	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.49	1.04	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	63.8	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	64.6	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.8	70.1	66.9	62.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	146	314	678
CNEL:	73	157	337	727

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Bob Hope Drive
Road Segment: s/o Frank Sinatra Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,000 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,600 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.20	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	79.45	-15.04	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-19.00	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	63.5	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	64.4	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.6	69.9	66.7	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	279	601
CNEL:	64	139	299	644

Tuesday, May 24, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Island Drive
Road Segment: s/o Frank Sinatra Drive

Project Name: Desert Islansds Hotel
Job Number: 14747

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,000 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	200 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	58.73	-6.39	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	70.80	-23.63	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	77.97	-27.58	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.4	52.5	50.7	44.7	53.3	53.9
Medium Trucks:	49.3	47.8	41.4	39.9	48.3	48.6
Heavy Trucks:	52.5	51.1	42.1	43.3	51.7	51.8
Vehicle Noise:	57.3	55.6	51.7	47.8	56.3	56.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	8	17	37
CNEL:	4	8	18	39

Tuesday, May 24, 2022

APPENDIX 9.1:

CADNAA OPERATIONAL NOISE MODEL INPUTS

This page intentionally left blank

14747 - Desert Island Hotel - Operation

CadnaA Noise Prediction Model: 14747-03_Operation.cna
Date: 25.05.22
Analyst: B. Maddux

Calculation Configuration

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

Receiver Noise Levels

Name	M.	ID	Level Lr				Limit. Value				Land Use			Height		Coordinates		
			Day	Evening	Night	CNEL	Day	Evening	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
R1		R1	43.3	43.3	34.6	44.8	80.0	0.0	0.0	0.0				5.00	a	6512536.02	2223944.43	5.00
R2		R2	37.0	37.0	27.6	38.2	80.0	0.0	0.0	0.0				5.00	a	6512512.98	2222941.00	5.00
R3		R3	36.8	36.8	26.0	37.6	80.0	0.0	0.0	0.0				5.00	a	6511990.78	2222760.18	5.00
R4		R4	39.4	39.4	28.8	40.3	80.0	0.0	0.0	0.0				5.00	a	6510916.51	2224659.94	5.00
R5		R5	40.9	40.9	30.3	41.8	80.0	0.0	0.0	0.0				5.00	a	6510959.06	2223991.34	5.00
R6		R6	40.6	40.6	30.6	41.7	80.0	0.0	0.0	0.0				5.00	a	6510913.61	2224164.76	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		GAC01	75.0	75.0	75.0	Lw	75					4.00	a	6511551.20	2224346.39	4.00
POINTSOURCE		GAC02	75.0	75.0	75.0	Lw	75					4.00	a	6511482.19	2224344.65	4.00
POINTSOURCE		GAC03	75.0	75.0	75.0	Lw	75					4.00	a	6511401.46	2224345.96	4.00
POINTSOURCE		GAC04	75.0	75.0	75.0	Lw	75					4.00	a	6511333.75	2224345.09	4.00
POINTSOURCE		GAC05	75.0	75.0	75.0	Lw	75					4.00	a	6511228.72	2224344.65	4.00
POINTSOURCE		GAC06	75.0	75.0	75.0	Lw	75		720.00	180.00	540.00	4.00	a	6511159.71	2224343.79	4.00
POINTSOURCE		GAC07	75.0	75.0	75.0	Lw	75		720.00	180.00	540.00	4.00	a	6511184.44	2224120.70	4.00
POINTSOURCE		GAC08	75.0	75.0	75.0	Lw	75		720.00	180.00	540.00	4.00	a	6511252.59	2224120.26	4.00
POINTSOURCE		GAC09	75.0	75.0	75.0	Lw	75		720.00	180.00	540.00	4.00	a	6511333.32	2224120.26	4.00
POINTSOURCE		GAC10	75.0	75.0	75.0	Lw	75		720.00	180.00	540.00	4.00	a	6511402.76	2224121.13	4.00
POINTSOURCE		GAC11	75.0	75.0	75.0	Lw	75		720.00	180.00	540.00	4.00	a	6511482.62	2224119.39	4.00
POINTSOURCE		PTAC01	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6511664.91	2224273.47	4.00

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		PTAC02	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6511727.85	2224272.17	4.00
POINTSOURCE		PTAC03	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6511779.06	2224272.17	4.00
POINTSOURCE		PTAC04	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6511825.94	2224271.30	4.00
POINTSOURCE		PTAC05	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6511664.05	2224422.78	4.00
POINTSOURCE		PTAC06	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6511726.98	2224423.21	4.00
POINTSOURCE		PTAC07	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6511778.63	2224423.65	4.00
POINTSOURCE		PTAC08	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6511825.50	2224424.08	4.00
POINTSOURCE		PTAC09	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6511894.95	2224424.08	4.00
POINTSOURCE		PTAC10	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6511957.88	2224424.08	4.00
POINTSOURCE		PTAC11	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6512008.23	2224424.51	4.00
POINTSOURCE		PTAC12	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6512055.54	2224424.08	4.00
POINTSOURCE		PTAC13	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6511879.76	2224267.83	4.00
POINTSOURCE		PTAC14	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6511901.02	2224266.53	4.00
POINTSOURCE		PTAC15	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6511921.42	2224267.40	4.00
POINTSOURCE		PTAC16	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6511942.69	2224266.96	4.00
POINTSOURCE		PTAC17	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6511963.96	2224266.53	4.00
POINTSOURCE		PTAC18	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6511984.79	2224266.96	4.00
POINTSOURCE		PTAC19	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6512005.63	2224266.53	4.00
POINTSOURCE		PTAC20	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6512026.89	2224266.09	4.00
POINTSOURCE		PTAC21	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6512047.73	2224266.53	4.00
POINTSOURCE		PTAC22	61.2	61.2	61.2	Lw	61.2		720.00	180.00	540.00	4.00	a	6512069.43	2224266.09	4.00
POINTSOURCE		RAC01	88.9	88.9	88.9	Lw	88.9		720.00	180.00	540.00	14.00	a	6513044.22	2224590.57	14.00
POINTSOURCE		Trash1	89.0	89.0	89.0	Lw	89		720.00	180.00	90.00	8.00	a	6512908.63	2224596.55	8.00
POINTSOURCE		Pool01	89.3	89.3	89.3	Lw	89.3		720.00	180.00	0.00	5.00	a	6511858.46	2224115.31	5.00
POINTSOURCE		Pool02	89.3	89.3	89.3	Lw	89.3		720.00	180.00	0.00	5.00	a	6511772.35	2224116.01	5.00
POINTSOURCE		Pool03	89.3	89.3	89.3	Lw	89.3		720.00	180.00	0.00	5.00	a	6511780.68	2224077.12	5.00
POINTSOURCE		REC01	91.5	91.5	91.5	Lw	91.5		720.00	180.00	0.00	5.00	a	6511655.87	2224159.41	5.00
POINTSOURCE		REC02	91.5	91.5	91.5	Lw	91.5		720.00	180.00	0.00	5.00	a	6512033.46	2224160.45	5.00
POINTSOURCE		REC03	91.5	91.5	91.5	Lw	91.5		720.00	180.00	0.00	5.00	a	6511747.42	2224228.16	5.00
POINTSOURCE		REC04	91.5	91.5	91.5	Lw	91.5		720.00	180.00	0.00	5.00	a	6511826.63	2224224.90	5.00
POINTSOURCE		REC05	91.5	91.5	91.5	Lw	91.5		720.00	180.00	0.00	5.00	a	6511750.67	2224177.16	5.00
POINTSOURCE		REC06	91.5	91.5	91.5	Lw	91.5		720.00	180.00	0.00	5.00	a	6511828.80	2224176.07	5.00
POINTSOURCE		REC07	91.5	91.5	91.5	Lw	91.5		720.00	180.00	0.00	5.00	a	6511896.07	2224172.82	5.00
POINTSOURCE		REC08	91.5	91.5	91.5	Lw	91.5		720.00	180.00	0.00	5.00	a	6511959.01	2224194.52	5.00
POINTSOURCE		REC09	91.5	91.5	91.5	Lw	91.5		720.00	180.00	0.00	5.00	a	6511903.67	2224234.67	5.00
POINTSOURCE		REC10	91.5	91.5	91.5	Lw	91.5		720.00	180.00	0.00	5.00	a	6511991.56	2224232.50	5.00
POINTSOURCE		REC11	91.5	91.5	91.5	Lw	91.5		720.00	180.00	0.00	5.00	a	6512052.32	2224222.73	5.00
POINTSOURCE		REC18	91.5	91.5	91.5	Lw	91.5		720.00	180.00	0.00	5.00	a	6511615.04	2223863.57	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
Parking_lot3		Parking3	98.0	98.0	98.0	64.1	64.1	64.1	Lw''	64.1					0.	a

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
Parking_lot3	0.00	a			6512831.91	2224540.92	0.00	0.00
					6512831.14	2224551.57	0.00	0.00
					6512831.55	2224563.48	0.00	0.00
					6512830.52	2224673.59	0.00	0.00
					6513157.25	2224674.69	0.00	0.00
					6513157.25	2224614.96	0.00	0.00
					6512882.95	2224614.96	0.00	0.00
					6512886.98	2224559.16	0.00	0.00
					6512841.28	2224559.41	0.00	0.00
					6512841.98	2224521.91	0.00	0.00
					6512608.64	2224521.91	0.00	0.00
					6512607.95	2224538.57	0.00	0.00
					6512711.47	2224539.18	0.00	0.00

APPENDIX 10.1:

CADNAA CONSTRUCTION NOISE MODEL INPUTS

This page intentionally left blank

14747 - Desert Island Hotel - Construction

CadnaA Noise Prediction Model: 14747-02_Construction.cna
Date: 26.05.22
Analyst: B. Maddux

Calculation Configuration

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

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
R1		R1	61.8	-39.1	58.8	80.0	0.0	0.0				5.00	a	6512536.02	2223944.43	5.00
R2		R2	55.4	-45.9	52.4	80.0	0.0	0.0				5.00	a	6512512.98	2222941.00	5.00
R3		R3	54.8	-46.9	51.7	80.0	0.0	0.0				5.00	a	6511990.78	2222760.18	5.00
R4		R4	63.0	-39.8	60.0	80.0	0.0	0.0				5.00	a	6510916.51	2224659.94	5.00
R5		R5	61.6	-41.1	58.6	80.0	0.0	0.0				5.00	a	6510959.06	2223991.34	5.00
R6		R6	62.0	-40.7	59.0	80.0	0.0	0.0				5.00	a	6510913.61	2224164.76	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
CONSTRUCTION_ACTIVITY		CA1	118.6	15.6	15.6	72.0	-31.0	-31.0	PWL-Pt	115.6					8	a
CONSTRUCTION_ACTIVITY		CA2	115.6	15.6	15.6	91.2	-8.8	-8.8	PWL-Pt	115.6					8	a
CONSTRUCTION_ACTIVITY		CA3	115.6	15.6	15.6	79.5	-20.5	-20.5	PWL-Pt	115.6					8	a

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
CONSTRUCTION_ACTIVITY	8.00	a			6510992.81	2224693.04	8.00	0.00
					6510992.38	2224529.44	8.00	0.00
					6510997.90	2224510.48	8.00	0.00
					6511017.50	2224495.77	8.00	0.00
					6511604.74	2224494.35	8.00	0.00

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
					6511607.60	2224510.48	8.00	0.00
					6511647.10	2224517.06	8.00	0.00
					6511681.89	2224545.32	8.00	0.00
					6511748.01	2224568.46	8.00	0.00
					6511810.98	2224599.19	8.00	0.00
					6511896.01	2224627.47	8.00	0.00
					6511915.41	2224629.76	8.00	0.00
					6511941.80	2224615.17	8.00	0.00
					6512155.69	2224615.87	8.00	0.00
					6512156.38	2224563.09	8.00	0.00
					6512163.33	2224540.17	8.00	0.00
					6512152.22	2224523.51	8.00	0.00
					6512119.58	2224495.73	8.00	0.00
					6512116.11	2224486.01	8.00	0.00
					6512118.89	2224210.44	8.00	0.00
					6512087.20	2224153.27	8.00	0.00
					6512073.94	2224142.42	8.00	0.00
					6512010.59	2224117.68	8.00	0.00
					6511993.11	2224118.78	8.00	0.00
					6511983.62	2224129.32	8.00	0.00
					6511981.83	2224173.32	8.00	0.00
					6511960.94	2224176.15	8.00	0.00
					6511947.01	2224168.11	8.00	0.00
					6511937.81	2224154.92	8.00	0.00
					6511916.38	2224103.61	8.00	0.00
					6511903.12	2224090.14	8.00	0.00
					6511855.88	2224063.85	8.00	0.00
					6511825.71	2224059.26	8.00	0.00
					6511755.79	2224071.32	8.00	0.00
					6511639.01	2224048.52	8.00	0.00
					6511604.33	2224054.39	8.00	0.00
					6511604.30	2223989.79	8.00	0.00
					6511644.53	2223971.77	8.00	0.00
					6511677.86	2223930.92	8.00	0.00
					6511687.13	2223879.02	8.00	0.00
					6511684.06	2223839.22	8.00	0.00
					6511548.76	2223837.23	8.00	0.00
					6511548.70	2223870.75	8.00	0.00
					6511534.75	2223945.97	8.00	0.00
					6511539.51	2223969.00	8.00	0.00
					6511555.24	2223986.49	8.00	0.00
					6511571.74	2223992.99	8.00	0.00
					6511571.74	2224063.01	8.00	0.00
					6511514.94	2224074.75	8.00	0.00
					6511443.85	2224046.35	8.00	0.00
					6511142.74	2224046.35	8.00	0.00
					6511142.74	2224270.35	8.00	0.00
					6511118.74	2224270.35	8.00	0.00
					6511118.74	2224470.35	8.00	0.00
					6511027.38	2224470.35	8.00	0.00
					6511001.74	2224476.21	8.00	0.00
					6510985.60	2224487.68	8.00	0.00
					6510974.17	2224503.85	8.00	0.00
					6510968.38	2224529.50	8.00	0.00
					6510968.81	2224693.08	8.00	0.00
CONSTRUCTION_ACTIVITY	8.00	a			6512703.80	2224541.83	8.00	0.00
					6512847.85	2224543.49	8.00	0.00
					6512847.80	2224521.93	8.00	0.00
					6512704.56	2224521.93	8.00	0.00
CONSTRUCTION_ACTIVITY	8.00	a			6512869.83	2224564.93	8.00	0.00
					6512869.83	2224644.18	8.00	0.00
					6512850.39	2224644.18	8.00	0.00
					6512849.69	2224666.40	8.00	0.00
					6512819.14	2224666.40	8.00	0.00
					6512819.13	2224694.95	8.00	0.00
					6513246.86	2224696.03	8.00	0.00
					6513246.86	2224640.08	8.00	0.00
					6513209.21	2224640.08	8.00	0.00
					6513209.21	2224580.49	8.00	0.00
					6512890.80	2224580.49	8.00	0.00
					6512890.80	2224564.93	8.00	0.00

DESERT ISLAND HOTEL
APPENDIX

Appendix C

Desert Island VMT Evaluation, Urban Crossroads, Inc., May 2022.

May 16, 2022

Mr. Ryan Stendell
City of Rancho Mirage
69-825 Highway 111
Rancho Mirage, CA 92270

DESERT ISLAND HOTEL VEHICLE MILES TRAVELED (VMT) EVALUATION

Mr. Ryan Stendell,

Urban Crossroads, Inc. is pleased to provide the following Vehicle Miles Traveled (VMT) Evaluation for the Desert Island Hotel development (**Project**) located south of Frank Sinatra Drive and adjacent to Island Drive in the City of Rancho Mirage (See Attachment A).

PROJECT OVERVIEW

It is our understanding that the Project is proposed to repurpose approximately 13.3 acres of the existing golf driving range and a portion of the existing golf course with new facilities to accommodate a 42-key boutique hotel (with tennis, pool, and yoga amenities), 11 private residences, and a golf training facility (See Attachment A).

BACKGROUND

Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which require all lead agencies to adopt VMT as a replacement for automobile delay-based level of service (LOS) as the measure for identifying transportation impacts for land use projects. This statewide mandate went into effect July 1, 2020. To aid in this transition, the Governor's Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts in CEQA (December of 2018) (**Technical Advisory**) (1). City of Rancho Mirage Resolution 2021-06 aligns the City's VMT analysis policy (**City Guidelines**) (2) with SB 743 and the City's goals as set forth in the General Plan Update (2017). The purpose of the policy is to comply with State laws while maintaining the resort residential character of the community. The City's VMT policy establishes VMT as the metric to measure transportation impacts in conformance with. This VMT analysis has been developed based on the adopted City Guidelines.

VMT SCREENING

In addition, Exhibit A of Resolution 2021-06 sets forth screening criteria under which Projects are not required to submit detailed VMT analysis. This guidance for determination of non-significant VMT impact is primarily intended to avoid unnecessary analysis and findings that would be

inconsistent with the intent of SB 743. VMT screening criteria for development projects include the following:

- **Small Projects** with low trip generation based on the County Greenhouse Gas Emissions Screening Tables resulting in a 3,000 metric tons of Carbon Dioxide Equivalent per year screening level threshold. Specific examples include retail buildings with area less than or equal to 60,000 sf,
- **Projects Near High Quality Transit** within a half mile of an existing major transit stop which maintains a service interval frequency of 15 minutes or less during peak commute periods,
- **Map Based Screening** within an area of development under threshold as shown on screening map allowed by the Engineering Department, and

STEP 1: HIGH QUALITY TRANSIT SCREENING

Consistent with guidance identified in the City Guidelines, projects located within a high quality transit area (i.e., within ½ mile of an existing "major transit stop"[1] or an existing stop along a "high-quality transit corridor"[2]) may be presumed to have a less than significant impact absent substantial evidence to the contrary. However, the presumption may not be appropriate if a project:

- Has a Floor Area Ratio (FAR) of less than 0.75;
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
- Replaces affordable residential units with a smaller number of moderate or high-income residential units.

Southern California Councils of Governments (SCAG) provides TPA data through their graphical information system (GIS). This data was utilized to locate if the Project site and its proximity to a TPA. Results as shown in Attachment B, identify the Project Site is not located within ½ mile of an existing major transit stop, or along a high-quality transit corridor.

TPA screening criteria is not met.

[1] Pub. Resources Code, § 21064.3 ("'Major transit stop' means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.").
[2] Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.").

STEP 2: LOW VMT AREA SCREENING

As noted in the Technical Advisory, "Residential and office projects that locate in areas with low VMT and that incorporate similar features (density, mix of uses, and transit accessibility) will tend to exhibit similarly low VMT."

City Guidelines state that the map-based screening method eliminates the need for complex analyses for projects in low VMT areas, but the screening is limited to residential and office projects.

For the residential portion of the Project, the Riverside County screening map for residential land uses indicates that the Project is in a low VMT area. Therefore, further VMT analysis of the Residential portion of the Project is not necessary. The nature of the non-residential Project land uses excludes the Golf Practice Facility and Hotel land uses from low VMT area screening.

Low VMT Area screening criteria is met for residential land uses.

STEP 3: PROJECT TYPE SCREENING

The City Guidelines state that local serving retail projects with area less than 60,000 SF may be presumed to have a less than significant impact, subject to discretionary approval by the City. The combination of land uses on-site that includes golf, tennis facilities with hotel uses could potentially serve travelers from other areas, rather than being locally serving.

The Project Type screening threshold is not met.

PROJECT VMT ASSESSMENT

RIVTAM is a useful tool to estimate VMT as it considers interaction between different land uses based on socio-economic data such as population and employment. The City Guidelines identifies RIVTAM as the appropriate tool for conducting VMT analysis for land use projects in Riverside County.

Project VMT has been calculated using the most current version of RIVTAM. Adjustments in socio-economic data (SED) (i.e., employment) have been made to a separate TAZ within the RIVTAM model to reflect the Project's proposed employment uses. Separate TAZs are used to isolate the Project's VMT.

The Project is comprised of residential and non-residential use that includes retail (hotel) and golf practice facility land uses. The Project non-residential land uses have been converted to SED. It should be noted that the employment estimates have been developed from land use to employment generation factors based upon information from the Institute of Transportation Engineers (ITE) traffic generating factors, similar project representation, local knowledge, and discussions with Project team members. Approximately 220 employees represent the non-residential portion of the Project**.**

Adjustments to employment factors for the Project TAZ data were made to the RIVTAM base year model (2012) and the cumulative year model (2040). Each model was then run with the updated SED factors included for the Project.

PROJECT EMPLOYMENT IMPACT ON VMT

The City guidelines state that the threshold of significance for VMT impacts related to a retail project (including hotel) is a net increase in total existing VMT for the area. Consistent with Technical Advisory recommendations, it is appropriate to measure the total net change in VMT related to the implementation of a retail land use project.

Citywide VMT was extracted from the RIVTAM model for both "without Project" and "with Project" model runs. This procedure is commonly referred to as "boundary method" and includes the sum of all weekday VMT on a roadway network within a designated boundary (i.e., City of Rancho Mirage). The boundary method VMT includes all trips, including those trips that do not begin or end in the designated boundary.

The boundary method procedures are performed for 2012 and 2040 conditions, then interpolated for baseline (2022) conditions. Table 1 provides a comparison of total citywide VMT without and with the land use changes proposed by the Project for the various years. The proposed Project is forecast to result in a net **decrease** in citywide VMT of approximately 0.28%.

TABLE 1: RANCHO MIRAGE CITYWIDE VMT

	Without Project	With Project	Variance
2012 VMT	758,238	751,843	-6,395
2040 VMT	874,210	879,428	+5,218
2022 Interpolated VMT	799,657	797,409	-2,248
2022 Project % Change			-0.28%

To determine whether or not there is a significant impact using the boundary method, Rancho Mirage VMT with the project employment is compared to without project conditions. The project's effect on VMT is not considered a significant impact because it results in a cumulative Citywide VMT decrease under the plus project condition compared to the no project condition.

In summary, travel demand modeling of VMT for the Project based upon City of Rancho Mirage guidelines indicates there is no Project VMT impact.

If you have any questions, please contact us at jkain@urbanxroads.com for John Kain or mwhiteman@urbanxroads.com for Marlie Whiteman.

Respectfully submitted,

URBAN CROSSROADS, INC.

John Kain

Marlie Whiteman

John Kain, AICP
Principal

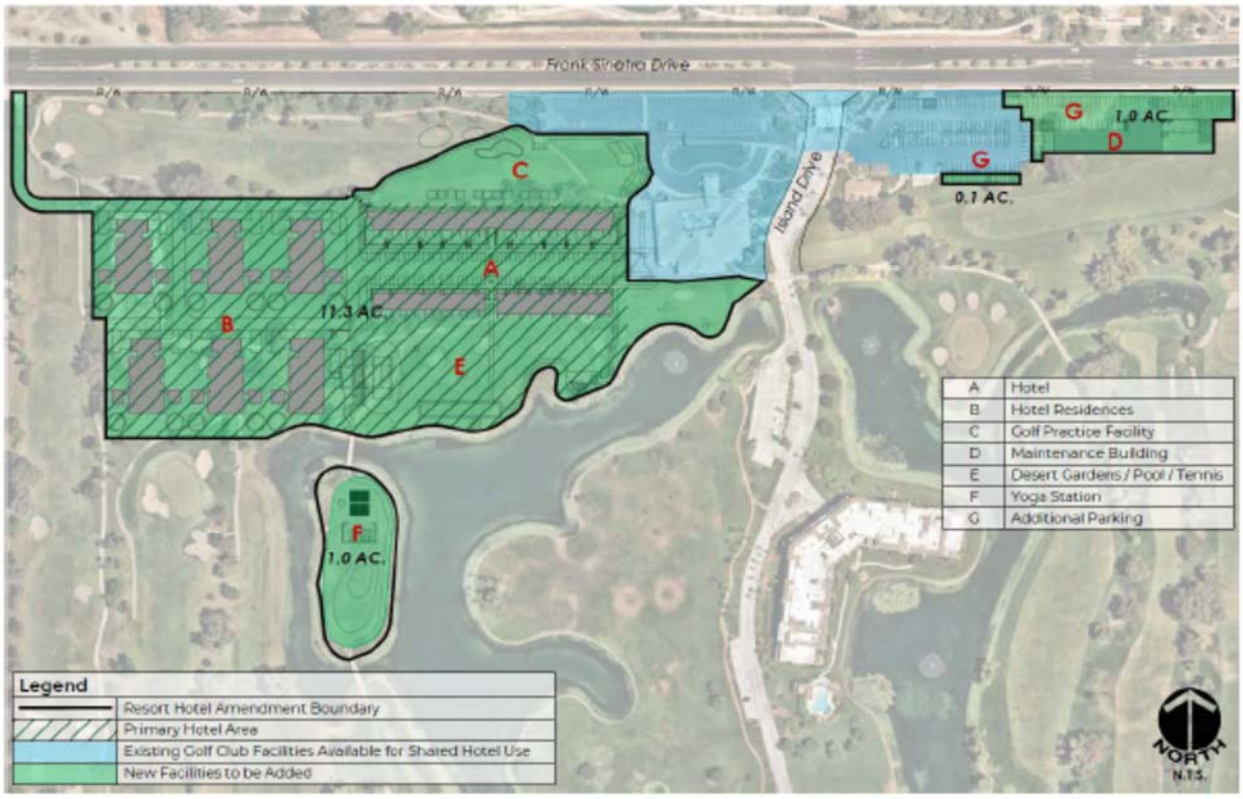
Marlie Whiteman, P.E.
Senior Associate

REFERENCES

1. **Office of Planning and Research.** *Technical Advisory on Evaluating Transportation Impacts in CEQA.* State of California : s.n., December 2018.
2. **City of Rancho Mirage.** *City of Rancho Mirage Transportation Analysis Policy, Resolution No. 2021-06.* February 2021.
3. **Institute of Transportation Engineers.** *Trip Generation Manual.* 11th Edition. 2021.

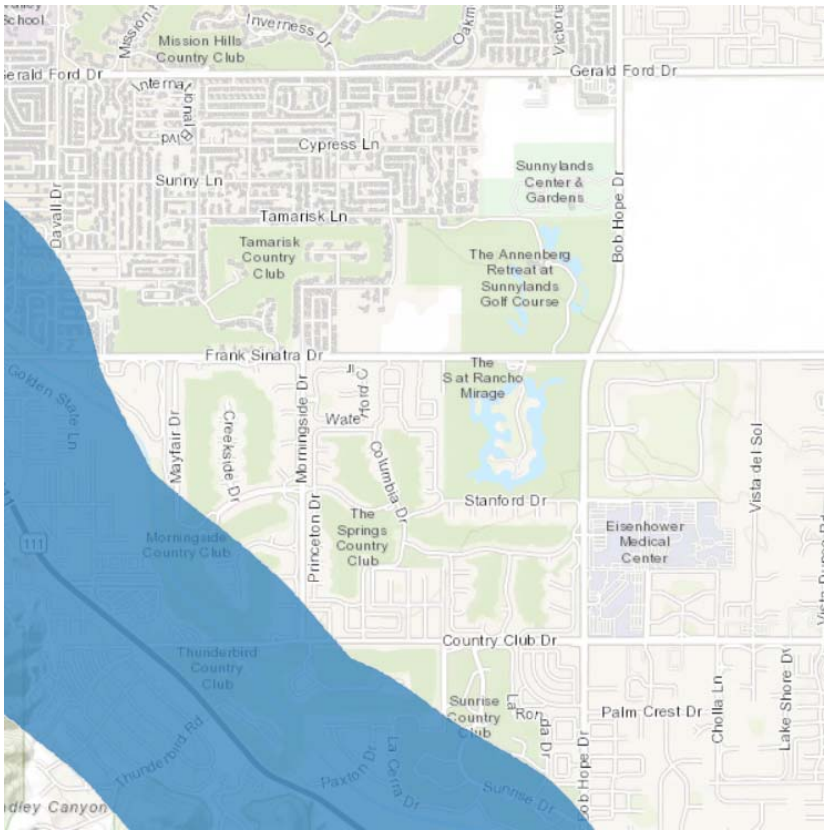
ATTACHMENT A

PRELIMINARY SITE PLAN


Frank Sinatra Drive
Island Drive
A
B
C
D
E
F
G
11.3 AC.
1.0 AC.
0.1 AC.
1.0 AC.
A Hotel
B Hotel Residences
C Golf Practice Facility
D Maintenance Building
E Desert Gardens / Pool / Tennis
F Yoga Station
G Additional Parking
Legend
Resort Hotel Amendment Boundary
Primary Hotel Area
Existing Golf Club Facilities Available for Shared Hotel Use
New Facilities to be Added
NORTH
N.T.S.

ATTACHMENT B

TPA MAP



The blue shaded area is the high quality transit area.

DESERT ISLAND HOTEL
APPENDIX

Appendix D

Desert Island Hotel Focused Traffic Analysis, Urban Crossroads, Inc. May 2022.

URBAN | CROSSROADS

DESERT ISLAND HOTEL

FOCUSED TRAFFIC ANALYSIS

PREPARED BY: Janette Cachola | jcachola@urbanxroads.com
Marlie Whiteman, P.E. | mwhiteman@urbanxroads.com
John Kain, AICP | jkain@urbanxroads.com

Reference Number	Agency	Date
14747-03 TA Report.docx	City of Rancho Mirage	May 16, 2022

TABLE OF CONTENTS

APPENDICES

LIST OF EXHIBITS

LIST OF TABLES

LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
CAMUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
DIF	Development Impact Fee
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
NCHRP	National Cooperative Highway Research Program
PHF	Peak Hour Factor
Project	Desert Island hotel
sf	Square Feet
TA	Traffic Analysis

This page intentionally left blank

1 INTRODUCTION

This report presents the results of the focused traffic analysis (TA) for Desert Island hotel ("Project"), which is located south of Frank Sinatra Drive and adjacent to Island Drive in the City of Rancho Mirage, as shown on Exhibit 1-1.

The purpose of this focused TA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project, and recommend improvements to achieve acceptable circulation system operational conditions. This focused TA has been prepared based in accordance with the County of Riverside's Transportation Analysis Guidelines for Level of Service & Vehicle Miles Traveled (December 2020), as the City of Rancho Mirage utilizes the County LOS analysis guidelines. (1) To ensure that this TA satisfies the City of Rancho Mirage's traffic study requirements, Urban Crossroads, Inc. prepared a traffic study scoping package for review by City staff prior to the preparation of this report. The Agreement provides an outline of the Project study area, trip generation, trip distribution, and analysis methodology. The Agreement approved by the City is included in Appendix 1.1.

1.1 SUMMARY OF FINDINGS

For both Existing (2022) and Opening Year Cumulative (2024) traffic conditions the addition of Project traffic to study area intersections did not result in deficient intersection operations. The proposed Project is not anticipated to require the construction of any off-site improvements.

