

**CEQA INITIAL STUDY
PROPOSED MITIGATED NEGATIVE DECLARATION**

Appendices A through J

**Ranch Hills Community
PLANNING APPLICATION NO. PA180034
VESTING TENTATIVE TRACT MAP NO. TT18119
INITIAL STUDY NO. PA 180034**

Prepared for:

**Ranch Hill Partners, LP
2454 Alton Pkwy
Irvine, Calif. 92606**

Prepared by:



**County of Orange
OC Public Works, Development Services/Planning
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May 2020

Appendix A

CalEEMod Calculations

Ranch Hills Community Project - Orange County, Winter

**Ranch Hills Community Project
Orange County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	80.50	1000sqft	1.85	80,500.00	0
Condo/Townhouse	37.00	Dwelling Unit	2.00	85,100.00	74

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - .

Construction Phase - .

Off-road Equipment - .

Off-road Equipment -

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .
 Off-road Equipment - .
 Off-road Equipment -
 Off-road Equipment -
 Off-road Equipment -
 Off-road Equipment -
 Off-road Equipment -
 Off-road Equipment -
 Trips and VMT - .
 Demolition - .
 Grading -
 Woodstoves - .
 Consumer Products -
 Area Coating - .
 Construction Off-road Equipment Mitigation - .
 Vehicle Trips - Overall Net Reduction in trips
 Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	4,830.00	1,610.00
tblArchitecturalCoating	ConstArea_Parking	4,830.00	1,610.00
tblArchitecturalCoating	ConstArea_Parking	4,830.00	1,610.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	57,443.00	19,148.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	57,443.00	19,148.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	57,443.00	19,148.00
tblArchitecturalCoating	ConstArea_Residential_Interior	172,328.00	57,443.00
tblArchitecturalCoating	ConstArea_Residential_Interior	172,328.00	57,443.00
tblArchitecturalCoating	ConstArea_Residential_Interior	172,328.00	57,443.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	18.00	7.00

tblConstructionPhase	NumDays	230.00	132.00
tblConstructionPhase	NumDays	230.00	132.00
tblConstructionPhase	NumDays	230.00	132.00
tblConstructionPhase	NumDays	20.00	22.00
tblConstructionPhase	NumDays	8.00	65.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	5.00	22.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.85	0.00
tblLandUse	LandUseSquareFeet	37,000.00	85,100.00
tblLandUse	LotAcreage	2.31	2.00
tblLandUse	Population	106.00	74.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblVehicleTrips	ST_TR	5.67	0.00
tblVehicleTrips	SU_TR	4.84	0.00
tblVehicleTrips	WD_TR	5.81	0.00
tblWoodstoves	NumberCatalytic	1.85	0.00
tblWoodstoves	NumberNoncatalytic	1.85	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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
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Year	lb/day										lb/day					
2020	3.4860	37.1516	23.2345	0.0510	6.7200	1.6725	7.9945	3.4120	1.5551	4.5845	0.0000	5,082.5190	5,082.5190	1.1886	0.0000	5,112.2347
2021	26.6911	24.7727	18.7313	0.0370	6.7200	1.1610	7.8810	3.4120	1.0681	4.4801	0.0000	3,596.5845	3,596.5845	0.9320	0.0000	3,613.2443
2022	26.6741	17.2503	18.3880	0.0368	0.7793	0.8163	1.5955	0.2091	0.7679	0.9771	0.0000	3,571.0226	3,571.0226	0.6599	0.0000	3,587.5200
Maximum	26.6911	37.1516	23.2345	0.0510	6.7200	1.6725	7.9945	3.4120	1.5551	4.5845	0.0000	5,082.5190	5,082.5190	1.1886	0.0000	5,112.2347

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					
2020	3.4860	37.1516	23.2345	0.0510	2.7231	1.6725	3.9976	1.3578	1.5551	2.5304	0.0000	5,082.5190	5,082.5190	1.1886	0.0000	5,112.2347
2021	26.6911	24.7727	18.7313	0.0370	2.7231	1.1610	3.8841	1.3578	1.0681	2.4259	0.0000	3,596.5845	3,596.5845	0.9320	0.0000	3,613.2443
2022	26.6741	17.2503	18.3880	0.0368	0.7793	0.8163	1.5955	0.2091	0.7679	0.9771	0.0000	3,571.0226	3,571.0226	0.6599	0.0000	3,587.5200
Maximum	26.6911	37.1516	23.2345	0.0510	2.7231	1.6725	3.9976	1.3578	1.5551	2.5304	0.0000	5,082.5190	5,082.5190	1.1886	0.0000	5,112.2347

	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
Percent Reduction	0.00	0.00	0.00	0.00	56.22	0.00	45.75	58.41	0.00	40.91	0.00	0.00	0.00	0.00	0.00	0.00

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
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Category	lb/day										lb/day					
Area	2.0196	0.5570	3.2861	3.4900e-003		0.0591	0.0591		0.0591	0.0591	0.0000	671.5141	671.5141	0.0181	0.0122	675.6055
Energy	0.0193	0.1648	0.0702	1.0500e-003		0.0133	0.0133		0.0133	0.0133		210.4394	210.4394	4.0300e-003	3.8600e-003	211.6900
Mobile	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
Total	2.0389	0.7219	3.3562	4.5400e-003	0.0000	0.0724	0.0724	0.0000	0.0724	0.0724	0.0000	881.9535	881.9535	0.0221	0.0161	887.2955

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	2.0196	0.5570	3.2861	3.4900e-003		0.0591	0.0591		0.0591	0.0591	0.0000	671.5141	671.5141	0.0181	0.0122	675.6055
Energy	0.0193	0.1648	0.0702	1.0500e-003		0.0133	0.0133		0.0133	0.0133		210.4394	210.4394	4.0300e-003	3.8600e-003	211.6900
Mobile	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
Total	2.0389	0.7219	3.3562	4.5400e-003	0.0000	0.0724	0.0724	0.0000	0.0724	0.0724	0.0000	881.9535	881.9535	0.0221	0.0161	887.2955

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	9/1/2020	9/30/2020	5	22	
2	P1 Site Preparation	Site Preparation	10/1/2020	10/31/2020	5	22	

3	P1 Grading	Grading	11/1/2020	1/29/2021	5	65
4	P1 Trenching	Trenching	2/1/2021	2/26/2021	5	20
5	P1 Building Construction	Building Construction	3/1/2021	8/31/2021	5	132
6	P1 Paving	Paving	9/1/2021	9/9/2021	5	7
7	P1 Architectural Coatings	Architectural Coating	9/10/2021	9/20/2021	5	7
8	P2 Building Construction	Building Construction	9/21/2021	3/23/2022	5	132
9	P2 Paving	Paving	3/24/2022	4/1/2022	5	7
10	P2 Architectural Coatings	Architectural Coating	4/2/2022	4/12/2022	5	7
11	P3 Building Construction	Building Construction	4/13/2022	10/13/2022	5	132
12	P3 Paving	Paving	10/14/2022	10/24/2022	5	7
13	P3 Architectural Coatings	Architectural Coating	10/25/2022	11/2/2022	5	7

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.85

Residential Indoor: 57,443; Residential Outdoor: 19,148; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

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
Demolition	Tractors/Loaders/Backhoes	0		97	0.37
P1 Site Preparation	Graders	0		187	0.41
P1 Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
P1 Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
P1 Grading	Concrete/Industrial Saws	0		81	0.73
P1 Grading	Excavators	1	8.00	158	0.38
P1 Grading	Graders	1	8.00	187	0.41
P1 Grading	Rubber Tired Dozers	1	8.00	247	0.40

P1 Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
P1 Trenching	Cranes	0	0.00	231	0.29
P1 Trenching	Excavators	1	8.00	158	0.38
P1 Trenching	Forklifts	0	0.00	89	0.20
P1 Trenching	Tractors/Loaders/Backhoes	0	0.00	97	0.37
P1 Trenching	Trenchers	2	8.00	78	0.50
P1 Building Construction	Cement and Mortar Mixers	0	0.00	9	0.56
P1 Building Construction	Cranes	1	7.00	231	0.29
P1 Building Construction	Forklifts	3	8.00	89	0.20
P1 Building Construction	Generator Sets	1	8.00	84	0.74
P1 Building Construction	Pavers	0	0.00	130	0.42
P1 Building Construction	Rollers	0	0.00	80	0.38
P1 Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
P1 Building Construction	Welders	1	8.00	46	0.45
P1 Paving	Air Compressors	0	0.00	78	0.48
P1 Paving	Cement and Mortar Mixers	2	6.00	9	0.56
P1 Paving	Pavers	1	8.00	130	0.42
P1 Paving	Paving Equipment	2	6.00	132	0.36
P1 Paving	Rollers	2	6.00	80	0.38
P1 Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
P1 Architectural Coatings	Air Compressors	1	6.00	78	0.48
P2 Building Construction	Cranes	1	7.00	231	0.29
P2 Building Construction	Forklifts	3	8.00	89	0.20
P2 Building Construction	Generator Sets	1	8.00	84	0.74
P2 Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
P2 Building Construction	Welders	1	8.00	46	0.45
P2 Paving	Cement and Mortar Mixers	2	6.00	9	0.56
P2 Paving	Pavers	1	8.00	130	0.42
P2 Paving	Paving Equipment	2	6.00	132	0.36
P2 Paving	Rollers	2	6.00	80	0.38

P2 Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
P2 Architectural Coatings	Air Compressors	1	6.00	78	0.48
P3 Building Construction	Cranes	1	7.00	231	0.29
P3 Building Construction	Forklifts	3	8.00	89	0.20
P3 Building Construction	Generator Sets	1	8.00	84	0.74
P3 Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
P3 Building Construction	Welders	1	8.00	46	0.45
P3 Paving	Cement and Mortar Mixers	2	6.00	9	0.56
P3 Paving	Pavers	1	8.00	130	0.42
P3 Paving	Paving Equipment	2	6.00	132	0.36
P3 Paving	Rollers	2	6.00	80	0.38
P3 Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
P3 Architectural Coatings	Air Compressors	1	6.00	78	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	309.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P1 Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P1 Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P1 Trenching	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P1 Building Construction	9	60.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P1 Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P1 Architectural Coatings	1	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P2 Building Construction	9	60.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P2 Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P2 Architectural Coatings	1	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P3 Building Construction	9	60.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P3 Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P3 Architectural Coatings	1	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

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					3.0426	0.0000	3.0426	0.4607	0.0000	0.4607			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388	3.0426	1.6587	4.7013	0.4607	1.5419	2.0025		3,747.7049	3,747.7049	1.0580		3,774.1536

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	0.1087	3.9107	1.0274	0.0106	0.2446	0.0127	0.2573	0.0670	0.0122	0.0791		1,180.0709	1,180.0709	0.1272		1,183.2497
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
Worker	0.0651	0.0399	0.4538	1.5500e-003	0.1677	1.1100e-003	0.1688	0.0445	1.0200e-003	0.0455		154.7432	154.7432	3.5300e-003		154.8314
Total	0.1738	3.9506	1.4813	0.0121	0.4122	0.0138	0.4261	0.1114	0.0132	0.1246		1,334.8141	1,334.8141	0.1307		1,338.0811

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					1.1866	0.0000	1.1866	0.1797	0.0000	0.1797			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388	1.1866	1.6587	2.8453	0.1797	1.5419	1.7215	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536

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	0.1087	3.9107	1.0274	0.0106	0.2446	0.0127	0.2573	0.0670	0.0122	0.0791		1,180.0709	1,180.0709	0.1272		1,183.2497
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
Worker	0.0651	0.0399	0.4538	1.5500e-003	0.1677	1.1100e-003	0.1688	0.0445	1.0200e-003	0.0455		154.7432	154.7432	3.5300e-003		154.8314
Total	0.1738	3.9506	1.4813	0.0121	0.4122	0.0138	0.4261	0.1114	0.0132	0.1246		1,334.8141	1,334.8141	0.1307		1,338.0811

3.3 P1 Site Preparation - 2020

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					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.4985	15.5425	8.6910	0.0147		0.8212	0.8212		0.7555	0.7555		1,428.8795	1,428.8795	0.4621		1,440.4327
Total	1.4985	15.5425	8.6910	0.0147	6.0221	0.8212	6.8433	3.3102	0.7555	4.0658		1,428.8795	1,428.8795	0.4621		1,440.4327

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
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
Worker	0.0347	0.0213	0.2420	8.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		82.5297	82.5297	1.8800e-003		82.5768
Total	0.0347	0.0213	0.2420	8.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		82.5297	82.5297	1.8800e-003		82.5768

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					2.3486	0.0000	2.3486	1.2910	0.0000	1.2910			0.0000			0.0000
Off-Road	1.4985	15.5425	8.6910	0.0147		0.8212	0.8212		0.7555	0.7555	0.0000	1,428.8795	1,428.8795	0.4621		1,440.4327
Total	1.4985	15.5425	8.6910	0.0147	2.3486	0.8212	3.1698	1.2910	0.7555	2.0465	0.0000	1,428.8795	1,428.8795	0.4621		1,440.4327

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
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
Worker	0.0347	0.0213	0.2420	8.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		82.5297	82.5297	1.8800e-003		82.5768
Total	0.0347	0.0213	0.2420	8.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		82.5297	82.5297	1.8800e-003		82.5768

3.4 P1 Grading - 2020

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	2.4288	26.3859	16.0530	0.0297	6.5523	1.2734	7.8258	3.3675	1.1716	4.5390		2,872.4851	2,872.4851	0.9290		2,895.7106

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
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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	
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
Worker	0.0651	0.0399	0.4538	1.5500e-003	0.1677	1.1100e-003	0.1688	0.0445	1.0200e-003	0.0455		154.7432	154.7432	3.5300e-003		154.8314
Total	0.0651	0.0399	0.4538	1.5500e-003	0.1677	1.1100e-003	0.1688	0.0445	1.0200e-003	0.0455		154.7432	154.7432	3.5300e-003		154.8314

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					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	2.4288	26.3859	16.0530	0.0297	2.5554	1.2734	3.8288	1.3133	1.1716	2.4849	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106

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
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
Worker	0.0651	0.0399	0.4538	1.5500e-003	0.1677	1.1100e-003	0.1688	0.0445	1.0200e-003	0.0455		154.7432	154.7432	3.5300e-003		154.8314

Total	0.0651	0.0399	0.4538	1.5500e-003	0.1677	1.1100e-003	0.1688	0.0445	1.0200e-003	0.0455		154.7432	154.7432	3.5300e-003		154.8314
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3.4 P1 Grading - 2021

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000				0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288			2,895.1495
Total	2.2903	24.7367	15.8575	0.0296	6.5523	1.1599	7.7123	3.3675	1.0671	4.4346		2,871.9285	2,871.9285	0.9288			2,895.1495

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
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
Worker	0.0613	0.0360	0.4204	1.5000e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		149.3748	149.3748	3.2000e-003			149.4548
Total	0.0613	0.0360	0.4204	1.5000e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		149.3748	149.3748	3.2000e-003			149.4548

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					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	2.2903	24.7367	15.8575	0.0296	2.5554	1.1599	3.7153	1.3133	1.0671	2.3804	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495

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
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
Worker	0.0613	0.0360	0.4204	1.5000e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		149.3748	149.3748	3.2000e-003		149.4548
Total	0.0613	0.0360	0.4204	1.5000e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		149.3748	149.3748	3.2000e-003		149.4548

3.5 P1 Trenching - 2021

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	0.9941	9.1776	8.4844	0.0119		0.6145	0.6145		0.5653	0.5653		1,154.0370	1,154.0370	0.3732		1,163.3680
Total	0.9941	9.1776	8.4844	0.0119		0.6145	0.6145		0.5653	0.5653		1,154.0370	1,154.0370	0.3732		1,163.3680

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
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
Worker	0.0327	0.0192	0.2242	8.0000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		79.6666	79.6666	1.7100e-003		79.7092
Total	0.0327	0.0192	0.2242	8.0000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		79.6666	79.6666	1.7100e-003		79.7092

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	0.9941	9.1776	8.4844	0.0119		0.6145	0.6145		0.5653	0.5653	0.0000	1,154.0370	1,154.0370	0.3732		1,163.3680
Total	0.9941	9.1776	8.4844	0.0119		0.6145	0.6145		0.5653	0.5653	0.0000	1,154.0370	1,154.0370	0.3732		1,163.3680

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
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
Worker	0.0327	0.0192	0.2242	8.0000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		79.6666	79.6666	1.7100e-003		79.7092
Total	0.0327	0.0192	0.2242	8.0000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		79.6666	79.6666	1.7100e-003		79.7092

3.6 P1 Building Construction - 2021

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643

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
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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
Vendor	0.0476	1.5911	0.4745	4.0900e-003	0.1086	3.4400e-003	0.1121	0.0313	3.2900e-003	0.0345		445.7213	445.7213	0.0376		446.6609
Worker	0.2452	0.1440	1.6816	5.9900e-003	0.6707	4.3400e-003	0.6750	0.1779	4.0000e-003	0.1819		597.4993	597.4993	0.0128		597.8192
Total	0.2928	1.7351	2.1561	0.0101	0.7793	7.7800e-003	0.7871	0.2091	7.2900e-003	0.2164		1,043.2206	1,043.2206	0.0504		1,044.4801

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643

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
Vendor	0.0476	1.5911	0.4745	4.0900e-003	0.1086	3.4400e-003	0.1121	0.0313	3.2900e-003	0.0345		445.7213	445.7213	0.0376		446.6609
Worker	0.2452	0.1440	1.6816	5.9900e-003	0.6707	4.3400e-003	0.6750	0.1779	4.0000e-003	0.1819		597.4993	597.4993	0.0128		597.8192

Total	0.2928	1.7351	2.1561	0.0101	0.7793	7.7800e-003	0.7871	0.2091	7.2900e-003	0.2164		1,043.2206	1,043.2206	0.0504		1,044.4801
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3.7 P1 Paving - 2021

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	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342		1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.6924					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.7864	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342		1,804.5523	1,804.5523	0.5670		1,818.7270

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
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
Worker	0.0817	0.0480	0.5605	2.0000e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		199.1664	199.1664	4.2600e-003		199.2731
Total	0.0817	0.0480	0.5605	2.0000e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		199.1664	199.1664	4.2600e-003		199.2731

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	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342	0.0000	1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.6924					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.7864	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342	0.0000	1,804.5523	1,804.5523	0.5670		1,818.7270

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
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
Worker	0.0817	0.0480	0.5605	2.0000e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		199.1664	199.1664	4.2600e-003		199.2731
Total	0.0817	0.0480	0.5605	2.0000e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		199.1664	199.1664	4.2600e-003		199.2731

3.8 P1 Architectural Coatings - 2021

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	26.4231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	26.6420	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

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
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
Worker	0.0490	0.0288	0.3363	1.2000e-003	0.1341	8.7000e-004	0.1350	0.0356	8.0000e-004	0.0364		119.4999	119.4999	2.5600e-003		119.5638
Total	0.0490	0.0288	0.3363	1.2000e-003	0.1341	8.7000e-004	0.1350	0.0356	8.0000e-004	0.0364		119.4999	119.4999	2.5600e-003		119.5638

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	26.4231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	26.6420	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

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
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
Worker	0.0490	0.0288	0.3363	1.2000e-003	0.1341	8.7000e-004	0.1350	0.0356	8.0000e-004	0.0364		119.4999	119.4999	2.5600e-003		119.5638
Total	0.0490	0.0288	0.3363	1.2000e-003	0.1341	8.7000e-004	0.1350	0.0356	8.0000e-004	0.0364		119.4999	119.4999	2.5600e-003		119.5638

3.9 P2 Building Construction - 2021

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643

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
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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	0.0476	1.5911	0.4745	4.0900e-003	0.1086	3.4400e-003	0.1121	0.0313	3.2900e-003	0.0345			445.7213	445.7213	0.0376		446.6609
Worker	0.2452	0.1440	1.6816	5.9900e-003	0.6707	4.3400e-003	0.6750	0.1779	4.0000e-003	0.1819			597.4993	597.4993	0.0128		597.8192
Total	0.2928	1.7351	2.1561	0.0101	0.7793	7.7800e-003	0.7871	0.2091	7.2900e-003	0.2164			1,043.2206	1,043.2206	0.0504		1,044.4801

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643

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
Vendor	0.0476	1.5911	0.4745	4.0900e-003	0.1086	3.4400e-003	0.1121	0.0313	3.2900e-003	0.0345		445.7213	445.7213	0.0376		446.6609
Worker	0.2452	0.1440	1.6816	5.9900e-003	0.6707	4.3400e-003	0.6750	0.1779	4.0000e-003	0.1819		597.4993	597.4993	0.0128		597.8192

Total	0.2928	1.7351	2.1561	0.0101	0.7793	7.7800e-003	0.7871	0.2091	7.2900e-003	0.2164		1,043.2206	1,043.2206	0.0504		1,044.4801
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3.9 P2 Building Construction - 2022

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322

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
Vendor	0.0448	1.5042	0.4575	4.0500e-003	0.1086	2.9900e-003	0.1116	0.0313	2.8600e-003	0.0341		441.3018	441.3018	0.0363		442.2102
Worker	0.2323	0.1304	1.5671	5.7700e-003	0.6707	4.2600e-003	0.6749	0.1779	3.9200e-003	0.1818		575.3873	575.3873	0.0116		575.6775
Total	0.2771	1.6347	2.0246	9.8200e-003	0.7793	7.2500e-003	0.7865	0.2091	6.7800e-003	0.2159		1,016.6891	1,016.6891	0.0480		1,017.8877

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322

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
Vendor	0.0448	1.5042	0.4575	4.0500e-003	0.1086	2.9900e-003	0.1116	0.0313	2.8600e-003	0.0341		441.3018	441.3018	0.0363		442.2102
Worker	0.2323	0.1304	1.5671	5.7700e-003	0.6707	4.2600e-003	0.6749	0.1779	3.9200e-003	0.1818		575.3873	575.3873	0.0116		575.6775
Total	0.2771	1.6347	2.0246	9.8200e-003	0.7793	7.2500e-003	0.7865	0.2091	6.7800e-003	0.2159		1,016.6891	1,016.6891	0.0480		1,017.8877

3.10 P2 Paving - 2022

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	0.9765	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504		1,805.1297	1,805.1297	0.5672		1,819.3091
Paving	0.6924					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6689	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504		1,805.1297	1,805.1297	0.5672		1,819.3091

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
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
Worker	0.0774	0.0435	0.5224	1.9200e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		191.7958	191.7958	3.8700e-003		191.8925
Total	0.0774	0.0435	0.5224	1.9200e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		191.7958	191.7958	3.8700e-003		191.8925

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	0.9765	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504	0.0000	1,805.1297	1,805.1297	0.5672		1,819.3091
Paving	0.6924					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6689	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504	0.0000	1,805.1297	1,805.1297	0.5672		1,819.3091

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
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
Worker	0.0774	0.0435	0.5224	1.9200e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		191.7958	191.7958	3.8700e-003		191.8925
Total	0.0774	0.0435	0.5224	1.9200e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		191.7958	191.7958	3.8700e-003		191.8925

3.11 P2 Architectural Coatings - 2022

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	26.4231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	26.6277	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062

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
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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	0.0465	0.0261	0.3134	1.1500e-003	0.1341	8.5000e-004	0.1350	0.0356	7.8000e-004	0.0364		115.0775	115.0775	2.3200e-003		115.1355	
Total	0.0465	0.0261	0.3134	1.1500e-003	0.1341	8.5000e-004	0.1350	0.0356	7.8000e-004	0.0364		115.0775	115.0775	2.3200e-003		115.1355	

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	26.4231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	26.6277	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062

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
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
Worker	0.0465	0.0261	0.3134	1.1500e-003	0.1341	8.5000e-004	0.1350	0.0356	7.8000e-004	0.0364		115.0775	115.0775	2.3200e-003		115.1355

Total	0.0465	0.0261	0.3134	1.1500e-003	0.1341	8.5000e-004	0.1350	0.0356	7.8000e-004	0.0364		115.0775	115.0775	2.3200e-003		115.1355
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3.12 P3 Building Construction - 2022

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322

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
Vendor	0.0448	1.5042	0.4575	4.0500e-003	0.1086	2.9900e-003	0.1116	0.0313	2.8600e-003	0.0341		441.3018	441.3018	0.0363		442.2102
Worker	0.2323	0.1304	1.5671	5.7700e-003	0.6707	4.2600e-003	0.6749	0.1779	3.9200e-003	0.1818		575.3873	575.3873	0.0116		575.6775
Total	0.2771	1.6347	2.0246	9.8200e-003	0.7793	7.2500e-003	0.7865	0.2091	6.7800e-003	0.2159		1,016.6891	1,016.6891	0.0480		1,017.8877

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322

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
Vendor	0.0448	1.5042	0.4575	4.0500e-003	0.1086	2.9900e-003	0.1116	0.0313	2.8600e-003	0.0341		441.3018	441.3018	0.0363		442.2102
Worker	0.2323	0.1304	1.5671	5.7700e-003	0.6707	4.2600e-003	0.6749	0.1779	3.9200e-003	0.1818		575.3873	575.3873	0.0116		575.6775
Total	0.2771	1.6347	2.0246	9.8200e-003	0.7793	7.2500e-003	0.7865	0.2091	6.7800e-003	0.2159		1,016.6891	1,016.6891	0.0480		1,017.8877

3.13 P3 Paving - 2022

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	0.9765	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504		1,805.1297	1,805.1297	0.5672		1,819.3091
Paving	0.6924					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6689	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504		1,805.1297	1,805.1297	0.5672		1,819.3091

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
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
Worker	0.0774	0.0435	0.5224	1.9200e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		191.7958	191.7958	3.8700e-003		191.8925
Total	0.0774	0.0435	0.5224	1.9200e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		191.7958	191.7958	3.8700e-003		191.8925

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	0.9765	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504	0.0000	1,805.1297	1,805.1297	0.5672		1,819.3091
Paving	0.6924					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6689	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504	0.0000	1,805.1297	1,805.1297	0.5672		1,819.3091

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
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
Worker	0.0774	0.0435	0.5224	1.9200e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		191.7958	191.7958	3.8700e-003		191.8925
Total	0.0774	0.0435	0.5224	1.9200e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		191.7958	191.7958	3.8700e-003		191.8925

3.14 P3 Architectural Coatings - 2022

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	26.4231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	26.6277	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062

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
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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	0.0465	0.0261	0.3134	1.1500e-003	0.1341	8.5000e-004	0.1350	0.0356	7.8000e-004	0.0364	0.0364		115.0775	115.0775	2.3200e-003	115.1355
Total	0.0465	0.0261	0.3134	1.1500e-003	0.1341	8.5000e-004	0.1350	0.0356	7.8000e-004	0.0364	0.0364		115.0775	115.0775	2.3200e-003	115.1355

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	26.4231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	26.6277	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062

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
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
Worker	0.0465	0.0261	0.3134	1.1500e-003	0.1341	8.5000e-004	0.1350	0.0356	7.8000e-004	0.0364		115.0775	115.0775	2.3200e-003		115.1355

Total	0.0465	0.0261	0.3134	1.1500e-003	0.1341	8.5000e-004	0.1350	0.0356	7.8000e-004	0.0364		115.0775	115.0775	2.3200e-003		115.1355
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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	lb/day										lb/day					
Mitigated	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
Unmitigated	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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Condo/Townhouse	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Parking Lot	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	0.0193	0.1648	0.0702	1.0500e-003		0.0133	0.0133		0.0133	0.0133		210.4394	210.4394	4.0300e-003	3.8600e-003	211.6900
NaturalGas Unmitigated	0.0193	0.1648	0.0702	1.0500e-003		0.0133	0.0133		0.0133	0.0133		210.4394	210.4394	4.0300e-003	3.8600e-003	211.6900

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					
Condo/Townhouse	1788.74	0.0193	0.1648	0.0702	1.0500e-003		0.0133	0.0133		0.0133	0.0133		210.4394	210.4394	4.0300e-003	3.8600e-003	211.6900
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

Total		0.0193	0.1648	0.0702	1.0500e-003		0.0133	0.0133		0.0133	0.0133		210.4394	210.4394	4.0300e-003	3.8600e-003	211.6900
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Mitigated

	Natural Gas 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					
Condo/Townhouse	1.78874	0.0193	0.1648	0.0702	1.0500e-003		0.0133	0.0133		0.0133	0.0133		210.4394	210.4394	4.0300e-003	3.8600e-003	211.6900
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
Total		0.0193	0.1648	0.0702	1.0500e-003		0.0133	0.0133		0.0133	0.0133		210.4394	210.4394	4.0300e-003	3.8600e-003	211.6900

6.0 Area Detail

6.1 Mitigation Measures Area

	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	2.0196	0.5570	3.2861	3.4900e-003		0.0591	0.0591		0.0591	0.0591	0.0000	671.5141	671.5141	0.0181	0.0122	675.6055
Unmitigated	2.0196	0.5570	3.2861	3.4900e-003		0.0591	0.0591		0.0591	0.0591	0.0000	671.5141	671.5141	0.0181	0.0122	675.6055

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	0.1520					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7135					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0611	0.5217	0.2220	3.3300e-003		0.0422	0.0422		0.0422	0.0422	0.0000	666.0000	666.0000	0.0128	0.0122	669.9577
Landscaping	0.0931	0.0353	3.0641	1.6000e-004		0.0169	0.0169		0.0169	0.0169		5.5141	5.5141	5.3500e-003		5.6478
Total	2.0196	0.5570	3.2861	3.4900e-003		0.0591	0.0591		0.0591	0.0591	0.0000	671.5141	671.5141	0.0181	0.0122	675.6055

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	0.1520					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7135					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0611	0.5217	0.2220	3.3300e-003		0.0422	0.0422		0.0422	0.0422	0.0000	666.0000	666.0000	0.0128	0.0122	669.9577
Landscaping	0.0931	0.0353	3.0641	1.6000e-004		0.0169	0.0169		0.0169	0.0169		5.5141	5.5141	5.3500e-003		5.6478
Total	2.0196	0.5570	3.2861	3.4900e-003		0.0591	0.0591		0.0591	0.0591	0.0000	671.5141	671.5141	0.0181	0.0122	675.6055

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Ranch Hills Community Project - Orange County, Summer

Ranch Hills Community Project
Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	80.50	1000sqft	1.85	80,500.00	0
Condo/Townhouse	37.00	Dwelling Unit	2.00	85,100.00	74

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - .

Construction Phase - .

Off-road Equipment - .

Off-road Equipment -

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .
 Off-road Equipment - .
 Off-road Equipment -
 Off-road Equipment -
 Off-road Equipment -
 Off-road Equipment -
 Off-road Equipment -
 Off-road Equipment -
 Trips and VMT - .
 Demolition - .
 Grading -
 Woodstoves - .
 Consumer Products -
 Area Coating - .
 Construction Off-road Equipment Mitigation - .
 Vehicle Trips - Overall Net Reduction in trips
 Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	4,830.00	1,610.00
tblArchitecturalCoating	ConstArea_Parking	4,830.00	1,610.00
tblArchitecturalCoating	ConstArea_Parking	4,830.00	1,610.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	57,443.00	19,148.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	57,443.00	19,148.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	57,443.00	19,148.00
tblArchitecturalCoating	ConstArea_Residential_Interior	172,328.00	57,443.00
tblArchitecturalCoating	ConstArea_Residential_Interior	172,328.00	57,443.00
tblArchitecturalCoating	ConstArea_Residential_Interior	172,328.00	57,443.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	18.00	7.00

tblConstructionPhase	NumDays	230.00	132.00
tblConstructionPhase	NumDays	230.00	132.00
tblConstructionPhase	NumDays	230.00	132.00
tblConstructionPhase	NumDays	20.00	22.00
tblConstructionPhase	NumDays	8.00	65.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	5.00	22.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.85	0.00
tblLandUse	LandUseSquareFeet	37,000.00	85,100.00
tblLandUse	LotAcreage	2.31	2.00
tblLandUse	Population	106.00	74.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblVehicleTrips	ST_TR	5.67	0.00
tblVehicleTrips	SU_TR	4.84	0.00
tblVehicleTrips	WD_TR	5.81	0.00
tblWoodstoves	NumberCatalytic	1.85	0.00
tblWoodstoves	NumberNoncatalytic	1.85	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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
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Year	lb/day										lb/day					
2020	3.4758	37.0994	23.2200	0.0512	6.7200	1.6723	7.9945	3.4120	1.5548	4.5845	0.0000	5,109.3700	5,109.3700	1.1859	0.0000	5,139.0169
2021	26.6854	24.7694	18.8301	0.0374	6.7200	1.1610	7.8810	3.4120	1.0681	4.4801	0.0000	3,641.6277	3,641.6277	0.9322	0.0000	3,658.2618
2022	26.6686	17.2432	18.4819	0.0372	0.7793	0.8162	1.5954	0.2091	0.7678	0.9770	0.0000	3,614.7138	3,614.7138	0.6589	0.0000	3,631.1871
Maximum	26.6854	37.0994	23.2200	0.0512	6.7200	1.6723	7.9945	3.4120	1.5548	4.5845	0.0000	5,109.3700	5,109.3700	1.1859	0.0000	5,139.0169

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					
2020	3.4758	37.0994	23.2200	0.0512	2.7231	1.6723	3.9976	1.3578	1.5548	2.5304	0.0000	5,109.3700	5,109.3700	1.1859	0.0000	5,139.0169
2021	26.6854	24.7694	18.8301	0.0374	2.7231	1.1610	3.8841	1.3578	1.0681	2.4259	0.0000	3,641.6277	3,641.6277	0.9322	0.0000	3,658.2618
2022	26.6686	17.2432	18.4819	0.0372	0.7793	0.8162	1.5954	0.2091	0.7678	0.9770	0.0000	3,614.7138	3,614.7138	0.6589	0.0000	3,631.1871
Maximum	26.6854	37.0994	23.2200	0.0512	2.7231	1.6723	3.9976	1.3578	1.5548	2.5304	0.0000	5,109.3700	5,109.3700	1.1859	0.0000	5,139.0169

	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
Percent Reduction	0.00	0.00	0.00	0.00	56.22	0.00	45.76	58.41	0.00	40.91	0.00	0.00	0.00	0.00	0.00	0.00

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
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Category	lb/day										lb/day					
Area	2.0196	0.5570	3.2861	3.4900e-003		0.0591	0.0591		0.0591	0.0591	0.0000	671.5141	671.5141	0.0181	0.0122	675.6055
Energy	0.0193	0.1648	0.0702	1.0500e-003		0.0133	0.0133		0.0133	0.0133		210.4394	210.4394	4.0300e-003	3.8600e-003	211.6900
Mobile	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
Total	2.0389	0.7219	3.3562	4.5400e-003	0.0000	0.0724	0.0724	0.0000	0.0724	0.0724	0.0000	881.9535	881.9535	0.0221	0.0161	887.2955

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	2.0196	0.5570	3.2861	3.4900e-003		0.0591	0.0591		0.0591	0.0591	0.0000	671.5141	671.5141	0.0181	0.0122	675.6055
Energy	0.0193	0.1648	0.0702	1.0500e-003		0.0133	0.0133		0.0133	0.0133		210.4394	210.4394	4.0300e-003	3.8600e-003	211.6900
Mobile	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
Total	2.0389	0.7219	3.3562	4.5400e-003	0.0000	0.0724	0.0724	0.0000	0.0724	0.0724	0.0000	881.9535	881.9535	0.0221	0.0161	887.2955

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	9/1/2020	9/30/2020	5	22	
2	P1 Site Preparation	Site Preparation	10/1/2020	10/31/2020	5	22	

3	P1 Grading	Grading	11/1/2020	1/29/2021	5	65
4	P1 Trenching	Trenching	2/1/2021	2/26/2021	5	20
5	P1 Building Construction	Building Construction	3/1/2021	8/31/2021	5	132
6	P1 Paving	Paving	9/1/2021	9/9/2021	5	7
7	P1 Architectural Coatings	Architectural Coating	9/10/2021	9/20/2021	5	7
8	P2 Building Construction	Building Construction	9/21/2021	3/23/2022	5	132
9	P2 Paving	Paving	3/24/2022	4/1/2022	5	7
10	P2 Architectural Coatings	Architectural Coating	4/2/2022	4/12/2022	5	7
11	P3 Building Construction	Building Construction	4/13/2022	10/13/2022	5	132
12	P3 Paving	Paving	10/14/2022	10/24/2022	5	7
13	P3 Architectural Coatings	Architectural Coating	10/25/2022	11/2/2022	5	7

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.85

Residential Indoor: 57,443; Residential Outdoor: 19,148; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

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
Demolition	Tractors/Loaders/Backhoes	0		97	0.37
P1 Site Preparation	Graders	0		187	0.41
P1 Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
P1 Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
P1 Grading	Concrete/Industrial Saws	0		81	0.73
P1 Grading	Excavators	1	8.00	158	0.38
P1 Grading	Graders	1	8.00	187	0.41
P1 Grading	Rubber Tired Dozers	1	8.00	247	0.40

P1 Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
P1 Trenching	Cranes	0	0.00	231	0.29
P1 Trenching	Excavators	1	8.00	158	0.38
P1 Trenching	Forklifts	0	0.00	89	0.20
P1 Trenching	Tractors/Loaders/Backhoes	0	0.00	97	0.37
P1 Trenching	Trenchers	2	8.00	78	0.50
P1 Building Construction	Cement and Mortar Mixers	0	0.00	9	0.56
P1 Building Construction	Cranes	1	7.00	231	0.29
P1 Building Construction	Forklifts	3	8.00	89	0.20
P1 Building Construction	Generator Sets	1	8.00	84	0.74
P1 Building Construction	Pavers	0	0.00	130	0.42
P1 Building Construction	Rollers	0	0.00	80	0.38
P1 Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
P1 Building Construction	Welders	1	8.00	46	0.45
P1 Paving	Air Compressors	0	0.00	78	0.48
P1 Paving	Cement and Mortar Mixers	2	6.00	9	0.56
P1 Paving	Pavers	1	8.00	130	0.42
P1 Paving	Paving Equipment	2	6.00	132	0.36
P1 Paving	Rollers	2	6.00	80	0.38
P1 Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
P1 Architectural Coatings	Air Compressors	1	6.00	78	0.48
P2 Building Construction	Cranes	1	7.00	231	0.29
P2 Building Construction	Forklifts	3	8.00	89	0.20
P2 Building Construction	Generator Sets	1	8.00	84	0.74
P2 Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
P2 Building Construction	Welders	1	8.00	46	0.45
P2 Paving	Cement and Mortar Mixers	2	6.00	9	0.56
P2 Paving	Pavers	1	8.00	130	0.42
P2 Paving	Paving Equipment	2	6.00	132	0.36
P2 Paving	Rollers	2	6.00	80	0.38

P2 Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
P2 Architectural Coatings	Air Compressors	1	6.00	78	0.48
P3 Building Construction	Cranes	1	7.00	231	0.29
P3 Building Construction	Forklifts	3	8.00	89	0.20
P3 Building Construction	Generator Sets	1	8.00	84	0.74
P3 Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
P3 Building Construction	Welders	1	8.00	46	0.45
P3 Paving	Cement and Mortar Mixers	2	6.00	9	0.56
P3 Paving	Pavers	1	8.00	130	0.42
P3 Paving	Paving Equipment	2	6.00	132	0.36
P3 Paving	Rollers	2	6.00	80	0.38
P3 Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
P3 Architectural Coatings	Air Compressors	1	6.00	78	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	309.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P1 Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P1 Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P1 Trenching	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P1 Building Construction	9	60.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P1 Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P1 Architectural Coatings	1	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P2 Building Construction	9	60.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P2 Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P2 Architectural Coatings	1	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P3 Building Construction	9	60.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P3 Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P3 Architectural Coatings	1	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

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					3.0426	0.0000	3.0426	0.4607	0.0000	0.4607			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388	3.0426	1.6587	4.7013	0.4607	1.5419	2.0025		3,747.7049	3,747.7049	1.0580		3,774.1536

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	0.1061	3.8621	0.9758	0.0108	0.2446	0.0125	0.2571	0.0670	0.0120	0.0789		1,198.1586	1,198.1586	0.1242		1,201.2635
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
Worker	0.0576	0.0363	0.4910	1.6400e-003	0.1677	1.1100e-003	0.1688	0.0445	1.0200e-003	0.0455		163.5065	163.5065	3.7300e-003		163.5997
Total	0.1637	3.8984	1.4668	0.0124	0.4122	0.0136	0.4258	0.1114	0.0130	0.1244		1,361.6651	1,361.6651	0.1279		1,364.8633

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					1.1866	0.0000	1.1866	0.1797	0.0000	0.1797			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388	1.1866	1.6587	2.8453	0.1797	1.5419	1.7215	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536

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	0.1061	3.8621	0.9758	0.0108	0.2446	0.0125	0.2571	0.0670	0.0120	0.0789		1,198.1586	1,198.1586	0.1242		1,201.2635
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
Worker	0.0576	0.0363	0.4910	1.6400e-003	0.1677	1.1100e-003	0.1688	0.0445	1.0200e-003	0.0455		163.5065	163.5065	3.7300e-003		163.5997
Total	0.1637	3.8984	1.4668	0.0124	0.4122	0.0136	0.4258	0.1114	0.0130	0.1244		1,361.6651	1,361.6651	0.1279		1,364.8633

3.3 P1 Site Preparation - 2020

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					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.4985	15.5425	8.6910	0.0147		0.8212	0.8212		0.7555	0.7555		1,428.8795	1,428.8795	0.4621		1,440.4327
Total	1.4985	15.5425	8.6910	0.0147	6.0221	0.8212	6.8433	3.3102	0.7555	4.0658		1,428.8795	1,428.8795	0.4621		1,440.4327

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
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
Worker	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		87.2035	87.2035	1.9900e-003		87.2532
Total	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		87.2035	87.2035	1.9900e-003		87.2532

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					2.3486	0.0000	2.3486	1.2910	0.0000	1.2910			0.0000			0.0000
Off-Road	1.4985	15.5425	8.6910	0.0147		0.8212	0.8212		0.7555	0.7555	0.0000	1,428.8795	1,428.8795	0.4621		1,440.4327
Total	1.4985	15.5425	8.6910	0.0147	2.3486	0.8212	3.1698	1.2910	0.7555	2.0465	0.0000	1,428.8795	1,428.8795	0.4621		1,440.4327

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
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
Worker	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		87.2035	87.2035	1.9900e-003		87.2532
Total	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		87.2035	87.2035	1.9900e-003		87.2532

3.4 P1 Grading - 2020

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	2.4288	26.3859	16.0530	0.0297	6.5523	1.2734	7.8258	3.3675	1.1716	4.5390		2,872.4851	2,872.4851	0.9290		2,895.7106

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
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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	0.0576	0.0363	0.4910	1.6400e-003	0.1677	1.1100e-003	0.1688	0.0445	1.0200e-003	0.0455		163.5065	163.5065	3.7300e-003		163.5997
Total	0.0576	0.0363	0.4910	1.6400e-003	0.1677	1.1100e-003	0.1688	0.0445	1.0200e-003	0.0455		163.5065	163.5065	3.7300e-003		163.5997

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					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	2.4288	26.3859	16.0530	0.0297	2.5554	1.2734	3.8288	1.3133	1.1716	2.4849	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106

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
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
Worker	0.0576	0.0363	0.4910	1.6400e-003	0.1677	1.1100e-003	0.1688	0.0445	1.0200e-003	0.0455		163.5065	163.5065	3.7300e-003		163.5997

Total	0.0576	0.0363	0.4910	1.6400e-003	0.1677	1.1100e-003	0.1688	0.0445	1.0200e-003	0.0455		163.5065	163.5065	3.7300e-003		163.5997
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3.4 P1 Grading - 2021

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000				0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288			2,895.1495
Total	2.2903	24.7367	15.8575	0.0296	6.5523	1.1599	7.7123	3.3675	1.0671	4.4346		2,871.9285	2,871.9285	0.9288			2,895.1495

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
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
Worker	0.0541	0.0328	0.4556	1.5800e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		157.8291	157.8291	3.3800e-003			157.9136
Total	0.0541	0.0328	0.4556	1.5800e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		157.8291	157.8291	3.3800e-003			157.9136

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					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	2.2903	24.7367	15.8575	0.0296	2.5554	1.1599	3.7153	1.3133	1.0671	2.3804	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495

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
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
Worker	0.0541	0.0328	0.4556	1.5800e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		157.8291	157.8291	3.3800e-003		157.9136
Total	0.0541	0.0328	0.4556	1.5800e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		157.8291	157.8291	3.3800e-003		157.9136

3.5 P1 Trenching - 2021

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	0.9941	9.1776	8.4844	0.0119		0.6145	0.6145		0.5653	0.5653		1,154.0370	1,154.0370	0.3732		1,163.3680
Total	0.9941	9.1776	8.4844	0.0119		0.6145	0.6145		0.5653	0.5653		1,154.0370	1,154.0370	0.3732		1,163.3680

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
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
Worker	0.0289	0.0175	0.2430	8.4000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		84.1755	84.1755	1.8000e-003		84.2206
Total	0.0289	0.0175	0.2430	8.4000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		84.1755	84.1755	1.8000e-003		84.2206

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	0.9941	9.1776	8.4844	0.0119		0.6145	0.6145		0.5653	0.5653	0.0000	1,154.0370	1,154.0370	0.3732		1,163.3680
Total	0.9941	9.1776	8.4844	0.0119		0.6145	0.6145		0.5653	0.5653	0.0000	1,154.0370	1,154.0370	0.3732		1,163.3680

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
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
Worker	0.0289	0.0175	0.2430	8.4000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		84.1755	84.1755	1.8000e-003		84.2206
Total	0.0289	0.0175	0.2430	8.4000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		84.1755	84.1755	1.8000e-003		84.2206

3.6 P1 Building Construction - 2021

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643

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
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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	0.0454	1.5948	0.4325	4.1900e-003	0.1086	3.3100e-003	0.1119	0.0313	3.1700e-003	0.0344		456.9473	456.9473	0.0358		457.8430
Worker	0.2166	0.1310	1.8224	6.3300e-003	0.6707	4.3400e-003	0.6750	0.1779	4.0000e-003	0.1819		631.3165	631.3165	0.0135		631.6545
Total	0.2619	1.7259	2.2549	0.0105	0.7793	7.6500e-003	0.7869	0.2091	7.1700e-003	0.2163		1,088.2638	1,088.2638	0.0494		1,089.4975

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643

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
Vendor	0.0454	1.5948	0.4325	4.1900e-003	0.1086	3.3100e-003	0.1119	0.0313	3.1700e-003	0.0344		456.9473	456.9473	0.0358		457.8430
Worker	0.2166	0.1310	1.8224	6.3300e-003	0.6707	4.3400e-003	0.6750	0.1779	4.0000e-003	0.1819		631.3165	631.3165	0.0135		631.6545

Total	0.2619	1.7259	2.2549	0.0105	0.7793	7.6500e-003	0.7869	0.2091	7.1700e-003	0.2163		1,088.2638	1,088.2638	0.0494		1,089.4975
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3.7 P1 Paving - 2021

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	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342		1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.6924					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.7864	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342		1,804.5523	1,804.5523	0.5670		1,818.7270

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
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
Worker	0.0722	0.0437	0.6075	2.1100e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		210.4388	210.4388	4.5100e-003		210.5515
Total	0.0722	0.0437	0.6075	2.1100e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		210.4388	210.4388	4.5100e-003		210.5515

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	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342	0.0000	1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.6924					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.7864	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342	0.0000	1,804.5523	1,804.5523	0.5670		1,818.7270

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
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
Worker	0.0722	0.0437	0.6075	2.1100e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		210.4388	210.4388	4.5100e-003		210.5515
Total	0.0722	0.0437	0.6075	2.1100e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		210.4388	210.4388	4.5100e-003		210.5515

3.8 P1 Architectural Coatings - 2021

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	26.4231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	26.6420	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

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
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
Worker	0.0433	0.0262	0.3645	1.2700e-003	0.1341	8.7000e-004	0.1350	0.0356	8.0000e-004	0.0364		126.2633	126.2633	2.7000e-003		126.3309
Total	0.0433	0.0262	0.3645	1.2700e-003	0.1341	8.7000e-004	0.1350	0.0356	8.0000e-004	0.0364		126.2633	126.2633	2.7000e-003		126.3309

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	26.4231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	26.6420	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

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
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
Worker	0.0433	0.0262	0.3645	1.2700e-003	0.1341	8.7000e-004	0.1350	0.0356	8.0000e-004	0.0364		126.2633	126.2633	2.7000e-003			126.3309
Total	0.0433	0.0262	0.3645	1.2700e-003	0.1341	8.7000e-004	0.1350	0.0356	8.0000e-004	0.0364		126.2633	126.2633	2.7000e-003			126.3309

3.9 P2 Building Construction - 2021

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160			2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160			2,568.7643

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
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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
Vendor	0.0454	1.5948	0.4325	4.1900e-003	0.1086	3.3100e-003	0.1119	0.0313	3.1700e-003	0.0344		456.9473	456.9473	0.0358		457.8430
Worker	0.2166	0.1310	1.8224	6.3300e-003	0.6707	4.3400e-003	0.6750	0.1779	4.0000e-003	0.1819		631.3165	631.3165	0.0135		631.6545
Total	0.2619	1.7259	2.2549	0.0105	0.7793	7.6500e-003	0.7869	0.2091	7.1700e-003	0.2163		1,088.2638	1,088.2638	0.0494		1,089.4975

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643

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
Vendor	0.0454	1.5948	0.4325	4.1900e-003	0.1086	3.3100e-003	0.1119	0.0313	3.1700e-003	0.0344		456.9473	456.9473	0.0358		457.8430
Worker	0.2166	0.1310	1.8224	6.3300e-003	0.6707	4.3400e-003	0.6750	0.1779	4.0000e-003	0.1819		631.3165	631.3165	0.0135		631.6545

Total	0.2619	1.7259	2.2549	0.0105	0.7793	7.6500e-003	0.7869	0.2091	7.1700e-003	0.2163		1,088.2638	1,088.2638	0.0494		1,089.4975
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3.9 P2 Building Construction - 2022

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322

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
Vendor	0.0427	1.5088	0.4176	4.1400e-003	0.1086	2.8800e-003	0.1115	0.0313	2.7600e-003	0.0340		452.4594	452.4594	0.0347		453.3272
Worker	0.2047	0.1187	1.7009	6.1000e-003	0.6707	4.2600e-003	0.6749	0.1779	3.9200e-003	0.1818		607.9207	607.9207	0.0123		608.2277
Total	0.2473	1.6275	2.1185	0.0102	0.7793	7.1400e-003	0.7864	0.2091	6.6800e-003	0.2158		1,060.3802	1,060.3802	0.0470		1,061.5549

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322

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
Vendor	0.0427	1.5088	0.4176	4.1400e-003	0.1086	2.8800e-003	0.1115	0.0313	2.7600e-003	0.0340		452.4594	452.4594	0.0347		453.3272
Worker	0.2047	0.1187	1.7009	6.1000e-003	0.6707	4.2600e-003	0.6749	0.1779	3.9200e-003	0.1818		607.9207	607.9207	0.0123		608.2277
Total	0.2473	1.6275	2.1185	0.0102	0.7793	7.1400e-003	0.7864	0.2091	6.6800e-003	0.2158		1,060.3802	1,060.3802	0.0470		1,061.5549

3.10 P2 Paving - 2022

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	0.9765	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504		1,805.1297	1,805.1297	0.5672		1,819.3091
Paving	0.6924					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6689	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504		1,805.1297	1,805.1297	0.5672		1,819.3091

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
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
Worker	0.0682	0.0396	0.5670	2.0300e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		202.6403	202.6403	4.0900e-003		202.7426
Total	0.0682	0.0396	0.5670	2.0300e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		202.6403	202.6403	4.0900e-003		202.7426

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	0.9765	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504	0.0000	1,805.1297	1,805.1297	0.5672		1,819.3091
Paving	0.6924					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6689	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504	0.0000	1,805.1297	1,805.1297	0.5672		1,819.3091

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
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
Worker	0.0682	0.0396	0.5670	2.0300e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		202.6403	202.6403	4.0900e-003		202.7426
Total	0.0682	0.0396	0.5670	2.0300e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		202.6403	202.6403	4.0900e-003		202.7426

3.11 P2 Architectural Coatings - 2022

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	26.4231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	26.6277	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062

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
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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
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
Worker	0.0409	0.0237	0.3402	1.2200e-003	0.1341	8.5000e-004	0.1350	0.0356	7.8000e-004	0.0364		121.5842	121.5842	2.4600e-003		121.6455
Total	0.0409	0.0237	0.3402	1.2200e-003	0.1341	8.5000e-004	0.1350	0.0356	7.8000e-004	0.0364		121.5842	121.5842	2.4600e-003		121.6455

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	26.4231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	26.6277	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062

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
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
Worker	0.0409	0.0237	0.3402	1.2200e-003	0.1341	8.5000e-004	0.1350	0.0356	7.8000e-004	0.0364		121.5842	121.5842	2.4600e-003		121.6455

Total	0.0409	0.0237	0.3402	1.2200e-003	0.1341	8.5000e-004	0.1350	0.0356	7.8000e-004	0.0364		121.5842	121.5842	2.4600e-003		121.6455
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3.12 P3 Building Construction - 2022

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322

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
Vendor	0.0427	1.5088	0.4176	4.1400e-003	0.1086	2.8800e-003	0.1115	0.0313	2.7600e-003	0.0340		452.4594	452.4594	0.0347		453.3272
Worker	0.2047	0.1187	1.7009	6.1000e-003	0.6707	4.2600e-003	0.6749	0.1779	3.9200e-003	0.1818		607.9207	607.9207	0.0123		608.2277
Total	0.2473	1.6275	2.1185	0.0102	0.7793	7.1400e-003	0.7864	0.2091	6.6800e-003	0.2158		1,060.3802	1,060.3802	0.0470		1,061.5549

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322

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
Vendor	0.0427	1.5088	0.4176	4.1400e-003	0.1086	2.8800e-003	0.1115	0.0313	2.7600e-003	0.0340		452.4594	452.4594	0.0347		453.3272
Worker	0.2047	0.1187	1.7009	6.1000e-003	0.6707	4.2600e-003	0.6749	0.1779	3.9200e-003	0.1818		607.9207	607.9207	0.0123		608.2277
Total	0.2473	1.6275	2.1185	0.0102	0.7793	7.1400e-003	0.7864	0.2091	6.6800e-003	0.2158		1,060.3802	1,060.3802	0.0470		1,061.5549

3.13 P3 Paving - 2022

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	0.9765	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504		1,805.1297	1,805.1297	0.5672		1,819.3091
Paving	0.6924					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6689	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504		1,805.1297	1,805.1297	0.5672		1,819.3091

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
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
Worker	0.0682	0.0396	0.5670	2.0300e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		202.6403	202.6403	4.0900e-003		202.7426
Total	0.0682	0.0396	0.5670	2.0300e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		202.6403	202.6403	4.0900e-003		202.7426

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	0.9765	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504	0.0000	1,805.1297	1,805.1297	0.5672		1,819.3091
Paving	0.6924					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6689	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504	0.0000	1,805.1297	1,805.1297	0.5672		1,819.3091

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
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
Worker	0.0682	0.0396	0.5670	2.0300e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		202.6403	202.6403	4.0900e-003		202.7426
Total	0.0682	0.0396	0.5670	2.0300e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		202.6403	202.6403	4.0900e-003		202.7426

3.14 P3 Architectural Coatings - 2022

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	26.4231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	26.6277	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062

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
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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	0.0409	0.0237	0.3402	1.2200e-003	0.1341	8.5000e-004	0.1350	0.0356	7.8000e-004	0.0364		121.5842	121.5842	2.4600e-003		121.6455	
Total	0.0409	0.0237	0.3402	1.2200e-003	0.1341	8.5000e-004	0.1350	0.0356	7.8000e-004	0.0364		121.5842	121.5842	2.4600e-003		121.6455	

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	26.4231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	26.6277	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062

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
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
Worker	0.0409	0.0237	0.3402	1.2200e-003	0.1341	8.5000e-004	0.1350	0.0356	7.8000e-004	0.0364		121.5842	121.5842	2.4600e-003		121.6455

Total	0.0409	0.0237	0.3402	1.2200e-003	0.1341	8.5000e-004	0.1350	0.0356	7.8000e-004	0.0364		121.5842	121.5842	2.4600e-003		121.6455
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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	lb/day										lb/day					
Mitigated	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
Unmitigated	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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Condo/Townhouse	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Parking Lot	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	0.0193	0.1648	0.0702	1.0500e-003		0.0133	0.0133		0.0133	0.0133		210.4394	210.4394	4.0300e-003	3.8600e-003	211.6900
NaturalGas Unmitigated	0.0193	0.1648	0.0702	1.0500e-003		0.0133	0.0133		0.0133	0.0133		210.4394	210.4394	4.0300e-003	3.8600e-003	211.6900

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					
Condo/Townhouse	1788.74	0.0193	0.1648	0.0702	1.0500e-003		0.0133	0.0133		0.0133	0.0133		210.4394	210.4394	4.0300e-003	3.8600e-003	211.6900
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

Total		0.0193	0.1648	0.0702	1.0500e-003		0.0133	0.0133		0.0133	0.0133		210.4394	210.4394	4.0300e-003	3.8600e-003	211.6900
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Mitigated

	Natural Gas 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					
Condo/Townhouse	1.78874	0.0193	0.1648	0.0702	1.0500e-003		0.0133	0.0133		0.0133	0.0133		210.4394	210.4394	4.0300e-003	3.8600e-003	211.6900
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
Total		0.0193	0.1648	0.0702	1.0500e-003		0.0133	0.0133		0.0133	0.0133		210.4394	210.4394	4.0300e-003	3.8600e-003	211.6900

6.0 Area Detail

6.1 Mitigation Measures Area

	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	2.0196	0.5570	3.2861	3.4900e-003		0.0591	0.0591		0.0591	0.0591	0.0000	671.5141	671.5141	0.0181	0.0122	675.6055
Unmitigated	2.0196	0.5570	3.2861	3.4900e-003		0.0591	0.0591		0.0591	0.0591	0.0000	671.5141	671.5141	0.0181	0.0122	675.6055

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	0.1520					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7135					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0611	0.5217	0.2220	3.3300e-003		0.0422	0.0422		0.0422	0.0422	0.0000	666.0000	666.0000	0.0128	0.0122	669.9577
Landscaping	0.0931	0.0353	3.0641	1.6000e-004		0.0169	0.0169		0.0169	0.0169		5.5141	5.5141	5.3500e-003		5.6478
Total	2.0196	0.5570	3.2861	3.4900e-003		0.0591	0.0591		0.0591	0.0591	0.0000	671.5141	671.5141	0.0181	0.0122	675.6055

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	0.1520					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7135					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0611	0.5217	0.2220	3.3300e-003		0.0422	0.0422		0.0422	0.0422	0.0000	666.0000	666.0000	0.0128	0.0122	669.9577
Landscaping	0.0931	0.0353	3.0641	1.6000e-004		0.0169	0.0169		0.0169	0.0169		5.5141	5.5141	5.3500e-003		5.6478
Total	2.0196	0.5570	3.2861	3.4900e-003		0.0591	0.0591		0.0591	0.0591	0.0000	671.5141	671.5141	0.0181	0.0122	675.6055

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Ranch Hills Community Project - Orange County, Annual

**Ranch Hills Community Project
Orange County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	80.50	1000sqft	1.85	80,500.00	0
Condo/Townhouse	37.00	Dwelling Unit	2.00	85,100.00	74

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8	Operational Year		2022	
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use - .
- Construction Phase - .
- Off-road Equipment - .
- Off-road Equipment -
- Off-road Equipment - .
- Off-road Equipment - .
- Off-road Equipment - .

Off-road Equipment - .
 Off-road Equipment - .
 Off-road Equipment -
 Off-road Equipment -
 Off-road Equipment -
 Off-road Equipment -
 Off-road Equipment -
 Off-road Equipment -
 Trips and VMT - .
 Demolition - .
 Grading -
 Woodstoves - .
 Consumer Products -
 Area Coating - .
 Construction Off-road Equipment Mitigation - .
 Vehicle Trips - Overall Net Reduction in trips
 Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	4,830.00	1,610.00
tblArchitecturalCoating	ConstArea_Parking	4,830.00	1,610.00
tblArchitecturalCoating	ConstArea_Parking	4,830.00	1,610.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	57,443.00	19,148.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	57,443.00	19,148.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	57,443.00	19,148.00
tblArchitecturalCoating	ConstArea_Residential_Interior	172,328.00	57,443.00
tblArchitecturalCoating	ConstArea_Residential_Interior	172,328.00	57,443.00
tblArchitecturalCoating	ConstArea_Residential_Interior	172,328.00	57,443.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	18.00	7.00

tblConstructionPhase	NumDays	230.00	132.00
tblConstructionPhase	NumDays	230.00	132.00
tblConstructionPhase	NumDays	230.00	132.00
tblConstructionPhase	NumDays	20.00	22.00
tblConstructionPhase	NumDays	8.00	65.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	5.00	22.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.85	0.00
tblLandUse	LandUseSquareFeet	37,000.00	85,100.00
tblLandUse	LotAcreage	2.31	2.00
tblLandUse	Population	106.00	74.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblVehicleTrips	ST_TR	5.67	0.00
tblVehicleTrips	SU_TR	4.84	0.00
tblVehicleTrips	WD_TR	5.81	0.00
tblWoodstoves	NumberCatalytic	1.85	0.00
tblWoodstoves	NumberNoncatalytic	1.85	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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
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Year	tons/yr										MT/yr					
2020	0.1098	1.1621	0.7171	1.4200e-003	0.2585	0.0555	0.3140	0.1186	0.0512	0.1698	0.0000	126.4066	126.4066	0.0351	0.0000	127.2839
2021	0.3580	2.3732	2.2422	4.3700e-003	0.1632	0.1202	0.2834	0.0588	0.1127	0.1715	0.0000	385.1799	385.1799	0.0764	0.0000	387.0889
2022	0.3849	1.7186	1.8528	3.6800e-003	0.0752	0.0815	0.1567	0.0202	0.0767	0.0969	0.0000	324.3024	324.3024	0.0606	0.0000	325.8165
Maximum	0.3849	2.3732	2.2422	4.3700e-003	0.2585	0.1202	0.3140	0.1186	0.1127	0.1715	0.0000	385.1799	385.1799	0.0764	0.0000	387.0889

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					
2020	0.1098	1.1621	0.7171	1.4200e-003	0.1063	0.0555	0.1618	0.0477	0.0512	0.0990	0.0000	126.4065	126.4065	0.0351	0.0000	127.2837
2021	0.3580	2.3732	2.2422	4.3700e-003	0.1141	0.1202	0.2343	0.0365	0.1127	0.1492	0.0000	385.1796	385.1796	0.0764	0.0000	387.0885
2022	0.3849	1.7186	1.8528	3.6800e-003	0.0752	0.0815	0.1567	0.0202	0.0767	0.0969	0.0000	324.3021	324.3021	0.0606	0.0000	325.8162
Maximum	0.3849	2.3732	2.2422	4.3700e-003	0.1141	0.1202	0.2343	0.0477	0.1127	0.1492	0.0000	385.1796	385.1796	0.0764	0.0000	387.0885

	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
Percent Reduction	0.00	0.00	0.00	0.00	40.50	0.00	26.69	47.16	0.00	21.27	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	9-1-2020	11-30-2020	0.9339	0.9339
2	12-1-2020	2-28-2021	0.6960	0.6960
3	3-1-2021	5-31-2021	0.7010	0.7010
4	6-1-2021	8-31-2021	0.7005	0.7005
5	9-1-2021	11-30-2021	0.6934	0.6934

6	12-1-2021	2-28-2022	0.6418	0.6418
7	3-1-2022	5-31-2022	0.6407	0.6407
8	6-1-2022	8-31-2022	0.6308	0.6308
9	9-1-2022	9-30-2022	0.2057	0.2057
		Highest	0.9339	0.9339

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	0.3529	0.0109	0.3858	6.0000e-005		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	8.1776	8.1776	7.5000e-004	1.4000e-004	8.2376
Energy	3.5200e-003	0.0301	0.0128	1.9000e-004		2.4300e-003	2.4300e-003		2.4300e-003	2.4300e-003	0.0000	102.3916	102.3916	3.4600e-003	1.2200e-003	102.8403
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	3.4549	0.0000	3.4549	0.2042	0.0000	8.5594
Water						0.0000	0.0000		0.0000	0.0000	0.7648	15.3813	16.1461	0.0792	1.9900e-003	18.7177
Total	0.3564	0.0410	0.3986	2.5000e-004	0.0000	5.0700e-003	5.0700e-003	0.0000	5.0700e-003	5.0700e-003	4.2197	125.9505	130.1702	0.2876	3.3500e-003	138.3550

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	0.3529	0.0109	0.3858	6.0000e-005		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	8.1776	8.1776	7.5000e-004	1.4000e-004	8.2376

Energy	3.5200e-003	0.0301	0.0128	1.9000e-004		2.4300e-003	2.4300e-003		2.4300e-003	2.4300e-003	0.0000	102.3916	102.3916	3.4600e-003	1.2200e-003	102.8403
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	3.4549	0.0000	3.4549	0.2042	0.0000	8.5594
Water						0.0000	0.0000		0.0000	0.0000	0.7648	15.3813	16.1461	0.0792	1.9900e-003	18.7177
Total	0.3564	0.0410	0.3986	2.5000e-004	0.0000	5.0700e-003	5.0700e-003	0.0000	5.0700e-003	5.0700e-003	4.2197	125.9505	130.1702	0.2876	3.3500e-003	138.3550

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	9/1/2020	9/30/2020	5	22	
2	P1 Site Preparation	Site Preparation	10/1/2020	10/31/2020	5	22	
3	P1 Grading	Grading	11/1/2020	1/29/2021	5	65	
4	P1 Trenching	Trenching	2/1/2021	2/26/2021	5	20	
5	P1 Building Construction	Building Construction	3/1/2021	8/31/2021	5	132	
6	P1 Paving	Paving	9/1/2021	9/9/2021	5	7	
7	P1 Architectural Coatings	Architectural Coating	9/10/2021	9/20/2021	5	7	
8	P2 Building Construction	Building Construction	9/21/2021	3/23/2022	5	132	
9	P2 Paving	Paving	3/24/2022	4/1/2022	5	7	
10	P2 Architectural Coatings	Architectural Coating	4/2/2022	4/12/2022	5	7	
11	P3 Building Construction	Building Construction	4/13/2022	10/13/2022	5	132	
12	P3 Paving	Paving	10/14/2022	10/24/2022	5	7	
13	P3 Architectural Coatings	Architectural Coating	10/25/2022	11/2/2022	5	7	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.85

Residential Indoor: 57,443; Residential Outdoor: 19,148; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

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
Demolition	Tractors/Loaders/Backhoes	0		97	0.37
P1 Site Preparation	Graders	0		187	0.41
P1 Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
P1 Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
P1 Grading	Concrete/Industrial Saws	0		81	0.73
P1 Grading	Excavators	1	8.00	158	0.38
P1 Grading	Graders	1	8.00	187	0.41
P1 Grading	Rubber Tired Dozers	1	8.00	247	0.40
P1 Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
P1 Trenching	Cranes	0	0.00	231	0.29
P1 Trenching	Excavators	1	8.00	158	0.38
P1 Trenching	Forklifts	0	0.00	89	0.20
P1 Trenching	Tractors/Loaders/Backhoes	0	0.00	97	0.37
P1 Trenching	Trenchers	2	8.00	78	0.50
P1 Building Construction	Cement and Mortar Mixers	0	0.00	9	0.56
P1 Building Construction	Cranes	1	7.00	231	0.29
P1 Building Construction	Forklifts	3	8.00	89	0.20
P1 Building Construction	Generator Sets	1	8.00	84	0.74
P1 Building Construction	Pavers	0	0.00	130	0.42
P1 Building Construction	Rollers	0	0.00	80	0.38
P1 Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37

P1 Building Construction	Welders	1	8.00	46	0.45
P1 Paving	Air Compressors	0	0.00	78	0.48
P1 Paving	Cement and Mortar Mixers	2	6.00	9	0.56
P1 Paving	Pavers	1	8.00	130	0.42
P1 Paving	Paving Equipment	2	6.00	132	0.36
P1 Paving	Rollers	2	6.00	80	0.38
P1 Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
P1 Architectural Coatings	Air Compressors	1	6.00	78	0.48
P2 Building Construction	Cranes	1	7.00	231	0.29
P2 Building Construction	Forklifts	3	8.00	89	0.20
P2 Building Construction	Generator Sets	1	8.00	84	0.74
P2 Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
P2 Building Construction	Welders	1	8.00	46	0.45
P2 Paving	Cement and Mortar Mixers	2	6.00	9	0.56
P2 Paving	Pavers	1	8.00	130	0.42
P2 Paving	Paving Equipment	2	6.00	132	0.36
P2 Paving	Rollers	2	6.00	80	0.38
P2 Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
P2 Architectural Coatings	Air Compressors	1	6.00	78	0.48
P3 Building Construction	Cranes	1	7.00	231	0.29
P3 Building Construction	Forklifts	3	8.00	89	0.20
P3 Building Construction	Generator Sets	1	8.00	84	0.74
P3 Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
P3 Building Construction	Welders	1	8.00	46	0.45
P3 Paving	Cement and Mortar Mixers	2	6.00	9	0.56
P3 Paving	Pavers	1	8.00	130	0.42
P3 Paving	Paving Equipment	2	6.00	132	0.36
P3 Paving	Rollers	2	6.00	80	0.38
P3 Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
P3 Architectural Coatings	Air Compressors	1	6.00	78	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	309.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P1 Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P1 Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P1 Trenching	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P1 Building Construction	9	60.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P1 Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P1 Architectural Coatings	1	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P2 Building Construction	9	60.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P2 Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P2 Architectural Coatings	1	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P3 Building Construction	9	60.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P3 Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
P3 Architectural Coatings	1	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

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					0.0335	0.0000	0.0335	5.0700e-003	0.0000	5.0700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0364	0.3652	0.2393	4.3000e-004		0.0183	0.0183		0.0170	0.0170	0.0000	37.3985	37.3985	0.0106	0.0000	37.6624

Total	0.0364	0.3652	0.2393	4.3000e-004	0.0335	0.0183	0.0517	5.0700e-003	0.0170	0.0220	0.0000	37.3985	37.3985	0.0106	0.0000	37.6624
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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	1.1800e-003	0.0438	0.0110	1.2000e-004	2.6500e-003	1.4000e-004	2.7900e-003	7.3000e-004	1.3000e-004	8.6000e-004	0.0000	11.8807	11.8807	1.2500e-003	0.0000	11.9120
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	6.4000e-004	4.5000e-004	5.1100e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.5678	1.5678	4.0000e-005	0.0000	1.5687
Total	1.8200e-003	0.0443	0.0161	1.4000e-004	4.4600e-003	1.5000e-004	4.6100e-003	1.2100e-003	1.4000e-004	1.3500e-003	0.0000	13.4484	13.4484	1.2900e-003	0.0000	13.4806

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					0.0131	0.0000	0.0131	1.9800e-003	0.0000	1.9800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0364	0.3652	0.2393	4.3000e-004		0.0183	0.0183		0.0170	0.0170	0.0000	37.3984	37.3984	0.0106	0.0000	37.6624
Total	0.0364	0.3652	0.2393	4.3000e-004	0.0131	0.0183	0.0313	1.9800e-003	0.0170	0.0189	0.0000	37.3984	37.3984	0.0106	0.0000	37.6624

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	1.1800e-003	0.0438	0.0110	1.2000e-004	2.6500e-003	1.4000e-004	2.7900e-003	7.3000e-004	1.3000e-004	8.6000e-004	0.0000	11.8807	11.8807	1.2500e-003	0.0000	11.9120
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	6.4000e-004	4.5000e-004	5.1100e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.5678	1.5678	4.0000e-005	0.0000	1.5687
Total	1.8200e-003	0.0443	0.0161	1.4000e-004	4.4600e-003	1.5000e-004	4.6100e-003	1.2100e-003	1.4000e-004	1.3500e-003	0.0000	13.4484	13.4484	1.2900e-003	0.0000	13.4806

3.3 P1 Site Preparation - 2020

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					0.0662	0.0000	0.0662	0.0364	0.0000	0.0364	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0165	0.1710	0.0956	1.6000e-004		9.0300e-003	9.0300e-003		8.3100e-003	8.3100e-003	0.0000	14.2588	14.2588	4.6100e-003	0.0000	14.3741
Total	0.0165	0.1710	0.0956	1.6000e-004	0.0662	9.0300e-003	0.0753	0.0364	8.3100e-003	0.0447	0.0000	14.2588	14.2588	4.6100e-003	0.0000	14.3741

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	3.4000e-004	2.4000e-004	2.7300e-003	1.0000e-005	9.7000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.8361	0.8361	2.0000e-005	0.0000	0.8366
Total	3.4000e-004	2.4000e-004	2.7300e-003	1.0000e-005	9.7000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.8361	0.8361	2.0000e-005	0.0000	0.8366

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					0.0258	0.0000	0.0258	0.0142	0.0000	0.0142	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0165	0.1710	0.0956	1.6000e-004		9.0300e-003	9.0300e-003		8.3100e-003	8.3100e-003	0.0000	14.2588	14.2588	4.6100e-003	0.0000	14.3741
Total	0.0165	0.1710	0.0956	1.6000e-004	0.0258	9.0300e-003	0.0349	0.0142	8.3100e-003	0.0225	0.0000	14.2588	14.2588	4.6100e-003	0.0000	14.3741

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	3.4000e-004	2.4000e-004	2.7300e-003	1.0000e-005	9.7000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.8361	0.8361	2.0000e-005	0.0000	0.8366
Total	3.4000e-004	2.4000e-004	2.7300e-003	1.0000e-005	9.7000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.8361	0.8361	2.0000e-005	0.0000	0.8366

3.4 P1 Grading - 2020

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					0.1497	0.0000	0.1497	0.0747	0.0000	0.0747	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0534	0.5805	0.3532	6.5000e-004		0.0280	0.0280		0.0258	0.0258	0.0000	57.3292	57.3292	0.0185	0.0000	57.7928
Total	0.0534	0.5805	0.3532	6.5000e-004	0.1497	0.0280	0.1777	0.0747	0.0258	0.1005	0.0000	57.3292	57.3292	0.0185	0.0000	57.7928

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	1.2900e-003	9.0000e-004	0.0102	3.0000e-005	3.6200e-003	2.0000e-005	3.6500e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	3.1355	3.1355	7.0000e-005	0.0000	3.1373
Total	1.2900e-003	9.0000e-004	0.0102	3.0000e-005	3.6200e-003	2.0000e-005	3.6500e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	3.1355	3.1355	7.0000e-005	0.0000	3.1373

Mitigated Construction On-Site

Off-Road	0.0241	0.2597	0.1665	3.1000e-004		0.0122	0.0122		0.0112	0.0112	0.0000	27.3564	27.3564	8.8500e-003	0.0000	27.5776
Total	0.0241	0.2597	0.1665	3.1000e-004	0.0805	0.0122	0.0927	0.0366	0.0112	0.0478	0.0000	27.3564	27.3564	8.8500e-003	0.0000	27.5776

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	5.8000e-004	3.9000e-004	4.5200e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.4446	1.4446	3.0000e-005	0.0000	1.4454
Total	5.8000e-004	3.9000e-004	4.5200e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.4446	1.4446	3.0000e-005	0.0000	1.4454

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					0.0314	0.0000	0.0314	0.0143	0.0000	0.0143	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0241	0.2597	0.1665	3.1000e-004		0.0122	0.0122		0.0112	0.0112	0.0000	27.3564	27.3564	8.8500e-003	0.0000	27.5775
Total	0.0241	0.2597	0.1665	3.1000e-004	0.0314	0.0122	0.0436	0.0143	0.0112	0.0255	0.0000	27.3564	27.3564	8.8500e-003	0.0000	27.5775

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	5.8000e-004	3.9000e-004	4.5200e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.4446	1.4446	3.0000e-005	0.0000	1.4454
Total	5.8000e-004	3.9000e-004	4.5200e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.4446	1.4446	3.0000e-005	0.0000	1.4454

3.5 P1 Trenching - 2021

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	9.9400e-003	0.0918	0.0848	1.2000e-004		6.1400e-003	6.1400e-003		5.6500e-003	5.6500e-003	0.0000	10.4693	10.4693	3.3900e-003	0.0000	10.5539
Total	9.9400e-003	0.0918	0.0848	1.2000e-004		6.1400e-003	6.1400e-003		5.6500e-003	5.6500e-003	0.0000	10.4693	10.4693	3.3900e-003	0.0000	10.5539

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	2.9000e-004	2.0000e-004	2.3000e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7338	0.7338	2.0000e-005	0.0000	0.7341
Total	2.9000e-004	2.0000e-004	2.3000e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7338	0.7338	2.0000e-005	0.0000	0.7341

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	9.9400e-003	0.0918	0.0848	1.2000e-004		6.1400e-003	6.1400e-003		5.6500e-003	5.6500e-003	0.0000	10.4692	10.4692	3.3900e-003	0.0000	10.5539
Total	9.9400e-003	0.0918	0.0848	1.2000e-004		6.1400e-003	6.1400e-003		5.6500e-003	5.6500e-003	0.0000	10.4692	10.4692	3.3900e-003	0.0000	10.5539

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	2.9000e-004	2.0000e-004	2.3000e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7338	0.7338	2.0000e-005	0.0000	0.7341
Total	2.9000e-004	2.0000e-004	2.3000e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7338	0.7338	2.0000e-005	0.0000	0.7341

3.6 P1 Building Construction - 2021

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	0.1255	1.1505	1.0940	1.7800e-003		0.0633	0.0633		0.0595	0.0595	0.0000	152.8806	152.8806	0.0369	0.0000	153.8027
Total	0.1255	1.1505	1.0940	1.7800e-003		0.0633	0.0633		0.0595	0.0595	0.0000	152.8806	152.8806	0.0369	0.0000	153.8027

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	3.0600e-003	0.1069	0.0300	2.7000e-004	7.0600e-003	2.2000e-004	7.2900e-003	2.0400e-003	2.1000e-004	2.2500e-003	0.0000	27.0771	27.0771	2.1900e-003	0.0000	27.1319
Worker	0.0145	9.7500e-003	0.1138	4.0000e-004	0.0435	2.9000e-004	0.0438	0.0115	2.6000e-004	0.0118	0.0000	36.3207	36.3207	7.8000e-004	0.0000	36.3402
Total	0.0176	0.1167	0.1437	6.7000e-004	0.0505	5.1000e-004	0.0511	0.0136	4.7000e-004	0.0141	0.0000	63.3978	63.3978	2.9700e-003	0.0000	63.4720

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	0.1255	1.1505	1.0940	1.7800e-003		0.0633	0.0633		0.0595	0.0595	0.0000	152.8804	152.8804	0.0369	0.0000	153.8025
Total	0.1255	1.1505	1.0940	1.7800e-003		0.0633	0.0633		0.0595	0.0595	0.0000	152.8804	152.8804	0.0369	0.0000	153.8025

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	3.0600e-003	0.1069	0.0300	2.7000e-004	7.0600e-003	2.2000e-004	7.2900e-003	2.0400e-003	2.1000e-004	2.2500e-003	0.0000	27.0771	27.0771	2.1900e-003	0.0000	27.1319
Worker	0.0145	9.7500e-003	0.1138	4.0000e-004	0.0435	2.9000e-004	0.0438	0.0115	2.6000e-004	0.0118	0.0000	36.3207	36.3207	7.8000e-004	0.0000	36.3402
Total	0.0176	0.1167	0.1437	6.7000e-004	0.0505	5.1000e-004	0.0511	0.0136	4.7000e-004	0.0141	0.0000	63.3978	63.3978	2.9700e-003	0.0000	63.4720

3.7 P1 Paving - 2021

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	3.8300e-003	0.0379	0.0429	7.0000e-005		2.0300e-003	2.0300e-003		1.8700e-003	1.8700e-003	0.0000	5.7297	5.7297	1.8000e-003	0.0000	5.7747

Paving	2.4200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.2500e-003	0.0379	0.0429	7.0000e-005		2.0300e-003	2.0300e-003		1.8700e-003	1.8700e-003	0.0000	5.7297	5.7297	1.8000e-003	0.0000	5.7747

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	2.6000e-004	1.7000e-004	2.0100e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6420	0.6420	1.0000e-005	0.0000	0.6424
Total	2.6000e-004	1.7000e-004	2.0100e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6420	0.6420	1.0000e-005	0.0000	0.6424

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	3.8300e-003	0.0379	0.0429	7.0000e-005		2.0300e-003	2.0300e-003		1.8700e-003	1.8700e-003	0.0000	5.7297	5.7297	1.8000e-003	0.0000	5.7747
Paving	2.4200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.2500e-003	0.0379	0.0429	7.0000e-005		2.0300e-003	2.0300e-003		1.8700e-003	1.8700e-003	0.0000	5.7297	5.7297	1.8000e-003	0.0000	5.7747

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	2.6000e-004	1.7000e-004	2.0100e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6420	0.6420	1.0000e-005	0.0000	0.6424
Total	2.6000e-004	1.7000e-004	2.0100e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6420	0.6420	1.0000e-005	0.0000	0.6424

3.8 P1 Architectural Coatings - 2021

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	0.0925					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7000e-004	5.3400e-003	6.3600e-003	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	0.8936	0.8936	6.0000e-005	0.0000	0.8952
Total	0.0933	5.3400e-003	6.3600e-003	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	0.8936	0.8936	6.0000e-005	0.0000	0.8952

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	1.5000e-004	1.0000e-004	1.2100e-003	0.0000	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3852	0.3852	1.0000e-005	0.0000	0.3854
Total	1.5000e-004	1.0000e-004	1.2100e-003	0.0000	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3852	0.3852	1.0000e-005	0.0000	0.3854

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	0.0925					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7000e-004	5.3400e-003	6.3600e-003	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	0.8936	0.8936	6.0000e-005	0.0000	0.8952
Total	0.0933	5.3400e-003	6.3600e-003	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	0.8936	0.8936	6.0000e-005	0.0000	0.8952

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	1.5000e-004	1.0000e-004	1.2100e-003	0.0000	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3852	0.3852	1.0000e-005	0.0000	0.3854
Total	1.5000e-004	1.0000e-004	1.2100e-003	0.0000	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3852	0.3852	1.0000e-005	0.0000	0.3854

3.9 P2 Building Construction - 2021

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	0.0703	0.6450	0.6133	1.0000e-003		0.0355	0.0355		0.0334	0.0334	0.0000	85.7058	85.7058	0.0207	0.0000	86.2227
Total	0.0703	0.6450	0.6133	1.0000e-003		0.0355	0.0355		0.0334	0.0334	0.0000	85.7058	85.7058	0.0207	0.0000	86.2227

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	1.7200e-003	0.0599	0.0168	1.5000e-004	3.9600e-003	1.2000e-004	4.0800e-003	1.1400e-003	1.2000e-004	1.2600e-003	0.0000	15.1796	15.1796	1.2300e-003	0.0000	15.2103
Worker	8.1300e-003	5.4700e-003	0.0638	2.3000e-004	0.0244	1.6000e-004	0.0245	6.4700e-003	1.5000e-004	6.6200e-003	0.0000	20.3616	20.3616	4.4000e-004	0.0000	20.3725
Total	9.8500e-003	0.0654	0.0806	3.8000e-004	0.0283	2.8000e-004	0.0286	7.6100e-003	2.7000e-004	7.8800e-003	0.0000	35.5412	35.5412	1.6700e-003	0.0000	35.5828

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	0.0703	0.6450	0.6133	1.0000e-003		0.0355	0.0355		0.0334	0.0334	0.0000	85.7057	85.7057	0.0207	0.0000	86.2226
Total	0.0703	0.6450	0.6133	1.0000e-003		0.0355	0.0355		0.0334	0.0334	0.0000	85.7057	85.7057	0.0207	0.0000	86.2226

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	1.7200e-003	0.0599	0.0168	1.5000e-004	3.9600e-003	1.2000e-004	4.0800e-003	1.1400e-003	1.2000e-004	1.2600e-003	0.0000	15.1796	15.1796	1.2300e-003	0.0000	15.2103
Worker	8.1300e-003	5.4700e-003	0.0638	2.3000e-004	0.0244	1.6000e-004	0.0245	6.4700e-003	1.5000e-004	6.6200e-003	0.0000	20.3616	20.3616	4.4000e-004	0.0000	20.3725
Total	9.8500e-003	0.0654	0.0806	3.8000e-004	0.0283	2.8000e-004	0.0286	7.6100e-003	2.7000e-004	7.8800e-003	0.0000	35.5412	35.5412	1.6700e-003	0.0000	35.5828

3.9 P2 Building Construction - 2022

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	0.0495	0.4529	0.4745	7.8000e-004		0.0235	0.0235		0.0221	0.0221	0.0000	67.2003	67.2003	0.0161	0.0000	67.6028

Total	0.0495	0.4529	0.4745	7.8000e-004		0.0235	0.0235		0.0221	0.0221	0.0000	67.2003	67.2003	0.0161	0.0000	67.6028
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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	1.2600e-003	0.0444	0.0127	1.2000e-004	3.1000e-003	8.0000e-005	3.1900e-003	9.0000e-004	8.0000e-005	9.8000e-004	0.0000	11.7802	11.7802	9.3000e-004	0.0000	11.8035
Worker	6.0300e-003	3.8800e-003	0.0466	1.7000e-004	0.0191	1.2000e-004	0.0192	5.0700e-003	1.1000e-004	5.1900e-003	0.0000	15.3683	15.3683	3.1000e-004	0.0000	15.3760
Total	7.2900e-003	0.0483	0.0593	2.9000e-004	0.0222	2.0000e-004	0.0224	5.9700e-003	1.9000e-004	6.1700e-003	0.0000	27.1484	27.1484	1.2400e-003	0.0000	27.1795

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	0.0495	0.4529	0.4745	7.8000e-004		0.0235	0.0235		0.0221	0.0221	0.0000	67.2002	67.2002	0.0161	0.0000	67.6027
Total	0.0495	0.4529	0.4745	7.8000e-004		0.0235	0.0235		0.0221	0.0221	0.0000	67.2002	67.2002	0.0161	0.0000	67.6027

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	1.2600e-003	0.0444	0.0127	1.2000e-004	3.1000e-003	8.0000e-005	3.1900e-003	9.0000e-004	8.0000e-005	9.8000e-004	0.0000	11.7802	11.7802	9.3000e-004	0.0000	11.8035
Worker	6.0300e-003	3.8800e-003	0.0466	1.7000e-004	0.0191	1.2000e-004	0.0192	5.0700e-003	1.1000e-004	5.1900e-003	0.0000	15.3683	15.3683	3.1000e-004	0.0000	15.3760
Total	7.2900e-003	0.0483	0.0593	2.9000e-004	0.0222	2.0000e-004	0.0224	5.9700e-003	1.9000e-004	6.1700e-003	0.0000	27.1484	27.1484	1.2400e-003	0.0000	27.1795

3.10 P2 Paving - 2022

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	3.4200e-003	0.0333	0.0427	7.0000e-005		1.7100e-003	1.7100e-003		1.5800e-003	1.5800e-003	0.0000	5.7316	5.7316	1.8000e-003	0.0000	5.7766
Paving	2.4200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.8400e-003	0.0333	0.0427	7.0000e-005		1.7100e-003	1.7100e-003		1.5800e-003	1.5800e-003	0.0000	5.7316	5.7316	1.8000e-003	0.0000	5.7766

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	2.4000e-004	1.6000e-004	1.8700e-003	1.0000e-005	7.7000e-004	0.0000	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6183	0.6183	1.0000e-005	0.0000	0.6186
Total	2.4000e-004	1.6000e-004	1.8700e-003	1.0000e-005	7.7000e-004	0.0000	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6183	0.6183	1.0000e-005	0.0000	0.6186

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	3.4200e-003	0.0333	0.0427	7.0000e-005		1.7100e-003	1.7100e-003		1.5800e-003	1.5800e-003	0.0000	5.7315	5.7315	1.8000e-003	0.0000	5.7766
Paving	2.4200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.8400e-003	0.0333	0.0427	7.0000e-005		1.7100e-003	1.7100e-003		1.5800e-003	1.5800e-003	0.0000	5.7315	5.7315	1.8000e-003	0.0000	5.7766

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	2.4000e-004	1.6000e-004	1.8700e-003	1.0000e-005	7.7000e-004	0.0000	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6183	0.6183	1.0000e-005	0.0000	0.6186
Total	2.4000e-004	1.6000e-004	1.8700e-003	1.0000e-005	7.7000e-004	0.0000	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6183	0.6183	1.0000e-005	0.0000	0.6186

3.11 P2 Architectural Coatings - 2022

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	0.0925					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.2000e-004	4.9300e-003	6.3500e-003	1.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	0.8936	0.8936	6.0000e-005	0.0000	0.8951
Total	0.0932	4.9300e-003	6.3500e-003	1.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	0.8936	0.8936	6.0000e-005	0.0000	0.8951

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	1.5000e-004	9.0000e-005	1.1200e-003	0.0000	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3710	0.3710	1.0000e-005	0.0000	0.3712
Total	1.5000e-004	9.0000e-005	1.1200e-003	0.0000	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3710	0.3710	1.0000e-005	0.0000	0.3712

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	0.0925					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.2000e-004	4.9300e-003	6.3500e-003	1.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	0.8936	0.8936	6.0000e-005	0.0000	0.8951
Total	0.0932	4.9300e-003	6.3500e-003	1.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	0.8936	0.8936	6.0000e-005	0.0000	0.8951

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	1.5000e-004	9.0000e-005	1.1200e-003	0.0000	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3710	0.3710	1.0000e-005	0.0000	0.3712
Total	1.5000e-004	9.0000e-005	1.1200e-003	0.0000	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3710	0.3710	1.0000e-005	0.0000	0.3712

3.12 P3 Building Construction - 2022

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	0.1126	1.0306	1.0800	1.7800e-003		0.0534	0.0534		0.0502	0.0502	0.0000	152.9387	152.9387	0.0366	0.0000	153.8547

Total	0.1126	1.0306	1.0800	1.7800e-003		0.0534	0.0534		0.0502	0.0502	0.0000	152.9387	152.9387	0.0366	0.0000	153.8547
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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	2.8800e-003	0.1010	0.0289	2.7000e-004	7.0600e-003	1.9000e-004	7.2600e-003	2.0400e-003	1.8000e-004	2.2200e-003	0.0000	26.8101	26.8101	2.1200e-003	0.0000	26.8631
Worker	0.0137	8.8400e-003	0.1061	3.9000e-004	0.0435	2.8000e-004	0.0438	0.0115	2.6000e-004	0.0118	0.0000	34.9760	34.9760	7.1000e-004	0.0000	34.9937
Total	0.0166	0.1099	0.1350	6.6000e-004	0.0505	4.7000e-004	0.0510	0.0136	4.4000e-004	0.0140	0.0000	61.7861	61.7861	2.8300e-003	0.0000	61.8568

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	0.1126	1.0306	1.0800	1.7800e-003		0.0534	0.0534		0.0502	0.0502	0.0000	152.9385	152.9385	0.0366	0.0000	153.8545
Total	0.1126	1.0306	1.0800	1.7800e-003		0.0534	0.0534		0.0502	0.0502	0.0000	152.9385	152.9385	0.0366	0.0000	153.8545

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	2.8800e-003	0.1010	0.0289	2.7000e-004	7.0600e-003	1.9000e-004	7.2600e-003	2.0400e-003	1.8000e-004	2.2200e-003	0.0000	26.8101	26.8101	2.1200e-003	0.0000	26.8631
Worker	0.0137	8.8400e-003	0.1061	3.9000e-004	0.0435	2.8000e-004	0.0438	0.0115	2.6000e-004	0.0118	0.0000	34.9760	34.9760	7.1000e-004	0.0000	34.9937
Total	0.0166	0.1099	0.1350	6.6000e-004	0.0505	4.7000e-004	0.0510	0.0136	4.4000e-004	0.0140	0.0000	61.7861	61.7861	2.8300e-003	0.0000	61.8568

3.13 P3 Paving - 2022

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	3.4200e-003	0.0333	0.0427	7.0000e-005		1.7100e-003	1.7100e-003		1.5800e-003	1.5800e-003	0.0000	5.7316	5.7316	1.8000e-003	0.0000	5.7766
Paving	2.4200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.8400e-003	0.0333	0.0427	7.0000e-005		1.7100e-003	1.7100e-003		1.5800e-003	1.5800e-003	0.0000	5.7316	5.7316	1.8000e-003	0.0000	5.7766

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	2.4000e-004	1.6000e-004	1.8700e-003	1.0000e-005	7.7000e-004	0.0000	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6183	0.6183	1.0000e-005	0.0000	0.6186
Total	2.4000e-004	1.6000e-004	1.8700e-003	1.0000e-005	7.7000e-004	0.0000	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6183	0.6183	1.0000e-005	0.0000	0.6186

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	3.4200e-003	0.0333	0.0427	7.0000e-005		1.7100e-003	1.7100e-003		1.5800e-003	1.5800e-003	0.0000	5.7315	5.7315	1.8000e-003	0.0000	5.7766
Paving	2.4200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.8400e-003	0.0333	0.0427	7.0000e-005		1.7100e-003	1.7100e-003		1.5800e-003	1.5800e-003	0.0000	5.7315	5.7315	1.8000e-003	0.0000	5.7766

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	2.4000e-004	1.6000e-004	1.8700e-003	1.0000e-005	7.7000e-004	0.0000	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6183	0.6183	1.0000e-005	0.0000	0.6186
Total	2.4000e-004	1.6000e-004	1.8700e-003	1.0000e-005	7.7000e-004	0.0000	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6183	0.6183	1.0000e-005	0.0000	0.6186

3.14 P3 Architectural Coatings - 2022

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	0.0925					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.2000e-004	4.9300e-003	6.3500e-003	1.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	0.8936	0.8936	6.0000e-005	0.0000	0.8951
Total	0.0932	4.9300e-003	6.3500e-003	1.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	0.8936	0.8936	6.0000e-005	0.0000	0.8951

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	1.5000e-004	9.0000e-005	1.1200e-003	0.0000	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3710	0.3710	1.0000e-005	0.0000	0.3712
Total	1.5000e-004	9.0000e-005	1.1200e-003	0.0000	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3710	0.3710	1.0000e-005	0.0000	0.3712

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	0.0925					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.2000e-004	4.9300e-003	6.3500e-003	1.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	0.8936	0.8936	6.0000e-005	0.0000	0.8951
Total	0.0932	4.9300e-003	6.3500e-003	1.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	0.8936	0.8936	6.0000e-005	0.0000	0.8951

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	1.5000e-004	9.0000e-005	1.1200e-003	0.0000	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3710	0.3710	1.0000e-005	0.0000	0.3712
Total	1.5000e-004	9.0000e-005	1.1200e-003	0.0000	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3710	0.3710	1.0000e-005	0.0000	0.3712

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
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Category	tons/yr										MT/yr					
Mitigated	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
Unmitigated	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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated Annual VMT	Mitigated Annual VMT
	Weekday	Saturday	Sunday		
Condo/Townhouse	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Parking Lot	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	67.5510	67.5510	2.7900e-003	5.8000e-004	67.7927
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	67.5510	67.5510	2.7900e-003	5.8000e-004	67.7927
NaturalGas Mitigated	3.5200e-003	0.0301	0.0128	1.9000e-004		2.4300e-003	2.4300e-003		2.4300e-003	2.4300e-003	0.0000	34.8406	34.8406	6.7000e-004	6.4000e-004	35.0477
NaturalGas Unmitigated	3.5200e-003	0.0301	0.0128	1.9000e-004		2.4300e-003	2.4300e-003		2.4300e-003	2.4300e-003	0.0000	34.8406	34.8406	6.7000e-004	6.4000e-004	35.0477

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					
Condo/Townhouse	652888	3.5200e-003	0.0301	0.0128	1.9000e-004		2.4300e-003	2.4300e-003		2.4300e-003	2.4300e-003	0.0000	34.8406	34.8406	6.7000e-004	6.4000e-004	35.0477
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
Total		3.5200e-003	0.0301	0.0128	1.9000e-004		2.4300e-003	2.4300e-003		2.4300e-003	2.4300e-003	0.0000	34.8406	34.8406	6.7000e-004	6.4000e-004	35.0477

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					

Condo/Townhouse	652888	3.5200e-003	0.0301	0.0128	1.9000e-004		2.4300e-003	2.4300e-003		2.4300e-003	2.4300e-003	0.0000	34.8406	34.8406	6.7000e-004	6.4000e-004	35.0477
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
Total		3.5200e-003	0.0301	0.0128	1.9000e-004		2.4300e-003	2.4300e-003		2.4300e-003	2.4300e-003	0.0000	34.8406	34.8406	6.7000e-004	6.4000e-004	35.0477

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	183835	58.5739	2.4200e-003	5.0000e-004	58.7834
Parking Lot	28175	8.9772	3.7000e-004	8.0000e-005	9.0093
Total		67.5510	2.7900e-003	5.8000e-004	67.7927

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	183835	58.5739	2.4200e-003	5.0000e-004	58.7834
Parking Lot	28175	8.9772	3.7000e-004	8.0000e-005	9.0093
Total		67.5510	2.7900e-003	5.8000e-004	67.7927

6.0 Area Detail

6.1 Mitigation Measures Area

	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	0.3529	0.0109	0.3858	6.0000e-005		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	8.1776	8.1776	7.5000e-004	1.4000e-004	8.2376
Unmitigated	0.3529	0.0109	0.3858	6.0000e-005		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	8.1776	8.1776	7.5000e-004	1.4000e-004	8.2376

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	0.0277					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3127					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.6000e-004	6.5200e-003	2.7700e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.5523	7.5523	1.4000e-004	1.4000e-004	7.5972
Landscaping	0.0116	4.4100e-003	0.3830	2.0000e-005		2.1100e-003	2.1100e-003		2.1100e-003	2.1100e-003	0.0000	0.6253	0.6253	6.1000e-004	0.0000	0.6405
Total	0.3528	0.0109	0.3858	6.0000e-005		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	8.1776	8.1776	7.5000e-004	1.4000e-004	8.2376

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	0.0277					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3127					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.6000e-004	6.5200e-003	2.7700e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.5523	7.5523	1.4000e-004	1.4000e-004	7.5972
Landscaping	0.0116	4.4100e-003	0.3830	2.0000e-005		2.1100e-003	2.1100e-003		2.1100e-003	2.1100e-003	0.0000	0.6253	0.6253	6.1000e-004	0.0000	0.6405
Total	0.3528	0.0109	0.3858	6.0000e-005		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	8.1776	8.1776	7.5000e-004	1.4000e-004	8.2376

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	16.1461	0.0792	1.9900e-003	18.7177
Unmitigated	16.1461	0.0792	1.9900e-003	18.7177

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	2.4107 / 1.51979	16.1461	0.0792	1.9900e-003	18.7177
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		16.1461	0.0792	1.9900e-003	18.7177

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	2.4107 / 1.51979	16.1461	0.0792	1.9900e-003	18.7177
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		16.1461	0.0792	1.9900e-003	18.7177

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.4549	0.2042	0.0000	8.5594
Unmitigated	3.4549	0.2042	0.0000	8.5594

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	17.02	3.4549	0.2042	0.0000	8.5594
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		3.4549	0.2042	0.0000	8.5594

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	17.02	3.4549	0.2042	0.0000	8.5594
Parking Lot	0	0.0000	0.0000	0.0000	0.0000

Total		3.4549	0.2042	0.0000	8.5594
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9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Appendix B

Species List



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California Department of Fish and Wildlife
California Natural Diversity Database



Query Criteria: Quad IS (Tustin (3311767) OR Orange (3311777) OR Black Star Canyon (3311776) OR El Toro (3311766))

Taricha torosa		Element Code: AAAAF02032	
Coast Range newt			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G4
	State: None		State: S4
	Other: CDFW_SSC-Species of Special Concern		
Habitat:	General: COASTAL DRAINAGES FROM MENDOCINO COUNTY TO SAN DIEGO COUNTY.		
	Micro: LIVES IN TERRESTRIAL HABITATS & WILL MIGRATE OVER 1 KM TO BREED IN PONDS, RESERVOIRS & SLOW MOVING STREAMS.		

*** SENSITIVE ***

Occurrence No.	1	Map Index:	40208	EO Index:	35210	Element Last Seen:	1999-04-02
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		1999-04-02	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2003-09-15	

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:		Accuracy:	specific area
UTM:		Elevation (ft):	1800
PLSS:		Acres:	17.0

Location: *SENSITIVE* LOCATION INFORMATION SUPPRESSED.

Detailed Location: PLEASE CONTACT THE CALIFORNIA NATURAL DIVERSITY DATABASE, CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE, FOR MORE INFORMATION: (916) 322-2493

Ecological: SYCAMORE/OAK WOODLAND WITH 90% COVER. AREA IS WITHIN A SOUTHERN COAST LIVE OAK RIPARIAN FOREST COMMUNITY (CNDDDB).

General:

Owner/Manager:

*** SENSITIVE ***

Occurrence No.	2	Map Index:	40209	EO Index:	35211	Element Last Seen:	1997-04-04
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		1997-04-04	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1998-11-18	

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:		Accuracy:	specific area
UTM:		Elevation (ft):	2040
PLSS:		Acres:	19.8

Location: *SENSITIVE* LOCATION INFORMATION SUPPRESSED.

Detailed Location: PLEASE CONTACT THE CALIFORNIA NATURAL DIVERSITY DATABASE, CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE, FOR MORE INFORMATION: (916) 322-2493

Ecological: SYCAMORE/OAK WOODLAND WITH 90% COVER.

General:

Owner/Manager:



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California Department of Fish and Wildlife
California Natural Diversity Database



Anaxyrus californicus		Element Code: AAABB01230	
arroyo toad			
Listing Status:	Federal: Endangered	CNDDDB Element Ranks:	Global: G2G3
	State: None		State: S2S3
	Other: CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered		
Habitat:	General: SEMI-ARID REGIONS NEAR WASHES OR INTERMITTENT STREAMS, INCLUDING VALLEY-FOOTHILL AND DESERT RIPARIAN, DESERT WASH, ETC.		
	Micro: RIVERS WITH SANDY BANKS, WILLOWS, COTTONWOODS, AND SYCAMORES; LOOSE, GRAVELLY AREAS OF STREAMS IN DRIER PARTS OF RANGE.		

Occurrence No.	4	Map Index:	17672	EO Index:	11653	Element Last Seen:	1974-05-18
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		1974-05-18	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2000-10-30	

Quad Summary: El Toro (3311766)
County Summary: Orange

Lat/Long:	33.73460 / -117.65570	Accuracy:	1/5 mile
UTM:	Zone-11 N3732922 E439259	Elevation (ft):	1000
PLSS:	T05S, R07W (S)	Acres:	0.0

Location: LOWER SANTIAGO CANYON, ALONG SANTIAGO CANYON ROAD, 2.8 KM N OF BOLERO LOOKOUT, SANTA ANA MTNS.
Detailed Location:
Ecological: SANDY WASH WITH ROCKS AND GRAVEL; ASSOCIATED WITH ALLUVIAL SCRUB.
General: 4-6 INDIVIDUALS OBSERVED, INCLUDING 2 JUVENILES THAT WERE MEASURED AND RELEASED. SITE IS ADJACENT TO LIMESTONE REGIONAL PARK. CURRENTLY DESIGNATED OPEN SPACE. SEVERAL EIR'S HAVE COVERED AREA BUT SURVEYS NOT ADEQUATE TO LOCATE SPECIES.
Owner/Manager: PVT-IRVINE CO

Spea hammondii		Element Code: AAABF02020	
western spadefoot			
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G3
	State: None		State: S3
	Other: BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened		
Habitat:	General: OCCURS PRIMARILY IN GRASSLAND HABITATS, BUT CAN BE FOUND IN VALLEY-FOOTHILL HARDWOOD WOODLANDS.		
	Micro: VERNAL POOLS ARE ESSENTIAL FOR BREEDING AND EGG-LAYING.		



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California Natural Diversity Database



Occurrence No.	2	Map Index:	17673	EO Index:	11652	Element Last Seen:	2017-03-22
Occ. Rank:	Poor	Presence:	Presumed Extant	Site Last Seen:		2017-03-22	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2019-04-16	
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.7091 / -117.70864			Accuracy:	80 meters		
UTM:	Zone-11 N3730127 E434336			Elevation (ft):	615		
PLSS:	T05S, R08W, Sec. 27, SW (S)			Acres:	5.0		
Location:	BEE CANYON, ABOUT 0.35 AIR MILE N OF HWY 241 AT BEE CANYON WASH, FRANK R. BOWERMAN LANDFILL, NORTHEAST IRVINE.						
Detailed Location:	MAPPED TO MES17R0002 & AGU17F0020 PROVIDED COORDINATES; SITE BASIN 7. ATTRIBUTED BOW85R0002, DETECTED IN VICINITY OF MOUTH OF BEE CANYON.						
Ecological:	CONCRETE LINED BASIN IN ACTIVE LANDFILL. LANDFILL WAS ESTABLISHED IN 1990. COASTAL SAGE SCRUB, CHAPARRAL, GRASSLAND, RIPARIAN, AND WOODLAND COMMUNITIES OCCUR AROUND LANDFILL.						
General:	DETECTED SOMETIME BEFORE 1985 (REFERENCED FROM OC EMA EIR #018). 2 ADULTS OBSERVED ON 22 MAR 2017.						
Owner/Manager:	ORA COUNTY						
Occurrence No.	4	Map Index:	20476	EO Index:	9409	Element Last Seen:	1992-02-16
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		1992-02-16	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1992-03-26	
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.66253 / -117.64652			Accuracy:	nonspecific area		
UTM:	Zone-11 N3724926 E440059			Elevation (ft):	800		
PLSS:	T06S, R07W (S)			Acres:	46.4		
Location:	UPPER ALISO CREEK WATERSHED, JUST NORTH OF EL TORO ROAD, APPROXIMATELY 3 MI NE OF EL TORO.						
Detailed Location:	TOADS UTILIZE A SERIES OF EPHEMERAL PONDS LOCATED JUST EAST OF A GRAVEL MINING OPERATION.						
Ecological:	HABITAT SURROUNDING PONDS IS MAINLY SOUTHERN CACTUS SCRUB AND A MOSAIC OF COASTAL SAGE SCRUB AND NATIVE/ANNUAL GRASSLANDS.						
General:	A LARGE POND AT THE MARGIN OF THE GRAVEL MINE; TWO JUVENILES NOTED IN MAY 1991, WITH TWO ADDITIONAL JUVENILES LOCATED ON 5 JUNE 1991. POND WAS PARTLY FILLED IN JULY 1991. TWO MORE PONDS AND BOTH EGGS AND ADULTS OBSERVED ON 16 FEB 1992.						
Owner/Manager:	PVT-HON/SADDLEBACK CHURCH						



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California Natural Diversity Database



Occurrence No.	114	Map Index:	33360	EO Index:	990	Element Last Seen:	2003-04-30
Occ. Rank:	Fair	Presence:	Presumed Extant	Site Last Seen:		2003-04-30	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2020-03-11	

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.77513 / -117.74016	Accuracy:	specific area
UTM:	Zone-11 N3737469 E431468	Elevation (ft):	1022
PLSS:	T04S, R08W, Sec. 32, SW (S)	Acres:	22.0

Location: 0.2 TO 0.5 MILE NORTH OF THE JUNCTION OF SANTIAGO CANYON ROAD AND THE TURN-OFF TO THE COUNTY LANDFILL SITE, ORANGE.

Detailed Location: MAPPED TO COORDINATES PROVIDED. LOCATED IN A SERIES OF TEMPORARY PONDS. FIS04R0002 SITES SC01, SC02, SC03, & SC04.

Ecological: HABITAT SURROUNDING PONDS CONSISTS OF MOSTLY GRAZED, ANNUAL GRASSLAND, WITH MULEFAT SCRUB AND COASTAL SAGE SCRUB IN THE VICINITY. SITE WAS ONCE A MOTOCROSS COURSE. WESTERN TOAD ALSO COMMON AT THIS SITE.

General: 20 ADULTS OBSERVED BREEDING; NUMEROUS MALES WERE CALLING AND PAIRS WERE OBSERVED IN AMPLEXUS ON 12 FEB 1992. LARVAE & JUVENILES DETECTED ON 18 APR 2001. EGG MASSES, TADPOLES, AND METAMORPHS OBSERVED BETWEEN 24 APR AND 30 APR 2003.

Owner/Manager: ORA COUNTY

Occurrence No.	274	Map Index:	53063	EO Index:	53063	Element Last Seen:	1999-10-19
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1999-10-19	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2003-10-27	

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.83790 / -117.72233	Accuracy:	80 meters
UTM:	Zone-11 N3744418 E433166	Elevation (ft):	1221
PLSS:	T04S, R08W, Sec. 09 (S)	Acres:	0.0

Location: NORTH OF WEIR CANYON, ABOUT 1.4 MILES ESE OF WALNUT CANYON RESERVOIR.

Detailed Location: SITE NAME: WEIR CANYON. THIS SITE IS A CORE CENTRAL SITE IN THE NATURE RESERVE OF ORANGE COUNTY. PITFALL TRAP ARRAY 12.

Ecological:

General: 2 INDIVIDUALS CAPTURED IN PITFALL ARRAY 12. 8 SAMPLING PERIODS FROM 5 AUG 1998 TO 19 OCT 1999 (74 SAMPLE DAYS) FOR ALL 12 ARRAYS AT THIS SITE, UNKNOWN EXACTLY WHICH DATES APPLY TO THIS ARRAY.

Owner/Manager: PVT-IRVINE CO



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Occurrence No.	820	Map Index: B2392	EO Index: 114323	Element Last Seen:	2015-02-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2015-02-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-02-27
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.67813 / -117.69076		Accuracy:	80 meters	
UTM:	Zone-11 N3726682 E435970		Elevation (ft):	583	
PLSS:	T06S, R08W, Sec. 2, SW (S)		Acres:	5.0	
Location:	0.6 AIR MILE NORTH OF THE INTERSECTION OF COMMERCENTRE DRIVE AND ALTON PARKWAY, ORANGE COUNTY GREAT PARK, IRVINE.				
Detailed Location:	MAPPED TO COORDINATES PROVIDED, AT A POND.				
Ecological:					
General:	4 INDIVIDUALS FOUND VIA DIPNETTING ON 19 FEB 2015.				
Owner/Manager:	ORA COUNTY				
Occurrence No.	821	Map Index: B2393	EO Index: 114325	Element Last Seen:	2010-03-05
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2010-03-05
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-02-27
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.68345 / -117.69824		Accuracy:	80 meters	
UTM:	Zone-11 N3727277 E435280		Elevation (ft):	563	
PLSS:	T06S, R08W, Sec. 3, NE (S)		Acres:	5.0	
Location:	1.0 AIR MILE EAST OF INTERSECTION OF IRVINE BLVD AND AQUILA, NEAR AGUA CHINON WASH, ORANGE COUNTY GREAT PARK, IRVINE.				
Detailed Location:	MAPPED TO COORDINATES PROVIDED.				
Ecological:	HABITAT IS NON-NATIVE GRASSLAND ADJACENT TO OPEN SPACE AND DEVELOPMENT. SITE DISTURBED BY FORMER MILITARY ACTIVITIES.				
General:	MORE THAN 25 LARVAE FOUND IN ROADSIDE/RUT POOL ON 5 MAR 2010.				
Owner/Manager:	ORA COUNTY				
Occurrence No.	822	Map Index: B2399	EO Index: 114331	Element Last Seen:	2005-06-17
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2005-06-17
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-02-27
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.68866 / -117.6924		Accuracy:	specific area	
UTM:	Zone-11 N3727851 E435825		Elevation (ft):	680	
PLSS:	T05S, R08W, Sec. 35, SW (S)		Acres:	13.0	
Location:	NEAR AGUA CHINON WASH, ABOUT 0.5 AIR MILE SOUTH OF PORTOLA PARKWAY AND HIGHWAY 241 JUNCTION, ORANGE COUNTY GREAT PARK.				
Detailed Location:	MAPPED TO COORDINATES PROVIDED FOR TRAP ARRAYS. SITE WAS HISTORICALLY PART OF EL TORO MARINE BASE.				
Ecological:	NEAR PONDED WATER IN COASTAL SAGE SCRUB AND GRASSLAND. 2007 SANTIAGO FIRE BURNED THE AREA.				
General:	15 INDIVIDUALS CAUGHT IN PITFALL TRAPS BETWEEN 14 JAN AND 17 JUN 2005.				
Owner/Manager:	ORA COUNTY				



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Occurrence No.	823	Map Index: B2403	EO Index: 114335	Element Last Seen:	1998-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1998-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-03-01
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.66723 / -117.63957		Accuracy:	80 meters	
UTM:	Zone-11 N3725444 E440707		Elevation (ft):	1000	
PLSS:	T06S, R07W, Sec. 8, NW (S)		Acres:	5.0	
Location:	0.7 AIR MILES EAST OF THE JUNCTION OF PORTOLA PARKWAY AND HIGHWAY 241, NW OF UPPER OSO RESERVOIR, LAKE FOREST.				
Detailed Location:	JUST EAST OF THE VIEJO SUBSTATION, AT POOL #9.				
Ecological:	VERNAL POOL IN COASTAL SAGE SCRUB AND CHAPARRAL. 100 ACRE PROPERTY SURVEYED FOR PROPOSED MITIGATION BANK. SURROUNDED BY WHITING RANCH WILDERNESS PARK TO THE NORTH AND COMMERCIAL/HOUSING DEVELOPMENT.				
General:	BREEDING WESTERN SPADEFoot TOADS FOUND IN SPRING 1998.				
Owner/Manager:	UNKNOWN				
Occurrence No.	824	Map Index: B2405	EO Index: 114337	Element Last Seen:	2019-02-19
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2019-02-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2020-03-10
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.71526 / -117.65896		Accuracy:	80 meters	
UTM:	Zone-11 N3730780 E438944		Elevation (ft):	1474	
PLSS:	T05S, R07W, Sec. 30, NW (S)		Acres:	5.0	
Location:	ALONG LIMESTONE RIDGE RD, 0.5 MILE NW OF BOLERO POINT, LIMESTONE CANYON REGIONAL PARK, NORTH OF LAKE FOREST.				
Detailed Location:	MAPPED TO COORDINATES PROVIDED BY FIS04R0002, SITE LIM10.				
Ecological:	SEASONAL POND AND BURROWING SITES. OPEN SPACE RESERVE COMPRISED OF RIPARIAN, OAK WOODLAND, AND GRASSLANDS ALONG WITH STEEP RIDGES SUPPORTING COASTAL SAGE SCRUB AND CHAPARRAL HABITAT. PACIFIC TREEFROG AND WESTERN TOAD ALSO PRESENT.				
General:	LARVAE FOUND IN APR AND MAY 2003. 4 INDIVIDUALS FOUND ON 12 MAR 2010. 21 FOUND ON 14 APR 2017. 35 ADULTS CAUGHT AND RELEASED BETWEEN 6 DEC AND 19 FEB 2019.				
Owner/Manager:	ORA COUNTY				



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Occurrence No.	825	Map Index: B2408	EO Index: 114340	Element Last Seen:	2003-05-01
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2003-05-01
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-03-27
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.73061 / -117.72508		Accuracy:	80 meters	
UTM:	Zone-11 N3732523 E432829		Elevation (ft):	532	
PLSS:	T05S, R08W, Sec. 16, SW (S)		Acres:	5.0	
Location:	JEFFREY ROAD, 1.4 ROAD MILES NE OF ITS INTERESECTION WITH PORTOLA PARKWAY, IRVINE RANCH OPEN SPACE, NE OF IRVINE.				
Detailed Location:	MAPPED TO COORDINATES PROVIDED FOR SITE HH01.				
Ecological:	THE SURROUNDING AREA CONSISTS OF OAK WOODLAND, GRASSLAND, COASTAL SAGE SCRUB AND CHAPARRAL HABITAT. SPADEFOOT LARVAE DETECTED IN AN SMALL EARTHEN DEPRESSION WITH STANDING WATER WITHIN PRICKLY PEAR CACTUS VEGETATION PATCH.				
General:	LARVAE DETECTED BETWEEN 9 MAR AND 1 MAY 2003.				
Owner/Manager:	ORA COUNTY				
Occurrence No.	826	Map Index: B2410	EO Index: 114341	Element Last Seen:	2004-02-24
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2004-02-24
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-02-28
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.74 / -117.70589		Accuracy:	80 meters	
UTM:	Zone-11 N3733552 E434614		Elevation (ft):	1147	
PLSS:	T05S, R08W, Sec. 15, NW (S)		Acres:	5.0	
Location:	HICKS HAUL ROAD, ABOUT 0.2 MILE SOUTH OF LOMA RIDGE TRAIL, IRVINE RANCH OPEN SPACE, NE OF IRVINE.				
Detailed Location:	MAPPED TO COORDINATES PROVIDED. REPORT SITE HH02.				
Ecological:	OPEN SPACE COMPRISED OF OAK WOODLAND, GRASSLAND, COASTAL SAGE SCRUB AND CHAPARRAL HABITAT.				
General:	DETECTED ON 24 FEB 2004.				
Owner/Manager:	ORA COUNTY				



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Occurrence No.	827	Map Index: B2413	EO Index: 114344	Element Last Seen:	2017-04-26
Occ. Rank:	Poor		Presence: Presumed Extant	Site Last Seen:	2017-04-26
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-03-07
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.72388 / -117.7066		Accuracy:	specific area	
UTM:	Zone-11 N3731766 E434536		Elevation (ft):	1018	
PLSS:	T05S, R08W, Sec. 22, W (S)		Acres:	10.0	
Location:	1.3 AIR MILES N OF BEE CANYON WASH AT HWY 241, FRANK R. BOWERMAN LANDFILL, IRVINE.				
Detailed Location:	MAPPED TO COORDINATES AND MAP PROVIDED. REPORT SITES 1 & 5.				
Ecological:	DEBRIS POND IN ACTIVE LANDFILL. NO SIGN OF BREEDING (PRESENCE OF EGGS, TADPOLES OR METAMORPHS) DETECTED IN 2017. COASTAL SAGE SCRUB, CHAPARRAL, GRASSLAND, RIPARIAN, AND WOODLAND COMMUNITIES OCCUR AROUND LANDFILL.				
General:	1 ADULT OBSERVED ON 21 MAR 2016, 2 ADULTS ON 22 MAR 2017, AND 1 ADULT FOUND ON 26 APR 2017.				
Owner/Manager:	ORA COUNTY				
Occurrence No.	828	Map Index: B2420	EO Index: 114349	Element Last Seen:	2019-XX-XX
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen:	2019-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2020-03-09
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.74116 / -117.65835		Accuracy:	specific area	
UTM:	Zone-11 N3733651 E439019		Elevation (ft):	1259	
PLSS:	T05S, R07W, Sec. 18, NW (S)		Acres:	44.0	
Location:	IRVINE MESA, JUST SOUTH OF SILVERADO CANYON AND NE OF SANTIAGO CANYON RD (S18), NE OF IRVINE.				
Detailed Location:	MAPPED TO COORDINATES PROVIDED. MITIGATION SITE.				
Ecological:	PONDS IN COASTAL SAGE SCRUB, CHAPARRAL, AND NON-NATIVE GRASSLAND. PRESERVED OPEN SPACE. SPADEFOOT BREEDING POOLS CREATED IN 2004-2005. IN 2016, 12 OUT OF 14 POOLS HELD WATER FOR OVER 30 DAYS AND SUCCESSFUL BREEDING OCCURED IN 7.				
General:	TADPOLES OBSERVED ON 19 MAY 2009. TADPOLES AND JUVENILES FOUND IN 2010. ~1000 INDIVIDUALS OBSERVED IN 2016 AND ~1000 OBSERVED ON 29 MAR 2017. EGG MASSES, LARVAE, AND NEWLY METAMORPHOSED INDIVIDUALS OBSERVED IN 2019.				
Owner/Manager:	IRVINE RANCH CONSERVANCY				



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Occurrence No.	829	Map Index: B2423	EO Index: 114354	Element Last Seen:	2017-02-17
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2017-02-17
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-02-28

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.74745 / -117.66799	Accuracy:	80 meters
UTM:	Zone-11 N3734355 E438130	Elevation (ft):	1039
PLSS:	T05S, R08W, Sec. 12, SE (S)	Acres:	5.0

Location: SILVERADO CANYON RD, ABOUT 0.4 ROAD MILE EAST OF ITS INTERSECTION WITH SANTIAGO CANYON RD (S18), NE OF IRVINE.

Detailed Location: MAPPED TO COORDINATES PROVIDED.

Ecological:

General: 1 SUBADULT FOUND VIA ROAD CRUISING DURING LIGHT RAIN EVENT ON 17 FEB 2017.

Owner/Manager: UNKNOWN

Occurrence No.	831	Map Index: B2433	EO Index: 114362	Element Last Seen:	1967-04-24
Occ. Rank:	None		Presence: Possibly Extirpated	Site Last Seen:	1967-04-24
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-03-01

Quad Summary: San Juan Capistrano (3311756), El Toro (3311766)

County Summary: Orange

Lat/Long:	33.62491 / -117.69507	Accuracy:	nonspecific area
UTM:	Zone-11 N3720784 E435530	Elevation (ft):	422
PLSS:	T06S, R08W, Sec. 27, NE (S)	Acres:	382.0

Location: NEAR EL TORO ROAD, NE OF INTERSTATE 5, LAKE FOREST.

Detailed Location: MAPPED TO BETWEEN 0.5 MI SW AND NE OF CENTER OF EL TORO ALONG EL TORO RD. ATTRIBUTED 1960 SPECIMENS COLLECTED FROM "EL TORO," EXACT LOCATION UNKNOWN.

Ecological: SEVERAL OF THE SPECIMEN LOCALITIES NOTE COLLECTION MADE NEAR OR AT PONDS. AERIAL IMAGERY FROM 1960 SHOWS EL TORO WAS PRIMARILY AGRICULTURAL LAND AND A FEW PONDS WERE LOCATED ADJACENT TO EL TORO RD. PONDS NO LONGER EXIST.

General: 2 ADULTS AND 1 OF UNKNOWN AGE COLLECTED IN JAN 1960. 2 COLLECTED ON 16 MAY 1963. 4 (1 WAS FOUND UNDER LOG) COLLECTED IN MAY 1966. 1 COLLECTED AT NIGHT ON 10 MAR 1967. 1 FOUND IN MUD PUDDLE AFTER RAIN AND COLLECTED ON 24 APR 1967.

Owner/Manager: UNKNOWN



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Occurrence No.	833	Map Index: B2436	EO Index: 114367	Element Last Seen:	1966-05-21
Occ. Rank:	None		Presence: Possibly Extirpated	Site Last Seen:	1966-05-21
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-03-01
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.6459 / -117.66419		Accuracy:	2/5 mile	
UTM:	Zone-11 N3723094 E438410		Elevation (ft):	638	
PLSS:	T06S, R08W, Sec. 13, SE (S)		Acres:	280.0	
Location:	ALONG EL TORO RD, ABOUT 1.9 MILES NE OF THE HISTORIC CENTER OF EL TORO, LAKE FOREST.				
Detailed Location:	ATTRIBUTED 1960 SPECIMEN COLLECTED FROM "BETWEEN EL TORO AND COOK'S CORNER," EXACT LOCATION UNKNOWN. COOK'S CORNER LOCATED AT INTERSECTION OF EL TORO RD AND LIVE OAK CANYON.				
Ecological:	HOW66S0025 NOTED UNDER OCCURRENCE REMARKS "IN SWAMP AREA UNDER CONCRETE." 1960 AERIAL IMAGERY SHOWS EL TORO AND SURROUNDING AREA WAS AGRICULTURAL LAND AND OPEN SPACE. AREA HAS BEEN SUBSTANTIALLY DEVELOPED SINCE TIME OF COLLECTION.				
General:	COLLECTED FROM VICINITY ON 28 JAN 1960. 1 COLLECTED ON 21 MAY 1966.				
Owner/Manager:	UNKNOWN				
Occurrence No.	835	Map Index: B2439	EO Index: 114370	Element Last Seen:	2004-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2004-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-03-05
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.79061 / -117.7267		Accuracy:	1/10 mile	
UTM:	Zone-11 N3739177 E432726		Elevation (ft):	657	
PLSS:	T04S, R08W, Sec. 28, SW (S)		Acres:	18.0	
Location:	SANTIAGO CREEK, ABOUT 0.3 MILES NORTH OF SANTIAGO DAM, NE OF IRVINE.				
Detailed Location:	REPORT SITE IRP01.				
Ecological:	INTERMITTENT POOL IN SANDY WASH. OAK AND SYCAMORE TREES WITH ROLLING FOOTHILLS OF CHAPARRAL AND COASTAL SAGE SCRUB. SURROUNDING LAND USED FOR RECREATION (HIKING, BIKING, HORSE RIDING).				
General:	SPADEFoot TADPOLES DETECTED IN APR 2003 AND IN 2004.				
Owner/Manager:	ORA COUNTY				



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Occurrence No.	836	Map Index: B2441	EO Index: 114371	Element Last Seen:	2003-05-22
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2003-05-22
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-03-04
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.79598 / -117.73602		Accuracy:	specific area	
UTM:	Zone-11 N3739778 E431867		Elevation (ft):	622	
PLSS:	T04S, R08W, Sec. 29, E (S)		Acres:	13.0	
Location:	SANTIAGO CREEK, 0.25 MILES WEST OF HWY 241 BRIDGE, NE OF IRVINE.				
Detailed Location:	MAPPED TO COORDINATES PROVIDED. SITE IRP02 & IRP04.				
Ecological:	OAK AND SYCAMORE TREES WITH ROLLING FOOTHILLS OF CHAPARRAL AND COASTAL SAGE SCRUB. SPADEFOOT LARVAE OBSERVED IN EPHEMERAL POOLS IN SANDY WASH. SURROUNDING LAND USED FOR RECREATION (HIKING, BIKING, HORSE RIDING).				
General:	LARVAE OBSERVED AND COLLECTED BETWEEN APR 24 AND 22 MAY 2003.				
Owner/Manager:	ORA COUNTY				
Occurrence No.	837	Map Index: B2444	EO Index: 114374	Element Last Seen:	2010-04-01
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2010-04-01
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-03-04
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.8005 / -117.70805		Accuracy:	80 meters	
UTM:	Zone-11 N3740261 E434460		Elevation (ft):	1265	
PLSS:	T04S, R08W, Sec. 27, NW (S)		Acres:	5.0	
Location:	1.3 AIR MILES NE OF SANTIAGO DAM, IRVINE RANCH OPEN SPACE, EAST OF THE CITY OF ORANGE.				
Detailed Location:	MAPPED TO COORDINATES PROVIDED.				
Ecological:	POND. SURROUNDING LAND USED FOR RECREATION (HIKING, BIKING, HORSE RIDING).				
General:	4 INDIVIDUALS DETECTED ON 12 MAR AND 1 FOUND ON 1 APR 2010.				
Owner/Manager:	ORA COUNTY				
Occurrence No.	841	Map Index: B2461	EO Index: 114390	Element Last Seen:	2003-05-14
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2003-05-14
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-04-02
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.8356 / -117.73439		Accuracy:	80 meters	
UTM:	Zone-11 N3744171 E432050		Elevation (ft):	873	
PLSS:	T04S, R08W, Sec. 8, SE (S)		Acres:	5.0	
Location:	NORTH END OF WEIR CANYON, ABOUT 1.4 AIR MILES NE OF ROBBERS PEAK, IRVINE RANCH OPEN SPACE, EAST OF ANAHEIM.				
Detailed Location:	MAPPED TO COORDINATES PROVIDED. REPORT SITES WEIR03 & WEIR04.				
Ecological:	OPEN SPACE RESERVE COMPRISED OF RIPARIAN, OAK WOODLAND, AND GRASSLANDS ALONG WITH STEEP SLOPES SUPPORTING COASTAL SAGE SCRUB AND CHAPARRAL HABITAT.				
General:	SPADEFOOT TADPOLES DETECTED IN ROAD RUT POOLS AND COLLECTED BETWEEN 19 MAR AND 14 MAY 2003.				
Owner/Manager:	ORA COUNTY				



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Occurrence No.	842	Map Index: B2462	EO Index: 114391	Element Last Seen:	2010-02-27
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen:	2010-02-27
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-03-05

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.84612 / -117.7055	Accuracy:	80 meters
UTM:	Zone-11 N3745318 E434731	Elevation (ft):	539
PLSS:	T04S, R08W, Sec. 3, S (S)	Acres:	5.0

Location: GYPSUM CREEK ABOUT 1.6 AIR MILES SOUTH OF SANTA ANA CANYON, EAST OF ANAHEIM.
Detailed Location: MAPPED TO COORDINATES PROVIDED.
Ecological: PRESERVED OPEN SPACE WITH OAK RIPARIAN WOODLAND, COAST LIVE OAK AND NON-NATIVE GRASS.
General: 1 ADULT FOUND ON 27 FEB 2010.
Owner/Manager: IRVINE RANCH CONSERVANCY

Occurrence No.	843	Map Index: B2465	EO Index: 114393	Element Last Seen:	2010-10-21
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen:	2010-10-21
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-03-05

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.839 / -117.70972	Accuracy:	specific area
UTM:	Zone-11 N3744531 E434335	Elevation (ft):	644
PLSS:	T04S, R08W, Sec. 10, NW (S)	Acres:	10.0

Location: GYPSUM CREEK ABOUT 2.3 AIR MILES SOUTH OF SANTA ANA CANYON, EAST OF ANAHEIM.
Detailed Location: MAPPED TO COORDINATES PROVIDED.
Ecological: PRESERVED OPEN SPACE WITH MULEFAT, WILLOW SCRUB, COASTAL SAGE SCRUB, CALIFORNIA SAGEBRUSH, COASTAL BUCKWHEAT AND NON-NATIVE GRASSES.
General: 1 ADULT FOUND ON 12 MAR 2009. 1 ADULT FOUND ON 21 OCT 2010.
Owner/Manager: IRVINE RANCH CONSERVANCY



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Occurrence No.	844	Map Index: B2466	EO Index: 114395	Element Last Seen:	2010-04-01
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2010-04-01
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-03-05
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.83 / -117.69523		Accuracy:	80 meters	
UTM:	Zone-11 N3743525 E435668		Elevation (ft):	1684	
PLSS:	T04S, R08W, Sec. 14, NW (S)		Acres:	5.0	
Location:	POOL ADJACENT TO WINDY RIDGE TRAIL, 1 MI W OF BLACK STAR TRAIL, IRVINE RANCH OPEN SPACE, EAST OF ANAHEIM.				
Detailed Location:	MAPPED TO COORDINATES PROVIDED. REPORT SITE FRE03.				
Ecological:	POOL. OPEN SPACE RESERVE COMPRISED OF RIPARIAN, OAK WOODLAND, GRASSLANDS ALONG WITH STEEP SLOPES SUPPORTING COASTAL SAGE SCRUB AND CHAPARRAL HABITAT. LAND USED FOR RECREATION (HIKING, BIKING, HORSE RIDING).				
General:	TADPOLES COLLECTED ON 20 APR 2004. 1 INDIVIDUAL OF UNSPECIFIED AGE FOUND ON 12 MAR AND 3 INDIVIDUALS ON 1 APR 2010.				
Owner/Manager:	ORA COUNTY				
Occurrence No.	852	Map Index: B2505	EO Index: 114435	Element Last Seen:	2017-02-28
Occ. Rank:	Poor		Presence: Presumed Extant	Site Last Seen:	2017-02-28
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-03-07
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.71267 / -117.71056		Accuracy:	80 meters	
UTM:	Zone-11 N3730525 E434160		Elevation (ft):	634	
PLSS:	T05S, R08W, Sec. 27, NW (S)		Acres:	5.0	
Location:	0.7 AIR MILE E OF HWY 241 AND 133 INTERCHANGE, FRANK R. BOWERMAN LANDFILL, NORTHEAST IRVINE.				
Detailed Location:	MAPPED TO MAP AND COORDINATES PROVIDED, SITE BASIN 6.				
Ecological:	CONCRETE LINED BASIN. COASTAL SAGE SCRUB, CHAPARRAL, GRASSLAND, RIPARIAN, AND WOODLAND COMMUNITIES OCCUR AROUND LANDFILL. LANDFILL ESTABLISHED IN 1990.				
General:	4 ADULTS OBSERVED ON 28 FEB 2017.				
Owner/Manager:	ORA COUNTY				



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Occurrence No.	1032	Map Index:	B3889	EO Index:	116803	Element Last Seen:	1964-04-17
Occ. Rank:	Poor	Presence:	Presumed Extant	Site Last Seen:	1964-04-17	Record Last Updated:	2019-09-09
Occ. Type:	Natural/Native occurrence		Trend:	Unknown			
Quad Summary:	Corona South (3311775), Black Star Canyon (3311776), Corona North (3311785), Prado Dam (3311786)						
County Summary:	Riverside						
Lat/Long:	33.87784 / -117.62657		Accuracy:	2/5 mile			
UTM:	Zone-11 N3748788 E442054		Elevation (ft):	657			
PLSS:	T03S, R07W, Sec. 28, SW (S)		Acres:	280.0			
Location:	ON SOUTH SIDE OF HWY 91, IN VICINITY OF WARDLOW WASH, PRADO BASIN, WEST OF CORONA.						
Detailed Location:	AERIAL IMAGERY FROM 1965 SHOWS HWY 91/HWY 71 JUNCTION WAS LOCATED JUST EAST OF THE PRESENT DAY JUNCTION.						
Ecological:	AREA SOUTH OF HIGHWAY WAS DEVELOPED SINCE TIME OF COLLECTION.						
General:	3 COLLECTED IN APR 1964. NEEDS MODERN FIELD RESEARCH AND REPORTING; UNKNOWN IF EXTIRPATED DUE TO DEVELOPMENT.						
Owner/Manager:	UNKNOWN						

Ardea herodias		Element Code: ABNGA04010					
great blue heron							
Listing Status:	Federal:	None	CNDDB Element Ranks:	Global:	G5		
	State:	None		State:	S4		
	Other:	CDF_S-Sensitive, IUCN_LC-Least Concern					
Habitat:	General:	COLONIAL NESTER IN TALL TREES, CLIFFSIDES, AND SEQUESTERED SPOTS ON MARSHES.					
	Micro:	ROOKERY SITES IN CLOSE PROXIMITY TO FORAGING AREAS: MARSHES, LAKE MARGINS, TIDE-FLATS, RIVERS AND STREAMS, WET MEADOWS.					

Occurrence No.	70	Map Index:	54473	EO Index:	54473	Element Last Seen:	2004-02-14
Occ. Rank:	Fair	Presence:	Presumed Extant	Site Last Seen:	2004-02-14	Record Last Updated:	2004-02-25
Occ. Type:	Natural/Native occurrence		Trend:	Unknown			
Quad Summary:	Orange (3311777)						
County Summary:	Orange						
Lat/Long:	33.86490 / -117.84362		Accuracy:	80 meters			
UTM:	Zone-11 N3747496 E421969		Elevation (ft):	250			
PLSS:	T03S, R09W, Sec. 32 (S)		Acres:	0.0			
Location:	BETWEEN ANAHEIM LAKE AND TUSTIN AVENUE, NORTH OF MIRALOMA AVENUE, ON THE EAST SIDE OF ANAHEIM LAKE, ANAHEIM.						
Detailed Location:	ATLAS OF BREEDING BIRDS (S. GALLAGHER, 1997) INDICATES NESTS IN EUCALYPTUS TREES; THESE NESTS IN PINE TREES MAY BE A NEW LOCATION, SHIFTED LOCATION, OR AN EXPANSION.						
Ecological:	NESTS ARE LOCATED IN A WINDROW OF LARGE, ORNAMENTAL PINE TREES; SURROUNDED BY BARE GROUND, ROADWAYS, AND COMMERCIAL DEVELOPMENT.						
General:	A MINIMUM OF 42 ADULTS OBSERVED NESTING ON 14 FEB 2004.						
Owner/Manager:	ORA COUNTY WATER AGENCY						

Elanus leucurus		Element Code: ABNKC06010					
white-tailed kite							
Listing Status:	Federal:	None	CNDDB Element Ranks:	Global:	G5		
	State:	None		State:	S3S4		
	Other:	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern					
Habitat:	General:						



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ROLLING FOOTHILLS AND VALLEY MARGINS WITH SCATTERED OAKS & RIVER BOTTOMLANDS OR MARSHES NEXT TO DECIDUOUS WOODLAND.