1.2 PROJECT OVERVIEW

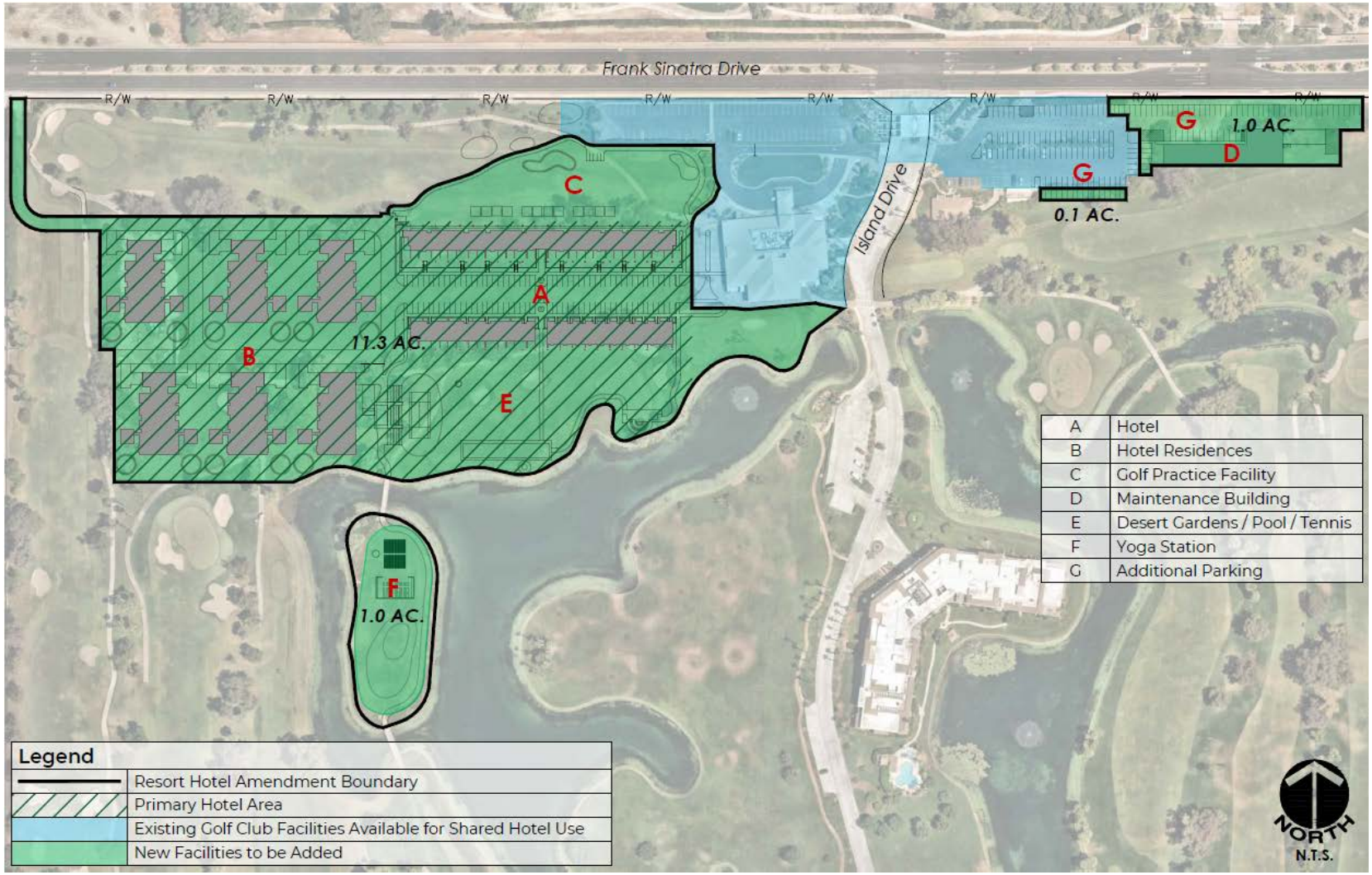
The Project is proposed to repurpose approximately 13.3 acres of the existing golf driving range and a portion of the existing golf course with new facilities to accommodate a 42-key boutique hotel (with tennis, pool, and yoga amenities), 11 private residences, and a golf training facility.

The existing driving range will be removed to make room for the new facilities. The existing golf maintenance structure will be replaced by a new building along with an expanded parking lot east of the main entry. The existing clubhouse will remain and continue to provide services to golfers, Desert Island residents, and the general public, with occasional events for up to 300 persons. It is anticipated that events with more than 300 persons in the existing clubhouse building would require a Temporary Use Permit, accompanied by a parking and traffic management plan if necessary. The existing golf course will continue to operate as an 18-hole facility with minor routing adjustments to 9th and 18th Fairways to accommodate the hotel.

Amenities which are complementary to the new hotel include a hotel pool, a small pool café, a tennis court for hotel guests, and a shaded yoga platform located on the island south of the lake accessed by foot from the existing bridge.

The new private duplex-style condominium residences (11 units) will be managed and maintained by the hotel operator. When not in use by individual owners, these units will be made available for rental by the hotel operator. For traffic analysis purposes, these 11 units are addressed as single family residences in order to include trip rates which are higher than those associated with multifamily units.

EXHIBIT 1-1: PRELIMINARY SITE PLAN



The new golf training park will replace the current driving range. It will consist of an 18-hole tournament putting green, short game training areas, and virtual golf simulator stations. In order to evaluate the potential increase in practice golf park activity which maybe higher than the existing driving range, the employment associated with golf practice activity is estimated to increase by 10 employees.

The hotel will take primary access from the existing Desert Island main gate on Frank Sinatra Drive. No physical changes are proposed to the existing entry gatehouse, other than to keep the gates open during operating hours to eliminate any vehicle stacking onto Frank Sinatra Drive. Likewise, the resident gate and turnaround on Island Drive will be retained in its existing condition without change. Secondary access to Frank Sinatra will be accommodated by widening the existing gated entry at the northwest corner of the golf course from 12-feet to 24-feet to provide secondary emergency vehicle access.

Exhibit 1-3 shows the on-site traffic circulation. Southbound golf and hotel traffic will enter the project using the right-hand lane with a free-flow right turn where an attendant will greet and direct guests to the appropriate parking area. Resident traffic will use the left-hand entry lane and proceed straight to the resident gate as they always have. Traffic exiting the hotel will use the existing clubhouse driveway.

In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) *Trip Generation* (11th Edition, 2021) manual for the proposed land uses (ITE Land Use Codes: 330 – Resort Hotel; 210 – Single Family Residential; 432 – Golf Practice) are used. The Project is anticipated to generate a total of 991 new trip-ends per day with 39 new AM peak hour trips and 83 new PM peak hour trips. The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

1.3 ANALYSIS SCENARIOS

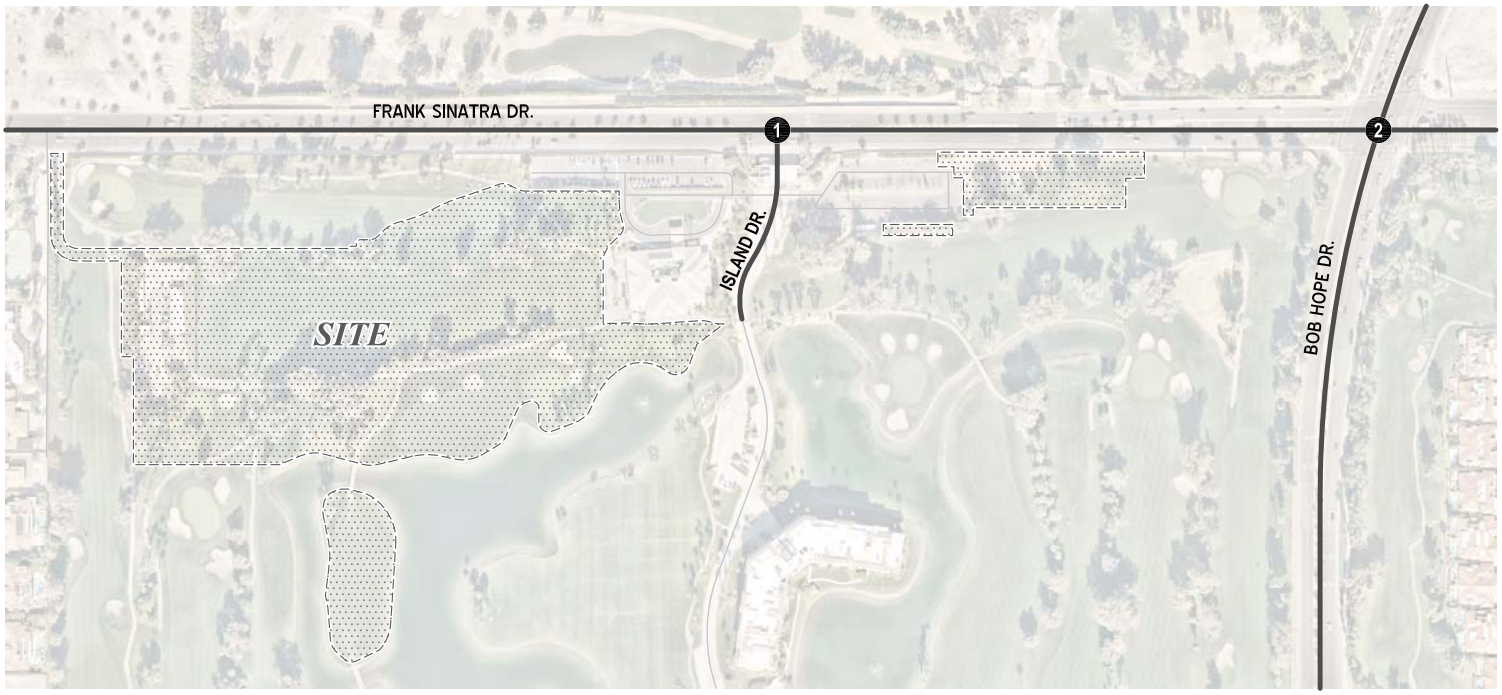
For the purposes of this traffic study, potential deficiencies to traffic and circulation have been assessed for each of the following conditions:

- Existing (2022) Conditions
- Existing plus Ambient Growth plus Project (EAP) (2024) Conditions
- Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2024) Conditions

1.3.1 EXISTING (2022) CONDITIONS

Information for Existing (2021) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared. For a detailed discussion on the existing traffic counts, see Section 3.6 *Existing Traffic Counts*.

EXHIBIT 1-2: STUDY AREA

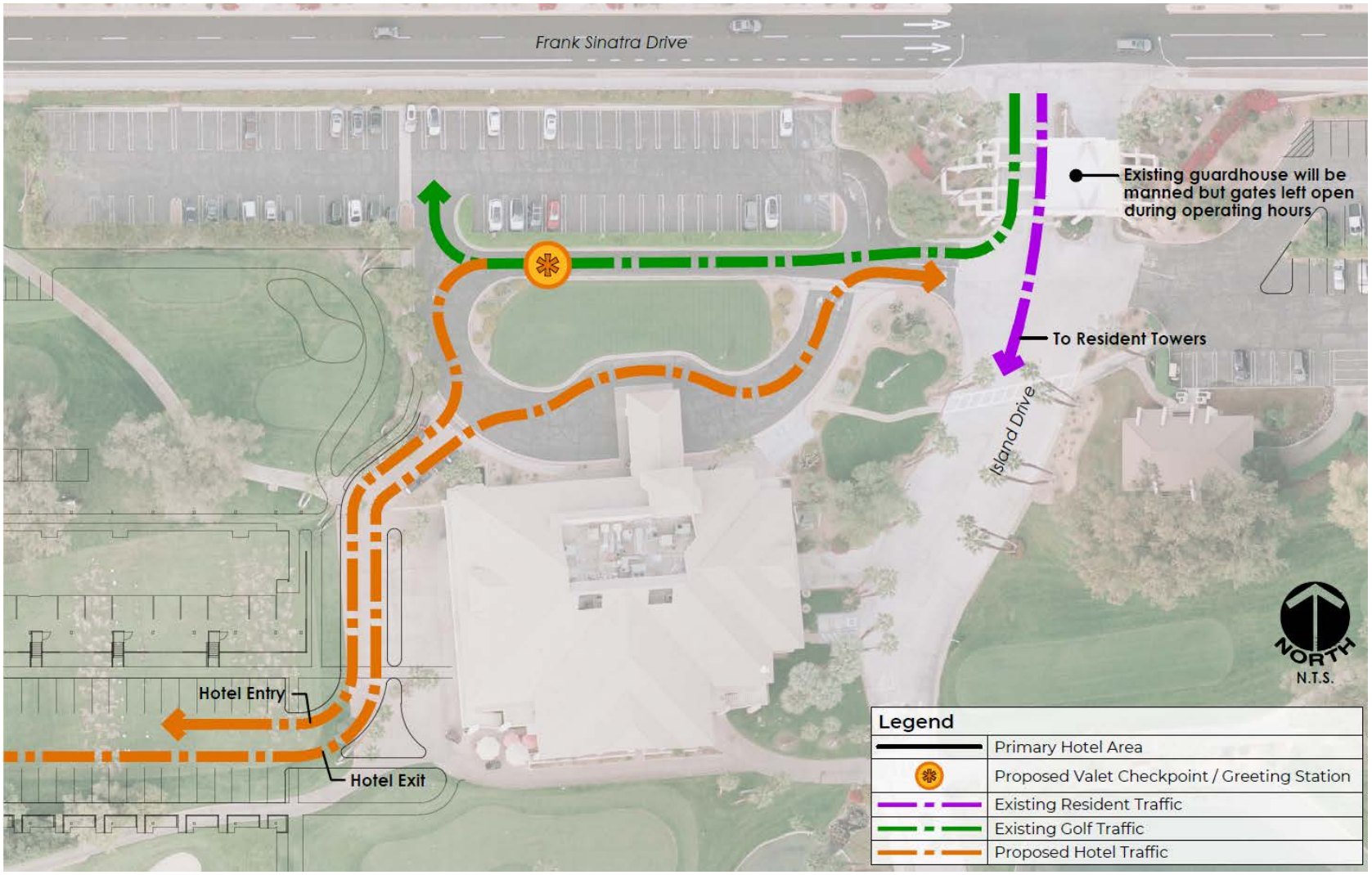


LEGEND:

2 = INTERSECTION ANALYSIS LOCATION

N

EXHIBIT 1-3: ON-SITE TRAFFIC CIRCULATION



1.3.2 EAP (2024) CONDITIONS

The Existing plus Ambient Growth plus Project (EAP) conditions analysis determines traffic deficiencies that would occur on the existing roadway system with the addition of Project traffic. To account for background traffic growth, traffic associated with other known cumulative development projects in conjunction with an ambient growth factor from Existing conditions of 4.04% (2% per year, compounded annually over 2 years) is included for EAP (2024) traffic conditions. The ambient growth is consistent with the growth used by other projects in the area within the City of Rancho Mirage.

1.3.3 EAPC (2024) CONDITIONS

The Existing plus Project plus Ambient Growth plus Cumulative (EAPC) (2024) traffic conditions analysis determines the potential near-term cumulative circulation system deficiencies. To account for background traffic growth, traffic associated with other known cumulative development projects in conjunction with an ambient growth factor from Existing conditions of 4.04% is included for EAPC (2024) traffic conditions. The ambient growth is consistent with the growth used by other projects in the area. This comprehensive list was compiled from information provided by the City of Rancho Mirage.

1.4 STUDY AREA

The Project study area was defined in coordination with the City of Rancho Mirage. Consistent with County of Riverside traffic study guidelines, the study area includes any intersection of "Collector" or higher classification street, with "Collector" or higher classification streets, at which the proposed project will add 50 or more peak hour trips. Exhibit 1-2 presents the study area and intersection analysis locations.

The "50 peak hour trip" criteria generally represents a minimum number of trips at which a typical intersection would have the potential to be substantively impacted by a given development proposal. Although each intersection may have unique operating characteristics, this traffic engineering rule of thumb is a widely utilized tool for estimating a potential area of impact (i.e., study area).

To ensure that this TA satisfies the needs of the City of Palm Desert, Urban Crossroads, Inc. prepared a Project specific traffic study scoping agreement for review by City staff prior to the preparation of this TA. The agreement provides an outline of the study area, trip generation, trip distribution, and analysis methodology. The agreement approved by the City of Palm Desert is included in Appendix 1.1.

The following 2 study area intersections shown on Exhibit 1-2 and listed in Table 1-1 were selected for this TA based on consultation with City of Rancho Mirage.

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

#	Intersection
1	Island Dr. / Frank Sinatra Dr.
2	Bob Hope Dr. / Frank Sinatra Dr.

1.5 ANALYSIS FINDINGS

This section provides a summary of the analysis results for Existing (2022), EAP (2024), and EAPC (2024) conditions.

1.5.1 EXISTING (2022) CONDITIONS

For Existing (2022) traffic conditions, the study intersections were found to operate at an acceptable LOS (i.e., LOS "D" or better) during AM and PM peak hours.

1.5.2 EAP 2024 CONDITIONS

For EAP (2024) traffic conditions, the study intersections were found to continue to operate at an acceptable LOS (i.e., LOS "D" or better) during AM and PM peak hours.

1.5.3 EAPC 2024 CONDITIONS

For EAPC (2024) traffic conditions, the study intersections were found to continue to operate at an acceptable LOS (i.e., LOS "D" or better) during AM and PM peak hours.

The intersection of Island Drive / Frank Sinatra Drive (#1) is anticipated to meet warrants under EAPC (2024) conditions. It should be noted that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this condition does not require that a traffic control signal be installed, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant which is the case for Island Drive / Frank Sinatra Drive (#1).

1.6 QUEUEING ANALYSIS

A queuing analysis was conducted along the Project Driveway, intersection of Island Drive and Frank Sinatra Drive for EAPC (2024) traffic conditions to determine the turn pocket lengths and lane geometric necessary to accommodate near-term 95th percentile queues and recommend storage lengths for the turning movements shown on Exhibit 1-4. The analysis was conducted for the weekday AM and weekday PM peak hours using the SimTraffic modeling software. The EAPC (2024) queuing results are provided in Table 1-2 and Appendix 1.2 of this TA.

SimTraffic is designed to model networks of signalized and unsignalized intersections, with the primary purpose of checking and fine-tuning signal operations. SimTraffic uses the input parameters from Synchro (Version 11) to generate random simulations. The 95th percentile queue is not necessarily ever observed; it is simply based on statistical calculations (or Average Queue plus 1.65 standard deviations). The random simulations generated by SimTraffic have been utilized to determine the 95th percentile queue lengths observed for each turn lane.

TABLE 1-2: PROJECT ACCESS QUEUEING ANALYSIS FOR EAPC

ID	Intersection	Movement	# of Lanes	EAPC (2024) AM	EAPC (2024) PM	EAPC (2024) Peak Hour	EAPC (2024) Volume	Storage Length[2] (ft.)	95th Percentile Queue Length[1] AM	95th Percentile Queue Length[1] PM
1	Island Dr. / Frank Sinatra Dr.	NBL	1	78	69	AM	78	30	49 [3]	43 [3]
		NBR	1	46	39	AM	46	75	52	55
		WBL	1	40	32	AM	40	95	44	40

[1] Queue length calculated using SimTraffic.

[2] Existing/Proposed length of storage.

[3] Review of SimTraffic simulation results indicate that the turn lane queue is anticipated to clear in a timely manner and that the provided pocket length is adequate to accommodate the 95th percentile queue.

2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are consistent with City of Rancho Mirage's Traffic Study Guidelines.

2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors, such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The 6th Edition Highway Capacity Manual (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (2) The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

The City of Rancho Mirage requires signalized intersection operations analysis based on the methodology described in the HCM. (2) Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is related to the average control delay per vehicle and is correlated to a LOS designation as described on Table 2-1.

The traffic modeling and signal timing optimization software package Synchro (Version 11) has been utilized to analyze signalized intersections. Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Customary practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g., PHF = [Hourly Volume] / [4 x Peak 15-minute Flow Rate]). The use of a 15-minute PHF produces a more detailed analysis as compared to

analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (2)

TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0[1]
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	80.01 and up	F

Source: HCM, 6th Edition

[1] If V/C is greater than 1.0 then LOS is F per HCM.

2.2.2 UNSIGNALIZED INTERSECTIONS

The City of Rancho Mirage requires the operations of unsignalized intersections be evaluated using the methodology described in the HCM. (2) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2). At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. Delay for the intersection is reported for the worst individual movement at a two-way stop-controlled intersection. For all-way stop controlled intersections, LOS is computed for the intersection as a whole (average delay).

TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0[1]
Little or no delays.	0 to 10.00	A
Short traffic delays.	10.01 to 15.00	B
Average traffic delays.	15.01 to 25.00	C
Long traffic delays.	25.01 to 35.00	D
Very long traffic delays.	35.01 to 50.00	E
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F

Source: HCM, 6th Edition

[1] If V/C is greater than 1.0 then LOS is F per HCM.

2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or determine the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TA uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices (CA MUTCD). (3)

The signal warrant criteria for Existing study area intersections are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The CA MUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (3) Specifically, this TA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing traffic conditions and for all future analysis scenarios for existing unsignalized intersections. Warrant 3 is appropriate to use for this TA because it provides specialized warrant criteria for intersections with rural characteristics. For the purposes of this study, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection. Urban warrants have been used as posted speed limits on the major roadways with unsignalized intersections are 40 miles per hour or below and rural warrants have been used on roadways with speeds greater than 40 miles per hour.

Future intersections that do not currently exist have been assessed regarding the potential need for new traffic signals based on future average daily traffic (ADT) volumes, using the Caltrans planning level ADT-based signal warrant analysis worksheets. Similarly, the speed limit has been used as the basis for determining the use of Urban and Rural warrants. Traffic signal warrant analyses were performed for the intersection of Island Drive / Frank Sinatra Drive (#1).

The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Area Conditions* of this report. The traffic signal warrant analyses for future conditions are presented in Section 5 *EAP (2024) Traffic Conditions* and Section 6 *EAPC (2024) Traffic Conditions* of this report. It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic

control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

2.4 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

Minimum Acceptable LOS and associated definitions of intersection deficiencies has been obtained from each of the applicable surrounding jurisdictions.

The City of Rancho Mirage's General Plan recommends a LOS standard of LOS D. If during the LOS evaluations an intersection or roadway segment is found to not meet the requisite LOS standard as established by the City's General Plan, improvement modifications will be evaluated to bring the forecasted deficiency to within acceptable LOS thresholds. It is assumed that for purposes of this Project that most facilities are built to ultimate and only in limited instances would additional improvements be needed. Improvements could include signal timing changes or other that could be achieved within the existing curb to curb distance of the intersection or roadway segment.

2.5 DEFICIENCY CRITERIA

This section outlines the methodology used in this analysis related to identifying circulation system deficiencies. To determine whether the addition of project traffic at a study intersection or roadway segment results in a traffic deficiency, the following thresholds will be utilized:

- A traffic deficiency occurs at a signalized study area intersection if the addition of project traffic results in the intersection operations to go from LOS "D" or better (i.e., acceptable) to LOS "E" or "F."
- A traffic deficiency occurs at an unsignalized study area intersection if the addition of project traffic results in the intersection operations to go from LOS "D" or better (i.e., acceptable) to LOS "E" or "F."
- A traffic deficiency occurs at a study area roadway segment if the addition of project traffic results in the roadway segment operations to go from LOS "D" or better (i.e., acceptable) to LOS "E" or "F."

3 AREA CONDITIONS

This section provides a summary of the existing circulation network, the City of Rancho Mirage General Plan Circulation Network, and a review of existing peak hour intersection operations and traffic signal warrant analyses.

3.1 EXISTING CIRCULATION NETWORK

Pursuant to the agreement with City of Rancho Mirage staff (Appendix 1.1), the study area includes 2 existing intersections as shown previously on Exhibit 1-2. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

3.2 CITY OF RANCHO MIRAGE GENERAL PLAN CIRCULATION ELEMENT

As noted previously, the Project site is located within the City of Rancho Mirage. The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area, as identified on the City of Rancho Mirage General Plan Circulation Element, are described subsequently. Exhibit 3-2 shows the City of Rancho Mirage General Plan Circulation Element and Exhibit 3-3 illustrates the City of Rancho Mirage General Plan roadway cross-sections.

The study area roadway that is classified as a Major Arterial is identified as having a 120-foot right-of-way and 106-foot curb-to-curb measurement. Major Arterials include three lanes of travel in each direction and a 16-foot curbed and/or landscaped median. The following study area roadway within the City of Rancho Mirage is classified as a Major Arterial:

- Bob Hope Drive, north of Frank Sinatra Drive.

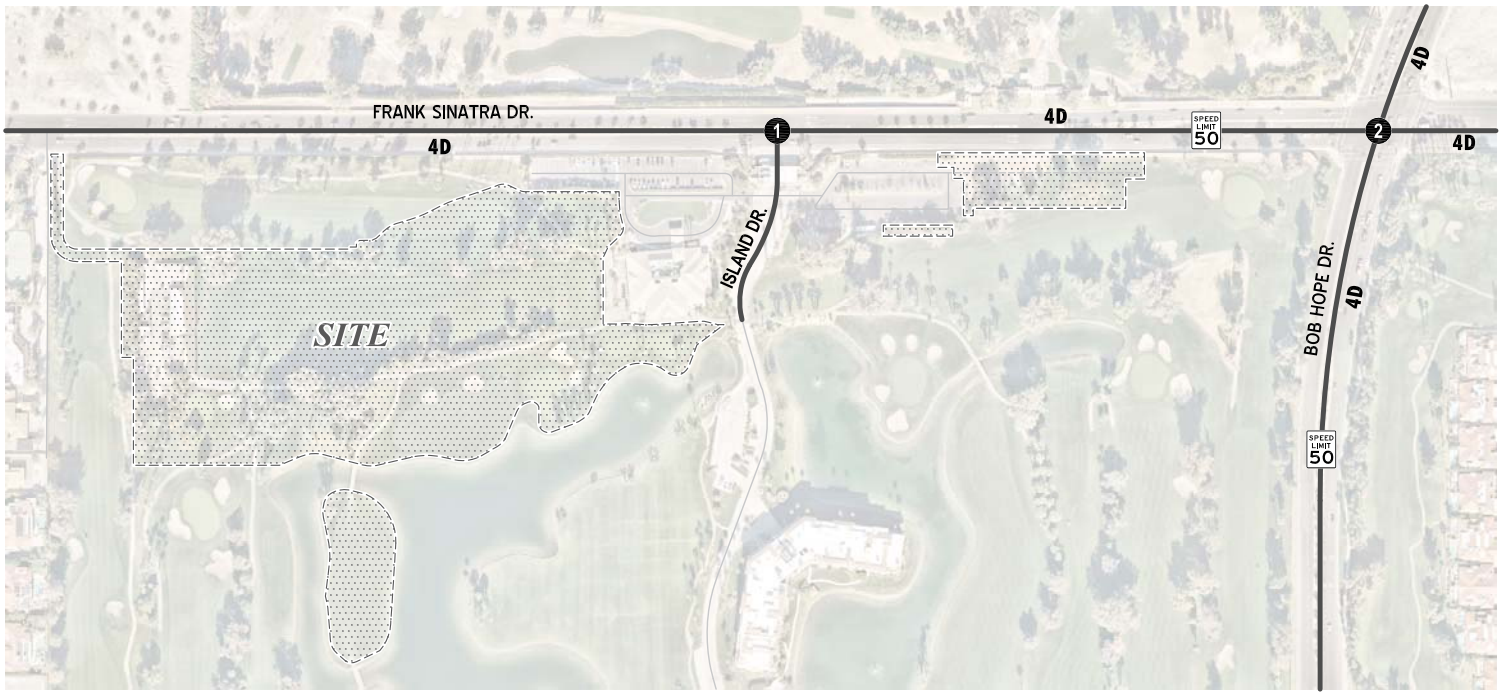
The study area roadway that is classified as a Minor Arterial is identified as having a 110-foot right-of-way and 86-foot curb-to-curb measurement. Minor Arterial includes two lanes of travel in each direction and a 16-foot curbed and/or landscaped median. The following study area roadway within the City of Rancho Mirage is classified as a Modified Major Arterial II:

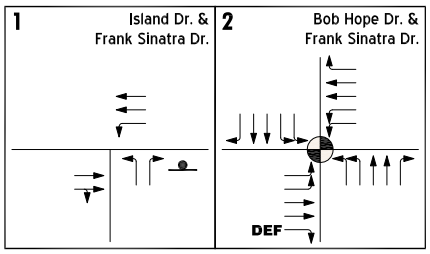
- Bob Hope Drive, south of Frank Sinatra Drive
- Frank Sinatra Drive

3.3 TRANSIT SERVICE

The City of Rancho Mirage is currently served by the SunLine Transit Agency (STA), a public transit agency serving various jurisdictions throughout Coachella Valley. Route 4 runs along Bob Hope Drive within the study area. Transit service is reviewed and updated by STA periodically to address ridership, budget and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate. It should also be noted that SunDial service provides special services for the disabled and seniors (60+). Route 4 runs along Bob Hope Drive within the study area.

EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS





LEGEND:

- (2) ▪ INTERSECTION ID
- ▪ TRAFFIC SIGNAL
- ▪ STOP SIGN
- DEF ▪ DEFACTO RIGHT TURN LANE
- 4 ▪ NUMBER OF LANES
- D ▪ DIVIDED
- U ▪ UNDIVIDED

N

EXHIBIT 3-2: CITY OF RANCHO MIRAGE GENERAL PLAN CIRCULATION ELEMENT

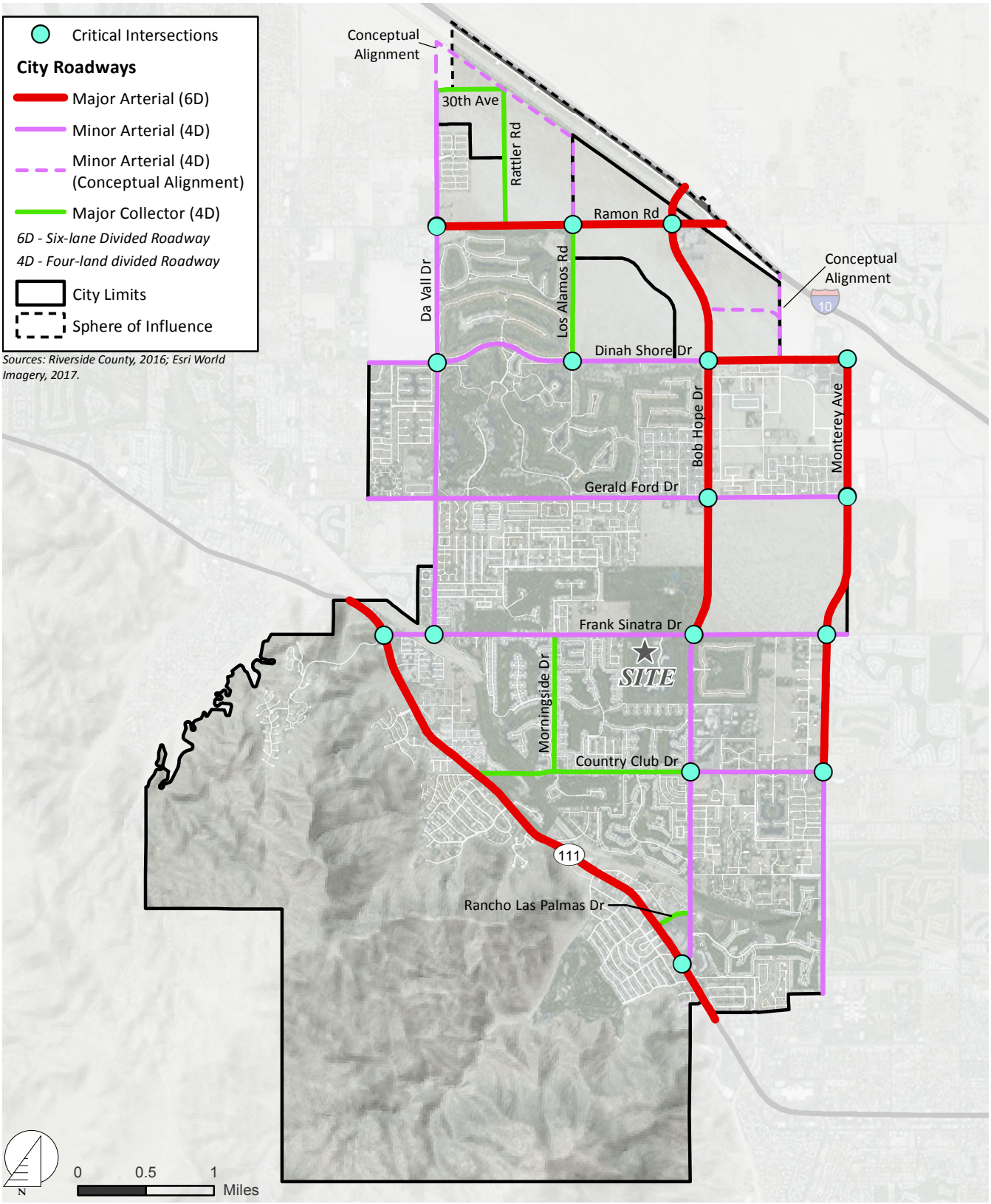
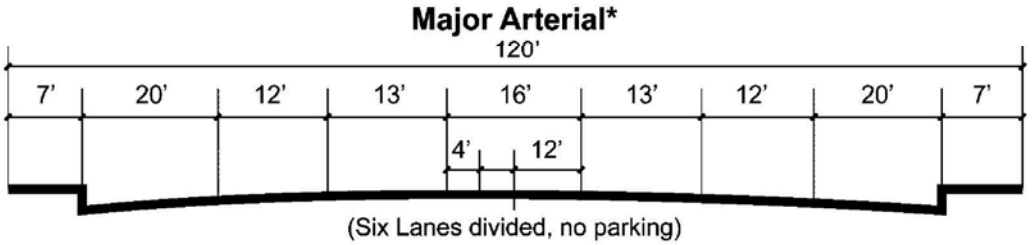
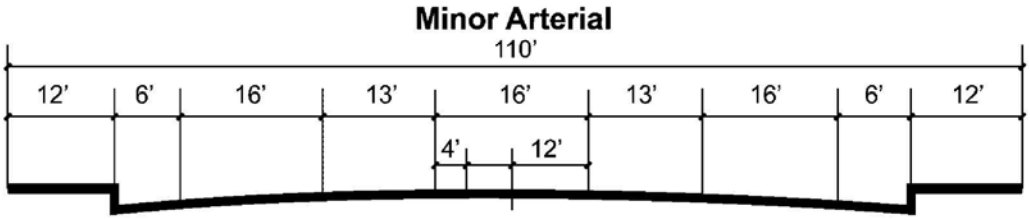
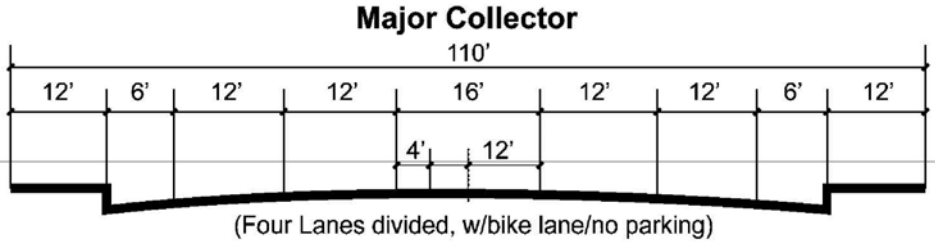


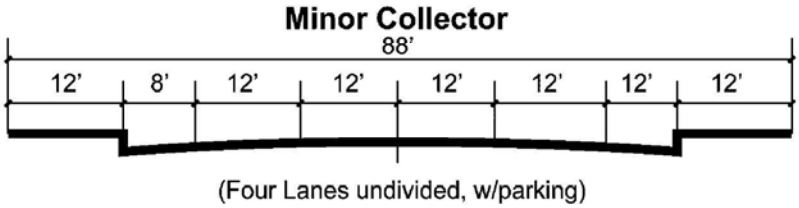
EXHIBIT 3-3: CITY OF RANCHO MIRAGE GENERAL PLAN ROADWAY CROSS-SECTIONS

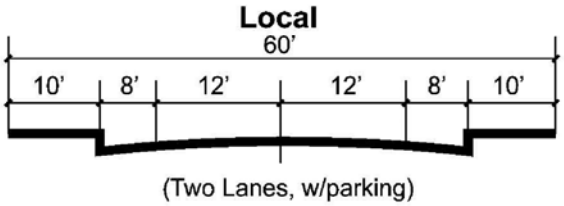


*Highway 111 has special design geometrics, See Rancho Mirage Highway 111 Alignment Study, 1996.









SOURCE: CITY OF RANCHO MIRAGE

3.4 PEDESTRIAN AND BICYCLE FACILITIES

Existing on-street bike lanes are located on both sides of the roadways along Bob Hope Drive and Frank Sinatra Drive. Sidewalks exist on the south side of Frank Sinatra Drive and east side for Bob Hope Drive, south of Frank Sinatra Drive.

3.5 EXISTING (2022) TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in May 2022. The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1.

The weekday AM and PM peak hour count data are representative of typical peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity that would prevent or limit roadway access and detour routes. These raw turning volumes have been flow conserved between intersections with limited access, no access and where there are currently no uses generating traffic.

Existing weekday ADT volumes are shown on Exhibit 3-4. Where actual 24-hour tube count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

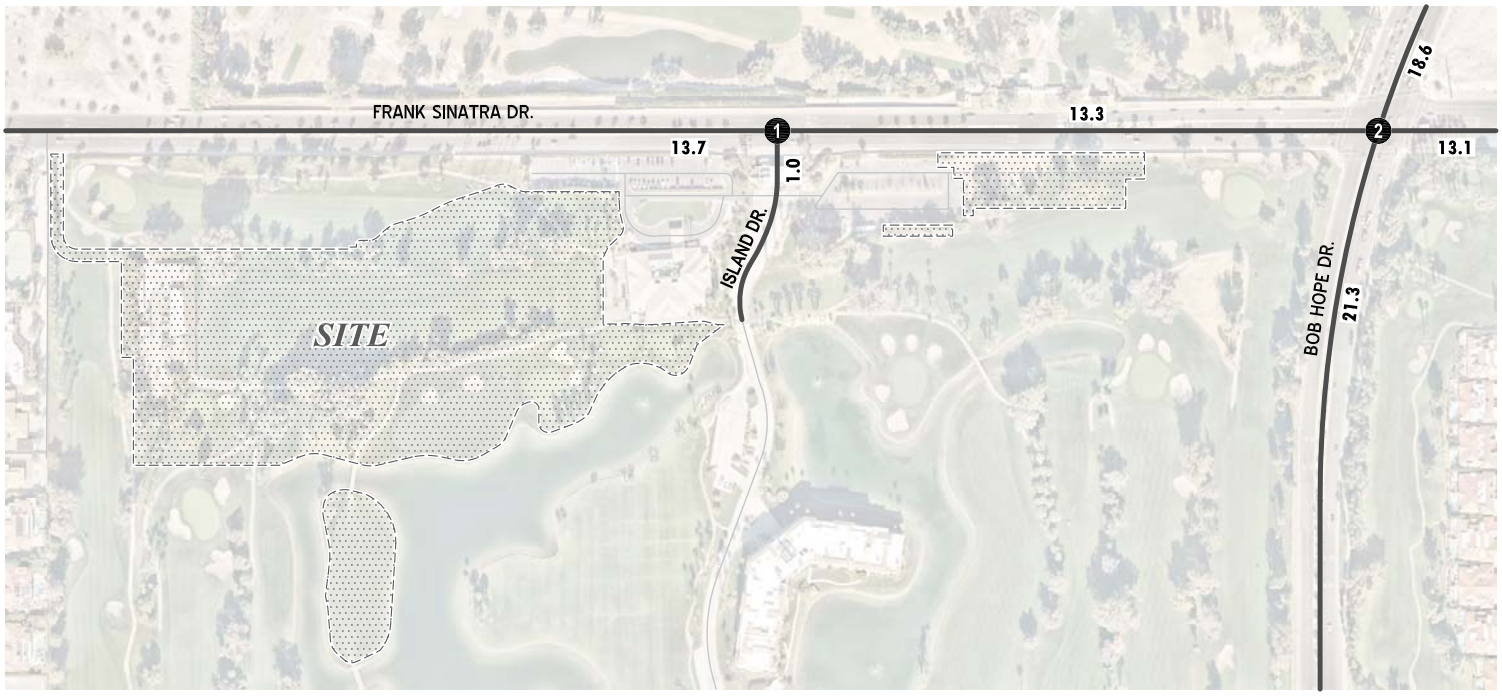
Weekday PM Peak Hour (Approach Volume + Exit Volume) x 12.195 = Leg Volume

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 8.20 percent. As such, the above equation utilizing a factor of 12.195 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 8.20 percent (i.e., 1/0.0820 = 12.195) and was assumed to sufficiently estimate average daily traffic (ADT) volumes for planning-level analyses. Existing weekday peak hour intersection volumes are also shown on Exhibit 3-4.

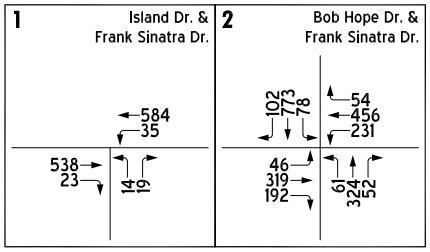
3.6 INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized on Table 3-1, which indicates that all existing study area intersections are currently operating at acceptable LOS during the peak hours. The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

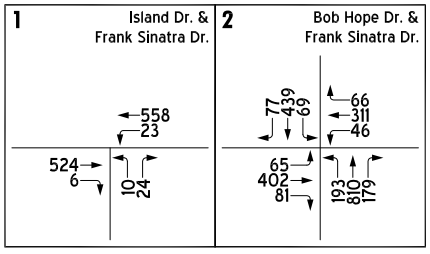
EXHIBIT 3-4: EXISTING (2022) TRAFFIC VOLUMES



AM PEAK HOUR



PM PEAK HOUR



LEGEND:

❷	= INTERSECTION ID
100	= PEAK HOUR INTERSECTION VOLUMES
10.0	= VEHICLES PER DAY (1000'S)

N

TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2022) CONDITIONS

#	Intersection	Traffic Control[1]	Intersection Approach Lanes[2]												Delay[3] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	Island Dr. / Frank Sinatra Dr.	CSS	1	0	1	0	0	0	0	2	0	1	2	0	23.7	18.6	C	C
2	Bob Hope Dr. / Frank Sinatra Dr.	TS	2	2	1	2	2	1	2	2	d	2	2	1	31.2	27.2	C	C

1 TS = Traffic Signal; CSS = Cross-street Stop

2 When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right; d = Defacto Right Turn Lane

3 Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

3.7 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. The unsignalized intersection of Island Drive / Frank Sinatra Drive (#1) does not currently warrant a traffic signal for Existing traffic conditions. Existing conditions traffic signal warrant analysis worksheets are provided in Appendix 3.3.

This page intentionally left blank

4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network.

The Project is proposed to repurpose approximately 13.3 acres of the existing golf driving range and a portion of the existing golf course with new facilities to accommodate a 42-key boutique hotel (with tennis, pool, and yoga amenities), 11 private residences, and a golf training facility.

The existing driving range will be removed to make room for the new facilities. The existing golf maintenance structure will be replaced by a new building along with an expanded parking lot east of the main entry. The existing clubhouse will remain and continue to provide services to golfers, Desert Island residents, and the general public, with occasional events for up to 300 persons. It is anticipated that events with more than 300 persons in the existing clubhouse building would require a Temporary Use Permit, accompanied by a parking and traffic management plan if necessary. The existing golf course will continue to operate as an 18-hole facility with minor routing adjustments to 9th and 18th Fairways to accommodate the hotel.

Amenities which are complementary to the new hotel include a hotel pool, a small pool café, a tennis court for hotel guests, and a shaded yoga platform located on the island south of the lake accessed by foot from the existing bridge.

The new private duplex-style condominium residences (11 units) will be managed and maintained by the hotel operator. When not in use by individual owners, these units will be made available for rental by the hotel operator. For traffic analysis purposes, these 11 units are addressed as single family residences in order to include trip rates which are higher than those associated with multifamily units.

The new golf training park will replace the current driving range. It will consist of an 18-hole tournament putting green, short game training areas, and virtual golf simulator stations. In order to evaluate the potential increase in practice golf park activity which maybe higher than the existing driving range, the employment associated with golf practice activity is estimated to increase by 10 employees.

It is anticipated that the Project would be fully developed by year 2024. The Project will take primary access from the existing Desert Island Main gate on Frank Sinatra Drive.

Regional access to the Project site is available from the I-10 Freeway via Bob Hope Drive.

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development.

In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the ITE Trip Generation Manual (11th Edition, 2021) for the proposed land uses (ITE Land

Use Codes: 330 – Resort Hotel; 210 – Single Family Residential; 432 – Golf Practice) are used. (4) Table 4-1 presents the trip generation rates and the resulting trip generation summary for the proposed Project. As shown in Table 4-1, the Project is anticipated to generate a total of 991 new trip-ends per day with 39 new AM peak hour trips and 83 new PM peak hour trips.

TABLE 4-1: PROJECT TRIP GENERATION SUMMARY

Trip Generation Rates[1]

Land Use	ITE LU Code	Quantity[2]		AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Resort Hotel	330	42	OCC RM	0.27	0.10	0.37	0.20	0.27	0.47	7.87
Single Family Units	210	11	DU	0.18	0.52	0.70	0.59	0.35	0.94	9.43
Golf Practice	432	10	EMP	1.00	0.64	1.64	2.74	2.74	5.48	55.57

Trip Generation Results

Land Use	ITE LU Code	Quantity[2]		AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Resort Hotel	330	42	OCC RM	11	4	15	8	11	19	331
Single Family Units	210	11	DU	2	6	8	6	4	10	104
Golf Practice	432	10	EMP	10	6	16	27	27	54	556
TOTAL				23	16	39	41	42	83	991

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition (2021).
[2] Occ. RM = Occupied Room; DU = Dwelling Unit; EMP = Employee

4.2 PROJECT TRIP DISTRIBUTION

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution pattern is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to the regional freeway system. Exhibit 4-1 trip distribution patterns for the Project.

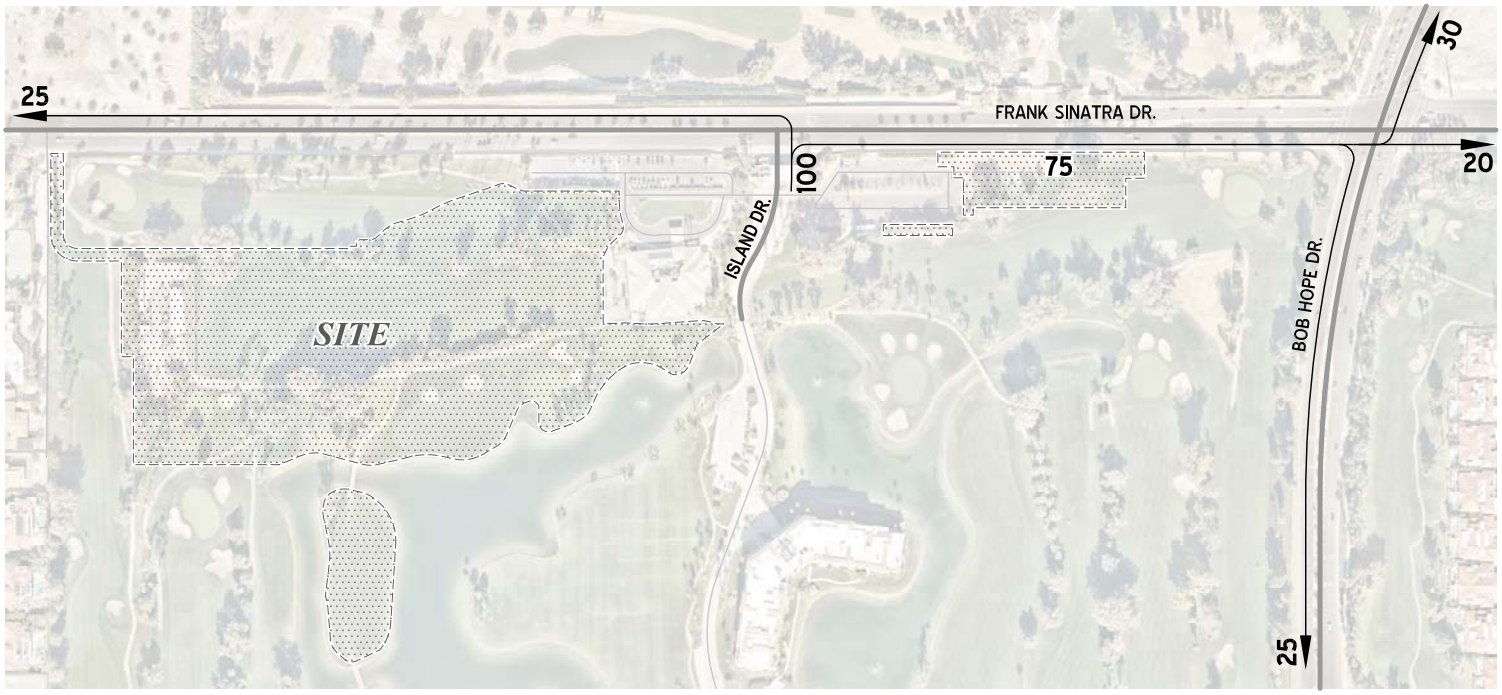
4.3 MODAL SPLIT

The potential for Project trips (non-truck) to be reduced by the use of public transit, walking or bicycling have not been included as part of the Project's estimated trip generation. Essentially, the Project's traffic projections are "conservative" in that these alternative travel modes would reduce the forecasted traffic volumes.

4.4 PROJECT TRIP ASSIGNMENT

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project weekday ADT and weekday peak hour intersection turning movement volumes are shown on Exhibit 4-2.

EXHIBIT 4-1: PROJECT TRIP DISTRIBUTION

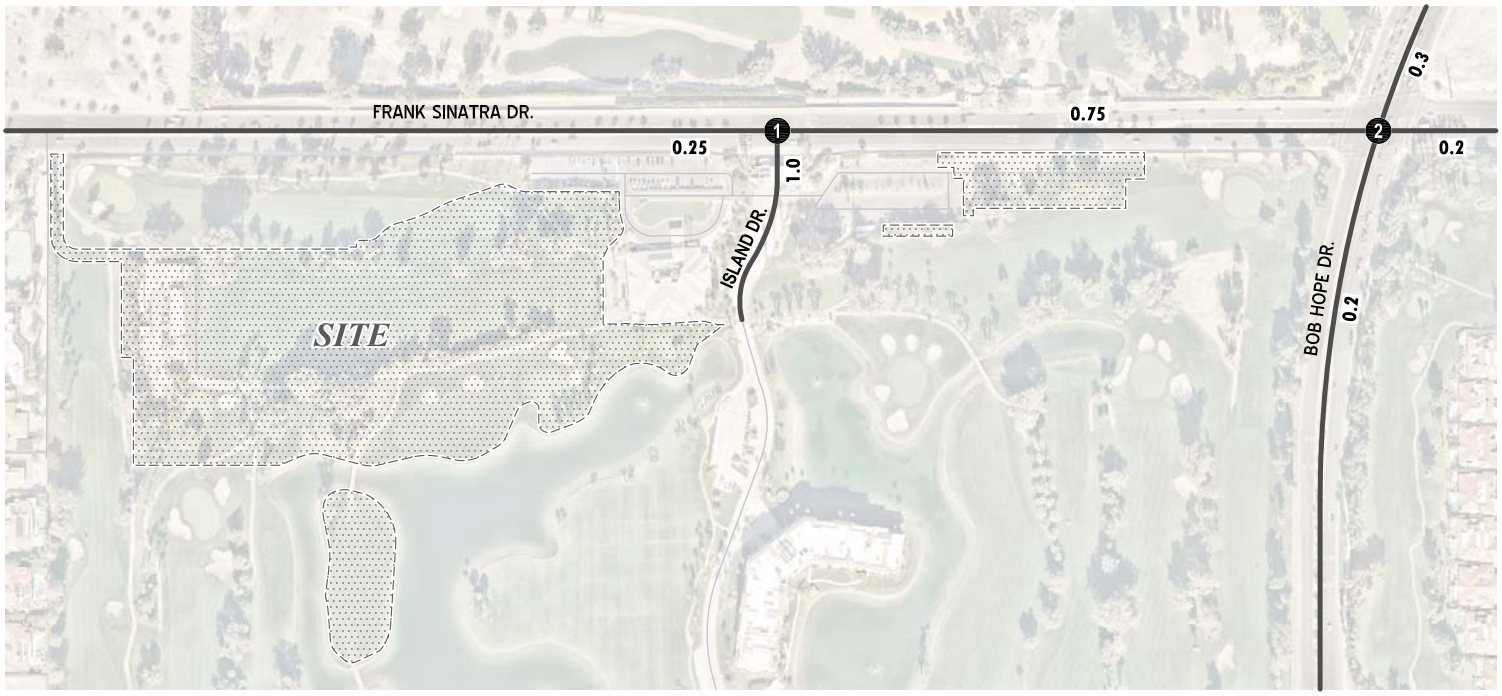


LEGEND:

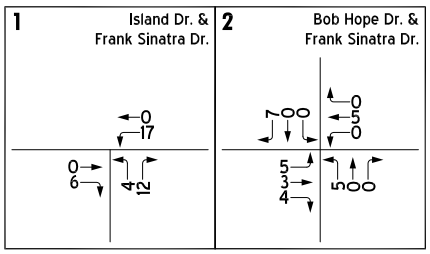
10 = PERCENT TO/FROM PROJECT

N

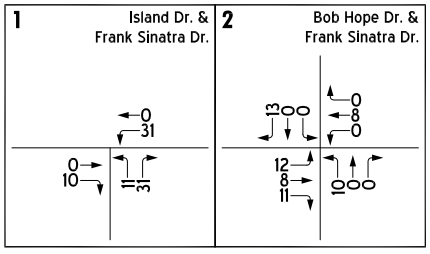
EXHIBIT 4-2: PROJECT ONLY TRAFFIC VOLUMES



AM PEAK HOUR



PM PEAK HOUR



LEGEND:

❷	= INTERSECTION ID
100	= PEAK HOUR INTERSECTION VOLUMES
10.0	= VEHICLES PER DAY (1000'S)

N

4.5 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon background (ambient) growth at 2% per year for 2024 traffic conditions. The total ambient growth is 4.04% for 2024 traffic conditions. The ambient growth factor is intended to approximate regional traffic growth. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in conjunction with traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies. Opening Year Cumulative (2024) traffic volumes are provided in Section 4.6 of this report. The traffic generated by the proposed Project was then manually added to the base volume to determine EAP/EAPC forecasts.

The near-term traffic analysis includes the following traffic conditions, with the various traffic components:

- EAP (2024)
  - Existing (2022) volumes
  - Ambient growth traffic (4.04% over 2 years)
  - Project Traffic
- EAPC (2024)
  - Existing (2022) volumes
  - Ambient growth traffic (4.04% over 2 years)
  - Project Traffic
  - Cumulative Development traffic

4.6 CUMULATIVE DEVELOPMENT TRAFFIC

A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the City of Rancho Mirage. The cumulative projects listed are those that would generate traffic and would contribute traffic to study area intersections.

Exhibit 4-3 illustrates the cumulative development location map. A summary of cumulative development projects and their proposed land uses are shown on Table 4-2. If applicable, the traffic generated by individual cumulative projects was manually added to the Opening Year Cumulative forecasts to ensure that traffic generated by the listed cumulative development projects on Table 4-3 are reflected as part of the background traffic. In an effort to conduct a conservative analysis, the cumulative projects are added in conjunction with the ambient growth identified in Section 4.5 *Background Traffic*. Cumulative ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-4.

4.7 NEAR-TERM CONDITIONS

The "buildup" approach has been utilized which combines existing traffic counts with a background ambient growth factor to forecast the EAP (2024) and EAPC (2024) traffic conditions. An ambient growth factor of 4.04% accounts for background (area-wide) traffic increases that occur over time up to the year 2024 from the year 2022 (2.0% per year, compounded over a 2-year period). Project traffic is added to assess EAP (2024) and EAPC (2024) traffic conditions, respectively. Traffic volumes generated by cumulative development projects are included to assess the EAPC (2024) traffic conditions. The 2024 roadway

networks are similar to the existing conditions roadway network with the exception of future roadways and intersections proposed to be developed by the Project. It should be noted that Existing plus Ambient Growth plus Cumulative (EAC) traffic forecasts were also developed for applicable study area intersections only to determine the change in delay and identify whether the Project has an adverse effect on a pre-project deficiency.

EXHIBIT 4-3: CUMULATIVE DEVELOPMENT LOCATION MAP

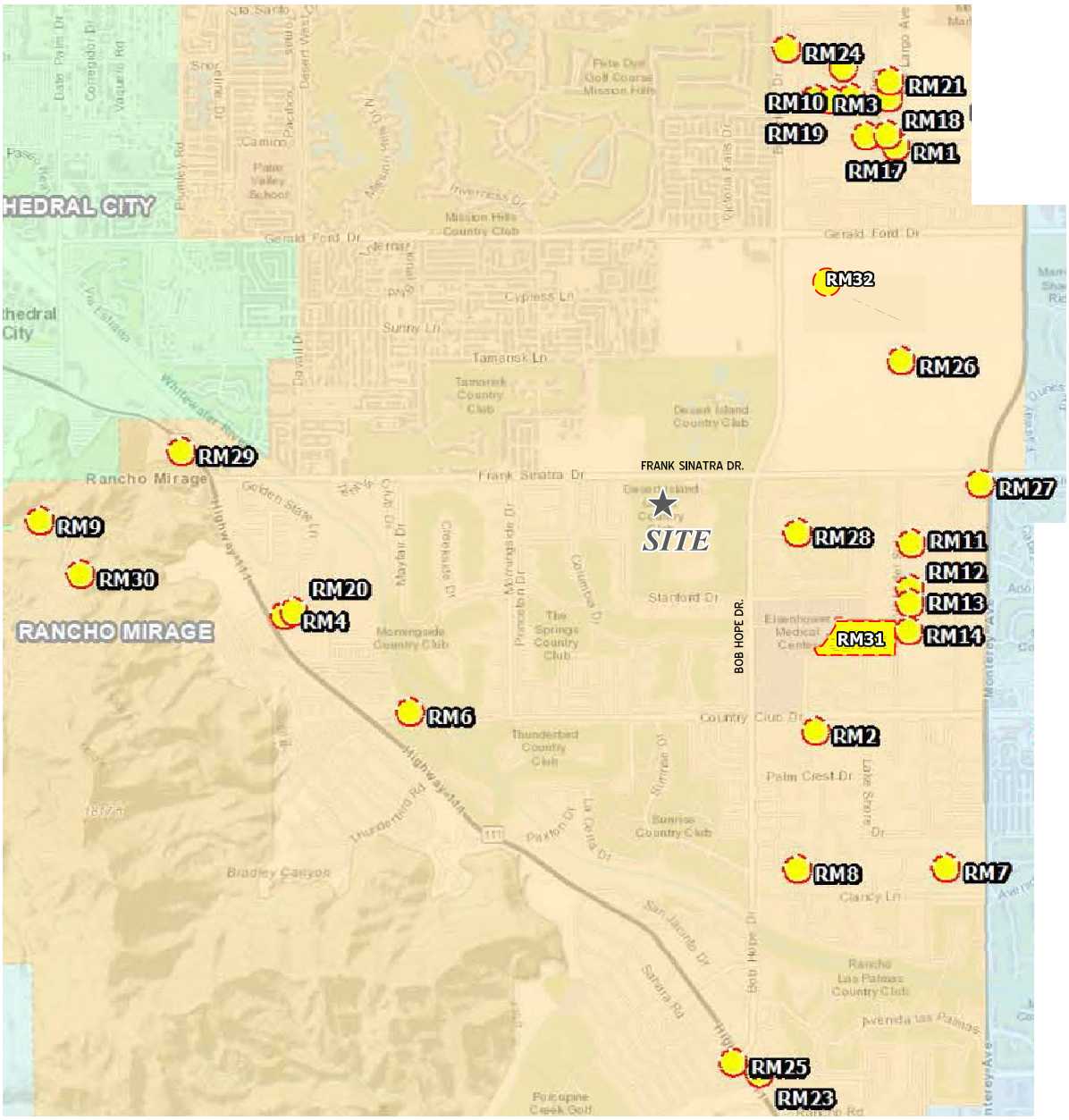
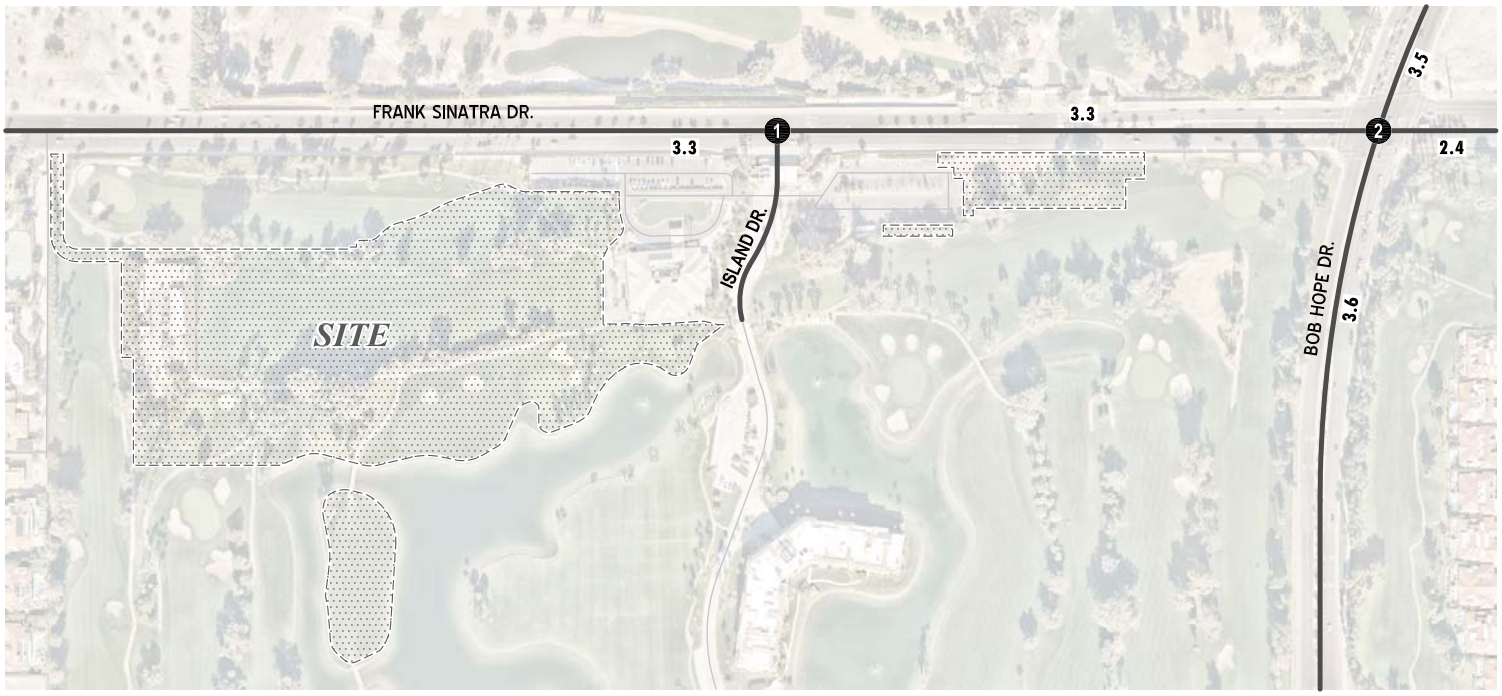
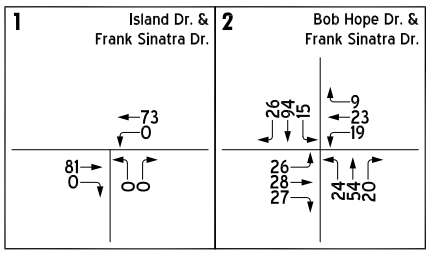