Micro: OPEN GRASSLANDS, MEADOWS, OR MARSHES FOR FORAGING CLOSE TO ISOLATED, DENSE-TOPPED TREES FOR NESTING AND PERCHING.

Occurrence No.	99	Map Index:	65933	EO Index:	66012	Element Last Seen:	2003-05-30
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2003-05-30	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2006-08-21	

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.63455 / -117.84675	Accuracy:	80 meters
UTM:	Zone-11 N3721958 E421469	Elevation (ft):	261
PLSS:	T06S, R09W, Sec. 20, SW (S)	Acres:	0.0

Location: ABOUT 1.4 MI SE OF NEWPORT BEACH, 0.25 MI N OF BONITA RESERVOIR.

Detailed Location:

Ecological: COASTAL SAGE SCRUB.

General: 2 ADULTS AND 2 JUVENILES OBSERVED ON 30 MAY 2003. PAIR BRED NEARBY, POSSIBLY BONITA RESERVOIR.

Owner/Manager: UC-IRVINE

Occurrence No.	120	Map Index:	76200	EO Index:	77182	Element Last Seen:	2009-05-09
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2009-05-09	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2009-08-11	

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.84432 / -117.79653	Accuracy:	nonspecific area
UTM:	Zone-11 N3745180 E426307	Elevation (ft):	420
PLSS:	T04S, R09W, Sec. 11, NW (S)	Acres:	32.0

Location: VICINITY OF E WESTRIDGE RD AT S WESTRIDGE CIRCLE, JUST SOUTH OF PELANCONI PARK, PERALTA HILLS, ANAHEIM.

Detailed Location: MAPPED TO PROVIDED COORDINATES. 2009 NEST (SOUTH FEATURE) ALONG E NOHL RANCH RD; 2008 NEST (NORTH FEATURE) NEAR PELANCONI PARK. TERRITORY ID OR-065, LOCATION = "NOEL RANCH RD - DONELDAS."

Ecological: NEST TREES WERE DESCRIBED AS "PINES."

General: IN 2008 3 CHICKS WERE BANDED, BUT ONE ENDED UP GROUNDED BY CROWS AND MAY HAVE DIED. IN 2009 3 CHICKS WERE BANDED AT THE NEST ON 9 MAY.

Owner/Manager: PVT



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Occurrence No.	121	Map Index: 76202	EO Index: 77183	Element Last Seen:	2008-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2009-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2009-08-26
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.82826 / -117.74108		Accuracy:	1/10 mile	
UTM:	Zone-11 N3743361 E431423		Elevation (ft):	790	
PLSS:	T04S, R08W, Sec. 17, NW (S)		Acres:	0.0	
Location:	1 MI EAST OF ROBBERS PEAK AND 0.1 MI ENE OF BM 790, ALONG WINDY RIDGE RD, WEIR CANYON, ANAHEIM.				
Detailed Location:	MAPPED TO PROVIDED COORDINATES. TERRITORY ID OR-071, LOCATION "WEIR CANYON."				
Ecological:	NEST IN LIVE OAK.				
General:	IN 2008 3 CHICKS WERE BANDED AT THE NEST; NEST FATE UNKNOWN. IN 2009 THE NEST SITE WAS INACTIVE.				
Owner/Manager:	UNKNOWN				
Occurrence No.	122	Map Index: 76204	EO Index: 77184	Element Last Seen:	2008-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2008-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2009-08-11
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.80320 / -117.75772		Accuracy:	1/10 mile	
UTM:	Zone-11 N3740593 E429864		Elevation (ft):	560	
PLSS:	T04S, R08W, Sec. 19, S (S)		Acres:	0.0	
Location:	ALONG WEIR CANYON RD (DIRT) AND 0.4 MI S OF BM 588 AT THE SOUTH END OF WEIR CYN, 0.4 MI N OF ORANGE CITY ZOO, ORANGE.				
Detailed Location:	VICINITY OF VILLA PARK DAM (FILLED); NOW BARHAM RANCH, COUNTY OF ORANGE. MAPPED TO PROVIDED COORDINATES. TERRITORY ID OR-026, LOCATION "IRVINE PARK FLOODPLAIN."				
Ecological:	NEST IN LIVE OAK.				
General:	2-3 CHICKS WERE OBSERVED IN ACTIVE NEST THAT FLEDGED IN 2008. NEST SITE WAS INACTIVE IN 2009.				
Owner/Manager:	ORA COUNTY				
Occurrence No.	123	Map Index: 76217	EO Index: 77197	Element Last Seen:	2009-04-23
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2009-04-23
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2009-08-12
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.65692 / -117.84858		Accuracy:	1/10 mile	
UTM:	Zone-11 N3724440 E421320		Elevation (ft):	12	
PLSS:	T06S, R09W, Sec. 17, NW (S)		Acres:	0.0	
Location:	0.25 MI NW OF UNIVERSITY DR AT CAMPUS DR, JUST E OF THE DUCK PONDS (SAN JOAQUIN FRESHWATER MARSH RESERVE), IRVINE.				
Detailed Location:	MAPPED TO PROVIDED COORDINATES. TERRITORY ID OR-057, LOCATION "UCI MARSH."				
Ecological:	NEST IN A WILLOW TREE IN 2008 AND IN A COTTONWOOD IN 2009.				
General:	IN 2008 TWO YOUNG WERE OBSERVED AT THE NEST; UNKNOWN IF SUCCESSFULLY FLEDGED. IN 2009 FOUR CHICKS WERE BANDED ON 23 APR AND WERE LATER OBSERVED TO HAVE FLEDGED.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	125	Map Index: 76241	EO Index: 77218	Element Last Seen:	2007-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2009-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2009-08-12
Quad Summary:	Tustin (3311767), Newport Beach (3311768)				
County Summary:	Orange				
Lat/Long:	33.64474 / -117.87695		Accuracy:	1/10 mile	
UTM:	Zone-11 N3723111 E418678		Elevation (ft):	100	
PLSS:	T06S, R10W, Sec. 13, S (S)		Acres:	0.0	
Location:	VICINITY OF UPPER NEWPORT BAY, ALONG VISTA DEL ORO BETWEEN VISTA ORNADA & VISTA PARADA, NEWPORT BEACH.				
Detailed Location:	MAPPED TO PROVIDED, CORRECTED COORDINATES. TERRITORY ID OR-065, LOCATION "UPPER NEWPORT BAY."				
Ecological:					
General:	NEST WAS CONFIRMED ACTIVE AND TO HAVE FLEDGED YOUNG IN 2007, BUT DATES AND NUMBER OF CHICKS WAS NOT STATED. IT APPEARS THAT THE NEST TERRITORY WAS RE-CHECKED IN 2008 & 2009, BUT WAS INACTIVE.				
Owner/Manager:	PVT				
Occurrence No.	127	Map Index: 76244	EO Index: 77224	Element Last Seen:	2009-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2009-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-11-19
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.66154 / -117.80123		Accuracy:	1/10 mile	
UTM:	Zone-11 N3724918 E425714		Elevation (ft):	125	
PLSS:	T06S, R09W, Sec. 10, SE (S)		Acres:	0.0	
Location:	0.4 MI WSW OF JEFFREY RD AT I-405, BETWEEN ROSEWOOD & DOGWOOD S STREETS, UNIVERSITY PARK NEIGHBORHOOD OF IRVINE.				
Detailed Location:	MAPPED TO PROVIDED COORDINATES. TERRITORY ID OR-061, LOCATION "QUAIL HILL AREA."				
Ecological:	NEST IN EUCALYPTUS IN URBAN AREA.				
General:	THE NEST WAS NOT FOUND IN 2008, BUT NOTED AS PROBABLY FLEDGED SINCE ADULTS WERE OBSERVED WITH 2 YOUNG LATE IN THE SEASON. IN 2009 THE NEST WAS LOCATED AND CONFIRMED ACTIVE, BUT LATER FAILED DUE TO TREE TRIMMING.				
Owner/Manager:	PVT				



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Occurrence No.	128	Map Index: 76246	EO Index: 77226	Element Last Seen:	2009-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2009-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2009-08-13
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.66088 / -117.81641		Accuracy:	1/10 mile	
UTM:	Zone-11 N3724855 E424306		Elevation (ft):	100	
PLSS:	T06S, R09W, Sec. 09, SE (S)		Acres:	0.0	
Location:	0.7 MI SE OF I-405 AT CULVER DR, AT SIERRA TREE LN, NEAR UNIVERSITY COMMUNITY PARK, UNIV. PARK NEIGHBORHOOD OF IRVINE.				
Detailed Location:	MAPPED TO PROVIDED COORDINATES. TERRITORY ID OR-062, LOCATION "QUAIL HILL ALTERNATE."				
Ecological:	NEST IN EUCALYPTUS IN URBAN AREA.				
General:	NEST SITE CONFIRMED AS ACTIVE (BUILT) IN 2009, BUT LATER FAILED OR NEVER LAID EGGS.				
Owner/Manager:	PVT				
Occurrence No.	129	Map Index: 76247	EO Index: 77227	Element Last Seen:	2009-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2009-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2009-08-13
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.65205 / -117.81728		Accuracy:	1/10 mile	
UTM:	Zone-11 N3723877 E424218		Elevation (ft):	155	
PLSS:	T06S, R09W, Sec. 16, NE (S)		Acres:	0.0	
Location:	1.25 MI SSE OF I-405 AT CULVER DR, JUST SOUTH OF SAND CYN WASH, AT ROCKY KNOLL (RD), IRVINE.				
Detailed Location:	MAPPED TO PROVIDED COORDINATES. TERRITORY ID OR-058, LOCATION "TURTLE ROCK."				
Ecological:	NEST IN PINE IN DEVELOPED AREA.				
General:	THE NEST WAS OBSERVED ACTIVE IN 2009 WITH 2 CHICKS, BUT UNKNOWN IF FLEDGED.				
Owner/Manager:	PVT				
Occurrence No.	130	Map Index: 76248	EO Index: 77228	Element Last Seen:	2009-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2009-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2009-08-13
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.63837 / -117.80228		Accuracy:	1/10 mile	
UTM:	Zone-11 N3722349 E425597		Elevation (ft):	310	
PLSS:	T06S, R09W, Sec. 22, NE (S)		Acres:	0.0	
Location:	1.75 MI SSW OF I-405 AT JEFFREY RD, & 0.9 MI SSE OF FRENCH HILL, AT CANDLEBUSH & WILLOWLEAF (RDS), IRVINE.				
Detailed Location:	MAPPED TO PROVIDED COORDINATES. TERRITORY ID OR-073, LOCATION "RIDGELINE DR - TURTLE ROCK."				
Ecological:	NEST IN PINE IN SUBURBAN AREA.				
General:	NEST ACTIVE IN 2009 WITH 2 CHICKS THAT SUCCESSFULLY FLEDGED.				
Owner/Manager:	PVT				



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Occurrence No.	131	Map Index: 76249	EO Index: 77229	Element Last Seen:	2009-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2009-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2009-08-13
Quad Summary:	El Toro (3311766), Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.64405 / -117.75203		Accuracy:	1/10 mile	
UTM:	Zone-11 N3722944 E430261		Elevation (ft):	210	
PLSS:	T06S, R08W, Sec. 18, SE (S)		Acres:	0.0	
Location:	0.75 MI SE OF HWY 133 AT I-405, AT WILD RIVERS WATER PARK, IRVINE.				
Detailed Location:	MAPPED TO PROVIDED COORDINATES. TERRITORY ID OR-059, LOCATION "WILD RIVERS - IRVINE."				
Ecological:	NEST IN MYOPORIUM ALONG URBAN EDGE AND BALL FIELD.				
General:	3 CHICKS BANDED AT NEST ON 9 MAY 2009 AND EVENTUALLY FLEDGED.				
Owner/Manager:	PVT				
Occurrence No.	132	Map Index: 76250	EO Index: 77230	Element Last Seen:	2009-07-23
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2009-07-23
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2009-08-13
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.63111 / -117.74362		Accuracy:	1/10 mile	
UTM:	Zone-11 N3721503 E431032		Elevation (ft):	240	
PLSS:	T06S, R08W, Sec. 20, SW (S)		Acres:	0.0	
Location:	1.73 MI SE OF HWY 133 AT I-405, NEXT TO LAKE FOREST DR, IRVINE.				
Detailed Location:	MAPPED TO PROVIDED COORDINATES. TERRITORY ID OR-068, LOCATION "WEST LAKE FOREST DR."				
Ecological:	NEST IN EUCALYPTUS.				
General:	NEST FOUND IN 2009 WITH 3 YOUNG THAT WERE OBSERVED TO HAVE FLEDGED AROUND 23 JUL 2009.				
Owner/Manager:	UNKNOWN				
Occurrence No.	136	Map Index: 76258	EO Index: 77234	Element Last Seen:	2009-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2009-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2009-08-13
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.78083 / -117.77055		Accuracy:	1/5 mile	
UTM:	Zone-11 N3738122 E428657		Elevation (ft):	650	
PLSS:	T04S, R09W, Sec. 36, E (S)		Acres:	0.0	
Location:	0.5 MI W OF THE PETERS CANYON RESERVOIR INTAKE TOWER, NEAR BRIER LN & HIGHCLIFF DR, SANTA ANNA.				
Detailed Location:	MAPPED TO PROVIDED COORDINATES. HOWEVER, THE COORDINATES PUT THE NEST LOCATION IN NEIGHBORHOOD BACK YARD; COORDINATES -117 46 03, 33 46 52 (N83) SEEM TO MATCH DESCRIPTION BETTER. TERRITORY ID OR-069, LOCATION "PETERS CANYON PARK."				
Ecological:	NEST IN PINE.				
General:	NEST CONFIRMED ACTIVE IN 2009 WITH 4 CHICKS THAT SUCCESSFULLY FLEDGED.				
Owner/Manager:	PVT				



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Occurrence No.	137	Map Index: 76256	EO Index: 77235	Element Last Seen:	2009-05-01
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2009-05-01
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2009-08-13

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.86075 / -117.74252	Accuracy:	1/10 mile
UTM:	Zone-11 N3746964 E431316	Elevation (ft):	870
PLSS:	T03S, R08W, Sec. 32, SW (S)	Acres:	0.0

Location: JUST S OF ANAHEIM CITY PARK, 0.7 MILE S OF SR 91 (RIVERSIDE FWY) AT S WEIR CANYON RD, ANAHEIM.
Detailed Location: MAPPED TO PROVIDED COORDINATES, BUT SEE LOCATION DESCRIPTION. TERRITORY ID OR-063, LOCATION GIVEN AS "SYCAMORE PARK YORBA LINDA."
Ecological: NEST IN ELDERBERRY.
General: 4 CHICKS BANDED AT THE NEST ON 1 MAY 2009 AND LATER OBSERVED TO HAVE FLEDGED.
Owner/Manager: UNKNOWN

Occurrence No.	138	Map Index: 76257	EO Index: 77236	Element Last Seen:	2009-05-14
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2009-05-14
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2009-08-13

Quad Summary: Orange (3311777)
County Summary: Orange

Lat/Long:	33.84822 / -117.76789	Accuracy:	1/10 mile
UTM:	Zone-11 N3745592 E428960	Elevation (ft):	605
PLSS:	T04S, R09W, Sec. 01, SE (S)	Acres:	0.0

Location: 1.4 MI ESE OF SR 91 (RIVERSIDE FWY) AT SR 90 (S IMPERIAL HWY), BETWEEN E VIA ARBOLES & E VIA ESTRADA, ANAHEIM.
Detailed Location: MAPPED TO PROVIDED COORDINATES. TERRITORY ID OR-064, LOCATION "ANAHEIM HILLS."
Ecological: NEST IN PINE. SAVED FROM URBAN TREE TRIMMERS.
General: 3 CHICKS BANDED AT THE NEST ON 14 MAY 2009 AND LATER WERE OBSERVED TO HAVE FLEDGED.
Owner/Manager: PVT



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<i>Haliaeetus leucocephalus</i>		Element Code: ABNKC10010	
bald eagle			
Listing Status:	Federal: Delisted	CNDDDB Element Ranks:	Global: G5
	State: Endangered		State: S3
	Other: BLM_S-Sensitive, CDF_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern, USFS_S-Sensitive, USFWS_BCC-Birds of Conservation Concern		
Habitat:	General: OCEAN SHORE, LAKE MARGINS, AND RIVERS FOR BOTH NESTING AND WINTERING. MOST NESTS WITHIN 1 MILE OF WATER.		
	Micro: NESTS IN LARGE, OLD-GROWTH, OR DOMINANT LIVE TREE WITH OPEN BRANCHES, ESPECIALLY PONDEROSA PINE. ROOSTS COMMUNALLY IN WINTER.		

Occurrence No.	356	Map Index:	89312	EO Index:	90305	Element Last Seen:	2011-XX-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2011-XX-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2013-05-30	

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long: 33.78178 / -117.70650 **Accuracy:** 1/10 mile

UTM: Zone-11 N3738185 E434589 **Elevation (ft):** 1055

PLSS: T04S, R08W, Sec. 34, NW (S) **Acres:** 0.0

Location: NEAR SANTIAGO COAL MINE, ABOUT 1.2 MILES ESE OF SANTIAGO DAM SPILLWAY, SANTIAGO RESERVOIR (IRVINE LAKE).

Detailed Location: MAPPED TO PROVIDED COORDINATES. NEST IN PINE TREE ON NORTH SIDE OF LAKE.

Ecological:

General: LAST KNOWN ORANGE COUNTY NESTING OCCURED IN 1927. NEST WITH 1 FLEDGLING OBSERVED IN 2010. 2 FLEDGLINGS OBSERVED IN 2011. UNCLEAR IF NEST SITE WAS REVISITED IN 2012.

Owner/Manager: UNKNOWN, PVT

<i>Accipiter cooperii</i>		Element Code: ABNKC12040	
Cooper's hawk			
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G5
	State: None		State: S4
	Other: CDFW_WL-Watch List, IUCN_LC-Least Concern		
Habitat:	General: WOODLAND, CHIEFLY OF OPEN, INTERRUPTED OR MARGINAL TYPE.		
	Micro: NEST SITES MAINLY IN RIPARIAN GROWTHS OF DECIDUOUS TREES, AS IN CANYON BOTTOMS ON RIVER FLOOD-PLAINS; ALSO, LIVE OAKS.		



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Occurrence No.	14	Map Index: 02975	EO Index: 27352	Element Last Seen:	1971-10-61
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1971-10-61
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1989-08-10

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.74723 / -117.63616	Accuracy:	1/5 mile
UTM:	Zone-11 N3734311 E441077	Elevation (ft):	1800
PLSS:	T05S, R07W, Sec. 08, SW (S)	Acres:	0.0

Location: SILVERADO.

Detailed Location:

Ecological:

General: FROM NORTH AMERICAN NEST RECORD CARD PROGRAM.

Owner/Manager: UNKNOWN

Occurrence No.	90	Map Index: 54509	EO Index: 54509	Element Last Seen:	2003-05-21
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen:	2003-05-21
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-02-27

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.63374 / -117.74422	Accuracy:	80 meters
UTM:	Zone-11 N3721795 E430978	Elevation (ft):	220
PLSS:	T06S, R08W, Sec. 20, SW (S)	Acres:	0.0

Location: SAN DIEGO CREEK, MIDWAY BETWEEN I-5 AND LAGUNA CANYON ROAD, SOUTH OF EL TORO MARINE CORPS AIR STATION.

Detailed Location:

Ecological: HABITAT CONSISTS OF WILLOW RIPARIAN SCRUB. SURROUNDING LAND IS OPEN SPACE.

General: 1 ADULT OBSERVED. AREA IS UTILIZED FOR BREEDING.

Owner/Manager: PVT

Occurrence No.	96	Map Index: 56408	EO Index: 56424	Element Last Seen:	2002-02-20
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen:	2002-02-20
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-08-17

Quad Summary: Black Star Canyon (3311776), Orange (3311777)

County Summary: Orange

Lat/Long:	33.85522 / -117.74973	Accuracy:	2/5 mile
UTM:	Zone-11 N3746356 E430645	Elevation (ft):	680
PLSS:	T04S, R08W, Sec. 06 (S)	Acres:	0.0

Location: AREA 0.8 MILE DIRECTLY NORTH OF WALNUT CANYON RESERVOIR, ANAHEIM HILLS.

Detailed Location: NEST TREE IS ABOVE A HORSE TRAIL. LOCATION GIVEN AS HOLLOW OAK ROAD, DEER CANYON PARK, ANAHEIM HILLS - AREA MAPPED IS E HOLLOW OAK ROAD.

Ecological: HABITAT CONSISTS OF OAK WOODLAND, RIPARIAN AND CSS. HORSEBACK RIDING TRAIL IN AREA. THIS AREA IS ALSO USED BY HIKERS.

General: 2 ADULTS UTILIZE THIS AREA FOR FORAGING AND BREEDING.

Owner/Manager: CITY OF ANAHEIM



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Occurrence No.	132	Map Index: A3705	EO Index: 105350	Element Last Seen:	2016-06-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2016-06-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-02-10

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long: 33.66118 / -117.76854 **Accuracy:** 80 meters

UTM: Zone-11 N3724854 E428746 **Elevation (ft):** 142

PLSS: T06S, R09W, Sec. 12, SE (S) **Acres:** 5.0

Location: ALONG SAN DIEGO CREEK, ABOUT 0.1 MILES SW OF LAGUNA CANYON RD AT BARRANCA PKWY, IRVINE.

Detailed Location: MAPPED TO PROVIDED SHAPEFILE.

Ecological: WITHIN SAN DIEGO CREEK & BIKE PATH PARKWAY.

General: NEST WITH TWO CHICKS OBSERVED ON 19 JUN 2016.

Owner/Manager: CITY OF IRVINE



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<i>Buteo regalis</i>		Element Code: ABNKC19120	
ferruginous hawk			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G4
	State: None		State: S3S4
	Other: CDFW_WL-Watch List, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern		
Habitat:	General: OPEN GRASSLANDS, SAGEBRUSH FLATS, DESERT SCRUB, LOW FOOTHILLS AND FRINGES OF PINYON AND JUNIPER HABITATS.		
	Micro: EATS MOSTLY LAGOMORPHS, GROUND SQUIRRELS, AND MICE. POPULATION TRENDS MAY FOLLOW LAGOMORPH POPULATION CYCLES.		

Occurrence No.	5	Map Index: 52589	EO Index: 52589	Element Last Seen:	2001-03-22
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-03-22
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-09-22

Quad Summary: El Toro (3311766)
County Summary: Orange

Lat/Long:	33.67405 / -117.70304	Accuracy:	1/10 mile
UTM:	Zone-11 N3726238 E434827	Elevation (ft):	500
PLSS:	T06S, R08W, Sec. 03 (S)	Acres:	0.0

Location: WESTERN PORTION OF EL TORO MARINE CORPS AIR STATION, ABOUT 2.7 MILES NE OF THE JUNCTION OF I-5 AND I-405.
Detailed Location: COMMUNICATION STATION LANDFILL (INSTALLATION RESTORATION PROGRAM, SITE 17).
Ecological: HABITAT ON PROJECT SITE CONSISTS OF CSS ON UPLANDS & MULE FAT SCRUB (DOMINATED BY MULE FAT, TREE TOBACCO) IN THE DRAINAGE SYSTEM. RUDERAL VEGETATION (INC BLACK MUSTARD, RIPGUT GRASS, BROME SP., OTHERS) ON FLATTER, LOWER AREAS OF SITE.
General: SPECIES OBSERVED AT ONE LOCATION SOMETIME DURING CALIFORNIA GNATCATCHER SURVEYS BETWEEN 12 DEC 2000 AND 22 MAR 2001.
Owner/Manager: DOD-EL TORO MCAS

Occurrence No.	6	Map Index: 52590	EO Index: 52590	Element Last Seen:	2001-03-22
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-03-22
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-09-22

Quad Summary: El Toro (3311766)
County Summary: Orange

Lat/Long:	33.67261 / -117.69595	Accuracy:	1/10 mile
UTM:	Zone-11 N3726074 E435483	Elevation (ft):	520
PLSS:	T06S, R08W, Sec. 03 (S)	Acres:	0.0

Location: WESTERN PORTION OF EL TORO MARINE CORPS AIR STATION, ABOUT 3 MILES NE OF THE JUNCTION OF I-5 AND I-405.
Detailed Location: MAGAZINE ROAD LANDFILL (INSTALLATION RESTORATION PROGRAM, SITE 2).
Ecological: HABITAT ON PROJECT SITE CONSISTS OF CSS AND MULE FAT COMMUNITIES AND RUDERAL VEGETATION.
General: SPECIES OBSERVED AT THIS LOCATION SOMETIME DURING CALIFORNIA GNATCATCHER SURVEYS BETWEEN 12 DEC 2000 AND 22 MAR 2001.
Owner/Manager: DOD-EL TORO MCAS



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<i>Falco peregrinus anatum</i>		Element Code: ABNKD06071	
American peregrine falcon			
Listing Status:	Federal: Delisted	CNDDDB Element Ranks:	Global: G4T4
	State: Delisted		State: S3S4
	Other: CDF_S-Sensitive, CDFW_FP-Fully Protected, USFWS_BCC-Birds of Conservation Concern		
Habitat:	General: NEAR WETLANDS, LAKES, RIVERS, OR OTHER WATER; ON CLIFFS, BANKS, DUNES, MOUNDS; ALSO, HUMAN-MADE STRUCTURES.		
	Micro: NEST CONSISTS OF A SCRAPE OR A DEPRESSION OR LEDGE IN AN OPEN SITE.		

*** SENSITIVE ***

Occurrence No.	45	Map Index: A0522	EO Index: 102084	Element Last Seen: 2015-04-01
Occ. Rank:	Unknown	Presence: Presumed Extant	Site Last Seen: 2015-04-01	
Occ. Type:	Natural/Native occurrence	Trend: Unknown	Record Last Updated: 2016-06-14	

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:		Accuracy:	80 meters
UTM:		Elevation (ft):	161
PLSS:		Acres:	5.0

Location: *SENSITIVE* LOCATION INFORMATION SUPPRESSED.

Detailed Location: PLEASE CONTACT THE CALIFORNIA NATURAL DIVERSITY DATABASE, CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE, FOR MORE INFORMATION: (916) 322-2493

Ecological: NESTS AT TOP OF BUILDING, IN INACCESSIBLE LOCATION WELL-PROTECTED FROM THE SUN AND WEATHER.

General:

Owner/Manager:



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<i>Coturnicops noveboracensis</i>		Element Code: ABNME01010	
yellow rail			
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G4
	State: None		State: S1S2
Other:	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, NABCI_RWL-Red Watch List, USFS_S-Sensitive, USFWS_BCC-Birds of Conservation Concern		
Habitat:	General: SUMMER RESIDENT IN EASTERN SIERRA NEVADA IN MONO COUNTY.		
	Micro: FRESHWATER MARSHLANDS.		

Occurrence No.	16	Map Index: A7023	EO Index: 106969	Element Last Seen: 1896-12-12
Occ. Rank:	Unknown	Presence: Presumed Extant	Site Last Seen: 1896-12-12	
Occ. Type:	Natural/Native occurrence	Trend: Unknown	Record Last Updated: 2017-10-27	

Quad Summary: Laguna Beach (3311757), Tustin (3311767), Newport Beach (3311768)

County Summary: Orange

Lat/Long: 33.61578 / -117.90486 **Accuracy:** nonspecific area

UTM: Zone-11 N3719923 E416063 **Elevation (ft):** 0

PLSS: T06S, R10W, Sec. 27 (S) **Acres:** 6987.0

Location: VICINITY OF NEWPORT BAY.

Detailed Location: MAPPED AS A NON-SPECIFIC 3K RADIUS CIRCLE ENCOMPASSING THE GENERAL AREA OF NEWPORT BAY AS DEPICTED ON THE 1899 EDITION OF THE 1896 TOPOGRAPHIC MAP.

Ecological: SOME PORTIONS OF UPPER NEWPORT BAY PROTECTED AS UPPER NEWPORT BAY ECOLOGICAL RESERVE.

General: 1 COLLECTED ON 12 DEC 1896.

Owner/Manager: UNKNOWN, DFG-UPPER NEWPORT BAY

Occurrence No.	17	Map Index: A5250	EO Index: 106970	Element Last Seen: 1914-02-06
Occ. Rank:	Unknown	Presence: Presumed Extant	Site Last Seen: 1914-02-06	
Occ. Type:	Natural/Native occurrence	Trend: Unknown	Record Last Updated: 2017-07-12	

Quad Summary: Lake Mathews (3311774), Corona South (3311775), Black Star Canyon (3311776), Riverside West (3311784), Corona North (3311785), Prado Dam (3311786)

County Summary: Orange, Riverside, San Bernardino

Lat/Long: 33.87627 / -117.57394 **Accuracy:** 5 miles

UTM: Zone-11 N3748585 E446921 **Elevation (ft):** 674

PLSS: T03S, R07W, Sec. 25 (S) **Acres:** 49683.0

Location: VICINITY OF CORONA.

Detailed Location: SPECIMEN LOCALITIES GIVEN AS "CORONA; 5 MI E" & "5 MI W CORONA." 1914 ARTICLE DESCRIBES LOCATION "NEAR CORONA." MAPPED GENERALLY TO INCLUDE GIVEN LOCALITIES.

Ecological: SWAMPY MEADOW COVERED THICKLY WITH MARSH GRASS AND TULE.

General: 1 COLLECTED ON 31 JAN 1914. 1 COLLECTED ON 6 FEB 1914; AN UNKNOWN NUMBER HEARD CALLING. NONE DETECTED ON SUBSEQUENT VISIT LATER IN 1914.

Owner/Manager: UNKNOWN



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<i>Laterallus jamaicensis coturniculus</i>		Element Code: ABNME03041	
California black rail			
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G3G4T1
	State: Threatened		State: S1
Other:	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_NT-Near Threatened, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern		
Habitat:	General: INHABITS FRESHWATER MARSHES, WET MEADOWS AND SHALLOW MARGINS OF SALTWATER MARSHES BORDERING LARGER BAYS.		
	Micro: NEEDS WATER DEPTHS OF ABOUT 1 INCH THAT DO NOT FLUCTUATE DURING THE YEAR AND DENSE VEGETATION FOR NESTING HABITAT.		

Occurrence No.	66	Map Index: 02534	EO Index: 25925	Element Last Seen: 1983-01-02
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 1983-01-02
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2009-09-28

Quad Summary:	Tustin (3311767), Newport Beach (3311768)			
County Summary:	Orange, Pacific Ocean			
Lat/Long:	33.63685 / -117.88909	Accuracy:	nonspecific area	
UTM:	Zone-11 N3722246 E417545	Elevation (ft):	0	
PLSS:	T06S, R10W, Sec. 23, E (S)	Acres:	562.2	
Location:	UPPER NEWPORT BAY.			
Detailed Location:	ALL LOCATIONS DESCRIBED AS "UPPER NEWPORT BAY." EXACT LOCATION UNKNOWN.			
Ecological:				
General:	RAIL RECORDS FROM 20 SEP 1970, 20 FEB 1971, 6 SEP 1971 & 11 DEC 1971. 1 PROBABLE BLACK RAIL CAUGHT & EATEN BY A NORTHERN HARRIER ON 2 JAN 1983.			
Owner/Manager:	DFG-UPPER NEWPORT BAY ER			

Occurrence No.	67	Map Index: A3934	EO Index: 105595	Element Last Seen: 1986-12-12
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 1986-12-12
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2017-03-13

Quad Summary:	Tustin (3311767), Newport Beach (3311768), Orange (3311777), Anaheim (3311778)			
County Summary:	Orange			
Lat/Long:	33.7903 / -117.8618	Accuracy:	5 miles	
UTM:	Zone-11 N3739239 E420218	Elevation (ft):	170	
PLSS:	T04S, R09W, Sec. 30 (S)	Acres:	49683.0	
Location:	ORANGE.			
Detailed Location:	LOCATION DESCRIBED ONLY AS "NEAR ORAGE." EXACT LOCATION UNKNOWN. MAPPED GENERALLY TO AREA NEAR TOWN OF ORANGE BASED ON HISTORIC USGS TOPO MAP (SANTA ANA 1896, 1:62500).			
Ecological:	BIRD POSSIBLY OCCUPIED THE SANTA ANA RIVER AND SANTIAGO CREEK. THIS OCCURRENCE IS LIKELY NOT REPRESENTATIVE OF A BREEDING POPULATION.			
General:	1 RAIL COLLECTED ON 12 DEC 1896 BY E. DAVIS; THIS RAIL MAY HAVE BEEN A MIGRATING INDIVIDUAL.			
Owner/Manager:	UNKNOWN			



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<i>Rallus obsoletus levipes</i>		Element Code: ABNME05014	
light-footed Ridgway's rail			
Listing Status:	Federal: Endangered	CNDDDB Element Ranks:	Global: G5T1T2
	State: Endangered		State: S1
	Other: CDFW_FP-Fully Protected, NABCI_RWL-Red Watch List		
Habitat:	General: FOUND IN SALT MARSHES TRAVERSED BY TIDAL SLOUGHS, WHERE CORDGRASS AND PICKLEWEED ARE THE DOMINANT VEGETATION.		
	Micro: REQUIRES DENSE GROWTH OF EITHER PICKLEWEED OR CORDGRASS FOR NESTING OR ESCAPE COVER; FEEDS ON MOLLUSCS AND CRUSTACEANS.		

Occurrence No.	8	Map Index: 02534	EO Index: 13609	Element Last Seen:	2007-06-05
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2007-06-05
Occ. Type:	Natural/Native occurrence		Trend: Increasing	Record Last Updated:	2008-06-04
Quad Summary:	Tustin (3311767), Newport Beach (3311768)				
County Summary:	Orange, Pacific Ocean				
Lat/Long:	33.63685 / -117.88909		Accuracy:	nonspecific area	
UTM:	Zone-11 N3722246 E417545		Elevation (ft):	0	
PLSS:	T06S, R10W, Sec. 23, E (S)		Acres:	562.2	
Location:	UPPER NEWPORT BAY.				
Detailed Location:	THIS SUBPOPULATION HAS BEEN 37%-71% OF TOTAL POPULATION SINCE 1980. IT WAS 48.5% OF THE TOTAL IN 1997. 2007: THIS IS THE ONLY LARGE VIABLE SUBPOPULATION WITH DEMONSTRATED ABILITY TO REBOUND QUICKLY FOLLOWING WEATHER-INDUCED CATASTROPHES.				
Ecological:	1985: 275 ACRES OF MARSH. 1997 & 2007: 260 ACRES OF FULLY TIDAL MARSH. ABOUT 247 ACRES OF SHRUBLANDS REMAINING UNDEVELOPED ON THE EDGE OF THE WETLANDS AND TWO LOCAL DRAINAGES WITH SOME COVER ALONG THEM COURSING INTO THE BAY.				
General:	1980:98 PR. 81:66. 82:103. 83:112. 84:112. 85:87. 86:99. 87:119. 88:116. 89:116. 90:131. 91:128. 92:136. 93:142. 94:129. 95:117. 96:158. 97:149. 98:105. 99:104. 00:150. 01:124. 02:129. 03:144. 04:165. 05:174. 06:158. 07:165.				
Owner/Manager:	DFG-UPPER NEWPORT BAY ER				

Occurrence No.	22	Map Index: 15987	EO Index: 13039	Element Last Seen:	2000-XX-XX
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2007-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Decreasing	Record Last Updated:	2008-05-05
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.66022 / -117.85184		Accuracy:	3/5 mile	
UTM:	Zone-11 N3724808 E421021		Elevation (ft):	5	
PLSS:	T06S, R09W, Sec. 07 (S)		Acres:	0.0	
Location:	SAN JOAQUIN RESERVE MARSH & CARLSON ROAD MARSH. NORTHEAST OF INTERSECTION OF MCARTHUR BLVD & UNIVERSITY DRIVE.				
Detailed Location:	150 ACRES OF MARSH IN 1985. NO BIRDS OBSERVED HERE 2001-2007.				
Ecological:	FRESHWATER MARSH.				
General:	SAN JOAQUIN RESERVE: 1982: 5 PR; '83: 4 PR; '84: 1 PR; '85: 2 PR; '86: 1 PR; 1987-89 0 PR; 92:1 INDIVIDUAL. CARLSON RD MARSH: 1982: 5 PR; '83: 4 PR; '84: 2 PR; 1985 & 86: 0 PR; '87: 1 INDIVIDUAL; 1988 & 89: 0 PR; '00: 1 INDIVIDUAL.				
Owner/Manager:	UCNR-SAN JOAQUIN, ORA COUNTY				

<i>Sternula antillarum browni</i>		Element Code: ABNNM08103	
California least tern			
Listing Status:	Federal: Endangered	CNDDDB Element Ranks:	Global: G4T2T3Q
	State: Endangered		State: S2



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Habitat:	Other: CDFW_FP-Fully Protected, NABCI_RWL-Red Watch List
	General: NESTS ALONG THE COAST FROM SAN FRANCISCO BAY SOUTH TO NORTHERN BAJA CALIFORNIA.
	Micro: COLONIAL BREEDER ON BARE OR SPARSELY VEGETATED, FLAT SUBSTRATES: SAND BEACHES, ALKALI FLATS, LAND FILLS, OR PAVED AREAS.

Occurrence No.	18	Map Index:	02568	EO Index:	25693	Element Last Seen:	2016-08-01
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:	2016-08-01	Record Last Updated:	2018-08-24
Occ. Type:	Natural/Native occurrence	Trend:	Unknown				

Quad Summary: Tustin (3311767)
County Summary: Orange

Lat/Long:	33.64871 / -117.86982	Accuracy:	1/5 mile
UTM:	Zone-11 N3723545 E419343	Elevation (ft):	8
PLSS:	T06S, R10W, Sec. 13 (S)	Acres:	0.0

Location: UPPER NEWPORT BAY ECOLOGICAL RESERVE; ABANDONED SALT WORKS AT NW CORNER OF JAMBOREE BLVD & UNIVERSITY DR, NEWPORT BEACH.
Detailed Location: MAPPED TO INCLUDE EXTENT OF NESTING AREA FROM 2013 DFW SHAPEFILE. THIS WAS THE SOUTHMOST OF TWO ISLANDS; JUDGING FROM GOOGLE EARTH AIR PHOTOS, THE NORTH ISLAND DISAPPEARED AROUND 2010.
Ecological: HISTORIC BREEDING AREA (SEE ALSO OCC#51), WHICH EXPERIENCED FIRST NESTING IN RECENT YEARS IN 1977. SITE DECLINED DUE TO VEGETATION ENCROACHMENT, WITH NO NESTS BY 1981. AREA WAS REHABILITATED, NESTING RESUMED BY 1986.
General: 12 PAIRS/15 FLEDGED, 1977. 2-10 PAIRS/0 FLEDGED '78-80. 0 NESTS 1981-82. MIN 2/MAX 55 FLEDGED '83-89. MIN# PAIRS/FLEDGLINGS/YEAR: 50/?/93, 41/?/94, 26/20/98, 53/5/99, 60/12/2000, 60/?/04, 22/20/08, 6/0/11, 32/8/13, 2/0/14, 22/1/15, 20/2/16.
Owner/Manager: DFG-UPPER NEWPORT BAY ER

Occurrence No.	87	Map Index:	B0188	EO Index:	112045	Element Last Seen:	2018-05-27
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:	2018-05-27	Record Last Updated:	2018-08-07
Occ. Type:	Natural/Native occurrence	Trend:	Unknown				

Quad Summary: Orange (3311777)
County Summary: Orange

Lat/Long:	33.82376 / -117.86984	Accuracy:	80 meters
UTM:	Zone-11 N3742955 E419505	Elevation (ft):	176
PLSS:	T04S, R09W, Sec. 18, SW (S)	Acres:	5.0

Location: BURRIS BASIN (=ANAHEIM COVES PARK), WEST SIDE OF THE SANTA ANA RIVER BETWEEN LINCOLN AVE AND E BALL RD, ANAHEIM.
Detailed Location: MAPPED CENTERED ON COORDINATES GIVEN IN 2015 DATABASE.
Ecological: TERNS OBSERVED HERE SINCE THE 1990S, NESTING SINCE 2004. 2.4AC ISLAND CREATED IN ARTIFICIAL GROUNDWATER RECHARGE BASIN IN PUBLIC PARK AS MITIGATION FOR CALIFORNIA LEAST TERN. PREVIOUSLY A SAND MINING PIT. SURROUNDED BY URBAN DEVELOPMENT.
General: 3 PAIRS, 2 FLEDGLINGS OBSERVED IN 2004. 13-14 PAIRS, 12 FLEDGLINGS IN 2011. 12 NESTS OBS IN 2012. #PAIRS/#FLEDGLINGS/YEAR: 4/2/2008, 23/1/2013, 18/10/2014, 23/3/2015, 10/0/2016. AT LEAST 3 ADULTS & POSSIBLE NEST EXCHANGE OBS ON 27 MAY 2018.
Owner/Manager: ORA COUNTY, CITY OF ANAHEIM



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Occurrence No.	89	Map Index: B0264	EO Index: 112123	Element Last Seen:	2016-06-29
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2016-06-29
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-08-06
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.86496 / -117.84744		Accuracy:	1/5 mile	
UTM:	Zone-11 N3747506 E421616		Elevation (ft):	204	
PLSS:	T03S, R09W, Sec. 32, SW (S)		Acres:	70.0	
Location:	ANAHEIM LAKE, AT THE SE CORNER OF E ORANGETHORPE AVE AND MILLER ST IN ANAHEIM.				
Detailed Location:	LOCATION GIVEN ONLY AS ANAHEIM LAKE, FOUND IN GOOGLE EARTH & GNIS. EXACT NEST SITE LOCATION UNKNOWN.				
Ecological:	A NEW NESTING SITE IN 2016.				
General:	4 ACTIVE NESTS OBSERVED IN 2016; 2 OF 6 EGGS HATCHED BUT NONE FLEDGED.				
Owner/Manager:	UNKNOWN				

<i>Coccyzus americanus occidentalis</i>		Element Code: ABNRB02022			
western yellow-billed cuckoo					
Listing Status:	Federal: Threatened	CNDDB Element Ranks:	Global: G5T2T3		
	State: Endangered		State: S1		
Other:	BLM_S-Sensitive, NABCI_RWL-Red Watch List, USFS_S-Sensitive, USFWS_BCC-Birds of Conservation Concern				
Habitat:	General:	RIPARIAN FOREST NESTER, ALONG THE BROAD, LOWER FLOOD-BOTTOMS OF LARGER RIVER SYSTEMS.			
	Micro:	NESTS IN RIPARIAN JUNGLES OF WILLOW, OFTEN MIXED WITH COTTONWOODS, WITH LOWER STORY OF BLACKBERRY, NETTLES, OR WILD GRAPE.			

Occurrence No.	199	Map Index: 66320	EO Index: 97002	Element Last Seen:	1918-07-10
Occ. Rank:	None		Presence: Extirpated	Site Last Seen:	1918-07-10
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2015-04-10
Quad Summary:	Tustin (3311767), Newport Beach (3311768), Orange (3311777), Anaheim (3311778)				
County Summary:	Orange				
Lat/Long:	33.74572 / -117.86785		Accuracy:	1 mile	
UTM:	Zone-11 N3734300 E419616		Elevation (ft):	120	
PLSS:	T05S, R09W, Sec. 18 (S)		Acres:	0.0	
Location:	VICINITY OF SANTA ANA.				
Detailed Location:	MAPPED GENERALLY TO GIVEN COLLECTION LOCALITY, "NEAR SANTA ANA, ORANGE CO. CAL."				
Ecological:	ORIGINAL COLLECTION CARD READS: "NEST SITUATED 7 FEET UP IN APPLE TREE IN ORCHARD. COMPOSED OF STICKS AND LEAVES. VERY FRAIL AND SHALLOW."				
General:	DESCRIBED AS "NOT COMMON" IN THIS AREA; SET OF 3 EGGS COLLECTED BY ORCHARD WORKER AND DELIVERED TO EDWARDS ON 10 JUL 1918.				
Owner/Manager:	UNKNOWN				

<i>Athene cunicularia</i>		Element Code: ABNSB10010			
burrowing owl					
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G4		
	State: None		State: S3		
Other:	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern				
Habitat:	General:	OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS, AND SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.			



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Micro: SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Occurrence No.	63	Map Index:	02568	EO Index:	25457	Element Last Seen:	1981-XX-XX
Occ. Rank:	None	Presence:	Possibly Extirpated	Site Last Seen:		Record Last Updated:	1989-08-10
Occ. Type:	Natural/Native occurrence	Trend:	Unknown				

Quad Summary: Tustin (3311767)
County Summary: Orange

Lat/Long:	33.64871 / -117.86982	Accuracy:	1/5 mile
UTM:	Zone-11 N3723545 E419343	Elevation (ft):	5
PLSS:	T06S, R10W, Sec. 13, S (S)	Acres:	0.0

Location: UPPER NEWPORT BAY ECOLOGICAL RESERVE, NEWPORT BEACH.
Detailed Location:
Ecological:
General: 2-4 PAIRS OBSERVED IN 1980-81 BY C. BARROWS; NONE OBSERVED IN 1983. POSSIBLY EXTIRPATED DUE TO DEVELOPMENT AND DREDGING TO CREATE LEAST TERN HABITAT.
Owner/Manager: DFG-UPPER NEWPORT BAY ER

Occurrence No.	68	Map Index:	02603	EO Index:	25453	Element Last Seen:	1981-XX-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		Record Last Updated:	1989-08-10
Occ. Type:	Natural/Native occurrence	Trend:	Unknown				

Quad Summary: Tustin (3311767)
County Summary: Orange

Lat/Long:	33.66418 / -117.85311	Accuracy:	1/5 mile
UTM:	Zone-11 N3725248 E420907	Elevation (ft):	50
PLSS:	T06S, R09W, Sec. 07, SE (S)	Acres:	0.0

Location: NE OF UC IRVINE, 1 MI N ON CAMPUS DRIVE, WEST SIDE OF ROAD.
Detailed Location:
Ecological:
General: COLONY OF 3-5 PAIRS OBSERVED IN 1980 AND 1981.
Owner/Manager: UNKNOWN



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Occurrence No.	313	Map Index: 40529	EO Index: 35536	Element Last Seen: 1990-04-XX
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen: 1990-04-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1999-01-07

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.64262 / -117.82441	Accuracy:	1/5 mile
UTM:	Zone-11 N3722836 E423549	Elevation (ft):	160
PLSS:	T06S, R09W, Sec. 21 (S)	Acres:	0.0

Location: ABOUT 0.5 MILE SOUTH OF THE INTERSECTION OF CAMPUS DRIVE AND CULVER DRIVE, UNIVERSITY OF CALIFORNIA IRVINE.

Detailed Location:

Ecological: HABITAT SURROUNDING BURROW CONSISTS OF GRASSLANDS/GRAZED PASTURES ADJACENT TO FARM SCHOOL.

General: 1 PAIR OBSERVED AT THE BURROW SITE, PLUS 3 OTHER INDIVIDUALS OBSERVED IN THE VICINITY, DURING APRILL 1990.

Owner/Manager: UC-IRVINE

Occurrence No.	511	Map Index: 49069	EO Index: 49069	Element Last Seen: 1999-10-15
Occ. Rank:	Fair		Presence: Presumed Extant	Site Last Seen: 1999-10-15
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2002-10-17

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.64265 / -117.72982	Accuracy:	nonspecific area
UTM:	Zone-11 N3722773 E432321	Elevation (ft):	260
PLSS:	T06S, R08W, Sec. 20, SW (S)	Acres:	17.7

Location: ALONG THE BANKS OF SERRANO CREEK, JUST SOUTH OF THE INTERSECTION OF I-5 AND I-405, 2 MILES NORTH OF LAGUNA HILLS.

Detailed Location: SITE IS LOCATED ON THE NE SIDE OF I-5, BETWEEN TWO AGRICULTURAL FIELDS.

Ecological: HABITAT CONSISTS OF A CHANNELIZED CREEK SURROUNDED BY AGRICULTURAL FIELDS; VEGETATED BY SPARSE MULEFAT AND WILLOWS ALONG THE STREAM BANKS.

General: 1 ADULT OBSERVED ON 15 OCT 1999; MOST LIKELY USED FOR WINTERING.

Owner/Manager: LOCAL REUSE AUTHORITY



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Occurrence No.	1751	Map Index: 81785	EO Index: 82750	Element Last Seen:	2010-03-16
Occ. Rank:	Poor		Presence: Presumed Extant	Site Last Seen:	2010-04-03
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2011-02-15

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.67345 / -117.73512	Accuracy:	specific area
UTM:	Zone-11 N3726192 E431853	Elevation (ft):	310
PLSS:	T06S, R08W, Sec. 05, SE (S)	Acres:	10.0

Location: 0.5 MI SSE TRABUCO RD AT W MARINE WAY, IRVINE.

Detailed Location: WITHIN MARINE CORPS AIR STATION EL TORO (HISTORICAL). MAPPED TO PROVIDED COORDINATES.

Ecological: HABITAT DESCRIBED AS SPARSELY VEGETATED WITH DISTURBED GRASSLAND SPECIES AND ORNAMENTAL PLANTS ON DEVELOPED AND DISTURBED LANDS. DISTURBANCES INCLUDE VEHICLE STORAGE, ACTIVE PARK, PUBLIC INFRASTRUCTURE, PRIVATE CONSTRUCTION AND FARMING.

General: 2 ADULTS OBSERVED WINTERING AT BURROWS ON SITE DURING SURVEYS CONDUCTED 5 NOV 2009 TO 16 MAR 2010. AFTER EXAMINING BURROW CONTENTS FOR BIRDS OR EGGS, ALL BURROWS WERE COLLAPSED USING HAND TOOLS TO PREVENT REOCCUPATION ON 3 APRIL 2010.

Owner/Manager: PVT

Occurrence No.	1752	Map Index: 81787	EO Index: 82758	Element Last Seen:	2010-03-16
Occ. Rank:	Poor		Presence: Presumed Extant	Site Last Seen:	2010-04-03
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2011-02-15

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.67671 / -117.73013	Accuracy:	specific area
UTM:	Zone-11 N3726550 E432318	Elevation (ft):	350
PLSS:	T06S, R08W, Sec. 05, SE (S)	Acres:	10.0

Location: 0.5 MI ESE TRABUCO RD AT W MARINE WAY, IRVINE.

Detailed Location: WITHIN MARINE CORPS AIR STATION EL TORO (HISTORICAL). MAPPED TO PROVIDED COORDINATES.

Ecological: HABITAT DESCRIBED AS SPARSELY VEGETATED WITH DISTURBED GRASSLAND SPECIES AND ORNAMENTAL PLANTS ON DEVELOPED AND DISTURBED LANDS. DISTURBANCES INCLUDE VEHICLE STORAGE, ACTIVE PARK, PUBLIC INFRASTRUCTURE, PRIVATE CONSTRUCTION AND FARMING.

General: 2 ADULTS OBSERVED WINTERING AT BURROWS ON SITE DURING SURVEYS CONDUCTED 5 NOV 2009 TO 16 MAR 2010. AFTER EXAMINING BURROW CONTENTS FOR BIRDS OR EGGS, ALL BURROWS WERE COLLAPSED USING HAND TOOLS TO PREVENT REOCCUPATION ON 3 APRIL 2010.

Owner/Manager: PVT



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Occurrence No.	1753	Map Index:	81788	EO Index:	82759	Element Last Seen:	2010-03-16
Occ. Rank:	Poor	Presence:	Presumed Extant	Site Last Seen:		2010-04-03	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2011-02-15	

Quad Summary:	El Toro (3311766)		
County Summary:	Orange		

Lat/Long:	33.68093 / -117.73138	Accuracy:	80 meters
UTM:	Zone-11 N3727019 E432205	Elevation (ft):	350
PLSS:	T06S, R08W, Sec. 05, NE (S)	Acres:	0.0

Location:	ABOUT 1 MI ESE TRABUCO RD AT SAND CANYON AVE, IRVINE.
Detailed Location:	WITHIN MARINE CORPS AIR STATION EL TORO (HISTORICAL). MAPPED TO PROVIDED COORDINATES.
Ecological:	HABITAT DESCRIBED AS SPARSELY VEGETATED WITH DISTURBED GRASSLAND SPECIES AND ORNAMENTAL PLANTS ON DEVELOPED AND DISTURBED LANDS. DISTURBANCES INCLUDE VEHICLE STORAGE, ACTIVE PARK, PUBLIC INFRASTRUCTURE, PRIVATE CONSTRUCTION AND FARMING.
General:	1 ADULT OBSERVED WINTERING AT A BURROW ON SITE DURING SURVEYS CONDUCTED 5 NOV 2009 TO 16 MAR 2010. AFTER EXAMINING BURROW CONTENTS FOR BIRDS OR EGGS, ALL BURROWS WERE COLLAPSED USING HAND TOOLS TO PREVENT REOCCUPATION ON 3 APRIL 2010.
Owner/Manager:	PVT



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Asio otus		Element Code: ABNSB13010	
long-eared owl			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G5
	State: None		State: S3?
	Other: CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern		
Habitat:	General: RIPARIAN BOTTOMLANDS GROWN TO TALL WILLOWS AND COTTONWOODS; ALSO, BELTS OF LIVE OAK PARALLELING STREAM COURSES.		
	Micro: REQUIRE ADJACENT OPEN LAND, PRODUCTIVE OF MICE AND THE PRESENCE OF OLD NESTS OF CROWS, HAWKS, OR MAGPIES FOR BREEDING.		

Occurrence No.	45	Map Index: 41658	EO Index: 41658	Element Last Seen:	1968-04-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1968-04-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1999-09-21
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.82727 / -117.74291		Accuracy:	1/10 mile	
UTM:	Zone-11 N3743252 E431254		Elevation (ft):	700	
PLSS:	T04S, R08W, Sec. 17 (S)		Acres:	0.0	
Location:	WEIR CANYON, 2 MILES NORTH OF IRVINE PARK, SE OF WILDCAT CANYON RESERVOIR.				
Detailed Location:	NEST IS ADJACENT TO BM 790.				
Ecological:	HABITAT CONSISTS OF COAST LIVE OAK WOODLAND, COASTAL SAGE SCRUB, AND GRASSLAND.				
General:	2 ADULTS AND 5 YOUNG OBSERVED AT THE NEST IN APR 1968.				
Owner/Manager:	PVT-IRVINE CO				

Occurrence No.	46	Map Index: 41659	EO Index: 41659	Element Last Seen:	1974-04-08
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1974-04-08
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1999-09-21
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.83366 / -117.73571		Accuracy:	1/10 mile	
UTM:	Zone-11 N3743956 E431925		Elevation (ft):	800	
PLSS:	T04S, R08W, Sec. 08 (S)		Acres:	0.0	
Location:	WEIR CANYON, 2.5 MILES NORTH OF IRVINE PARK, ESE OF WILDCAT CANYON RESERVOIR.				
Detailed Location:	NEST IS LOCATED 0.75 MILE NE OF BM 790.				
Ecological:	HABITAT CONSISTS OF COAST LIVE OAK WOODLAND, COASTAL SAGE SCRUB, AND GRASSLAND.				
General:	2 ADULTS AND 5 YOUNG OBSERVED AT THE NEST ON 1 APR 1971. NEST WITH 5 EGGS LOCATED IN THIS SAME GROVE ON 8 APR 1974.				
Owner/Manager:	PVT-IRVINE CO				

Eremophila alpestris actia		Element Code: ABPAT02011	
California horned lark			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G5T4Q
	State: None		State: S4
	Other: CDFW_WL-Watch List, IUCN_LC-Least Concern		
Habitat:	General: COASTAL REGIONS, CHIEFLY FROM SONOMA COUNTY TO SAN DIEGO COUNTY. ALSO MAIN PART OF SAN JOAQUIN VALLEY AND EAST TO FOOTHILLS.		
	Micro:		



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SHORT-GRASS PRAIRIE, "BALD" HILLS, MOUNTAIN MEADOWS, OPEN COASTAL PLAINS, FALLOW GRAIN
 FIELDS, ALKALI FLATS.

Occurrence No.	43	Map Index:	52628	EO Index:	52631	Element Last Seen:	2002-03-12
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2002-03-12	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2003-09-24	
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.67301 / -117.63500			Accuracy:	nonspecific area		
UTM:	Zone-11 N3726082 E441134			Elevation (ft):	1000		
PLSS:	T06S, R07W, Sec. 05 (S)			Acres:	318.3		
Location:	SE OF SERRANO CREEK AND NW OF ALISO CREEK AND EL TORO ROAD; LAKE FOREST, NE OF EL TORO.						
Detailed Location:	PORTOLA HILLS SITE.						
Ecological:	HABITAT CONSISTS OF COASTAL SAGE SCRUB, ANNUAL GRASSLAND, NON-NATIVE GRASSLAND, RIPARIAN AND RUDERAL AREAS.						
General:	UNKNOWN NUMBER OBS DURING CALIFORNIA GNATCATCHER SURVEYS CONDUCTED 18 FEB - 12 MAR 2002.						
Owner/Manager:	UNKNOWN						

Occurrence No.	49	Map Index:	55838	EO Index:	55854	Element Last Seen:	2003-04-30
Occ. Rank:	Poor	Presence:	Presumed Extant	Site Last Seen:		2003-04-30	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2004-06-17	
Quad Summary:	Tustin (3311767)						
County Summary:	Orange						
Lat/Long:	33.62726 / -117.75613			Accuracy:	80 meters		
UTM:	Zone-11 N3721085 E429868			Elevation (ft):	450		
PLSS:	T06S, R08W, Sec. 30, SE (S)			Acres:	0.0		
Location:	JUST EAST OF LAGUNA CANYON ROAD, 1 MILE SOUTH OF LAGUNA RESERVOIR, WEST OF EL TORO.						
Detailed Location:							
Ecological:	HABITAT CONSISTS OF BARE GROUND, AGRICULTURAL LAND AND SHORT GRASSLAND. SURROUNDING LAND IS OPEN SPACE, AGRICULTURAL LAND.						
General:	2 ADULTS OBSERVED ON 30 APR 2003.						
Owner/Manager:	PVT						



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Occurrence No.	50	Map Index: 55839	EO Index: 55855	Element Last Seen:	2003-04-30
Occ. Rank:	Poor		Presence: Presumed Extant	Site Last Seen:	2003-04-30
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-06-17
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.64347 / -117.75856		Accuracy:	80 meters	
UTM:	Zone-11 N3722884 E429656		Elevation (ft):	300	
PLSS:	T06S, R08W, Sec. 19, NW (S)		Acres:	0.0	
Location:	JUST NORTH OF LAGUNA RESERVOIR, WEST OF EL TORO.				
Detailed Location:					
Ecological:	HABITAT CONSISTS OF BARE GROUND, AGRICULTURAL LAND AND SHORT GRASSLAND. SURROUNDING LAND IS OPEN SPACE, AGRICULTURAL LAND.				
General:	2 ADULTS OBSERVED ON 30 APR 2003.				
Owner/Manager:	PVT				
Occurrence No.	51	Map Index: 55840	EO Index: 55856	Element Last Seen:	2003-04-30
Occ. Rank:	Poor		Presence: Presumed Extant	Site Last Seen:	2003-04-30
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-06-17
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.64827 / -117.75718		Accuracy:	80 meters	
UTM:	Zone-11 N3723415 E429787		Elevation (ft):	300	
PLSS:	T06S, R08W, Sec. 18, SW (S)		Acres:	0.0	
Location:	NORTH OF LAGUNA RESERVOIR AND JUST SOUTH OF I-405, NORTHWEST OF EL TORO.				
Detailed Location:					
Ecological:	HABITAT CONSISTS OF BARE GROUND, AGRICULTURAL LAND AND SHORT GRASSLAND. SURROUNDING LAND IS OPEN SPACE, AGRICULTURAL LAND.				
General:	15 ADULTS OBSERVED ON 30 APR 2003.				
Owner/Manager:	PVT				
Occurrence No.	67	Map Index: 56010	EO Index: 56026	Element Last Seen:	2003-05-30
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2003-05-30
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-07-07
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.63541 / -117.84690		Accuracy:	80 meters	
UTM:	Zone-11 N3722054 E421456		Elevation (ft):	220	
PLSS:	T06S, R09W, Sec. 20, W (S)		Acres:	0.0	
Location:	0.25 MILE NORTH OF BONITA CANYON RESERVOIR, SE OF NEWPORT BEACH.				
Detailed Location:	NON-BREEDING. MAPPED ACCORDING TO UTM COORDINATES.				
Ecological:	HABITAT CONSISTS OF DISTURBED GRASSLAND WITHIN COASTAL SAGE SCRUB. SURROUNDING LAND: URBAN.				
General:	1 ADULT OBSERVED ON 30 MAY 2003.				
Owner/Manager:	UC-IRVINE				



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Campylorhynchus brunneicapillus sandiegensis

Element Code: ABPBG02095

coastal cactus wren

Listing Status: **Federal:** None **CNDDB Element Ranks:** **Global:** G5T3Q
State: None **State:** S3
Other: CDFW_SSC-Species of Special Concern, USFS_S-Sensitive, USFWS_BCC-Birds of Conservation Concern
Habitat: **General:** SOUTHERN CALIFORNIA COASTAL SAGE SCRUB.
Micro: WRENS REQUIRE TALL OPUNTIA CACTUS FOR NESTING AND ROOSTING.

Occurrence No.	5	Map Index:	17526	EO Index:	11772	Element Last Seen:	1991-02-22
Occ. Rank:	Fair	Presence:	Presumed Extant	Site Last Seen:		1991-02-22	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1991-10-07	

Quad Summary: El Toro (3311766)
County Summary: Orange

Lat/Long:	33.64498 / -117.65680	Accuracy:	1/5 mile
UTM:	Zone-11 N3722986 E439094	Elevation (ft):	700
PLSS:	T06S, R07W, Sec. 18, SW (S)	Acres:	0.0

Location: ENGLISH CANYON, IN WILDERNESS GLEN PARK, ALONG LOS ALISOS BLVD, BETWEEN ENTIDAD AND VISTA DEL LAGO, MISSION VIEJO.
Detailed Location:
Ecological: SITE IS LOCATED ON AN EAST-FACING SLOPE NEAR THE CANYON BOTTOM IN A RELIC STAND OF CACTUS AND COASTAL SAGE SCRUB BORDERING A RIPARIAN OAK WOODLAND.
General: ONE PAIR AND A SINGLE INDIVIDUAL OBSERVED. HILLS TO THE WEST AT ONE TIME WERE INHABITED BY COASTAL SAGE SCRUB SPECIES; NOW ONLY ISOLATED PATCHES ARE LEFT, SCATTERED UP AND DOWN THE LENGTH OF THE CANYON. SITE HAS BEEN ISOLATED FOR 5 YRS.
Owner/Manager: CITY OF MISSION VIEJO

Occurrence No.	6	Map Index:	17521	EO Index:	11778	Element Last Seen:	2017-05-25
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2017-05-25	
Occ. Type:	Natural/Native occurrence	Trend:	Stable	Record Last Updated:		2017-09-13	

Quad Summary: Santiago Peak (3311765), El Toro (3311766)
County Summary: Orange

Lat/Long:	33.69217 / -117.61612	Accuracy:	nonspecific area
UTM:	Zone-11 N3728195 E442897	Elevation (ft):	1200
PLSS:	T05S, R07W, Sec. 33, SW (S)	Acres:	749.7

Location: BETWEEN UPPER ALISO CREEK AND VULTURE CRAGS, 0.6-1.8 MILES SOUTH OF MODJESKA.
Detailed Location: MAPPED TO INCLUDE PARCELS CONTAINING CACTUS WRENS, ADJACENT TO CLEVELAND NF. 1997: VICINITY OF 4S RANCH. 2002: SADDLE CREST AND SADDLE CREEK AREA SURVEYED. 2012: DETECTED IN SE CORNER OF MAPPED OCCURRENCE. 2017: DET IN SE & NW CORNERS.
Ecological: GENTLE SW-FACING SLOPE OF SOUTHERN CACTUS SCRUB, DOMINATED BY OPUNTIA SP., SAMBUCUS MEXICANA, AND ERIOGONUM FASCICULATUM. COASTAL SAGE SCRUB ON AND IN VICINITY OF 4S RANCH. 2017: CACTUS SCRUB ON STEEP SLOPES.
General: 2 ADULTS OBSERVED 18 APR 1991. OBS DURING GNATCATCHER SURVEYS IN 1997. 3 ADULTS OBS, 1999. OBS DURING CAGN SURVEYS, 2002. 2 TERRITORIAL ADULTS OBS 25 APR 2012. AT LEAST TWO PAIRS OBS IN 2017; PAIR W/3 YOUNG OBS 25 MAY 2017.
Owner/Manager: PVT, ORA COUNTY



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Occurrence No.	7	Map Index:	17528	EO Index:	11775	Element Last Seen:	1991-08-28
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		1991-08-28	
Occ. Type:	Natural/Native occurrence	Trend:	Decreasing	Record Last Updated:		1995-10-31	

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.68468 / -117.67517	Accuracy:	nonspecific area
UTM:	Zone-11 N3727399 E437419	Elevation (ft):	750
PLSS:	T06S, R08W (S)	Acres:	86.6

Location: CANADA DE LOS ALISOS, 3 MI NORTH OF EL TORO.

Detailed Location:

Ecological: HABITAT IS A MOSAIC OF COASTAL SAGE SCRUB, SOUTHERN CACTUS SCRUB, AND NATIVE GRASSLAND, DOMINATED BY OPUNTIA LITTORALIS, ARTEMISIA CALIFORNICA, ERIOGONUM CALIFORNICA, SAMBUCUS MEXICANA, NASSELLA PULCHRA, AND SALVIA MELLIFERA.

General: FOUR PAIRS AND ONE INDIVIDUAL OBSERVED, MOSTLY SITTING ATOP CLEARED CACTUS PILES. OVER 80 ACRES OF HABITAT ON SITE PRIOR TO CLEARING; OVER HALF WAS CLEARED DURING AUGUST 1991.

Owner/Manager: ORA COUNTY, PVT

Occurrence No.	8	Map Index:	17527	EO Index:	11774	Element Last Seen:	2002-03-XX
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2002-03-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Decreasing	Record Last Updated:		2003-12-17	

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.67139 / -117.64303	Accuracy:	nonspecific area
UTM:	Zone-11 N3725906 E440388	Elevation (ft):	900
PLSS:	T06S, R07W, Sec. 07 (S)	Acres:	843.5

Location: FOOTHILL AREA BETWEEN SERRANO CREEK AND ALISO CREEK, NW OF EL TORO ROAD, 2 MILES NE OF EL TORO.

Detailed Location: 1991:SW, SE, N PORTION. 1992:SE PORTION. 1997:SE PORTION. 1999:SW PORTION. 2000: N, S CENTRAL PORTION. 2002: EAST MOST PORTION. AT LEAST 12 BIRDS DISPLACED DURING JUL 1991 BY ONGOING GRADING RESULTING FROM APPROVED DEVELOPMENT PROJECTS.

Ecological: HABITAT IS SOUTHERN CACTUS SCRUB, DOMINATED BY OPUNTIA SP, AND A MOSAIC OF COASTAL SAGE SCRUB, CHAPARRAL, AND GRASSLANDS. OTHER RARE SPECIES INCLUDE CA GNATCATCHER, ORANGE-THROATED WHIPTAIL, WESTERN SPADEFOOT TOAD, AND LOGGERHEAD SHRIKE.

General: JUN 1991: 30+ ADULTS OBS (AT LEAST 12 PRS). 8 (2 GROUPS OF 3, + 1 PR) OBS IN FEB 1992. 2 PR OBS 12 APR 1997. 2 PRS OBS BETWEEN FEB & JUL 1999. OBS AT 4 LOCATIONS (CAGN SURVEYS) APR-JUN 2000. UNK NUMBER OBS DURING CAGN SURVEYS FEB-MAR 2002.