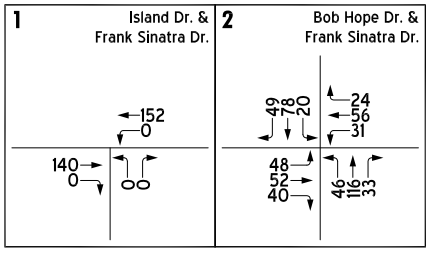
EXHIBIT 4-4: CUMULATIVE DEVELOPMENT ONLY TRAFFIC VOLUMES



AM PEAK HOUR



PM PEAK HOUR



LEGEND:

❷	= INTERSECTION ID
100	= PEAK HOUR INTERSECTION VOLUMES
10.0	= VEHICLES PER DAY (1000'S)

N

TABLE 4-2: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

TAZ	Project	Case Number	Land Use	Quantity	Units[1]
RM1	RM 38 JV LLC	DA190002 / TTM36620	Residential	82	DU
RM2	Carefield Senior Living	PDP18004 / DA180003 / EA180002	Residential	84	DU
RM3	ECHO at Rancho Mirage	PDP18003	Residential	9	DU
RM4	Santa Barbara Cove Estates	PDP18001 / TTM35573	Residential	20	DU
RM6	Veneto	MOD16019	Residential	34	DU
RM7	Revelle	PDP13003 / FDP13004	Residential	32	DU
RM8	Bella Clancy	ZTA05003 / EA050025 / MOD05016 / FDP04002 / PDP03015	Residential	20	DU
RM9	Mirada Villas	FDP05004 / PDP04011 / MOD06024 / MOD11040	Residential	46	DU
RM10	Estilo	PDP12003 / FDP12005	Residential	39	DU
RM11	RM Five-1 LLC/Kilani	TPM37222R / EA190008	Residential	4	DU
RM12	Heinrich/Steinberg	TPM34232 / TPPMX34232 / TPM34233 / TPMX34233	Residential	4	DU
RM13	Rancho Mirage LLC	TPM34741 / EA060009 / TPMX-34741 / PDPX34741	Residential	4	DU
RM14	La Paloma Homes, Inc.	TTM37637	Residential	13	DU
RM17	38 JV, LLC c/o Meriwether Companies	TTM36620 / EA130006 / SPA13001 / TTM2X36620	Residential	97	DU
RM18	38 JV, LLC c/o Meriwether Companies	TTM36622 / EA130008 / TTM3X36622	Residential	10	DU
RM19	GRV Mirage, LLC (ECHO)	TTM35619 / EA070011	Residential	9	DU
RM20	Ken Catanzarite	TTM35573	Residential	20	DU
RM21	Mirage dunes Properties	TTM05004 / TTM33329 / TTM2X33329	Residential	9	DU
RM23	IN-N-OUT Burgers	PDP19002 / EA190004 / CUP19007 / ZTA19002 / DA190001	Commercial	3.995	DU
RM24	DHO Medical Office Building	PDP19001 / EA190001	Medical Office	13.800	TSF
RM25	Chase Bank	PDP18005	Bank	3.470	TSF
RM26	Section 31 Specific Plan Project	SP180001 / EIR18001 / GPZMA18003	Hotel	400	Rooms
			Commercial	175.000	TSF
			Residential	1,932	DU
RM27	Tower Energy Group	CUP18004 / TPM37486 / EA180004	Commercial	5.565	TSF
RM28	Oasis Ranch LLC	PDP18002 / TTM37461	Hotel	60	Rooms
			Residential	108	DU
RM29	Horizon Pacific Rancho Cove MSA Consulting	PDP16003 / TTM37122	Commercial	20.000	TSF
			Hotel	100	Rooms
			Residential	35	DU
RM30	Ritz-Carlton Residences	--	Residential	106	DU
			Commercial	6.966	TSF
RM31	Hazelden Betty Ford Center	--	Office	6.399	TSF
			Drug/Alcohol Treatment Ctr.	56	Beds
RM32	ED Rancho Mirage	TTM 37856/TTM 37563/PDP19004/EA 190009	Residential	354	DU

[1] DU = Dwelling Units; TSF = Thousand Square Feet

This page intentionally left blank

5 EAP (2024) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for Existing plus Ambient Growth plus Project (EAP) conditions and the resulting intersection operations and traffic signal warrant analyses.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAP (2024) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for EAP (2024) conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).

5.2 EAP TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus an ambient growth factor of 4.04% and the addition of Project traffic. The weekday ADT and weekday peak hour intersection turning movement volumes which can be expected for EAP (2024) traffic conditions are shown on Exhibit 5-1.

5.3 INTERSECTION OPERATIONS ANALYSIS

EAP (2024) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized on Table 5-1 for EAP (2024) traffic conditions, which indicate that the study area intersections are anticipated to continue to operate at an acceptable LOS (LOS "D" or better) under EAP (2024) traffic conditions. The intersection operations analysis worksheets for EAP (2024) traffic conditions are included in Appendix 5.1 of this TA.

TABLE 5-1: INTERSECTION ANALYSIS FOR EAP CONDITIONS

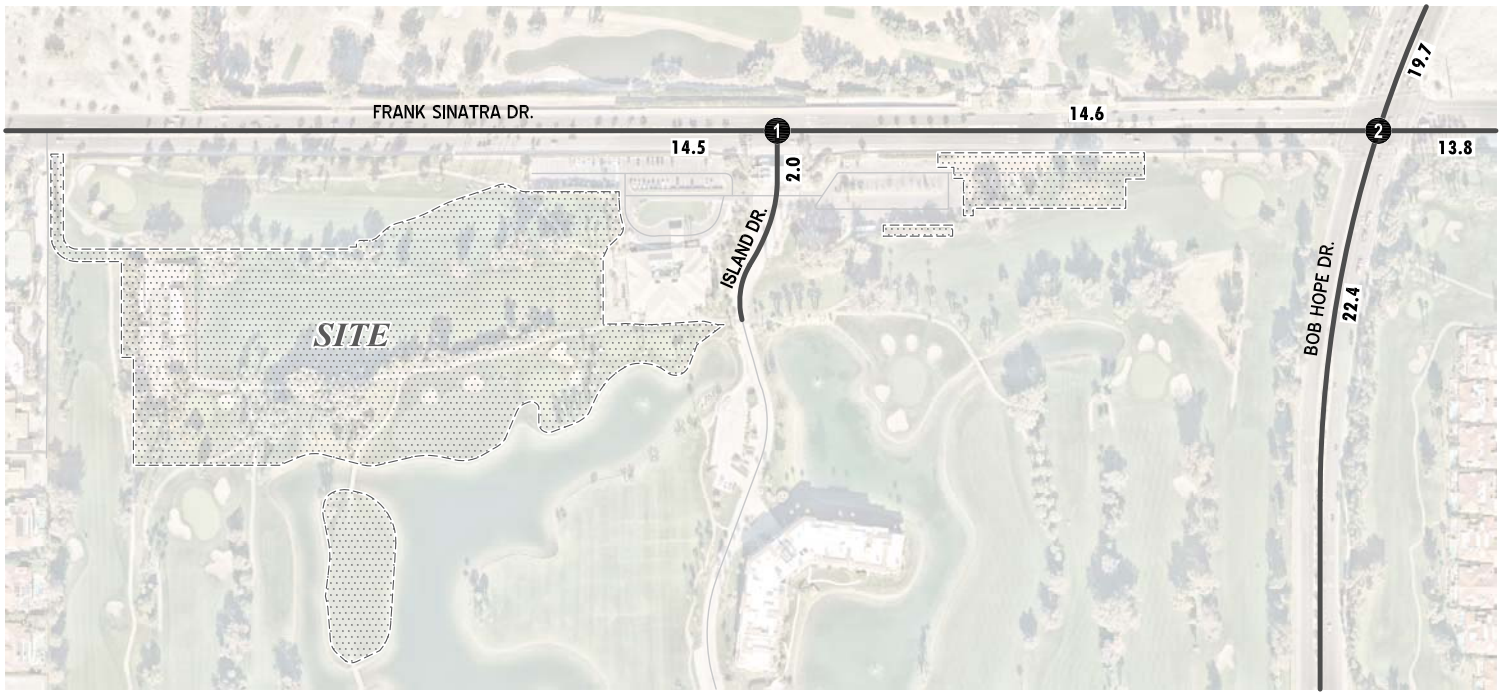
			Intersection Approach Lanes[2]												Delay[3] (secs.)		Level of Service	
		Traffic	Northbound			Southbound			Eastbound			Westbound						
#	Intersection	Control[1]	L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	Island Dr. / Frank Sinatra Dr.	CSS	1	0	1	0	0	0	0	2	0	1	2	0	27.9	22.5	D	C
2	Bob Hope Dr. / Frank Sinatra Dr.	TS	2	2	1	2	2	1	2	2	d	2	2	1	31.8	28.1	C	C

1 TS = Traffic Signal; CSS = Cross-street Stop

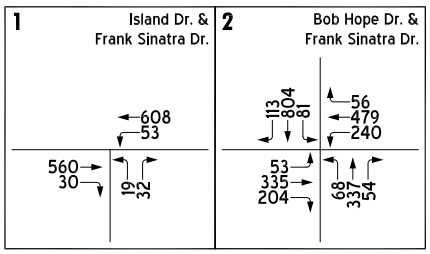
2 When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right; d = Defacto Right Turn Lane

3 Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

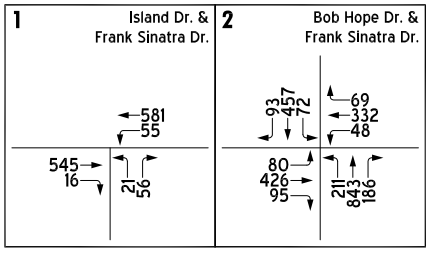
EXHIBIT 5-1: EAP (2024) TRAFFIC VOLUMES



AM PEAK HOUR



PM PEAK HOUR



LEGEND:

❷	= INTERSECTION ID
100	= PEAK HOUR INTERSECTION VOLUMES
10.0	= VEHICLES PER DAY (1000'S)

N

5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for EAP (2024) traffic conditions are based on the peak hour volume-based traffic signal warrants. The unsignalized intersection of Island Drive / Frank Sinatra Drive is not anticipated to meet peak hour volume-based warrants with the addition of Project traffic (see Appendix 3.3).

5.5 PROJECT DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

The study area intersections are anticipated to operate at an acceptable LOS with the addition of Project traffic. As such, no additional improvements aside from those that are needed to facilitate site access have been recommended.

This page intentionally left blank

6 EAPC (2024) TRAFFIC CONDITIONS

This section discusses the methods used to develop Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2024) traffic forecasts, and the resulting intersection operations and traffic signal warrant analyses.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAPC (2024) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Opening Year Cumulative conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways).
- If applicable, driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for Opening Year Cumulative conditions only.

6.2 EAPC (2024) TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus an ambient growth factor of 4.04% plus traffic from pending and approved but not yet constructed known development projects in the area. The weekday ADT and weekday peak hour volumes which can be expected for EAPC (2024) traffic conditions are shown on Exhibit 6-1.

6.3 INTERSECTION OPERATIONS ANALYSIS

LOS calculations were conducted for the study intersections to evaluate their operations under EAPC (2024) traffic conditions with roadway and intersection geometrics consistent with Section 6.1 *Roadway Improvements*. As shown on Table 6-1, the study area intersections are anticipated to continue to operate at an acceptable LOS (LOS "D" or better) under EAPC (2024) traffic conditions. The intersection operations analysis worksheets for EAPC (2024) traffic conditions are included in Appendix 6.1 of this TA.

TABLE 6-1: INTERSECTION ANALYSIS FOR EAPC (2024) CONDITIONS

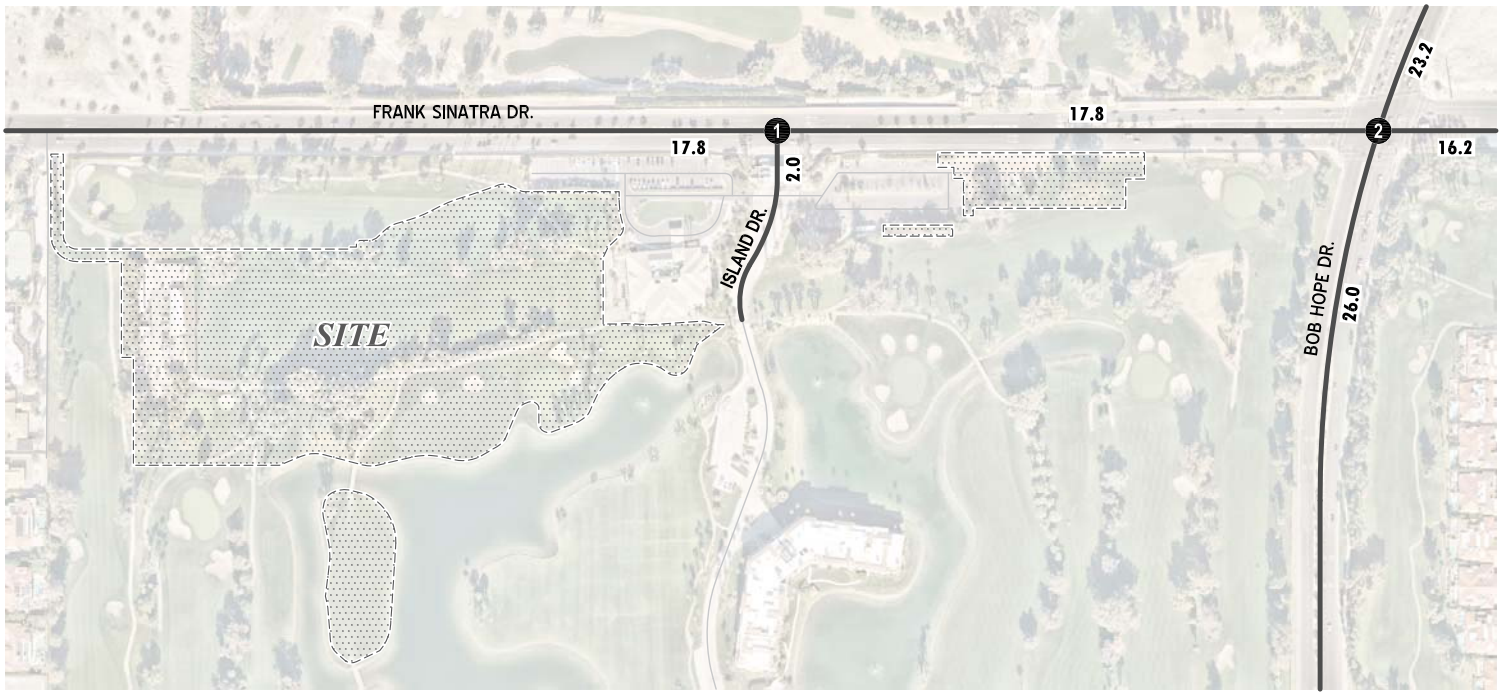
			Intersection Approach Lanes[2]												Delay[3] (secs.)		Level of Service	
		Traffic	Northbound			Southbound			Eastbound			Westbound						
#	Intersection	Control[1]	L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	Island Dr. / Frank Sinatra Dr.	CSS	1	0	1	0	0	0	0	2	0	1	2	0	34.2	30.7	D	D
2	Bob Hope Dr. / Frank Sinatra Dr.	TS	2	2	1	2	2	1	2	2	d	2	2	1	34.8	30.4	C	C

1 TS = Traffic Signal; CSS = Cross-street Stop

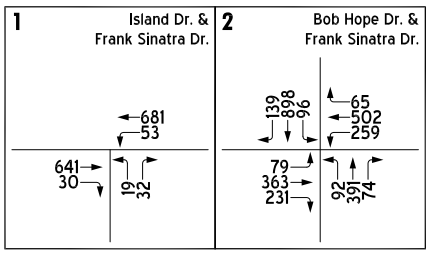
2 When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right; d = Defacto Right Turn Lane

3 Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

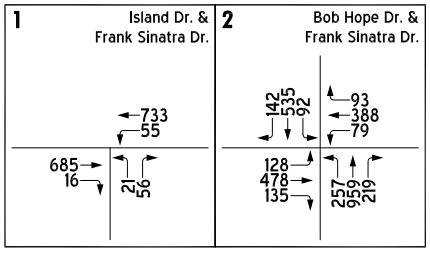
EXHIBIT 6-1: EAPC (2024) TRAFFIC VOLUMES



AM PEAK HOUR



PM PEAK HOUR



LEGEND:

❷	= INTERSECTION ID
100	= PEAK HOUR INTERSECTION VOLUMES
10.0	= VEHICLES PER DAY (1000'S)

N

6.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for EAPC (2024) traffic conditions are based on the peak hour volume-based traffic signal warrants. The unsignalized intersection of Island Drive / Frank Sinatra Drive is anticipated to meet peak hour volume-based warrants for EAPC (2024) traffic conditions (see Appendix 3.3).

As mentioned previously, a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

6.5 PROJECT DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

The study area intersections are anticipated to operate at an acceptable LOS with the addition of Project traffic. As such, no additional improvements aside from those that are needed to facilitate site access have been recommended.

This page intentionally left blank

7 REFERENCES

1. **Riverside County Transportation Department.** *Transportation Analysis Guideines for Level of Service & Vehicle Miles Traveled.* County of Riverside : s.n., December 2020.
2. **Transportation Research Board.** *Highway Capacity Manual (HCM), 6th Edition.* s.l. : National Academy of Sciences, 2016.
3. **California Department of Transportation.** California Manual on Uniform Traffic Control Devices (CA MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CA MUTCD).* 2014, Updated March 30, 2021 (Revision 6).
4. **Institute of Transportation Engineers.** Trip Generation Manual. 11th Edition, 2021.

This page intentionally left blank

APPENDIX 1.1: APPROVED TRAFFIC STUDY SCOPING AGREEMENT

This Page Intentionally Left Blank

URBAN CROSSROADS

urbanxroads.com

April 18, 2022

Mr. Ryan Stendell
City of Rancho Mirage, Director of Public Works
69-825 Highway 111
Rancho Mirage, CA 92270

SUBJECT: DESERT ISLAND HOTEL FOCUSED LOS ANALYSIS AND VMT SCREENING - SCOPING AGREEMENT

Dear Mr. Ryan Stendell:

Urban Crossroads, Inc. is pleased to submit this scoping letter to the City of Rancho Mirage regarding the Focused Level of Service (LOS) Analysis and Vehicle Miles Traveled (VMT) Screening for the proposed Desert Island Specific Plan Hotel Amendment ("Project"). The Project is located south of Frank Sinatra Drive and adjacent to Island Drive in the City of Rancho Mirage. It is our understanding that the Project will repurpose approximately 13.3 acres of the existing golf driving range and a portion of the existing golf course with new facilities to accommodate a 42-key boutique hotel (with tennis, pool, and yoga amenities), 11 private residences, and a golf training facility.

The existing driving range will be removed to make room for the new facilities. The existing golf maintenance structure will be replaced by a new building along with an expanded parking lot east of the main entry. The existing clubhouse will remain and continue to provide services to golfers, Desert Island residents, and the general public, with occasional events for up to 300 persons. It is anticipated that events with more than 300 persons in the existing clubhouse building would require a Temporary Use Permit, accompanied by a parking and traffic management plan if necessary. The existing golf course will continue to operate as an 18-hole facility with minor routing adjustments to 9th and 18th Fairways to accommodate the hotel.

Amenities which are complementary to the new hotel include a hotel pool, a small pool café, a tennis court for hotel guests, and a shaded yoga platform located on the island south of the lake accessed by foot from the existing bridge.

The new private duplex-style condominium residences (11 units) will be managed and maintained by the hotel operator. When not in use by individual owners, these units will be made available for rental by the hotel operator. For traffic analysis purposes, these 11 units are addressed as single family residences in order to include trip rates which are higher than those associated with multifamily units.

The new golf training park will replace the current driving range. It will consist of an 18-hole tournament putting green, short game training areas, and virtual golf simulator stations. In order to evaluate the potential increase in practice golf park activity which maybe higher than the existing driving range, the employment associated with golf practice activity is estimated to increase by 10 employees.

The remainder of this letter describes the proposed analysis methodology, Project trip generation, trip distribution, and Project traffic assignment/project trips on the surrounding roadway network. The following scoping assumptions have been prepared in accordance with the County of Riverside's Transportation Analysis Guidelines for Level of Service & Vehicle Miles Traveled (December 2020) as the City of Rancho Mirage utilized the County guidelines.

A preliminary site plan the proposed Project is shown on Exhibit 1. Exhibit 2 depicts the location of the proposed project in relation to the existing roadway network. It is anticipated that the Project would be fully developed by year 2024. The Project will take primary access from the existing Desert Island Main gate on Frank Sinatra Drive.

TRIP GENERATION

In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) *Trip Generation* (11th Edition, 2021) manual for the proposed land uses (ITE Land Use Codes: 330 – Resort Hotel; 210 – Single Family Residential; 432 – Golf Practice) are used. Table 1 presents the trip generation rates and the resulting trip generation summary for the proposed Project. As shown in Table 1, the Project is anticipated to generate a total of 991 new trip-ends per day with 66 new AM peak hour trips and 86 new PM peak hour trips.

TRIP DISTRIBUTION

The trip distribution pattern is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to the regional freeway system. Exhibit 3 presents the Project distribution pattern. Based on the identified Project traffic generation and trip distribution patterns, Project ADT and peak hour intersection turning movement volumes are shown on Exhibit 4.

ANALYSIS SCENARIOS

Consistent with the County's LOS guidelines, intersection analysis will be provided for the following analysis scenarios:

- Existing (2022) Conditions
- Existing plus Ambient plus Project (EAP) (2024)
- Existing plus Ambient plus Project plus Cumulative (EAPC) (2024)

The City of Rancho Mirage General Plan Circulation Element is depicted on Exhibit 5, while the accompanying roadway cross-sections are presented on Exhibit 6.

STUDY AREA

The traffic impact study area was defined in conformance with the requirements of County of Riverside's Transportation Analysis Guidelines for Level of Service & Vehicle Miles Traveled. Consistent with the County's LOS guidelines, study area intersections have been identified for the Project based on the contribution of 50 or more peak hour trips. Based on this criterion, anticipated trip generation and trip distribution, the intersections of Island Drive / Frank Sinatra Drive (#1) and Bob Hope Drive / Frank Sinatra Drive (#2) will be evaluated. Exhibit 2 identifies the proposed study area intersection analysis locations.

In addition, 24-hour roadway volumes at the following locations within the study area will be evaluated:

- Island Drive, south of Frank Sinatra Drive
- Frank Sinatra Drive, west of Island Drive
- Frank Sinatra Drive, east of Island Drive

LEVEL OF SERVICE (LOS) CRITERIA

The City of Rancho Mirage states that "While LOS C has long been considered the desirable and optimal level of traffic volume on any given roadway, it represents a standard that is progressively more difficult and less cost effective to achieve in urban areas. For peak operating periods, LOS D or a maximum volume to capacity ratio of 0.90 is now considered the generally acceptable service level."

Where the average daily traffic volume (ADT) based roadway segment analysis indicates a deficiency (unacceptable LOS), a review of the more detailed peak hour intersection analysis is undertaken. The more detailed peak hour intersection analysis explicitly accounts for factors that affect roadway capacity. While this traffic study recognizes LOS D is the City's target LOS for roadway segments, a review of the more detailed peak hour intersection analysis is necessary to determine whether roadway widening along the segment is necessary. For the purposes of this analysis, if the peak hour intersection operations on either side of the roadway segment are anticipated to operate at LOS D or better, then additional roadway segment widening is not recommended. Therefore, for the purposes of this analysis, roadway segment widening is typically only recommended if the peak hour intersection analysis indicates the need for additional through lanes.

TRAFFIC COUNTS

Traffic count data will be collected in April 2022 during the AM peak period of 7:00 AM to 9:00 AM and PM peak period of 4:00 PM to 6:00 PM.

SITE ACCESS

The hotel will take primary access from the existing Desert Island main gate on Frank Sinatra Drive. No physical changes are proposed to the existing entry gatehouse, other than to keep the gates open during operating hours to eliminate any vehicle stacking onto Frank Sinatra Drive. Likewise, the resident gate and turnaround on Island Drive will be retained in its existing condition without change. Secondary access to Frank Sinatra will be accommodated by widening the existing gated entry at the northwest corner of the golf course from 12-feet to 24-feet to provide secondary emergency vehicle access.

Exhibit 7 shows the on-site traffic circulation. Southbound golf and hotel traffic will enter the project using the right-hand lane with a free-flow right turn where an attendant will greet and direct guests to the appropriate parking area. Resident traffic will use the left-hand entry lane and proceed straight to the resident gate as they always have. Traffic exiting the hotel will use the existing clubhouse driveway.

The focused traffic LOS assessment will include evaluation of peak hour queues at the Project entry.

CUMULATIVE DEVELOPMENT TRAFFIC

It is requested that City staff review the list of cumulative development projects (shown on Exhibit 8 and listed on Table 2) for inclusion in the traffic study. Consistent with other studies performed in the area, an ambient growth rate of 2% per year will be utilized as a minimum if necessary. The rate will be compounded over a 2-year period (i.e., $1.02^{2\text{years}}$ = 1.0404 or 4.04%) for Interim Year (2024) conditions.

VEHICLE MILES TRAVELED (VMT)

The VMT screening assessment will be prepared under separate cover in accordance with SB743 and consistent with the methodology and thresholds outlined in the County of Riverside's December 2020 VMT methodology guidelines.

Please review this scoping agreement let us know if it is acceptable, or if the City requests any changes to this proposed scope of work. If you have any questions, please contact John Kain at (949) 375-2435 or Marlie Whiteman (714) 585-0574.

Respectfully submitted,

URBAN CROSSROADS, INC.

John Kain
John Kain, AICP
Principal

Marlie Whiteman
Marlie Whiteman, PE
Senior Associate

EXHIBIT 1: PRELIMINARY SITE PLAN

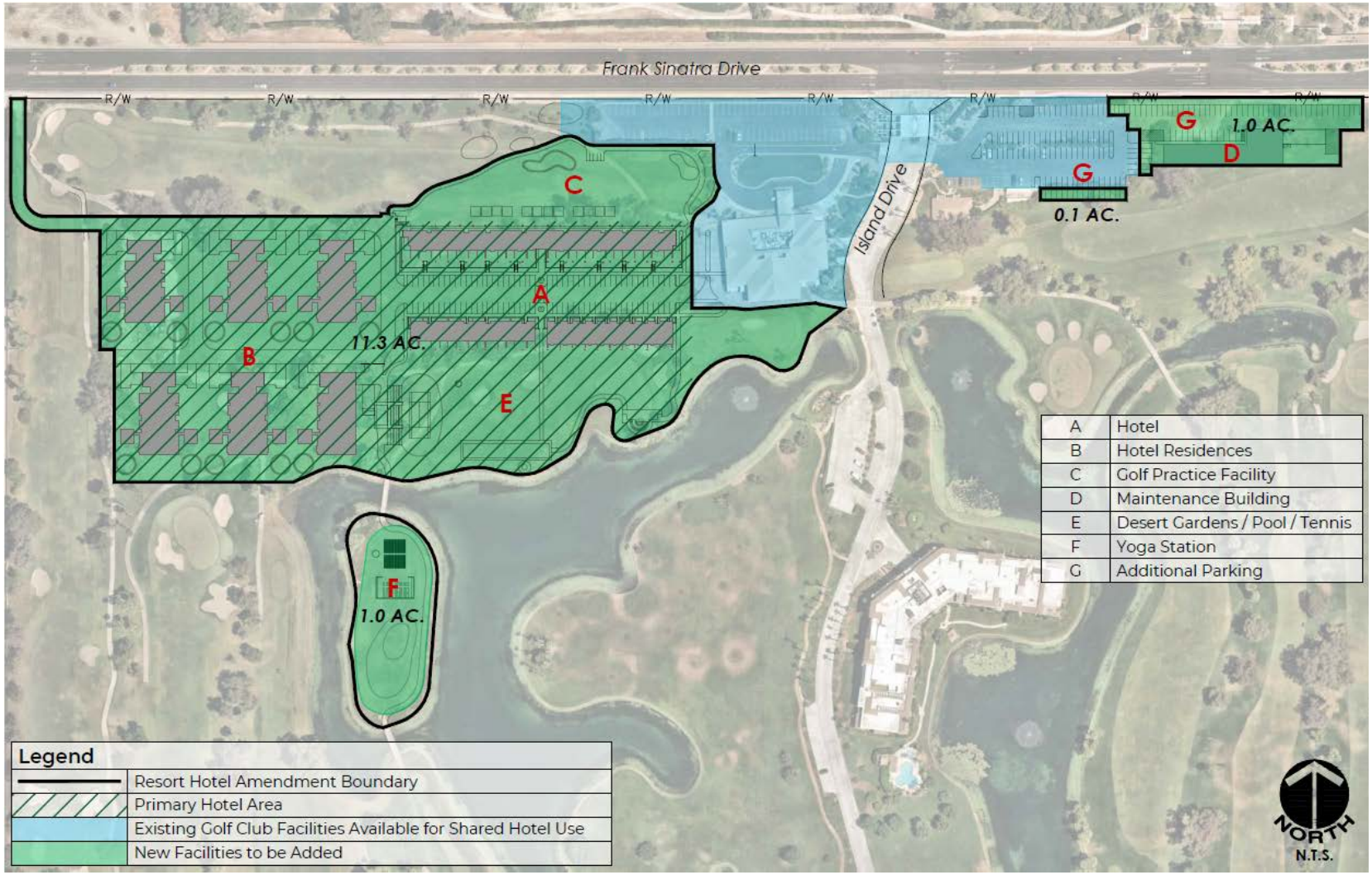
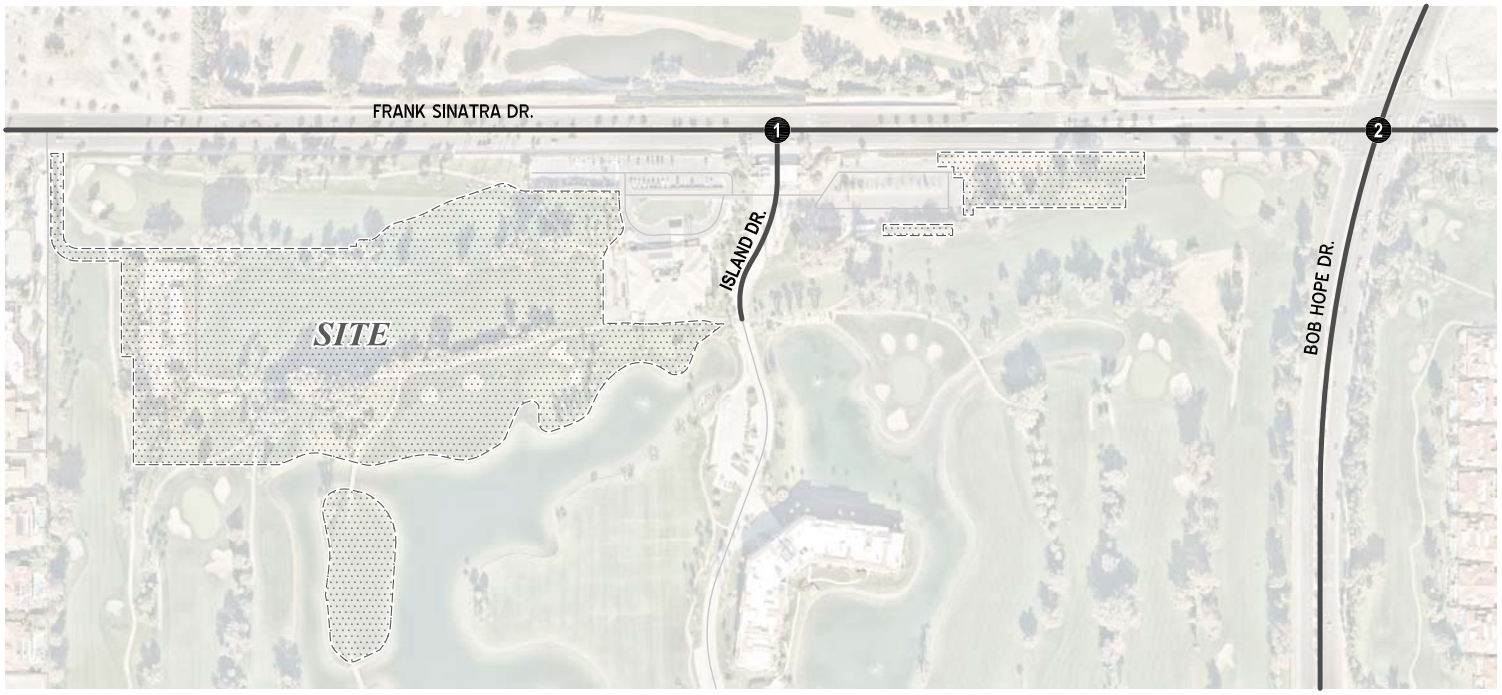


EXHIBIT 2: STUDY AREA



LEGEND:

2 = INTERSECTION ANALYSIS LOCATION

N

14747 - 01.dwg

URBAN CROSSROADS

TABLE 1: PROJECT TRIP GENERATION SUMMARY

Trip Generation Rates[1]									
			AM Peak Hour			PM Peak Hour			
Land Use	ITE LU Code	Quantity[2]	In	Out	Total	In	Out	Total	Daily
Resort Hotel	330	42 Occ. RM	0.27	0.10	0.37	0.20	0.27	0.47	7.87
Single Family Units	210	11 DU	0.18	0.52	0.70	0.59	0.35	0.94	9.43
Golf Practice	432	10 EMP	1.00	0.64	1.64	2.74	2.74	5.48	55.57

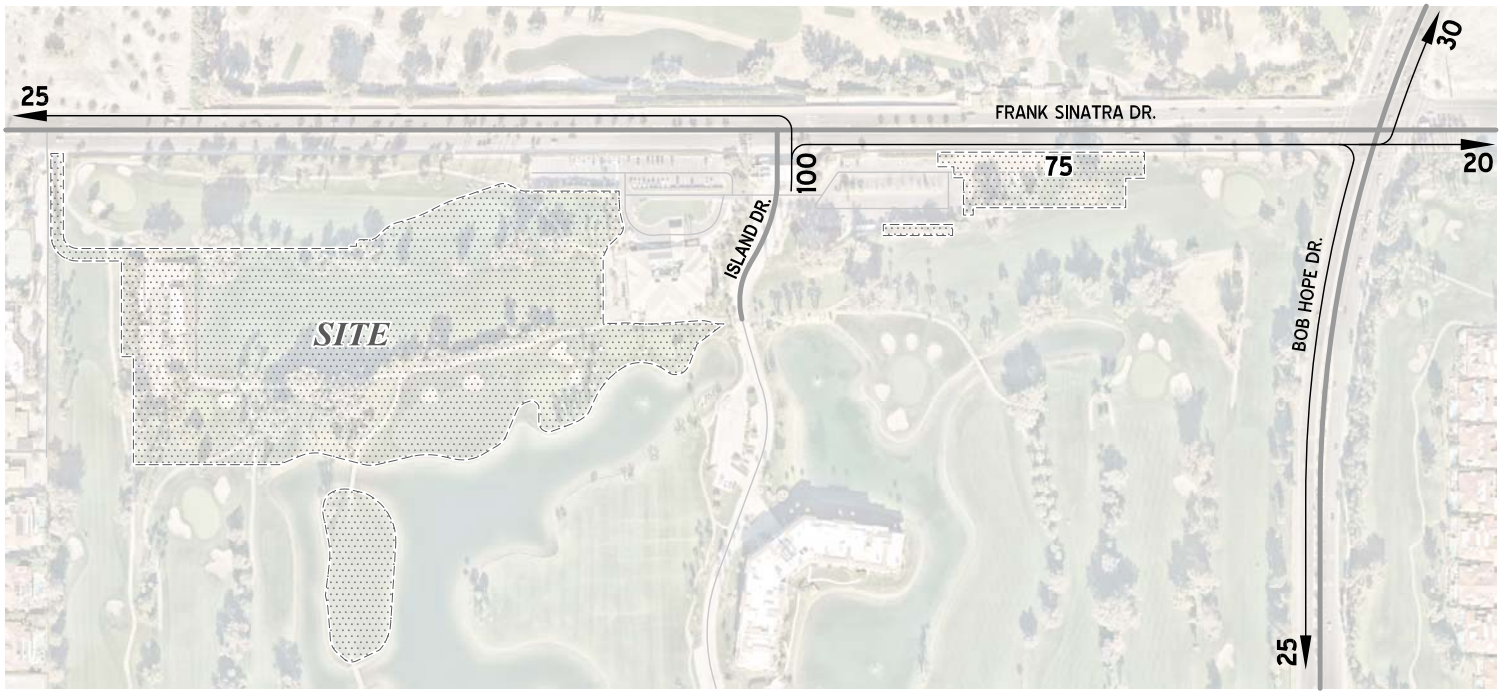
Trip Generation Results									
			AM Peak Hour			PM Peak Hour			
Land Use	ITE LU Code	Quantity[2]	In	Out	Total	In	Out	Total	Daily
Resort Hotel	330	42 Occ. RM	11	4	15	8	11	19	331
Single Family Units	210	11 DU	2	6	8	6	4	10	104
Golf Practice	432	10 EMP	10	6	16	27	27	54	556
TOTAL			**23**	**16**	**39**	**41**	**42**	**83**	**991**

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition (2021).

[2] Occ. RM = Occupied Room; DU = Dwelling Unit; EMP = Employee

F:\UXRjobs_14600-15000\14747\02_LOS\Excel\[14747 - Scope.xlsx]14747-TG

EXHIBIT 3: PROJECT TRIP DISTRIBUTION



LEGEND:

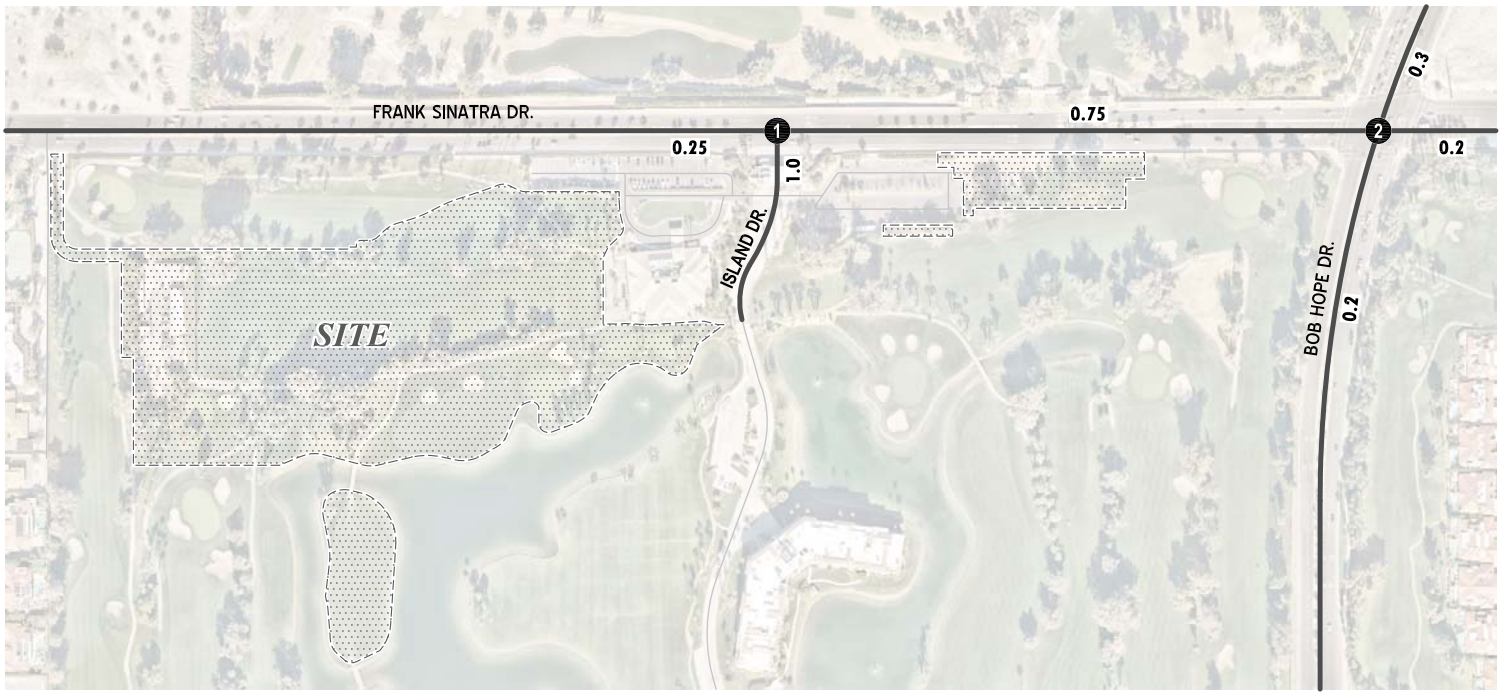
10 = PERCENT TO/FROM PROJECT

N

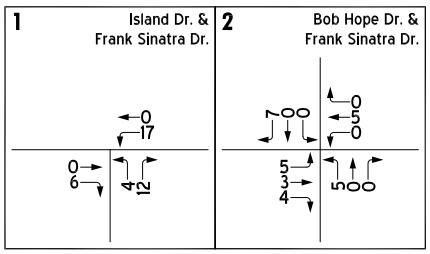
14747 - 01.dwg

URBAN CROSSROADS

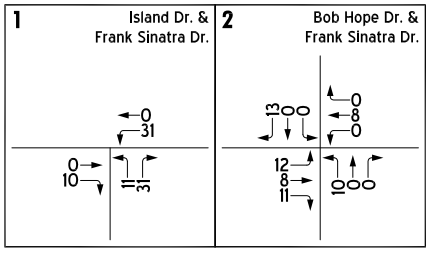
EXHIBIT 4: PROJECT ONLY TRAFFIC VOLUMES



AM PEAK HOUR



PM PEAK HOUR



LEGEND:

❷	= INTERSECTION ID
100	= PEAK HOUR INTERSECTION VOLUMES
10.0	= VEHICLES PER DAY (1000'S)

EXHIBIT 5: CITY OF RANCHO MIRAGE GENERAL PLAN CIRCULATION ELEMENT

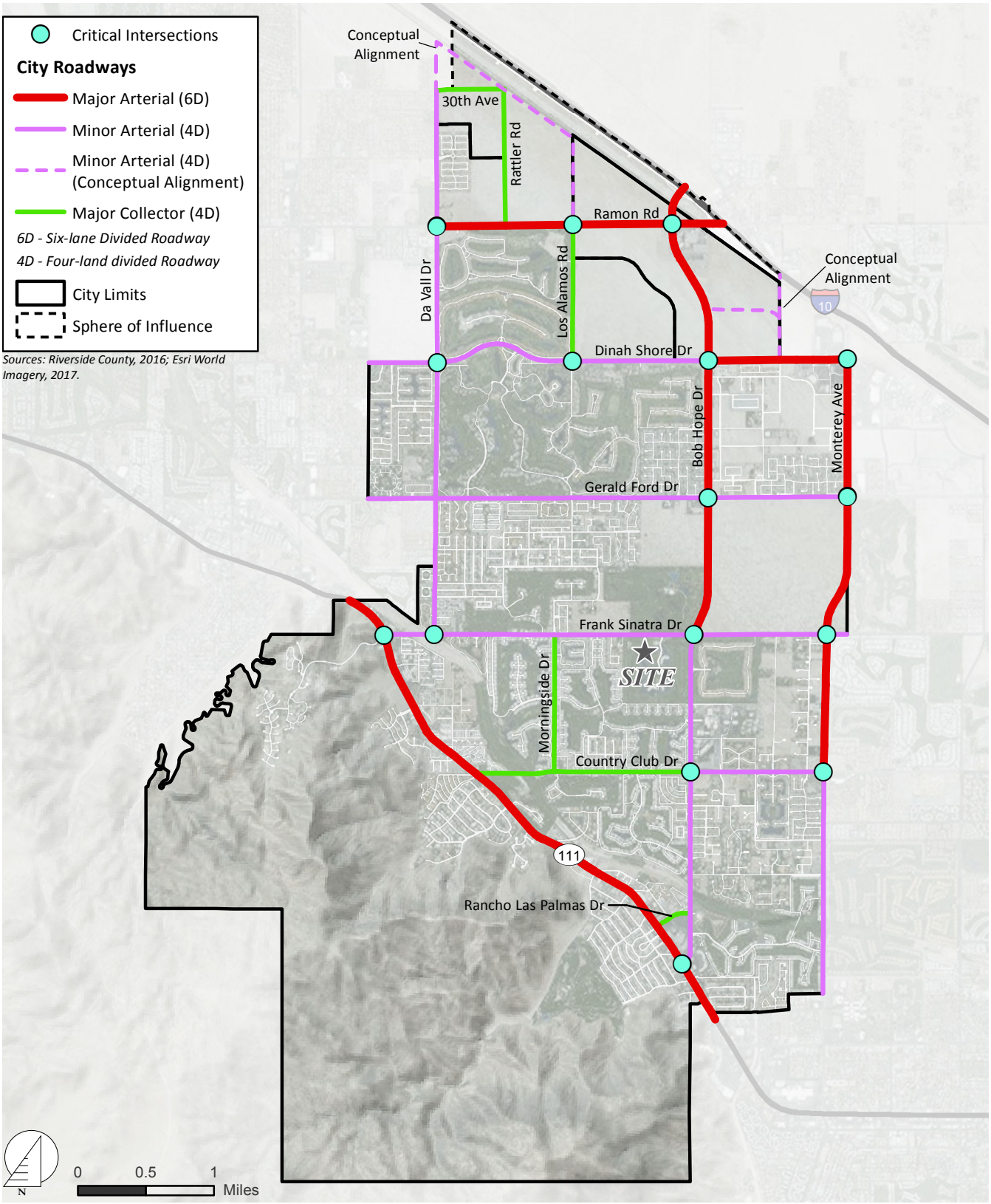
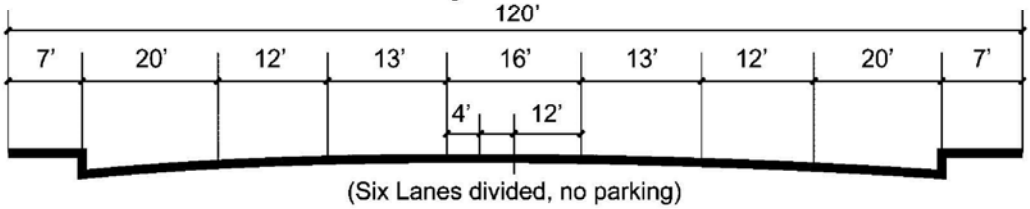


EXHIBIT 6: CITY OF RANCHO MIRAGE GENERAL PLAN ROADWAY CROSS-SECTIONS

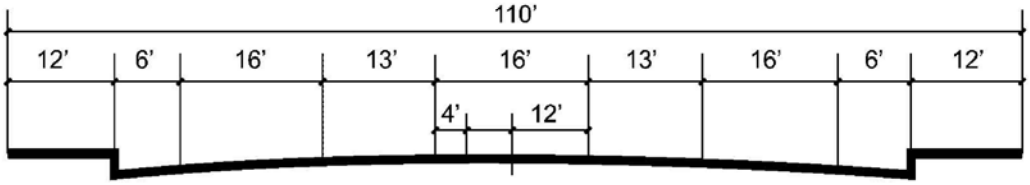
Major Arterial*



(Six Lanes divided, no parking)

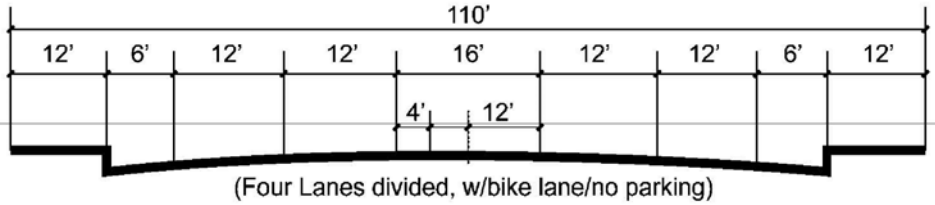
*Highway 111 has special design geometrics, See Rancho Mirage Highway 111 Alignment Study, 1996.

Minor Arterial



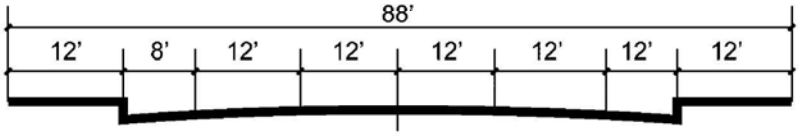
(Four Lanes divided, w/bike lane/no parking)

Major Collector



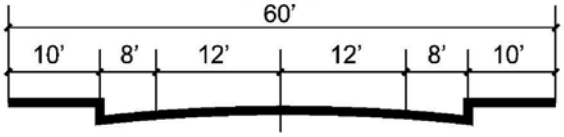
(Four Lanes divided, w/bike lane/no parking)

Minor Collector



(Four Lanes undivided, w/parking)

Local



(Two Lanes, w/parking)

SOURCE: CITY OF RANCHO MIRAGE

EXHIBIT 7: ON-SITE TRAFFIC CIRCULATION

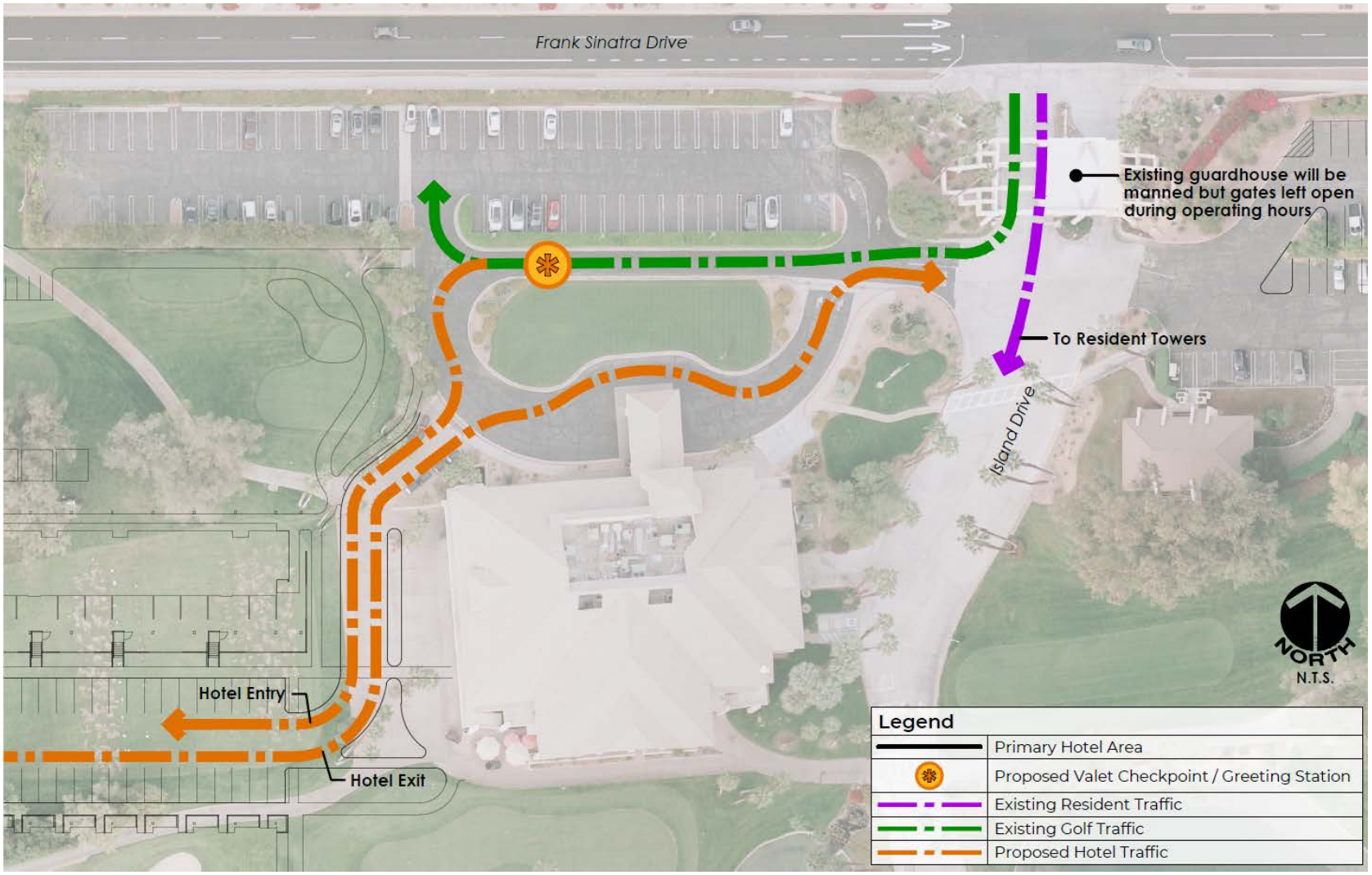


EXHIBIT 8: CUMULATIVE DEVELOPMENT LOCATION MAP

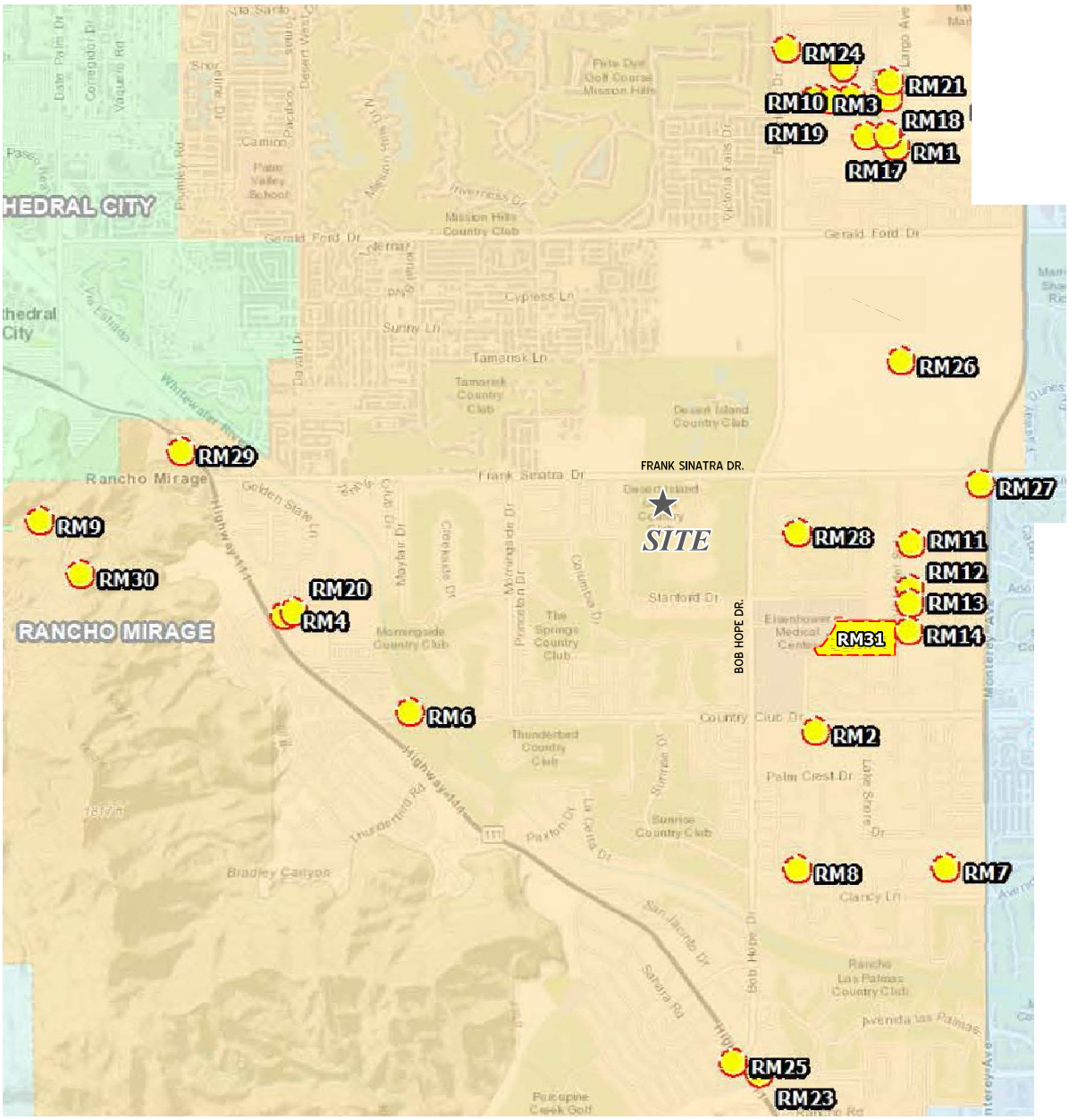


TABLE 2: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

TAZ	Project	Case Number	Land Use	Quantity	Units[1]
RM1	RM 38 JV LLC	DA190002 / TTM36620	Residential	82	DU
RM2	Carefield Senior Living	PDP18004 / DA180003 / EA180002	Residential	84	DU
RM3	ECHO at Rancho Mirage	PDP18003	Residential	9	DU
RM4	Santa Barbara Cove Estates	PDP18001 / TTM35573	Residential	20	DU
RM6	Veneto	MOD16019	Residential	34	DU
RM7	Revelle	PDP13003 / FDP13004	Residential	32	DU
RM8	Bella Clancy	ZTA05003 / EA050025 / MOD05016 / FDP04002 / PDP03015	Residential	20	DU
RM9	Mirada Villas	FDP05004 / PDP04011 / MOD06024 / MOD11040	Residential	46	DU
RM10	Estilo	PDP12003 / FDP12005	Residential	39	DU
RM11	RM Five-1 LLC/Kilani	TPM37222R / EA190008	Residential	4	DU
RM12	Heinrich/Steinberg	TPM34232 / TPPMX34232 / TPM34233 / TPMX34233	Residential	4	DU
RM13	Rancho Mirage LLC	TPM34741 / EA060009 / TPMX-34741 / PDPX34741	Residential	4	DU
RM14	La Paloma Homes, Inc.	TTM37637	Residential	13	DU
RM17	38 JV, LLC c/o Meriwether Companies	TTM36620 / EA130006 / SPA13001 / TTM2X36620	Residential	97	DU
RM18	38 JV, LLC c/o Meriwether Companies	TTM36622 / EA130008 / TTM3X36622	Residential	10	DU
RM19	GRV Mirage, LLC (ECHO)	TTM35619 / EA070011	Residential	9	DU
RM20	Ken Catanzarite	TTM35573	Residential	20	DU
RM21	Miragedunes Properties	TTM05004 / TTM33329 / TTM2X33329	Residential	9	DU
RM24	DHO Medical Office Building	PDP19001 / EA190001	Medical Office	13.800	TSF
RM26	Section 31 Specific Plan Project	SP180001 / EIR18001 / GPZMA18003	Hotel	400	Rooms
			Commercial	175.000	TSF
			Residential	1,932	DU
RM27	Tower Energy Group	CUP18004 / TPM37486 / EA180004	Commercial	5.565	TSF
RM28	Oasis Ranch LLC	PDP18002 / TTM37461	Hotel	60	Rooms
			Residential	108	DU
RM29	Horizon Pacific Rancho Cove MSA Consulting	PDP16003 / TTM37122	Commercial	20.000	TSF
			Hotel	100	Rooms
			Residential	35	DU
RM30	Ritz-Carlton Residences	--	Residential	106	DU
			Commercial	6.966	TSF
RM31	Hazelden Betty Ford Center	--	Office	6.399	TSF
			Drug/Alcohol Treatment Ctr.	56	Beds

[1] DU = Dwelling Units; TSF = Thousand Square Feet

F:\UXRjobs_14600-15000\14747\02_LOS\Excel\[14747 - Scope.xlsx]Cumulatives

APPENDIX 1.2: SITE ADJACENT QUEUES

This Page Intentionally Left Blank

Intersection: 1: Island Dr. & Frank Sinatra Dr.