Owner/Manager: ORA COUNTY, PVT-PGE, PVT



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Occurrence No.	9	Map Index: 17525	EO Index: 11773	Element Last Seen:	1991-07-17
Occ. Rank:	Fair		Presence: Presumed Extant	Site Last Seen:	1991-07-17
Occ. Type:	Natural/Native occurrence		Trend: Decreasing	Record Last Updated:	1999-12-16

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.66201 / -117.63057	Accuracy:	80 meters
UTM:	Zone-11 N3724859 E441538	Elevation (ft):	1000
PLSS:	T06S, R07W, Sec. 08 (S)	Acres:	0.0

Location: NW SHORE OF OSO RESERVOIR, MISSION VIEJO.

Detailed Location:

Ecological: HABITAT IS A 40 X 15 M PATCH OF CACTUS, WITH SOME SAMBUCUS MEXICANA MIXED IN, SURROUNDED BY ANNUAL GRASSLAND AND NATIVE NEEDLEGRASS GRASSLAND (<1 ACRE).

General: 12 NESTS OBSERVED ON SITE; 1-2 OF THESE DESTROYED BY CLEARING DURING JULY 1991. LORAN HAYES (USFWS) OBSERVED TWO FLEDGLINGS ON 24 JULY 1991.

Owner/Manager: PVT-MISSION VIEJO CO

Occurrence No.	10	Map Index: 17523	EO Index: 11776	Element Last Seen:	1991-07-06
Occ. Rank:	Fair		Presence: Presumed Extant	Site Last Seen:	1991-07-06
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1995-10-31

Quad Summary: Santiago Peak (3311765), El Toro (3311766)

County Summary: Orange

Lat/Long:	33.63217 / -117.62400	Accuracy:	1/5 mile
UTM:	Zone-11 N3721547 E442127	Elevation (ft):	850
PLSS:	T06S, R07W, Sec. 21, SW (S)	Acres:	0.0

Location: ARROYO TRABUCO, ALONG ALICIA PARKWAY EXTENSION, 0.9 KM SSW OF RANCHO SANTA MARGARITA PARKWAY JCT, O'NEILL REGIONAL PARK.

Detailed Location:

Ecological: HABITAT IS COASTAL SAGE SCRUB ON AN EAST-FACING SLOPE AT THE MARGIN OF A CULTIVATED SLOPE; DOMINANT PLANTS SPECIES INCLUDE OPUNTIA LITTORALIS, ARTEMISIA CALIFORNICA, AND ERIOGONUM FASCICULATUM.

General: ONE INDIVIDUAL OBSERVED. PROTECTED AREA TO THE EAST IS MOSTLY MADE UP OF RIPARIAN.

Owner/Manager: ORA COUNTY



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Occurrence No.	11	Map Index:	17522	EO Index:	11777	Element Last Seen:	1991-07-17
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		1991-07-17	
Occ. Type:	Natural/Native occurrence	Trend:	Stable	Record Last Updated:		1991-09-18	

Quad Summary: Santiago Peak (3311765), El Toro (3311766)
County Summary: Orange

Lat/Long:	33.65677 / -117.62532	Accuracy:	1/5 mile
UTM:	Zone-11 N3724275 E442021	Elevation (ft):	1000
PLSS:	T06S, R07W, Sec. 17, NE (S)	Acres:	0.0

Location: SE SHORE OF OSO RESERVOIR, 1.7 MI (2.7 KM) SOUTH OF INTERSECTION OF SANTIAGO CYN RD & LIVE OAK CYN RD, MISSION VIEJO.

Detailed Location:

Ecological: HABITAT IS RELATIVELY OPEN COASTAL SAGE SCRUB, LOCATED ON A NW-FACING SLOPE, GENERALLY DOMINATED BY OPUNTIA LITTORALIS, YUCCA WHIPPLEI, AND SAMBUCUS MEXICANUS, WITH ERIOGONUM FASCICULATUM, SALVIA APIANA, AND ARTEMISIA CALIFORNICA.

General: ONE PAIR OBSERVED. POLIOPTILA CALIFORNICA CALIFORNICA ALSO FOUND HERE.

Owner/Manager: PVT-SANTA MARGARITA WATER DIST

Occurrence No.	15	Map Index:	17551	EO Index:	11784	Element Last Seen:	2016-04-14
Occ. Rank:	Poor	Presence:	Presumed Extant	Site Last Seen:		2016-04-14	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2017-08-03	

Quad Summary: Tustin (3311767)
County Summary: Orange

Lat/Long:	33.63718 / -117.84624	Accuracy:	nonspecific area
UTM:	Zone-11 N3722250 E421520	Elevation (ft):	214
PLSS:	T06S, R09W, Sec. 20, SW (S)	Acres:	72.0

Location: UC IRVINE ECOLOGICAL PRESERVE, BETWEEN E PELTASON RD AND HWY 73 ABOUT 0.8 MILES E OF MACARTHUR BLVD IN IRVINE.

Detailed Location:

1990: OBSERVED WITHIN PRESERVE, EXACT LOCATION UNKNOWN. 1997: S OF BONITA CYN RD, LOCATION VAGUE & UNKNOWN IF NESTING DETECTED, SO NOT INCLUDED AS PART OF SPATIAL FEATURE. MAPPED TO LOCATIONS GIVEN FOR DETECTIONS FROM 2003 AND AFTER.

Ecological:

PRESERVE SUPPORTS COASTAL SAGE SCRUB DOMINATED BY ARTEMISIA CALIFORNICA, ERIOGONUM FASCICULATUM, ISOMERIS ARBOREA, & OPUNTIA LITTORALIS. DISTURBANCE NOTED FROM WEED CONTROL & DOG WALKERS; SITE QUALITY DOWNGRADED FROM FAIR TO POOR 2010-2016.

General:

2+ PAIRS OBSERVED, POP EST. 6-8 PAIRS, 1990. PRESENT, 1997. 4 PAIRS, 2002. 2 PAIRS, 27 MAY 2003. 25 BIRDS, 1 PREDATED NEST OBS, 2008. # TERRITORIES OR PAIRS/YEAR: 5/2009, 6/2010, 6+/2011, 5/2012, 2/2013, 1+/2014, 1+/2016.

Owner/Manager: UC-IRVINE



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Occurrence No.	115	Map Index:	20435	EO Index:	20052	Element Last Seen:	1992-02-03
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		1992-02-03	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1992-03-25	

Quad Summary: Tustin (3311767), Orange (3311777)

County Summary: Orange

Lat/Long:	33.74967 / -117.77548	Accuracy:	1/5 mile
UTM:	Zone-11 N3734670 E428175	Elevation (ft):	300
PLSS:	T05S, R09W, Sec. 12, W (S)	Acres:	0.0

Location: LOMAS DE SANTIAGO, 1 MI EAST OF RED HILL, EAST OF TUSTIN.

Detailed Location:

Ecological: HABITAT IS A GENTLE TO STEEP, SOUTH-FACING SLOPE VEGETATED BY SOUTHERN CACTUS SCRUB AND COASTAL SAGE SCRUB IN MOSAIC WITH MIXED CHAPARRAL AND INTRODUCED EUCALYPTUS FOREST; DOMINATED BY OPUNTIA, ERIOGONUM FASCICULATUM, ARTEMISIA CALIFORNICA.

General: 4 BIRDS, 9 NESTS, AND 2 RELIC NESTS OBSERVED.

Owner/Manager: PVT-IRVINE CO

Occurrence No.	120	Map Index:	21133	EO Index:	21130	Element Last Seen:	1991-06-20
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		1991-06-20	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1992-08-14	

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.66738 / -117.69527	Accuracy:	1/5 mile
UTM:	Zone-11 N3725493 E435543	Elevation (ft):	550
PLSS:	T06S, R08W (S)	Acres:	0.0

Location: SOUTHEASTERN PORTION OF THE EL TORO MARINE CORPS AIR STATION. ABOUT 2.75 MILES NORTHEAST OF THE JUNCTION OF I-5 & I-405.

Detailed Location:

Ecological: THIS 50 ACRE SITE HAS SANDY WASH/RIPARIAN SCRUB ALONG BORREGO WASH GRADING INTO COASTAL SAGE SCRUB. ALSO SOME ELDERBERRY SAVANNA.

General: WRENS SEEN ON ALL 3 SURVEY DAYS (5/23, 6/13 & 6/20). THE MOST BIRDS (4) WERE SEEN ON 6/13. MOST WERE SEEN NEAR STANDS OF PRICKLY PEAR WITH 1 SEEN IN ELDERBERRY SAVANNA. GNATCATCHERS, ORANGE THROATED WHIPTAILS & COAST HORNED LIZARDS SEEN.

Owner/Manager: DOD-EL TORO MCAS



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Occurrence No.	123	Map Index: 21281	EO Index: 25075	Element Last Seen: 1991-06-20
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 1991-06-20
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1992-08-18

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.67877 / -117.67424	Accuracy:	1/5 mile
UTM:	Zone-11 N3726743 E437501	Elevation (ft):	750
PLSS:	T06S, R08W (S)	Acres:	0.0

Location: SOUTH OF BORREGO CANYON, EAST OF EL TORO MARINE CORPS AIR STATION.

Detailed Location:

Ecological: THE WREN PREFERS EXTENSIVE STANDS OF PRICKLY PEAR OR CHOLLA CACTUS WITHIN COASTAL SAGE SCRUB FOR NESTING AND ROOSTING SITES, ALTHOUGH IT WILL FORAGE IN A VARIETY OF ADJACENT HABITAT TYPES.

General: SURVEYS WERE CONDUCTED ON 13 AND 20 JUNE 1991; ALL SURVEYS WERE MADE FROM 7:30 AM TO 10:30 PM. CACTUS WRENS WERE OBSERVED ON BOTH SURVEY DAYS; 3 ON 13 JUNE AND TWO ON 20 JUNE.

Owner/Manager: PVT

Occurrence No.	124	Map Index: 21282	EO Index: 8378	Element Last Seen: 1990-09-24
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen: 1990-09-24
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1992-09-09

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.72610 / -117.72167	Accuracy:	nonspecific area
UTM:	Zone-11 N3732021 E433141	Elevation (ft):	750
PLSS:	T05S, R08W (S)	Acres:	949.7

Location: AREA BETWEEN SIPHON RESERVOIR AND LOMA RIDGE, AND THE KNOLL WEST OF SIPHON RESERVOIR, NORTH OF EL TORO MCAS.

Detailed Location: WRENS SEEN THROUGHOUT THIS SECTION OF THE EASTERN TRANSPORTATION CORRIDOR ALIGNMENT.

Ecological: HIGH QUALITY SAGE SCRUB BY SIPHON RESERVOIR IN THE SOUTH. GRADES INTO PATCHES OF HIGH QUALITY SAGE SCRUB AND HEAVILY GRAZED GRASSLANDS.

General: 3 CACTUS WRENS FOUND SOUTHEAST OF SIPHON RESERVOIR IN 1989, 6 WERE FOUND HERE IN 1990. 4 OTHER CACTUS WRENS SEEN THROUGHOUT THE REMAINING AREA IN 1989. WRENS ALSO NOTED ON THE KNOLL WEST OF SIPHON RESERVOIR; OBSERVATION DATE UNKNOWN.

Owner/Manager: UNKNOWN



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Occurrence No.	125	Map Index: 21284	EO Index: 8532	Element Last Seen: 1989-05-29
Occ. Rank:	Fair		Presence: Presumed Extant	Site Last Seen: 1989-05-29
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1992-09-09

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.79974 / -117.72641	Accuracy:	nonspecific area
UTM:	Zone-11 N3740189 E432759	Elevation (ft):	750
PLSS:	T04S, R08W, Sec. 38 (S)	Acres:	153.1

Location: BLIND CANYON ABOUT 1 MILE NORTH OF SANTIAGO RESERVOIR.

Detailed Location:

Ecological: UNIQUE SAGE SCRUB COMMUNITY DOMINATED BY PURPLE SAGE (SALVIA LEUCOPHYLLA). THE AREA HAS BEEN HEAVILY GRAZED.

General: AT LEAST 3 WRENS OBSERVED.

Owner/Manager: UNKNOWN

Occurrence No.	126	Map Index: 17751	EO Index: 8529	Element Last Seen: 1989-05-29
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen: 1989-05-29
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1992-09-09

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.85870 / -117.71426	Accuracy:	1/5 mile
UTM:	Zone-11 N3746718 E433930	Elevation (ft):	500
PLSS:	T04S, R08W, Sec. 28 (S)	Acres:	0.0

Location: 0.5 MILE SOUTH OF HWY 91 AND 0.3 MILE WEST OF GYPSUM CANYON ROAD.

Detailed Location:

Ecological: A FEW ACRES OF SAGE SCRUB SURROUNDED BY CHAPARRAL. AREA HAS BEEN HEAVILY GRAZED AND ALTERED BY RECENT (IN 1989) FIRES.

General: ONE NEST WAS FOUND, BUT NO BIRDS WERE SEEN OR HEARD.

Owner/Manager: PVT



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Occurrence No.	137	Map Index: 20708	EO Index: 29895	Element Last Seen:	1993-11-21
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	1993-11-21
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-01-16
Quad Summary:	Laguna Beach (3311757), Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.61818 / -117.76316		Accuracy:	specific area	
UTM:	Zone-11 N3720082 E429209		Elevation (ft):	700	
PLSS:	T06S, R08W, Sec. 30 (S)		Acres:	711.4	
Location:	LAGUNA LAUREL & NORTH LAGUNA LAUREL IN THE SAN JOAQUIN HILLS ON THE WEST SIDE OF LAGUNA CANYON ROAD.				
Detailed Location:	THE DIVIDING LINE BETWEEN LAGUNA LAUREL & NORTH LAGUNA LAUREL IS THE IRVINE CORPORATE BOUNDARY LINE.				
Ecological:	HABITAT IS MOSTLY HIGH QUALITY COASTAL SAGE SCRUB. MOST CACTUS WREN HABITAT IN LAGUNA LAUREL BURNED IN OCTOBER 1993. SOME HABITAT REMAINED IN NORTH LAGUNA LAUREL.				
General:	LAGUNA LAUREL: 3 PRS BREEDING, 1991. 4 PRS & 1 SINGLE OBS IN 1993 BREEDING SEASON. NOV 1993 POST FIRE SURVEY FOUND 1 PR & 1 SINGLE. N LAGUNA LAUREL: 8 TERRITORIES OBS IN 1993 BREEDING SEASON. POST FIRE SURVEY-OBS 6 TERRITORIES & 2 SINGLES.				
Owner/Manager:	ORA CO-LAGUNA COAST WP, IRVINE				
Occurrence No.	138	Map Index: 02711	EO Index: 29890	Element Last Seen:	1993-12-27
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	1993-12-27
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1996-12-20
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.64855 / -117.79384		Accuracy:	1 mile	
UTM:	Zone-11 N3723471 E426389		Elevation (ft):	300	
PLSS:	T06S, R09W, Sec. 14 (S)		Acres:	0.0	
Location:	SAN JOAQUIN HILLS SURROUNDING SAND CANYON RESERVOIR, EAST OF UC IRVINE.				
Detailed Location:	THIS AREA INCLUDES THE SAND CANYON RESERVOIR, SAND CANYON WASH, RIDGELINE, TURTLE ROCK-RIDGELINE, & TURTLE ROCK-RESERVOIR SUPERPARK STUDY RESEARCH AREAS.				
Ecological:	HABITAT IS COASTAL SAGE SCRUB, DOMINATED BY ARTEMISIA CALIFORNICA, ERIOGONUM FASCICULATUM, & SALVIA MELLIFERA. PARTS OF THIS AREA BURNED IN OCTOBER 1993.				
General:	THE AREA WAS SURVEYED DURING THE 1993 BREEDING SEASON & IN DECEMBER 1993. 42 BIRDS WERE FOUND BEFORE THE FIRE AND 39 BIRDS WERE FOUND AFTER THE FIRE.				
Owner/Manager:	ORA COUNTY-MASON RP, PVT				



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Occurrence No.	139	Map Index:	33814	EO Index:	29892	Element Last Seen:	2001-XX-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2001-XX-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2003-08-20	
Quad Summary:	Laguna Beach (3311757), Tustin (3311767)						
County Summary:	Orange						
Lat/Long:	33.62533 / -117.78746			Accuracy:	specific area		
UTM:	Zone-11 N3720892 E426961			Elevation (ft):	400		
PLSS:	T06S, R09W (S)			Acres:	528.7		
Location:	SHADY CANYON AND SHADY CANYON TRIBUTARY SUPERPARK STUDY RESEARCH AREAS. SAN JOAQUIN HILLS.						
Detailed Location:	NATURE RESERVE OF ORANGE COUNTY (NROC) LAND.						
Ecological:	COASTAL SAGE SCRUB. MOST OF THE AREA BURNED IN OCTOBER 1993. MOST OF THE HABITAT REMAINING AFTER THE FIRE WAS IN THE SHADY CANYON TRIBUTARY AREA (NORTHERN PART OF POLYGON) IN AREAS WITH DENSE STANDS OF CACTUS.						
General:	DURING A POST FIRE JANUARY 1994 SURVEY, A SMALL NUMBER OF WRENS WERE FOUND IN AREAS OF DENSE CACTUS THAT DID NOT BURN. HOWEVER, MANY NESTS WERE BURNED. 7 PAIRS OBSERVED DURING 3 SURVEYS CONDUCTED BETWEEN FEB AND AUG 2001.						
Owner/Manager:	ORA COUNTY, UNKNOWN						
Occurrence No.	162	Map Index:	52159	EO Index:	52159	Element Last Seen:	2001-XX-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2001-XX-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2003-08-19	
Quad Summary:	Laguna Beach (3311757), Tustin (3311767)						
County Summary:	Orange						
Lat/Long:	33.61640 / -117.80351			Accuracy:	nonspecific area		
UTM:	Zone-11 N3719914 E425463			Elevation (ft):	600		
PLSS:	T06S, R09W, Sec. 27 (S)			Acres:	367.0		
Location:	1 MILE EAST OF COYOTE CANYON TO JUST EAST OF BOMMER CANYON, APPROXIMATELY 3 MILES NE OF NEWPORT BEACH.						
Detailed Location:							
Ecological:	HABITAT MAINLY RECOVERING CHAPARRAL, COASTAL SAGE SCRUB & GRASSLAND WITH SOME OAK WOODLAND, RIPARIAN WOODLAND & MARSHES. AREA BURNED IN 1993 (LAGUNA BEACH FIRE). DESIGNATED AS NATURE RESERVE OF ORANGE COUNTY (NROC) LANDS IN NCCP SUB-REGION.						
General:	10 PAIRS AND 4 SINGLES OBSERVED SOMETIME DURING 3 SURVEYS CONDUCTED BETWEEN FEB AND AUG 2001.						
Owner/Manager:	ORA COUNTY						



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Occurrence No.	165	Map Index: 52956	EO Index: 52958	Element Last Seen:	2000-05-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2000-05-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-20
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.86342 / -117.75747		Accuracy:	nonspecific area	
UTM:	Zone-11 N3747271 E429936		Elevation (ft):	500	
PLSS:	T03S, R08W, Sec. 31 (S)		Acres:	82.6	
Location:	SOUTH & EAST OF SANTA ANA CANYON ROAD, 2 MILES NE OF INTERSECTION OF RIVERSIDE FWY & IMPERIAL HWY, ESE OF YORBA LINDA.				
Detailed Location:					
Ecological:	OSPREY, WHITE-TAILED KITE, SHARP-SHINNED HAWK, COOPER'S HAWK ALSO OBSERVED IN VICINITY.				
General:	UNKNOWN NUMBER OBSERVED DURING CALIFORNIA GNATCATCHER SURVEYS CONDUCTED BETWEEN 13 APRIL AND 18 MAY 2000.				
Owner/Manager:	UNKNOWN				
Occurrence No.	172	Map Index: 53563	EO Index: 53563	Element Last Seen:	1991-09-13
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	1991-09-13
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-12-15
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.70578 / -117.68338		Accuracy:	4/5 mile	
UTM:	Zone-11 N3729744 E436673		Elevation (ft):	780	
PLSS:	T05S, R08W, Sec. 26 (S)		Acres:	0.0	
Location:	VICINITY OF AREA BETWEEN ROUND CANYON AND AGUA CHINON WASH, APPROXIMATELY 3 MILES NORTH OF EL TORO.				
Detailed Location:	"FOOTHILLS OF THE SANTA ANA MOUNTAINS JUST NORTH OF AGUA CHINON WASH AND EAST OF AN OLD QUARRY. SIGHTING OCCURRED IN A SMALL EAST/WEST DRAINAGE."				
Ecological:	HABITAT CONSISTS OF A MIX A COASTAL SAGE SCRUB AND SOUTHERN CACTUS SCRUB IN A SMALL DRAINAGE.				
General:	1 INDIVIDUAL HEARD CALLING IN THE LARGE CACTUS PATCHES.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	181	Map Index: 53627	EO Index: 53627	Element Last Seen:	2001-11-16
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-11-16
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-12-18
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.79633 / -117.79001		Accuracy:	4/5 mile	
UTM:	Zone-11 N3739854 E426868		Elevation (ft):	600	
PLSS:	T04S, R09W, Sec. 26 (S)		Acres:	0.0	
Location:	EL MODENA/PANORAMA HEIGHTS (INC SANTIAGO OAKS REGIONAL PARK), S OF SANTIAGO CYN RD & E OF SANTIAGO BLVD, EAST EL MODENA.				
Detailed Location:	EL MODENA SITE: W OF CANNON STREET, E OF SANTIAGO BLVD, N OF E AVENIDA PALMAR & S OF N LINDA VISTA STREET. PANORAMA HEIGHTS SITE: E OF CANNON STREET & W OF N MORADA DRIVE. ADDITIONAL SITE S OF CHAPMAN AVE.				
Ecological:	HABITAT CONSISTS OF DISTURBED HIGH QUALITY COASTAL SAGE SCRUB AND SOUTHERN CACTUS SCRUB. SLOPES ARE MODERATELY STEEP TO STEEP. SITE IS SURROUNDED BY DEVELOPMENT.				
General:	UNKNOWN NUMBER OBSERVED DURING CALIFORNIA GNATCATCHER SURVEYS CONDUCTED 31 AUG - 16 NOV 2001.				
Owner/Manager:	UNKNOWN				
Occurrence No.	182	Map Index: 53630	EO Index: 53630	Element Last Seen:	2001-10-12
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2001-10-12
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-12-18
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.84230 / -117.76377		Accuracy:	3/5 mile	
UTM:	Zone-11 N3744933 E429336		Elevation (ft):	600	
PLSS:	T04S, R08W, Sec. 07 (S)		Acres:	0.0	
Location:	ANAHEIM HILLS GOLF COURSE; WALNUT CANYON, SOUTH OF SANTA ANA CANYON ROAD AND NORTH OF ROBBERS PEAK, SE YORBA LINDA.				
Detailed Location:	TRI-CANYON PARCEL, ANAHEIM HILLS GOLF COURSE.				
Ecological:	HIGH QUALITY TO HIGHLY DISTURBED COASTAL SAGE SCRUB, BACCHARIS SCRUB & SOUTHERN CACTUS SCRUB LOCATED ON MODERATELY STEEP TO STEEP SLOPES. HABITAT IS PATCHY, DISJUNCT. SURROUNDED BY DEVELOPMENT EXCEPT FOR TWO SMALL AREAS ON SW & SE SIDES.				
General:	FEATHERS COLLECTED FROM 5 NESTS ON 17 JUL 1994. UNKNOWN NUMBER OBSERVED DURING CALIFORNIA GNATCATCHER SURVEYS CONDUCTED 30 AUG - 12 OCT 2001. TRI-CANYON PARCEL CAWR SEEM WELL BUT POP WILL NEVER BE LARGE BECAUSE AREA IS SMALL (1994).				
Owner/Manager:	UNKNOWN, CITY OF ANAHEIM				



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Occurrence No.	187	Map Index:	53939	EO Index:	53939	Element Last Seen:	2003-05-21
Occ. Rank:	Excellent	Presence:	Presumed Extant	Site Last Seen:		2003-05-21	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2004-01-15	
Quad Summary:	Tustin (3311767)						
County Summary:	Orange						
Lat/Long:	33.63477 / -117.75286			Accuracy:	80 meters		
UTM:	Zone-11 N3721915 E430178			Elevation (ft):	350		
PLSS:	T06S, R08W, Sec. 19, SE (S)			Acres:	0.0		
Location:	S OF DRAINAGE TO SAN DIEGO CREEK, APPROX 0.4 MI SE OF LAGUNA RESERVOIR, NW OF LAGUNA HILLS.						
Detailed Location:	FEATURE MAPPED ACCORDING TO UTM COORDINATES.						
Ecological:	HABITAT CONSISTS OF COASTAL SAGE SCRUB. SURROUNDING LAND IS OPEN SPACE.						
General:	1 BREEDING PAIR OBSERVED ON 21 MAY 2003.						
Owner/Manager:	PVT						

Occurrence No.	191	Map Index:	56322	EO Index:	56338	Element Last Seen:	1993-04-09
Occ. Rank:	Fair	Presence:	Presumed Extant	Site Last Seen:		1993-04-09	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2004-08-04	
Quad Summary:	Tustin (3311767)						
County Summary:	Orange						
Lat/Long:	33.62846 / -117.84867			Accuracy:	1/10 mile		
UTM:	Zone-11 N3721284 E421286			Elevation (ft):	200		
PLSS:	T06S, R09W, Sec. 20, SW (S)			Acres:	0.0		
Location:	SOUTH OF BONITA RESERVOIR AND BORDERED BY FORD ROAD TO THE SOUTH, EAST OF NEWPORT BEACH.						
Detailed Location:	NORTH FACING SLOPE. FORMERLY ELEMENT OCCURRENCE #176.						
Ecological:	HABITAT IS SOUTHERN COASTAL BLUFF SCRUB. PLANTS INCLUDE RHUS INTEGRIFOLIA, OPUNTIA SPP., ENCELIA CALIFORNICA, ARTEMISIA CALIFORNICA, DUDLEYA MULTICAULIS, ERIOGONUM FASCICULATUM, VULPIA, BROMUS & STIPA LEPIDA. SURROUNDED BY DEVELOPMENT.						
General:	1 ADULT OBSERVED FORAGING ON 9 APR 1993. SITE TO BE DEVELOPED TO ACCOMDATE A CHURCH. CHURCH SITE FOOTPRINT RE-DESIGNED TO AVOID AREA WHERE WREN WAS OBSERVED. 2 ACRES TO BE PRESERVED BUT UNLIKELY ADEQUATE TO SUPPORT POPULATION IN PERPETUITY.						
Owner/Manager:	PVT-IRVINE CO						

<i>Poliophtila californica californica</i>		Element Code:	ABPB08081
coastal California gnatcatcher			
Listing Status:	Federal:	Threatened	CNDDDB Element Ranks:
	State:	None	Global: G4G5T2Q
	Other:	CDFW_SSC-Species of Special Concern, NABCI_YWL-Yellow Watch List	State: S2
Habitat:	General:	OBLIGATE, PERMANENT RESIDENT OF COASTAL SAGE SCRUB BELOW 2500 FT IN SOUTHERN CALIFORNIA.	
	Micro:	LOW, COASTAL SAGE SCRUB IN ARID WASHES, ON MESAS AND SLOPES. NOT ALL AREAS CLASSIFIED AS COASTAL SAGE SCRUB ARE OCCUPIED.	



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Occurrence No.	42	Map Index:	02647	EO Index:	8924	Element Last Seen:	1991-06-XX
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		1991-06-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1995-11-10	

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.64363 / -117.84006	Accuracy:	4/5 mile
UTM:	Zone-11 N3722960 E422098	Elevation (ft):	100
PLSS:	T06S, R09W, Sec. 20, NW (S)	Acres:	0.0

Location: UC IRVINE, EAST OF NEWPORT BEACH, VICINITY IRVINE.

Detailed Location: REMNANT POPULATION IN THE COASTAL SAGE SCRUB HABITAT WITHIN THE OPEN SPACE RESERVE (AKA THE IRVINE ECOLOGICAL PRESERVE).

Ecological: THE RESERVE COMPRISES ABOUT 62 ACRES. 40% IS COASTAL SAGE SCRUB DOMINATED BY ARTEMISIA CALIFORNICA, ERIOGONUM FASCICULATUM, AND OPUNTIA LITTORALIS. THE REMAINING AREA IS DEGRADED OPEN GRASSLAND WITH PATCHES OF ANNUAL MUSTARD.

General: IN 1980'S 3-4 INDIVIDUALS OBSERVED & 3-6 PAIRS ESTIMATED. IN 1991 THE 4 BREEDING PAIRS ON THE OPEN SPACE RESERVE WERE INTENSIVELY STUDIED. AT LEAST 12 YOUNG FLEDGED BUT ONLY 3 KNOWN TO HAVE REMAINED ON THE PRESERVE. FATE OF OTHERS UNKNOWN.

Owner/Manager: UC-IRVINE

Occurrence No.	43	Map Index:	33823	EO Index:	29891	Element Last Seen:	2001-10-XX
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2001-10-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2003-09-25	

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.64658 / -117.80016	Accuracy:	nonspecific area
UTM:	Zone-11 N3723258 E425800	Elevation (ft):	300
PLSS:	T06S, R09W, Sec. 15 (S)	Acres:	999.7

Location: SAN JOAQUIN HILLS SURROUNDING SAND CANYON RESERVOIR, EAST OF UC IRVINE.

Detailed Location: THIS AREA INCLUDES THE SAND CANYON RESERVOIR, SAND CANYON WASH, RIDGELINE, TURTLE ROCK-RIDGELINE, & TURTLE ROCK-RESERVOIR SUPERPARK STUDY RESEARCH AREAS. ALSO INCLUDES STRAWBERRY FARMS & AREA WEST OF TURTLE ROCK DRIVE.

Ecological: HABITAT IS HIGHLY DISTURBED TO HIGH QUALITY COASTAL SAGE SCRUB, DOMINATED BY ARTEMISIA CALIFORNICA, ERIOGONUM FASCICULATUM & SALVIA MELLIFERA. PARTS OF THIS AREA BURNED IN OCTOBER 1993. AREA BETWEEN SAND CYN RES & RIDGELINE DR DEVELOPED.

General: 1980: 8 BIRDS OBS (20-30 PR EST) RESERVOIR VIC; 1 PR OBS (3-6 PR EST) TURTLE ROCK VIC (SE OF RESERVOIR). 4 OBS 1988 E OF RESERVOIR. 2 PR OBS 6/14/91 NW OF RESERVOIR. 27 PR & 8 IND OBS IN 1993. 19 PRS, 24 FLEDGES, 9 FLEDGES OBS AUG-OCT 2001.

Owner/Manager: ORA COUNTY-MASON RP, PVT



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Occurrence No.	44	Map Index: 02619	EO Index: 25104	Element Last Seen:	2003-05-29
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2003-05-29
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-01-15

Quad Summary: Laguna Beach (3311757), Tustin (3311767)

County Summary: Orange

Lat/Long:	33.63394 / -117.84721	Accuracy:	3/5 mile
UTM:	Zone-11 N3721891 E421426	Elevation (ft):	150
PLSS:	T06S, R09W, Sec. 20 (S)	Acres:	0.0

Location: BONITA RESERVOIR, IRVINE.

Detailed Location:

Ecological: HABITAT IS COASTAL SAGE SCRUB, DOMINATED BY ARTEMISIA CALIFORNICA, ERIOGONUM FASCICULATUM, & SALVIA MELLIFERA, WITH RHUS INTEGRIFOLIA, OPUNTIA, ENCELIA CALIFORNICA, & DUDLEYA MULTICAULIS. RUDERALS INCLUDE VULPIA, & BROMUS. SOME EXOTICS.

General: 1980: 2 PAIRS OBSERVED; 3-6 PAIRS ESTIMATED BY ATWOOD. ONE BIRD SEEN PERCHING ON ARTEMISIA 9 APR 1993. 18 ADULTS (9 PAIRS) AND 14 JUVENILES OBSERVED ON 29 MAY 2003. SURROUNDING AREA CONSISTS OF URBAN LAND.

Owner/Manager: PVT-IRVINE CO

Occurrence No.	48	Map Index: 02652	EO Index: 25103	Element Last Seen:	2001-06-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-06-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-08-19

Quad Summary: Laguna Beach (3311757), Tustin (3311767)

County Summary: Orange

Lat/Long:	33.61433 / -117.81963	Accuracy:	nonspecific area
UTM:	Zone-11 N3719696 E423967	Elevation (ft):	600
PLSS:	T06S, R09W, Sec. 28 (S)	Acres:	1139.5

Location: S BONITA RESERVOIR TO S SAN JOAQUIN RESERVOIR, EXTENDING E PAST COYOTE CYN TO SIGNAL PK; SAN JOAQUIN HILLS, IRVINE.

Detailed Location: 1980: OBSERVATIONS IN WESTERN PORTION OF OCCURRENCE. 2001: OBSERVATIONS IN EASTERN PORTION OF OCCURRENCE.

Ecological: COASTAL SAGE SCRUB AND GRASSLAND WITH SOME OAK WOODLAND, RIPARIAN WOODLAND AND MARSHES. AT LEAST A PORTION AREA BURNED IN 1993 (LAGUNA BEACH FIRE). AREA IS BISECTED BY THE SAN JOAQUIN HILLS TRANSPORTATION CORRIDOR.

General: 6 INDIVIDUALS OBSERVED, 6-12 PRS ESTIMATED DURING 1980. 22 PRS (8 REPRODUCING), 3 SINGLE & 4 JUV OBS DURING MAR, MAY, JUN 2001. INCLUDES LAND DESIGNATED AS NATURE RESERVE OF ORANGE COUNTY (NROC) IN NCCP SUB-REGION.

Owner/Manager: PVT, UNKNOWN, ORA COUNTY



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Occurrence No.	168	Map Index:	17723	EO Index:	10110	Element Last Seen:	2002-07-27
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2002-07-27	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2003-09-25	
Quad Summary:	Santiago Peak (3311765), El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.65915 / -117.62703			Accuracy:	nonspecific area		
UTM:	Zone-11 N3724540 E441864			Elevation (ft):	1000		
PLSS:	T06S, R07W, Sec. 08 (S)			Acres:	127.2		
Location:	SW & E SHORE OF OSO RESERVOIR, MISSION VIEJO.						
Detailed Location:							
Ecological:	NW-FACING SLOPE IN OPEN COASTAL SAGE SCRUB, BLENDING INTO S. CACTUS SCRUB DOM BY ERIOGONUM FASCICULATUM W/ SALVIA APIANA, ARTEMISIA CALIFORNICA. REVEG NEAR DAM FACE: ISOCOMA MENZIESII WITH CA SAGEBRUSH/BUCKWHEAT, ENCELIA CALIFORNICA.						
General:	ONE PAIR PLUS ONE INDIVIDUAL MALE OBSERVED 17 JUL 1991 IN GOOD QUALITY HABITAT. 1 INDIVIDUAL OBSERVED BRIEFLY FORAGING IN BASIN ON 27 JUL 2002.						
Owner/Manager:	PVT-SANTA MARGARITA WATER DIST						
Occurrence No.	170	Map Index:	17720	EO Index:	10109	Element Last Seen:	2016-12-09
Occ. Rank:	Fair	Presence:	Presumed Extant	Site Last Seen:		2016-12-09	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2019-01-30	
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.66072 / -117.65889			Accuracy:	nonspecific area		
UTM:	Zone-11 N3724733 E438912			Elevation (ft):	810		
PLSS:	T06S, R07W, Sec. 7 (S)			Acres:	114.0		
Location:	BETWEEN CANADA ROAD AND ALISO CREEK, 0.3 MI NNW TO 0.5 MI WSW OF PORTOLA PKWY AT EL TORO RD, LAKE FOREST.						
Detailed Location:	EAST OF FORMER EL TORO MARINE CORPS AIR STATION. NORTH- TO SOUTH-RUNNING RIDGE, WITH EAST- AND WEST-FACING SLOPES OF COASTAL SAGE SCRUB. MAPPED TO INCLUDE PROVIDED LOCATIONS AND COORDINATES.						
Ecological:	1991: OPEN COASTAL/CACTUS SAGE SCRUB W/OPUNTIA LITTORALIS, ARTEMISIA CALIFORNICA, & ERIOGONUM FASCICULATUM. CACTUS WREN ALSO FOUND. MOST OF SITE DEVELOPED; SW PORTION INTO RESIDENTIAL CA. 1998, N PORTION INTO SPORTS PARK CA. 2013.						
General:	1 PAIR & 1 INDIVIDUAL MALE OBSERVED IN FEB 1991. 2 PAIRS OBS, MAY 1994. 3 PAIRS OBS APR 1997. 5 PAIRS & 1 JUVENILE OBS FEB-JUL 1999; NESTING UNSUCCESSFUL, COWBIRD CHICK FOUND IN ONE NEST. 2 NESTING PAIRS, 2014. 3 ADULTS OBS 9 DEC 2016.						
Owner/Manager:	ORA COUNTY, PVT						



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Occurrence No.	171	Map Index:	17719	EO Index:	10108	Element Last Seen:	1991-08-28
Occ. Rank:	None	Presence:	Possibly Extirpated	Site Last Seen:		1991-08-28	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2010-08-11	
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.68611 / -117.67509	Accuracy:	1/5 mile				
UTM:	Zone-11 N3727558 E437428	Elevation (ft):	800				
PLSS:	T06S, R08W (S)	Acres:	0.0				
Location:	CANADA DE LOS ALISOS, 3.3 KM SW OF BOLERO LOOKOUT, LAKE FOREST.						
Detailed Location:							
Ecological:	1991: NE TO SW RUNNING HILLS W/ MOSAIC OF COASTAL SAGE SCRUB, SOUTHERN CACTUS SCRUB & NATIVE GRASSLAND. DOMINANTS: OPUNTIA LITTORALIS, ARTEMISIA CALIFORNICA, SALVIA MELLIFERA, ERIOGONUM FASCICULATUM. 2009 AERIAL PHOTOS SHOW SITE DEVELOPED.						
General:	A SINGLE MALE WAS OBSERVED; OTHERS SUSPECTED. OTHER RARE ELEMENTS AT THIS SITE INCLUDE SOUTHERN CACTUS SCRUB AND SAN DIEGO CACTUS WREN.						
Owner/Manager:	PVT-FOOTHILL RANCH CO						
Occurrence No.	172	Map Index:	17721	EO Index:	19979	Element Last Seen:	2002-03-12
Occ. Rank:	Fair	Presence:	Presumed Extant	Site Last Seen:		2002-03-12	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2003-09-23	
Quad Summary:	Santiago Peak (3311765), El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.67318 / -117.63723	Accuracy:	4/5 mile				
UTM:	Zone-11 N3726102 E440927	Elevation (ft):	1000				
PLSS:	T06S, R07W, Sec. 05 (S)	Acres:	0.0				
Location:	UPPER ALISO CREEK AND SOUTH OF SERRANO CREEK, ALONG OLD EL TORO ROAD; 2.7 MILES SSE OF BOLERO LOOKOUT, MISSION VIEJO.						
Detailed Location:	MAR-APR 2001: NW 1/4 SEC 8. 2000: W PORTION OF MAPPED AREA. JUN-JUL 2001: SW PORTION OF MAPPED AREA; 1 PR USING REVEGETATION SITE & OTHER PR LOCATED JUST OUTSIDE REVEG SITE. 2002: WEST/EAST OF SADDLEBACK RANCH RD (PORTOLA HILLS SITE).						
Ecological:	COASTAL SAGE SCRUB AND SOUTHERN CACTUS SCRUB; SCATTERED LEMONADE BERRY AND POCKETS OF GRASSLAND. SAN DIEGO CACTUS WREN ALSO ASSOCIATED WITH SITE. CLEARING OF SITE ALLOWED BY CITY (REFUSING TO RECOGNIZE SENSITIVE SPECIES INHABIT SITE).						
General:	1 MALE OBS 15 MAY 1991. 3 PRS OBS 21 APR-6 JUN 2000. 1 PR AT NEST W/ 2 CHICKS, 2 EGGS 10 APR 2001. 2 PRS (1 PR W/2 NESTS) OBS JUN-JUL 2001. 7 PRS & 1 MALE OBS 18 FEB-12 MAR 2002. PREVIOUS AUDUBON CHRISTMAS COUNT: 2-3 PRS OBS.						
Owner/Manager:	PVT-MISSION VIEJO CO, UNKNOWN						



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Occurrence No.	184	Map Index: 17752	EO Index: 9983	Element Last Seen: 1988-06-18
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen: 1988-06-18
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1991-10-22

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.83679 / -117.71257	Accuracy:	1/5 mile
UTM:	Zone-11 N3744288 E434069	Elevation (ft):	600
PLSS:	T04S, R08W, Sec. 26, W (S)	Acres:	0.0

Location: 2 MILES SOUTH OF HWY 91, 0.25 MI SW OF GYPSUM CANYON.

Detailed Location:

Ecological: HABITAT IS SPARSE TO MODERATELY DENSE COASTAL SAGE SCRUB DOMINATED BY ARTEMISIA CALIFORNICA.

General: ONE OBSERVED.

Owner/Manager: PVT

Occurrence No.	185	Map Index: 17753	EO Index: 10096	Element Last Seen: 1988-06-22
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen: 1988-06-22
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1991-10-22

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.82819 / -117.71183	Accuracy:	1/5 mile
UTM:	Zone-11 N3743334 E434131	Elevation (ft):	1200
PLSS:	T04S, R08W, Sec. 23, E (S)	Acres:	0.0

Location: 2.6 MILES SOUTH OF HWY 91, 1.5 MILES EAST OF WEIR CANYON.

Detailed Location:

Ecological: HABITAT IS COASTAL SAGE SCRUB DOMINATED BY ARTEMISIA CALIFORNICA.

General: TWO OBSERVED.

Owner/Manager: PVT

Occurrence No.	186	Map Index: 17751	EO Index: 8530	Element Last Seen: 1988-06-02
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen: 1988-06-02
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1992-08-21

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.85870 / -117.71426	Accuracy:	1/5 mile
UTM:	Zone-11 N3746718 E433930	Elevation (ft):	500
PLSS:	T04S, R08W, Sec. 28, W (S)	Acres:	0.0

Location: 0.5 MI SOUTH OF HWY 91, 0.3 MI WEST OF GYPSUM CANYON ROAD.

Detailed Location:

Ecological: HABITAT IS COASTAL SAGE SCRUB DOMINATED BY ARTEMISIA CALIFORNICA.

General: ONE OBSERVED.

Owner/Manager: PVT



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Occurrence No.	244	Map Index: 20110	EO Index: 9773	Element Last Seen:	1988-05-05
Occ. Rank:	None		Presence: Possibly Extirpated	Site Last Seen:	1988-05-05
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2010-08-12

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.62838 / -117.82345	Accuracy:	1/5 mile
UTM:	Zone-11 N3721256 E423625	Elevation (ft):	575
PLSS:	T06S, R09W, Sec. 21, SW (S)	Acres:	0.0

Location: 0.5 MI SOUTH OF THE JUNCTION OF BONITA CANYON DRIVE AND CULVER DRIVE, IN THE SAN JOAQUIN HILLS.

Detailed Location: TWO ADULTS OBSERVED ON A SOUTH-FACING SLOPE OF RELICT COASTAL SAGE SCRUB SURROUNDED BY DISTURBED GRASSLAND.

Ecological: 1988: HABITAT IS COASTAL SAGE SCRUB DOMINATED BY OPUNTIA PROLIFERA, OPUNTIA OCCIDENTALIS, AND ERIOGONUM FASCICULATUM. 2009: AERIAL PHOTOS SHOW THAT THIS SITE HAS BEEN COMPLETELY DEVELOPED.

General: ONLY THE PRESENCE OF HEAVY OPUNTIA AT THIS SITE HAS SAVED THIS PIECE OF COASTAL SAGE SCRUB FROM GRAZING DISTURBANCE.

Owner/Manager: PVT

Occurrence No.	249	Map Index: 20700	EO Index: 9495	Element Last Seen:	1998-07-08
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	1998-07-08
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1998-12-03

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.70268 / -117.63508	Accuracy:	specific area
UTM:	Zone-11 N3729371 E441147	Elevation (ft):	1660
PLSS:	T05S, R07W, Sec. 29 (S)	Acres:	28.0

Location: 0.5 MILE SSW OF MODJESKA, 0.4 MILE N JCT OF MODJESKA AND SANTIAGO CANYON ROADS.

Detailed Location: 1991, ALONG SANTIAGO TRUCK TRAIL, AT THE NORTHERN BOUNDARY OF THE FOOTHILL/TRABUCO SPECIFIC PLAN AREA.

Ecological: COASTAL SAGE SCRUB, HABITAT AT THIS SITE IS LOW QUALITY (FOR GNATCATCHERS) 1991. SAGEBRUSH - BUCKWHEAT SCRUB AND SCRUB CHAPARRAL ECOTONE/SERE DONINATED BY CALIF SAGEBRUSH, CALIF BUCKWHEAT, BLACK SAGE, CHAMISE, LAUREL SUMAC, TOYON.

General: ONE BIRD OBSERVED FLYING NORTH, OUTSIDE THE SPECIFIC PLAN AREA, 1991. 4 OBSERVED, 1 PAIR AND 2 INDIVIDUALS, 1998.

Owner/Manager: UNKNOWN



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Occurrence No.	251	Map Index: 20411	EO Index: 9504	Element Last Seen:	2004-05-11
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen:	2004-05-11
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-17
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.83921 / -117.73872		Accuracy:	specific area	
UTM:	Zone-11 N3744574 E431651		Elevation (ft):	1000	
PLSS:	T04S, R08W, Sec. 08 (S)		Acres:	82.0	
Location:	RIDGE BETWEEN WALNUT CANYON RESERVOIR AND WEIR CANYON, SANTIAGO OAKS REGIONAL PARK, ANAHEIM.				
Detailed Location:	1991: 4 PRS IN "HIGH POTENTIAL HABITAT" FROM 0.2 MILE NORTH, TO 1.4 MILES NNW OF BENCH MARK 790 WEIR CYN. 1999-2004: MAPPED TO 23 POINT LOCATIONS FROM NROC DIGITAL LAYER, SITE #1, UPPER WEIR CANYON; CAGN AND CACW SURVEYS FROM 1999-2004.				
Ecological:	HABITAT IS COASTAL SAGE SCRUB, WITH THE HIGH QUALITY HABITAT LOCATED IN THE NE PORTION OF THE PARK (1991).				
General:	1 PAIR OBS 9 JUN 1990. 4 PRS TOTAL ON SURVEY DATES 8 & 29 JUN 1991. 1999: 6 OBS 13 JUN. 2000: 1 OBS 19 APR. 2001: 1 OBS 20 MAR, 1 OBS 2 APR. 2002: 2 OBS 6 MAR, 2 OBS 4 MAY. 2003: 1 OBS 19 MAR, 2 OBS 24 APR. 2004: 4 OBS 24 MAR, 3 OBS 11 MAY.				
Owner/Manager:	ORA COUNTY-SANTIAGO OAKS RP				
Occurrence No.	254	Map Index: 20709	EO Index: 3991	Element Last Seen:	1994-04-03
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1994-04-03
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-06
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.80287 / -117.76927		Accuracy:	specific area	
UTM:	Zone-11 N3740565 E428794		Elevation (ft):	600	
PLSS:	T04S, R09W, Sec. 24, W (S)		Acres:	22.0	
Location:	ORANGE PARK ACRES, NORTH OF THE HISTORIC JUNCTION OF CHAPMAN AVE & SANTIAGO CYN RD, WEST OF IRVINE REG. PARK, ORANGE.				
Detailed Location:	ALONG SANTIAGO CYN RD (REALIGNED), BETWEEN N NEWPORT BLVD AND HOLY SEPULCHER CEMETERY. MAPPED TO SUBMITTED MAP (1991), AND 3 FWS 80 M POLYS (1994); SITE NAME ORANGE PARK ACRES.				
Ecological:	1991: SEEN IN HIGH QUALITY COASTAL SAGE SCRUB BETWEEN SANTIAGO CYN RD & REG PARK BOUNDARY; IN 1994 AERIAL IMAGE THIS IS DEVELOPED (HILLSDALE DR). AVAILABLE HABITAT APPEARS SIMILAR IN 1994 & 2007 AERIAL IMAGES, BUT SANTIAGO RD REALIGNED.				
General:	ON 6 JUN 1991 A FAMILY W/ RECENTLY-FLEDGED YOUNG WAS OBS WEST OF IRVINE REGIONAL PARK, BUT AREA NOW DEVELOPED. ON SURVEYS DATED 3 APR 1994 3 GROUPS OF 2 WERE DETECTED BY J. GIBB ET AL (SWEETWATER ENVIORNMENTAL).				
Owner/Manager:	UNKNOWN				



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Occurrence No.	257	Map Index: 33828	EO Index: 29894	Element Last Seen:	2004-06-15
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2004-06-15
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2007-01-09
Quad Summary:	Laguna Beach (3311757), Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.61794 / -117.76320		Accuracy:	specific area	
UTM:	Zone-11 N3720057 E429204		Elevation (ft):	500	
PLSS:	T06S, R08W, Sec. 30 (S)		Acres:	735.9	
Location:	LAGUNA LAUREL AND NORTH LAGUNA LAUREL IN THE SAN JOAQUIN HILLS ON THE WEST SIDE OF LAGUNA CANYON ROAD.				
Detailed Location:	THE DIVIDING LINE BETWEEN LAGUNA LAUREL & NORTH LAGUNA LAUREL IS THE IRVINE CORPORATE BOUNDARY LINE.				
Ecological:	HABITAT IS MOSTLY HIGH QUALITY COASTAL SAGE SCRUB. GNATCATCHER HABITAT IN LAGUNA LAUREL COMPLETELY BURNED IN OCTOBER 1993. SOME HABITAT REMAINED IN NORTH LAGUNA LAUREL. NATURE RESERVE OF ORANGE COUNTY (NROC).				
General:	6 PR, 1 SINGLE OBS '91. 4 PRS, 1 JUV OBS 1-3 JUL '91, LAGUNA LAUREL. N LAGUNA LAUREL: 6 TERRITORIES OBS DURING '93 BREEDING SEASON, 8 PR, 4 SINGLE OBS NOV '93 POST FIRE SURVEY. 7 PR OBS MAR-JUL '01. 1 ADULT OBS JUN '03, JAN '04. 1 PR, JUN '04.				
Owner/Manager:	ORA COUNTY, PVT-SCE				
Occurrence No.	264	Map Index: 20436	EO Index: 20056	Element Last Seen:	1992-02-03
Occ. Rank:	Poor		Presence: Presumed Extant	Site Last Seen:	1992-02-03
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2010-08-04
Quad Summary:	Tustin (3311767), Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.74744 / -117.77631		Accuracy:	1/5 mile	
UTM:	Zone-11 N3734423 E428096		Elevation (ft):	300	
PLSS:	T05S, R09W, Sec. 12, SW (S)		Acres:	0.0	
Location:	LOMAS DE SANTIAGO, 1 MI EAST OF RED HILL, EAST OF TUSTIN.				
Detailed Location:	CALIFORNIA GNATCATCHERS FOUND ALONG A GENTLE, SOUTH-FACING SLOPE.				
Ecological:	3 FEB 1992: HABITAT IS MOSAIC OF COASTAL SAGE SCRUB, SOUTHERN CACTUS SCRUB, ANNUAL GRASSLAND, & INTRODUCED EUCALYPTUS FOREST. OVER 50% OF HABITAT IS GRADED BUT NOT YET BUILT ON. 2009 AERIAL PHOTOS SHOW THAT MOST OF SITE IS DEVELOPED.				
General:	3 FEB 1992: 5 ADULTS OBSERVED FORAGING.				
Owner/Manager:	PVT-IRVINE CO				



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Occurrence No.	279	Map Index:	33822	EO Index:	9693	Element Last Seen:	2002-05-16
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2002-05-16	
Occ. Type:	Natural/Native occurrence	Trend:	Stable	Record Last Updated:		2003-09-22	

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.66980 / -117.69783	Accuracy:	nonspecific area
UTM:	Zone-11 N3725763 E435307	Elevation (ft):	520
PLSS:	T06S, R08W, Sec. 10 (S)	Acres:	284.4

Location: SOUTHEASTERN PORTION OF EL TORO MARINE CORPS AIR STATION, ABOUT 2.75 MI NE THE JUNCTION OF I-5 AND I-405.

Detailed Location: ALTON PARKWAY EXTENSION (SOUTH PORTION OF MAPPED AREA), MAGAZINE ROAD LANDFILL (INSTALLATION RESTORATION PROGRAM (IRP) SITE 2) AND COMMUNICATION STATION LANDFILL (IRP SITE 17).

Ecological: 50 ACRE SITE HAS SANDY WASH/RIPARIAN SCRUB HABITAT ALONG BORREGO CANYON WASH GRADING INTO COASTAL SAGE SCRUB HABITAT DOMINATED BY CA SAGEBRUSH, BUCKWHEAT & BLACK SAGE (ALTON PARKWAY). CSS, MULE FAT SCRUB, RUDERAL, OTHERS AT SITES 2, 17.

General: 1 OBS 5/23/91 CARRYING FOOD; 2ND BIRD SINGING 80 YDS SW. FAMILY OF 2 ADULTS, 3 FLEDGLINGS OBS 6/13/91, 4 BIRDS SEEN AGAIN ON 6/20/91. 9 PRS, 1 TERR. MALE OBS 12 DEC 00-22 MAR 01. 3 PRS, 2 FAM, SINGLE MALE, FEMALE OBS 2-16 MAY 02.

Owner/Manager: DOD-EL TORO MCAS

Occurrence No.	283	Map Index:	21279	EO Index:	8376	Element Last Seen:	1990-09-24
Occ. Rank:	Excellent	Presence:	Presumed Extant	Site Last Seen:		1990-09-24	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1992-09-09	

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.71053 / -117.72996	Accuracy:	2/5 mile
UTM:	Zone-11 N3730300 E432361	Elevation (ft):	500
PLSS:	T05S, R08W (S)	Acres:	0.0

Location: HILLS SURROUNDING SIPHON RESERVOIR, ABOUT 1.5 MILES NORTH OF EL TORO MARINE CORPS AIR STATION.

Detailed Location:

Ecological: SE OF SIPHON RESERVOIR, 75 ACRES OF HIGH QUALITY DIEGAN COASTAL SAGE SCRUB WITH DENSE STANDS OF ARTEMISIA CALIFORNICA, ERIOGONUM FASCICULATUM, SALVIA MELLIFERA, SALVIA APIANA, & MALOSMA LAURINA. ALSO SCATTERED OPUNTIA LITTORALIS PATCHES.

General: IN 8 SURVEYS BETWEEN 4/8/89 AND 5/29/89, 3 TERRITORIAL MALES WERE SEEN. 2 OF THESE WERE PAIRED WITH 1 PAIR FEEDING AT LEAST 2 FLEDGLINGS. 13 GNATCATCHERS FOUND HERE IN 9/90 SURVEY. CACTUS WRENS AND ORANGE-THROATED WHIPTIALS ALSO FOUND HERE.

Owner/Manager: UNKNOWN



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Occurrence No.	284	Map Index: 21280	EO Index: 25069	Element Last Seen:	1990-09-24
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	1990-09-24
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1992-09-09
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.72946 / -117.72602		Accuracy:	3/5 mile	
UTM:	Zone-11 N3732396 E432741		Elevation (ft):	600	
PLSS:	T05S, R08W (S)		Acres:	0.0	
Location:	HICKS CANYON, ABOUT 3 MILES NORTH OF EL TORO MARINE CORPS AIR STATION.				
Detailed Location:					
Ecological:	HIGH QUALITY SAGE SCRUB MIXED WITH AREAS OF HEAVY GRAZING.				
General:	3 GNATCATCHERS SEEN IN THE HICKS CANYON AREA, INCLUDING A KNOWN PAIR.				
Owner/Manager:	UNKNOWN				
Occurrence No.	285	Map Index: 71526	EO Index: 8531	Element Last Seen:	1990-09-24
Occ. Rank:	Poor		Presence: Presumed Extant	Site Last Seen:	1990-09-24
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-16
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.79583 / -117.72682		Accuracy:	80 meters	
UTM:	Zone-11 N3739756 E432718		Elevation (ft):	750	
PLSS:	T04S, R08W, Sec. 28, NW (S)		Acres:	0.0	
Location:	0.7 MILE NORTH OF SANTIAGO DAM SPILLWAY, IN LOWER BLIND CANYON, ORANGE.				
Detailed Location:	MAPPED WITH RESPECT TO TOPOGRAPHIC MAP OF APPENDIX 1, SHEET 13.				
Ecological:	UNIQUE SAGE SCRUB COMMUNITY DOMINATED BY PURPLE SAGE. AREA HAS BEEN DEGRADED BY HEAVY GRAZING.				
General:	ONE GNATCATCHER OBSERVED. HABITAT CONSIDERED MARGINAL FOR THIS SPECIES DUE TO THE DOMINANCE OF PURPLE SAGE (SALVIA LEUCOPHYLLA).				
Owner/Manager:	UNKNOWN				
Occurrence No.	286	Map Index: 21658	EO Index: 13680	Element Last Seen:	199X-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	199X-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1992-09-14
Quad Summary:	Tustin (3311767), Newport Beach (3311768)				
County Summary:	Orange				
Lat/Long:	33.64812 / -117.89163		Accuracy:	nonspecific area	
UTM:	Zone-11 N3723498 E417320		Elevation (ft):	50	
PLSS:	T06S, R10W, Sec. 14 (S)		Acres:	126.8	
Location:	AREA IMMEDIATELY NORTH OF UPPER NEWPORT BAY, ABOUT 1.3 MILES SOUTH OF JUNCTION OF NEWPORT BLVD & PALISADES ROAD.				
Detailed Location:					
Ecological:	FRAGMENT SIZE ABOUT 153 ACRES WITH 25 ACRES OF COASTAL SAGE SCRUB. SURROUNDED BY SUBURBAN DEVELOPMENT AND WATER.				
General:	PRESENCE OF GNATCATCHERS NOTED, BUT NO COUNTS ATTEMPTED. ESTIMATED THAT SITE HAS BEEN ISOLATED FOR 20-30 YEARS.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	448	Map Index: 23772	EO Index: 22808	Element Last Seen:	1998-02-02
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen:	1998-02-02
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-06
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.86161 / -117.69483		Accuracy:	nonspecific area	
UTM:	Zone-11 N3747029 E435729		Elevation (ft):	880	
PLSS:	T03S, R08W, Sec. 35 (S)		Acres:	87.2	
Location:	SANTA ANA MOUNTAINS ON RIDGE BETWEEN COAL CANYON & GYPSUM CANYON, ABOUT 0.75 MILE SSW OF COAL CYN OFFRAMP FROM HWY 91.				
Detailed Location:	1991: WHERE THE PIPELINE CROSSES THE RIDGE ROAD. 1993: 1500 FT NW OF 1991 OBSERVATION. 1998: APPROXIMATELY 700 FT SOUTH OF PIPELINE.				
Ecological:	RIVERSIDEAN SAGE SCRUB INTERSPERSED W/ CHAPARRAL, NON-NATIVE GRASSLAND, & CACTUS PATCHES. SHRUBS INC CALIFORNIA SAGEBRUSH, SALVIA MELLIFERA, MALACOTHAMNUS FASCICULATUS & MEXICAN ELDERBERRY. SITE CLOSE TO TECATE CYPRESS ECOLOGICAL RESERVE.				
General:	1 BIRD HEARD/SEEN 27 SEP 1991. 2 (LIKELY MORE IN AREA) OBS 12 APR 1993. 2 PAIRS OBS 19 JAN-2 FEB 1998. BRAUNTON'S MILK-VETCH, MANY-STEMMED DUDLEY AND PARRY'S NOLINA ALSO FOUND HERE. SITE COULD BE PROTECTED BY INCLUSION IN ECO RESERVE.				
Owner/Manager:	PVT-HON DEVELOPMT/COAL CYN CO				
Occurrence No.	473	Map Index: 30815	EO Index: 4176	Element Last Seen:	1994-05-31
Occ. Rank:	Poor		Presence: Presumed Extant	Site Last Seen:	1994-05-31
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1995-02-07
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.65361 / -117.86418		Accuracy:	1/5 mile	
UTM:	Zone-11 N3724085 E419871		Elevation (ft):	50	
PLSS:	T06S, R09W (S)		Acres:	0.0	
Location:	WEST OF THE INTERSECTION OF MCARTHUR BLVD AND PALISADES BLVD, NEWPORT BEACH.				
Detailed Location:	THE PAIR WAS LOCATED (ON 31 MAY) IN A SMALL PATCH OF CSS, NESTING IN ARTEMISIA CALIFORNICA, AT THE BASIN OF THE BENCH AREA. THE LONE MALE WAS OBSERVED IN THE ATRIPLEX NEAR MCARTHUR BLVD (ONLY IN JANUARY AND FEBRUARY).				
Ecological:	HABITAT CONSISTS OF COASTAL SAGE SCRUB, DOMINATED BY ARTEMISIA CALIFORNICA, SALVIA SPP, ERIOGONUM FASCICULATUM, ENCELIA CALIFORNICA, AND HAPPLOPAPPUS SPP.				
General:	AREAS SURVEYED WERE IN THE VICINITY OF SAN DIEGO CREEK; SURVEYS WERE MADE BY WALKING TRANSECTS, WEEKLY, FROM 5-29 JANUARY, 9 FEBRUARY, AND 31 MAY 1994. 1 PAIR AND 1 SOLITARY MALE WERE OBSERVED.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	491	Map Index: 28422	EO Index: 29663	Element Last Seen:	2004-01-30
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen:	2004-01-30
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-07-01

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.69567 / -117.68753	Accuracy:	1/5 mile
UTM:	Zone-11 N3728625 E436281	Elevation (ft):	750
PLSS:	T05S, R08W, Sec. 35 (S)	Acres:	0.0

Location: FOOTHILLS OF THE SANTA ANA MOUNTAINS. JUST NORTH OF AGUA CHINON WASH & SOUTHEAST & EAST OF AN OLD QUARRY.

Detailed Location: 2004 LOCATION (SSE OF QUARRY) MAPPED ACCORDING TO UTM COORDINATES.

Ecological: FRAGMENTED COASTAL SAGE SCRUB DOMINATED BY ERIOGONUM. ADJACENT TO AGUA CHINON WASH, AN AREA OF MULEFAT SCRUB, & AN AREA CLEARED & GRADED FOR A TRANSPORTATION CORRIDOR. LOCATION IS PART OF NATURE RESERVE OF ORANGE COUNTY.

General: ABOUT 7 INDIVIDUALS DETECTED, INCLUDING AT LEAST 2 JUVENILES ON 13 SEP 1991. 3 ADULTS DETECTED ON 30 JAN 2004.

Owner/Manager: UNKNOWN, PVT

Occurrence No.	496	Map Index: 33813	EO Index: 29893	Element Last Seen:	2001-06-14
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-06-14
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-08-19

Quad Summary: Laguna Beach (3311757), Tustin (3311767)

County Summary: Orange

Lat/Long:	33.62533 / -117.78746	Accuracy:	specific area
UTM:	Zone-11 N3720892 E426961	Elevation (ft):	400
PLSS:	T06S, R09W (S)	Acres:	533.9

Location: SHADY CANYON AND SHADY CANYON TRIBUTARY SUPERPARK STUDY RESEARCH AREAS. SAN JOAQUIN HILLS.

Detailed Location: NATURE RESERVE OF ORANGE COUNTY (NROC).

Ecological: COASTAL SAGE SCRUB. MOST OF AREA BURNED IN OCTOBER 1993. MOST OF HABITAT REMAINING AFTER THE FIRE WAS IN THE SHADY CANYON TRIBUTARY AREA (NORTHERN PART OF POLYGON) IN AREAS WITH DENSE STANDS OF CACTUS THAT PROTECTED INTERSPERSED SAGE SCRUB.

General: 2 PAIRS AND 1 INDIVIDUAL GNATCATCHER WERE FOUND 1/11/94 IN AN AREA OF DENSE CACTUS WITH INTERSPERSED COASTAL SAGE SCRUB. 5 PAIRS (1 PR W/FLEDGES, 2 PRS NESTING, 1 ABANDONED NEST), 2 SINGLES & 3 JUVENILES OBSERVED 23 MAR - 14 JUN 2001.

Owner/Manager: ORA COUNTY, UNKNOWN



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Occurrence No.	497	Map Index: 28598	EO Index: 29889	Element Last Seen: 1996-11-17
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen: 1996-11-17
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1996-12-10

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.87192 / -117.81455	Accuracy:	80 meters
UTM:	Zone-11 N3748253 E424664	Elevation (ft):	300
PLSS:	T03S, R09W (S)	Acres:	0.0

Location: SOUTHWEST MARGIN OF YORBA LINDA RESERVOIR. YORBA LINDA.

Detailed Location:

Ecological: REMNANT COASTAL SAGE SCRUB SURROUNDED BY SEASONALLY DISTURBED RUDERAL LAND.

General: 1 ADULT MALE OBSERVED 11/17/96 FLYING FROM A PATCH OF COASTAL SAGE SCRUB TO THE FLOOR OF THE RESERVOIR.

Owner/Manager: UNKNOWN

Occurrence No.	522	Map Index: 71516	EO Index: 35510	Element Last Seen: 2006-03-01
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen: 2006-03-01
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2008-06-16

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.86667 / -117.68682	Accuracy:	specific area
UTM:	Zone-11 N3747585 E436473	Elevation (ft):	550
PLSS:	T03S, R08W, Sec. 35, E (S)	Acres:	55.0

Location: SW OF THE JUNCTION OF ROUTE 91 AND COAL CANYON, SANTA ANA.

Detailed Location: FOUND ON THE WEST SLOPE OF CANYON, & CONTINUING SOUTH FOLLOWING THE CSS VEG UP THE EAST SIDE OF THE CANYON. UPDATED WITH 10 FWS 80 M POLYGONS, SITE NAMES CYGRESS CYN PROPERTY (1998), SR91 SUXILIARY LANE AT COAL CYN (2003), & SR91 (2006).

Ecological: HABITAT CONSISTS OF MODERATE TO HIGH QUALITY COASTAL SAGE SCRUB, DOMINATED BY ERIOGONUM SP.