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	38	42	42
Average Queue (ft)	19	22	23
95th Queue (ft)	44	49	52
Link Distance (ft)			160
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	90	30	
Storage Blk Time (%)		10	4
Queuing Penalty (veh)		4	1

Intersection: 1: Island Dr. & Frank Sinatra Dr.

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	37	34	48
Average Queue (ft)	15	18	27
95th Queue (ft)	40	43	55
Link Distance (ft)			160
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	90	30	
Storage Blk Time (%)		7	6
Queuing Penalty (veh)		4	1

APPENDIX 3.1: TRAFFIC COUNTS – MAY 2022

This Page Intentionally Left Blank

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Rancho Mirage
N/S: Island Drive
E/W: Frank Sinatra Drive
Weather: Clear

File Name : 01_RNM_Island_Frank AM
Site Code : 05122394
Start Date : 5/3/2022
Page No : 1

Groups Printed- Total Volume

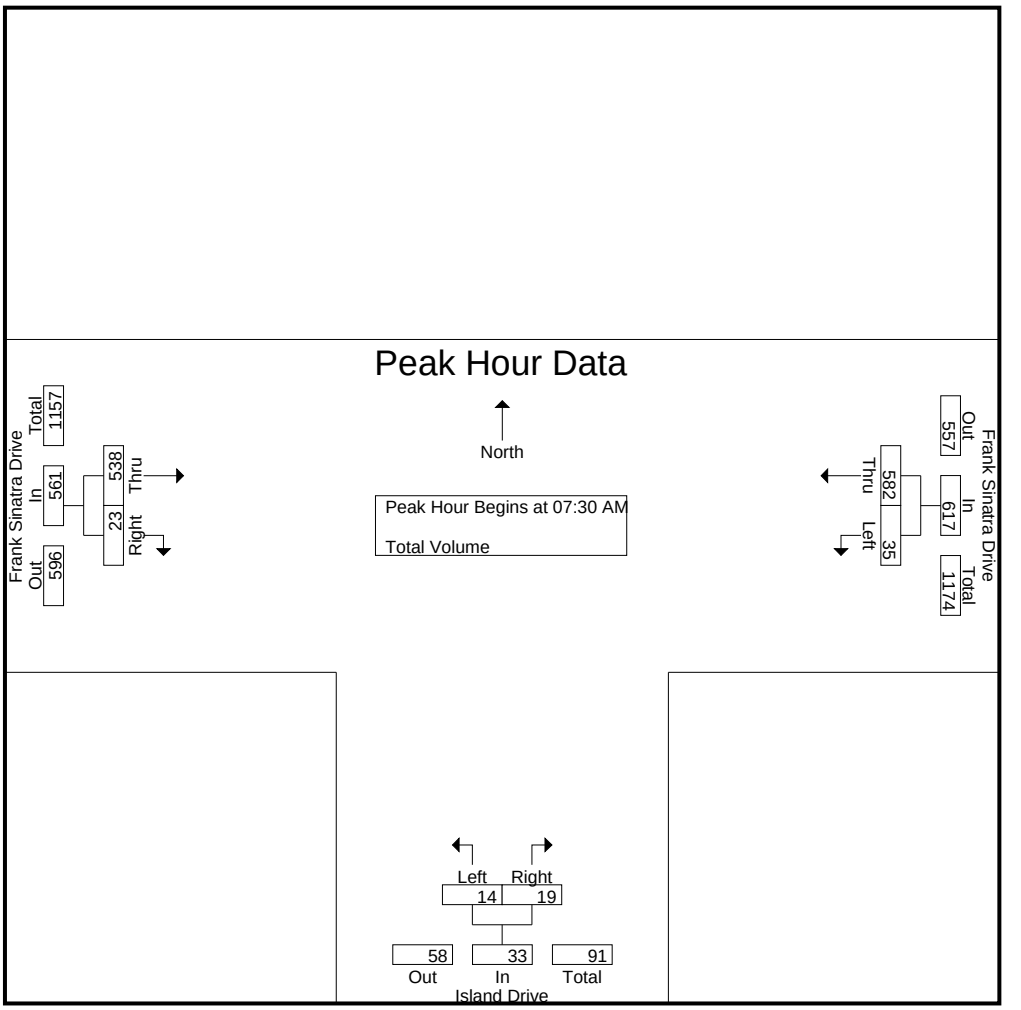
	Frank Sinatra Drive Westbound			Island Drive Northbound			Frank Sinatra Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	3	114	117	1	1	2	65	1	66	185
07:15 AM	8	110	118	0	1	1	109	0	109	228
07:30 AM	9	143	152	3	2	5	123	5	128	285
07:45 AM	10	168	178	3	5	8	162	4	166	352
Total	30	535	565	7	9	16	459	10	469	1050
08:00 AM	13	128	141	4	9	13	143	12	155	309
08:15 AM	3	143	146	4	3	7	110	2	112	265
08:30 AM	6	109	115	4	6	10	113	3	116	241
08:45 AM	6	132	138	3	7	10	113	0	113	261
Total	28	512	540	15	25	40	479	17	496	1076
Grand Total	58	1047	1105	22	34	56	938	27	965	2126
Apprch %	5.2	94.8		39.3	60.7		97.2	2.8		
Total %	2.7	49.2	52	1	1.6	2.6	44.1	1.3	45.4	

	Frank Sinatra Drive Westbound			Island Drive Northbound			Frank Sinatra Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	9	143	152	3	2	5	123	5	128	285
07:45 AM	10	**168**	**178**	3	5	8	**162**	4	**166**	**352**
08:00 AM	**13**	128	141	**4**	**9**	**13**	143	**12**	155	309
08:15 AM	3	143	146	4	3	7	110	2	112	265
Total Volume	35	582	617	14	19	33	538	23	561	1211
% App. Total	5.7	94.3		42.4	57.6		95.9	4.1		
PHF	.673	.866	.867	.875	.528	.635	.830	.479	.845	.860

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Rancho Mirage
N/S: Island Drive
E/W: Frank Sinatra Drive
Weather: Clear

File Name : 01_RNM_Island_Frank AM
Site Code : 05122394
Start Date : 5/3/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			08:00 AM			07:30 AM		
+0 mins.	9	143	152	**4**	**9**	**13**	123	5	128
+15 mins.	10	**168**	**178**	4	3	7	**162**	4	**166**
+30 mins.	**13**	128	141	4	6	10	143	**12**	155
+45 mins.	3	143	146	3	7	10	110	2	112
Total Volume	35	582	617	15	25	40	538	23	561
% App. Total	5.7	94.3		37.5	62.5		95.9	4.1	
PHF	.673	.866	.867	.938	.694	.769	.830	.479	.845

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Rancho Mirage
N/S: Island Drive
E/W: Frank Sinatra Drive
Weather: Clear

File Name : 01_RNM_Island_Frank PM
Site Code : 05122394
Start Date : 5/3/2022
Page No : 1

Groups Printed- Total Volume

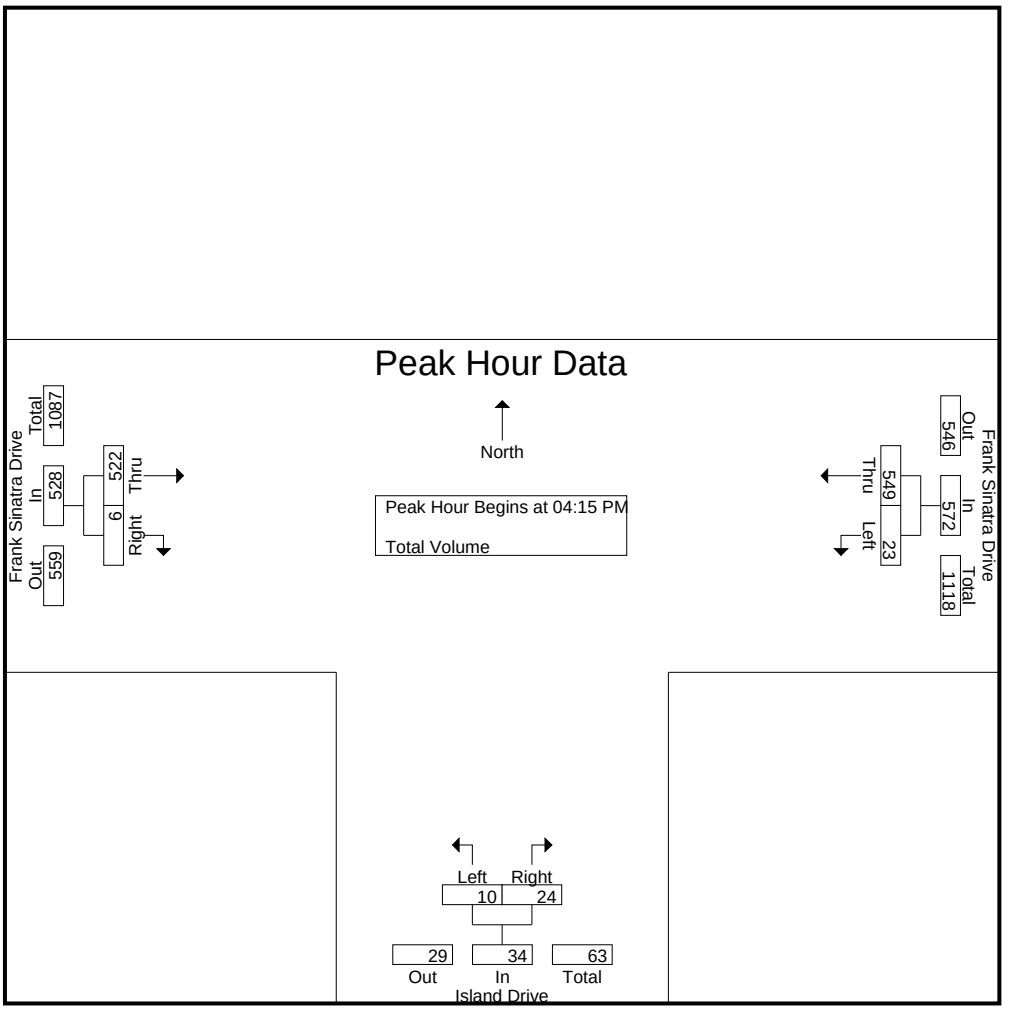
	Frank Sinatra Drive Westbound			Island Drive Northbound			Frank Sinatra Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	9	134	143	0	2	2	134	1	135	280
04:15 PM	11	135	146	1	6	7	140	1	141	294
04:30 PM	3	164	167	2	9	11	117	1	118	296
04:45 PM	5	132	137	5	2	7	114	2	116	260
Total	28	565	593	8	19	27	505	5	510	1130
05:00 PM	4	118	122	2	7	9	151	2	153	284
05:15 PM	6	121	127	0	1	1	116	1	117	245
05:30 PM	4	98	102	1	1	2	77	0	77	181
05:45 PM	2	72	74	3	3	6	108	1	109	189
Total	16	409	425	6	12	18	452	4	456	899
Grand Total	44	974	1018	14	31	45	957	9	966	2029
Apprch %	4.3	95.7		31.1	68.9		99.1	0.9		
Total %	2.2	48	50.2	0.7	1.5	2.2	47.2	0.4	47.6	

	Frank Sinatra Drive Westbound			Island Drive Northbound			Frank Sinatra Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	**11**	135	146	1	6	7	140	1	141	294
04:30 PM	3	**164**	**167**	2	**9**	**11**	117	1	118	**296**
04:45 PM	5	132	137	**5**	2	7	114	**2**	116	260
05:00 PM	4	118	122	2	7	9	**151**	2	**153**	284
Total Volume	23	549	572	10	24	34	522	6	528	1134
% App. Total	4	96		29.4	70.6		98.9	1.1		
PHF	.523	.837	.856	.500	.667	.773	.864	.750	.863	.958

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Rancho Mirage
N/S: Island Drive
E/W: Frank Sinatra Drive
Weather: Clear

File Name : 01_RNM_Island_Frank PM
Site Code : 05122394
Start Date : 5/3/2022
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:15 PM			04:15 PM		
+0 mins.	9	134	143	1	6	7	140	1	141
+15 mins.	**11**	135	146	2	**9**	**11**	117	1	118
+30 mins.	3	**164**	**167**	**5**	2	7	114	**2**	116
+45 mins.	5	132	137	2	7	9	**151**	2	**153**
Total Volume	28	565	593	10	24	34	522	6	528
% App. Total	4.7	95.3		29.4	70.6		98.9	1.1	
PHF	.636	.861	.888	.500	.667	.773	.864	.750	.863

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Rancho Mirage
N/S: Bob Hope Drive
E/W: Frank Sinatra Drive
Weather: Clear

File Name : 02_RNM_Bob_Frank AM
Site Code : 05122394
Start Date : 5/3/2022
Page No : 1

Groups Printed- Total Volume

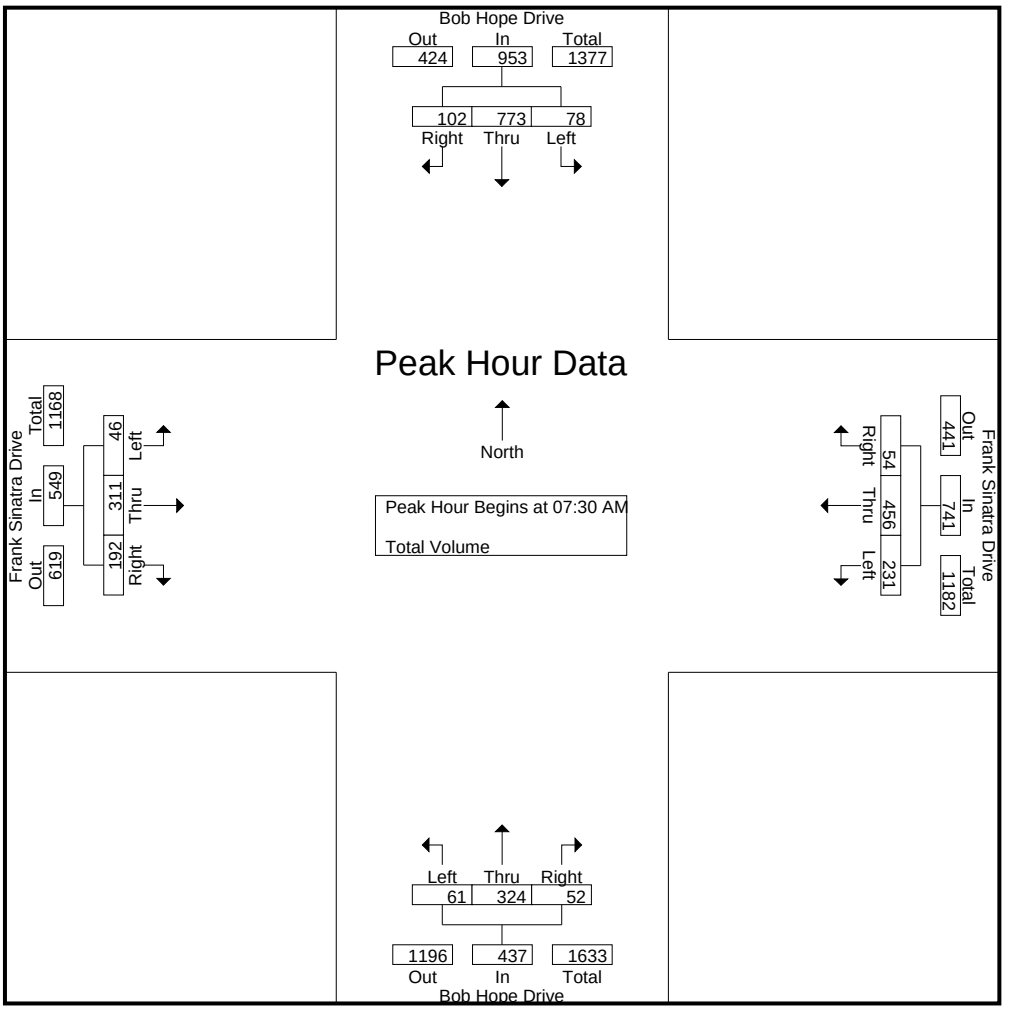
	Bob Hope Drive Southbound				Frank Sinatra Drive Westbound				Bob Hope Drive Northbound				Frank Sinatra Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	3	123	22	148	28	95	5	128	9	50	7	66	11	35	21	67	409
07:15 AM	10	156	12	178	31	88	13	132	8	55	12	75	5	58	39	102	487
07:30 AM	13	210	24	247	50	118	10	178	11	92	19	122	7	67	45	119	666
07:45 AM	23	227	28	278	78	137	18	233	21	78	11	110	8	91	68	167	788
Total	49	716	86	851	187	438	46	671	49	275	49	373	31	251	173	455	2350
08:00 AM	19	170	31	220	61	96	12	169	15	78	12	105	19	89	45	153	647
08:15 AM	23	166	19	208	42	105	14	161	14	76	10	100	12	64	34	110	579
08:30 AM	22	220	26	268	43	75	11	129	18	82	18	118	9	62	38	109	624
08:45 AM	19	170	18	207	32	81	11	124	32	98	19	149	13	72	46	131	611
Total	83	726	94	903	178	357	48	583	79	334	59	472	53	287	163	503	2461
Grand Total	132	1442	180	1754	365	795	94	1254	128	609	108	845	84	538	336	958	4811
Apprch %	7.5	82.2	10.3		29.1	63.4	7.5		15.1	72.1	12.8		8.8	56.2	35.1		
Total %	2.7	30	3.7	36.5	7.6	16.5	2	26.1	2.7	12.7	2.2	17.6	1.7	11.2	7	19.9	

	Bob Hope Drive Southbound				Frank Sinatra Drive Westbound				Bob Hope Drive Northbound				Frank Sinatra Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	13	210	24	247	50	118	10	178	11	**92**	**19**	**122**	7	67	45	119	666
07:45 AM	**23**	**227**	28	**278**	**78**	**137**	**18**	**233**	**21**	78	11	110	8	**91**	**68**	**167**	**788**
08:00 AM	19	170	**31**	220	61	96	12	169	15	78	12	105	**19**	89	45	153	647
08:15 AM	23	166	19	208	42	105	14	161	14	76	10	100	12	64	34	110	579
Total Volume	78	773	102	953	231	456	54	741	61	324	52	437	46	311	192	549	2680
% App. Total	8.2	81.1	10.7		31.2	61.5	7.3		14	74.1	11.9		8.4	56.6	35		
PHF	.848	.851	.823	.857	.740	.832	.750	.795	.726	.880	.684	.895	.605	.854	.706	.822	.850

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Rancho Mirage
N/S: Bob Hope Drive
E/W: Frank Sinatra Drive
Weather: Clear

File Name : 02_RNM_Bob_Frank AM
Site Code : 05122394
Start Date : 5/3/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:30 AM				08:00 AM				07:30 AM			
+0 mins.	**23**	**227**	28	**278**	50	118	10	178	15	78	12	105	7	67	45	119
+15 mins.	19	170	**31**	220	**78**	**137**	**18**	**233**	14	76	10	100	8	**91**	**68**	**167**
+30 mins.	23	166	19	208	61	96	12	169	18	82	18	118	**19**	89	45	153
+45 mins.	22	220	26	268	42	105	14	161	**32**	**98**	**19**	**149**	12	64	34	110
Total Volume	87	783	104	974	231	456	54	741	79	334	59	472	46	311	192	549
% App. Total	8.9	80.4	10.7		31.2	61.5	7.3		16.7	70.8	12.5		8.4	56.6	35	
PHF	.946	.862	.839	.876	.740	.832	.750	.795	.617	.852	.776	.792	.605	.854	.706	.822

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Rancho Mirage
N/S: Bob Hope Drive
E/W: Frank Sinatra Drive
Weather: Clear

File Name : 02_RNM_Bob_Frank PM
Site Code : 05122394
Start Date : 5/3/2022
Page No : 1

Groups Printed- Total Volume

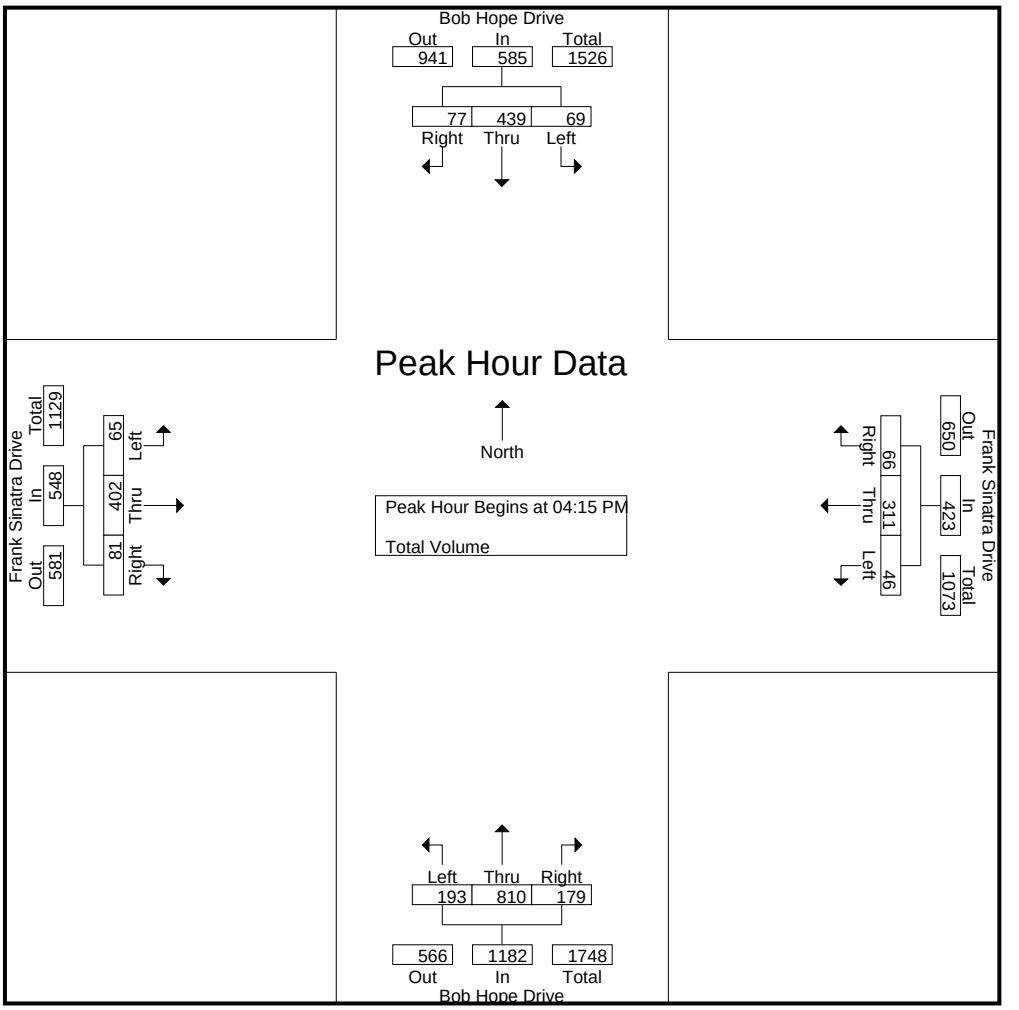
	Bob Hope Drive Southbound				Frank Sinatra Drive Westbound				Bob Hope Drive Northbound				Frank Sinatra Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	27	119	15	161	11	81	21	113	56	198	27	281	19	81	32	132	687
04:15 PM	15	130	23	168	11	99	19	129	35	201	32	268	13	115	25	153	718
04:30 PM	20	95	17	132	11	78	15	104	55	210	55	320	22	85	17	124	680
04:45 PM	13	116	16	145	5	69	10	84	50	196	43	289	13	88	17	118	636
Total	75	460	71	606	38	327	65	430	196	805	157	1158	67	369	91	527	2721
05:00 PM	21	98	21	140	19	65	22	106	53	203	49	305	17	114	22	153	704
05:15 PM	18	116	10	144	16	72	9	97	37	190	32	259	17	86	17	120	620
05:30 PM	15	102	6	123	13	66	14	93	26	136	47	209	11	52	17	80	505
05:45 PM	12	104	10	126	13	47	9	69	18	136	21	175	13	70	21	104	474
Total	66	420	47	533	61	250	54	365	134	665	149	948	58	322	77	457	2303
Grand Total	141	880	118	1139	99	577	119	795	330	1470	306	2106	125	691	168	984	5024
Apprch %	12.4	77.3	10.4		12.5	72.6	15		15.7	69.8	14.5		12.7	70.2	17.1		
Total %	2.8	17.5	2.3	22.7	2	11.5	2.4	15.8	6.6	29.3	6.1	41.9	2.5	13.8	3.3	19.6	

	Bob Hope Drive Southbound				Frank Sinatra Drive Westbound				Bob Hope Drive Northbound				Frank Sinatra Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	15	**130**	**23**	**168**	11	**99**	19	**129**	35	201	32	268	13	**115**	**25**	**153**	**718**
04:30 PM	20	95	17	132	11	78	15	104	**55**	**210**	**55**	**320**	**22**	85	17	124	680
04:45 PM	13	116	16	145	5	69	10	84	50	196	43	289	13	88	17	118	636
05:00 PM	**21**	98	21	140	**19**	65	**22**	106	53	203	49	305	17	114	22	153	704
Total Volume	69	439	77	585	46	311	66	423	193	810	179	1182	65	402	81	548	2738
% App. Total	11.8	75	13.2		10.9	73.5	15.6		16.3	68.5	15.1		11.9	73.4	14.8		
PHF	.821	.844	.837	.871	.605	.785	.750	.820	.877	.964	.814	.923	.739	.874	.810	.895	.953

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Rancho Mirage
N/S: Bob Hope Drive
E/W: Frank Sinatra Drive
Weather: Clear

File Name : 02_RNM_Bob_Frank PM
Site Code : 05122394
Start Date : 5/3/2022
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:15 PM				04:15 PM			
+0 mins.	**27**	119	15	161	**11**	81	**21**	113	35	201	32	268	13	**115**	**25**	**153**
+15 mins.	15	**130**	**23**	**168**	11	**99**	19	**129**	**55**	**210**	**55**	**320**	**22**	85	17	124
+30 mins.	20	95	17	132	11	78	15	104	50	196	43	289	13	88	17	118
+45 mins.	13	116	16	145	5	69	10	84	53	203	49	305	17	114	22	153
Total Volume	75	460	71	606	38	327	65	430	193	810	179	1182	65	402	81	548
% App. Total	12.4	75.9	11.7		8.8	76	15.1		16.3	68.5	15.1		11.9	73.4	14.8	
PHF	.694	.885	.772	.902	.864	.826	.774	.833	.877	.964	.814	.923	.739	.874	.810	.895

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Rancho Mirage
Frank Sinatra Drive
E/ Island Drive
24 Hour Directional Volume Count

RNM003
Site Code: 051-22394

Start Time	03-May-22 Tue	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		4	139			5	114				
12:15		6	108			3	95				
12:30		3	129			3	126				
12:45		1	126	14	502	8	100	19	435	33	937
01:00		10	128			7	87				
01:15		4	131			1	102				
01:30		4	129			2	100				
01:45		4	130	22	518	3	125	13	414	35	932
02:00		0	131			1	122				
02:15		1	117			2	118				
02:30		3	143			5	124				
02:45		2	137	6	528	1	135	9	499	15	1027
03:00		1	**147**			1	134				
03:15		0	**156**			2	148				
03:30		3	**140**			1	139				
03:45		3	**162**	7	605	4	113	8	534	15	1139
04:00		1	136			5	**143**				
04:15		6	146			7	**146**				
04:30		8	126			15	**167**				
04:45		21	116	36	524	18	**137**	45	593	81	1117
05:00		17	158			18	122				
05:15		14	117			23	127				
05:30		18	78			44	102				
05:45		29	111	78	464	51	74	136	425	214	889
06:00		41	85			24	82				
06:15		54	102			53	73				
06:30		70	72			77	65				
06:45		82	59	247	318	121	72	275	292	522	610
07:00		66	53			117	41				
07:15		110	42			118	62				
07:30		125	48			**152**	55				
07:45		**167**	41	468	184	**178**	45	565	203	1033	387
08:00		**152**	40			**141**	42				
08:15		**113**	39			**146**	33				
08:30		**129**	37			115	29				
08:45		120	32	514	148	138	37	540	141	1054	289
09:00		122	26			124	31				
09:15		99	39			122	30				
09:30		128	16			116	36				
09:45		124	23	473	104	149	30	511	127	984	231
10:00		111	35			118	27				
10:15		129	20			125	29				
10:30		100	22			108	12				
10:45		120	12	460	89	122	23	473	91	933	180
11:00		111	22			111	15				
11:15		110	15			123	7				
11:30		136	10			125	12				
11:45		112	8	469	55	133	5	492	39	961	94
Total		2794	4039	2794	4039	3086	3793	3086	3793	5880	7832
Combined Total		6833		6833		6879		6879		13712	
AM Peak	-	07:45	-	-	-	07:30	-	-	-	-	-
Vol.	-	561	-	-	-	617	-	-	-	-	-
P.H.F.		0.840				0.867					
PM Peak	-	-	03:00	-	-	-	04:00	-	-	-	-
Vol.	-	-	605	-	-	-	593	-	-	-	-
P.H.F.			0.934				0.888				
Percentage		40.9%	59.1%			44.9%	55.1%				
ADT/AADT		ADT 13,712		AADT 13,712							

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Rancho Mirage
Frank Sinatra Drive
W/ Island Drive
24 Hour Directional Volume Count

RNM002
Site Code: 051-22394

Start Time	03-May-22 Tue	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		4	137			5	110				
12:15		6	103			3	93				
12:30		3	123			3	116				
12:45		1	115	14	478	8	94	19	413	33	891
01:00		10	119			6	85				
01:15		4	124			1	92				
01:30		4	128			2	98				
01:45		4	127	22	498	3	121	12	396	34	894
02:00		0	122			1	121				
02:15		1	110			2	114				
02:30		3	140			4	118				
02:45		2	125	6	497	1	136	8	489	14	986
03:00		1	**142**			1	134				
03:15		0	**144**			2	150				
03:30		3	**135**			1	133				
03:45		3	**152**	7	573	4	112	8	529	15	1102
04:00		1	135			5	**134**				
04:15		6	141			7	**136**				
04:30		8	118			14	**166**				
04:45		21	116	36	510	19	**137**	45	573	81	1083
05:00		17	153			14	120				
05:15		14	117			21	121				
05:30		19	77			43	99				
05:45		29	109	79	456	48	75	126	415	205	871
06:00		41	81			23	79				
06:15		53	104			51	69				
06:30		70	67			73	64				
06:45		79	58	243	310	112	70	259	282	502	592
07:00		66	52			115	40				
07:15		109	42			110	60				
07:30		**128**	47			**146**	52				
07:45		**166**	40	469	181	**171**	43	542	195	1011	376
08:00		**155**	38			**132**	39				
08:15		**112**	39			**147**	33				
08:30		126	40			113	27				
08:45		113	31	506	148	135	35	527	134	1033	282
09:00		114	26			118	26				
09:15		95	39			118	29				
09:30		126	16			113	37				
09:45		120	23	455	104	142	29	491	121	946	225
10:00		109	36			116	28				
10:15		126	19			120	29				
10:30		91	22			104	12				
10:45		123	12	449	89	117	24	457	93	906	182
11:00		107	22			106	15				
11:15		100	15			125	7				
11:30		127	10			123	12				
11:45		109	8	443	55	123	5	477	39	920	94
Total		2729	3899	2729	3899	2971	3679	2971	3679	5700	7578
Combined Total		6628		6628		6650		6650		13278	
AM Peak	-	07:30	-	-	-	07:30	-	-	-	-	-
Vol.	-	561	-	-	-	596	-	-	-	-	-
P.H.F.		0.845				0.871					
PM Peak	-	-	03:00	-	-	-	04:00	-	-	-	-
Vol.	-	-	573	-	-	-	573	-	-	-	-
P.H.F.			0.942				0.863				
Percentage		41.2%	58.8%			44.7%	55.3%				
ADT/AADT		ADT 13,278		AADT 13,278							

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Rancho Mirage
Island Drive
S/ Frank Sinatra Drive
24 Hour Directional Volume Count

RNM001
Site Code: 051-22394

Start Time	03-May-22 Tue	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		0	10			0	**11**				
12:15		0	**21**			0	**18**				
12:30		0	**12**			0	**15**				
12:45		0	**14**	0	57	0	**9**	0	53	0	110
01:00		0	**12**			1	5				
01:15		0	11			0	14				
01:30		0	6			0	7				
01:45		0	3	0	32	0	4	1	30	1	62
02:00		0	15			0	7				
02:15		0	9			0	6				
02:30		0	10			1	13				
02:45		0	17	0	51	0	4	1	30	1	81
03:00		0	9			0	4				
03:15		0	20			0	6				
03:30		0	11			0	12				
03:45		0	18	0	58	0	8	0	30	0	88
04:00		0	2			0	10				
04:15		0	7			0	12				
04:30		0	11			1	4				
04:45		1	7	1	27	0	7	1	33	2	60
05:00		0	9			3	6				
05:15		0	1			2	7				
05:30		0	2			2	4				
05:45		1	6	1	18	4	3	11	20	12	38
06:00		1	6			2	5				
06:15		4	2			5	8				
06:30		1	7			5	3				
06:45		4	1	10	16	10	2	22	18	32	34
07:00		2	1			4	1				
07:15		1	4			**8**	6				
07:30		5	1			**14**	3				
07:45		8	1	16	7	**14**	2	40	12	56	19
08:00		13	3			**25**	4				
08:15		7	3			5	3				
08:30		10	0			9	5				
08:45		10	2	40	8	6	3	45	15	85	23
09:00		11	1			9	6				
09:15		8	1			8	2				
09:30		10	2			11	1				
09:45		8	0	37	4	10	1	38	10	75	14
10:00		10	1			10	1				
10:15		8	1			10	0				
10:30		11	0			6	0				
10:45		7	1	36	3	15	0	41	1	77	4
11:00		**8**	0			9	0				
11:15		**16**	0			4	0				
11:30		**19**	0			12	0				
11:45		**11**	0	54	0	18	0	43	0	97	0
Total		195	281	195	281	243	252	243	252	438	533
Combined Total		476		476		495		495		971	
AM Peak	-	11:00	-	-	-	07:15	-	-	-	-	-
Vol.	-	54	-	-	-	61	-	-	-	-	-
P.H.F.		0.711				0.610					
PM Peak	-	-	00:15	-	-	-	12:00	-	-	-	-
Vol.	-	-	59	-	-	-	53	-	-	-	-
P.H.F.			0.702				0.736				
Percentage		41.0%	59.0%			49.1%	50.9%				
ADT/AADT		ADT 971		AADT 971							

This page intentionally left blank

APPENDIX 3.2: EXISTING (2022) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

This Page Intentionally Left Blank

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	538	23	35	584	14	19
Future Volume (vph)	538	23	35	584	14	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	90		30	0
Storage Lanes		0	1		1	1
Taper Length (ft)			90		90	
Link Speed (mph)	50			50	30	
Link Distance (ft)	1498			1234	212	
Travel Time (s)	20.4			16.8	4.8	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	538	23	35	584	14	19
Future Vol, veh/h	538	23	35	584	14	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	90	-	30	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	626	27	41	679	16	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	653	0	1062	327
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	422	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	930	-	219	669
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	629	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	930	-	209	669
Mov Cap-2 Maneuver	-	-	-	-	209	-
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	601	-

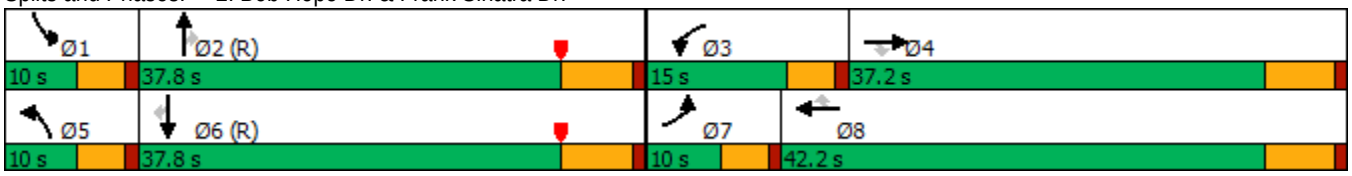
Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	16.2
HCM LOS			C

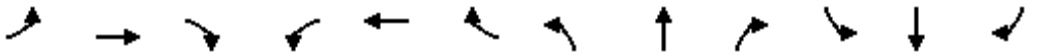
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	209	669	-	-	930	-
HCM Lane V/C Ratio	0.078	0.033	-	-	0.044	-
HCM Control Delay (s)	23.7	10.6	-	-	9	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	319	192	231	456	54	61	324	52	78	773	102
Future Volume (vph)	46	319	192	231	456	54	61	324	52	78	773	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		50	125		205	330		150	325		150
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	180			140			160			160		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			55	
Link Distance (ft)		1234			2356			976			711	
Travel Time (s)		16.8			32.1			13.3			8.8	
Confl. Bikes (#/hr)			7						2			1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.0	37.2	37.2	10.0	40.2	40.2	10.0	37.5	37.5	10.0	33.5	33.5
Total Split (s)	10.0	37.2	37.2	15.0	42.2	42.2	10.0	37.8	37.8	10.0	37.8	37.8
Total Split (%)	10.0%	37.2%	37.2%	15.0%	42.2%	42.2%	10.0%	37.8%	37.8%	10.0%	37.8%	37.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	

Splits and Phases: 2: Bob Hope Dr. & Frank Sinatra Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	319	192	231	456	54	61	324	52	78	773	102
Future Volume (veh/h)	46	319	192	231	456	54	61	324	52	78	773	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	375	226	272	536	64	72	381	61	92	909	120
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	655	286	337	864	385	149	1610	709	159	1620	714
Arrive On Green	0.04	0.18	0.18	0.10	0.24	0.24	0.04	0.45	0.45	0.05	0.46	0.46
Sat Flow, veh/h	3456	3554	1553	3456	3554	1585	3456	3554	1564	3456	3554	1565
Grp Volume(v), veh/h	54	375	226	272	536	64	72	381	61	92	909	120
Grp Sat Flow(s),veh/h/ln	1728	1777	1553	1728	1777	1585	1728	1777	1564	1728	1777	1565
Q Serve(g_s), s	1.5	9.6	13.9	7.7	13.4	3.2	2.0	6.6	2.2	2.6	18.7	4.5
Cycle Q Clear(g_c), s	1.5	9.6	13.9	7.7	13.4	3.2	2.0	6.6	2.2	2.6	18.7	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	134	655	286	337	864	385	149	1610	709	159	1620	714
V/C Ratio(X)	0.40	0.57	0.79	0.81	0.62	0.17	0.48	0.24	0.09	0.58	0.56	0.17
Avail Cap(c_a), veh/h	187	1102	481	359	1279	571	187	1610	709	187	1620	714
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	37.2	38.9	44.2	33.7	29.9	46.7	16.8	15.6	46.7	19.9	16.0
Incr Delay (d2), s/veh	0.7	0.8	4.8	11.0	0.7	0.2	0.9	0.3	0.2	1.2	1.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.0	5.4	3.7	5.5	1.2	0.9	2.5	0.8	1.1	7.1	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.6	38.0	43.8	55.2	34.5	30.1	47.6	17.1	15.8	48.0	21.3	16.5
LnGrp LOS	D	D	D	E	C	C	D	B	B	D	C	B
Approach Vol, veh/h		655			872			514			1121	
Approach Delay, s/veh		40.8			40.6			21.2			23.0	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	51.8	14.3	24.6	8.9	52.1	8.5	30.5
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	5.4	31.3	10.4	31.0	5.4	31.3	5.4	36.0
Max Q Clear Time (g_c+I1), s	4.6	8.6	9.7	15.9	4.0	20.7	3.5	15.4
Green Ext Time (p_c), s	0.0	2.3	0.0	2.5	0.0	4.3	0.0	3.3

Intersection Summary	
HCM 6th Ctrl Delay	31.2
HCM 6th LOS	C

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	524	6	23	558	10	24
Future Volume (vph)	524	6	23	558	10	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	90		30	0
Storage Lanes		0	1		1	1
Taper Length (ft)			90		90	
Link Speed (mph)	50			50	30	
Link Distance (ft)	1498			1234	212	
Travel Time (s)	20.4			16.8	4.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	524	6	23	558	10	24
Future Vol, veh/h	524	6	23	558	10	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	90	-	30	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	546	6	24	581	10	25

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	552	0	888	276
Stage 1	-	-	-	-	549	-
Stage 2	-	-	-	-	339	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1014	-	283	721
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	693	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1014	-	276	721
Mov Cap-2 Maneuver	-	-	-	-	276	-
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	676	-

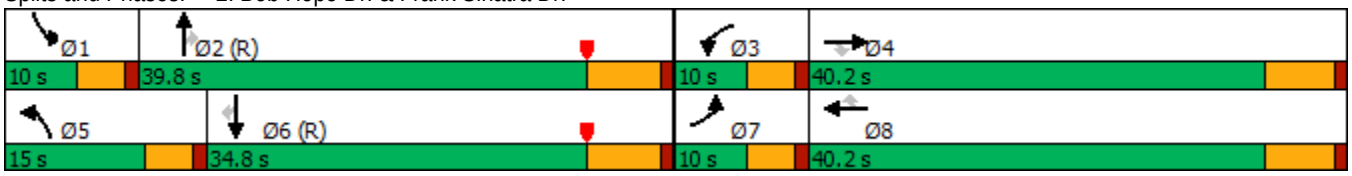
Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	12.7
HCM LOS			B

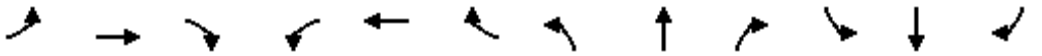
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	276	721	-	-	1014	-
HCM Lane V/C Ratio	0.038	0.035	-	-	0.024	-
HCM Control Delay (s)	18.6	10.2	-	-	8.6	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	402	81	46	311	66	193	810	179	69	439	77
Future Volume (vph)	65	402	81	46	311	66	193	810	179	69	439	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		50	125		205	330		150	325		150
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	180			140			160			160		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			55	
Link Distance (ft)		1234			2356			976			711	
Travel Time (s)		16.8			32.1			13.3			8.8	
Confl. Bikes (#/hr)			7						2			1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.0	37.2	37.2	10.0	40.2	40.2	10.0	37.5	37.5	10.0	33.5	33.5
Total Split (s)	10.0	40.2	40.2	10.0	40.2	40.2	15.0	39.8	39.8	10.0	34.8	34.8
Total Split (%)	10.0%	40.2%	40.2%	10.0%	40.2%	40.2%	15.0%	39.8%	39.8%	10.0%	34.8%	34.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	

Splits and Phases: 2: Bob Hope Dr. & Frank Sinatra Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	402	81	46	311	66	193	810	179	69	439	77
Future Volume (veh/h)	65	402	81	46	311	66	193	810	179	69	439	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	423	85	48	327	69	203	853	188	73	462	81
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	147	567	248	127	547	244	270	1923	847	150	1800	793
Arrive On Green	0.04	0.16	0.16	0.04	0.15	0.15	0.08	0.54	0.54	0.04	0.51	0.51
Sat Flow, veh/h	3456	3554	1551	3456	3554	1585	3456	3554	1565	3456	3554	1565
Grp Volume(v), veh/h	68	423	85	48	327	69	203	853	188	73	462	81
Grp Sat Flow(s),veh/h/ln	1728	1777	1551	1728	1777	1585	1728	1777	1565	1728	1777	1565
Q Serve(g_s), s	1.9	11.4	4.9	1.4	8.6	3.9	5.8	14.5	6.3	2.1	7.4	2.7
Cycle Q Clear(g_c), s	1.9	11.4	4.9	1.4	8.6	3.9	5.8	14.5	6.3	2.1	7.4	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	147	567	248	127	547	244	270	1923	847	150	1800	793
V/C Ratio(X)	0.46	0.75	0.34	0.38	0.60	0.28	0.75	0.44	0.22	0.49	0.26	0.10
Avail Cap(c_a), veh/h	187	1208	527	187	1208	539	359	1923	847	187	1800	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	40.1	37.4	47.0	39.4	37.4	45.1	13.9	12.0	46.7	14.0	12.8
Incr Delay (d2), s/veh	0.8	2.0	0.8	0.7	1.0	0.6	3.9	0.7	0.6	0.9	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	4.9	1.8	0.6	3.6	1.5	2.5	5.2	2.1	0.9	2.7	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.6	42.1	38.2	47.7	40.5	38.0	49.0	14.6	12.6	47.6	14.3	13.1
LnGrp LOS	D	D	D	D	D	D	D	B	B	D	B	B
Approach Vol, veh/h		576			444			1244			616	
Approach Delay, s/veh		42.1			40.9			19.9			18.1	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	60.6	8.3	22.2	12.4	57.1	8.8	21.6
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	5.4	33.3	5.4	34.0	10.4	28.3	5.4	34.0
Max Q Clear Time (g_c+I1), s	4.1	16.5	3.4	13.4	7.8	9.4	3.9	10.6
Green Ext Time (p_c), s	0.0	5.5	0.0	2.6	0.1	2.7	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

APPENDIX 3.3: TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

This Page Intentionally Left Blank

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

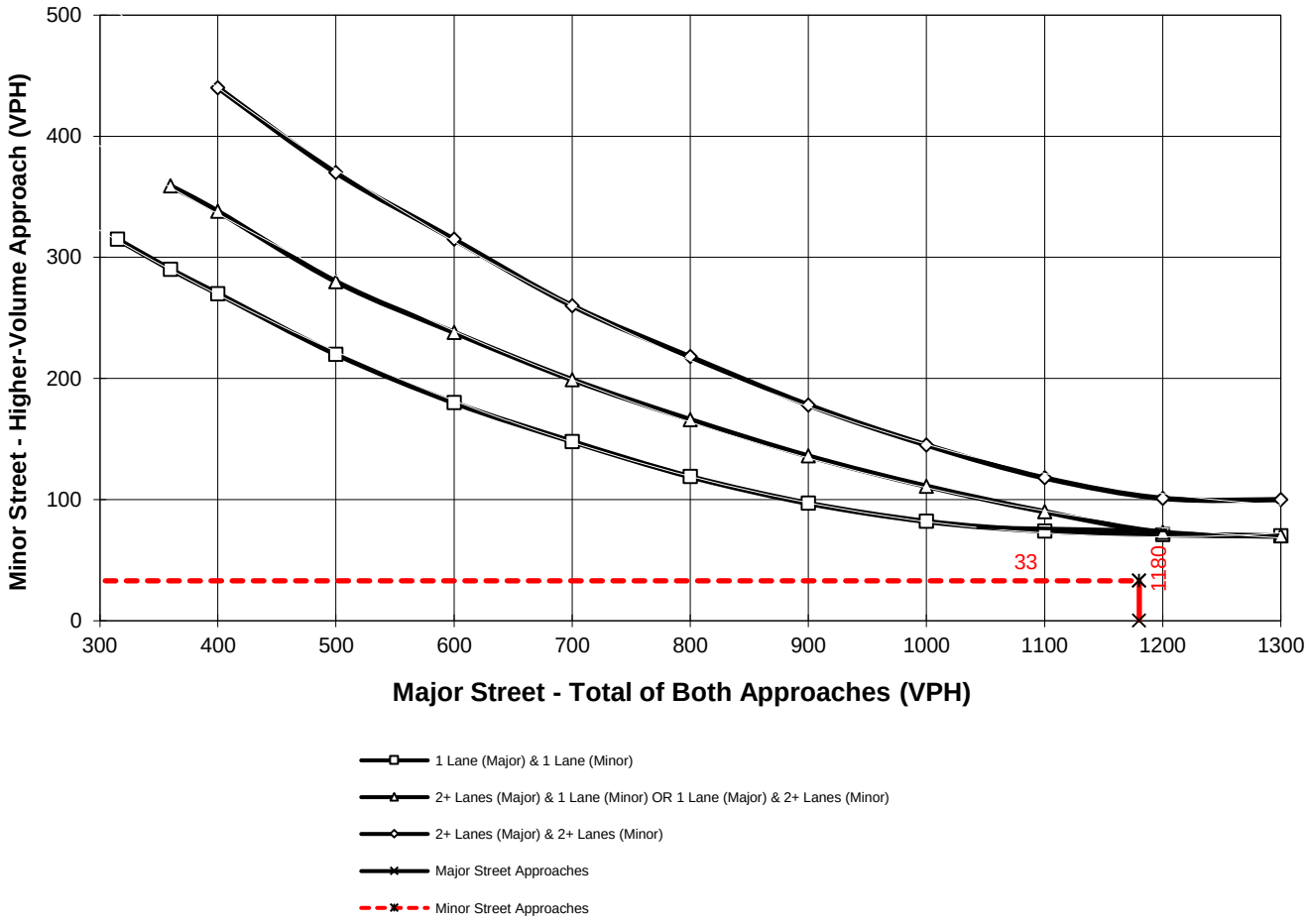
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EXISTING (2022) AM PEAK HOUR WARRANTS**

Major Street Name = **Frank Sinatra Dr.**
Total of Both Approaches (VPH) = **1,180**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Island Dr.**
High Volume Approach (VPH) = **33**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #1

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

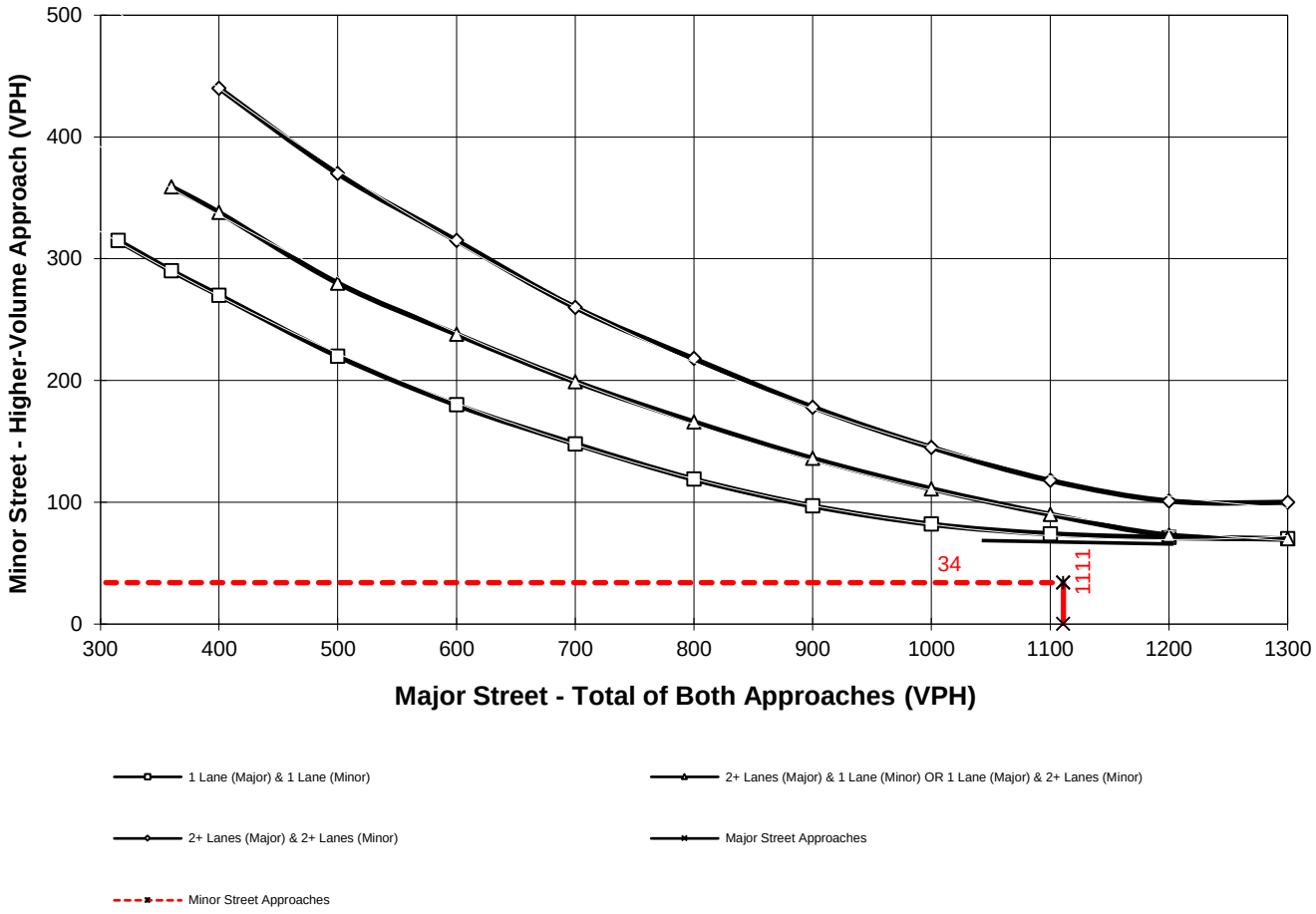
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EXISTING (2022) PM PEAK HOUR WARRANTS**

Major Street Name = **Frank Sinatra Dr.** Total of Both Approaches (VPH) = **1,111**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Island Dr.** High Volume Approach (VPH) = **34**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #1

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

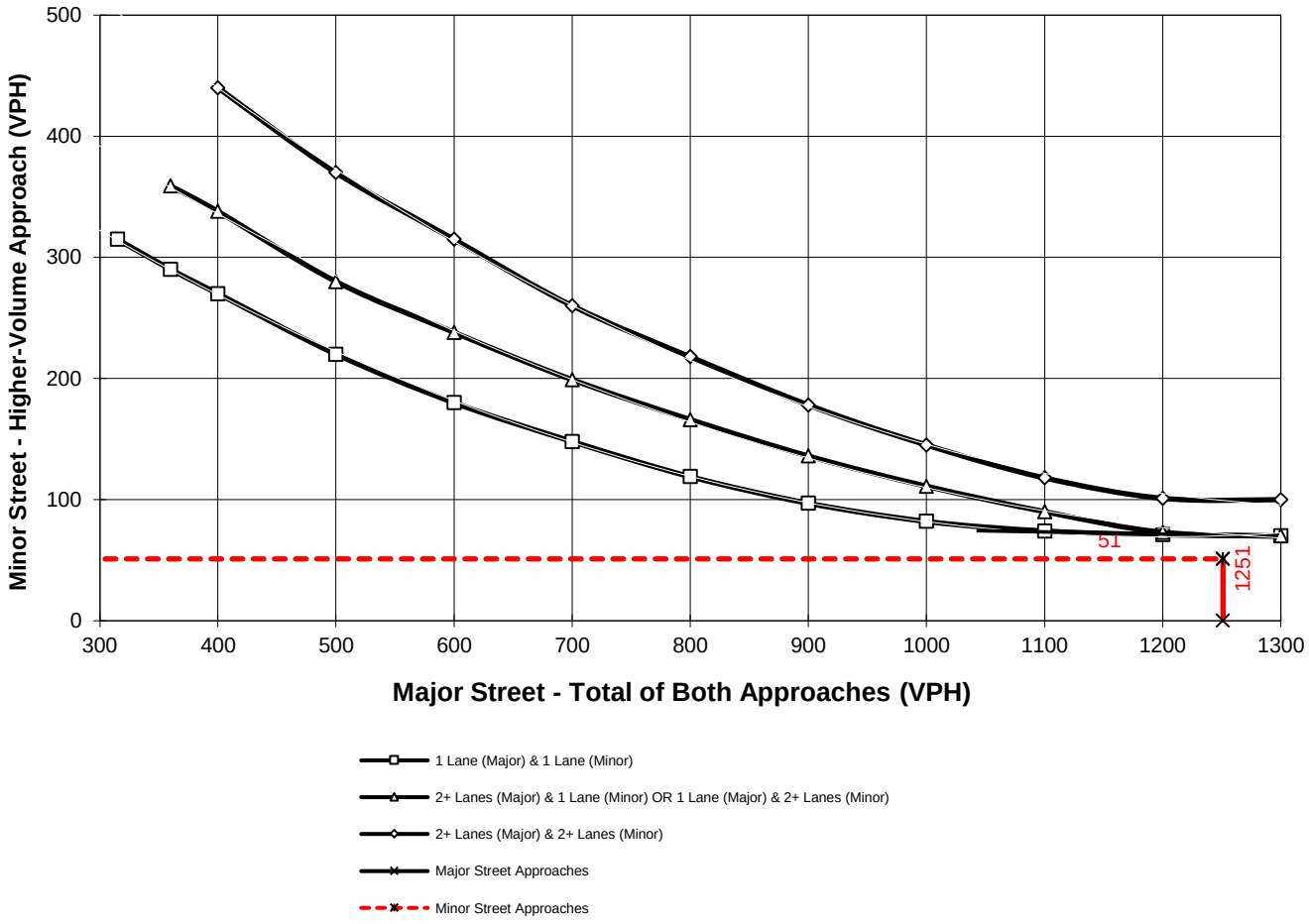
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+A+P AM PEAK HOUR WARRANTS**

Major Street Name = **Frank Sinatra Dr.**
Total of Both Approaches (VPH) = **1,251**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Island Dr.**
High Volume Approach (VPH) = **51**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #1

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

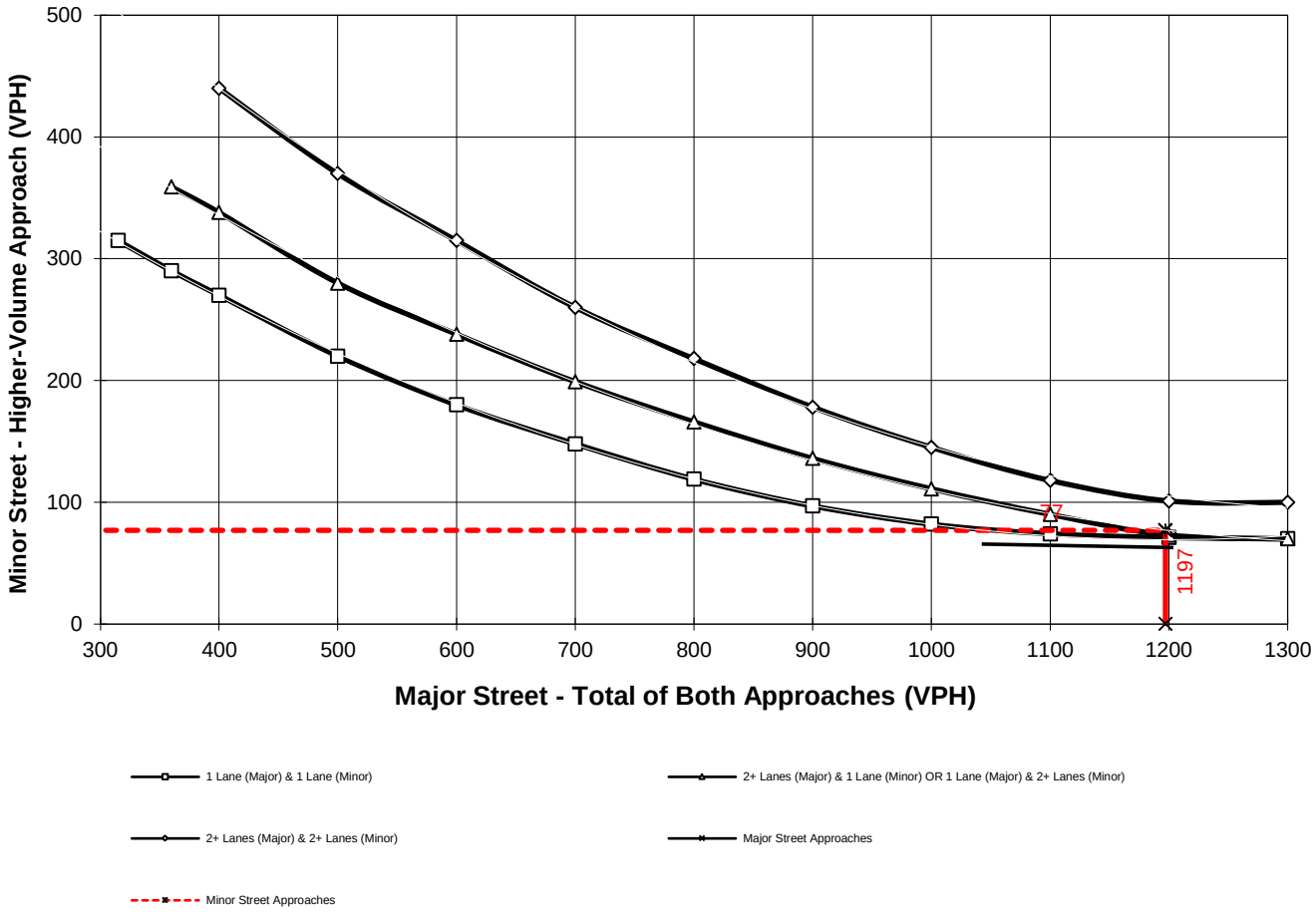
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+A+P PM PEAK HOUR WARRANTS**

Major Street Name = **Frank Sinatra Dr.**
Total of Both Approaches (VPH) = **1,197**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Island Dr.**
High Volume Approach (VPH) = **77**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #1