General: 2 SINGLES OBS ON 28 NOV '95. 1 PAIR & 1 MALE OBS BTWN 19 JAN-2 FEB '98. 4 PRS DETECT ON SURVEYS DATED 27 MAR '98 BY RAMIREZ (PCR). 1 PR DETECT ON 10 JUL '03 BY JAMES (CALTRANS). 2 PRS & 1 SINGLE DETECT ON 1 MAR '06 BY MCENTEE (CHAMBERS GRP)

Owner/Manager: PVT, DPR-CHINO HILLS SP



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Occurrence No.	598	Map Index: 48063	EO Index: 48063	Element Last Seen:	2002-10-04
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2002-10-04
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-20
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.78118 / -117.73988		Accuracy:	specific area	
UTM:	Zone-11 N3738140 E431498		Elevation (ft):	800	
PLSS:	T04S, R08W, Sec. 32 (S)		Acres:	285.0	
Location:	ADJACENT (EAST) TO SH241 & SH261 JUNCTION, BETWEEN SH241 & SANTIAGO RESERVOIR (IRVINE LAKE), ORANGE.				
Detailed Location:	1988: 0.25 MILE ENE OF SANTIAGO CYN RD & CHINCHILLA PASTURE RD. 2001 & 2002: THROUGHOUT POLYGONS. MAPPED ACCORDING TO ORIGINAL DOCUMENT MAPS & 34 FWS 80 M POLYGONS. SITE NAMES EAST ORANGE DEVELOPMENT AREA & EASTERN TRANSPORTATION CORRIDOR.				
Ecological:	1988: DENSE COASTAL SAGE SCRUB. 2001: SURVEYED SUITABLE CSS ON PROPSD DEVELOPMENT & PRESERVATION LANDS. 2002: SURVEYED SUITABLE CSS. SH241 & 261 CONSTRUCTED AROUND 1995-1998.				
General:	1988: 1 PR ON 10 JUL. 2001: 13 PRS, 6 MALES, 1 ADULT, & 2 JUV DETECTED ON 28 SURVEYS BTWN 30 MAY & 20 DEC. 2002: 10 PRS, 1 ADULT, & 19 JUV DETECTED ON SURVEYS 2-3-9-12 JUL; 2 PRS & 3 JUV DETECTED ON SURVEYS 18 & 27 SEP & 4 OCT.				
Owner/Manager:	PVT, UNKNOWN				
Occurrence No.	627	Map Index: 50350	EO Index: 50350	Element Last Seen:	2002-06-11
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2002-06-11
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-09
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.79849 / -117.79487		Accuracy:	nonspecific area	
UTM:	Zone-11 N3740097 E426421		Elevation (ft):	600	
PLSS:	T04S, R09W, Sec. 26, W (S)		Acres:	143.0	
Location:	SANTIAGO OAKS REGIONAL PARK, WEST OF CANNON STREET, EAST EL MODENA (UNICORP. ORA).				
Detailed Location:	2001: SITE NAME EL MODENA OPEN SPACE (SATIAGO OAKS REG. PARK). UPDATED WITH FWS DIGITAL POLYS FROM 1994 (SWEETWATER ENV, SITE ORANGE PARK ACRES) AND 2002 (USFWS, SITE 2002 OFFICE CAGN SURVEYS).				
Ecological:	HABITAT CONSISTS OF HIGH QUALITY TO HIGHLY DISTURBED COASTAL SAGE SCRUB AND SOUTHERN CACTUS SCRUB. SITE IS RELATIVELY FLAT TO ROCKY AND STEEP. AREA IS SURROUNDED BY DEVELOPMENT.				
General:	1994: 11 PRS & 1 SINGLE DETECTED ON SURVEYS DATED 3 APR BY GIBB ET AL. 2001: 5 PRS & 9 SINGLES TOTAL DETECTED @ 14 LOCALES IN EL MODENA OPEN SPACE ON DATES 31 AUG, 7 SEP, & 16 NOV. 2 AD OBS 10 DEC. 2002: 1 PAIR DETECTED BY MILLER ON 11 JUN.				
Owner/Manager:	ORA COUNTY-SANTIAGO OAKS RP				



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Occurrence No.	753	Map Index: 52593	EO Index: 52593	Element Last Seen:	2001-07-31
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-07-31
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-09-22

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.69882 / -117.69937	Accuracy:	1/5 mile
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UTM:	Zone-11 N3728982 E435186	Elevation (ft):	620
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PLSS:	T05S, R08W, Sec. 34 (S)	Acres:	0.0
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Location: ROUND CANYON, 0.7 MILE NE OF LAMBERT RESERVOIR AND NORTH OF EL TORO.

Detailed Location: ROCA0 MAPS BANDING STATION LOCATED WITHIN THE NATURE RESERVE OF ORANGE COUNTY.

Ecological:

General: 1 HATCH YEAR CAPTURED ON 31 JUL 2001 AND BANDED.

Owner/Manager: ORA COUNTY

Occurrence No.	754	Map Index: 52594	EO Index: 52594	Element Last Seen:	2001-10-30
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-10-30
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-09-23

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.74326 / -117.73601	Accuracy:	1/10 mile
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UTM:	Zone-11 N3733933 E431825	Elevation (ft):	600
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PLSS:	T05S, R08W, Sec. 17, NE (S)	Acres:	0.0
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Location: 0.9 MILE NORTH OF THE EAST END OF RATTLESNAKE RESERVOIR, NORTH OF THE EL TORO MARINE CORPS AIR STATION.

Detailed Location:

Ecological: AREAS SURVEYED ON PROJECT SITE INCLUDE ALL SUITABLE HABITAT (COASTAL SAGE SCRUB AND SUB-ASSOCIATIONS).

General: 1 PAIR OBSERVED ON 24 AND 30 OCT 2001.

Owner/Manager: UNKNOWN

Occurrence No.	778	Map Index: 52820	EO Index: 52820	Element Last Seen:	2001-07-18
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-07-18
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-14

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.78842 / -117.71830	Accuracy:	1/10 mile
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UTM:	Zone-11 N3738929 E433501	Elevation (ft):	943
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PLSS:	T04S, R08W, Sec. 28 (S)	Acres:	0.0
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Location: 0.5 MILE EAST OF SANTIAGO CREEK AND SOUTH OF FREMONT CANYON, NE OF SANTIAGO RESERVOIR.

Detailed Location: MAPPED ACCORDING TO LOCATION SHOWN ON PROJECT MAP. UTM ALSO PROVIDED, BUT DATUM WAS NOT SPECIFIED. UTM COORDINATES MAPPED AS NAD 27 FALL WITHIN OCCURRENCE BOUNDARY.

Ecological: SURVEYS CONDUCTED IN SUITABLE COASTAL SAGE SCRUB.

General: 1 PAIR OBSERVED ON 18 JUL 2001.

Owner/Manager: UNKNOWN



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Occurrence No.	779	Map Index: 52891	EO Index: 52891	Element Last Seen:	2001-10-10
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-10-10
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-14
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.78288 / -117.71995		Accuracy:	nonspecific area	
UTM:	Zone-11 N3738315 E433344		Elevation (ft):	865	
PLSS:	T04S, R08W, Sec. 33, NE (S)		Acres:	30.8	
Location:	0.5 MILE SOUTH OF FREMONT CANYON, JUST EAST OF SANTIAGO RESERVOIR.				
Detailed Location:	MAPPED ACCORDING TO LOCATIONS SHOWN ON PROJECT MAP. UTM ALSO PROVIDED, BUT DATUM WAS NOT SPECIFIED. UTM COORDINATES MAPPED AS NAD 27 FALL WITHIN OCCURRENCE BOUNDARY.				
Ecological:	SURVEYS CONDUCTED IN SUITABLE COASTAL SAGE SCRUB. AREA IS PROPOSED FOR PRESERVATION.				
General:	1 PAIR WITH 1 JUVENILE AND 1 PAIR WITH 2 JUVENILES OBSERVED ON 10 OCT 2001 DURING NON-PROTOCOL SURVEYS.				
Owner/Manager:	UNKNOWN				
Occurrence No.	780	Map Index: 52892	EO Index: 52892	Element Last Seen:	2001-10-10
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-10-10
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-14
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.78186 / -117.71086		Accuracy:	1/10 mile	
UTM:	Zone-11 N3738196 E434185		Elevation (ft):	1034	
PLSS:	T04S, R08W, Sec. 34, NW (S)		Acres:	0.0	
Location:	0.6 MILE SOUTH OF FREMONT CANYON, WEST OF THE SANTIAGO COAL MINE AND EAST OF SANTIAGO RESERVOIR.				
Detailed Location:	MAPPED ACCORDING TO LOCATION SHOWN ON PROJECT MAP. UTM ALSO PROVIDED, BUT DATUM WAS NOT SPECIFIED. UTM COORDINATES MAPPED AS NAD 27 FALL WITHIN OCCURRENCE BOUNDARY.				
Ecological:	SURVEYS CONDUCTED IN SUITABLE COASTAL SAGE SCRUB. AREA IS PROPOSED FOR PRESERVATION.				
General:	1 PAIR AND 1 JUVENILE OBSERVED ON 10 OCT 2001 DURING NON-PROTOCOL SURVEYS.				
Owner/Manager:	UNKNOWN				
Occurrence No.	781	Map Index: 52895	EO Index: 52895	Element Last Seen:	2001-12-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-12-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-14
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.77705 / -117.69540		Accuracy:	1/10 mile	
UTM:	Zone-11 N3737653 E435613		Elevation (ft):	926	
PLSS:	T04S, R08W, Sec. 35, SW (S)		Acres:	0.0	
Location:	0.8 MILE WNW OF LOCATION WHERE BLACK STAR CREEK ENTERS SANTIAGO CREEK, EAST OF SANTIAGO RESERVOIR.				
Detailed Location:	MAPPED ACCORDING TO LOCATION SHOWN ON PROJECT MAP. UTM ALSO PROVIDED, BUT DATUM WAS NOT SPECIFIED. UTM COORDINATES MAPPED AS NAD 27 FALL WITHIN OCCURRENCE BOUNDARY.				
Ecological:	SURVEYS CONDUCTED IN SUITABLE COASTAL SAGE SCRUB. AREA IS PROPOSED FOR PRESERVATION.				
General:	1 SINGLE MALE OBSERVED ON 19 DEC 2001 DURING NON-PROTOCOL SURVEYS.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	782	Map Index: 52896	EO Index: 52896	Element Last Seen:	2001-07-25
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-07-25
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-14
Quad Summary:	Black Star Canyon (3311776), Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.77157 / -117.75013		Accuracy:	nonspecific area	
UTM:	Zone-11 N3737081 E430541		Elevation (ft):	1000	
PLSS:	T05S, R08W, Sec. 06, NE (S)		Acres:	71.8	
Location:	NORTH PORTION OF LOMA RIDGE, 0.6 MILE EAST OF PETERS CANYON AND 1.5 MILES WSW OF SANTIAGO RESERVOIR.				
Detailed Location:	MAPPED ACCORDING TO LOCATIONS SHOWN ON PROJECT MAP. UTM ALSO PROVIDED, BUT DATUM WAS NOT SPECIFIED. UTM COORDINATES MAPPED AS NAD 27 FALL WITHIN OCCURRENCE BOUNDARY.				
Ecological:	SURVEYS CONDUCTED IN SUITABLE COASTAL SAGE SCRUB. NORTH AREA IS PROPOSED FOR PRESERVATION.				
General:	1 PAIR OBSERVED ON 27 APR 2001 AND 1 PAIR OBSERVED ON 28 JUN 2001. 1 PAIR AND 2 JUVENILES OBSERVED ON 25 JUL 2001. PROTOCOL AND NON-PROTOCOL SURVEYS WERE CONDUCTED AT THIS SITE.				
Owner/Manager:	UNKNOWN				

Occurrence No.	783	Map Index: 52897	EO Index: 52897	Element Last Seen:	2001-08-29
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-08-29
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-14
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.76040 / -117.74050		Accuracy:	1/10 mile	
UTM:	Zone-11 N3735836 E431423		Elevation (ft):	1173	
PLSS:	T05S, R08W, Sec. 05, SW (S)		Acres:	0.0	
Location:	LOMA RIDGE, 1.7 MILES DIRECTLY EAST OF LOWER PETERS CANYON RESERVOIR AND 1.5 MILES SW OF SANTIAGO RESERVOIR.				
Detailed Location:	MAPPED ACCORDING TO LOCATION SHOWN ON PROJECT MAP. UTM ALSO PROVIDED, BUT DATUM WAS NOT SPECIFIED. UTM COORDINATES MAPPED AS NAD 27 FALL WITHIN OCCURRENCE BOUNDARY.				
Ecological:	SURVEYS CONDUCTED IN SUITABLE COASTAL SAGE SCRUB. AREA IS PROPOSED FOR PRESERVATION.				
General:	1 PAIR AND 1 JUVENILE OBSERVED ON 29 AUG 2001 DURING NON-PROTOCOL SURVEYS.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	784	Map Index: 52900	EO Index: 52900	Element Last Seen:	2001-08-06
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-08-06
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-15
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.76050 / -117.72313		Accuracy:	nonspecific area	
UTM:	Zone-11 N3735837 E433032		Elevation (ft):	1100	
PLSS:	T05S, R08W, Sec. 04, S (S)		Acres:	66.9	
Location:	NE SIDE OF LOMA RIDGE, 2.5 MILES WEST OF SANTIAGO CREEK & 0.8 MILE SOUTH OF SANTIAGO RESERVOIR.				
Detailed Location:	MAPPED ACCORDING TO LOCATIONS SHOWN ON PROJECT MAP. UTM ALSO PROVIDED, BUT DATUM WAS NOT SPECIFIED. UTM COORDINATES MAPPED AS NAD 27 FALL WITHIN OCCURRENCE BOUNDARY.				
Ecological:	SURVEYS CONDUCTED IN SUITABLE COASTAL SAGE SCRUB. AREA IS PROPOSED FOR PRESERVATION.				
General:	1 PAIR & 1 PAIR AND 2 JUVENILES OBSERVED ON 29 AUG 2001. 1 PAIR AND 1 JUVENILE OBSERVED ON 6 AUG 2001. NON-PROTOCOL SURVEYS CONDUCTED AT SITE.				
Owner/Manager:	UNKNOWN				
Occurrence No.	785	Map Index: 52905	EO Index: 52905	Element Last Seen:	2001-07-15
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-07-15
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-15
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.76252 / -117.71063		Accuracy:	1/10 mile	
UTM:	Zone-11 N3736052 E434191		Elevation (ft):	825	
PLSS:	T05S, R08W, Sec. 03, SW (S)		Acres:	0.0	
Location:	ALONG SANTIAGO CANYON ROAD AND 1.9 MILES WEST OF SANTIAGO CREEK, 0.9 MILE SE OF SANTIAGO RESERVOIR.				
Detailed Location:	MAPPED ACCORDING TO LOCATION SHOWN ON PROJECT MAP. UTM ALSO PROVIDED, BUT DATUM WAS NOT SPECIFIED. UTM COORDINATES MAPPED AS NAD 27 FALL WITHIN OCCURRENCE BOUNDARY.				
Ecological:	SURVEYS CONDUCTED IN SUITABLE COASTAL SAGE SCRUB.				
General:	1 SINGLE MALE OBSERVED ON 15 JUL 2001.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	786	Map Index: 52908	EO Index: 52908	Element Last Seen:	2001-08-30
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-08-30
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-15
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.75575 / -117.70570		Accuracy:	1/10 mile	
UTM:	Zone-11 N3735298 E434643		Elevation (ft):	1141	
PLSS:	T05S, R08W, Sec. 10, N (S)		Acres:	0.0	
Location:	0.3 MILE SOUTH OF SANTIAGO CANYON ROAD AND 1.5 MILES WEST OF SANTIAGO CREEK, 1.4 MILES SE OF SANTIAGO RESERVOIR.				
Detailed Location:	MAPPED ACCORDING TO LOCATION SHOWN ON PROJECT MAP. UTM ALSO PROVIDED, BUT DATUM WAS NOT SPECIFIED. UTM COORDINATES MAPPED AS NAD 27 FALL WITHIN OCCURRENCE BOUNDARY.				
Ecological:	SURVEYS CONDUCTED IN SUITABLE COASTAL SAGE SCRUB. AREA IS PROPOSED FOR PRESERVATION.				
General:	1 SINGLE MALE OBSERVED ON 30 AUG 2001 DURING NON-PROTOCOL SURVEYS.				
Owner/Manager:	UNKNOWN				
Occurrence No.	787	Map Index: 52918	EO Index: 52918	Element Last Seen:	2001-11-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-11-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-15
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.74380 / -117.70806		Accuracy:	nonspecific area	
UTM:	Zone-11 N3733974 E434415		Elevation (ft):	1200	
PLSS:	T05S, R08W, Sec. 15, N (S)		Acres:	126.5	
Location:	LOMA RIDGE, 0.8 MILE SW OF SANTIAGO CANYON ROAD AND 1.8 MILES NE OF RATTLESNAKE RESERVOIR.				
Detailed Location:	1 OBS EAST AND 5 OBS WEST OF IRVINE HAUL ROAD. MAPPED ACCORDING TO LOCATIONS SHOWN ON PROJECT MAP. UTM ALSO PROVIDED, BUT DATUM WAS NOT SPECIFIED. UTM COORDINATES MAPPED AS NAD 27 FALL WITHIN OCCURRENCE BOUNDARY.				
Ecological:	SURVEYS CONDUCTED IN SUITABLE COASTAL SAGE SCRUB. AREA IS PROPOSED FOR PRESERVATION.				
General:	2 PAIRS, 4 JUVENILES AND 1 SINGLE MALE OBSERVED ON 9 AUG 2001. 1 SINGLE MALE OBSERVED ON 13 AUG 2001. 1 PAIR AND 2 JUVENILES OBSERVED ON 25 OCT 2001. 1 PAIR OBSERVED ON 19 NOV 2001. NON-PROTOCOL SURVEYS WERE CONDUCTED AT SITE.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	788	Map Index: 52910	EO Index: 52910	Element Last Seen:	2001-07-27
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-07-27
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-15
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.75218 / -117.67917		Accuracy:	1/10 mile	
UTM:	Zone-11 N3734886 E437097		Elevation (ft):	950	
PLSS:	T05S, R08W, Sec. 11, NE (S)		Acres:	0.0	
Location:	ALONG SANTIAGO CREEK, WEST OF WHERE SILVERADO CREEK ENTERS SANTIAGO CREEK, 2.6 MILES SE OF SANTIAGO RESERVOIR.				
Detailed Location:	MAPPED ACCORDING TO LOCATION SHOWN ON PROJECT MAP. UTM ALSO PROVIDED, BUT DATUM WAS NOT SPECIFIED. UTM COORDINATES MAPPED AS NAD 27 FALL WITHIN OCCURRENCE BOUNDARY.				
Ecological:	SURVEYS CONDUCTED IN SUITABLE COASTAL SAGE SCRUB. AREA IS PROPOSED FOR PRESERVATION.				
General:	1 PAIR OBSERVED ON 27 JUL 2001 DURING NON-PROTOCOL SURVEYS.				
Owner/Manager:	UNKNOWN				
Occurrence No.	789	Map Index: 52911	EO Index: 52911	Element Last Seen:	2001-12-16
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-12-16
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-15
Quad Summary:	El Toro (3311766), Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.74877 / -117.66997		Accuracy:	1/10 mile	
UTM:	Zone-11 N3734502 E437946		Elevation (ft):	1025	
PLSS:	T05S, R08W, Sec. 12, SW (S)		Acres:	0.0	
Location:	WEST END OF SILVERADO CANYON AND EAST OF SANTIAGO CREEK, 3.2 MILES SE OF SANTIAGO RESERVOIR.				
Detailed Location:	MAPPED ACCORDING TO LOCATION SHOWN ON PROJECT MAP. UTM ALSO PROVIDED, BUT DATUM WAS NOT SPECIFIED. UTM COORDINATES MAPPED AS NAD 27 FALL WITHIN OCCURRENCE BOUNDARY.				
Ecological:	SURVEYS CONDUCTED IN SUITABLE COASTAL SAGE SCRUB. AREA IS PROPOSED FOR PRESERVATION.				
General:	1 PAIR AND 1 JUVENILE OBSERVED ON 16 DEC 2001 DURING NON-PROTOCOL SURVEYS.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	790	Map Index:	52960	EO Index:	52960	Element Last Seen:	2005-07-18
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2005-07-18	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2008-06-03	
Quad Summary:	Orange (3311777)						
County Summary:	Orange						
Lat/Long:	33.86320 / -117.75663	Accuracy:	nonspecific area				
UTM:	Zone-11 N3747245 E430013	Elevation (ft):	500				
PLSS:	T03S, R08W, Sec. 31 (S)	Acres:	146.0				
Location:	SOUTH & EAST OF SANTA ANA CANYON ROAD, 2 MILES NE OF INTERSECTION OF RIVERSIDE FWY & IMPERIAL HWY, ESE OF YORBA LINDA.						
Detailed Location:	1994: THROUGHOUT AREA. 1999: S PORTION (SEC 6). 2000: THROUGHOUT AREA. 2001: NE PORTION OF AREA. 2002 & 2005: MIDDLE PORTION OF AREA. UPDATED WITH SOME NEW FWS 80 M POLYS.						
Ecological:	HABITAT CONSISTS OF COASTAL SAGE SCRUB DOMINATED BY ARTEMISIA CALIFORNICA AND SALVIA MELLIFERA. FORAGING OBS (DURING 1 SURVEY) IN DISTURBED CSS W/WEEDY SPECIES. OSPREY, WHITE-TAILED KITE, SHARP-SHINNED HAWK, COOPER'S HAWK IN VICINITY.						
General:	5 PRS OBS 1 APR 2001 (SWEETWATER). 3 PRS OBS 17 AUG, & UKN # OBS 9 DEC, 1999 (M BRANDMAN ASSOC). 3 PRS (POSS 2-3 PRS +) 27 APR-18 MAY 2000. 2 PRS OBS 31 MAY-28 JUN 2001. 4 PRS OBS IN APR 2002. 5 BIRDS OBS ON 18 JUL 2005 (GLENN LUKOS ASSOC).						
Owner/Manager:	UNKNOWN						

Occurrence No.	791	Map Index:	52963	EO Index:	52963	Element Last Seen:	2001-10-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2001-10-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2008-06-04	
Quad Summary:	Orange (3311777)						
County Summary:	Orange						
Lat/Long:	33.83928 / -117.77261	Accuracy:	specific area				
UTM:	Zone-11 N3744604 E428515	Elevation (ft):	600				
PLSS:	T04S, R09W, Sec. 12, E (S)	Acres:	34.0				
Location:	ANAHEIM HILLS GOLF COURSE, 1.4 MILES SE OF INTERSECTION OF RIVERSIDE FWY & IMPERIAL HIGHWAY, SOUTH OF YORBA LINDA.						
Detailed Location:	SOUTH OF GOLF COURSE, ON SOUTH SIDE OF E NOHL RANCH RD. UPDATED WITH FIVE 80 M FWS POLYGONS.						
Ecological:	SUITABLE HABITAT ON PROJECT SITE CONSISTS OF HIGH QUALITY TO HIGHLY DISTURBED COASTAL SAGE SCRUB, BACCHARIS SCRUB AND SOUTHERN CACTUS SCRUB. AVAILABLE HABITAT SIMILAR (~5% LOSS) IN 1994 & 2007 AERIAL IMAGES.						
General:	1994: 5 GRPS OF 2 OBS ON SURVEYS DATED 1 APR BY G. ROGERS (SWEETWATER ENVIR). 2001: OBS AT 3 LOCALES ON SURVEYS ON 30 AUG, 5 & 12 OCT; 5 PRS & 3 INDIV TOTAL WERE OBS IN 6 OF 11 PATCHES OF SUITABLE HAB SURVEYED DURING PERIOD (OCC 791-794).						
Owner/Manager:	PVT						



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Occurrence No.	792	Map Index: 52968	EO Index: 52968	Element Last Seen:	2001-10-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-10-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-04
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.84367 / -117.76976		Accuracy:	nonspecific area	
UTM:	Zone-11 N3745089 E428783		Elevation (ft):	600	
PLSS:	T04S, R09W, Sec. 12, NE (S)		Acres:	24.0	
Location:	ANAHEIM HILLS GOLF COURSE (WALNUT CANYON), 1.4 MILES SE OF X-ING OF RIVERSIDE FWY & IMPERIAL HIGHWAY, S OF YORBA LINDA.				
Detailed Location:	NW PORTION OF GOLF COURSE, NORTH OF E NOHL RANCH ROAD. UPDATED WITH 2 FWS 80 M POLYGONS.				
Ecological:	SUITABLE HABITAT ON PROJECT SITE CONSISTS OF HIGH QUALITY TO HIGHLY DISTURBED COASTAL SAGE SCRUB, BACCHARIS SCRUB AND SOUTHERN CACTUS SCRUB. AVAILABLE HABITAT SIMILAR IN 1994 & 2007 AERIAL IMAGES.				
General:	1994: 2 GRPS OF 2 OBS ON SURVEYS DATED 1 APR BY G. ROGERS (SWEETWATER ENVIR). 2001: OBS AT 1 LOCALE ON SURVEYS ON 30 AUG, 5 & 12 OCT; 5 PRS & 3 INDIV TOTAL WERE OBS IN 6 OF 11 PATCHES OF SUITABLE HAB SURVEYED DURING PERIOD (OCC 791-794).				
Owner/Manager:	PVT				
Occurrence No.	793	Map Index: 52970	EO Index: 52970	Element Last Seen:	2001-10-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-10-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-04
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.84517 / -117.76051		Accuracy:	nonspecific area	
UTM:	Zone-11 N3745250 E429639		Elevation (ft):	675	
PLSS:	T04S, R08W, Sec. 07, N (S)		Acres:	52.0	
Location:	ANAHEIM HILLS GOLF COURSE (WALNUT CYN), 1.4 MILES SE OF X-ING OF RIVERSIDE FWY & IMPERIAL HWY, SOUTH OF YORBA LINDA.				
Detailed Location:	NE PORTION OF GOLF COURSE. UPDATED WITH FIVE 80 M FWS POLYGONS.				
Ecological:	SUITABLE HABITAT ON PROJECT SITE CONSISTS OF HIGH QUALITY TO HIGHLY DISTURBED COASTAL SAGE SCRUB, BACCHARIS SCRUB AND SOUTHERN CACTUS SCRUB. AVAILABLE HABITAT SIMILAR IN 1994 & 2007 AERIAL IMAGES.				
General:	1994: 5 GRPS OF 2 OBS ON SURVEYS DATED 1 APR BY G. ROGERS (SWEETWATER ENVIR). 2001: OBS AT 3 LOCALES ON SURVEYS ON 30 AUG, 5 & 12 OCT; 5 PRS & 3 INDIV TOTAL WERE OBS IN 6 OF 11 PATCHES OF SUITABLE HAB SURVEYED DURING PERIOD (OCC 791-794).				
Owner/Manager:	PVT				



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Occurrence No.	794	Map Index: 52973	EO Index: 52973	Element Last Seen:	2001-10-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-10-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-04

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.83967 / -117.75463	Accuracy:	specific area
UTM:	Zone-11 N3744635 E430179	Elevation (ft):	700
PLSS:	T04S, R08W, Sec. 07, E (S)	Acres:	12.0

Location: ANAHEIM HILLS GOLF COURSE, 1.4 MILES SE OF INTERSECTION OF RIVERSIDE FWY & IMPERIAL HIGHWAY, SOUTH OF YORBA LINDA.

Detailed Location: SE PORTION OF GOLF COURSE, NEAR WALNUT CANYON RD. UPDATED WITH 2 FWS 80 M POLYGONS.

Ecological: SUITABLE HABITAT ON PROJECT SITE CONSISTS OF HIGH QUALITY TO HIGHLY DISTURBED COASTAL SAGE SCRUB, BACCHARIS SCRUB AND SOUTHERN CACTUS SCRUB. AVAILABLE HABITAT SIMILAR IN 1994 & 2007 AERIAL IMAGES.

General: 1994: 2 GRPS OF 2 OBS ON SURVEYS DATED 1 APR BY G. ROGERS (SWEETWATER ENVIR). 2001: OBS AT 1 LOCALE ON SURVEYS ON 30 AUG, 5 & 12 OCT; 5 PRS & 3 INDIV TOTAL WERE OBS IN 6 OF 11 PATCHES OF SUITABLE HAB SURVEYED DURING PERIOD (OCC 791-794).

Owner/Manager: PVT

Occurrence No.	795	Map Index: 71448	EO Index: 52996	Element Last Seen:	2002-03-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2002-03-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-06

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.83040 / -117.77647	Accuracy:	specific area
UTM:	Zone-11 N3743623 E428151	Elevation (ft):	960
PLSS:	T04S, R09W, Sec. 13 (S)	Acres:	23.0

Location: 1.8 MILES SE OF RIVERSIDE FWY AT IMPERIAL HWY, & 1 MILE WNW OF ROBBERS PEAK, ALONG THE BOUNDARY OF ANAHEIM & ORANGE.

Detailed Location: MAPPED TO GIVEN MAP (2001) & 7 FWS 80 M POLYS (1997 & 2001). SITE NAMES SERRANO HEIGHTS ('97, SOUTHWEST) & SERRANO HTS OFFSITE FUEL MODIFICATION ZONE ('01, EAST). 2001 LCOATIONS: S OF PERIDOT PL (A), S OF CORAL CIR (B), E OF CORAL CIR (C).

Ecological: HABITAT CONSISTS OF COASTAL SAGE SCRUB, NON-NATIVE GRASSES, DIEGAN COASTAL SAGE SCRUB, CHAPARRAL, AND NATIVE GRASSES.

General: '97: 3 GRPS OF 2 OBS ON SURVEYS DATED 4 MAR BY B. DANIELS (BONTERRA). '01: 1 PR 4 OCT AT A, 1 OBS 4 OCT AT C, 1 PR 19 OCT AT B, 1 HEARD 1 NOV & 1 OBS 15 NOV NEAR A & B, 1 HEARD E OF AMBER LN DATE UKN; 10 SURVEYS BTWN 4 OCT 01 - 11 MAR 02.

Owner/Manager: UNKNOWN



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Occurrence No.	796	Map Index: 53006	EO Index: 53006	Element Last Seen:	2001-11-09
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-11-09
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-09
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.78809 / -117.78445		Accuracy:	nonspecific area	
UTM:	Zone-11 N3738937 E427376		Elevation (ft):	700	
PLSS:	T04S, R09W, Sec. 35 (S)		Acres:	81.0	
Location:	SOUTH SIDE OF CHAPMAN AVE & NORTHWEST OF THE ORANGE CORP BDY LINE, ALONG THE BOUDRY OF ORANGE & SANTA ANA.				
Detailed Location:	MAPPED WITH RESPECT TO PROVIDED MAP (2001) & 14 FWS 80 M POLYGONS (1994); SITE NAMES PANARAMA HEIGHTS (S) & ORANGE PARK ACRES (SWEETWATER ENV.), RESPECTIVELY.				
Ecological:	HABITAT CONSISTS OF FRAGMENTD, DISTURBED TO HIGH QUALITY COASTAL SAGE & SOUTHERN CACTUS SCRUB, SURROUNDED BY DEVELOPMENT (2001). DEVELOPMENT, APPARENT IN 1994 & 2007 AERIAL IMAGES, MAY HAVE EXTIRPATED PARTS OF THIS OCCURRENCE.				
General:	1994: 14 PAIRS DETECTED BY GIBB ET AL ON SURVEYS DATED 3 APR. 2001: 5 DETECTION LOCALES IN PANARAMA HGTS (S) OF 6 DETECTION LOCALES FOR PANARAMA HGTS (N&S) TOTALLING 1 PR & 4 SINGLES ON SURVEYS 14 SEP & 9 NOV (SEE ALSO OCC #902).				
Owner/Manager:	UNKNOWN				
Occurrence No.	797	Map Index: 53012	EO Index: 53012	Element Last Seen:	2000-04-13
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2000-04-13
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-03
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.85075 / -117.75538		Accuracy:	nonspecific area	
UTM:	Zone-11 N3745864 E430119		Elevation (ft):	680	
PLSS:	T04S, R08W, Sec. 06, SE (S)		Acres:	29.0	
Location:	NORTH OF WALNUT CANYON AND 2 MILES EAST OF THE INTERSECTION OF IMPERIAL HIGHWAY AND SR 91, SE OF YORBA LINDA.				
Detailed Location:	NNE OF CANYON RIM RD AT FAIRMONT BLVD. & SE OF S COUNTRY HILL ROAD (MOHLER PL). PULLSITE P14 FOR SOUTHERN CALIF EDISON L.A.-SAN DIEGO FIBERLINK PROJECT. UPDATED WITH FIVE 80 M FWS POLYGONS; SITE NAMES DEER CYN PARK PRESERVE & ANAHEIM HILLS.				
Ecological:	HABITAT CONSISTS OF COASTAL SAGE SCRUB DOMINATED BY COASTAL SAGE BRUSH. AVAILABLE HABITAT SIMILAR BETWEEN 1994 & 2007 AERIAL IMAGES.				
General:	3 PRS OBS 1 APR 1994 BY G. ROGERS (SWEETWATER ENV). 2 OBS OF SINGLE BIRDS ON 29 SEP 1999 BY J. SIMONSEN (M BRANDMAN ASSOC). 1 PAIR OBSERVED ON 13 APR 2000.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	798	Map Index: 53018	EO Index: 53018	Element Last Seen:	2000-06-06
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2000-06-06
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-22
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.83191 / -117.79096		Accuracy:	1/10 mile	
UTM:	Zone-11 N3743800 E426811		Elevation (ft):	700	
PLSS:	T04S, R09W, Sec. 14 (S)		Acres:	0.0	
Location:	PERALTA HILLS, 1.5 MILES DIRECLTY SOUTH OF THE INTERSECTION OF IMPERIAL HIGHWAY AND SR 91, NE VILLA PARK.				
Detailed Location:	PULLSITE P15 FOR THE SOUTHERN CALIFORNIA EDISON LOS ANGELES-SAN DIEGO FIBERLINK PROJECT.				
Ecological:	HABITAT CONSISTS OF COASTAL SAGE SCRUB DOMINATED BY LAUREL SUMAC. CSS DOMINATED BY CALIFORNIA SAGEBRUSH AND FLAT-TOPPED BUCKWHEAT, NON-NATIVE GRASSLAND ALSO IN AREA.				
General:	1 PAIR OBSERVED ON 6 JUN 2000.				
Owner/Manager:	UNKNOWN				
Occurrence No.	815	Map Index: 53274	EO Index: 53274	Element Last Seen:	2005-06-08
Occ. Rank:	Poor		Presence: Presumed Extant	Site Last Seen:	2005-06-08
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-05-28
Quad Summary:	Black Star Canyon (3311776), Prado Dam (3311786)				
County Summary:	Orange				
Lat/Long:	33.87733 / -117.74804		Accuracy:	nonspecific area	
UTM:	Zone-11 N3748807 E430819		Elevation (ft):	370	
PLSS:	T03S, R08W, Sec. 29, SW (S)		Acres:	20.0	
Location:	N & S OF ESPERANZA RD (HIDDEN HILLS RD), & E OF YORBA LINDA BLVD AT LA PALMA AVE, NEAR SANTA ANA RIVER, ANAHEIM.				
Detailed Location:	ON A HILL TOPPED BY STEEL ELECTRICAL TRANSMISSION TOWERS. MAPPED TO LOCATION DESCRIPTION & POINT LOCATION ON MAPS (ONE UTM TYPO EXACTLY OFF BY 1K TO THE NORTH). NORTH PAIR NESTED IN CALIFORNIA SAGEBRUSH DOMINATED BY ARTEMISIA CALIFORNICA.				
Ecological:	DISTURBED SAGE SCRUB, NON-NATIVE GRASSES. SAGE SCRUB: ARTEMISIA CALIFORNICA, ENCELIA FARINOSA, ERIOGONUM FASCICULATUM, SALVIA MELLIFERA, BACCHARIS PILULARIS, BACCHARIS SALICIFOLIA, OPUNTIA LITTORALIS. N PORTION INVADED BY PEPPER TREE.				
General:	1 PAIR W/ 2 FLEDGLINGS OBS 11 APR 2003 (CAMPYLORHYNCHUS BRUNNEICAPILLUS COUESI OBSERVED IN VICINITY). 2 NESTING ADULTS OBS ON 13 APR 2003 FROM BIKE TRAIL. 1 GROUP OF 4, & 1 GRP OF 1 DETECTED 8 JUN 2005 BY S. TENNANT (BONTERRA CONSULTING).				
Owner/Manager:	PVT, ORA COUNTY				



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Occurrence No.	829	Map Index: 53941	EO Index: 53941	Element Last Seen:	2004-06-15
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2004-06-15
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2007-01-05

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.63631 / -117.75308	Accuracy:	nonspecific area
UTM:	Zone-11 N3722086 E430158	Elevation (ft):	310
PLSS:	T06S, R08W, Sec. 19, E (S)	Acres:	24.1

Location: N AND S OF DRAINAGE TO SAN DIEGO CREEK, 0.3 MI SE OF LAGUNA RESERVOIR, NW OF LAGUNA HILLS.

Detailed Location:

Ecological: HABITAT CONSISTS OF COASTAL SAGE SCRUB. SURROUNDING LAND CONSISTS OF OPEN SPACE AND FARMLAND.

General: 1 PAIR AND 1 INDIVIDUAL OBSERVED 4 JUNE 2003. 1 PAIR OBSERVED ON 16 JUNE 2004.

Owner/Manager: PVT

Occurrence No.	849	Map Index: 67560	EO Index: 67718	Element Last Seen:	2004-06-15
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2004-06-15
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2007-01-05

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.64711 / -117.75546	Accuracy:	80 meters
UTM:	Zone-11 N3723286 E429946	Elevation (ft):	250
PLSS:	T06S, R08W, Sec. 18, S (S)	Acres:	0.0

Location: 0.4 MILE NNE OF LAGUNA RESERVOIR AND JUST SOUTH OF I-405, NORTHWEST OF EL TORO.

Detailed Location: LOCATION MAPPED ACCORDING TO UTM COORDINATES.

Ecological: HABITAT CONSISTS OF COASTAL SAGE SCRUB.

General: 1 PAIR OBSERVED ON 16 JUNE 2004. AREA IS SURROUNDED BY OPEN SPACE AND FARMLAND.

Owner/Manager: PVT

Occurrence No.	896	Map Index: 71422	EO Index: 72319	Element Last Seen:	1994-04-01
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1994-04-01
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-03

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.85246 / -117.77174	Accuracy:	specific area
UTM:	Zone-11 N3746065 E428607	Elevation (ft):	400
PLSS:	T04S, R09W, Sec. 01, SE (S)	Acres:	10.0

Location: 0.3 MILE SOUTH OF SANTA ANA CANYON RD AT FAIRMONT BLVD, NEAR TRAIL DR, ANAHEIM.

Detailed Location: MAPPED ACCORDING TO TWO 80 METER FWS POLYGONS. SITE NAME ANAHEIM HILLS.

Ecological: SMALL PATCHES OF HABITAT STILL EXISTING IN AERIAL IMAGES FROM 1994, 1999, & 2007, BUT SURROUNDED BY HOUSING DEVELOPMENT.

General: ONE GROUP OF 2, & ONE GROUP OF 1 DETECTED ON OR BEFORE 1 APR 1994 BY G. ROGERS ET. AL. (SWEETWATER ENVIORNMENTAL BIO).

Owner/Manager: UNKNOWN



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Occurrence No.	897	Map Index:	71430	EO Index:	72327	Element Last Seen:	1994-04-01
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1994-04-01	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2008-06-04	

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.84022 / -117.77849	Accuracy:	specific area
UTM:	Zone-11 N3744713 E427972	Elevation (ft):	600
PLSS:	T04S, R09W, Sec. 12, NW (S)	Acres:	10.0

Location: JUST SOUTH & EAST OF ANAHEIM HILLS RD, NEAR WALNUT CANYON, ANAHEIM.
Detailed Location: MAPPED ACCORDING TO 2 FWS 80 M POLYGONS. SITE NAME ANAHEIM HILLS.
Ecological: LIMITED HABITAT SURROUNDED BY DEVELOPMENT. AVAILABLE HABITAT SIMILAR BETWEEN 1994 & 2007 AERIAL IMAGES.
General: 2 PRS DETECTED DURING SURVEYS DATED 1 APR 1994 BY G. ROGERS ET. AL. (SWEETWATER ENVIRONMENTAL).
Owner/Manager: UNKNOWN

Occurrence No.	898	Map Index:	71431	EO Index:	72329	Element Last Seen:	1994-04-01
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1994-04-01	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2008-06-04	

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.83742 / -117.78641	Accuracy:	80 meters
UTM:	Zone-11 N3744408 E427237	Elevation (ft):	600
PLSS:	T04S, R09W, Sec. 11, SE (S)	Acres:	0.0

Location: JUST SOUTH OF THE INTERSECTION OF SCOUT TRAIL AND PATHFINDER TRAIL ROADS, ANAHEIM.
Detailed Location: MAPPED ACCORDING TO ONE FWS 80 M POLYGON. SITE NAME ANAHEIM HILLS.
Ecological: AVAILABLE HABITAT SIMILAR BETWEEN 1994 AND 2007 AERIAL IMAGES.
General: 1 PAIR DETECTED ON SURVEY DATED 1 APR 1994 BY G. ROGERS ET. AL. (SWEETWATER ENVIRONMENTAL).
Owner/Manager: UNKNOWN

Occurrence No.	899	Map Index:	71434	EO Index:	72332	Element Last Seen:	1994-04-01
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1994-04-01	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2008-06-04	

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.83531 / -117.77822	Accuracy:	specific area
UTM:	Zone-11 N3744169 E427993	Elevation (ft):	750
PLSS:	T04S, R09W, Sec. 12, SW (S)	Acres:	10.0

Location: ALONG STAGE COACH RD AT TRAILBLAZER CT, ANAHEIM.
Detailed Location: MAPPED ACCORDING TO TWO FWS 80 M POLYGONS. SITE NAME ANAHEIM HILLS.
Ecological: AVAILABLE HABITAT SIMILAR BETWEEN MID 1994 & 2007 AERIAL IMAGES.
General: 2 PAIRS DETECTED ON SURVEYS DATED 1 APR 1994 BY G. ROGERS ET. AL. (SWEETWATER ENVIRONMENTAL).
Owner/Manager: UNKNOWN



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Occurrence No.	900	Map Index: 71457	EO Index: 72356	Element Last Seen:	2003-05-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2003-05-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-06
Quad Summary:	Black Star Canyon (3311776), Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.82659 / -117.75287		Accuracy:	1/5 mile	
UTM:	Zone-11 N3743184 E430331		Elevation (ft):	1000	
PLSS:	T04S, R08W, Sec. 18, NW (S)		Acres:	0.0	
Location:	IMMEDIATELY EAST OF ROBBERS PEAK, & WEST OF WEIR CANYON, ALONG ANAHEIM & ORANGE BOUNDARY.				
Detailed Location:	AT S POINT PREMIER (COURT). MAPPED WITH RESPECT TO ONE 80 M (1999) & ONE 250 M (2003) RADIUS POLYGONS FROM FWS; SITE NAMES BARHAM RANCH (1999) & ROBBERS PEAK SUBDIVISION - TT 16545 (2003).				
Ecological:	HABITAT APPEARS SIMILAR BETWEEN 1994 & 2007 AERIAL IMAGES.				
General:	2 BIRDS DETECTED ON 8 JUL 1999 BY J. SIMONSEN ET AL (M BRANDMAN ASSOC). 2 BIRDS DETECTED ON 19 MAY 2003 BY J. BERKLEY (PCR).				
Owner/Manager:	UNKNOWN				

Occurrence No.	901	Map Index: 71461	EO Index: 72357	Element Last Seen:	2003-06-26
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2003-06-26
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-09
Quad Summary:	Black Star Canyon (3311776), Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.81401 / -117.75525		Accuracy:	nonspecific area	
UTM:	Zone-11 N3741791 E430101		Elevation (ft):	700	
PLSS:	T04S, R08W, Sec. 19 (S)		Acres:	291.0	
Location:	OPEN SPACE AREA AROUND WEIR CANYON; N OF SH 241 (BLIND CYN), E OF E SANTIAGO CYN RD, S OF SERRANO AVE; ORANGE.				
Detailed Location:	MAPPED W/ RESPECT TO FWS POLYS: 16-80 M FROM 1999 SITE BARHAM RANCH, 1-250 M FROM 2001 SITE NATURE RESERVE OF O.C. WEIR CYN, 5-80 M & 2-250 M FROM 2002 SITE USFWS OFFICE CAGN SURVEYS, 3-80 M & 1-25 M FROM 2003 SITE YOUTH WILDERNESS CAMP.				
Ecological:	HABITAT APPEARS TO BE CONTIGUOUS AND SIMILAR EXTANT IN AERIAL IMAGES FROM 1994 & 2007.				
General:	1999: 8 GROUPS OF 1 & 8 OF 2 ON SURVEYS DATED 8 JUL BY SIMONSEN & COURTOIS (M BRANDMAN ASSOC). 2001: 1 ON 1 MAY BY CAMP ET AL (IBP). 2002: 5 OF 1, 2 OF 2 BTWN 3-22 MAY. 2003: 2 OF 2, 1 OF 3, 1 OF 6 BTWN 14 MAY-26 JUN BY ILIFF ET AL (LSA).				
Owner/Manager:	ORA COUNTY, UNKNOWN				



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Occurrence No.	902	Map Index: 71467	EO Index: 72364	Element Last Seen:	2001-11-09
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-11-09
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-09
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.80193 / -117.79054		Accuracy:	nonspecific area	
UTM:	Zone-11 N3740476 E426824		Elevation (ft):	600	
PLSS:	T04S, R09W, Sec. 26 (S)		Acres:	69.0	
Location:	EAST SIDE OF CANNON STREET, & NORTH OF CHAPMAN AVE, EL MODENA OR ORANGE PARK ACRES (UNICORP. ORA).				
Detailed Location:	MAPPED WITH RESPECT TO PROVIDED MAP (2001) & 10 FWS 80 M POLYGONS (1994); SITE NAMES PANARAMA HEIGHTS (N) & ORANGE PARK ACRES (SWEETWATER ENV.), RESPECTIVELY.				
Ecological:	HABITAT CONSISTS OF DISTURBED TO HIGH QUALITY COASTAL SAGE & SOUTHERN CACTUS SCRUB, SURROUNDED BY DEVELOPMENT (2001). DEVELOPMENT, APPARENT IN 1994, 2000, & 2007 AERIAL IMAGES, MAY HAVE EXTIRPATED PARTS OF THIS OCCURRENCE.				
General:	1994: 8 PRS & 1 SINGLE DETECTED BY GIBB ET AL ON SURVEYS DATED APR 3. 2001: 1 DETECTION LOCALE IN PANARAMA HGTS (N) OF 6 DETECTION LOCALES FOR PANARAMA HGTS (N&S) TOTALLING 1 PR & 4 SINGLES ON SURVEYS 14 SEP & 9 NOV (SEE ALSO OCC #796).				
Owner/Manager:	UNKNOWN				
Occurrence No.	903	Map Index: 71483	EO Index: 72365	Element Last Seen:	1994-04-03
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1994-04-03
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-11
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.78295 / -117.79160		Accuracy:	specific area	
UTM:	Zone-11 N3738372 E426710		Elevation (ft):	500	
PLSS:	T04S, R09W, Sec. 35, NE (S)		Acres:	12.0	
Location:	PANORAMA HEIGHTS, EAST OF CRAWFORD CYN RD, AT THE END OF GREENWALD LN, SANTA ANA.				
Detailed Location:	MAPPED WITH RESPECT TO TWO 80 M FWS POLYGONS; SITE NAME ORANGE PARK ACRES.				
Ecological:	FRAGMENTED HABITAT BETWEEN RESIDENTIAL DEVELOPMENTS. AERIAL PHOTOS SHOW SIMILIAR HABITAT AVAILABILITY IN 1994 AND 2009 AERIAL PHOTOS.				
General:	2 PAIRS DETECTED BY J. GIBB ET AL (SWEETWATER ENVIRONMENTAL) ON SURVEYS DATED 3 APRIL 1994.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	904	Map Index: 71484	EO Index: 72382	Element Last Seen: 1994-04-03
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 1994-04-03
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2008-06-11

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.78052 / -117.78542	Accuracy:	80 meters
UTM:	Zone-11 N3738098 E427280	Elevation (ft):	550
PLSS:	T04S, R09W, Sec. 35, SE (S)	Acres:	0.0

Location: PANORAMA HEIGHTS, EAST OF CRAWFORD CYN RD, AT THE END OF DANIGER RD, SANTA ANA.
Detailed Location: MAPPED WITH RESPECT TO ONE 80 M FWS POLYGONS; SITE NAME ORANGE PARK ACRES.
Ecological: FRAGMENTED HABITAT BETWEEN RESIDENTIAL DEVELOPMENTS. AERIAL PHOTOS SHOW SIMILIAR HABITAT AVAILABILITY IN 1994 AND 2009 AERIAL PHOTOS.
General: 1 PAIR DETECTED BY J. GIBB ET AL (SWEETWATER ENVIRONMENTAL) ON SURVEYS DATED 3 APRIL 1994.
Owner/Manager: UNKNOWN

Occurrence No.	905	Map Index: 71485	EO Index: 72384	Element Last Seen: 2004-07-01
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 2004-07-01
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2008-06-11

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.75892 / -117.75911	Accuracy:	80 meters
UTM:	Zone-11 N3735685 E429699	Elevation (ft):	450
PLSS:	T05S, R08W, Sec. 07, NW (S)	Acres:	0.0

Location: JUST EAST OF EASTERN TRANSPORTATION CORRIDOR 261, EAST OF LEMON HEIGHTS, LOMAS DE SANTIAGO, IRVINE.
Detailed Location: MAPPED WITH RESPECT TO ONE 80 M FWS POLYGON; SITE NAME IRVINE COMMUNITY DEVELOPMENT COMPANY PLANNING AREA 1 PROJECT.
Ecological: HABITAT APPEARS TO BE SMALL PATCH OF COAST SAGE SCRUB OR SIMILAR HABITAT SURROUNDED BY A TREE FARM IN 2004 AERIAL IMAGE. THE SAME SMALL PATCH OF HABITAT IS PRESENT IN 2007 AERIALS, BUT MUCH OF THE AREA IS GRADED, PROBABLY FOR DEVELOPMENT.
General: 1 PAIR DETECTED BY P. LEMONS (DUDEK & ASSOCIATES) ON 1 JUL 2004.
Owner/Manager: UNKNOWN



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Occurrence No.:	906	Map Index:	71530	EO Index:	72400	Element Last Seen:	2004-03-11
Occ. Rank:	Fair	Presence:	Presumed Extant	Site Last Seen:			2004-03-11
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:			2010-08-11

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.77207 / -117.76229	Accuracy:	specific area
UTM:	Zone-11 N3737145 E429415	Elevation (ft):	500
PLSS:	T05S, R08W, Sec. 06, NW (S)	Acres:	73.0

Location: PETERS CANYON REGION PARK, NEAR JAMBOREE RD AT PIONEER RD, IN TUSTIN ALONG SANTA ANA & IRVINE BOUNDARIES.

Detailed Location: MAPPED TO 215 POINT LOCATIONS FROM NROC DIGITAL LAYER, SITE #3, PETERS CANYON. CAGN AND CACW SURVEYS FROM 1999-2004.

Ecological:

General: '99: 14 OBS ON 28 MAY. '00: 14 ON 26MAR, 14 ON 19 APR, 15 ON 8 JUN. '01: 25 ON 21MAR, 22 ON 19 APR, 19 ON 8 JUN. '02: 16 ON 6MAR, 14 ON 1MAY, 10 ON 12 JUN. '03: 9 ON 17 MAR, 11 ON 26 APR, 7 ON 3 JUN. '04: 12 ON 8MAR, 6 ON 30 APR, 7 ON 28MAY

Owner/Manager: ORA COUNTY-PARKS & REC

Occurrence No.:	907	Map Index:	71517	EO Index:	72412	Element Last Seen:	2003-05-19
Occ. Rank:	None	Presence:	Possibly Extirpated	Site Last Seen:			2003-06-04
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:			2008-06-16

Quad Summary: Black Star Canyon (3311776)

County Summary: Riverside

Lat/Long:	33.86325 / -117.63863	Accuracy:	80 meters
UTM:	Zone-11 N3747178 E440928	Elevation (ft):	1100
PLSS:	T03S, R07W, Sec. 32, SW (S)	Acres:	0.0

Location: FRESNO CANYON, LA SIERRA, AT THE END OF WHAT IS NOW BULRUSH CIR, CORONA.

Detailed Location: ALONG THE RIDGE JUST SOUTH OF CALLE DE ORO NEAR THE NORTHERN BORDER OF THE NASTRONERO RANCH PROJECT SITE.

Ecological: MANY RIDGE TOPS & THE PLATEAU TO THE E OF SITE SUPPORT SUITABLE GNATCATCHER HABITAT DOMINATED BY CALIFORNIA SAGEBRUSH (ARTEMISIA CALIFORNICA). A COMPARISON OF AERIAL IMAGES FROM 2002, 2003, & 2007 SHOWS THIS SITE NOW DEVELOPED.

General: 1 SINGLE ADULT WAS OBSERVED ON 19 MAY 2003, BUT NOT RELOCATED ON SURVEYS 19 & 26 MAY, OR 4 JUN 2003.

Owner/Manager: UNKNOWN



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Occurrence No.	908	Map Index: 71520	EO Index: 72413	Element Last Seen:	2002-06-10
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2002-06-10
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-16

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.75236 / -117.66622	Accuracy:	1/10 mile
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UTM:	Zone-11 N3734898 E438297	Elevation (ft):	1160
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PLSS:	T05S, R08W, Sec. 12, NE (S)	Acres:	0.0
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Location: NEAR SILVERADO CREEK IN SILVERADO CYN, EAST OF BLACK STAR CYN RD, BETWEEN BAKER CYN RD & SILVERADO CYN RD, SILVERADO.

Detailed Location: SURVEY STATION #18 OF 2002 USFWS CALIFORNIA GNATCATCHER BREEDING SEASON SURVEY. MAPPED ACCORDING TO FWS DIGITAL POINT LAYER.

Ecological: HABITAT CONSISTS OF COASTAL SAGE SCRUB; PATCH SIZE 65 HECTARES.

General: 1 PAIR HEARD ON 17 MAY DURING SURVEY, AND A PAIR WAS SEEN & HEARD ON THE WAY TO THE SURVEY POINT ON 10 JUN 2002.

Owner/Manager: UNKNOWN

Occurrence No.	909	Map Index: 71522	EO Index: 72416	Element Last Seen:	2002-05-28
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2002-05-28
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-16

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.79538 / -117.71839	Accuracy:	80 meters
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UTM:	Zone-11 N3739700 E433498	Elevation (ft):	900
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PLSS:	T04S, R08W, Sec. 28, NE (S)	Acres:	0.0
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Location: 0.8 MILE NE OF SANTIAGO DAM SPILLWAY, NORTH OF FREMONT CANYON, LOMAS DE SANTIAGO, ORANGE.

Detailed Location: SURVEY STATION #451 OF 2002 USFWS CALIFORNIA GNATCATCHER BREEDING SEASON SURVEY. MAPPED ACCORDING TO FWS DIGITAL POINT LAYER.

Ecological: HABITAT CONSISTS OF COASTAL SAGE SCUB; PATCH SIZE 761 HECTARES.

General: SAW & HEARD ADULT FEMALE ON 7 MAY 2002, AND SAW & HEARD ADULT MALE ON 28 MAY 2002.

Owner/Manager: UNKNOWN



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Occurrence No.	910	Map Index: 71527	EO Index: 72421	Element Last Seen:	2002-05-22
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2002-06-07
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-16
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.80075 / -117.73134		Accuracy:	1/10 mile	
UTM:	Zone-11 N3740305 E432303		Elevation (ft):	1100	
PLSS:	T04S, R08W, Sec. 28, NW (S)		Acres:	0.0	
Location:	NORTH OF SANTIAGO CREEK, AND WEST OF BLIND CANYON (SH241), ORANGE.				
Detailed Location:	SURVEY STATION #447 OF 2002 USFWS CALIFORNIA GNATCATCHER BREEDING SEASON SURVEY. MAPPED ACCORDING TO FWS DIGITAL POINT LAYER.				
Ecological:	HABITAT CONSISTS OF COASTAL SAGE SCUB; PATCH SIZE 761 HECTARES.				
General:	1 MALE HEARD ON 22 MAY 2002 (1 OF 4 SURVEYS).				
Owner/Manager:	UNKNOWN				
Occurrence No.	911	Map Index: 71531	EO Index: 72424	Element Last Seen:	2003-04-07
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2003-04-07
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-17
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.82846 / -117.73190		Accuracy:	specific area	
UTM:	Zone-11 N3743377 E432273		Elevation (ft):	1000	
PLSS:	T04S, R08W, Sec. 16 (S)		Acres:	11.0	
Location:	0.6 MILE EAST OF BENCH MARK 790 IN WEIR CANYON, AND 0.8 MILE WEST OF SH241, ORANGE.				
Detailed Location:	MAPPED TO 3 POINT LOCATIONS FROM NROC DIGITAL LAYER, SITE #2, WEIR CANYON CORE. CAGN AND CACW SURVEYS FROM 1999-2004.				
Ecological:					
General:	1 BIRD OBSERVED ON EACH DATE, 15 MAR 2002, 3 JUN 2002, AND 7 APR 2003.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	914	Map Index: 71548	EO Index: 72443	Element Last Seen:	2003-06-26
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2003-06-26
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-20

Quad Summary: Black Star Canyon (3311776), Orange (3311777)

County Summary: Orange

Lat/Long:	33.78975 / -117.75191	Accuracy:	nonspecific area
UTM:	Zone-11 N3739098 E430390	Elevation (ft):	700
PLSS:	T04S, R08W, Sec. 30 (S)	Acres:	286.0

Location: NE OF EASTERN TRANSPORTATION CORRIDOR 241, E OF JAMBOREE RD & ALONG BOTH SIDES OF SANTIAGO CYN RD. ORANGE.

Detailed Location: S OF IRVINE REG PARK. 2000: 3 PROPOSED BORING LOCATIONS. '01: THROUGHOUT POLYGON. '03: IRVINE PK RD @ HILLSIDE DR. MAPPED TO ORIGINAL DOCUMENT MAPS & 34 FWS 80M POLYS. SITE NAMES SANTIAGO HILLS, EASTERN TRANSPORTATION CORRIDOR & YOUTH CAMP.

Ecological: HABITAT: 2000: MEDIUM TO HIGH QUALITY COASTAL SAGE SCRUB PROVIDING ADEQUATE NESTING & FORAGING AREAS, SURROUNDED BY GRASSLAND. 2001: PROJECT SITE VEGETATED W/ CSS, RUDERAL GRASSLAND, & CHAPARRAL. 2003: FLOOD PLAIN.

General: 2000: 3 PRS & 2 MALES DETECTED ON SURVEYS DATED 26 MAR, 2 & 8 APR. 2001: ASSUME 13 TERRITORIES DUE TO 6 PRS, 7 TERR MALES, & 5 GROUPS OF JUV ON SURVEYS 12-13-19-20-21 JUN. 2003: 1 PR W/ YOUNG DETECTED SEVERAL TIMES FROM 14 MAY - 26 JUN.

Owner/Manager: PVT, UNKNOWN

Occurrence No.	915	Map Index: 71553	EO Index: 72448	Element Last Seen:	2002-07-30
Occ. Rank:	Fair		Presence: Presumed Extant	Site Last Seen:	2002-07-30
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-06-20

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.78071 / -117.75693	Accuracy:	specific area
UTM:	Zone-11 N3738100 E429918	Elevation (ft):	
PLSS:	T04S, R08W, Sec. 31 (S)	Acres:	43.0

Location: FROM JUST EAST OF PETERS CANYON RESERVOIR TO EASTERN TRANSPORTATION CORRIDOR 261, NORTH OF LOMA RIDGE, ORANGE.

Detailed Location: 2000: JUST NE OF SERVICE RD TO FILTRATION PLANT. 2001: THROUGHOUT MAIN POLYGON. 2002: AT PETER'S CYN RES. MAPPED TO ORIGINAL DOC MAPS & 6 FWS POLYS. SITES SANTIAGO HILLS, EASTERN TRANSPORTATION CORRIDOR, & PETER'S CANYON REGIONAL PARK.

Ecological: HABITAT: 2000: MEDIUM TO HIGH QUALITY COASTAL SAGE SCRUB PROVIDING ADEQUATE NESTING & FORAGING AREAS, SURROUNDED BY GRASSLAND. 2001: PROJECT SITE VEGETATED W/ CSS, RUDERAL GRASSLAND, & CHAPARRAL. 2002: PATCH OF SAGEBRUSH SCRUB.

General: 2000: 1 MALE DETECTED ON ALL SURVEYS DATED 26 MAR, 2 & 8 APR. 2001: 4 TERRITORIAL MALES DETECTED ON SURVEYS 12-13-19-20-21 JUN. 2002: 1 PR DETECTED ON EVERY SURVEY CONDUCTED 10, 20, & 30 JUL.

Owner/Manager: ORA COUNTY-PETER'S CYN RP, UNK



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Occurrence No.	927	Map Index:	95761	EO Index:	96898	Element Last Seen:	2013-03-13
Occ. Rank:	Fair	Presence:	Presumed Extant	Site Last Seen:		2013-03-13	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2015-03-27	

Quad Summary: Black Star Canyon (3311776), Prado Dam (3311786)
County Summary: Orange

Lat/Long:	33.87554 / -117.68845	Accuracy:	specific area
UTM:	Zone-11 N3748570 E436329	Elevation (ft):	410
PLSS:	T03S, R08W, Sec. 26, SE (S)	Acres:	11.0

Location: ALONG SANTA ANA RIVER IN CHINO HILLS STATE PARK, N OF HWY 91, W OF GREEN RIVER GOLF CLUB.
Detailed Location: MAPPED TO PROVIDED COORDINATES.
Ecological: RESTORATION AREA PLANTED IN 2007. DISTURBED COASTAL SAGE SCRUB PLANT COMMUNITY. NON-NATIVE GRASS (MAINLY OAT AND MUSTARD) WITH SCATTERED LAUREL SUMAC PRESENT. MAINTENANCE ROAD ADJACENT TO 2013 SIGHTING. AREA BURNED IN 2008.
General: 2 HEARD IN AREA 20 OCT 2011. 1 SINGING INDIVIDUAL FORAGED IN AREA 13 MAR 2013; NOT OBSERVED FOR LONG PERIOD OF TIME, SUGGESTING DISPERSAL.
Owner/Manager: DPR-CHINO HILLS SP, ORA COUNTY

Occurrence No.	928	Map Index:	95763	EO Index:	96900	Element Last Seen:	2011-10-20
Occ. Rank:	Poor	Presence:	Presumed Extant	Site Last Seen:		2011-10-20	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2015-03-27	

Quad Summary: Black Star Canyon (3311776), Prado Dam (3311786)
County Summary: San Bernardino

Lat/Long:	33.87562 / -117.67553	Accuracy:	80 meters
UTM:	Zone-11 N3748570 E437524	Elevation (ft):	560
PLSS:	T03S, R08W, Sec. 25, SW (S)	Acres:	0.0

Location: CHINO HILLS STATE PARK, SE OF SCULLY HILL, N OF GREEN RIVER GOLF CLUB.
Detailed Location: MAPPED TO PROVIDED COORDINATES.
Ecological: NON-NATIVE GRASSLAND (MAINLY OAT AND MUSTARD) WITH SCATTERED LAUREL SUMAC. AREA BURNED IN 2008. LAND USED FOR RECREATION.
General: 1 HEARD ON 20 OCT 2011; PRESUMED TRANSIENT AND DISPERSING THROUGH AREA.
Owner/Manager: DPR-CHINO HILLS SP



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Occurrence No.	954	Map Index:	A5718	EO Index:	107461	Element Last Seen:	2016-06-09
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2016-06-09	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2017-08-04	
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.63706 / -117.65911			Accuracy:	80 meters		
UTM:	Zone-11 N3722110 E438874			Elevation (ft):	726		
PLSS:	T06S, R07W, Sec. 19, NW (S)			Acres:	5.0		
Location:	VISTA DEL LAGO OPEN SPACE, ABOUT 0.1 MILES NE OF LOS ALISOS BLVD AT VIA NOVENO & 0.3 MILES NW OF ORELLANA AT BECEDAS.						
Detailed Location:	MAPPED TO PROVIDED COORDINATES.						
Ecological:							
General:	PAIR OBSERVED INCUBATING A NEST ON 9 JUN 2016.						
Owner/Manager:	CITY OF MISSION VIEJO						

Occurrence No.	960	Map Index:	B1317	EO Index:	113225	Element Last Seen:	2017-05-12
Occ. Rank:	Fair	Presence:	Presumed Extant	Site Last Seen:		2017-05-12	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2018-11-05	
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.65984 / -117.68118			Accuracy:	specific area		
UTM:	Zone-11 N3724649 E436844			Elevation (ft):	663		
PLSS:	T06S, R08W, Sec. 11, SE (S)			Acres:	61.0		
Location:	FROM ABOUT 0.3-0.6 MI SW OF COMMERCENTRE DR AT DIMENSION DR & 0.7-1.0 MI NE OF TRABUCO RD AT PEACHWOOD DR, LAKE FOREST.						
Detailed Location:	SITE PREVIOUSLY KNOWN AS HOMECOMING AT LAKE FOREST PROPERTY. CITY HALL & CITY PARK PROJECT SITE, 2008. ADJACENT TO BAKER FILTRATION PLANT. MAPPED TO PROVIDED COORDINATES AND LOCATIONS.						
Ecological:	COASTAL SAGE SCRUB & MIX OF VEGETATION INCLUDING SCRUB OAK CHAPARRAL, WILLOW RIPARIAN, NON-NATIVE GRASSLAND AND RUDERAL AREAS; SURROUNDED BY HEAVILY-DEVELOPED COMMERCIAL PROPERTIES.						
General:	3 PAIRS WITH JUVENILES OBSERVED AUG 2005. 1 PAIR OBS MAY-JUN; 2 PAIRS & 1 JUVENILE OBS AUG-SEP 2008. 1 HEARD SINGING & 1 JUV OBS, JUN 2012. 1 PAIR OBS, 12 MAY 2015. 2 ADULTS HEARD & SEEN BUILDING A NEST ON 12 MAY 2017.						
Owner/Manager:	CITY OF LAKE FOREST						

Vireo bellii pusillus		Element Code: ABPBW01114	
least Bell's vireo			
Listing Status:	Federal: Endangered	CNDDB Element Ranks:	Global: G5T2
	State: Endangered		State: S2
	Other: IUCN_NT-Near Threatened, NABCI_YWL-Yellow Watch List		
Habitat:	General: SUMMER RESIDENT OF SOUTHERN CALIFORNIA IN LOW RIPARIAN IN VICINITY OF WATER OR IN DRY RIVER BOTTOMS; BELOW 2000 FT.		
	Micro: NESTS PLACED ALONG MARGINS OF BUSHES OR ON TWIGS PROJECTING INTO PATHWAYS, USUALLY WILLOW, BACCHARIS, MESQUITE.		



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Occurrence No.	100	Map Index: 82873	EO Index: 8360	Element Last Seen:	2017-XX-XX
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2017-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-09-27
Quad Summary:	Black Star Canyon (3311776), Prado Dam (3311786)				
County Summary:	Orange				
Lat/Long:	33.87092 / -117.71306		Accuracy:	nonspecific area	
UTM:	Zone-11 N3748073 E434049		Elevation (ft):	375	
PLSS:	T03S, R08W, Sec. 34 (S)		Acres:	803.0	
Location:	SANTA ANA CANYON/SANTA ANA RIVER BETWEEN ESPERANZA AND SCULLY HILL, BELOW PRADO DAM, YORBA LINDA.				
Detailed Location:	MAPPED TO 2001-2011 SURVEY AREA. SITE NAME COMMONLY KNOWN AS SANTA ANA CANYON-FEATHERLY PARK. 39 TERRITORIES IN 2009, 41 IN 2010. NUMBERS ARE MINIMUM NUMBER OBSERVED. FIRE IN 2008.				
Ecological:	TALL CANOPIES OF COTTONWOOD & BLACK WILLOW, SUBSTORIES OF ARROYO & RED WILLOW, AND MULEFAT, WITH INTERMIXED GIANT REED. POPULATION & FLEDGING INCREASE WAS ATTRIBUTED TO ACTIVE COWBIRD TRAPPING THAT STARTED IN 2001.				
General:	1983/1994: OBSERVED. 2001: 0. 02: 3 PAIRS (P)/0 FLEDGLINGS (F). 03-06: 4-20P/9-35F. 07: 20P/24F. 08: 25P/28F. 09: 23P/28F. 2010: 23P/22F. 11: 19P/23F. 12:16P/12F. 13: 45P/55F. 14: 39P/35F. 15: 38P/37F. 16: 39P/23F. 17: 36P/57F.				
Owner/Manager:	UNKNOWN				
Occurrence No.	135	Map Index: 02957	EO Index: 24955	Element Last Seen:	2011-08-22
Occ. Rank:	Fair		Presence: Presumed Extant	Site Last Seen:	2011-08-22
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2014-04-17
Quad Summary:	Black Star Canyon (3311776), Prado Dam (3311786)				
County Summary:	Orange, Riverside, San Bernardino				
Lat/Long:	33.88532 / -117.66626		Accuracy:	nonspecific area	
UTM:	Zone-11 N3749640 E438388		Elevation (ft):	445	
PLSS:	T03S, R08W, Sec. 25 (S)		Acres:	579.0	
Location:	SANTA ANA RIVER FROM JUST BELOW PRADO DAM TO SCULLY HILL, CORONA.				
Detailed Location:	MAPPED TO 2001-2011 SURVEY AREA. SITE NAME REFERED TO AS SANTA ANA CANYON-UPPER CANYON (BELOW PRADO DAM) AND GREEN RIVER GOLF CLUB. FIRE IN FEATHERLY PARK AREA BURNED ABOUT 50% OF HABITAT IN 2008. SITE BORDERED BY GOLF COURSE AND HOUSING.				
Ecological:	TALL CANOPIES OF COTTONWOOD & BLACK WILLOW, SUBSTORIES OF ARROYO & RED WILLOW, AND MULEFAT, WITH INTERMIXED GIANT REED. POPULATION & FLEDGING INCREASE WAS ATTRIBUTED TO ACTIVE COWBIRD TRAPPING THAT STARTED IN 2001.				
General:	1983: 1 MALE. 1999: 25 PAIRS. 2001: 22 PAIRS OBSERVED (P)/ 50 FLEDGLINGS CONFIRMED (F). 2002: 26P/56F. 2003: 24P/73F. 2004: 32P/39F. 2005: 34P/54F. 2006: 25P/37F. 2007: 19P/24F. 2008: 23P/31F. 2009: 22P/36F. 2010: 21P/25F. 2011: 19P/24F.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	171	Map Index: 20478	EO Index: 30253	Element Last Seen:	2018-07-31
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen:	2018-07-31
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-09-28
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.65654 / -117.81178		Accuracy:	nonspecific area	
UTM:	Zone-11 N3724370 E424732		Elevation (ft):	120	
PLSS:	T06S, R09W, Sec. 15 (S)		Acres:	257.0	
Location:	SAND CANYON WASH, N & S OF SAND CANYON RESERVOIR, S OF UNIVERSITY DR AND E OF CULRVER DR, E OF UC IRVINE.				
Detailed Location:	SITE INCLUDES STRAWBERRY FARMS GOLF CLUB INCLUDING SAND CANYON RESERVOIR AND WILLIAM R. MASON REGIONAL PARK. ALL DETECTIONS MADE BETWEEN MAR-JUL OF EACH YEAR.				
Ecological:	HABITAT COMPOSED OF WILLOW RIPARIAN SCRUB DOMINATED BY ARROYO WILLOW, MULE FAT, CATTAIL, ELDERBERRY, AND WESTERN SYCAMORE. HABITAT TO THE EAST AND SOUTH IS INTERMIXED WITH GOLF COURSE. INCREASED RESIDENTIAL DEVELOPMENT SINCE 2002.				
General:	1 PAIR DETECTED IN 1991. 2-10 PAIRS IN 1994-1997. 5-8 PAIRS & 11-20 FLEDGLINGS IN 1998-2001. 6 TERRITORIES & 4 YOUNG IN 2006. 2 PAIRS & SEVERAL INDIVIDUALS DETECTED IN 2008. 3 PAIRS IN 2014. 1 CALLING IN 2017. 2 TERRITORIES IN 2018.				
Owner/Manager:	ORA COUNTY				
Occurrence No.	189	Map Index: 33830	EO Index: 30220	Element Last Seen:	2016-09-15
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2016-09-15
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-10-04
Quad Summary:	San Juan Capistrano (3311756), El Toro (3311766), Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.63611 / -117.74787		Accuracy:	nonspecific area	
UTM:	Zone-11 N3722061 E430642		Elevation (ft):	227	
PLSS:	T06S, R08W, Sec. 19 (S)		Acres:	264.0	
Location:	SAN DIEGO CREEK, MIDWAY BETWEEN I-5 AND LAGUNA CANYON ROAD, SOUTH OF EL TORO MARINE CORPS AIR STATION.				
Detailed Location:	SEVERAL SINGLE TERRITORIAL MALES WERE ALSO DETECTED EACH YEAR IN ADDITION TO BREEDING PAIRS. SEVERAL OF THE 2005, 2007, 2010, 2012, & 2013 FLEDGED YOUNG; EXACT NUMBERS UNKNOWN. SITE NAME WAS PLANNING AREA 18 & 39.				
Ecological:	WILLOW DOMINATED RIPARIAN WOODLAND, WITH GOOD UNDERSTORY OF MULEFAT. DOMINANT PLANTS INCLUDE ARROYO WILLOW, BLACK WILLOW & MULEFAT. CANOPY HEIGHT = 8 M. YELLOW-BREADED CHATS ALSO BREED AT SITE. SURROUNDING AREA: FARMING & DEVELOPMENT.				
General:	1996: 3 PAIRS/1 JUVENILE. 2001: 4 PAIRS. 2003: 3 PAIRS. 2004: 9 PAIRS/10 JUVS. 2005: 17 PAIRS. 2006: 2 PAIRS/4 JUVS. 2007: 13 PRS. 2008: 5 TERRITORIES. 2010: 21 PRS. 2012: 14 PRS. 2013: 13 PRS. 2015: 4 PRS/2 JUVS. 2016: 2 PRS.				
Owner/Manager:	PVT-IRVINE CO				



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Occurrence No.	223	Map Index: 53035	EO Index: 53035	Element Last Seen:	2017-04-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2017-04-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-10-04
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.77289 / -117.7643		Accuracy:	nonspecific area	
UTM:	Zone-11 N3737238 E429231		Elevation (ft):	422	
PLSS:	T05S, R08W, Sec. 6 (S)		Acres:	232.0	
Location:	PETERS CANYON, FROM PETER'S CANYON RESERVOIR TO LEMON HEIGHTS, JUST NE OF RED HILL, NORTH TUSTIN.				
Detailed Location:	SITE REFERRED TO AS "PETER'S CANYON." HIGHEST CONCENTRATION APPEAR TO BE NEAR PETER'S CANYON RESERVOIR NEAR JABOREE RD. MAPPED TO EXTENT OF 2005-2017 SURVEY SITE EXTENDING UPSTREAM (SW) TO VICINITY LOWER LAKE DR. TERR = TERRITORIES.				
Ecological:	HIGH QUALITY SOUTHERN BLACK WILLOW FOREST DOMINATED BY BLACK WILLOW WITH HIGH PERCENTAGE OF CANOPY COVER. OTHER OVERSTORY SPECIES INCLUDED ARROYO WILLOW; MID AND UNDERSTORY INCLUDE SANDBAR WILLOW, MULEFAT, NETTLE, MUGWORT, & CA BLACKBERRY.				
General:	2001-2002: NESTING & JUVENIELS OBSERVED. 2005-2006: 2 PAIRS (P)/2 FLEDGLINGS (F). 2007: 1P/2F. 2008-2009: 5-8 TERRITORIES. 2010: 5P/1F. 2011: 3P/2F. 2012: 2P/0F. 2013:2P/2F. 2014: 11P/7F. 2015:4P/6F. 2016: 11P/6F. 2017: 8P/9F.				
Owner/Manager:	ORA COUNTY-PARKS & REC				
Occurrence No.	228	Map Index: 53529	EO Index: 53529	Element Last Seen:	2015-07-07
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2015-07-07
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-09-24
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.63208 / -117.84937		Accuracy:	nonspecific area	
UTM:	Zone-11 N3721686 E421225		Elevation (ft):	99	
PLSS:	T06S, R09W, Sec. 20 (S)		Acres:	85.0	
Location:	BONITA CREEK FROM BONITA RESERVOIR TO BISON AVE (NW), ADJACENT TO HIGHWAY 73 AND BONITA CANYON DR, NEWPORT BEACH.				
Detailed Location:	ACTIVE COWBIRD TRAPPING ALONG BONITA CREEK INITIATED IN 1994. 1 FEMALE BELONGING TO A 2002 PAIR WAS BANDED ON THE SANTA CLARA RIVER IN 2001. MAPPED TO NEST SITES ALONG "BONITA CHANNEL" AND "BONITA RESERVOIR."				
Ecological:	RIPARIAN HABITAT DOMINATED BY WILLOW WITH MULEFAT UNDERSTORY. SURROUNDING LAND USE INCLUDES RESIDENTIAL AND COMMERCIAL DEVELOPMENTS. 1 PAIR OF ACCIPTIER COOPERII MAY BE NESTING IN VICINITY OF BONITA CANYON RESERVOIR IN 1991.				
General:	1 SINGING MALE DETECTED 16 MAY 1990. 1 NESTING PAIR DETECTED, 1991. 5 ADULTS & 3+ JUVENILES MAY-JUL 1994. 1+ PAIRS DET, 2001. 3 PAIRS & 1 MALE DET 2002; 2 PAIRS FLEDGED 7 CHICKS. 3 PAIRS, 4 ADULTS & 2 JUVENILES DET, 2015.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	253	Map Index: 54502	EO Index: 54502	Element Last Seen:	2013-XX-XX
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2013-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-10-04
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.68944 / -117.69378		Accuracy:	nonspecific area	
UTM:	Zone-11 N3727938 E435697		Elevation (ft):	620	
PLSS:	T05S, R08W, Sec. 35, SW (S)		Acres:	31.0	
Location:	AGUA CHINON WASH, 0.9 MILES SE OF LAMBERT RESERVOIR (DRAINED), N OF EL TORO.				
Detailed Location:	UNCLEAR IF THE SAME PAIR WERE DETECTED EACH YEAR. 2004 DETECTION INCLUDED 4 PAIRS/9 CHICKS, 2005 INCLUDED 4 PAIRS/13 CHICKS, AND 2010 INCLUDED 7 PAIRS/18 CHICKS, ALL DETECTED IN SURROUNDING AREAS AND ARE SHARED WITH OCCURRENCES #253 & 254.				
Ecological:	HABITAT WAS WILLOW WOODLAND DOMINATED BY BLACK WILLOW AND MULEFAT. SURFACE WATER/SATURATED SOIL IS PRESENT AT SITE. SURROUNDING LAND CONSISTED OF ORCHARD, NURSERY AND WILDLANDS. FIRE BURNED LARGE PORTION OF AREA IN 2007.				
General:	1 PAIR & 1 YOUNG IN 2003; 4 EGGS DEPREDATED EARLIER IN SEASON. 1 PAIR & AT LEAST 3 YOUNG DETECTED FROM 2004-2008. 1 PAIR W/ 4 YOUNG & 1 TERRITORIAL MALE IN 2010. 1 PAIR W/ 4 YOUNG IN 2012. 2 PAIRS W/ 10 YOUNG IN 2013.				
Owner/Manager:	PVT-IRVINE CO				
Occurrence No.	254	Map Index: 54503	EO Index: 54503	Element Last Seen:	2017-05-22
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen:	2017-05-22
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-09-19
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.69444 / -117.70814		Accuracy:	nonspecific area	
UTM:	Zone-11 N3728501 E434371		Elevation (ft):	507	
PLSS:	T05S, R08W, Sec. 34, NW (S)		Acres:	161.0	
Location:	N AND E EDGE OF LAMBERT RESERVOIR (DRAINED) AND NEAR TOMATO SPRING, ABOUT 1.5 MI E OF HWY 133 AT IRVINE BLVD, EL TORO.				
Detailed Location:	NESTING PAIRS FROM 2004-06 PRESUMED TO HAVE FLEDGED YOUNG ALTHOUGH EXACT NUMBERS UNKNOWN. UNCLEAR IF SAME PAIR WAS DETECTED EACH YEAR. 7 PAIRS/18 CHICKS DETECTED IN 2010 IN SURROUNDING AREAS INCLUDING OCCURRENCES #253 & 255.				
Ecological:	RIPARIAN HABITAT ALONG NARROW DRAINAGE DOMINATED BY WILLOW AND MULEFAT WITH CASTOR BEAN, TREE TABACCO, AND TAMARISK IN UPLAND AREAS. SANTIAGO FIRE BURNED LARGE PORTION OF AREA IN 2007. YELLOW-BREADED CHATS NESTED IN THE AREA.				
General:	1 UNSUCCESSFUL PAIR IN 2001. 1-2 PAIRS OBSERVED WITH 1-8 YOUNG YEARLY FROM 2003-2008. 6 PAIRS & 2 TERRITORIAL MALES IN 2010. 9 PAIRS AND 19 FLEDGLINGS IN 2012. 9 PAIRS AND 30+ FLEDGLINGS IN 2013. 1 TERRITORIAL MALE OBS MAR-MAY 2017.				
Owner/Manager:	PVT-IRVINE CO				



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Occurrence No.	256	Map Index: 54506	EO Index: 54506	Element Last Seen:	2015-07-31
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2015-07-31
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-09-14
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.73157 / -117.73695		Accuracy:	specific area	
UTM:	Zone-11 N3732638 E431730		Elevation (ft):	413	
PLSS:	T05S, R08W, Sec. 17, SE (S)		Acres:	53.0	
Location:	JUST N TO NE OF RATTLESNAKE RESERVOIR, ABOUT 5 MILES EAST OF TUSTIN.				
Detailed Location:	SITE REFERRED TO AS THE IRVINE COMPANY PLANNING AREA 1 (PA1). AREA TO THE N OF RESERVOIR SERVES AS A VIREO MITIGATION SITE. 5 VIREO TERRITORIES WERE MONITORED FROM 2007-2008. LONE MALES DETECTED IN 2007-2008. ACTIVE COWBIRD TRAPPING ONSITE.				
Ecological:	HABITAT TO THE NORTH OF RATTLESNAKE RESERVOIR CONSISTS OF SOUTHERN WILLOW SCRUB. SANTIAGO FIRE BURNED LARGE PORTION OF PA1 AND SURROUNDING AREAS IN OCT 2007. NESTING YELLOW-BREASTED CHATS ALSO OBSERVED IN THE AREA.				
General:	2 PAIRS & 1 MALE IN 2001. 2 PAIRS & 3 FLEDGLINGS, IN 2004. 2 PAIRS & 1 MALE DETECTED IN 2006. 4 PAIRS PRODUCED 8 YOUNG IN 2007. 2 PAIRS PRODUCED 7 YOUNG IN 2008. 15 BREEDING PAIRS & 1 MALE IN 2014. 2 PAIRS WITH FLEDGLINGS, & 1 MALE IN 2015.				
Owner/Manager:	IRVINE RANCH WATER DISTRICT				
Occurrence No.	257	Map Index: 33833	EO Index: 54507	Element Last Seen:	2015-07-15
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2015-07-15
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-10-04
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.66021 / -117.84038		Accuracy:	specific area	
UTM:	Zone-11 N3724798 E422083		Elevation (ft):	10	
PLSS:	T06S, R09W, Sec. 08 (S)		Acres:	230.0	
Location:	SAN DIEGO CREEK CHANNEL BETWEEN HIGHWAY 73 AND I-405, IRVINE.				
Detailed Location:	PRIMARY DETECTION SITES INCLUDE UC NATURAL RESERVE SYSTEM'S SAN JOAQUIN FRESHWATER RESERVE (DUCK PONDS), SAN DIEGO CREEK FLOOD CONTROL CHANNEL, AND IRVINE RANCH WATER DISTRICT WASTEWATER TREATMENT PLANT.				
Ecological:	HABITAT CONSISTED OF COASTAL SAGE SCRUB, WILLOW SCRUB, MULE FAT, FRESHWATER MARSH, SALTWATER MARSH, ORNAMENTALS, RUDERAL, OPEN WATER & RIP RAP. VEGETATION BETWEEN I-405 & CAMPUS DR WAS CLEARED IN 2007, LEAVING A 40 FT WILLOW BUFFER ZONE.				
General:	2003: 1+ TERRITORIAL MALE. 04: 5 TERR MALES W/ 9 ADULTS & 1 JUVENILE. 05-06: 2-4 ADULTS. 07: 4 NESTING PAIRS (2 SUCCESSFUL) & 4 MALES. 10: 3 NESTS & 6 TERR MALES. 11: 3 EGGS COLLECTED. 12: 3 BIRDS. 13: 13 ADULTS/5 JUVS. 15: 5 PAIRS/2 JUVS.				
Owner/Manager:	UC-IRVINE, ORA COUNTY				



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Occurrence No.	354	Map Index:	90024	EO Index:	91035	Element Last Seen:	2017-XX-XX
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2017-XX-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2018-09-27	
Quad Summary:	Orange (3311777)						
County Summary:	Orange						
Lat/Long:	33.80648 / -117.76294			Accuracy:	nonspecific area		
UTM:	Zone-11 N3740961 E429384			Elevation (ft):	519		
PLSS:	T04S, R08W, Sec. 19, SW (S)			Acres:	262.0		
Location:	SANTIAGO CREEK NEAR MOUTH OF WEIR CANYON, JUST S OF VILLA PARK DAM, ESE OF VILLA PARK.						
Detailed Location:	SITE REFERRED TO AS "IRVINE REGIONAL PARK." MAPPED GENERALLY TO LOCATION DESCRIPTION, 2003-2004 MAPS AND 2009-2010 COORDINATES. TERRITORIAL MALES WERE DETECTED EACH YEAR BETWEEN 2003-2017 IN ADDITION TO CONFIRMED PAIRS AND FLEDGLINGS.						
Ecological:	HABITAT DOMINATED BY SALIX SP. AND BRASSICA SP. INTENTIONAL FIRE(S) IN 2004 AFFECTED 5 LBVI PAIR TERRITORIES.						
General:	2003: 4 PAIRS (P)/10 FLEDGLINGS (F) DETECTED. 04: 8P/8F. 05: 6P/6F. 06: 3P/3F. 07: 6P/2F. 08: 15P/15F. 09: 9P/17F. 2010: 14P/18F. 2011: 9P/7F. 2012: 5P/5F. 2013: 8P/10F. 2014: 9P/12F. 2015: 1P/2F. 2016: 1P/0F. 2017: 1P/0F.						
Owner/Manager:	ORA COUNTY-BARHAM RANCH						
Occurrence No.	355	Map Index:	90028	EO Index:	91041	Element Last Seen:	2017-XX-XX
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2017-XX-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2018-09-27	
Quad Summary:	Orange (3311777)						
County Summary:	Orange						
Lat/Long:	33.81773 / -117.78212			Accuracy:	nonspecific area		
UTM:	Zone-11 N3742222 E427617			Elevation (ft):	360		
PLSS:	T04S, R09W, Sec. 14 (S)			Acres:	96.0		
Location:	ALONG SANTIAGO CREEK FROM CANNON ST TO EASTERN END OF E HIDDEN OAKS LN, JUST E OF CITY OF VILLA PARK.						
Detailed Location:	MAPPED TO ENTIRE SURVEY SITE FOR 2005-2014 (SAW11R0001/SAW14D0001). SITER REFERRED TO AS "SANTIAGO CREEK AT CANNON RD."						
Ecological:	HABITAT APPEARED FAIRLY DEGRADED WITH VISIBLE GRAVEL PITS AND SURROUNDING URBAN DEVELOPMENT (AERIAL PHOTOS 1994-2013).						
General:	2005: 2 TERRITORIES (T), 1 PAIR (P), 1 FLEDGLING (F). 2006: 3 T. 2007: 4 T. 2008: 2 T. 2009: 3 T. 2010: 1 P. 2011: 3 T. 2012: 0 DETECTED. 2013: 2 P. 2014: 2 T. 2015: 2 T/1 P. 2016: 4 T. 2017: 4 T/1 P.						
Owner/Manager:	UNKNOWN						



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Occurrence No.	357	Map Index: 89431	EO Index: 90415	Element Last Seen:	2017-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2017-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-09-27
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.77324 / -117.68815		Accuracy:	specific area	
UTM:	Zone-11 N3737226 E436282		Elevation (ft):	830	
PLSS:	T05S, R08W, Sec. 2, S (S)		Acres:	106.0	
Location:	SANTIAGO CREEK, ABOUT 2 MILES NNW OF SANTIAGO CANYON RD AND BLACK STAR CANYON RD INTERSECTION, E OF IRVINE LAKE.				
Detailed Location:	MAPPED TO ENTIRE SURVEY AREA. NESTING BASED ON PHYSICAL OBSERVATION OF NEST OR EVIDENCE OF NESTING SUCH AS NESTING BEHAVIOR OR ADULT CARRYING FOOD OR NEST MATERIAL. SITE REFERRED TO AS "SANTIAGO CREEK UPSTREAM OF IRVINE LAKE."				
Ecological:	RIPARIAN SCRUB WITH WILLOWS AND MULEFAT.				
General:	2008-09: 4 TERRITORIES (T). 2010: AT LEAST 2-4 NESTING PAIRS (P). 2011: 5 T. 2012: 4T/1P/2 FLEDGLING (F). 2013: 10T/5P/6F. 2014: 13T/6P/7F. 2015: NOT SURVEYED. 2016: 2 TERRITORIES. 2017: 5 TERRITORIES.				
Owner/Manager:	UNKNOWN				
Occurrence No.	358	Map Index: 89433	EO Index: 90417	Element Last Seen:	2017-XX-XX
Occ. Rank:	Fair		Presence: Presumed Extant	Site Last Seen:	2017-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-09-27
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.76318 / -117.70874		Accuracy:	specific area	
UTM:	Zone-11 N3736124 E434367		Elevation (ft):	820	
PLSS:	T05S, R08W, Sec. 03, SW (S)		Acres:	57.0	
Location:	LIMESTONE CANYON, FROM IRVINE LAKE UPSTREAM TO INTERSECTION OF SANTIAGO CANYON RD AT JEFFREY RD, S OF IRVINE LAKE.				
Detailed Location:	MAPPED TO SURVEY AREA. SITE REFERRED TO AS "LIMESTONE CANYON."				
Ecological:	WILLOWS AND MUSTARD SPECIES.				
General:	1 TERRITORY DETECTED IN 2004-06. 2 TERRITORIES DETECTED IN 2007-09. 3 TERRITORIES (T)/3 PAIRS (P)/5 FLEDGLINGS (F) OBSERVED IN 2010. 3T/2P/1F IN 2011. 0 IN 2012. 3T/1P/2F IN 2013. 4T/4P/4F IN 2014. NOT SURVEYED IN 2015-16. 1 T IN 2017.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	368	Map Index:	90044	EO Index:	91056	Element Last Seen:	2014-07-11
Occ. Rank:	Poor	Presence:	Presumed Extant	Site Last Seen:		2015-07-27	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2018-09-26	
Quad Summary:	Orange (3311777), Yorba Linda (3311787)						
County Summary:	Orange						
Lat/Long:	33.87367 / -117.81277			Accuracy:	nonspecific area		
UTM:	Zone-11 N3748446 E424829			Elevation (ft):	300		
PLSS:	T03S, R09W, Sec. 27, SW (S)			Acres:	49.0		
Location:	YORBA LINDA RESERVOIR/LAKE BED, BETWEEN LAKEVIEW AVE AND HIGHWAY 90, SOUTH OF BUENA VISTA AVE.						
Detailed Location:	SITE REFERRED TO AS "YORBA LINDA DRY LAKE BED PARK." MAPPED TO EXTENT OF PARK.						
Ecological:	DOMINANT PLANT SPECIES WAS BACCHARIS SALICIFOLIA (2009).						
General:	1 TERRITORY DETECTED IN 2007. 0 DETECTED IN 2008. 1 TERRITORY & 1 PAIR DETECTED IN 2009. 1 TERRITORY, 1 PAIR, & 1 FLEDGLING DETECTED IN 2010. 1 TERRITORY DETECTED IN 2011. 1 TERRITORY DETECTED ON 11 JUL 2014. 1 MALE HEARD ON 27 JUL 2015.						
Owner/Manager:	UNKNOWN						
Occurrence No.	371	Map Index:	90128	EO Index:	91139	Element Last Seen:	2008-06-30
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2008-06-30	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2013-08-20	
Quad Summary:	Tustin (3311767)						
County Summary:	Orange						
Lat/Long:	33.62849 / -117.80504			Accuracy:	nonspecific area		
UTM:	Zone-11 N3721255 E425332			Elevation (ft):	280		
PLSS:	T06S, R09W, Sec. 22, S (S)			Acres:	20.0		
Location:	LOWER BOMMER CANYON, ABOUT 0.3 MILE SW OF SUNNYHILL ST AND SHADY CANYON DR INTERSECTION, SAN JOAQUIN HILLS.						
Detailed Location:	DETECTIONS PRIMARILY NEAR TRAIL FOOTBRIDGE; APPEARS TO BE AT APPROXIMATELY -117.8058, 33.6291 BASED ON AERIAL PHOTOS (2003-2012) OF LOWER BOMMER CANYON.						
Ecological:	HABITAT CONSISTED OF COASTAL SAGE SCRUB, RIPARIAN SCRUB, WOODLAND, AND ANNUAL GRASSLAND. NESTING CALIFORNIA GNATCATCHERS OBSERVED IN 2008. 1 EGG-NEST COLLECTION (WFVZ #178289) ON 30 JUN 2008.						
General:	VIREOS OBSERVED EVERY DAY DURING EIGHT PROTOCOL SURVEYS FROM 17 APR-30 JUN 2008; A NEST WITH 2 MID-SIZED NESTLINGS WAS OBSERVED ON 19 JUN, SAME NEST WAS EMPTY BY 30 JUN BUT ADULTS WERE OBSERVED TENDING TO 1 FLEDGLING NEARBY.						
Owner/Manager:	CITY OF IRVINE						



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Occurrence No.	372	Map Index:	90135	EO Index:	91147	Element Last Seen:	2004-07-01
Occ. Rank:	Poor	Presence:	Presumed Extant	Site Last Seen:		2004-08-08	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2013-08-20	
Quad Summary:	Tustin (3311767)						
County Summary:	Orange						
Lat/Long:	33.66450 / -117.79220			Accuracy:	1/10 mile		
UTM:	Zone-11 N3725239 E426554			Elevation (ft):	120		
PLSS:	T06S, R09W, Sec. 11, SW (S)			Acres:	0.0		
Location:	NE CORNER OF I-405 AT JEFFREY RD, ABOUT 2.4 MILES NW OF LAGUNA DAM, IRVINE.						
Detailed Location:	MAPPED TO PROVIDED COORDINATES AND MAPS. SITE LOCATED ADJACENT TO EXIT #4 ON N SIDE OF I-405. DETECTION HIGHLY UNEXPECTED DUE TO LACK OF SUITABLE HABITAT.						
Ecological:	VEGETATION CLASSIFIED AS 100% NON-NATIVE, FREEWAY TYPE LANDSCAPING INCLUDING EUCALYPTUS AND MYOPORUM SPECIES. NEST CONSTRUCTED IN MYOPORUM SP.						
General:	FAMILY GROUP FIRST DETECTED ON 1 JUL 2004; ADULT MALE INITIALLY OBSERVED ALONG WITH 2 FLEDGLINGS DETECTED AURALLY. ADULT OBSERVED MAKING SEVERAL FEEDING VISITS TO JUVENILES. FAMILY GROUP EXPECTED TO HAVE DISPERSED BY 28 JUL.						
Owner/Manager:	CITY OF IRVINE						
Occurrence No.	373	Map Index:	90140	EO Index:	91154	Element Last Seen:	2006-09-17
Occ. Rank:	Fair	Presence:	Presumed Extant	Site Last Seen:		2006-09-17	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2018-09-04	
Quad Summary:	Tustin (3311767)						
County Summary:	Orange						
Lat/Long:	33.63950 / -117.75930			Accuracy:	1/10 mile		
UTM:	Zone-11 N3722444 E429584			Elevation (ft):	265		
PLSS:	T06S, R08W, Sec. 19, NW (S)			Acres:	0.0		
Location:	VICINITY OF LAGUNA CANYON ROAD (SR-133) AND LAKE FOREST DR INTERSECTION, EASTERN SAN JOAQUIN HILLS, SE OF IRVINE.						
Detailed Location:	MAPPED TO PROVIDED COORDINATES AND MAPS. NEAR HISTORICAL LOCATION OF LAGUNA RESERVOIR. AERIAL PHOTOS (1994-2011) SHOW THAT HABITAT IS HIGHLY DEGRADED AND AREA APPEARS TO BE GRADED FOR RESIDENTIAL DEVELOPMENT.						
Ecological:	HABITAT CONSISTED OF GRASSLAND, COASTAL SAGE SCRUB, CHAPARRAL, SEASONAL WETLANDS, FRESHWATER MARSH, WOODY RIPARIAN HABITAT AND OAK WOODLAND WITH CROSSING ROADWAYS. LAGUNA RESERVOIR DRAINED IN 2004 AND EDGE VEGETATION WAS CUT.						
General:	1 SINGING MALE OBS APR-MAY 1997. 1 PAIR PRODUCED 4 EGGS ON 22 MAY & FLEDGED AT LEAST 2 YOUNG ON 12 JUN 2005; FIRST CONFIRMED BREEDING TERRITORY SINCE SURVEYS BEGAN IN 2003. 2 ADULTS (PRESUMED PAIR) & 5 JUVENILES OBS FROM 17 MAR-17 SEP 2006.						
Owner/Manager:	UNKNOWN						



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Occurrence No.	378	Map Index:	90198	EO Index:	91207	Element Last Seen:	2007-07-30
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2008-07-31	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2013-08-23	

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.73320 / -117.72880	Accuracy:	1/10 mile
UTM:	Zone-11 N3732813 E432486	Elevation (ft):	515
PLSS:	T05S, R08W, Sec. 16, SW (S)	Acres:	0.0

Location: ABOUT 0.5 MILE UPSTREAM OF RATTLESNAKE RESERVOIR, BETWEEN RATTLESNAKE CANYON AND HICKS CANYON, E OF IRVINE.

Detailed Location: SITE REFERRED TO AS THE IRVINE COMPANY PLANNING AREA 1 (PA1). LOCATION MONITORED FOR LEAST BELL'S VIREOS FROM 2007-2008, REFERRED TO AS VIREO PAIR #6 (VP6). MAPPED BASED ON PROVIDED MAP LOCATION TO UNNAMED STREAM ADJACENT TO RATTLESNAKE RD.

Ecological: HABITAT DESCRIBED AS WILLOW RIPARIAN SCRUB CONSISTING OF WILLOWS, MULEFAT AND MEXICAN ELDERBERRY. SANTIAGO FIRE BURNED LARGE PORTION OF PA1 AND SURROUNDING AREAS IN OCT 2007. ACTIVE COWBIRD TRAPPING ONSITE.

General: 1 PAIR SUCCESSFULLY PRODUCED 3 FLEDGLINGS BETWEEN 23 APR-30 JUL 2007; PAIR HAD SEVERAL NESTING ATTEMPTS AND WERE NOT DOCUMENTED IN PREVIOUS YEARS. NO LEAST BELL'S VIREOS DETECTED DURING FOCUSED SURVEYS CONDUCTED FROM 21 APR-31 JUL 2008.

Owner/Manager: TNC

Occurrence No.	379	Map Index:	90199	EO Index:	91208	Element Last Seen:	2001-07-13
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2001-07-13	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2013-08-23	

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.71233 / -117.73129	Accuracy:	nonspecific area
UTM:	Zone-11 N3730501 E432239	Elevation (ft):	360
PLSS:	T05S, R08W, Sec. 29, NE (S)	Acres:	28.0

Location: NORTHERN EDGE OF SIPHON RESERVOIR, BETWEEN HICKS CANYON AND BEE CANYON, ABOUT 6.3 MILES ESE OF TUSTIN.

Detailed Location: AREA REFERRED TO AS THE IRVINE COMPANY'S "IRVINE NORTHERN SPHERE" AND WAS BROKEN DOWN INTO FIVE PLANNING AREAS.

Ecological: GENERAL AREA CONSISTED MOSTLY OF UNDEVELOPED AND AGRICULTURAL LAND. RIPARIAN HABITAT CONSISTED OF SYCAMORE AND OAK RIPARIAN WOODLAND. NEST LOCATED IN A MULEFAT BUSH. NO BROWN-HEADED COWBIRDS DETECTED ON SITE.

General: 1 PAIR AND 2 UNPAIRED MALES DETECTED BETWEEN 20 APR-13 JUL 2001; PAIR FLEDGED 4 YOUNG.

Owner/Manager: UNKNOWN



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Occurrence No.	380	Map Index: 90204	EO Index: 91213	Element Last Seen:	2012-06-18
Occ. Rank:	Fair		Presence: Presumed Extant	Site Last Seen:	2012-06-18
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-09-14
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.68478 / -117.67851		Accuracy:	specific area	
UTM:	Zone-11 N3727412 E437110		Elevation (ft):	729	
PLSS:	T06S, R08W, Sec. 2, NE (S)		Acres:	7.0	
Location:	VICINITY OF BORREGO CANYON, ABOUT 0.4 MILE NNW OF SR-241 AT ALTON PKWY, N OF EL TORO.				
Detailed Location:	MAPPED TO PROVIDED COORDINATES. LOCATION DESCRIBED AS "EAST END OF EL TORO HABITAT PRESERVE, JUST WEST OF SR-241."				
Ecological:	HABITAT WAS NARROW WILLOW RIPARIAN SYSTEM DOMINATED BY 30-40 FT TALL SALIX GOODINGII AND SALIX LASIOLEPSIS. RIPARIAN STRIP FLOWING WEST FROM CULVERT UNDER ADJACENT TOLL ROAD. HABITAT WAS BURNED IN OCT 2007 (SANTIAGO FIRE).				
General:	1 UNBANDED SINGING MALE DETECTED ON 11 APR 2007; NO FEMALE DETECTED BUT SITE WAS ONLY SURVEYED BRIEFLY. 1 PAIR OBSERVED ON 18 JUN 2012.				
Owner/Manager:	ORA COUNTY-GREAT PARK				
Occurrence No.	381	Map Index: 90205	EO Index: 91214	Element Last Seen:	2008-07-09
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2008-07-09
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-09-03
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.68050 / -117.68040		Accuracy:	80 meters	
UTM:	Zone-11 N3726939 E436931		Elevation (ft):	685	
PLSS:	T06S, R08W, Sec. 02, NE (S)		Acres:	0.0	
Location:	UPPER BORREGO CANYON, ABOUT 0.4 MILE W OF SR-241 AT ALTON PKWY, N OF EL TORO.				
Detailed Location:	MAPPED TO PROVIDED COORDINATES. PAIR WAS PART OF A TOTAL OF 8 VIREO LOCATIONS IN 2008; PAIR LABELED "LBV LOCATION 4" BY REPORTER. SITE ADJACENT TO COMMERCIAL DEVELOPMENT.				
Ecological:	HABITAT CONSISTED OF A MIX OF WILLOWS, WESTERN SYCAMORE, AND COAST LIVE OAK.				
General:	MALE OBSERVED ON 6 & 13 JUN, FEMALE OBSERVED FORAGING WITH MALE ON 20 & 27 JUN 2008. NEST WITH 3 EGGS DISCOVERED ON 27 JUN, BUT WAS ABANDONED WITH ONLY 1 EGG REMAINING BY 9 JUL 2008.				
Owner/Manager:	ORA COUNTY-GREAT PARK				



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Occurrence No.	382	Map Index: 90206	EO Index: 91215	Element Last Seen:	2008-07-15
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2008-07-15
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-08-26
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.67751 / -117.68434		Accuracy:	specific area	
UTM:	Zone-11 N3726610 E436563		Elevation (ft):	640	
PLSS:	T06S, R08W, Sec. 02, SE (S)		Acres:	8.0	
Location:	UPPER BORREGO CANYON, ABOUT 0.6 MILE WSW OF SR-241 AT ALTON PKWY, N OF EL TORO.				
Detailed Location:	MAPPED TO PROVIDED COORDINATES. DETECTIONS WERE PART OF A TOTAL OF 8 VIREO LOCATIONS IN 2008; LOCATIONS LABELED "LBV LOCATION 5 & 6" BY REPORTER.				
Ecological:	HABITAT DESCRIBED AS WILLOW RIPARIAN SCRUB DOMINATED BY BLACK WILLOW, ARROYO WILLOW, NARROW-LEAVED WILLOW AND MULE FAT.				
General:	2 SINGING MALES DETECTED ON 6-27 JUN & 1 JUL 2008. 1 OF THESE MALES WAS OBSERVED WITH 2 JUVENILES ON 9 JUL 2008; BIRDS WERE OBSERVED FORAGING AND CHASING MALE FROM ADJACENT TERRITORY. 2 MALES OBSERVED ON 15 JUL 2008.				
Owner/Manager:	UNKNOWN				
Occurrence No.	383	Map Index: 90207	EO Index: 91216	Element Last Seen:	2017-07-25
Occ. Rank:	Fair		Presence: Presumed Extant	Site Last Seen:	2017-07-25
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-09-28
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.66681 / -117.69968		Accuracy:	nonspecific area	
UTM:	Zone-11 N3725433 E435134		Elevation (ft):	493	
PLSS:	T06S, R08W, Sec. 10 (S)		Acres:	61.0	
Location:	BORREGO WASH AT MOUTH OF BORREGO CANYON, JUST E OF ALTON PKWY AND IRVINE BLVD INTERSECTION, N OF EL TORO.				
Detailed Location:	MAPPED TO PROVIDED COORDINATES. DETECTIONS WERE PART OF A TOTAL OF 8 VIREO LOCATIONS IN 2008; LOCATIONS LABELED "LBV LOCATION 1-3, 7, & 8" BY REPORTER. ALTON PKWY RUNS ALONG DETECTION SITES. FORMER SITE OF EL TORO MARINE CORP AIR STATION.				
Ecological:	RIPARIAN SCRUB AND TRANSITIONAL RIPARIAN SCRUB HABITATS ON THE MITIGATION SITE ARE DOMINATED BY MULE FAT, GOODDING'S BLACK WILLOW, RED WILLOW, COYOTE BRUSH, AND DEERGRASS. OTHER NATIVE SPECIES WERE ARROYO WILLOW, MUGWORT, & WESTERN RAGWEED.				
General:	0 BIRDS IN 2002-03. 1 PAIR SUCCESSFULLY FLEDGED YOUNG AFTER 2 FAILED NESTING ATTEMPTS IN 2005. 3 MALES, 2 FEMALES, & 3 JUVENILES IN 2008. 3+ NESTING PAIRS, 4 YOUNG, OBSERVED IN 2012. 1 MALE IN 2014. 0 IN 2015. 2 ADULTS/2 JUVENILES IN 2017.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	600	Map Index: B0576	EO Index: 112442	Element Last Seen:	2014-06-10
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2014-06-10
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-09-06

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.81085 / -117.80237	Accuracy:	specific area
UTM:	Zone-11 N3741473 E425738	Elevation (ft):	272
PLSS:	T04S, R09W, Sec. 22, NE (S)	Acres:	13.0

Location: ALONG SANTIAGO CREEK, JUST N OF VILLA PARK RD, 0.6 MI SW OF CANNON ST AT TAFT AVE, NE OF ORANGE.

Detailed Location: MAPPED TO THE PROVIDED COORDINATES.

Ecological:

General: 2 TERRITORIES DETECTED ON 10 JUN 2014.

Owner/Manager: UNKNOWN

Occurrence No.	601	Map Index: B0578	EO Index: 112443	Element Last Seen:	2014-05-05
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2014-05-05
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-10-05

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.80501 / -117.81123	Accuracy:	nonspecific area
UTM:	Zone-11 N3740832 E424913	Elevation (ft):	272
PLSS:	T04S, R09W, Sec. 22, SW (S)	Acres:	17.0

Location: ALONG SANTIAGO CREEK, ABOUT 0.4 MI NE OF PROSPECT ST AT BOND AVE, NE OF ORANGE.

Detailed Location: MAPPED ACCORDING TO THE PROVIDED COORDINATES AND SHAPEFILE OF SURVEYED AREA.

Ecological:

General: NOT SURVEYED IN 2010. 2 TERRITORIES, 1 PAIR, AND 1 FLEDGLINGS IN 2011. 1 TERRITORY DETECTED IN 2012. 1 TERRITORY DETECTED IN 2013. 1 TERRITORY DETECTED ON 5 MAY 2014.

Owner/Manager: UNKNOWN

Occurrence No.	603	Map Index: B0665	EO Index: 112535	Element Last Seen:	2017-04-28
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2017-04-28
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-09-13

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.66331 / -117.62722	Accuracy:	80 meters
UTM:	Zone-11 N3725002 E441850	Elevation (ft):	951
PLSS:	T06S, R07W, Sec. 8, SE (S)	Acres:	5.0

Location: ABOUT 0.5 MI S OF GLENN RANCH RD AT HWY 18, 0.6 MI NNW OF HWY 241 AT LOS ALISOS BLVD, UPPER OSO RESERVOIR.

Detailed Location: MAPPED ACCORDING TO THE PROVIDED COORDINATES.

Ecological:

General: 1 HEARD SINGING ON 28 APR 2017. ALTHOUGH THE NESTING STATUS OF THIS BIRD COULD NOT BE DETERMINED, IT IS LIKELY NESTING IN THE DENSE VEGETATION ALONG THE RESERVOIR.

Owner/Manager: PVT-SANTA MARGARITA WATER DIST



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Occurrence No.	604	Map Index: B0760	EO Index: 112633	Element Last Seen:	2015-07-30
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2015-07-30
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-09-21
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.65753 / -117.78168		Accuracy:	specific area	
UTM:	Zone-11 N3724459 E427524		Elevation (ft):	151	
PLSS:	T06S, R09W, Sec. 14, NE (S)		Acres:	16.0	
Location:	ABOUT 0.2 MI N OF SHADY CANYON AVE AT QUAIL HILL PKWY, 0.2 MI W OF SHADY CANYON AVE AT I-405, IRVINE.				
Detailed Location:	MAPPED ACCORDING TO THE PROVIDED COORDINATES.				
Ecological:	DOMINATED BY GOODDING'S BLACK WILLOW, WITH ARROYO WILLOW, FREMONT'S COTTONWOOD, WESTERN SYCAMORE SAPLINGS, MULEFAT, AND BLUE ELDERBERRY.				
General:	1 PAIR AND 2 JUVENILES OBSERVED DURING SURVEYS CONDUCTED BETWEEN 17 APR-30 JUL 2015; THE TWO JUVENILES WERE OBSERVED MOVING AROUND TOGETHER ON 30 JUL 2015.				
Owner/Manager:	CITY OF IRVINE				
Occurrence No.	605	Map Index: B0764	EO Index: 112636	Element Last Seen:	2016-08-18
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2016-08-18
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-09-21
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.64318 / -117.76588		Accuracy:	specific area	
UTM:	Zone-11 N3722857 E428978		Elevation (ft):	248	
PLSS:	T06S, R09W, Sec. 24, NE (S)		Acres:	5.0	
Location:	ABOUT 0.2 MI W OF HWY 133 AT LAGUNA CANYON RD, 0.3 MI S OF QUAIL HILL PKWY AT LAGUNA CANYON RD, IRVINE.				
Detailed Location:	MAPPED ACCORDING TO THE PROVIDED COORDINATES.				
Ecological:					
General:	AT LEAST ONE PAIR AND 2 FLEDGLINGS ALONG WITH INDIVIDUAL MALES OBSERVED/HEARD FROM 22 APR - 18 AUG 2016.				
Owner/Manager:	UNKNOWN				



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<i>Setophaga petechia</i>		Element Code: ABPBX03010	
yellow warbler			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G5
	State: None		State: S3S4
	Other: CDFW_SSC-Species of Special Concern, USFWS_BCC-Birds of Conservation Concern		
Habitat:	General: RIPARIAN PLANT ASSOCIATIONS IN CLOSE PROXIMITY TO WATER. ALSO NESTS IN MONTANE SHRUBBERY IN OPEN CONIFER FORESTS IN CASCADES AND SIERRA NEVADA.		
	Micro: FREQUENTLY FOUND NESTING AND FORAGING IN WILLOW SHRUBS AND THICKETS, AND IN OTHER RIPARIAN PLANTS INCLUDING COTTONWOODS, SYCAMORES, ASH, AND ALDERS.		

Occurrence No.	109	Map Index:	90044	EO Index:	102952	Element Last Seen:	2013-06-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2013-06-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2016-08-08	
Quad Summary:	Orange (3311777), Yorba Linda (3311787)						
County Summary:	Orange						
Lat/Long:	33.87367 / -117.81277		Accuracy:	nonspecific area			
UTM:	Zone-11 N3748446 E424829		Elevation (ft):	300			
PLSS:	T03S, R09W, Sec. 27, SW (S)		Acres:	49.0			
Location:	YORBA LINDA RESERVOIR/LAKE BED, BETWEEN LAKEVIEW AVE AND HIGHWAY 90, SOUTH OF BUENA VISTA AVE.						
Detailed Location:	YORBA LINDA LAKEBED PARK.						
Ecological:	RIPARIAN HABITAT. APPEARS TO HAVE BEEN A LAKE AT ONE TIME, BUT HAS DRIED UP, SUCCESSION HAS TAKEN OVER, AND THE SITE APPEARS TO BE FILLED WITH RIPARIAN VEGETATION.						
General:	3 TERRITORIES DETECTED IN 2008. 4 TERRITORIES DETECTED IN 2013.						
Owner/Manager:	UNKNOWN						

Occurrence No.	121	Map Index:	B4323	EO Index:	117251	Element Last Seen:	2017-05-18
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2017-05-18	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2019-10-30	
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.66726 / -117.70216		Accuracy:	80 meters			
UTM:	Zone-11 N3725484 E434905		Elevation (ft):	482			
PLSS:	T06S, R08W, Sec. 10, NE (S)		Acres:	5.0			
Location:	VICINITY OF MAGAZINE RD, ABOUT 0.3 MI NE OF ALTON PKWY AT IRVINE BLVD, LAKE FOREST.						
Detailed Location:	MAPPED TO COORDINATES GIVEN ON 2017 FIELD SURVEY FORM. EXACT LOCATIONS NOT GIVEN FOR 2002 AND 2015 DETECTIONS.						
Ecological:	2017: 11.43-ACRE MITIGATION SITE WITH RIPARIAN SCRUB INCLUDING MULEFAT, BLACK WILLOW, RED WILLOW, COYOTE BRUSH AND DEERGRASS.						
General:	DETECTED DURING LISTED BIRD SURVEYS IN 2002 AND 2015. 2 ADULTS DETECTED ON 18 MAY 2017 WERE PRESUMED TO BE BREEDING IN THE AREA.						
Owner/Manager:	ORA COUNTY						

<i>Icteria virens</i>		Element Code: ABPBX24010	
yellow-breasted chat			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G5
	State: None		State: S3
	Other: CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern		
Habitat:	General:		



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SUMMER RESIDENT; INHABITS RIPARIAN THICKETS OF WILLOW AND OTHER BRUSHY TANGLES NEAR WATERCOURSES.

Micro: NESTS IN LOW, DENSE RIPARIAN, CONSISTING OF WILLOW, BLACKBERRY, WILD GRAPE; FORAGES AND NESTS WITHIN 10 FT OF GROUND.

Occurrence No.	77	Map Index:	33647	EO Index:	30219	Element Last Seen:	1996-04-10
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		1996-04-10	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1997-02-24	

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.63389 / -117.74205	Accuracy:	specific area
UTM:	Zone-11 N3721810 E431179	Elevation (ft):	200
PLSS:	T06S, R08W (S)	Acres:	30.6

Location: SAN DIEGO CREEK, 0.5 MILE WEST OF I-5, SOUTH OF EL TORO MARINE CORPS AIR STATION.

Detailed Location:

Ecological: HABITAT CONSISTS OF WILLOW-DOMINATED RIPARIAN WOODLAND, WITH A GOOD UNDERSTORY OF MULEFAT. LEAST BELLS VIREO ALSO BREEDS AT THIS SITE. SURROUNDING AREA DOMINATED BY AGRICULTURE.

General: AN UNKNOWN NUMBER OF CHATS OBSERVED BREEDING ON 10 APRIL 1996, DURING A SURVEY FOR LEAST BELLS VIREO.

Owner/Manager: PVT-IRVINE CO

Occurrence No.	94	Map Index:	53528	EO Index:	53528	Element Last Seen:	1990-07-01
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1990-07-01	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2003-12-09	

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.63044 / -117.84618	Accuracy:	1/5 mile
UTM:	Zone-11 N3721503 E421519	Elevation (ft):	150
PLSS:	T06S, R09W, Sec. 20, SW (S)	Acres:	0.0

Location: BONITA CANYON RESERVOIR, NEWPORT BEACH.

Detailed Location:

Ecological: 1 PAIR OF ACCIPTIER COOPERII MAY BE NESTING IN VICINITY OF BONITA CANYON RESERVOIR.

General: CHATS OBSERVED ON 17 & 29 MAY, 15 JUN AND 1 JUL 1990. IT IS ESTIMATED THAT 1 OR 2 PAIRS WERE PRESENT IN 1990. THIS IS A KNOWN NESTING AREA FOR THE YELLOW-BREASTED CHAT.

Owner/Manager: UNKNOWN



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Occurrence No.	97	Map Index: 54504	EO Index: 54505	Element Last Seen:	2003-07-31
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen:	2003-07-31
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-02-27
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.69691 / -117.70152		Accuracy:	specific area	
UTM:	Zone-11 N3728772 E434985		Elevation (ft):	600	
PLSS:	T05S, R08W, Sec. 34, NE (S)		Acres:	17.7	
Location:	SITE PA6, WATER BODY AT SOUTH END OF ROUND CANYON, 0.5 MILE NE OF LAMBERT RESERVOIR, NORTH OF EL TORO.				
Detailed Location:					
Ecological:	HABITAT CONSISTS OF ARROYO WILLOW AND MULEFAT. SURROUNDING LAND COMPRISED OF ORCHARD, NURSERY AND WILDLANDS. CANOPY HEIGHT = 5 M. SURFACE WATER OR SATURATED SOIL IS PRESENT AT SITE.				
General:	2 PAIRS PRESENT BETWEEN 16 APR AND 31 JUL 2003.				
Owner/Manager:	PVT-IRVINE CO				
Occurrence No.	98	Map Index: 54507	EO Index: 54508	Element Last Seen:	2003-07-05
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2003-07-05
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-02-27
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.65286 / -117.85235		Accuracy:	80 meters	
UTM:	Zone-11 N3723993 E420967		Elevation (ft):	10	
PLSS:	T06S, R09W, Sec. 18, NE (S)		Acres:	0.0	
Location:	SOUTH PORTION OF DUCK PONDS LOCATED NORTH OF UNIVERSITY DRIVE, WEST NEWPORT BEACH.				
Detailed Location:					
Ecological:	HABITAT CONSISTS OF WILLOW RIPARIAN SCRUB. SURROUNDING LAND COMPRISED OF MARSH/ URBAN AREAS.				
General:	1 TERRITORIAL MALE CHAT DETECTED ON 5 JUL 2003.				
Owner/Manager:	UC-IRVINE				



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Occurrence No.	109	Map Index:	90044	EO Index:	102915	Element Last Seen:	2008-07-11
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2008-07-11	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2016-07-28	
Quad Summary:	Orange (3311777), Yorba Linda (3311787)						
County Summary:	Orange						
Lat/Long:	33.87367 / -117.81277			Accuracy:	nonspecific area		
UTM:	Zone-11 N3748446 E424829			Elevation (ft):	300		
PLSS:	T03S, R09W, Sec. 27, SW (S)			Acres:	49.0		
Location:	YORBA LINDA LAKEBED PARK.						
Detailed Location:	MAPPED GENERALLY TO INCLUDE START- AND ENDPOINTS OF SURVEYS GIVEN IN SANTA ANA WATERSHED ASSOCIATION 2012 DATASET, SITE NAME "YORBA LINDA LAKEBED PARK," EXACT DETECTION LOCATIONS UNKNOWN.						
Ecological:	RIPARIAN HABITAT. APPEARS TO HAVE BEEN A LAKE AT ONE TIME, BUT HAS DRIED UP, SUCCESSION HAS TAKEN OVER, AND THE SITE APPEARS TO BE FILLED WITH RIPARIAN VEGETATION.						
General:	1 TERRITORY IDENTIFIED BY BIOLOGISTS CONDUCTING LEAST BELL'S VIREO SURVEYS ON 11 JUL 2008; 2 TERRITORIES IDENTIFIED APR-JUN 2013 (DATASETS "[ASSUME] MALE IS EXHIBITING TERRITORIAL BEHAVIOR...OR OTHER BREEDING BEHAVIOR DOCUMENTED").						
Owner/Manager:	UNKNOWN						

<i>Aimophila ruficeps canescens</i>				Element Code: ABPBX91091			
southern California rufous-crowned sparrow							
Listing Status:	Federal:	None	CNDDDB Element Ranks:	Global:	G5T3		
	State:	None		State:	S3		
	Other:	CDFW_WL-Watch List					
Habitat:	General:	RESIDENT IN SOUTHERN CALIFORNIA COASTAL SAGE SCRUB AND SPARSE MIXED CHAPARRAL.					
	Micro:	FREQUENTS RELATIVELY STEEP, OFTEN ROCKY HILLSIDES WITH GRASS AND FORB PATCHES.					

Occurrence No.	95	Map Index:	52221	EO Index:	52221	Element Last Seen:	2001-XX-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2001-XX-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2003-08-22	
Quad Summary:	Tustin (3311767)						
County Summary:	Orange						
Lat/Long:	33.63209 / -117.77309			Accuracy:	1/10 mile		
UTM:	Zone-11 N3721632 E428299			Elevation (ft):	700		
PLSS:	T06S, R09W, Sec. 24 (S)			Acres:	0.0		
Location:	0.7 MI WEST OF LAGUNA CANYON RD & 1.5 MI SSW OF INTERSECTION OF I-405 & LAGUNA CANYON ROAD; 3.5 MILES NW LAGUNA HILLS.						
Detailed Location:							
Ecological:	HABITAT MAINLY RECOVERING CHAPARRAL, COASTAL SAGE SCRUB & GRASSLAND WITH SOME OAK WOODLAND, RIPARIAN WOODLAND & MARSHES. AREA BURNED IN 1993 (LAGUNA BEACH FIRE). DESIGNATED AS NATURE RESERVE OF ORANGE COUNTY (NROC) LANDS IN NCCP SUB-REGION.						
General:	UNKNOWN NUMBER OBSERVED DURNG 3 SURVEYS CONDUCTED BETWEEN FEB AND AUG 2001.						
Owner/Manager:	ORA COUNTY						



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Occurrence No.	115	Map Index: 52572	EO Index: 52572	Element Last Seen:	2001-03-22
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-03-22
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-09-22
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.67598 / -117.70236		Accuracy:	1/10 mile	
UTM:	Zone-11 N3726451 E434892		Elevation (ft):	500	
PLSS:	T06S, R08W, Sec. 03 (S)		Acres:	0.0	
Location:	SOUTHEASTERN PORTION OF EL TORO MARINE CORPS AIR STATION, ABOUT 2.8 MI NE OF THE JUNCTION OF I-5 AND I-405.				
Detailed Location:	COMMUNICATION STATION LANDFILL (INSTALLATION RESTORATION PROGRAM, SITE 2).				
Ecological:	HABITAT ON PROJECT SITE CONSISTS OF CSS ON THE UPLANDS AND MULE FAT SCRUB (DOMINATED BY MULE FAT AND TREE TOBACCO) IN THE DRAINAGE SYSTEM.				
General:	1 PAIR OBSERVED SOMETIME DURING CALIFORNIA GNATCATCHER SURVEYS BETWEEN 12 DEC 2000 AND 22 MAR 2001.				
Owner/Manager:	DOD-EL TORO MCAS				
Occurrence No.	116	Map Index: 52602	EO Index: 52602	Element Last Seen:	1999-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1999-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-09-23
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.66100 / -117.65810		Accuracy:	2/5 mile	
UTM:	Zone-11 N3724763 E438984		Elevation (ft):	800	
PLSS:	T06S, R07W, Sec. 07 (S)		Acres:	0.0	
Location:	NORTH OF EL TORO ROAD & JUST EAST OF CANADA ROAD, EAST OF EL TORO MARINE CORPS AIR STATION.				
Detailed Location:					
Ecological:	ALL STANDS OF COASTAL SAGE SCRUB WERE SURVEYED.				
General:	UNKNOWN NUMBER OBSERVED DURING CALIFORNIA GNATCATCHER SURVEYS CONDUCTED FEB - JUL 1999.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	117	Map Index: 52627	EO Index: 52627	Element Last Seen:	2002-03-12
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2002-03-12
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-09-24
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.67293 / -117.63505		Accuracy:	nonspecific area	
UTM:	Zone-11 N3726073 E441130		Elevation (ft):	1000	
PLSS:	T06S, R07W, Sec. 05 (S)		Acres:	359.0	
Location:	SE OF SERRANO CREEK AND NW OF ALISO CREEK AND EL TORO ROAD; LAKE FOREST, NE OF EL TORO.				
Detailed Location:	2000: PULLSITE 22, ALONG DIRT ROAD. 2002: PORTOLA HILLS SITE.				
Ecological:	HABITAT CONSISTS OF COASTAL SAGE SCRUB, ANNUAL GRASSLAND, NON-NATIVE GRASSLAND, RIPARIAN AND RUDERAL AREAS. CALIFORNIA SAGEBRUSH AND PRICKLY PEAR DOMINATED COASTAL SAGE SCRUB LOCATED ON SW PORTION OF SITE.				
General:	BIRDS OBS AT 2 LOCATIONS DURING CAGN SURVEYS CONDUCTED 13 APR - 27 JUN 2000. UNK NUMBER OBS DURING CAGN SURVEYS CONDUCTED 18 FEB - 12 MAR 2002. SOME IMPACTS TO CSS AT PULLSITE 22 - REVEGETATION WILL OCCUR AFTER COMPLETION OF PROJECT.				
Owner/Manager:	UNKNOWN				
Occurrence No.	118	Map Index: 52636	EO Index: 52636	Element Last Seen:	2002-04-29
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2002-04-29
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-03-19
Quad Summary:	Santiago Peak (3311765), El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.69193 / -117.61638		Accuracy:	nonspecific area	
UTM:	Zone-11 N3728169 E442872		Elevation (ft):	1400	
PLSS:	T05S, R07W, Sec. 33 (S)		Acres:	552.3	
Location:	SADDLE CREST AND SADDLE CREEK SITES, EAST OF ALISO CREEK, SE OF MODJESKA.				
Detailed Location:	VICINITY OF 4S RANCH, NORTH TO THE SANTIAGO TRUCK TRAIL AND WEST TO ALISO CREEK. 1997: SADDLE CREEK SURVEYED. 2002: NW HALF SADDLE CREEK, SADDLE CREST SURVEYED.				
Ecological:	COASTAL SAGE SCRUB OCCURS ON PORTIONS OF PROJECT SITE. ANNUAL GRASSLAND/SAGEBRUSH SCRUB AND SOUTHERN CACTUS SCRUB LOCATED ON SW PORTION OF SADDLE CREEK.				
General:	UNKNOWN NUMBER OBSERVED DURING 3 CALIFORNIA GNATCATCHER SURVEYS CONDUCTED BETWEEN 10 JUL AND 15 AUG 1997. UNKNOWN NUMBER OBSERVED DURING 6 CALIFORNIA GNATCATCHER SURVEYS CONDUCTED BETWEEN 15 MAR AND 29 APR 2002.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	122	Map Index: 52956	EO Index: 52959	Element Last Seen:	2000-05-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2000-05-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-20
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.86342 / -117.75747		Accuracy:	nonspecific area	
UTM:	Zone-11 N3747271 E429936		Elevation (ft):	500	
PLSS:	T03S, R08W, Sec. 31 (S)		Acres:	82.6	
Location:	SOUTH & EAST OF SANTA ANA CANYON ROAD, 2 MILES NE OF INTERSECTION OF RIVERSIDE FWY & IMPERIAL HWY, ESE OF YORBA LINDA.				
Detailed Location:					
Ecological:	OSPREY, WHITE-TAILED KITE, SHARP-SHINNED HAWK, COOPER'S HAWK ALSO OBSERVED IN VICINITY.				
General:	UNKNOWN NUMBER OBSERVED DURING CALIFORNIA GNATCATCHER SURVEYS CONDUCTED BETWEEN 13 APRIL AND 18 MAY 2000.				
Owner/Manager:	UNKNOWN				

Occurrence No.	125	Map Index: 53089	EO Index: 53089	Element Last Seen:	1999-10-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1999-10-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-29
Quad Summary:	Black Star Canyon (3311776), Prado Dam (3311786)				
County Summary:	Riverside				
Lat/Long:	33.87429 / -117.65420		Accuracy:	nonspecific area	
UTM:	Zone-11 N3748410 E439496		Elevation (ft):	700	
PLSS:	T03S, R07W, Sec. 30 (S)		Acres:	201.8	
Location:	SE OF THE INTERSECTION OF THE RIVERSIDE FREEWAY AND STATE ROUTE 91, WEST OF FRESNO CANYON, SW OF PRADO DAM.				
Detailed Location:					
Ecological:	HABITAT CONSISTS OF DIEGAN SAGE SCRUB, NORTHERN MIXED CHAPARRAL, COAST LIVE OAK WOODLAND, MULE FAT SCRUB, NON-NATIVE GRASSLAND, MEXICAN ELDERBERRY WOODLAND, SOUTHERN WILLOW SCRUB, DISTURBED, ORNAMENTAL. DEVELOPMENT MAINLY N PART OF SITE.				
General:	UNKNOWN NUMBER OBS DURING 9 CALIFORNIA GNATCATCHER SURVEYS CONDUCTED BETWEEN 10 JUN & 19 OCT 1999. THREE FOLLOW-UP SURVEYS CONDUCTED, BUT DATES NOT GIVEN. AQUILA CHRYSAETOS, ACCIPITER STRIATUS, A. COOPERI, LANIUS LUDOVICIANUS IN VICINITY.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	133	Map Index: 54742	EO Index: 54742	Element Last Seen:	2003-05-21
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen:	2003-05-21
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-03-18

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.64133 / -117.75313	Accuracy:	80 meters
UTM:	Zone-11 N3722643 E430157	Elevation (ft):	300
PLSS:	T06S, R08W, Sec. 19, NE (S)	Acres:	0.0

Location: 0.3 MILE DIRECTLY EAST OF LAGUNA RESERVOIR, 3 MILES NW OF LAGUNA HILLS.

Detailed Location: MAPPED ACCORDING TO GPS COORDINATES/MAP.

Ecological: HABITAT CONSISTS OF COASTAL SAGE SCRUB. SURROUNDING LAND COMPRISED OF OPEN SPACE.

General: 1 BREEDING ADULT DETECTED ON 21 MAY 2003.

Owner/Manager: PVT

Occurrence No.	134	Map Index: 54743	EO Index: 54743	Element Last Seen:	2003-05-21
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen:	2003-05-21
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-03-18

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.63508 / -117.75221	Accuracy:	80 meters
UTM:	Zone-11 N3721949 E430238	Elevation (ft):	350
PLSS:	T06S, R08W, Sec. 19, E (S)	Acres:	0.0

Location: 0.4 MILE SE OF LAGUNA RESERVOIR AND JUST SOUTH OF SAN DIEGO CREEK, 2.7 MILES NW OF LAGUNA HILLS.

Detailed Location: MAPPED ACCORDING TO GPS COORDINATES/MAP.

Ecological: HABITAT CONSISTS OF COASTAL SAGE SCRUB. SURROUNDING LAND COMPRISED OF OPEN SPACE.

General: 2 BREEDING ADULTS DETECTED ON 21 MAY 2003.

Owner/Manager: PVT



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<i>Passerculus sandwichensis beldingi</i>		Element Code: ABPBX99015	
Belding's savannah sparrow			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G5T3
	State: Endangered		State: S3
Other:			
Habitat:	General: INHABITS COASTAL SALT MARSHES, FROM SANTA BARBARA SOUTH THROUGH SAN DIEGO COUNTY.		
	Micro: NESTS IN SALICORNIA ON AND ABOUT MARGINS OF TIDAL FLATS.		

Occurrence No.	15	Map Index: 02534	EO Index: 26313	Element Last Seen:	2001-04-08
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2001-04-08
Occ. Type:	Natural/Native occurrence		Trend: Fluctuating	Record Last Updated:	2018-08-01

Quad Summary: Tustin (3311767), Newport Beach (3311768)
County Summary: Orange, Pacific Ocean

Lat/Long:	33.63685 / -117.88909	Accuracy:	nonspecific area
UTM:	Zone-11 N3722246 E417545	Elevation (ft):	0
PLSS:	T06S, R10W, Sec. 23 (S)	Acres:	562.2

Location: UPPER NEWPORT BAY, ABOUT 1.4 MI W OF HWY 73 AT UNIVERSITY DR, 1.8 MI S OF HWY 55 AT HWY 73, SANTA ANA HEIGHTS.
Detailed Location: THE LARGEST CONCENTRATION OF BELDING'S WAS AT THE UPPER END OF THE BAY WHERE THE BIGGEST CONTIGUOUS EXPANSE OF PICKLEWEED IS LOCATED.
Ecological: 111 HA MARSH W/FULL TIDAL ACTION. AMOUNT OF VEGETATION ABOVE HIGHEST TIDES APPEARS TO HAVE INCREASED SINCE 1979-80. SPORADIC SEDIMENT REMOVAL ACTIVITIES IN RESERVE ARE GREATLY DISRUPTIVE.
General: 130 PAIRS ESTIMATED IN 1973. 83 PAIRS ESTIMATED IN 1977. 245 PAIRS ESTIMATED IN 1986. 208 PRS ESTIMATED IN 1989. 196 PRS ESTIMATED IN 1990. 199 PRS ESTIMATED IN 1991; 1 SALVAGED. 252 PRS ESTIMATED IN 1996. 206 PRS ESTIMATED IN 2001.
Owner/Manager: DFG-UPPER NEWPORT BAY ER

Occurrence No.	46	Map Index: B0263	EO Index: 112120	Element Last Seen:	2006-04-22
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2006-04-22
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-08-06

Quad Summary: Laguna Beach (3311757), Tustin (3311767)
County Summary: Orange

Lat/Long:	33.62282 / -117.76171	Accuracy:	1/5 mile
UTM:	Zone-11 N3720597 E429348	Elevation (ft):	455
PLSS:	T06S, R08W, Sec. 30, NW (S)	Acres:	70.0

Location: ABOUT 1.4 MI S OF HWY 133 AT LAGUNA CANYON RD, 2.1 MI N OF HWY 73 AT HWY 133, SE OF IRVINE.
Detailed Location: MAPPED TO THE PROVIDED COORDINATES.
Ecological: ROLLING GRASSLANDS WITH SCATTERED COASTAL SAGE SCRUB, MULEFAT SCRUB, WILLOW-RIPARIAN FOREST, AND OAK WOODLAND. SURROUNDING AREA WAS DESIGNATED OPEN SPACE AND RESIDENTIAL.
General: INDIVIDUALS WERE OBSERVED ON SEVERAL OCCASIONS DURING WEEKLY MITIGATION MONITORING FROM MARCH 17 THROUGH SEPTEMBER 2006. FIRST OBSERVED ON 2 APR WITH 8 INDIVIDUALS; 6 OBSERVED ON 7 APR; AND 1 OBSERVED ON 22 APR, 2006.
Owner/Manager: ORA COUNTY, CITY OF IRVINE



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<i>Ammodramus savannarum</i>		Element Code: ABPBXA0020	
grasshopper sparrow			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G5
	State: None		State: S3
	Other: CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern		
Habitat:	General: DENSE GRASSLANDS ON ROLLING HILLS, LOWLAND PLAINS, IN VALLEYS AND ON HILLSIDES ON LOWER MOUNTAIN SLOPES.		
	Micro: FAVORS NATIVE GRASSLANDS WITH A MIX OF GRASSES, FORBS AND SCATTERED SHRUBS. LOOSELY COLONIAL WHEN NESTING.		

Occurrence No.	12	Map Index:	69689	EO Index:	70474	Element Last Seen:	2003-05-20
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2003-05-20	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2007-07-26	
Quad Summary:	San Juan Capistrano (3311756), El Toro (3311766), Tustin (3311767)						
County Summary:	Orange						
Lat/Long:	33.63379 / -117.74818		Accuracy:	specific area			
UTM:	Zone-11 N3721803 E430611		Elevation (ft):	450			
PLSS:	T06S, R08W, Sec. 19 (S)		Acres:	29.0			
Location:	EAST OF LAGUNA CANYON ROAD, WEST OF I-405, AND SOUTH OF LAGUNA RESERVOIR, NW OF LAGUNA HILLS.						
Detailed Location:	OBSERVATIONS WERE MADE IN 5 DISTINCT LOCATIONS.						
Ecological:	HABITAT CONSISTS OF NATIVE AND NON-NATIVE GRASSLANDS.						
General:	A TOTAL OF 17 WERE OBSERVED FROM 5 DISTINCT LOCATIONS ON 20 MAY 2003.						
Owner/Manager:	PVT						

Occurrence No.	13	Map Index:	69690	EO Index:	70475	Element Last Seen:	2003-07-05
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2003-07-05	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2007-07-26	
Quad Summary:	Tustin (3311767)						
County Summary:	Orange						
Lat/Long:	33.65520 / -117.85697		Accuracy:	80 meters			
UTM:	Zone-11 N3724255 E420540		Elevation (ft):	45			
PLSS:	T06S, R09W, Sec. 18 (S)		Acres:	0.0			
Location:	0.35 MILE SE OF THE INTERSECTION OF MCARTHUR BOULEVARD & JAMBOREE BOULEVARD, NORTH OF SAN DIEGO CREEK, NEWPORT BEACH.						
Detailed Location:							
Ecological:	HABITAT CONSISTS OF COASTAL SAGE SCRUB.						
General:	1 ADULT OBSERVED ON 5 JUL 2003.						
Owner/Manager:	UC-IRVINE						

<i>Agelaius tricolor</i>		Element Code: ABPBXB0020	
tricolored blackbird			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G2G3
	State: Threatened		State: S1S2
	Other: BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern		
Habitat:	General: HIGHLY COLONIAL SPECIES, MOST NUMEROUS IN CENTRAL VALLEY & VICINITY. LARGELY ENDEMIC TO CALIFORNIA.		