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

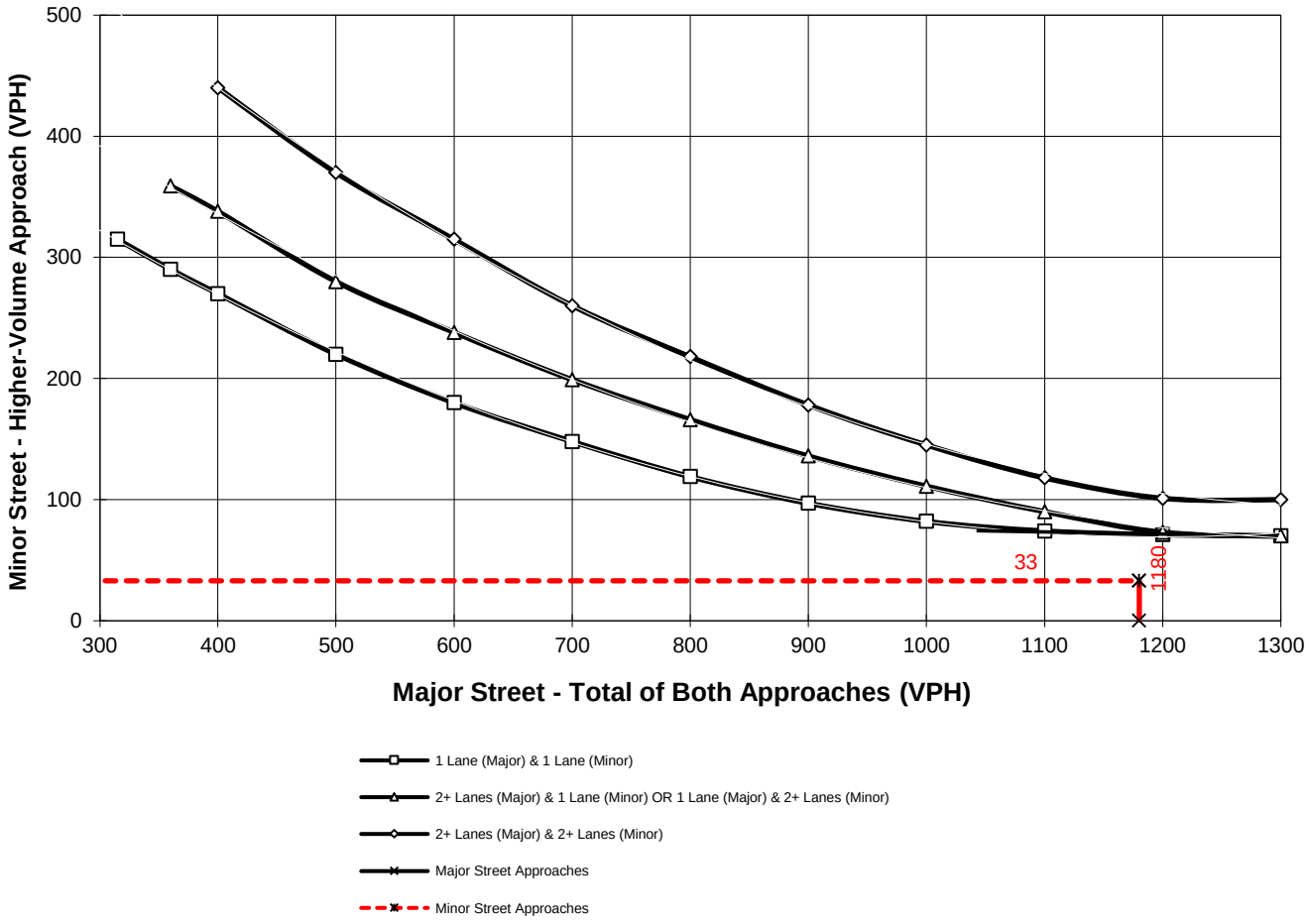
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EXISTING (2022) AM PEAK HOUR WARRANTS**

Major Street Name = **Frank Sinatra Dr.**
Total of Both Approaches (VPH) = **1,180**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Island Dr.**
High Volume Approach (VPH) = **33**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #1

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

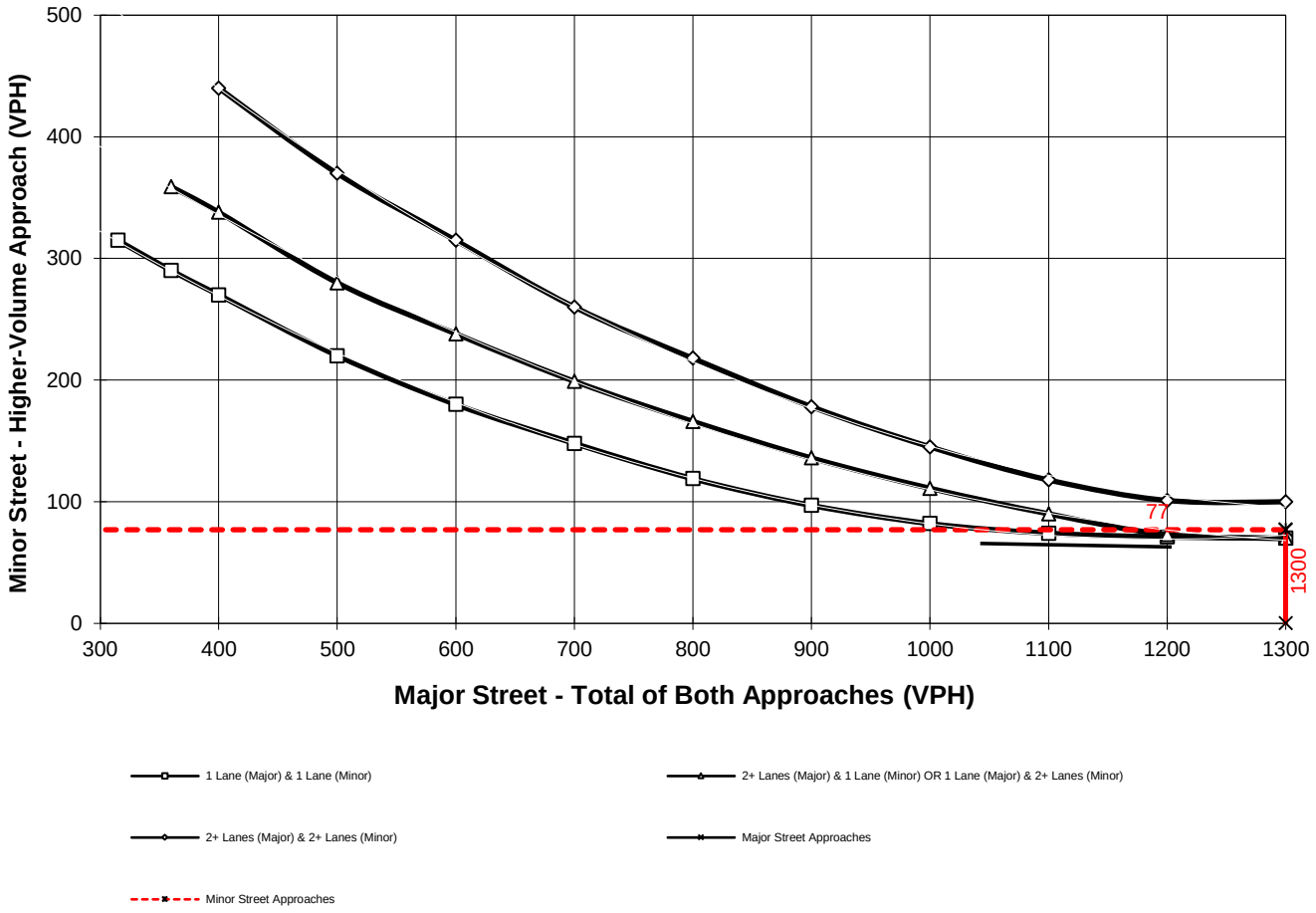
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAPC (FINAL) PM PEAK HOUR WARRANTS**

Major Street Name = **Frank Sinatra Dr.**
Total of Both Approaches (VPH) = **1,489**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Island Dr.**
High Volume Approach (VPH) = **77**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #1

APPENDIX 5.1: EAP (2024) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

This Page Intentionally Left Blank

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	560	30	53	608	19	32
Future Volume (vph)	560	30	53	608	19	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	90		30	0
Storage Lanes		0	1		1	1
Taper Length (ft)			90		90	
Link Speed (mph)	50			50	30	
Link Distance (ft)	1498			1234	212	
Travel Time (s)	20.4			16.8	4.8	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	560	30	53	608	19	32
Future Vol, veh/h	560	30	53	608	19	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	90	-	30	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	651	35	62	707	22	37

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	686	0	1147	343
Stage 1	-	-	-	-	669	-
Stage 2	-	-	-	-	478	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	904	-	192	653
Stage 1	-	-	-	-	471	-
Stage 2	-	-	-	-	590	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	904	-	179	653
Mov Cap-2 Maneuver	-	-	-	-	179	-
Stage 1	-	-	-	-	471	-
Stage 2	-	-	-	-	549	-

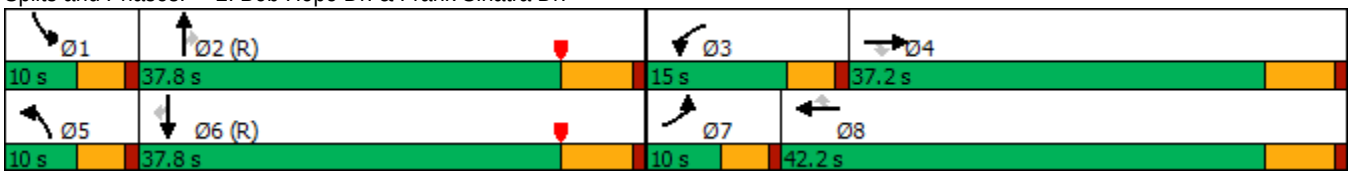
Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	17.2
HCM LOS			C

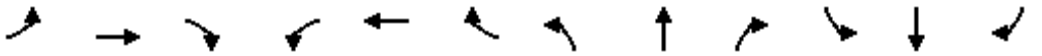
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	179	653	-	-	904	-
HCM Lane V/C Ratio	0.123	0.057	-	-	0.068	-
HCM Control Delay (s)	27.9	10.8	-	-	9.3	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	0.2	-	-	0.2	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	335	204	240	479	56	68	337	54	81	804	113
Future Volume (vph)	53	335	204	240	479	56	68	337	54	81	804	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		50	125		205	330		150	325		150
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	180			140			160			160		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			55	
Link Distance (ft)		1234			2356			976			711	
Travel Time (s)		16.8			32.1			13.3			8.8	
Confl. Bikes (#/hr)			7						2			1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.0	37.2	37.2	10.0	40.2	40.2	10.0	37.5	37.5	10.0	33.5	33.5
Total Split (s)	10.0	37.2	37.2	15.0	42.2	42.2	10.0	37.8	37.8	10.0	37.8	37.8
Total Split (%)	10.0%	37.2%	37.2%	15.0%	42.2%	42.2%	10.0%	37.8%	37.8%	10.0%	37.8%	37.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	

Splits and Phases: 2: Bob Hope Dr. & Frank Sinatra Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	335	204	240	479	56	68	337	54	81	804	113
Future Volume (veh/h)	53	335	204	240	479	56	68	337	54	81	804	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	394	240	282	564	66	80	396	64	95	946	133
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	689	301	346	899	401	154	1566	689	160	1572	693
Arrive On Green	0.04	0.19	0.19	0.10	0.25	0.25	0.04	0.44	0.44	0.05	0.44	0.44
Sat Flow, veh/h	3456	3554	1553	3456	3554	1585	3456	3554	1564	3456	3554	1565
Grp Volume(v), veh/h	62	394	240	282	564	66	80	396	64	95	946	133
Grp Sat Flow(s),veh/h/ln	1728	1777	1553	1728	1777	1585	1728	1777	1564	1728	1777	1565
Q Serve(g_s), s	1.8	10.1	14.7	8.0	14.1	3.2	2.3	7.0	2.4	2.7	20.2	5.2
Cycle Q Clear(g_c), s	1.8	10.1	14.7	8.0	14.1	3.2	2.3	7.0	2.4	2.7	20.2	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	142	689	301	346	899	401	154	1566	689	160	1572	693
V/C Ratio(X)	0.44	0.57	0.80	0.81	0.63	0.16	0.52	0.25	0.09	0.59	0.60	0.19
Avail Cap(c_a), veh/h	187	1102	482	359	1279	571	187	1566	689	187	1572	693
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	36.6	38.4	44.1	33.2	29.1	46.7	17.6	16.3	46.8	21.2	17.0
Incr Delay (d2), s/veh	0.8	0.8	4.8	12.1	0.7	0.2	1.0	0.4	0.3	1.6	1.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	4.2	5.7	3.8	5.8	1.2	1.0	2.7	0.8	1.1	7.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.6	37.3	43.3	56.1	33.9	29.3	47.7	18.0	16.6	48.3	22.9	17.6
LnGrp LOS	D	D	D	E	C	C	D	B	B	D	C	B
Approach Vol, veh/h		696			912			540			1174	
Approach Delay, s/veh		40.3			40.4			22.2			24.4	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	50.6	14.6	25.6	9.1	50.7	8.7	31.5
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	5.4	31.3	10.4	31.0	5.4	31.3	5.4	36.0
Max Q Clear Time (g_c+I1), s	4.7	9.0	10.0	16.7	4.3	22.2	3.8	16.1
Green Ext Time (p_c), s	0.0	2.4	0.0	2.6	0.0	4.1	0.0	3.4

Intersection Summary	
HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	545	16	55	581	21	56
Future Volume (vph)	545	16	55	581	21	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	90		30	0
Storage Lanes		0	1		1	1
Taper Length (ft)			90		90	
Link Speed (mph)	50			50	30	
Link Distance (ft)	1498			1234	212	
Travel Time (s)	20.4			16.8	4.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	545	16	55	581	21	56
Future Vol, veh/h	545	16	55	581	21	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	90	-	30	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	568	17	57	605	22	58

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	585	0	994	293
Stage 1	-	-	-	-	577	-
Stage 2	-	-	-	-	417	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	986	-	242	703
Stage 1	-	-	-	-	525	-
Stage 2	-	-	-	-	633	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	986	-	228	703
Mov Cap-2 Maneuver	-	-	-	-	228	-
Stage 1	-	-	-	-	525	-
Stage 2	-	-	-	-	596	-

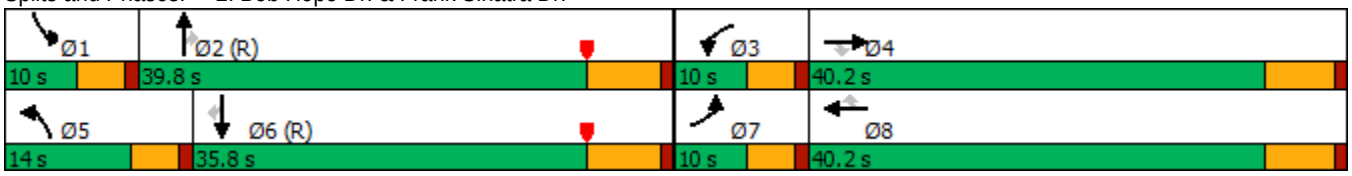
Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	13.8
HCM LOS			B

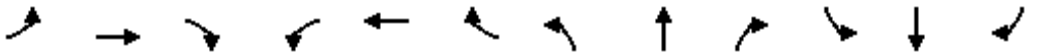
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	228	703	-	-	986	-
HCM Lane V/C Ratio	0.096	0.083	-	-	0.058	-
HCM Control Delay (s)	22.5	10.6	-	-	8.9	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0.3	-	-	0.2	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	426	95	48	332	69	211	843	186	72	457	93
Future Volume (vph)	80	426	95	48	332	69	211	843	186	72	457	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		50	125		205	330		150	325		150
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	180			140			160			160		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			55	
Link Distance (ft)		1234			2356			976			711	
Travel Time (s)		16.8			32.1			13.3			8.8	
Confl. Bikes (#/hr)			7						2			1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.0	37.2	37.2	10.0	40.2	40.2	10.0	37.5	37.5	10.0	33.5	33.5
Total Split (s)	10.0	40.2	40.2	10.0	40.2	40.2	14.0	39.8	39.8	10.0	35.8	35.8
Total Split (%)	10.0%	40.2%	40.2%	10.0%	40.2%	40.2%	14.0%	39.8%	39.8%	10.0%	35.8%	35.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	

Splits and Phases: 2: Bob Hope Dr. & Frank Sinatra Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	426	95	48	332	69	211	843	186	72	457	93
Future Volume (veh/h)	80	426	95	48	332	69	211	843	186	72	457	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	448	100	51	349	73	222	887	196	76	481	98
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	597	261	131	571	255	288	1888	831	152	1748	770
Arrive On Green	0.05	0.17	0.17	0.04	0.16	0.16	0.08	0.53	0.53	0.04	0.49	0.49
Sat Flow, veh/h	3456	3554	1551	3456	3554	1585	3456	3554	1565	3456	3554	1565
Grp Volume(v), veh/h	84	448	100	51	349	73	222	887	196	76	481	98
Grp Sat Flow(s),veh/h/ln	1728	1777	1551	1728	1777	1585	1728	1777	1565	1728	1777	1565
Q Serve(g_s), s	2.4	12.0	5.7	1.4	9.1	4.1	6.3	15.6	6.7	2.1	8.0	3.4
Cycle Q Clear(g_c), s	2.4	12.0	5.7	1.4	9.1	4.1	6.3	15.6	6.7	2.1	8.0	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	156	597	261	131	571	255	288	1888	831	152	1748	770
V/C Ratio(X)	0.54	0.75	0.38	0.39	0.61	0.29	0.77	0.47	0.24	0.50	0.28	0.13
Avail Cap(c_a), veh/h	187	1208	527	187	1208	539	325	1888	831	187	1748	770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	39.6	37.0	47.0	39.1	36.9	44.9	14.6	12.6	46.7	14.9	13.8
Incr Delay (d2), s/veh	1.1	1.9	0.9	0.7	1.1	0.6	8.2	0.8	0.7	0.9	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	5.1	2.1	0.6	3.9	1.5	2.9	5.7	2.2	0.9	2.9	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	41.5	37.9	47.7	40.1	37.5	53.1	15.5	13.2	47.7	15.3	14.1
LnGrp LOS	D	D	D	D	D	D	D	B	B	D	B	B
Approach Vol, veh/h		632			473			1305			655	
Approach Delay, s/veh		41.8			40.5			21.5			18.9	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	59.6	8.4	23.0	12.9	55.7	9.1	22.3
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	5.4	33.3	5.4	34.0	9.4	29.3	5.4	34.0
Max Q Clear Time (g_c+I1), s	4.1	17.6	3.4	14.0	8.3	10.0	4.4	11.1
Green Ext Time (p_c), s	0.0	5.6	0.0	2.8	0.0	2.9	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

APPENDIX 6.1: EAPC (2024) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

This Page Intentionally Left Blank

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	641	30	53	681	19	32
Future Volume (vph)	641	30	53	681	19	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	90		30	0
Storage Lanes		0	1		1	1
Taper Length (ft)			90		90	
Link Speed (mph)	50			50	30	
Link Distance (ft)	1498			1234	212	
Travel Time (s)	20.4			16.8	4.8	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	641	30	53	681	19	32
Future Vol, veh/h	641	30	53	681	19	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	90	-	30	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	745	35	62	792	22	37

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	780	0	1283	390
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	520	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	833	-	157	609
Stage 1	-	-	-	-	421	-
Stage 2	-	-	-	-	561	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	833	-	145	609
Mov Cap-2 Maneuver	-	-	-	-	145	-
Stage 1	-	-	-	-	421	-
Stage 2	-	-	-	-	519	-

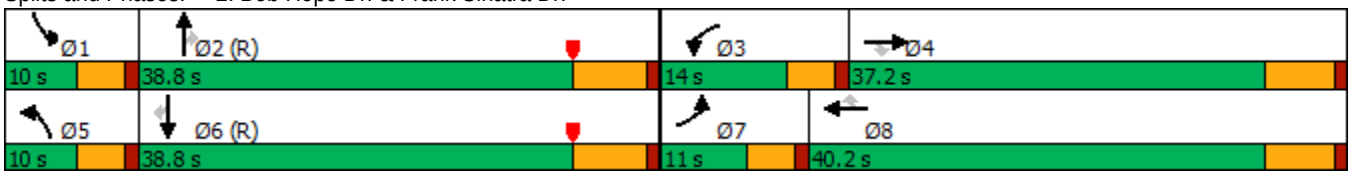
Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	19.8
HCM LOS			C

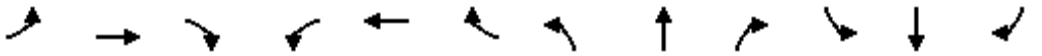
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	145	609	-	-	833	-
HCM Lane V/C Ratio	0.152	0.061	-	-	0.074	-
HCM Control Delay (s)	34.2	11.3	-	-	9.7	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	0.2	-	-	0.2	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	363	231	259	502	65	92	391	74	96	898	139
Future Volume (vph)	79	363	231	259	502	65	92	391	74	96	898	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		50	125		205	330		150	325		150
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	180			140			160			160		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			55	
Link Distance (ft)		1234			2356			976			711	
Travel Time (s)		16.8			32.1			13.3			8.8	
Confl. Bikes (#/hr)			7						2			1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.0	37.2	37.2	10.0	40.2	40.2	10.0	37.5	37.5	10.0	33.5	33.5
Total Split (s)	11.0	37.2	37.2	14.0	40.2	40.2	10.0	38.8	38.8	10.0	38.8	38.8
Total Split (%)	11.0%	37.2%	37.2%	14.0%	40.2%	40.2%	10.0%	38.8%	38.8%	10.0%	38.8%	38.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	

Splits and Phases: 2: Bob Hope Dr. & Frank Sinatra Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	363	231	259	502	65	92	391	74	96	898	139
Future Volume (veh/h)	79	363	231	259	502	65	92	391	74	96	898	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	427	272	305	591	76	108	460	87	113	1056	164
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	761	333	325	931	415	167	1503	662	172	1509	665
Arrive On Green	0.05	0.21	0.21	0.09	0.26	0.26	0.05	0.42	0.42	0.05	0.42	0.42
Sat Flow, veh/h	3456	3554	1555	3456	3554	1585	3456	3554	1564	3456	3554	1565
Grp Volume(v), veh/h	93	427	272	305	591	76	108	460	87	113	1056	164
Grp Sat Flow(s),veh/h/ln	1728	1777	1555	1728	1777	1585	1728	1777	1564	1728	1777	1565
Q Serve(g_s), s	2.6	10.7	16.7	8.8	14.7	3.7	3.1	8.6	3.4	3.2	24.3	6.7
Cycle Q Clear(g_c), s	2.6	10.7	16.7	8.8	14.7	3.7	3.1	8.6	3.4	3.2	24.3	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	160	761	333	325	931	415	167	1503	662	172	1509	665
V/C Ratio(X)	0.58	0.56	0.82	0.94	0.63	0.18	0.65	0.31	0.13	0.66	0.70	0.25
Avail Cap(c_a), veh/h	221	1102	482	325	1208	539	187	1503	662	187	1509	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	35.1	37.4	45.0	32.7	28.6	46.8	19.1	17.6	46.7	23.6	18.5
Incr Delay (d2), s/veh	1.3	0.7	7.0	33.9	0.7	0.2	4.4	0.5	0.4	5.3	2.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	4.4	6.6	5.1	6.0	1.4	1.4	3.3	1.2	1.4	9.6	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.0	35.7	44.5	78.9	33.4	28.8	51.1	19.7	18.0	51.9	26.3	19.4
LnGrp LOS	D	D	D	E	C	C	D	B	B	D	C	B
Approach Vol, veh/h		792			972			655			1333	
Approach Delay, s/veh		40.2			47.3			24.6			27.6	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	48.8	14.0	27.6	9.4	49.0	9.2	32.4
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	5.4	32.3	9.4	31.0	5.4	32.3	6.4	34.0
Max Q Clear Time (g_c+I1), s	5.2	10.6	10.8	18.7	5.1	26.3	4.6	16.7
Green Ext Time (p_c), s	0.0	2.9	0.0	2.8	0.0	3.4	0.0	3.5

Intersection Summary	
HCM 6th Ctrl Delay	34.8
HCM 6th LOS	C

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	685	16	55	733	21	56
Future Volume (vph)	685	16	55	733	21	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	90		30	0
Storage Lanes		0	1		1	1
Taper Length (ft)			90		90	
Link Speed (mph)	50			50	30	
Link Distance (ft)	1498			1234	212	
Travel Time (s)	20.4			16.8	4.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	685	16	55	733	21	56
Future Vol, veh/h	685	16	55	733	21	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	90	-	30	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	714	17	57	764	22	58

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	731	0	1219	366
Stage 1	-	-	-	-	723	-
Stage 2	-	-	-	-	496	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	869	-	173	631
Stage 1	-	-	-	-	441	-
Stage 2	-	-	-	-	577	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	869	-	162	631
Mov Cap-2 Maneuver	-	-	-	-	162	-
Stage 1	-	-	-	-	441	-
Stage 2	-	-	-	-	539	-

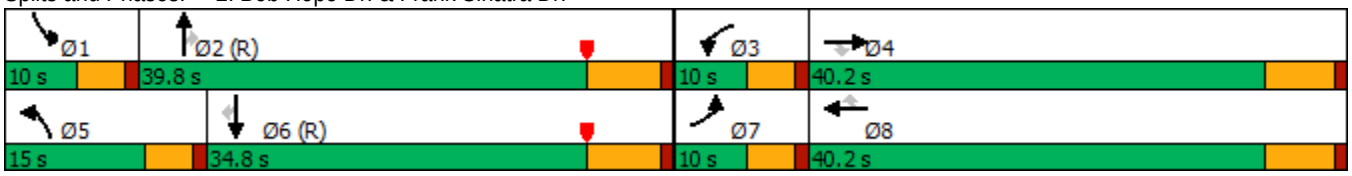
Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	16.6
HCM LOS			C

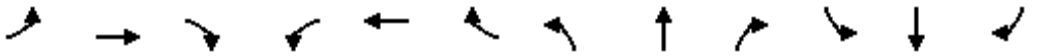
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	162	631	-	-	869	-
HCM Lane V/C Ratio	0.135	0.092	-	-	0.066	-
HCM Control Delay (s)	30.7	11.3	-	-	9.4	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	0.3	-	-	0.2	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	478	135	79	388	93	257	959	219	92	535	142
Future Volume (vph)	128	478	135	79	388	93	257	959	219	92	535	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		50	125		205	330		150	325		150
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	180			140			160			160		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			55	
Link Distance (ft)		1234			2356			976			711	
Travel Time (s)		16.8			32.1			13.3			8.8	
Confl. Bikes (#/hr)			7						2			1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.0	37.2	37.2	10.0	40.2	40.2	10.0	37.5	37.5	10.0	33.5	33.5
Total Split (s)	10.0	40.2	40.2	10.0	40.2	40.2	15.0	39.8	39.8	10.0	34.8	34.8
Total Split (%)	10.0%	40.2%	40.2%	10.0%	40.2%	40.2%	15.0%	39.8%	39.8%	10.0%	34.8%	34.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	

Splits and Phases: 2: Bob Hope Dr. & Frank Sinatra Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	478	135	79	388	93	257	959	219	92	535	142
Future Volume (veh/h)	128	478	135	79	388	93	257	959	219	92	535	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	135	503	142	83	408	98	271	1009	231	97	563	149
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	662	289	156	630	281	336	1788	787	161	1608	708
Arrive On Green	0.05	0.19	0.19	0.05	0.18	0.18	0.10	0.50	0.50	0.05	0.45	0.45
Sat Flow, veh/h	3456	3554	1553	3456	3554	1585	3456	3554	1565	3456	3554	1565
Grp Volume(v), veh/h	135	503	142	83	408	98	271	1009	231	97	563	149
Grp Sat Flow(s),veh/h/ln	1728	1777	1553	1728	1777	1585	1728	1777	1565	1728	1777	1565
Q Serve(g_s), s	3.8	13.4	8.2	2.4	10.7	5.4	7.7	19.7	8.6	2.8	10.3	5.8
Cycle Q Clear(g_c), s	3.8	13.4	8.2	2.4	10.7	5.4	7.7	19.7	8.6	2.8	10.3	5.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	187	662	289	156	630	281	336	1788	787	161	1608	708
V/C Ratio(X)	0.72	0.76	0.49	0.53	0.65	0.35	0.81	0.56	0.29	0.60	0.35	0.21
Avail Cap(c_a), veh/h	187	1208	528	187	1208	539	359	1788	787	187	1608	708
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	38.6	36.4	46.7	38.2	36.1	44.2	17.2	14.5	46.8	17.8	16.6
Incr Delay (d2), s/veh	11.4	1.8	1.3	1.1	1.1	0.7	10.9	1.3	0.9	2.0	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	5.7	0.1	1.0	4.5	2.0	3.6	7.4	2.9	1.2	3.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.9	40.4	37.7	47.8	39.4	36.8	55.1	18.5	15.4	48.7	18.4	17.2
LnGrp LOS	E	D	D	D	D	D	E	B	B	D	B	B
Approach Vol, veh/h		780			589			1511			809	
Approach Delay, s/veh		42.9			40.1			24.6			21.8	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	56.8	9.1	24.8	14.3	51.7	10.0	23.9
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	5.4	33.3	5.4	34.0	10.4	28.3	5.4	34.0
Max Q Clear Time (g_c+I1), s	4.8	21.7	4.4	15.4	9.7	12.3	5.8	12.7
Green Ext Time (p_c), s	0.0	5.4	0.0	3.2	0.0	3.3	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	30.4
HCM 6th LOS	C

DESERT ISLAND HOTEL
APPENDIX

Appendix E

Agua Caliente Band of Cahuilla Indians Letter, September 2022

AGUA CALIENTE BAND OF CAHUILLA INDIANS

TRIBAL HISTORIC PRESERVATION

03-008-2022-004

September 07, 2022

[VIA EMAIL TO:pilarl@ranchomirageca.gov]
City of Rancho Mirage
Pilar Lopez
68-825 Highway 111
Rancho Mirage, California 92270

Re: Desert Island Hotel

Dear Pilar Lopez,

The Agua Caliente Band of Cahuilla Indians (ACBCI) appreciates your efforts to include the Tribal Historic Preservation Office (THPO) in the Desert Island Hotel project. The project area is not located within the boundaries of the ACBCI Reservation. However, it is within the Tribe's Traditional Use Area. For this reason, the ACBCI THPO requests the following:

> *Copies of any cultural resource documentation (report and site records) generated in connection with this project.

Again, the Agua Caliente appreciates your interest in our cultural heritage. If you have questions or require additional information, please call me at (760)699-6956. You may also email me at ACBCI-THPO@aguacaliente.net.

Cordially,

Lacy Padilla
Operations Manager
Tribal Historic Preservation Office
AGUA CALIENTE BAND
OF CAHUILLA INDIANS