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Micro: REQUIRES OPEN WATER, PROTECTED NESTING SUBSTRATE, AND FORAGING AREA WITH INSECT PREY WITHIN A FEW KM OF THE COLONY.

Occurrence No.	775	Map Index:	99723	EO Index:	101275	Element Last Seen:	1989-04-01
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2014-04-20	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2016-04-21	
Quad Summary:	Orange (3311777)						
County Summary:	Orange						
Lat/Long:	33.78216 / -117.76299			Accuracy:	nonspecific area		
UTM:	Zone-11 N3738264 E429359			Elevation (ft):	531		
PLSS:	T04S, R08W, Sec. 31, W (S)			Acres:	95.0		
Location:	0.6 MI SE OF CANYON VIEW AVE & NEWPORT BLVD INTXN, 0.7 MI S OF SANTIAGO CANYON RD & JAMBOREE RD INTXN, PETERS CYN RES.						
Detailed Location:	LOCATION DESCRIBED AS "PETER'S CANYON RESERVOIR (EAST OF CITY OF ORANGE) NEAR THE INTERSECTIONS OF SANTIAGO CANYON ROAD, CHAPMAN AVE, AND NEWPORT AVENUE." COLONY DATA STORED IN THE UC DAVIS TRBL PORTAL; "PETERS CANYON RESERVOIR."						
Ecological:	LARGE RESERVOIR, DENSELY LINED WITH CATTAIL AND BULRUSH. A LARGE FORAGING AREA NEAR THE RESERVOIR WAS BEING DEVELOPED (BEEDY 1991). INSUFFICIENT FORAGING HABITAT IN 1994. POTENTIALLY SUITABLE CATTAIL MARSH IN 2014.						
General:	500-600 PAIRS OBSERVED ON 1 APR 1989 (WILLICK PERS. COMM.); PRESUMED NESTING BUT NOT CONFIRMED. 0 OBSERVED IN 1994, EXACT DATE UNKNOWN. 0 OBSERVED ON 20 APR 2014.						
Owner/Manager:	ORA COUNTY						

Occurrence No.	783	Map Index:	99764	EO Index:	101309	Element Last Seen:	1988-05-26
Occ. Rank:	None	Presence:	Extirpated	Site Last Seen:		1988-06-09	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2016-05-09	
Quad Summary:	San Juan Capistrano (3311756), El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.6311 / -117.6782			Accuracy:	1 mile		
UTM:	Zone-11 N3721460 E437100			Elevation (ft):	468		
PLSS:	T06S, R08W, Sec. 23 (S)			Acres:	1987.0		
Location:	ABOUT 2 MI NE OF I-15 & EL TORO RD INTERSECTION, 3.5 MI ESE OF I-15 & I-405 INTERCHANGE, EL TORO.						
Detailed Location:	1988 LOCATION DESCRIBED ONLY AS A STOCK POND "NEAR EL TORO, CALIFORNIA." COLONY DATA STORED IN THE UC DAVIS TRICOLOR BLACKBIRD PORTAL; SITE NAME WAS "EL TORO." EXACT LOCATION UNKNOWN. EL TORO RESERVOIR LOCATED IN THE VICINITY.						
Ecological:	HABITAT IN 1988 DESCRIBED AS A STOCK POND SURROUNDED BY DRYLAND BARLEY. NESTING SUBSTRATE CONSISTED OF BULRUSH. HABITAT GONE DUE TO DEVELOPMENT BY 2014.						
General:	10 PAIRS OBSERVED ON 4-26 MAY AND 7-9 JUN 1988; ADULTS OBSERVED FEEDING YOUNG IN MAY. 0 BIRDS OBSERVED ON 18 APR 2014; UNCLEAR IF THE MAPPED AREA WAS SURVEYED.						
Owner/Manager:	UNKNOWN						



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Occurrence No.	784	Map Index: 99770	EO Index: 101315	Element Last Seen:	1987-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2014-04-20
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2016-04-26
Quad Summary:	San Juan Capistrano (3311756), El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.62305 / -117.7318		Accuracy:	nonspecific area	
UTM:	Zone-11 N3720602 E432122		Elevation (ft):	280	
PLSS:	T06S, R08W, Sec. 29, NE (S)		Acres:	40.0	
Location:	JUST N OF RIDGE ROUTE DR & MOULTON PKWY INTERSECTION, 0.75 MI SW OF I-5 & LAKE FOREST DR INTERSECTION, VEEH RESERVOIR.				
Detailed Location:	1986-87 LOCATION DESCRIBED AS LAGUNA HILLS; VEEH RESERVOIR. COLONY DATA STORED IN THE UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAME WAS "VEEH RESERVOIR." FURTHER RESEARCH NEEDED TO DETERMINE FINAL STATUS OF COLONY AND HABITAT SUITABILITY.				
Ecological:	HABITAT COMPOSED OF BULRUSH, WILLOWS, AND EUCALYPTUS TREES. AREA SURROUNDED BY OFFICE BUILDINGS AND ROADS.				
General:	A COLONY OF ABOUT 100+ INDIVIDUALS OBSERVED YEAR ROUND SOMETIME BETWEEN 1986-1987 (WILLICK, PERS. COMM.). BIRDS NOTED AS HAVING BEEN PRESENT FOR 2-3 YEARS PRIOR, POSSIBLY A NESTING COLONY BUT NOT CONFIRMED. 0 BIRDS OBSERVED ON 20 APR 2014.				
Owner/Manager:	UNKNOWN				
Occurrence No.	785	Map Index: 99774	EO Index: 101319	Element Last Seen:	1999-04-19
Occ. Rank:	None		Presence: Possibly Extirpated	Site Last Seen:	2014-04-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2016-05-09
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.6789 / -117.7682		Accuracy:	3/5 mile	
UTM:	Zone-11 N3726819 E428792		Elevation (ft):	168	
PLSS:	T06S, R09W, Sec. 1 (S)		Acres:	776.0	
Location:	JUST S OF I-5 & JEFFREY RD INTERSECTION, 1.9 MI NNW OF I-405 & HWY 133 INTERCHANGE, EAST IRVINE.				
Detailed Location:	COLONY DATA STORED IN THE UC DAVIS TRBL PORTAL; SITE NAME WAS "INTERSTATE 5 AT SAND CANYON AVENUE." 1999 LOCATION DESCRIBED AS "WEST OF SAND CANYON ROAD X INTERSTATE 5," AND THEREFORE FEATURE WAS MAPPED TO AREA JUST W OF INTERSECTION.				
Ecological:	1999 COLONY FLYING TO & FROM A PATCH OF THISTLES. DURING 2014 SURVEY, SITE NOTED AS DEVELOPED BY INDUSTRIAL BUILDINGS & ADJACENT TO THE IRVINE DOG PARK. NO SUITABLE HABITAT, NO WATER SOURCE & NO BIRDS OBSERVED AT SITE.				
General:	A NEAR CONSTANT FLOW OF AT LEAST 100 TRICOLORED BLACKBIRDS WITH FOOD/NESTING MATERIAL OBSERVED ON 19 APR 1999; PRESUMED NESTING. 0 BIRDS OBSERVED ON 19 APR 2014.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	786	Map Index:	99785	EO Index:	101329	Element Last Seen:	2014-04-19
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2014-04-19	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2016-05-09	

Quad Summary:	Tustin (3311767)		
County Summary:	Orange		

Lat/Long:	33.6565 / -117.7799	Accuracy:	1/5 mile
UTM:	Zone-11 N3724343 E427688	Elevation (ft):	157
PLSS:	T06S, R09W, Sec. 13, NW (S)	Acres:	70.0

Location:	JUST W OF I-405 & SAND CANYON AVE INTERSECTION, 0.9 MI ESE OF I-405 & UNIVERSITY DR INTERSECTION, IRVINE.
Detailed Location:	COLONY DATA STORED IN THE UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAME OF NESTING COLONY WAS "SAND CANYON QUAIL HILL PRESERVE" ON THE W SIDE OF SHADY CANYON AVE. ADDITIONAL BIRDS OBSERVED ABOUT 0.25 MI ESE ACROSS THE STREET.
Ecological:	HABITAT COMPOSED OF THISTLE & MUSTARD. ADDITIONAL BIRDS OBSERVED AT THE "SAND CANYON" COLONY ON THE E SIDE OF SHADY CANYON AVE: 40 BIRDS OBSERVED ON 21 APR 2000. 0 OBSERVED ON 19 APR 2014. NO EVIDENCE OF NESTING.
General:	ABOUT 300 BIRDS OBSERVED ON 22 APR 2000; SOME SINGING & ADULTS CARRYING FOOD. 14 REPORTED AS CARRYING NEST MATERIAL ON 3 JUN 2005 IN "SAND CANYON." ABOUT 14 BIRDS OBSERVED ON 19 APR 2014; 1 FEMALE OBSERVED CARRYING NEST MATERIAL.
Owner/Manager:	PVT-IRVINE CO



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Oncorhynchus mykiss irideus pop. 10

Element Code: AFCHA0209J

steelhead - southern California DPS

Listing Status:	Federal: Endangered	CNDDB Element Ranks:	Global: G5T1Q
	State: None		State: S1
	Other: AFS_EN-Endangered		
Habitat:	General: FEDERAL LISTING REFERS TO POPULATIONS FROM SANTA MARIA RIVER SOUTH TO SOUTHERN EXTENT OF RANGE (SAN MATEO CREEK IN SAN DIEGO COUNTY).		
	Micro: SOUTHERN STEELHEAD LIKELY HAVE GREATER PHYSIOLOGICAL TOLERANCES TO WARMER WATER AND MORE VARIABLE CONDITIONS.		

Occurrence No.	18	Map Index: B0498	EO Index: 112361	Element Last Seen:	1950-XX-XX
Occ. Rank:	None		Presence: Possibly Extirpated	Site Last Seen:	2013-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-09-12

Quad Summary: Alberhill (3311764), Santiago Peak (3311765), El Toro (3311766), Newport Beach (3311768), Lake Mathews (3311774), Corona South (3311775), Black Star Canyon (3311776), Orange (3311777), Anaheim (3311778), Riverside West (3311784), Corona North (3311785), Prado Dam (3311786), Moonridge (3411627), Big Bear Lake (3411628), Yucaipa (3411711), Redlands (3411712), San Bernardino South (3411713), Fontana (3411714), Keller Peak (3411721)

County Summary: Orange, Riverside, San Bernardino

Lat/Long:	33.76767 / -117.89371	Accuracy:	nonspecific area
UTM:	Zone-11 N3736754 E417243	Elevation (ft):	108
PLSS:	T05S, R10W, Sec. 2 (S)	Acres:	18320.0

Location: SANTA ANA RIVER AND TRIBUTARIES.

Detailed Location: HISTORIC EXTENT UNKNOWN. MAPPED TO INCLUDE HARDING & COLDWATER CREEKS, TRIBS SUPPORTING TROUT W/ SIGNIFICANT NATIVE ANCESTRY PER 2006 & 2016 DNA STUDIES; & BEAR CK, W/ "REMNANTS OF NATIVE ANCESTRY." PRADO DAM IS IMPASSIBLE BARRIER AT RM 31.

Ecological: LOWER RIVER DEGRADED. STOCKED SINCE THE 1930S. RESIDENT TROUT PERSIST IN UPPER TRIBUTARIES. DNA STUDIES SHOWED THAT TROUT FROM HARDING CANYON (2006 STUDY) & COLDWATER CREEK (2016) RETAINED SIGNIFICANT COASTAL STEELHEAD ANCESTRY.

General: "GOOD" STEELHEAD RUN REPORTED IN 1950. NONE FOUND IN DFG SURVEYS OF MAINSTEM BELOW PRADO DAM, 1951 & '55. STEELHEAD RUN PRESUMED EXTIRPATED BY 1957. RESIDENT TROUT PERSIST IN HEADWATERS (EG. IN 2001, 2009-13) & MAY BE CRITICAL TO RECOVERY.

Owner/Manager: UNKNOWN

Occurrence No.	19	Map Index: B0504	EO Index: 112368	Element Last Seen:	1972-XX-XX
Occ. Rank:	None		Presence: Extirpated	Site Last Seen:	20XX-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-04-11

Quad Summary: San Juan Capistrano (3311756), Laguna Beach (3311757), Santiago Peak (3311765), El Toro (3311766)

County Summary: Orange

Lat/Long:	33.53991 / -117.73745	Accuracy:	nonspecific area
UTM:	Zone-11 N3711388 E431532	Elevation (ft):	71
PLSS:	T07S, R08W, Sec. 29 (S)	Acres:	2319.0

Location: ALISO CREEK.

Detailed Location: HISTORIC EXTENT IN WATERSHED UNKNOWN; MAPPED TO ENTIRE MAINSTEM ALISO CREEK. FISH PASSAGE BARRIERS EXIST ABOVE LAGOON, IN ALISO-WOOD CANYON WILDERNESS PARK, & AT ALISO CREEK RD; SO CURRENT EXTENT AVAILABLE TO MIGRATION IS MUCH REDUCED.

Ecological: SINCE THE 1960S, DEVELOPMENT IMPACTS HAVE DEGRADED HABITAT AND WATER QUALITY IN THE CREEK; IT WAS A 303(D) LISTED STREAM AS OF 2009. RESTORATION EFFORTS HAVE BEEN INITIATED AS OF 2017.

General: STEELHEAD REPORTEDLY FISHED FROM THIS STREAM IN 1950S & 1960S, WITH THE LAST SIGHTING IN 1972. ANECDOTALLY, AN ANGLER & GUIDE OBSERVED SIX PAIRS OF SPAWNING STEELHEAD IN LOWER ALISO CREEK IN 1993. PRESUMED EXTIRPATED.

Owner/Manager: ORA COUNTY, UNKNOWN



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<i>Rhinichthys osculus ssp. 3</i>		Element Code: AFCJB3705K	
Santa Ana speckled dace			
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G5T1
	State: None		State: S1
	Other: AFS_TH-Threatened, CDFW_SSC-Species of Special Concern, USFS_S-Sensitive		
Habitat:	General: HEADWATERS OF THE SANTA ANA AND SAN GABRIEL RIVERS. MAY BE EXTIRPATED FROM THE LOS ANGELES RIVER SYSTEM.		
	Micro: REQUIRES PERMANENT FLOWING STREAMS WITH SUMMER WATER TEMPS OF 17-20 C. USUALLY INHABITS SHALLOW COBBLE AND GRAVEL RIFFLES.		

Occurrence No.	2	Map Index: 41398	EO Index: 41398	Element Last Seen:	1999-01-14
Occ. Rank:	Fair		Presence: Presumed Extant	Site Last Seen:	1999-01-14
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1999-07-27

Quad Summary: El Toro (3311766)
County Summary: Orange

Lat/Long:	33.70848 / -117.63558	Accuracy:	specific area
UTM:	Zone-11 N3730015 E441105	Elevation (ft):	1360
PLSS:	T05S, R07W, Sec. 29, NW (S)	Acres:	9.1

Location: SANTIAGO CREEK, MODJESKA, ABOUT 7 MILES NE OF JUNCTION OF I-5 AND I-405, CLEVELAND NATIONAL FOREST AREA.
Detailed Location: 50 METER SURVEY OF THE CREEK.
Ecological: MATURE RIPARIAN WITH A FEW EXOTIC PLANTS (EUCALYPTUS AND ARUNDO. SUBSTRATES ARE MOSTLY BOULDERS, COBBLE, AND GRAVEL; SOME SAND, SILT AND BEDROCK WITH A FEW SMALL POOLS.
General: A TOTAL OF 40 DACE OBSERVED (BOTH ADULTS AND JUVENILES). 5 FISH TAKEN LIVE TO THE USFWS IN CARLSBAD, CA.
Owner/Manager: UNKNOWN

<i>Catostomus santaanae</i>		Element Code: AFCJC02190	
Santa Ana sucker			
Listing Status:	Federal: Threatened	CNDDDB Element Ranks:	Global: G1
	State: None		State: S1
	Other: AFS_TH-Threatened, IUCN_VU-Vulnerable		
Habitat:	General: ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.		
	Micro: HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, AND ALGAE.		

Occurrence No.	14	Map Index: 17708	EO Index: 11603	Element Last Seen:	XXXX-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	XXXX-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1991-10-31

Quad Summary: Orange (3311777)
County Summary: Orange

Lat/Long:	33.84262 / -117.76416	Accuracy:	nonspecific area
UTM:	Zone-11 N3744969 E429300	Elevation (ft):	500
PLSS:	T04S, R08W (S)	Acres:	28.9

Location: WALNUT CANYON, BELOW WALNUT CANYON RESERVOIR.
Detailed Location:
Ecological:
General: OBSERVATION BY ROBERT FISHER, UC IRVINE.
Owner/Manager: UNKNOWN



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Occurrence No.	23	Map Index: 21422	EO Index: 10042	Element Last Seen:	2000-09-25
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2000-09-25
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2010-05-10

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.85793 / -117.78823	Accuracy:	nonspecific area
UTM:	Zone-11 N3746683 E427086	Elevation (ft):	280
PLSS:	T04S, R09W, Sec. 02, N (S)	Acres:	57.0

Location: SANTA ANA RIVER, AT IMPERIAL HIGHWAY (SR 90) BRIDGE JUST NORTH OF RIVERSIDE FWY (SR 91) JCT, YORBA LINDA, ORANGE COUNTY.

Detailed Location: PART OF SANTA ANA RIVER GREENBELT. MAPPED ACCORDING TO T&R AND LOCATION PROVIDED. 1996: SUCKERS WERE RARE IN THIS SECTION OF THE RIVER. 11 FISH/KM FOUND IN JUNE, 0 IN AUGUST, & 11 FISH/KM IN NOVEMBER.

Ecological:

General: 15 SEP 1987: LACM #44383.001. 1991: CHADWICK & ASSOCSITE #12; 2 COLLECTED. 1995: 3 ADULTS, 50 JUV'S OBS. 1996: 1 JUV OBS. 2000: NONE IN 17 SEINE HAULS ON 24 MAR. 10 FISH TRAPPED & RELOCATED NEAR MISSION BLVD BETWEEN 20 -25 SEPT.

Owner/Manager: ORA COUNTY

Occurrence No.	26	Map Index: 34089	EO Index: 16691	Element Last Seen:	1996-08-22
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1996-08-22
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1997-01-31

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.86859 / -117.72068	Accuracy:	nonspecific area
UTM:	Zone-11 N3747819 E433343	Elevation (ft):	370
PLSS:	T03S, R08W, Sec. 29, SE (S)	Acres:	37.6

Location: SANTA ANA RIVER, FEATHERLY REGIONAL PARK, SANTA ANA CANYON, ALONG HIGHWAY 91.

Detailed Location: THE RIVER IN FEATHERLY REGIONAL PARK.

Ecological: SOUTHERN CALIFORNIA ARROYO CHUB/SANTA ANA SUCKER STREAM.

General: 1996, ONE ADULT OBSERVED. SURROUNDING LAND USE IS REGIONAL PARK.

Owner/Manager: ORA COUNTY

Occurrence No.	32	Map Index: 52818	EO Index: 52818	Element Last Seen:	1987-09-08
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1987-09-08
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-06

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.86524 / -117.77030	Accuracy:	nonspecific area
UTM:	Zone-11 N3747481 E428751	Elevation (ft):	300
PLSS:	T03S, R09W, Sec. 36 (S)	Acres:	34.2

Location: SANTA ANA RIVER, ABOUT 1.25 MILES EAST OF IMPERIAL HWY. YORBA LINDA.

Detailed Location: FISH COLLECTED NEAR NEAR SALIX AND BACCLARIS GROVES.

Ecological:

General: 10 COLLECTED 8 SEP 1987 BY ROBERT FISHER (LACM #44378.001).

Owner/Manager: UNKNOWN



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Occurrence No.	33	Map Index: 52819	EO Index: 52819	Element Last Seen:	1987-09-14
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1987-09-14
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-06

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.85641 / -117.81756	Accuracy:	1/10 mile
UTM:	Zone-11 N3746536 E424372	Elevation (ft):	260
PLSS:	T04S, R09W, Sec. 04 (S)	Acres:	0.0

Location: SANTA ANA RIVER NEAR TAYLOR ST BRIDGE, YORBA LINDA.
Detailed Location: MUSEUM RECORD LOCATION GIVEN AS "NEAR LAKEVIEW & SANTA ANA RIVER"
Ecological:
General: 1 COLLECTED BY ROBERT FISHER 14 SEP 1987 (LACM #44381.001).
Owner/Manager: UNKNOWN

Sorex ornatus salicornicus **Element Code:** AMABA01104
southern California saltmarsh shrew

Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G5T1?
	State: None		State: S1
	Other: CDFW_SSC-Species of Special Concern		

Habitat: **General:** COASTAL MARSHES IN LOS ANGELES, ORANGE AND VENTURA COUNTIES.
Micro: REQUIRES DENSE VEGETATION AND WOODY DEBRIS FOR COVER.

Occurrence No.	3	Map Index: 02533	EO Index: 59235	Element Last Seen:	1933-06-12
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1933-06-12
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2005-01-10

Quad Summary: Tustin (3311767), Newport Beach (3311768)

County Summary: Orange

Lat/Long:	33.64001 / -117.88895	Accuracy:	1 mile
UTM:	Zone-11 N3722596 E417561	Elevation (ft):	5
PLSS:	T06S, R10W, Sec. 23 (S)	Acres:	0.0

Location: NEWPORT LAGOON.
Detailed Location: EXACT LOCATION UNKNOWN. MAPPED IN THE GENERAL VICINTY OF NEWPORT LAGOON.
Ecological:
General: 2 FEMALES COLLECTED 12 JUN 1933 BY F. GORHAM AT "NEWPORT BAY, S SIDE OF; 1 MI ABOVE COAST HWY."
DEPOSITED AT MVZ #63322 & 63323.
Owner/Manager: UNKNOWN



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Choeronycteris mexicana

Element Code: AMACB02010

Mexican long-tongued bat

Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G4
	State: None		State: S1
	Other: CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened, WBWG_H-High Priority		
Habitat:	General: OCCASIONALLY FOUND IN SAN DIEGO COUNTY, WHICH IS ON THE PERIPHERY OF THEIR RANGE.		
	Micro: FEEDS ON NECTAR AND POLLEN OF NIGHT-BLOOMING SUCCULENTS. ROOSTS IN RELATIVELY WELL-LIT CAVES, AND IN AND AROUND BUILDINGS.		

Occurrence No.	5	Map Index:	59737	EO Index:	59773	Element Last Seen:	1995-11-24
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1995-11-24	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2005-01-31	

Quad Summary: Tustin (3311767), Orange (3311777)

County Summary: Orange

Lat/Long:	33.74530 / -117.82061	Accuracy:	1 mile
UTM:	Zone-11 N3734218 E423991	Elevation (ft):	125
PLSS:	T05S, R09W, Sec. 16 (S)	Acres:	0.0

Location: TUSTIN.

Detailed Location: EXACT LOCATION UNKNOWN. LOCATION ONLY GIVEN AS "TUSTIN." MAPPED IN THE GENERAL VICINTY OF TUSTIN WITH THE CENTER POINT BEING THE TUSTIN POST OFFICE.

Ecological:

General: ONE MALE COLLECTED 24 NOV 1995 BY D. CONSTANTINE AT "TUSTIN." DEPOSITED AT LACM #94031.

Owner/Manager: UNKNOWN



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<i>Myotis yumanensis</i>		Element Code: AMACC01020	
Yuma myotis			
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G5
	State: None		State: S4
	Other: BLM_S-Sensitive, IUCN_LC-Least Concern, WBWG_LM-Low-Medium Priority		
Habitat:	General: OPTIMAL HABITATS ARE OPEN FORESTS AND WOODLANDS WITH SOURCES OF WATER OVER WHICH TO FEED.		
	Micro: DISTRIBUTION IS CLOSELY TIED TO BODIES OF WATER. MATERNITY COLONIES IN CAVES, MINES, BUILDINGS OR CREVICES.		
Occurrence No.	62	Map Index: 68432	EO Index: 68668
Occ. Rank:	Unknown	Presence: Presumed Extant	Element Last Seen: 1998-09-04
Occ. Type:	Natural/Native occurrence	Trend: Unknown	Site Last Seen: 1998-09-04
			Record Last Updated: 2007-03-13
Quad Summary:	Orange (3311777)		
County Summary:	Orange		
Lat/Long:	33.86861 / -117.76598	Accuracy:	specific area
UTM:	Zone-11 N3747852 E429153	Elevation (ft):	300
PLSS:	T03S, R08W, Sec. 31 (S)	Acres:	8.0
Location:	SANTA ANA CANYON.		
Detailed Location:			
Ecological:			
General:	1 FEMALE CAPTURED/RELEASED ON 9 JUL 1997. 1 FEMALE CAPTURED/RELEASED ON 15 JUN, 1 INDIVIDUAL CAPTURED/ESCAPED ON 4 SEP 1998.		
Owner/Manager:	UNKNOWN		



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<i>Antrozous pallidus</i>		Element Code: AMACC10010	
pallid bat			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G5
	State: None		State: S3
	Other: BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, WBWG_H-High Priority		
Habitat:	General: DESERTS, GRASSLANDS, SHRUBLANDS, WOODLANDS AND FORESTS. MOST COMMON IN OPEN, DRY HABITATS WITH ROCKY AREAS FOR ROOSTING.		
	Micro: ROOSTS MUST PROTECT BATS FROM HIGH TEMPERATURES. VERY SENSITIVE TO DISTURBANCE OF ROOSTING SITES.		

Occurrence No.	16	Map Index:	26332	EO Index:	12744	Element Last Seen:	1993-06-05
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		1993-06-05	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1995-01-23	

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.80639 / -117.72367	Accuracy:	1 mile
UTM:	Zone-11 N3740924 E433018	Elevation (ft):	700
PLSS:	T04S, R08W, Sec. 37 (S)	Acres:	0.0

Location: BLIND CANYON, NORTH OF SANTIAGO RESERVOIR, 8 MILES EAST OF ORANGE.
Detailed Location:
Ecological: HABITAT CONSISTS OF NON-NATIVE GRASSLAND AND CHAPARRAL IN THE UPPER SONORAN LIFE ZONE.
General: 1 OBSERVED FORAGING; ROOST PRESUMED NEARBY.
Owner/Manager: PVT

<i>Eumops perotis californicus</i>		Element Code: AMACD02011	
western mastiff bat			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G5T4
	State: None		State: S3S4
	Other: BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, WBWG_H-High Priority		
Habitat:	General: MANY OPEN, SEMI-ARID TO ARID HABITATS, INCLUDING CONIFER & DECIDUOUS WOODLANDS, COASTAL SCRUB, GRASSLANDS, CHAPARRAL, ETC.		
	Micro: ROOSTS IN CREVICES IN CLIFF FACES, HIGH BUILDINGS, TREES AND TUNNELS.		



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Occurrence No.	6	Map Index: 26367	EO Index: 4098	Element Last Seen:	1993-06-05
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	1993-06-05
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1995-02-09

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.80155 / -117.71373	Accuracy:	1 mile
UTM:	Zone-11 N3740381 E433935	Elevation (ft):	1300
PLSS:	T04S, R08W (S)	Acres:	0.0

Location: VICINITY OF FREMONT CANYON/BLIND CANYON, IN THE SANTA ANA MOUNTAINS.
Detailed Location: COLLECTIONS/OBSERVATIONS FROM BOTH CANYONS INCLUDED HERE. NEEDS FIELDWORK.
Ecological: HABITAT CONSISTS OF CHAPARRAL/NON-NATIVE GRASSLAND IN THE UPPER SONORAN LIFE ZONE.
General: ROOST DETECTED IN AREA SPRING 1992 & 1993. 20 INDIVIDUALS HEARD, FORAGING AND FLYING OVERHEAD ON 5 JUNE 1993.
Owner/Manager: UNKNOWN

Occurrence No.	75	Map Index: 66319	EO Index: 66405	Element Last Seen:	1989-12-13
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1989-12-13
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2006-09-21

Quad Summary: Orange (3311777)
County Summary: Orange

Lat/Long:	33.78771 / -117.85312	Accuracy:	1 mile
UTM:	Zone-11 N3738945 E421019	Elevation (ft):	
PLSS:	T04S, R09W, Sec. 31 (S)	Acres:	0.0

Location: ORANGE.
Detailed Location: EXACT LOCATION UNKNOWN. MAPPED IN THE GENERAL VICINITY OF ORANGE.
Ecological:
General: 1 MALE SPECIMEN COLLECTED BY D.G. CONSTANTINE ON 13 DEC 1989, LACM #94014.
Owner/Manager: UNKNOWN

Occurrence No.	76	Map Index: 66320	EO Index: 66407	Element Last Seen:	1949-08-08
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1949-07-28
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2006-09-26

Quad Summary: Tustin (3311767), Newport Beach (3311768), Orange (3311777), Anaheim (3311778)
County Summary: Orange

Lat/Long:	33.74572 / -117.86785	Accuracy:	1 mile
UTM:	Zone-11 N3734300 E419616	Elevation (ft):	
PLSS:	T05S, R09W, Sec. 18 (S)	Acres:	0.0

Location: SANTA ANA.
Detailed Location: EXACT LOCATION UNKNOWN. MAPPED ACCORDING TO LAT/LONG COORDINATES GIVEN IN MANIS, WITH UNCERTAINTY OF 10000 M.
Ecological:
General: 1 FEMALE SPECIMEN COLLECTED BY A. SCHWARTZ AND L.M. WHITELOCH ON 28 JUL 1949, KU #150209. SPECIMEN COLLECTED 8 AUG 1949 AND DEPOSITED AT SBMNH.
Owner/Manager: UNKNOWN



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Occurrence No.	124	Map Index: 66374	EO Index: 66471	Element Last Seen:	1992-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1992-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2007-03-21
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.87167 / -117.68820		Accuracy:	1/10 mile	
UTM:	Zone-11 N3748140 E436349		Elevation (ft):	530	
PLSS:	T03S, R08W, Sec. 35, NE (S)		Acres:	0.0	
Location:	COAL CANYON.				
Detailed Location:	MAPPED ACCORDING TO LAT/LONG COORDINATES GIVEN WHICH PUTS THE SITE AT THE MOUTH OF COAL CYN WHERE IT MEETS SANTA ANA CANYON.				
Ecological:					
General:	INDIVIDUAL(S) DETECTED ACOUSTICALLY. ROOST DETECTED IN AREA SPRING 1992. HIGH USE AREA.				
Owner/Manager:	DPR-CHINO HILLS SP, UNKNOWN				
Occurrence No.	193	Map Index: 68660	EO Index: 69067	Element Last Seen:	XXXX-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	XXXX-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2007-03-22
Quad Summary:	Laguna Beach (3311757), Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.62097 / -117.78814		Accuracy:	nonspecific area	
UTM:	Zone-11 N3720410 E426894		Elevation (ft):		
PLSS:	T06S, R09W, Sec. 26 (S)		Acres:	152.0	
Location:	SHADY CANYON.				
Detailed Location:	EXACT LOCATION UNKNOWN, SO ENTIRE SHADY CANYON WAS MAPPED.				
Ecological:					
General:	INDIVIDUAL(S) DETECTED ACOUSTICALLY.				
Owner/Manager:	PVT-IRVINE CO				
Occurrence No.	194	Map Index: 45059	EO Index: 69068	Element Last Seen:	XXXX-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	XXXX-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2007-03-22
Quad Summary:	Black Star Canyon (3311776), Orange (3311777), Prado Dam (3311786), Yorba Linda (3311787)				
County Summary:	Orange				
Lat/Long:	33.86989 / -117.75878		Accuracy:	1 mile	
UTM:	Zone-11 N3747988 E429820		Elevation (ft):		
PLSS:	T03S, R08W, Sec. 31 (S)		Acres:	0.0	
Location:	YORBA REGIONAL PARK.				
Detailed Location:	EXACT LOCATION UNKNOWN. MAPPED IN GENERAL VICINITY OF YORBA REGIONAL PARK.				
Ecological:					
General:	INDIVIDUAL(S) DETECTED ACOUSTICALLY.				
Owner/Manager:	ORA COUNTY, OTHERS				



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Occurrence No.	195	Map Index:	15987	EO Index:	69069	Element Last Seen:	XXXX-XX-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		XXXX-XX-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2007-03-22	
Quad Summary:	Tustin (3311767)						
County Summary:	Orange						
Lat/Long:	33.66022 / -117.85184			Accuracy:	3/5 mile		
UTM:	Zone-11 N3724808 E421021			Elevation (ft):	10		
PLSS:	T06S, R09W, Sec. 07 (S)			Acres:	0.0		
Location:	SAN JOAQUIN RESERVE.						
Detailed Location:	EXACT LOCATION UNKNOWN, SO ENTIRE SAN JOAQUIN RESERVE WAS MAPPED.						
Ecological:							
General:	INDIVIDUAL(S) DETECTED ACOUSTICALLY.						
Owner/Manager:	UCNR-SAN JOAQUIN, ORA COUNTY						
Occurrence No.	198	Map Index:	68663	EO Index:	69072	Element Last Seen:	XXXX-XX-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		XXXX-XX-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2007-03-22	
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.73890 / -117.67328			Accuracy:	nonspecific area		
UTM:	Zone-11 N3733410 E437633			Elevation (ft):			
PLSS:	T05S, R08W, Sec. 13 (S)			Acres:	136.0		
Location:	LIMESTONE CANYON, EL TORO USGS QUADRANGLE.						
Detailed Location:	EXACT LOCATION IN LIMESTONE CANYON UNKNOWN, SO ENTIRE CANYON ON THE EL TORO QUAD WAS MAPPED.						
Ecological:							
General:	INDIVIDUAL(S) OBSERVED ANECDOTALLY.						
Owner/Manager:	PVT-IRVINE CO						



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<i>Perognathus longimembris pacificus</i>		Element Code: AMAFD01042	
Pacific pocket mouse			
Listing Status:	Federal: Endangered	CNDDDB Element Ranks:	Global: G5T1
	State: None		State: S1
	Other: CDFW_SSC-Species of Special Concern		
Habitat:	General: INHABITS THE NARROW COASTAL PLAINS FROM THE MEXICAN BORDER NORTH TO EL SEGUNDO, LOS ANGELES COUNTY.		
	Micro: SEEMS TO PREFER SOILS OF FINE ALLUVIAL SANDS NEAR THE OCEAN, BUT MUCH REMAINS TO BE LEARNED.		
Occurrence No.	4	Map Index: 39865	EO Index: 34867
Occ. Rank:	None	Presence: Extirpated	Element Last Seen: 1971-08-XX
Occ. Type:	Natural/Native occurrence	Trend: Unknown	Site Last Seen: 1971-08-XX
			Record Last Updated: 1998-09-30
Quad Summary:	Laguna Beach (3311757), Tustin (3311767)		
County Summary:	Orange		
Lat/Long:	33.61343 / -117.84729	Accuracy:	1 mile
UTM:	Zone-11 N3719617 E421400	Elevation (ft):	500
PLSS:	T06S, R09W, Sec. 32 (S)	Acres:	0.0
Location:	"SPYGLASS HILL," LAGUNA BEACH.		
Detailed Location:			
Ecological:			
General:	HISTORIC SITE. 2 UCI SPECIMENS COLLECTED IN 1971; ONE COLLECTED IN MARCH, THE OTHER IN AUGUST. 45 ADDITIONAL SPECIMENS COLLECTED BETWEEN JULY 1968 & OCT 1971.		
Owner/Manager:	UNKNOWN		



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Chaetodipus fallax fallax

Element Code: AMAFD05031

northwestern San Diego pocket mouse

Listing Status: **Federal:** None **CNDDDB Element Ranks:** **Global:** G5T3T4
State: None **State:** S3S4
Other: CDFW_SSC-Species of Special Concern

Habitat: **General:** COASTAL SCRUB, CHAPARRAL, GRASSLANDS, SAGEBRUSH, ETC. IN WESTERN SAN DIEGO COUNTY.
Micro: SANDY, HERBACEOUS AREAS, USUALLY IN ASSOCIATION WITH ROCKS OR COARSE GRAVEL.

Occurrence No. 106 **Map Index:** A6350 **EO Index:** 108108 **Element Last Seen:** 2016-11-03
Occ. Rank: Good **Presence:** Presumed Extant **Site Last Seen:** 2016-11-03
Occ. Type: Natural/Native occurrence **Trend:** Unknown **Record Last Updated:** 2017-10-25

Quad Summary: Santiago Peak (3311765), El Toro (3311766)

County Summary: Orange

Lat/Long: 33.69556 / -117.6274 **Accuracy:** specific area
UTM: Zone-11 N3728578 E441855 **Elevation (ft):** 1379
PLSS: T05S, R07W, Sec. 32, NE (S) **Acres:** 41.0

Location: NE SIDE E SANTIAGO CYN RD, FROM 0.4 MI N-0.5 MI NW OF THE RIDGELINE RD INTXN & 1.6-1.9 MI SE OF BOLERO PT, E OF IRVINE.

Detailed Location: MAPPED TO PROVIDED COORDINATES.

Ecological: MIXED SOUTHERN SCRUB (BLACK SAGE, LAUREL SUMAC & SUGAR BUSH) AND RUDERAL HERBACEOUS VEGETATION (ARTICHOKE THISTLE & MUSTARD), IN FOOTHILLS OF SANTA ANA MTS. LAND USED FOR GRAZING, IN OPEN SPACE WITH RURAL AND SUBURBAN RESIDENTIAL AREAS.

General: 13 ADULTS, 4 OF UNKNOWN AGE DETECTED ON 3 NOV 2016.

Owner/Manager: PVT



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Onychomys torridus ramona

Element Code: AMAFF06022

southern grasshopper mouse

Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G5T3
	State: None		State: S3
	Other: CDFW_SSC-Species of Special Concern		
Habitat:	General: DESERT AREAS, ESPECIALLY SCRUB HABITATS WITH FRIABLE SOILS FOR DIGGING. PREFERS LOW TO MODERATE SHRUB COVER.		
	Micro: FEEDS ALMOST EXCLUSIVELY ON ARTHROPODS, ESPECIALLY SCORPIONS AND ORTHOPTERAN INSECTS.		

Occurrence No.	50	Map Index:	A6349	EO Index:	108107	Element Last Seen:	2016-11-03
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		Record Last Updated:	2017-09-13
Occ. Type:	Natural/Native occurrence	Trend:	Unknown				

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.69449 / -117.62832	Accuracy:	specific area
UTM:	Zone-11 N3728460 E441769	Elevation (ft):	1388
PLSS:	T05S, R07W, Sec. 32, NE (S)	Acres:	6.0

Location: NE SIDE OF E SANTIAGO CYN RD ABOUT 0.3 MI SE OF THE MODJESKA GRADE RD INTERSECTION, E OF IRVINE.

Detailed Location: MAPPED TO PROVIDED COORDINATES.

Ecological: MIXED SOUTHERN SCRUB (BLACK SAGE, LAUREL SUMAC & SUGAR BUSH) AND RUDERAL HERBACEOUS VEGETATION (ARTICHOKE THISTLE & MUSTARD), IN FOOTHILLS OF SANTA ANA MTS. LAND USED FOR GRAZING, IN OPEN SPACE WITH RURAL AND SUBURBAN RESIDENTIAL AREAS.

General: 3 ADULTS DETECTED ON 3 NOV 2016.

Owner/Manager: PVT



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<i>Neotoma lepida intermedia</i>		Element Code: AMAFF08041	
San Diego desert woodrat			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G5T3T4
	State: None		State: S3S4
	Other: CDFW_SSC-Species of Special Concern		
Habitat:	General: COASTAL SCRUB OF SOUTHERN CALIFORNIA FROM SAN DIEGO COUNTY TO SAN LUIS OBISPO COUNTY.		
	Micro: MODERATE TO DENSE CANOPIES PREFERRED. THEY ARE PARTICULARLY ABUNDANT IN ROCK OUTCROPS, ROCKY CLIFFS, AND SLOPES.		

Occurrence No.	66	Map Index: 52585	EO Index: 52585	Element Last Seen:	2001-03-22
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-03-22
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-09-22

Quad Summary:	El Toro (3311766)
County Summary:	Orange

Lat/Long:	33.67401 / -117.70200	Accuracy:	nonspecific area
UTM:	Zone-11 N3726233 E434924	Elevation (ft):	500
PLSS:	T06S, R08W, Sec. 03 (S)	Acres:	44.1

Location:	WESTERN PORTION OF EL TORO MARINE CORPS AIR STATION, ABOUT 2.8 MI NE OF THE JUNCTION OF I-5 AND I-405.
Detailed Location:	COMMUNICATION STATION LANDFILL (INSTALLATION RESTORATION PROGRAM, SITE 17).
Ecological:	HABITAT ON PROJECT SITE CONSISTS OF CSS ON THE UPLANDS & MULE FAT SCRUB (DOM BY MULE FAT, TREE TOBACCO) IN THE DRAINAGE SYSTEM. RUDERAL VEGETATION (INC BLACK MUSTARD, RIPGUT GRASS, BROME SP., OTHERS) ON FLATTER, LOWER AREA OF SITE.
General:	9 NESTS OBSERVED SOMETIME DURING CALIFORNIA GNATCATCHER SURVEYS BETWEEN 12 DEC 2000 AND 22 MAR 2001.
Owner/Manager:	DOD-EL TORO MCAS

Occurrence No.	118	Map Index: A6348	EO Index: 108106	Element Last Seen:	2016-11-03
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2016-11-03
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-10-12

Quad Summary:	Santiago Peak (3311765), El Toro (3311766)
County Summary:	Orange

Lat/Long:	33.69551 / -117.62801	Accuracy:	specific area
UTM:	Zone-11 N3728572 E441798	Elevation (ft):	1341
PLSS:	T05S, R07W, Sec. 32, NE (S)	Acres:	26.0

Location:	NE SIDE OF E SANTIAGO CYN RD, FROM 0.4 MI N-0.5 MI NW OF THE RIDGELINE RD INTXN & 1.7 MI SE OF BOLERO PT, E OF IRVINE.
Detailed Location:	MAPPED TO PROVIDED COORDINATES.
Ecological:	MIXED SOUTHERN SCRUB (BLACK SAGE, LAUREL SUMAC & SUGAR BUSH) AND RUDERAL HERBACEOUS VEGETATION (ARTICHOKE THISTLE & MUSTARD), IN FOOTHILLS OF SANTA ANA MTS. LAND USED FOR GRAZING, IN OPEN SPACE WITH RURAL AND SUBURBAN RESIDENTIAL AREAS.
General:	6 ADULTS, 2 JUVENILES AND 2 OF UNKNOWN AGE DETECTED ON 3 NOV 2016.
Owner/Manager:	PVT

<i>Emys marmorata</i>		Element Code: ARAAD02030	
western pond turtle			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G3G4
	State: None		State: S3
	Other: BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive		



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Habitat:	General:	A THOROUGHLY AQUATIC TURTLE OF PONDS, MARSHES, RIVERS, STREAMS AND IRRIGATION DITCHES, USUALLY WITH AQUATIC VEGETATION, BELOW 6000 FT ELEVATION.		
	Micro:	NEEDS BASKING SITES AND SUITABLE (SANDY BANKS OR GRASSY OPEN FIELDS) UPLAND HABITAT UP TO 0.5 KM FROM WATER FOR EGG-LAYING.		

Occurrence No.	832	Map Index:	02604	EO Index:	28236	Element Last Seen:	1987-XX-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:	1987-XX-XX	Record Last Updated:	1995-12-20
Occ. Type:	Natural/Native occurrence	Trend:	Unknown				

Quad Summary: Tustin (3311767)
County Summary: Orange

Lat/Long:	33.65852 / -117.85283	Accuracy:	1/5 mile
UTM:	Zone-11 N3724620 E420928	Elevation (ft):	5
PLSS:	T06S, R09W, Sec. 18 (S)	Acres:	0.0

Location: SAN JOAQUIN FRESH WATER MARSH RESERVE, JUST N OF UC IRVINE.
Detailed Location:
Ecological: THE MARSH IS PROTECTED BY A SERIES OF CHAIN LINK FENCES.
General: OBSERVED OR COLLECTED BY BONZO ON 23 AUGUST 1977. OBSERVED BY BRATTSTROM AND MESSER DURING APRIL-DECEMBER 1987 FIELD SURVEY; POPULATION SIZE SMALL.
Owner/Manager: UCNR-SAN JOAQUIN MARSH

Occurrence No.	834	Map Index:	02951	EO Index:	28237	Element Last Seen:	1951-XX-XX
Occ. Rank:	None	Presence:	Possibly Extirpated	Site Last Seen:	1987-XX-XX	Record Last Updated:	1991-06-12
Occ. Type:	Natural/Native occurrence	Trend:	Unknown				

Quad Summary: El Toro (3311766), Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.74530 / -117.65491	Accuracy:	1 mile
UTM:	Zone-11 N3734108 E439340	Elevation (ft):	1100
PLSS:	T05S, R07W, Sec. 07 (S)	Acres:	0.0

Location: SILVERADO CANYON, CLEVELAND NATIONAL FOREST.
Detailed Location:
Ecological:
General: COLLECTED OR OBSERVED BY PEQUEQNAT IN 1951. BRATTSTROM (1990) CONSIDERS THIS POP EXTIRPATED.
Owner/Manager: PVT, USFS-CLEVELAND NF



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Occurrence No.	948	Map Index: 17227	EO Index: 12025	Element Last Seen: 1990-05-21
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen: 1990-05-21
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1990-12-06
Quad Summary:	Black Star Canyon (3311776)			
County Summary:	Orange			
Lat/Long:	33.75613 / -117.63037		Accuracy: 1/5 mile	
UTM:	Zone-11 N3735295 E441620		Elevation (ft): 1300	
PLSS:	T05S, R07W, Sec. 08, NE (S)		Acres: 0.0	
Location:	BOTTOM END OF LADD CANYON, NORTH OF SILVERADO CANYON, 0.5 MI EAST OF MUSTANG SPRING.			
Detailed Location:	ONE INDIVIDUAL OBSERVED BASKING ON A ROCK IN A SMALL POOL. STREAM BOTTOM COMPOSED OF SMALL BOULDER AND COBBLE-SIZED MATERIAL, WITH A 50% OVERSTORY CANOPY ALONG PERENNIAL POOLS.			
Ecological:	SURROUNDING HABITAT IS SYCAMORE/ALDER RIPARIAN, WITH A SCATTERED SPARSE UNDERSTORY OF WILLOW AND POISON OAK. COAST LIVE OAKS DOMINATE ADJACENT SLOPES, TURNING TO COASTAL SAGE SCRUB UPSLOPE ALONG CANYON.			
General:	CURRENTLY AN UNDISTURBED WILDLAND; DOWNSTREAM DEVELOPMENTS ON PRIVATE LAND MAY ENCOURAGE USE UPSTREAM. THIS AREA IS CURRENTLY UNDER CONSIDERATION FOR USFS LAND EXCHANGE; CONSERVATION EASEMENT MAY BE NEGOTIATED TO PROTECT SPECIES.			
Owner/Manager:	USFS-CLEVELAND NF			
Occurrence No.	967	Map Index: 20243	EO Index: 334	Element Last Seen: 1990-11-07
Occ. Rank:	Fair		Presence: Presumed Extant	Site Last Seen: 1990-11-07
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1996-04-02
Quad Summary:	Tustin (3311767)			
County Summary:	Orange			
Lat/Long:	33.63423 / -117.85168		Accuracy: nonspecific area	
UTM:	Zone-11 N3721926 E421012		Elevation (ft): 120	
PLSS:	T06S, R09W, Sec. 19, W (S)		Acres: 47.6	
Location:	POND AND DRAINAGE BELOW SPILLWAY, NORTHWEST OF BONITA RESERVOIR, APPROXIMATELY 1 MILE SOUTHWEST OF UC IRVINE.			
Detailed Location:	ARTIFICIAL POND REPORTEDLY CREATED FROM SPILLWAY BELOW BONITA CANYON RESERVOIR.			
Ecological:	MAN-MADE POND AND EPHEMERAL DRAINAGE SURROUNDED BY COASTAL SCRUB HABITAT AND DISTURBED GRASSLAND; TYPHA AND SCIRPUS IN POND, SALIX ALONG DRAINAGE; POND SUBSTRATE HEAVY CLAY, FLAT ASPECT, SLIGHT SLOPE AND OPEN CANOPY COVER.			
General:	1988: <10 TURTLES (75% ADULTS, 25% JUV) OBS IN POND BY V.N. SCHEIDT; 1989: TURTLE(S) OBS IN POND BY BRATTSTROM (1990); 1990: 1 TURTLE OBS, WITH PRESENCE OF AT LEAST 1 OTHER TURTLE NOTED BY M.W. O'CONNELL.			
Owner/Manager:	PVT-IRVINE CO			



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Occurrence No.	975	Map Index: 24345	EO Index: 6516	Element Last Seen:	1993-06-30
Occ. Rank:	Fair		Presence: Presumed Extant	Site Last Seen:	1993-06-30
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1993-09-02
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.69701 / -117.82378		Accuracy:	80 meters	
UTM:	Zone-11 N3728866 E423656		Elevation (ft):	45	
PLSS:	T05S, R09W, Sec. 33, E (S)		Acres:	0.0	
Location:	NORTH SIDE OF SAN JOAQUIN ROAD, TUSTIN MARINE CORPS AIR STATION.				
Detailed Location:	TURTLE FOUND IN FLOOD CONTROL CHANNEL THAT RUNS ADJACENT TO SAN JOAQUIN ROAD.				
Ecological:					
General:	ONE ADULT OBSERVED IN 1993.				
Owner/Manager:	DOD-TUSTIN MCAS				
Occurrence No.	1028	Map Index: 32722	EO Index: 1280	Element Last Seen:	198X-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	198X-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1995-12-20
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.70858 / -117.81039		Accuracy:	nonspecific area	
UTM:	Zone-11 N3730139 E424907		Elevation (ft):	56	
PLSS:	T05S, R09W, Sec. 27 (S)		Acres:	309.6	
Location:	TUSTIN MARINE CORPS AIR STATION; SANTA FE CHANNEL FROM APPROX. IRVINE SIDING TO CONFLUENCE WITH PETERS CANYON CHANNEL.				
Detailed Location:	SECTION GIVEN FOR T/R/SEC MAY BE WRONG, ALTERNATE SURVEY TECHNIQUE USED IN ORANGE COUNTY.				
Ecological:	SITE IS HELICOPTER AIR STATION.				
General:	4 OBSERVATIONS OF TURTLES ALONG THIS CHANNEL. CROSS REFERENCE WITH ROBERT FISHER.				
Owner/Manager:	DOD-USMC				
Occurrence No.	1029	Map Index: 32723	EO Index: 1377	Element Last Seen:	198X-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	198X-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1995-12-07
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.65191 / -117.85899		Accuracy:	1/5 mile	
UTM:	Zone-11 N3723892 E420350		Elevation (ft):	23	
PLSS:	T06S, R09W (S)		Acres:	0.0	
Location:	SAN DIEGO CREEK; 0.2 KM NNE OF HIGHWAY 73 X UNIVERSITY DRIVE, UC IRVINE.				
Detailed Location:					
Ecological:					
General:	TURTLE OBSERVED AT SITE; CROSS REFERENCE WITH ROBERT FISHER; TURTLE OBSERVATION BY B. BRATTSTROM (PERS. COM), DATE UNKNOWN.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	1030	Map Index: 32724	EO Index: 1376	Element Last Seen:	198X-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	198X-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1995-11-13
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.65434 / -117.84690		Accuracy:	1/5 mile	
UTM:	Zone-11 N3724152 E421474		Elevation (ft):	20	
PLSS:	T06S, R09W (S)		Acres:	0.0	
Location:	SAN DIEGO CREEK; 1.3 KM ENE OF HIGHWAY 73 X UNIVERSITY DRIVE.				
Detailed Location:					
Ecological:					
General:	TURTLE OBSERVED; CROSS REFERENCE WITH ROBERT FISHER.				
Owner/Manager:	UNKNOWN				
Occurrence No.	1031	Map Index: 32725	EO Index: 1279	Element Last Seen:	198X-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	198X-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1995-11-13
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.64965 / -117.79756		Accuracy:	1/5 mile	
UTM:	Zone-11 N3723596 E426045		Elevation (ft):	138	
PLSS:	T06S, R09W (S)		Acres:	0.0	
Location:	SAND CANYON WASH; 0.3 KM DOWNSTREAM FROM SAND CANYON RESERVOIR, WILLIAM R. MASON REGIONAL PARK.				
Detailed Location:					
Ecological:					
General:	TURTLE OBSERVED; CROSS REFERENCE TO ROBERT FISHER.				
Owner/Manager:	ORA COUNTY-MASON RP				



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Anniella stebbinsi		Element Code: ARACC01060	
southern California legless lizard			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G3
	State: None		State: S3
	Other: CDFW_SSC-Species of Special Concern, USFS_S-Sensitive		
Habitat:	General: GENERALLY SOUTH OF THE TRANSVERSE RANGE, EXTENDING TO NORTHWESTERN BAJA CALIFORNIA. OCCURS IN SANDY OR LOOSE LOAMY SOILS UNDER SPARSE VEGETATION. DISJUNCT POPULATIONS IN THE TEHACHAPI AND PIUTE MOUNTAINS IN KERN COUNTY.		
	Micro: VARIETY OF HABITATS; GENERALLY IN MOIST, LOOSE SOIL. THEY PREFER SOILS WITH A HIGH MOISTURE CONTENT.		

Occurrence No.	187	Map Index: B0725	EO Index: 112594	Element Last Seen:	1964-01-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1964-01-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-09-19
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.84287 / -117.85448		Accuracy:	nonspecific area	
UTM:	Zone-11 N3745063 E420944		Elevation (ft):	209	
PLSS:	T04S, R09W, Sec. 7 (S)		Acres:	273.0	
Location:	ALONG THE SANTA ANA RIVER BED, ABOUT 4.3 MILES SE OF FULLERTON.				
Detailed Location:	MAPPED NON-SPECIFICALLY TO THE RIVER BED CLOSEST TO FULLERTON, BETWEEN LINCOLN AVE AND THE TOPEKA & SANTA FE RAIL BRIDGE (N ORANGE OLIVE RD).				
Ecological:	1960 AERIALS SHOW THE RIVER LESS MANAGED WITH A MEANDERING PATH WITHIN ITS LEVEES, AND SURROUNDED BY ORCHARDS. 1968 AERIALS SHOW THE RIVER MANAGED WITH (SEDIMENT/RECHARGE) PONDS AND THE SURROUNDING AREA CONVERTED TO RESIDENTIAL HOUSING.				
General:	ONE WAS COLLECTED IN JAN 1964.				
Owner/Manager:	UNKNOWN				

Occurrence No.	192	Map Index: B0745	EO Index: 112615	Element Last Seen:	1970-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1970-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-09-20
Quad Summary:	El Toro (3311766), Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.74779 / -117.66599		Accuracy:	nonspecific area	
UTM:	Zone-11 N3734391 E438316		Elevation (ft):	988	
PLSS:	T05S, R08W, Sec. 12, S (S)		Acres:	138.0	
Location:	LOWER SILVERADO CANYON AT SANTIAGO CYN, N OF IRVINE MESA & SILVERADO CYN RD & E OF BLACK STAR CYN RD, SANTA ANA MTS.				
Detailed Location:	ABOUT 10.5 MILES NE OF CENTRAL IRVINE AND EAST OF SANTIAGO CANYON RD. EXACT LOCATION OF COLLECTION SITE UNKNOWN. MAPPED NON-SPECIFICALLY WITH RESPECT TO LOCATION STATED AS ORANGE COUNTY AT "END OF SILVERADO CANYON."				
Ecological:					
General:	1 COLLECTED IN 1970 AND DEPOSITED IN THE CSU LONG BEACH COLLECTIONS.				
Owner/Manager:	UNKNOWN				

Phrynosoma blainvillii		Element Code: ARACF12100	
coast horned lizard			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G3G4
	State: None		State: S3S4



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Habitat:	Other: BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern
	General: FREQUENTS A WIDE VARIETY OF HABITATS, MOST COMMON IN LOWLANDS ALONG SANDY WASHES WITH SCATTERED LOW BUSHES.
	Micro: OPEN AREAS FOR SUNNING, BUSHES FOR COVER, PATCHES OF LOOSE SOIL FOR BURIAL, AND ABUNDANT SUPPLY OF ANTS AND OTHER INSECTS.

Occurrence No.	116	Map Index:	02885	EO Index:	9759	Element Last Seen:	1986-05-03
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1986-05-03	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2011-01-31	

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.85815 / -117.69484	Accuracy:	1 mile
UTM:	Zone-11 N3746645 E435726	Elevation (ft):	1400
PLSS:	T04S, R08W, Sec. 02 (S)	Acres:	0.0

Location: SANTA ANA MOUNTAINS, RIDGE BETWEEN COAL AND GYPSUM CANYONS, AND THE CANYONS THEMSELVES, JUST S OF HWY 91.
Detailed Location: THE CORAL CANYON-TECATE CYPRESS AREA. LIZARDS FOUND BOTH ON THE COAL-GYPSUM RIDGELINE AND ON THE E SIDE OF GYPSUM CANYON.
Ecological: RARE TECATE CYPRESS FOREST THAT COVERS SEVERAL HUNDRED ACRES. TWO ACTIVE GOLDEN EAGLE'S NESTS FOUND. LAND OWNERS INCLUDE INTERPACE OF NEW JERSEY, STATE PARKS (CHINO HILLS SP), AND DEPT. OF FISH AND GAME (COAL CYN ER).
General: UNKNOWN NUMBERS DETECTED IN OR BEFORE 1984. OBSERVED 1 LIZARD, 1 ROAD-KILL, AND 3 SCATS ON 5 MAR 1986. BRATTSTROM INDICATED THAT THEY OCCURRED IN THIS AREA, BUT NO DATES OR SPECIFIC LOCATIONS INCLUDED.
Owner/Manager: DPR-CHINO HILLS SP, DFG, PVT

Occurrence No.	275	Map Index:	02853	EO Index:	12297	Element Last Seen:	1988-06-08
Occ. Rank:	Excellent	Presence:	Presumed Extant	Site Last Seen:		1988-06-08	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2012-10-11	

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.84107 / -117.71487	Accuracy:	1/10 mile
UTM:	Zone-11 N3744764 E433859	Elevation (ft):	800
PLSS:	T04S, R08W, Sec. 09, NE (S)	Acres:	0.0

Location: GYPSUM CANYON, ABOUT 2 MI SOUTH OF HWY 91, 7 MI E OF JCT OF HWY 55 & 91.
Detailed Location: MAPPED TO PROVIDED MAP. SPECIMEN LOCALITY STATED AS "RIV FRWY, GYPSUM CYN, 7.5 MI E JCT 55 & 91, ~2 MI UP CYN FROM FRWY."
Ecological: HABITAT DESCRIBED AS DRY, SANDY STREAM BED WITH MIXED CHAPARRAL ON ADJACENT SLOPES, DOMINATED BY ADENOSTOMA FASCICULATUM & MALACOTHAMNUS FASCICULATUS. EASTERN TRANSPORTATION CORRIDOR (TO THE W) WAS BUILT BETWEEN 1994 & 1999.
General: 2 COLLECTED BY B. BYRNE ON 7 JUL 1962 (LACM #101384-5). ONE LIZARD OBSERVED ON 8 JUN 1988.
Owner/Manager: PVT



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Occurrence No.	317	Map Index: 20508	EO Index: 9903	Element Last Seen: 1990-07-17
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen: 1990-07-17
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1991-11-26

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.84570 / -117.68282	Accuracy:	80 meters
UTM:	Zone-11 N3745257 E436828	Elevation (ft):	1800
PLSS:	T04S, R08W, Sec. 34 (S)	Acres:	0.0

Location: 2 MI SE OF THE JCT OF HWY 91 AND GYPSUM CANYON ROAD, SOUTH OF SANTA ANA CANYON.

Detailed Location:

Ecological: HABITAT IS TECATE CYPRESS CHAPARRAL.

General: LIZARD SCAT OBSERVED.

Owner/Manager: UNKNOWN

Occurrence No.	318	Map Index: 20510	EO Index: 9905	Element Last Seen: 1988-07-13
Occ. Rank:	Fair		Presence: Presumed Extant	Site Last Seen: 1988-07-13
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1991-12-03

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.80574 / -117.72407	Accuracy:	80 meters
UTM:	Zone-11 N3740852 E432981	Elevation (ft):	800
PLSS:	T04S, R08W, Sec. 37 (S)	Acres:	0.0

Location: BLIND CANYON, 1.3 MI NORTH OF SANTIAGO DAM.

Detailed Location:

Ecological: HABITAT IS A DRY, SANDY WASH SURROUNDED BY SLOPES OF SPARSE COASTAL SAGE SCRUB AND NON-NATIVE GRASSLAND.

General: ONE LIZARD OBSERVED.

Owner/Manager: PVT

Occurrence No.	319	Map Index: 20509	EO Index: 9904	Element Last Seen: 1988-06-18
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen: 1988-06-18
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1991-12-03

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.83247 / -117.71788	Accuracy:	80 meters
UTM:	Zone-11 N3743812 E433574	Elevation (ft):	1300
PLSS:	T04S, R08W, Sec. 23 (S)	Acres:	0.0

Location: RIDGE AT UPPER END OF GYPSUM CANYON, 2 MI SOUTH OF HWY 91 AND 0.5 MI WEST OF GYPSUM CANYON ROAD.

Detailed Location:

Ecological: HABITAT CONSISTS OF SPARSE COASTAL SAGE SCRUB, DOMINATED BY ARTEMISIA CALIFORNICA, MALACOTHAMNUS FASCICULATUS, AND ERIOGONUM FASCICULATUM.

General: ONE LIZARD OBSERVED ON ROAD.

Owner/Manager: PVT



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Occurrence No.	332	Map Index: 20575	EO Index: 9764	Element Last Seen:	XXXX-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	XXXX-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1992-02-20
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.83755 / -117.84743		Accuracy:	1 mile	
UTM:	Zone-11 N3744467 E421592		Elevation (ft):	225	
PLSS:	T04S, R09W (S)		Acres:	0.0	
Location:	VICINITY OF OLIVE, ORANGE COUNTY.				
Detailed Location:					
Ecological:					
General:	HISTORICAL (PRE-1985) MUSEUM RECORD FROM AMNH.				
Owner/Manager:	UNKNOWN				
Occurrence No.	333	Map Index: 20576	EO Index: 9761	Element Last Seen:	1922-XX-XX
Occ. Rank:	None		Presence: Possibly Extirpated	Site Last Seen:	1922-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2010-12-29
Quad Summary:	Tustin (3311767), Newport Beach (3311768), Orange (3311777), Anaheim (3311778)				
County Summary:	Orange				
Lat/Long:	33.75954 / -117.86522		Accuracy:	1 mile	
UTM:	Zone-11 N3735831 E419873		Elevation (ft):	135	
PLSS:	T05S, R09W (S)		Acres:	0.0	
Location:	VICINITY OF SANTA ANA, ORANGE COUNTY.				
Detailed Location:					
Ecological:	2009 AERIAL IMAGERY SHOWS THAT THIS AREA IS COMPLETELY DEVELOPED.				
General:	HISTORICAL SITE; FOUND IN 1922 BY VANDENBURG.				
Owner/Manager:	UNKNOWN				
Occurrence No.	335	Map Index: 20570	EO Index: 9760	Element Last Seen:	1990-06-11
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen:	1990-06-11
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1998-10-08
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.83313 / -117.74047		Accuracy:	nonspecific area	
UTM:	Zone-11 N3743900 E431484		Elevation (ft):	700	
PLSS:	T04S, R08W, Sec. 08 (S)		Acres:	154.4	
Location:	WIER CANYON, TRAILHEAD 900 FT SSW CORNER OF HIDDEN CYN RD & OVERLOOK TERRACE, 0.6 MILE SE OF WALNUT CANYON RESERVOIR.				
Detailed Location:	1981 SITE DISCRIPTION WAS WEIR CANYON.				
Ecological:	COASTAL SAGE SCRUB AND CHAPARRAL.				
General:	1 JUVENILE OBSERVED ON TRAIL 9 JUNE 1990 AND 1 ADULT FOUND IN SANDY OPENING 11 JUNE 1991. ALSO FOUND IN 1981; SITE INFORMATION PROVIDED TO BRATTSTROM BY MICHAEL BENNER.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	337	Map Index: 20571	EO Index: 9758	Element Last Seen:	1985-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1985-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1992-01-22
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.75960 / -117.67652		Accuracy:	2/5 mile	
UTM:	Zone-11 N3735707 E437348		Elevation (ft):	900	
PLSS:	T05S, R08W (S)		Acres:	0.0	
Location:	JUNCTION OF SILVERADO CANYON WITH SANTIAGO CANYON.				
Detailed Location:					
Ecological:					
General:	OBSERVATION MADE BETWEEN 1985-91; SITE REVEALED TO BRATTSTROM BY DENNIS STRONG.				
Owner/Manager:	UNKNOWN				
Occurrence No.	376	Map Index: 21133	EO Index: 25029	Element Last Seen:	1991-06-20
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1991-06-20
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2011-02-02
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.66738 / -117.69527		Accuracy:	1/5 mile	
UTM:	Zone-11 N3725493 E435543		Elevation (ft):	500	
PLSS:	T06S, R08W (S)		Acres:	0.0	
Location:	BORREGO CANYON WASH, ABOUT 1.25 MI E OF EL TORO MARINE CORPS AIR STATION & 2.75 MI NE OF JUNCTION OF I-5 & I-405.				
Detailed Location:					
Ecological:	LIZARD SCAT OBSERVED IN A FLAT AREA SPARSELY VEGETATED WITH SHORT-PODDED MUSTARD. SEVERAL HARVESTER ANT COLONIES SEEN ALSO.				
General:	LOCAL USERS OF THE SITE HAVE REPORTED NUMEROUS SIGHTINGS OF HORNED LIZARDS IN THE NORTHERN PART OF THE SITE.				
Owner/Manager:	DOD-EL TORO MCAS				
Occurrence No.	398	Map Index: 25612	EO Index: 5748	Element Last Seen:	1971-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1971-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1994-03-16
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.82752 / -117.75741		Accuracy:	2/5 mile	
UTM:	Zone-11 N3743289 E429913		Elevation (ft):	1000	
PLSS:	T04S, R08W (S)		Acres:	0.0	
Location:	ROBBERS PEAK, IN THE PERALTA HILLS, SE OF YORBA LINDA.				
Detailed Location:	LIZARDS USUALLY FOUND ON THE SANDY, DIRT ROADS.				
Ecological:	HABITAT CONSISTS OF COASTAL SAGE SCRUB, DOMINATED BY ERIOGONUM FASCICULATUM.				
General:	AS MANY AS 15 LIZARDS OBSERVED, DURING 1965-71.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	461	Map Index:	46991	EO Index:	46991	Element Last Seen:	2000-09-08
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2000-09-08	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2002-01-15	
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.80559 / -117.70983	Accuracy:	80 meters				
UTM:	Zone-11 N3740827 E434299	Elevation (ft):	1400				
PLSS:	T04S, R08W, Sec. 22, E (S)	Acres:	0.0				
Location:	RIDGE BETWEEN BLIND CANYON AND FREMONT CANYON, IN THE SANTA ANA MOUNTAINS.						
Detailed Location:							
Ecological:	HABITAT CONSISTS OF CHAPARRAL, DOMINATED BY MALOSMA LAURINA AND CEANOTHUS CRASSIFOLIUS; CLAY SOILS.						
General:	1 JUVENILE (SVL=30 MM) OBSERVED ON A TRUCK TRAIL ADJACENT TO AN ABANDONED MINING AREA, 8 SEP 2000.						
Owner/Manager:	PVT-IRVINE CO						
Occurrence No.	500	Map Index:	53063	EO Index:	53065	Element Last Seen:	1999-10-19
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1999-10-19	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2003-10-27	
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.83790 / -117.72233	Accuracy:	80 meters				
UTM:	Zone-11 N3744418 E433166	Elevation (ft):	1221				
PLSS:	T04S, R08W, Sec. 09 (S)	Acres:	0.0				
Location:	NORTH OF WEIR CANYON, ABOUT 1.4 MILES ESE OF WALNUT CANYON RESERVOIR.						
Detailed Location:	SITE NAME: WEIR CANYON. THIS SITE IS A CORE CENTRAL SITE IN THE NATURE RESERVE OF ORANGE COUNTY. PIT-FALL TRAP ARRAYS 11 & 12.						
Ecological:							
General:	8 INDIVIDUALS CAPTURED IN PIT-FALL ARRAY 11 & 4 CAPTURED IN ARRAY 12. 8 SAMPLING PERIODS FROM 5 AUG 1998 TO 19 OCT 1999 (74 SAMPLE DAYS) FOR ALL 12 ARRAYS AT THIS SITE, UNKNOWN EXACTLY WHICH DATES APPLY TO THESE ARRAYS.						
Owner/Manager:	PVT-IRVINE CO						



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Occurrence No.	501	Map Index:	53075	EO Index:	53075	Element Last Seen:	1999-12-01
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1999-12-01	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2003-10-28	
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.73634 / -117.69105			Accuracy:	specific area		
UTM:	Zone-11 N3733137 E435985			Elevation (ft):	1400		
PLSS:	T05S, R08W, Sec. 14 (S)			Acres:	30.7		
Location:	LOMA RIDGE, SOUTH AND WEST OF LIMESTONE CANYON. ABOUT 3 MILES SSE OF SANTIAGO RESERVOIR.						
Detailed Location:	SITE NAME: LIMESTONE CANYON. THIS SITE IS PART OF THE CENTRAL PLAN FOR ORANGE COUNTY. PIT-FALL TRAP ARRAYS 8, & 14-17.						
Ecological:							
General:	43 TAKEN IN PIT-FALL TRAP ARRAY 8 & 23 TAKEN IN ARRAYS 14-17 (1-13 CAPTURES PER ARRAY). 22 SAMPLING PERIODS FROM 8/22/1995 TO 12/1/1999 (210 SAMPLE DAYS) FOR ALL 17 ARRAYS AT THIS SITE, UNKNOWN EXACTLY WHICH DATES APPLY TO THESE ARRAYS.						
Owner/Manager:	TNC						

Occurrence No.	888	Map Index:	A6619	EO Index:	108386	Element Last Seen:	2017-03-14
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2017-03-14	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2017-09-29	
Quad Summary:	Santiago Peak (3311765), El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.69654 / -117.6264			Accuracy:	80 meters		
UTM:	Zone-11 N3728686 E441948			Elevation (ft):	1461		
PLSS:	T05S, R07W, Sec. 32, NE (S)			Acres:	5.0		
Location:	0.4 MI ESE OF E SANTIAGO CYN RD AT MODJESKA GRADE RD & 0.4 MI NE OF TOPANGA CYN RD AT WOOD CYN RD, NE OF LAKE FOREST.						
Detailed Location:	MAPPED TO PROVIDED COORDINATES.						
Ecological:	SOUTHERN MIXED CHAPARRAL WITH BLACK SAGE, LAUREL SUMAC & SUGAR BUSH.						
General:	1 ADULT OBSERVED ON 14 MAR 2017.						
Owner/Manager:	PVT						

<i>Aspidoscelis hyperythra</i>	Element Code: ARACJ02060		
orange-throated whiptail			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G5
	State: None		State: S2S3
	Other: CDFW_WL-Watch List, IUCN_LC-Least Concern, USFS_S-Sensitive		
Habitat:	General: INHABITS LOW-ELEVATION COASTAL SCRUB, CHAPARRAL, AND VALLEY-FOOTHILL HARDWOOD HABITATS.		
	Micro: PREFERS WASHES AND OTHER SANDY AREAS WITH PATCHES OF BRUSH AND ROCKS. PERENNIAL PLANTS NECESSARY FOR ITS MAJOR FOOD: TERMITES.		



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Occurrence No.	42	Map Index: 02730	EO Index: 12280	Element Last Seen: 1962-05-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 1962-05-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2012-03-05
Quad Summary:	Orange (3311777)			
County Summary:	Orange			
Lat/Long:	33.80251 / -117.78061		Accuracy: 1 mile	
UTM:	Zone-11 N3740532 E427745		Elevation (ft): 490	
PLSS:	T04S, R09W, Sec. 25 (S)		Acres: 0.0	
Location:	ORANGE PARK ACRES.			
Detailed Location:	LOCALITY STATED AS "4 MI N SANTIAGO DAM IN ORANGE PARK ACRES IN ORANGE." MAPPED TO ORANGE PARK ACRES, WHICH IS ABOUT 3.5 MI WNW SANTIAGO DAM.			
Ecological:	MUCH OF THE AREA APPEARS DEVELOPED SINCE 1994 ACCORDING TO AIR PHOTOS. MORE RESEARCH IS NEEDED TO DETERMINE IF THE SPECIES EXISTS IN SUITABLE HABITAT NEARBY.			
General:	LACM SPECIMEN #99849 COLLECTED BY R.C. ANDERSON ON 19 MAY 1962. ACCORDING TO BRATTSTROM, STILL EXTANT AT OR NEAR THIS SITE IN 1990.			
Owner/Manager:	UNKNOWN			
Occurrence No.	116	Map Index: 17764	EO Index: 10064	Element Last Seen: 1988-06-10
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen: 1988-06-10
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1992-01-07
Quad Summary:	Black Star Canyon (3311776)			
County Summary:	Orange			
Lat/Long:	33.85588 / -117.71431		Accuracy: 1/5 mile	
UTM:	Zone-11 N3746406 E433923		Elevation (ft): 600	
PLSS:	T04S, R08W, Sec. 28 (S)		Acres: 0.0	
Location:	0.75 MILE SOUTH OF HWY 91 AND 0.5 MILE WEST OF GYPSUM CANYON ROAD.			
Detailed Location:				
Ecological:	HABITAT IS SOUTHERN OAK WOODLAND IN CANYON BOTTOM.			
General:	ONE ADULT SEEN.			
Owner/Manager:	PVT			
Occurrence No.	162	Map Index: 20244	EO Index: 11996	Element Last Seen: 1990-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 1990-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1992-02-21
Quad Summary:	Black Star Canyon (3311776)			
County Summary:	Orange			
Lat/Long:	33.77105 / -117.72644		Accuracy: 3/5 mile	
UTM:	Zone-11 N3737008 E432734		Elevation (ft): 1100	
PLSS:	T05S, R08W, Sec. 04 (S)		Acres: 0.0	
Location:	BETWEEN IRVINE LAKE (SANTIAGO RESERVOIR) AND IRVINE PARK (IRVINE LAKE PARK), JUST E OF IRVINE PARK WILDERNESS AREA.			
Detailed Location:				
Ecological:				
General:	BRATTSTROM GIVES SOURCE OF INFORMATION AS LEW HAMBY.			
Owner/Manager:	UNKNOWN			



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Occurrence No.	163	Map Index:	20245	EO Index:	11997	Element Last Seen:	1990-XX-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1990-XX-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1992-03-10	

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.86103 / -117.68496	Accuracy:	3/5 mile
UTM:	Zone-11 N3746958 E436642	Elevation (ft):	800
PLSS:	T03S, R08W, Sec. 31 (S)	Acres:	0.0

Location: COAL CANYON, SOUTH OF HWY 91, EAST OF GYPSUM CANYON.

Detailed Location:

Ecological:

General: BRATTSTROM GIVES SOURCE OF INFORMATION AS L.A.S.

Owner/Manager: UNKNOWN

Occurrence No.	180	Map Index:	20475	EO Index:	24012	Element Last Seen:	1991-11-17
Occ. Rank:	Excellent	Presence:	Presumed Extant	Site Last Seen:		1991-11-17	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1992-03-26	

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.66556 / -117.64492	Accuracy:	80 meters
UTM:	Zone-11 N3725261 E440210	Elevation (ft):	900
PLSS:	T06S, R07W (S)	Acres:	0.0

Location: UPPER ALISO CREEK WATERSHED, JUST NORTH OF EL TORO ROAD, APPROXIMATELY 4 MI NE OF EL TORO.

Detailed Location:

Ecological: HABITAT IS A SERIES OF SW-RUNNING RIDGES VEGETATED BY SOUTHERN CACTUS SCRUB & A MOSAIC OF COASTAL SAGE SCRUB & ANNUAL/NATIVE GRASSLANDS. DOMINANT PLANTS INCLUDE ARTEMISIA CALIFORNICA, ERIOGONUM FASCICULATUM, NASSELLA PULCHRA, ARISTIDA SP.

General: ONE JUVENILE OBSERVED FORAGING. SAN DIEGO CACTUS WRENS AND CALIFORNIA GNATCATCHERS ALSO INHABIT THIS BIOLOGICALLY UNIQUE AREA.

Owner/Manager: PVT-HON/FOOTHILL RANCH



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Occurrence No.	199	Map Index: B4283	EO Index: 11624	Element Last Seen:	2017-06-22
Occ. Rank:	Fair		Presence: Presumed Extant	Site Last Seen:	2017-06-22
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-10-21

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.66798 / -117.69621	Accuracy:	specific area
UTM:	Zone-11 N3725560 E435456	Elevation (ft):	526
PLSS:	T06S, R08W, Sec. 10 (S)	Acres:	37.0

Location: BORREGO CANYON WASH, FROM ABOUT 0.4 TO 0.8 MI NE OF IRVINE BLVD AT ALTON PKWY & 1.4 TO 1.8 MI SW OF CA-241 AT ALTON PKWY

Detailed Location: MAPPED TO LOCATIONS PROVIDED FOR 1991 DETECTIONS AND COORDINATES GIVEN FOR 2012 & 2017 DETECTIONS. EXACT LOCATION OF 2002 & 2013 DETECTIONS UNKNOWN, BUT THE SURVEYS TOOK PLACE IN THIS VICINITY. FORMER EL TORO MARINE CORPS AIR STATION.

Ecological: 1991: 50-ACRE SITE W/MIX OF WASHES, NON-NATIVE GRASSLAND & COASTAL SAGE SCRUB (CSS). 2012: DRY WASH W/SCATTERED MULEFAT & WILLOWS, CSS ON ADJACENT HILLSIDES. 2017: MITIGATION SITE ADJACENT TO ORANGE COUNTY GREAT PARK, OPEN AREA W/ROCKS, CSS

General: 6 OBSERVED MAY-JUN 1991. 1 OBS, 1992. OBSERVED IN VICINITY DURING BIRD SURVEYS, MAY-JUL 2002. OBSERVED IN 2006 & 2007. 2 ADULTS OBS, 26 MAY 2012; ABUNDANT IN JUN 2012. 1 ADULT OBSERVED 22 JUN 2017.

Owner/Manager: ORA COUNTY, UNKNOWN

Occurrence No.	205	Map Index: 21397	EO Index: 8377	Element Last Seen:	1990-09-24
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen:	1990-09-24
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1995-11-13

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.70829 / -117.72783	Accuracy:	1/5 mile
UTM:	Zone-11 N3730050 E432557	Elevation (ft):	500
PLSS:	T05S, R08W (S)	Acres:	0.0

Location: HILLS SOUTHEAST OF SIPHON RESERVOIR, ABOUT 1.5 MILES NORTH OF EL TORO MARINE CORPS AIR STATION.

Detailed Location:

Ecological: ABOUT 75 ACRES OF HIGH QUALITY COASTAL SAGE SCRUB. DOMINANT PLANTS INCLUDE ARTEMISIA CALIFORNICA, AND ERIOGONUM FASCICULATUM. CITRUS AND AVOCADO GROVES SURROUND THE SITE.

General: ONE LIZARD OBSERVED. GNATCATCHERS AND CACTUS WRENS ALSO FOUND HERE.

Owner/Manager: UNKNOWN



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Occurrence No.	235	Map Index: 33410	EO Index: 19062	Element Last Seen: 1992-06-20
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen: 1992-06-20
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1996-05-08
Quad Summary:	Black Star Canyon (3311776)			
County Summary:	Orange			
Lat/Long:	33.76845 / -117.67900		Accuracy: 80 meters	
UTM:	Zone-11 N3736690 E437125		Elevation (ft): 880	
PLSS:	T05S, R08W (S)		Acres: 0.0	
Location:	SANTIAGO CREEK, APPROXIMATELY 2.5 MILES UPSTREAM FROM SANTIAGO RESERVOIR, 14 MILES NORTH OF EL TORO.			
Detailed Location:	LOCATED ABOUT 150 M NORTH OF THE GATE TO BLACK STAR CANYON.			
Ecological:	HABITAT CONSISTS OF ROADSIDE VEGETATION DOMINATED BY CALIFORNIA BUCKWHEAT, CALIFORNIA SAGEBRUSH, WHITE SAGE, AND YERBA SANTA, ADJACENT TO THE SANTIAGO RIVER.			
General:	1 ADULT OBSERVED ON 20 JUNE 1992. SITE IS LOCATED WITHIN AN AREA PROPOSED AS PART OF BLACK STAR CANYON REGIONAL PARK.			
Owner/Manager:	PVT-IRVINE CO			
Occurrence No.	253	Map Index: 40021	EO Index: 35023	Element Last Seen: 1991-09-13
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen: 1991-09-13
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1998-10-27
Quad Summary:	El Toro (3311766)			
County Summary:	Orange			
Lat/Long:	33.70404 / -117.68236		Accuracy: 2/5 mile	
UTM:	Zone-11 N3729550 E436767		Elevation (ft): 1100	
PLSS:	T05S, R08W, Sec. 26 (S)		Acres: 0.0	
Location:	FOOTHILLS OF SANTA ANA MOUNTAINS, JUST NORTH OF AGUA CHINON WASH.			
Detailed Location:	ON USGS 7.5 MINUTE EL TORO QUAD THE SECTION IS GIVEN AS 151.			
Ecological:	SOUTHERN MIXED CHAPARRAL (3.2) AND CAOSTAL SAGE SCRUB (2.3.1).			
General:	3 HATCHLINGS OBSERVED ALONG EDGE OF SANDY HIKING TRAIL FOR AN IN-PROGRESS PROJECT.			
Owner/Manager:	UNKNOWN			
Occurrence No.	323	Map Index: 52628	EO Index: 52628	Element Last Seen: 2002-03-12
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 2002-03-12
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2003-09-24
Quad Summary:	El Toro (3311766)			
County Summary:	Orange			
Lat/Long:	33.67301 / -117.63500		Accuracy: nonspecific area	
UTM:	Zone-11 N3726082 E441134		Elevation (ft): 1000	
PLSS:	T06S, R07W, Sec. 05 (S)		Acres: 318.3	
Location:	SE OF SERRANO CREEK AND NW OF ALISO CREEK AND EL TORO ROAD; LAKE FOREST, NE OF EL TORO.			
Detailed Location:	PORTOLA HILLS SITE.			
Ecological:	HABITAT CONSISTS OF COASTAL SAGE SCRUB, ANNUAL GRASSLAND, NON-NATIVE GRASSLAND, RIPARIAN AND RUDERAL AREAS.			
General:	UNKNOWN NUMBER OBS DURING CALIFORNIA GNATCATCHER SURVEYS CONDUCTED 18 FEB - 12 MAR 2002.			
Owner/Manager:	UNKNOWN			



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Occurrence No.	327	Map Index: 52956	EO Index: 52956	Element Last Seen:	2000-05-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2000-05-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-20

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.86342 / -117.75747	Accuracy:	nonspecific area
UTM:	Zone-11 N3747271 E429936	Elevation (ft):	500
PLSS:	T03S, R08W, Sec. 31 (S)	Acres:	82.6

Location: SOUTH & EAST OF SANTA ANA CANYON ROAD, 2 MILES NE OF INTERSECTION OF RIVERSIDE FWY & IMPERIAL HWY, ESE OF YORBA LINDA.

Detailed Location:

Ecological: OSPREY, WHITE-TAILED KITE, SHARP-SHINNED HAWK, COOPER'S HAWK ALSO OBSERVED IN VICINITY.

General: UNKNOWN NUMBER OBSERVED DURING CALIFORNIA GNATCATCHER SURVEYS CONDUCTED BETWEEN 13 APRIL AND 18 MAY 2000.

Owner/Manager: UNKNOWN

Occurrence No.	328	Map Index: 53063	EO Index: 53087	Element Last Seen:	1999-10-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1999-10-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-28

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.83790 / -117.72233	Accuracy:	80 meters
UTM:	Zone-11 N3744418 E433166	Elevation (ft):	1221
PLSS:	T04S, R08W, Sec. 09 (S)	Acres:	0.0

Location: NORTH OF WEIR CANYON, ABOUT 1.4 MILES ESE OF WALNUT CANYON RESERVOIR.

Detailed Location: SITE NAME: WEIR CANYON. THIS SITE IS A CORE CENTRAL SITE IN THE NATURE RESERVE OF ORANGE COUNTY. PIT-FALL TRAP ARRAY 12.

Ecological:

General: 3 INDIVIDUALS CAPTURED IN PIT-FALL ARRAY 12. 8 SAMPLING PERIODS FROM 5 AUG 1998 TO 19 OCT 1999 (74 SAMPLE DAYS) FOR ALL 12 ARRAYS AT THIS SITE, UNKNOWN EXACTLY WHICH DATES APPLY TO THIS ARRAY.

Owner/Manager: PVT-IRVINE CO



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Occurrence No.	334	Map Index: 54758	EO Index: 54758	Element Last Seen:	1999-10-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1999-10-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-03-22
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.73259 / -117.73313		Accuracy:	specific area	
UTM:	Zone-11 N3732748 E432084		Elevation (ft):	480	
PLSS:	T05S, R08W, Sec. 17 (S)		Acres:	53.3	
Location:	NORTHEAST OF RATTLESNAKE RESERVOIR, BETWEEN RATTLESNAKE CANYON AND HICKS CANYON.				
Detailed Location:	PIT-FALL TRAP ARRAYS 1-5.				
Ecological:	HABITAT IS PREDOMINATELY COASTAL SAGE SCRUB. CURRENTLY (1999) A CENTRAL EDGE SITE OF THE NATURE RESERVE OF ORANGE COUNTY. SITE IS DUE TO BECOME A FRAGMENT.				
General:	98 LIZARDS (5 - 32 LIZARDS PER ARRAY) CAPTURED IN 8 SAMPLE PERIODS BETWEEN 5 AUG 1998 AND 19 OCT 1999.				
Owner/Manager:	TNC				
Occurrence No.	343	Map Index: 54843	EO Index: 54843	Element Last Seen:	1999-10-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1999-10-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-03-25
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.81814 / -117.74475		Accuracy:	80 meters	
UTM:	Zone-11 N3742242 E431076		Elevation (ft):	875	
PLSS:	T04S, R08W, Sec. 17 (S)		Acres:	0.0	
Location:	ABOUT 0.9 MI NE OF THE MOUTH OF WEIR CANYON. ABOUT 1.2 MILES ENE OF VILLA PARK DAM.				
Detailed Location:	SITE NAME: WEIR CANYON. THIS SITE IS A CORE CENTRAL SITE IN THE NATURE RESERVE OF ORANGE COUNTY. PIT-FALL TRAP ARRAY 6. MAPPED ACCORDING TO MAP GIVEN.				
Ecological:					
General:	5 OTW CAPTURED IN PIT-FALL ARRAY 6. 8 SAMPLING PERIODS FROM 5 AUG 1998 TO 19 OCT 1999 (74 SAMPLE DAYS) FOR ALL 12 ARRAYS AT THIS SITE, UNKNOWN EXACTLY WHICH DATES APPLY TO THIS ARRAY.				
Owner/Manager:	PVT-IRVINE CO				



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Occurrence No.	344	Map Index: 54846	EO Index: 54846	Element Last Seen:	1999-10-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1999-10-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-03-25
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.82495 / -117.74191		Accuracy:	80 meters	
UTM:	Zone-11 N3742994 E431344		Elevation (ft):	865	
PLSS:	T04S, R08W, Sec. 17 (S)		Acres:	0.0	
Location:	JUST EAST OF WEIR CANYON. ABOUT 1 MI SE OF WALNUT CANYON RESERVOIR AND 1.35 MILES NE OF THE MOUTH OF WEIR CANYON.				
Detailed Location:	SITE NAME: WEIR CANYON. THIS SITE IS A CORE CENTRAL SITE IN THE NATURE RESERVE OF ORANGE COUNTY. PIT-FALL TRAP ARRAY 7. MAPPED ACCORDING TO MAP GIVEN.				
Ecological:					
General:	20 OTW CAPTURED IN PIT-FALL ARRAY 7. 8 SAMPLING PERIODS FROM 5 AUG 1998 TO 19 OCT 1999 (74 SAMPLE DAYS) FOR ALL 12 ARRAYS AT THIS SITE, UNKNOWN EXACTLY WHICH DATES APPLY TO THIS ARRAY.				
Owner/Manager:	PVT-IRVINE CO				
Occurrence No.	365	Map Index: 63840	EO Index: 63935	Element Last Seen:	2005-05-31
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2005-05-31
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2006-02-01
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.71037 / -117.70831		Accuracy:	nonspecific area	
UTM:	Zone-11 N3730269 E434366		Elevation (ft):	750	
PLSS:	T05S, R08W, Sec. 27, NW (S)		Acres:	104.9	
Location:	AREA ABOUT 0.5 MILE UP FROM MOUTH OF BEE CANYON, 2 MILES NORTH OF EL TORO AFB.				
Detailed Location:					
Ecological:	MOSIAC OF DISTURBED AREAS, NATIVE HABITATS. EXTENSIVE PATCHES OF COASTAL SAGE SCRUB DOM BY SALVIA MELLIFERA; OTHER PATCHES DOM BY ARTEMISIA CALIFORNICA AND/OR ERIOGONUM FASCICULATUM. RECENTLY BURNED, STEEPER HABITAT DOM BY MALACOTHAMNUS.				
General:	4 ADULTS FORAGING ON 31 MAY 2005. LARGE PORTION OF HABITAT DEDICATED TO COUNTY'S CENTRAL/COASTAL MSHCP.				
Owner/Manager:	ORA COUNTY				



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Occurrence No.	366	Map Index:	63845	EO Index:	63940	Element Last Seen:	2005-05-24
Occ. Rank:	Excellent	Presence:	Presumed Extant	Site Last Seen:		2005-05-24	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2006-02-02	
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.75830 / -117.74171			Accuracy:	80 meters		
UTM:	Zone-11 N3735605 E431310			Elevation (ft):	1130		
PLSS:	T05S, R08W, Sec. 08, NW (S)			Acres:	0.0		
Location:	ALONG ROAD ON LOMA RIDGE, 1.7 MI DIRECTLY EAST OF LOWER PETERS CANYON RESERVOIR & 1.6 MI SW OF SANTIAGO RESERVOIR.						
Detailed Location:	MAPPED ACCORDING TO UTM COORDINATES.						
Ecological:	HABITAT CONSISTS OF ANNUAL NON-NATIVE GRASSLAND AND PATCHES OF COASTAL SAGE SCRUB DOMINATED BY ARTEMISIA CALIFORNICA. CURRENT/SURROUNDING LAND IS OPEN SPACE.						
General:	2 ADULTS FORAGING ON 24 MAY 2005.						
Owner/Manager:	PVT-IRVINE CO						

Occurrence No.	418	Map Index:	A5105	EO Index:	106808	Element Last Seen:	2016-10-27
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2016-10-27	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2017-06-19	
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.69748 / -117.62826			Accuracy:	specific area		
UTM:	Zone-11 N3728791 E441776			Elevation (ft):	1499		
PLSS:	T05S, R07W, Sec. 32, NE (S)			Acres:	9.0		
Location:	SANTIAGO CANYON, ABOUT 0.3 MILES ENE OF E SANTIAGO CANYON RD AT MODJESKA GRADE RD & 0.8 MILES S OF MODJESKA.						
Detailed Location:	MAPPED TO PROVIDED COORDINATES.						
Ecological:	COASTAL SAGE SCRUB IN COASTAL FOOTHILLS OF THE SANTA ANA MOUNTAINS.						
General:	2 ADULTS OBSERVED ON 25 OCT, 1 ON 26 OCT, & 1 ON 27 OCT 2016.						
Owner/Manager:	UNKNOWN						

<i>Aspidoscelis tigris stejnegeri</i>			Element Code: ARACJ02143		
coastal whiptail					
Listing Status:	Federal:	None	CNDDB Element Ranks:	Global:	G5T5
	State:	None		State:	S3
	Other:	CDFW_SSC-Species of Special Concern			
Habitat:	General:	FOUND IN DESERTS AND SEMI-ARID AREAS WITH SPARSE VEGETATION AND OPEN AREAS. ALSO FOUND IN WOODLAND & RIPARIAN AREAS.			
	Micro:	GROUND MAY BE FIRM SOIL, SANDY, OR ROCKY.			



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Occurrence No.	55	Map Index: 53063	EO Index: 53066	Element Last Seen:	1999-10-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1999-10-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-27

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.83790 / -117.72233	Accuracy:	80 meters
UTM:	Zone-11 N3744418 E433166	Elevation (ft):	1221
PLSS:	T04S, R08W, Sec. 09 (S)	Acres:	0.0

Location: NORTH OF WEIR CANYON, ABOUT 1.4 MILES ESE OF WALNUT CANYON RESERVOIR.
Detailed Location: SITE NAME: WEIR CANYON. THIS SITE IS A CORE CENTRAL SITE IN THE NATURE RESERVE OF ORANGE COUNTY. PIT-FALL TRAP ARRAYS 11 & 12.

Ecological:
General: 2 INDIVIDUALS CAPTURED IN PIT-FALL ARRAY 11 & 3 CAPTURED IN ARRAY 12. 8 SAMPLING PERIODS FROM 5 AUG 1998 TO 19 OCT 1999 (74 SAMPLE DAYS) FOR ALL 12 ARRAYS AT THIS SITE, UNKNOWN EXACTLY WHICH DATES APPLY TO THESE ARRAYS.
Owner/Manager: PVT-IRVINE CO

Occurrence No.	56	Map Index: 53075	EO Index: 53079	Element Last Seen:	1999-12-01
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1999-12-01
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2003-10-28

Quad Summary: El Toro (3311766)
County Summary: Orange

Lat/Long:	33.73634 / -117.69105	Accuracy:	specific area
UTM:	Zone-11 N3733137 E435985	Elevation (ft):	1400
PLSS:	T05S, R08W, Sec. 14 (S)	Acres:	30.7

Location: LOMA RIDGE, SOUTH AND WEST OF LIMESTONE CANYON. ABOUT 3 MILES SSE OF SANTIAGO RESERVOIR.
Detailed Location: SITE NAME: LIMESTONE CANYON. THIS SITE IS PART OF THE CENTRAL PLAN FOR ORANGE COUNTY. PIT-FALL TRAP ARRAYS 8, & 14-17.

Ecological:
General: 6 TAKEN IN PIT-FALL TRAP ARRAY 8 & 19 TAKEN IN ARRAYS 14-17 (1-8 CAPTURES PER ARRAY). 22 SAMPLING PERIODS FROM 8/22/1995 TO 12/1/1999 (210 SAMPLE DAYS) FOR ALL 17 ARRAYS AT THIS SITE, UNKNOWN EXACTLY WHICH DATES APPLY TO THESE ARRAYS.
Owner/Manager: TNC



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Occurrence No.	69	Map Index: 54840	EO Index: 54840	Element Last Seen:	1999-10-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1999-10-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-03-25
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.81578 / -117.74697		Accuracy:	80 meters	
UTM:	Zone-11 N3741981 E430869		Elevation (ft):	700	
PLSS:	T04S, R08W, Sec. 20 (S)		Acres:	0.0	
Location:	ABOUT 0.7 MI NE OF THE MOUTH OF WEIR CANYON. ABOUT 1 MILE EAST OF VILLA PARK DAM.				
Detailed Location:	SITE NAME: WEIR CANYON. THIS SITE IS A CORE CENTRAL SITE IN THE NATURE RESERVE OF ORANGE COUNTY. PIT-FALL TRAP ARRAY 5. MAPPED ACCORDING TO MAP GIVEN.				
Ecological:					
General:	6 LIZARDS CAPTURED IN PIT-FALL ARRAY 5. 8 SAMPLING PERIODS FROM 5 AUG 1998 TO 19 OCT 1999 (74 SAMPLE DAYS) FOR ALL 12 ARRAYS AT THIS SITE, UNKNOWN EXACTLY WHICH DATES APPLY TO THIS ARRAY.				
Owner/Manager:	PVT-IRVINE CO				

Occurrence No.	70	Map Index: 54849	EO Index: 54849	Element Last Seen:	1999-10-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1999-10-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-03-25
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.83491 / -117.73095		Accuracy:	80 meters	
UTM:	Zone-11 N3744092 E432366		Elevation (ft):	895	
PLSS:	T04S, R08W, Sec. 09 (S)		Acres:	0.0	
Location:	UPPER BRANCH OF WEIR CANYON. ABOUT 1 MILE ESE OF WALNUT CANYON RESERVOIR.				
Detailed Location:	SITE NAME: WEIR CANYON. THIS SITE IS A CORE CENTRAL SITE IN THE NATURE RESERVE OF ORANGE COUNTY. PIT-FALL TRAP ARRAY 9. MAPPED ACCORDING TO MAP GIVEN.				
Ecological:	PIT-FALL TRAP ARRAY 9 IS LOCATED WITHIN OCC 149 OF SOUTHERN COAST LIVE OAK RIPARIAN FOREST.				
General:	5 LIZARDS CAPTURED IN PIT-FALL ARRAY 9. 8 SAMPLING PERIODS FROM 5 AUG 1998 TO 19 OCT 1999 (74 SAMPLE DAYS) FOR ALL 12 ARRAYS AT THIS SITE, UNKNOWN EXACTLY WHICH DATES APPLY TO THIS ARRAY.				
Owner/Manager:	PVT-IRVINE CO				



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Occurrence No.	88	Map Index:	75680	EO Index:	76704	Element Last Seen:	2008-06-17
Occ. Rank:	Fair	Presence:	Presumed Extant	Site Last Seen:		2008-06-17	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2009-07-03	

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.66753 / -117.69520	Accuracy:	80 meters
UTM:	Zone-11 N3725510 E435549	Elevation (ft):	540
PLSS:	T06S, R08W, Sec. 10, NE (S)	Acres:	0.0

Location: ABOUT 1.0 MILE EAST OF EL TORO MARINE CORPS AIR STATION AND 2.75 MILES NORTHEAST OF JUNCTION OF I-5 & I-405.

Detailed Location: JUST EAST OF THE NORTH END OF BORREGO CANYON WASH.

Ecological: CA SAGEBRUSH-CA BUCKWHEAT SCRUB DOMINATED BY ARTEMISIA CALIFORNICA, ERIOGONUM FASCICULATUM W/ SCATTERED PATCHES OF OPUNTIA LITTORALIS, O. PARRYI. ALSO SCATTERED SAMBUCUS MEXICANA. MAR '08 AERIAL IMAGERY SHOWS MUCH DEVELOPMENT TO E, S, & W.

General: 1 OBSERVED AT THIS SITE. VISIBLE DISTURBANCE LIMITED TO AREAS OF EXISTING SURROUNDING LAND USES, NATIVE HABITAT UNDISTURBED.

Owner/Manager: ORA COUNTY

Arizona elegans occidentalis

Element Code: ARADB01017

California glossy snake

Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G5T2
	State: None		State: S2
	Other: CDFW_SSC-Species of Special Concern		

Habitat: **General:** PATCHILY DISTRIBUTED FROM THE EASTERN PORTION OF SAN FRANCISCO BAY, SOUTHERN SAN JOAQUIN VALLEY, AND THE COAST, TRANSVERSE, AND PENINSULAR RANGES, SOUTH TO BAJA CALIFORNIA.
Micro: GENERALIST REPORTED FROM A RANGE OF SCRUB AND GRASSLAND HABITATS, OFTEN WITH LOOSE OR SANDY SOILS.

Occurrence No.	109	Map Index:	A3432	EO Index:	105069	Element Last Seen:	1952-06-06
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1952-06-06	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2017-03-07	

Quad Summary: San Juan Capistrano (3311756), El Toro (3311766)

County Summary: Orange

Lat/Long:	33.62053 / -117.70063	Accuracy:	2/5 mile
UTM:	Zone-11 N3720302 E435011	Elevation (ft):	397
PLSS:	T06S, R08W, Sec. 27, E (S)	Acres:	280.0

Location: EL TORO RD, VICINITY OF INTERSECTION WITH RAYMOND WAY, SOUTHWEST EL TORO.

Detailed Location: MAPPED TO ABOUT 0.5 MI W ALONG ROAD FROM OF EL TORO. 1950 TOPO MAP SHOWS EXTENT OF EL TORO WAS SMALLER AND CENTERED AROUND EL TORO RD AND SANTA FE RAILROAD.

Ecological:

General: SPECIMEN COLLECTED ON 6 JUN 1952.

Owner/Manager: UNKNOWN

Salvadora hexalepis virgultea

Element Code: ARADB30033

coast patch-nosed snake

Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G5T4
	State: None		State: S2S3
	Other: CDFW_SSC-Species of Special Concern		



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Habitat:	General: BRUSHY OR SHRUBBY VEGETATION IN COASTAL SOUTHERN CALIFORNIA.
	Micro: REQUIRE SMALL MAMMAL BURROWS FOR REFUGE AND OVERWINTERING SITES.

Occurrence No.	8	Map Index:	53076	EO Index:	53076	Element Last Seen:	1999-12-01
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:	1999-12-01		
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:	2003-10-28		

Quad Summary: El Toro (3311766)
County Summary: Orange

Lat/Long:	33.73716 / -117.69309	Accuracy:	specific area
UTM:	Zone-11 N3733229 E435797	Elevation (ft):	1500
PLSS:	T05S, R08W, Sec. 14 (S)	Acres:	10.9

Location: LOMA RIDGE, SOUTH AND WEST OF LIMESTONE CANYON. ABOUT 3 MILES SSE OF SANTIAGO RESERVOIR.
Detailed Location: SITE NAME: LIMESTONE CANYON. THIS SITE IS PART OF THE CENTRAL PLAN FOR ORANGE COUNTY. PIT-FALL TRAP ARRAYS 8 & 17.

Ecological:
General: 1 CAPTURED IN PIT-FALL TRAP ARRAY 8 & 1 CAPTURED IN ARRAY 17. 22 SAMPLING PERIODS FROM 8/22/1995 TO 12/1/1999 (210 SAMPLE DAYS) FOR ALL 17 ARRAYS AT THIS SITE, UNKNOWN EXACTLY WHICH DATES APPLY TO THESE 2 ARRAYS.
Owner/Manager: TNC

Occurrence No.	10	Map Index:	54843	EO Index:	54844	Element Last Seen:	1999-10-19
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:	1999-10-19		
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:	2004-03-25		

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.81814 / -117.74475	Accuracy:	80 meters
UTM:	Zone-11 N3742242 E431076	Elevation (ft):	875
PLSS:	T04S, R08W, Sec. 17 (S)	Acres:	0.0

Location: ABOUT 0.9 MI NE OF THE MOUTH OF WEIR CANYON. ABOUT 1.2 MILES ENE OF VILLA PARK DAM.
Detailed Location: SITE NAME: WEIR CANYON. THIS SITE IS A CORE CENTRAL SITE IN THE NATURE RESERVE OF ORANGE COUNTY. PIT-FALL TRAP ARRAY 6. MAPPED ACCORDING TO MAP GIVEN.

Ecological:
General: 1 SNAKE CAPTURED IN PIT-FALL ARRAY 6. 8 SAMPLING PERIODS FROM 5 AUG 1998 TO 19 OCT 1999 (74 SAMPLE DAYS) FOR ALL 12 ARRAYS AT THIS SITE, UNKNOWN EXACTLY WHICH DATES APPLY TO THIS ARRAY.
Owner/Manager: PVT-IRVINE CO



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Occurrence No.	11	Map Index: 54849	EO Index: 54850	Element Last Seen:	1999-10-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1999-10-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-03-25

Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				

Lat/Long:	33.83491 / -117.73095	Accuracy:	80 meters		
UTM:	Zone-11 N3744092 E432366	Elevation (ft):	895		
PLSS:	T04S, R08W, Sec. 09 (S)	Acres:	0.0		

Location:	UPPER BRANCH OF WEIR CANYON. ABOUT 1 MILE ESE OF WALNUT CANYON RESERVOIR.				
Detailed Location:	SITE NAME: WEIR CANYON. THIS SITE IS A CORE CENTRAL SITE IN THE NATURE RESERVE OF ORANGE COUNTY. PIT-FALL TRAP ARRAY 9. MAPPED ACCORDING TO MAP GIVEN.				
Ecological:	PIT-FALL TRAP ARRAY 9 IS LOCATED WITHIN OCC 149 OF SOUTHERN COAST LIVE OAK RIPARIAN FOREST.				
General:	1 SNAKE CAPTURED IN PIT-FALL ARRAY 9. 8 SAMPLING PERIODS FROM 5 AUG 1998 TO 19 OCT 1999 (74 SAMPLE DAYS) FOR ALL 12 ARRAYS AT THIS SITE, UNKNOWN EXACTLY WHICH DATES APPLY TO THIS ARRAY.				
Owner/Manager:	PVT-IRVINE CO				



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<i>Thamnophis hammondi</i>		Element Code: ARADB36160	
two-striped gartersnake			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G4
	State: None		State: S3S4
	Other: BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive		
Habitat:	General: COASTAL CALIFORNIA FROM VICINITY OF SALINAS TO NORTHWEST BAJA CALIFORNIA. FROM SEA TO ABOUT 7,000 FT ELEVATION.		
	Micro: HIGHLY AQUATIC, FOUND IN OR NEAR PERMANENT FRESH WATER. OFTEN ALONG STREAMS WITH ROCKY BEDS AND RIPARIAN GROWTH.		

Occurrence No.	73	Map Index: 46932	EO Index: 46932	Element Last Seen:	2000-09-09
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2000-09-09
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2002-01-07
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.79186 / -117.72077		Accuracy:	80 meters	
UTM:	Zone-11 N3739311 E433275		Elevation (ft):	700	
PLSS:	T04S, R08W, Sec. 28 (S)		Acres:	0.0	
Location:	NEAR THE MOUTH OF FREMONT CANYON, 0.5 MILE NORTH OF SANTIAGO RESERVOIR.				
Detailed Location:					
Ecological:	HABITST CONSISTS OF GRAZED RIPARIAN; VEGETATED BY QUERCUS AGRIFOLIA, BACCHARIS SALICIFOLIA, TYPHA LATIFOLIA, SALIX LASIOLEPIS, AND EQUISETUM SP. IN MARSHY AREA JUST UPSTREAM.				
General:	1 ADULT OBSERVED ON 9 SEP 2000.				
Owner/Manager:	PVT-IRVINE CO				

Occurrence No.	96	Map Index: 63696	EO Index: 63791	Element Last Seen:	2003-05-27
Occ. Rank:	Fair		Presence: Presumed Extant	Site Last Seen:	2003-05-27
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2006-01-17
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.71159 / -117.64273		Accuracy:	80 meters	
UTM:	Zone-11 N3730364 E440444		Elevation (ft):	1225	
PLSS:	T05S, R07W, Sec. 29 (S)		Acres:	0.0	
Location:	SANTIAGO CREEK, AT THE MOUTH OF MODJESKA CANYON, ~0.2 MILES UPSTREAM OF THE BRIDGE CROSSING, 1 MILE WNW OF MODJESKA.				
Detailed Location:					
Ecological:	HABITAT CONSISTS OF A PERENNIAL STREAM WITH COBBLE-SIZED SUBTRATE, SCOURED ANNUALLY. SPARSELY VEGETATED WITH BACCHARIS SALICIFOLIA AND SALIX LASIOLEPIS.				
General:	1 ADULT OBSERVED ON 27 MAY 2003, FEEDING ON BUFO BOREAS TADPOLES.				
Owner/Manager:	PVT				

<i>Crotalus ruber</i>		Element Code: ARADE02090	
red-diamond rattlesnake			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G4
	State: None		State: S3
	Other: CDFW_SSC-Species of Special Concern, USFS_S-Sensitive		
Habitat:	General: CHAPARRAL, WOODLAND, GRASSLAND, & DESERT AREAS FROM COASTAL SAN DIEGO COUNTY TO THE EASTERN SLOPES OF THE MOUNTAINS.		



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Micro: OCCURS IN ROCKY AREAS AND DENSE VEGETATION. NEEDS RODENT BURROWS, CRACKS IN ROCKS OR SURFACE COVER OBJECTS.

Occurrence No.	83	Map Index:	52173	EO Index:	52173	Element Last Seen:	2001-XX-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:	2001-XX-XX	Record Last Updated:	2003-08-20
Occ. Type:	Natural/Native occurrence	Trend:	Unknown				
Quad Summary:	Tustin (3311767)						
County Summary:	Orange						
Lat/Long:	33.63196 / -117.78163	Accuracy:	nonspecific area				
UTM:	Zone-11 N3721624 E427507	Elevation (ft):	500				
PLSS:	T06S, R09W, Sec. 23 (S)	Acres:	36.1				
Location:	WEST OF SHADY CANYON AND 1.1 MILES WEST OF LAGUNA CANYON ROAD; SAN JOAQUIN HILLS, APPROX 4.5 MILES NE OF NEWPORT BEACH.						
Detailed Location:							
Ecological:	HABITAT MAINLY RECOVERING CHAPARRAL, COASTAL SAGE SCRUB & GRASSLAND WITH SOME OAK WOODLAND, RIPARIAN WOODLAND & MARSHES. AREA BURNED IN 1993 (LAGUNA BEACH FIRE). DESIGNATED AS NATURE RESERVE OF ORANGE COUNTY (NROC) LANDS IN NCCP SUB-REGION.						
General:	UNKNOWN NUMBER OBSERVED AT 2 LOCATIONS DURING 3 SURVEYS BETWEEN FEB AND AUG 2001.						
Owner/Manager:	ORA COUNTY						

Occurrence No.	84	Map Index:	53078	EO Index:	53078	Element Last Seen:	1999-12-01
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:	1999-12-01	Record Last Updated:	2003-10-28
Occ. Type:	Natural/Native occurrence	Trend:	Unknown				
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.73769 / -117.69377	Accuracy:	80 meters				
UTM:	Zone-11 N3733289 E435734	Elevation (ft):	1520				
PLSS:	T05S, R08W, Sec. 14 (S)	Acres:	0.0				
Location:	LOMA RIDGE, SOUTH AND WEST OF LIMESTONE CANYON. ABOUT 3 MILES SSE OF SANTIAGO RESERVOIR.						
Detailed Location:	SITE NAME: LIMESTONE CANYON. THIS SITE IS PART OF THE CENTRAL PLAN FOR ORANGE COUNTY. PIT-FALL TRAP ARRAY 17.						
Ecological:							
General:	1 CAPTURED IN PIT-FALL TRAP ARRAY 17. 22 SAMPLING PERIODS FROM 8/22/1995 TO 12/1/1999 (210 SAMPLE DAYS) FOR ALL 17 ARRAYS AT THIS SITE, UNKNOWN EXACTLY WHICH DATES APPLY TO THIS ARRAY.						
Owner/Manager:	TNC						



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Occurrence No.	86	Map Index: 54840	EO Index: 54842	Element Last Seen:	1999-10-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1999-10-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-03-25
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.81578 / -117.74697		Accuracy:	80 meters	
UTM:	Zone-11 N3741981 E430869		Elevation (ft):		
PLSS:	T04S, R08W, Sec. 20 (S)		Acres:	0.0	
Location:	ABOUT 0.7 MI NE OF THE MOUTH OF WEIR CANYON. ABOUT 1 MILE EAST OF VILLA PARK DAM.				
Detailed Location:	SITE NAME: WEIR CANYON. THIS SITE IS A CORE CENTRAL SITE IN THE NATURE RESERVE OF ORANGE COUNTY. PIT-FALL TRAP ARRAY 5. MAPPED ACCORDING TO MAP GIVEN.				
Ecological:					
General:	1 SNAKE CAPTURED IN PIT-FALL ARRAY 5. 8 SAMPLING PERIODS FROM 5 AUG 1998 TO 19 OCT 1999 (74 SAMPLE DAYS) FOR ALL 12 ARRAYS AT THIS SITE, UNKNOWN EXACTLY WHICH DATES APPLY TO THIS ARRAY.				
Owner/Manager:	PVT-IRVINE CO				

Occurrence No.	87	Map Index: 54843	EO Index: 54845	Element Last Seen:	1999-10-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1999-10-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-03-25
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.81814 / -117.74475		Accuracy:	80 meters	
UTM:	Zone-11 N3742242 E431076		Elevation (ft):	875	
PLSS:	T04S, R08W, Sec. 17 (S)		Acres:	0.0	
Location:	ABOUT 0.9 MI NE OF THE MOUTH OF WEIR CANYON. ABOUT 1.2 MILES ENE OF VILLA PARK DAM.				
Detailed Location:	SITE NAME: WEIR CANYON. THIS SITE IS A CORE CENTRAL SITE IN THE NATURE RESERVE OF ORANGE COUNTY. PIT-FALL TRAP ARRAY 6. MAPPED ACCORDING TO MAP GIVEN.				
Ecological:					
General:	2 SNAKES CAPTURED IN PIT-FALL ARRAY 6. 8 SAMPLING PERIODS FROM 5 AUG 1998 TO 19 OCT 1999 (74 SAMPLE DAYS) FOR ALL 12 ARRAYS AT THIS SITE, UNKNOWN EXACTLY WHICH DATES APPLY TO THIS ARRAY.				
Owner/Manager:	PVT-IRVINE CO				



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Southern California Arroyo Chub/Santa Ana Sucker Stream

Element Code: CARE2330CA

Southern California Arroyo Chub/Santa Ana Sucker Stream

Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: GNR
	State: None		State: SNR
	Other:		
Habitat:	General: <input type="checkbox"/>		
	Micro: <input type="checkbox"/>		

Occurrence No.	4	Map Index:	25989	EO Index:	5026	Element Last Seen:	1991-XX-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:			1991-XX-XX
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:			1995-12-07

Quad Summary: Black Star Canyon (3311776), Orange (3311777), Riverside West (3311784), Corona North (3311785), Prado Dam (3311786)
County Summary: Orange, Riverside, San Bernardino

Lat/Long:	33.91477 / -117.64511	Accuracy:	nonspecific area
UTM:	Zone-11 N3752893 E440365	Elevation (ft):	570
PLSS:	T03S, R07W (S)	Acres:	2729.6

Location: SANTA ANA RIVER & TRIBUTARIES, SAN BERNARDINO, RIVERSIDE & ORANGE COUNTIES.
Detailed Location: FROM MOUNT RUBIDOUX DOWNSTREAM TO NORTHEASTERN ANAHEIM, INCLUDING TRIBUTARIES CHINO, ALISO AND SUNNYSLOPE CREEKS.
Ecological: BEST HABITAT FOUND BELOW RIVERSIDE NARROWS WHERE GROUND WATER IS FORCED TO THE SURFACE & FLOWS BECOME MORE PERENNIAL & STABLE. SANTA ANA SUCKERS & ARROYO CHUB ARE THE ONLY NATIVE FISH SPECIES THAT STILL OCCUR.
General:
Owner/Manager: PVT, SANTA ANA RIVER GREENBELT



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Riversidian Alluvial Fan Sage Scrub			Element Code: CTT32720CA	
Riversidian Alluvial Fan Sage Scrub				
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G1	
	State: None		State: S1.1	
	Other:			
Habitat:	General: <input type="checkbox"/>			
	Micro: <input type="checkbox"/>			
Occurrence No.	31	Map Index: 20544	EO Index: 25036	Element Last Seen: 1990-07-17
Occ. Rank:	Fair		Presence: Presumed Extant	Site Last Seen: 1990-07-17
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2007-12-07
Quad Summary:	Black Star Canyon (3311776)			
County Summary:	Orange			
Lat/Long:	33.86336 / -117.68601		Accuracy:	specific area
UTM:	Zone-11 N3747217 E436546		Elevation (ft):	800
PLSS:	T03S, R08W (S)		Acres:	23.9
Location:	ALONG THE BASE OF COAL CANYON IMMEDIATELY SOUTH OF RIVERSIDE FREEWAY 91.			
Detailed Location:	THIS COMMUNITY IS RESTRICTED TO THE WASH AT THE BOTTOM OF THE CANYON.			
Ecological:	COAL CANYON SUPPORTS BOTH EARLY AND LATE SUCCESSIONAL STAGES OF THIS NATURAL COMMUNITY.			
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.			
Owner/Manager:	PVT-COAL CANYON CO			



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Southern Coastal Salt Marsh		Element Code: CTT52120CA	
Southern Coastal Salt Marsh			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G2
	State: None		State: S2.1
	Other:		
Habitat:	General: <input type="checkbox"/>		
	Micro: <input type="checkbox"/>		

Occurrence No.	14	Map Index:	02534	EO Index:	19125	Element Last Seen:	1988-02-06
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1988-02-06	
Occ. Type:	Natural/Native occurrence	Trend:	Decreasing	Record Last Updated:		1997-04-14	
Quad Summary:	Tustin (3311767), Newport Beach (3311768)						
County Summary:	Orange, Pacific Ocean						
Lat/Long:	33.63685 / -117.88909		Accuracy:	nonspecific area			
UTM:	Zone-11 N3722246 E417545		Elevation (ft):	0			
PLSS:	T06S, R10W, Sec. 23 (S)		Acres:	562.2			
Location:	UPPER NEWPORT BAY. FROM ABOUT CONEY ISLAND TO SALT EVAPORATION PONDS.						
Detailed Location:	274 ACRE, 1982. COMPARISON OF WIESLANDER (1935) BOUNDARY AND AERIAL PHOTOS SHOWS MUCH REDUCTON. MAPPED FROM 1988 PHOTOS.						
Ecological:	DOMINANT SPECIES INCLUDE SALICORNIA, DISTICHLIS SPICATA, SPARTINA FOLIOSA, ZOSTERA MARINA.						
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.						
Owner/Manager:	DFG-UPPER NEWPORT BAY ER						

Southern Coast Live Oak Riparian Forest		Element Code: CTT61310CA	
Southern Coast Live Oak Riparian Forest			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G4
	State: None		State: S4
	Other:		
Habitat:	General: <input type="checkbox"/>		
	Micro: <input type="checkbox"/>		



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Occurrence No.	142	Map Index:	02749	EO Index:	15915	Element Last Seen:	1988-02-10
Occ. Rank:	None	Presence:	Extirpated	Site Last Seen:		1988-02-10	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1998-08-31	

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.84075 / -117.75815	Accuracy:	specific area
UTM:	Zone-11 N3744757 E429855	Elevation (ft):	540
PLSS:	T04S, R08W, Sec. 07 (S)	Acres:	106.8

Location: WALNUT CANYON, FROM WALNUT CANYON RESERVOIR D/S >1 MILE.

Detailed Location: EXTIRPATED PER INTERPRETATION OF 1988 AERIAL PHOTOS.

Ecological: MAPPED BY WIESLANDER SURVEY (1935) AS CLOSED CANOPY QUERCUS AGRIFOLIA AND PLATANUS RACEMOSA. UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: PVT

Occurrence No.	144	Map Index:	02870	EO Index:	15913	Element Last Seen:	1980-04-10
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1980-04-10	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1998-08-31	

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.84191 / -117.69371	Accuracy:	specific area
UTM:	Zone-11 N3744844 E435818	Elevation (ft):	660
PLSS:	T04S, R08W, Sec. 11 (S)	Acres:	103.7

Location: UNNAMED TRIBUTARY TO GYPSUM CANYON, NEXT CANYON SOUTH OF ROCKET FUEL TEST SITE, SANTA ANA MTNS.

Detailed Location: EXTANT, 1980, PER INTERPRETATION OF AERIAL PHOTOS.

Ecological: MAPPED BY WIESLANDER SURVEY (1935) AS CLOSED CANOPY QUERCUS AGRIFOLIA AND PLATANUS RACEMOSA.

General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: PVT



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Occurrence No.	145	Map Index: 02905	EO Index: 12500	Element Last Seen:	1980-04-10
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1980-04-10
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1998-08-31
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.85327 / -117.67295		Accuracy:	specific area	
UTM:	Zone-11 N3746090 E437747		Elevation (ft):	900	
PLSS:	T04S, R08W, Sec. 01 (S)		Acres:	117.3	
Location:	UPPER TRIBUTARIES TO COAL CANYON, SANTA ANA MTNS.				
Detailed Location:	EXTANT, 1980, PER INTERPRETATION OF AERIAL PHOTOS.				
Ecological:	MAPPED BY WIESLANDER SURVEY (1935) AS CLOSED CANOPY QUERCUS AGRIFOLIA AND PLATANUS RACEMOSA.				
General:	NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.				
Owner/Manager:	PVT				
Occurrence No.	146	Map Index: 02889	EO Index: 15912	Element Last Seen:	1980-04-10
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1980-04-10
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1998-08-31
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.82450 / -117.68283		Accuracy:	specific area	
UTM:	Zone-11 N3742907 E436812		Elevation (ft):	1200	
PLSS:	T04S, R08W, Sec. 14 (S)		Acres:	497.9	
Location:	UPPER HALF OF FREMONT CANYON & TRIBUTARIES ABOVE APPROXIMATELY 1000 FT ALTITUDE.				
Detailed Location:	EXTANT, 1980, PER INTERPRETATION OF AERIAL PHOTOS.				
Ecological:	MAPPED BY WIESLANDER SURVEY (1935) AS CLOSED CANOPY QUERCUS AGRIFOLIA.				
General:	NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.				
Owner/Manager:	USFS-CLEVELAND NF				



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Occurrence No.	147	Map Index:	02928	EO Index:	15911	Element Last Seen:	1980-04-10
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1980-04-10	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1998-08-31	

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.81372 / -117.66744	Accuracy:	specific area
UTM:	Zone-11 N3741702 E438228	Elevation (ft):	2100
PLSS:	T04S, R08W, Sec. 24 (S)	Acres:	45.4

Location: UNNAMED TRIBUTARY TO EAST FORK OF FREMONT CANYON, TRIBUTARY TO SANTIAGO CREEK.

Detailed Location: EXTANT, 1980, PER INTERPRETATION OF AERIAL PHOTOS.

Ecological: MAPPED BY WIESLANDER SURVEY (1935) AS CLOSED CANOPY QUERCUS AGRIFOLIA.

General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: USFS-CLEVELAND NF

Occurrence No.	148	Map Index:	02950	EO Index:	12499	Element Last Seen:	1980-04-10
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1980-04-10	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1998-08-31	

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.79736 / -117.65513	Accuracy:	specific area
UTM:	Zone-11 N3739880 E439356	Elevation (ft):	1880
PLSS:	T04S, R07W, Sec. 30 (S)	Acres:	122.8

Location: BLACK STAR CANYON, FROM U-TURN IN BLACK STAR ROAD U/S TO ABOUT 0.5 MILE U/S OF HIDDEN RANCH.

Detailed Location: EXTANT, 1980, PER INTERPRETATION OF AERIAL PHOTOS ALTHOUGH COVERAGE LIMITED D/S.

Ecological: MAPPED BY WIESLANDER SURVEY (1935) AS CLOSED CANOPY QUERCUS AGRIFOLIA.

General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: USFS-CLEVELAND NF



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Occurrence No.	149	Map Index: 02789	EO Index: 15910	Element Last Seen: 1988-06-08
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 1988-06-08
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1998-08-31
Quad Summary:	Black Star Canyon (3311776), Orange (3311777)			
County Summary:	Orange			
Lat/Long:	33.82507 / -117.74292		Accuracy: nonspecific area	
UTM:	Zone-11 N3743008 E431251		Elevation (ft): 700	
PLSS:	T04S, R08W, Sec. 17 (S)		Acres: 310.4	
Location:	WEIR CANYON AND TRIBUTARIES, SW SANTA ANA MTNS.			
Detailed Location:	EXTANT, 1980, PER INTERPRETATION OF AERIAL PHOTOS.			
Ecological:	MAPPED BY WIESLANDER SURVEY (1935) AS CLOSED CANOPY QUERCUS AGRIFOLIA AND PLATANUS RACEMOSA.			
General:	NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.			
Owner/Manager:	PVT			
Occurrence No.	150	Map Index: 02842	EO Index: 15908	Element Last Seen: 1988-06-08
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 1988-06-08
Occ. Type:	Natural/Native occurrence		Trend: Decreasing	Record Last Updated: 1998-08-31
Quad Summary:	Black Star Canyon (3311776)			
County Summary:	Orange			
Lat/Long:	33.85956 / -117.71868		Accuracy: specific area	
UTM:	Zone-11 N3746816 E433521		Elevation (ft): 500	
PLSS:	T04S, R08W, Sec. 04 (S)		Acres: 42.8	
Location:	UNNAMED TRIBUTARY TO SANTA ANA RIVER, WEST OF GYPSUM CANYON.			
Detailed Location:	EXTANT, 1988, BUT PARTIALLY EXTIRPATED PER INTERPRETATION OF AERIAL PHOTOS.			
Ecological:	MAPPED BY WIESLANDER SURVEY (1935) AS CLOSED CANOPY QUERCUS AGRIFOLIA AND PLATANUS RACEMOSA.			
General:	NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.			
Owner/Manager:	PVT			



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Occurrence No.	151	Map Index:	02827	EO Index:	15909	Element Last Seen:	1980-04-10
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1980-04-10	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1998-08-31	

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.85196 / -117.72652	Accuracy:	specific area
UTM:	Zone-11 N3745979 E432790	Elevation (ft):	700
PLSS:	T04S, R08W, Sec. 04 (S)	Acres:	84.9

Location: UNNAMED TRIBUTARY TO SANTA ANA RIVER, AT HIGHWAY INTERCHANGE WEST OF GYPSUM CANYON.

Detailed Location: EXTANT, 1988, PER INTERPRETATION OF AERIAL PHOTOS.

Ecological: MAPPED BY WIESLANDER SURVEY (1935) AS CLOSED CANOPY QUERCUS AGRIFOLIA AND PLATANUS RACEMOSA.

General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: PVT

Occurrence No.	153	Map Index:	02873	EO Index:	12498	Element Last Seen:	1988-02-10
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1988-02-10	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1998-08-31	

Quad Summary: El Toro (3311766), Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.75088 / -117.69380	Accuracy:	specific area
UTM:	Zone-11 N3734751 E435741	Elevation (ft):	890
PLSS:	T05S, R08W, Sec. 11 (S)	Acres:	191.8

Location: LIMESTONE CANYON, FROM SANTIAGO RESERVOIR U/S APPROXIMATELY 1.5 MILES AND SOME TRIBUTARIES.

Detailed Location: EXTANT, 1988, PER INTERPRETATION OF AERIAL PHOTOS.

Ecological: MAPPED BY WIESLANDER SURVEY (1935) AS CLOSED CANOPY QUERCUS AGRIFOLIA.

General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: PVT



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Occurrence No.	154	Map Index: 02865	EO Index: 15907	Element Last Seen: 1988-02-10
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 1988-02-10
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1998-08-31
Quad Summary:	El Toro (3311766), Black Star Canyon (3311776)			
County Summary:	Orange			
Lat/Long:	33.74839 / -117.70248		Accuracy: specific area	
UTM:	Zone-11 N3734480 E434936		Elevation (ft): 1000	
PLSS:	T05S, R08W, Sec. 10 (S)		Acres: 39.3	
Location:	UNNAMED TRIBUTARY TO LIMESTONE CANYON, APPROXIMATELY 0.75 MILE U/S OF SANTIAGO RESERVOIR.			
Detailed Location:	EXTANT, 1988, PER INTERPRETATION OF AERIAL PHOTOS.			
Ecological:	MAPPED BY WIESLANDER SURVEY (1935) AS CLOSED CANOPY QUERCUS AGRIFOLIA.			
General:	NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.			
Owner/Manager:	PVT			
Occurrence No.	155	Map Index: 02955	EO Index: 15906	Element Last Seen: 1988-02-10
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 1988-02-10
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1998-08-31
Quad Summary:	El Toro (3311766)			
County Summary:	Orange			
Lat/Long:	33.71748 / -117.65380		Accuracy: specific area	
UTM:	Zone-11 N3731023 E439423		Elevation (ft): 1260	
PLSS:	T05S, R07W, Sec. 19 (S)		Acres: 75.4	
Location:	UNNAMED WEST SIDE TRIBUTARY TO SANTIAGO CREEK APPROXIMATELY 1.5 MILES D/S OF MODJESKA.			
Detailed Location:	EXTANT, 1988, PER INTERPRETATION OF AERIAL PHOTOS.			
Ecological:	MAPPED BY WIESLANDER SURVEY (1935) AS CLOSED CANOPY QUERCUS AGRIFOLIA.			
General:	NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.			
Owner/Manager:	PVT			



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Occurrence No.	176	Map Index:	02991	EO Index:	15892	Element Last Seen:	1988-02-06
Occ. Rank:	None	Presence:	Extirpated	Site Last Seen:		1988-02-06	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1998-08-31	
Quad Summary:	Santiago Peak (3311765), El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.64021 / -117.62118			Accuracy:	specific area		
UTM:	Zone-11 N3722437 E442394			Elevation (ft):	820		
PLSS:	T06S, R07W, Sec. 21 (S)			Acres:	46.3		
Location:	UNNAMED TRIBUTARY TO ARROYO TRABUCO, SE-FACING SLOPE, ABOUT 1.5 MILES D/S FROM O'NEILL REGIONAL PARK.						
Detailed Location:	EXTIRPATED BY HIGHWAY CONSTRUCTION PER INTERPRETATION OF AERIAL PHOTOS.						
Ecological:	MAPPED BY WIESLANDER SURVEY (1935) AS CLOSED CANOPY QUERCUS AGRIFOLIA. UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.						
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.						
Owner/Manager:	PVT						
Occurrence No.	195	Map Index:	02735	EO Index:	15877	Element Last Seen:	1988-02-06
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1988-02-06	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1998-08-31	
Quad Summary:	Laguna Beach (3311757), Tustin (3311767)						
County Summary:	Orange						
Lat/Long:	33.62557 / -117.77964			Accuracy:	specific area		
UTM:	Zone-11 N3720913 E427686			Elevation (ft):	450		
PLSS:	T06S, R09W, Sec. 25 (S)			Acres:	52.2		
Location:	UNNAMED TRIBUTARY TO SHADY CANYON, SAN JOAQUIN HILLS, SE OF SANTA ANA.						
Detailed Location:	EXTANT, 1988, PER INTERPRETATION OF AERIAL PHOTOS.						
Ecological:	MAPPED BY WIESLANDER SURVEY (1935) AS CLOSED CANOPY QUERCUS AGRIFOLIA.						
General:	NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.						
Owner/Manager:	PVT						



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Occurrence No.	230	Map Index:	02856	EO Index:	15858	Element Last Seen:	XXXX-XX-XX
Occ. Rank:	None	Presence:	Extirpated	Site Last Seen:	1988-02-10	Record Last Updated:	1998-08-31
Occ. Type:	Natural/Native occurrence		Trend:	Unknown			
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.77445 / -117.70975			Accuracy:	specific area		
UTM:	Zone-11 N3737374 E434283			Elevation (ft):	800		
PLSS:	T04S, R08W, Sec. 34 (S)			Acres:	105.0		
Location:	WEST END OF SANTIAGO RESERVOIR, SANTA ANA MOUNTAINS.						
Detailed Location:	EXTIRPATED BY INUNDATION PER INTERPRETATION OF 1988 AERIAL PHOTOS.						
Ecological:	MAPPED BY WIESLANDER SURVEY (1935) AS BACCHARIS VIMINEA AND GRASSES. UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.						
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.						
Owner/Manager:	PVT						

Southern Cottonwood Willow Riparian Forest				Element Code: CTT61330CA			
Southern Cottonwood Willow Riparian Forest							
Listing Status:	Federal:	None	CNDDB Element Ranks:	Global:	G3		
	State:	None		State:	S3.2		
	Other:						
Habitat:	General:	<input type="checkbox"/>					
	Micro:	<input type="checkbox"/>					

Occurrence No.	71	Map Index:	02748	EO Index:	15780	Element Last Seen:	1988-02-10
Occ. Rank:	None	Presence:	Extirpated	Site Last Seen:	1988-02-10	Record Last Updated:	1998-07-20
Occ. Type:	Natural/Native occurrence		Trend:	Unknown			
Quad Summary:	Orange (3311777)						
County Summary:	Orange						
Lat/Long:	33.86470 / -117.76570			Accuracy:	specific area		
UTM:	Zone-11 N3747418 E429176			Elevation (ft):	300		
PLSS:	T03S, R08W, Sec. 31 (S)			Acres:	37.2		
Location:	SOUTHEASTERN SIDE OF SANTA ANA CANYON, SOUTH OF ESPERANZA.						
Detailed Location:	EXTIRPATED PER INTERPRETATION OF 1988 AERIAL PHOTOS.						
Ecological:	MAPPED BY WIESLANDER SURVEY (1935) AS CLOSED CANOPY POPULUS FREMONTII & SALIX SPP.						
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.						
Owner/Manager:	PVT						



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Occurrence No.	77	Map Index:	02849	EO Index:	15775	Element Last Seen:	1985-02-13
Occ. Rank:	Fair	Presence:	Presumed Extant	Site Last Seen:		1988-05-06	
Occ. Type:	Natural/Native occurrence	Trend:	Decreasing	Record Last Updated:		1998-07-20	

Quad Summary: Black Star Canyon (3311776), Prado Dam (3311786)

County Summary: Orange

Lat/Long:	33.87379 / -117.70120	Accuracy:	specific area
UTM:	Zone-11 N3748383 E435149	Elevation (ft):	375
PLSS:	T03S, R08W, Sec. 27 (S)	Acres:	374.6

Location: SANTA ANA CANYON, FROM HORSESHOE BEND TO ABOUT THE COUNTY LINE.

Detailed Location: EXTANT, 1985, BUT BOUNDARY DECREASED PER INTERPRETATION OF AERIAL PHOTOS.

Ecological: MAPPED BY WIESLANDER SURVEY (1935) AS CLOSED CANOPY POPULUS FREMONTII, P. TRICHOCARPA & SALIX SPP. MUCH DISTURBED FOREST W/VARIABLE UNDERSTORY OF DENSE BACCHARIS, SALIX HINDSIANA. ALSO ENCELIA CA, HAPLOPAPPUS VENUSTUS, ERIOG. FASCICULATUM.

General: AREAS OF GROOMED PARKLAND INTERSPERSED. FLOOD CONTROL AND CALTRANS HAVE DISTURBED AREA. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: PVT, ORA COUNTY

Occurrence No.	79	Map Index:	02923	EO Index:	13395	Element Last Seen:	1988-02-06
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1988-02-06	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1998-07-20	

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.63609 / -117.67199	Accuracy:	specific area
UTM:	Zone-11 N3722010 E437679	Elevation (ft):	520
PLSS:	T06S, R08W, Sec. 24 (S)	Acres:	44.6

Location: ALISO CREEK, FROM ABOUT JUNCTION WITH ENGLISH CREEK TO ABOUT 1.5 MILES U/S.

Detailed Location: MAPPED FROM INTERPRETATION OF 1988 AERIAL PHOTOS.

Ecological: UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.

General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: PVT

Southern Sycamore Alder Riparian Woodland

Element Code: CTT62400CA

Southern Sycamore Alder Riparian Woodland

Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G4
	State: None		State: S4
	Other:		
Habitat:	General: <input type="checkbox"/>		
	Micro: <input type="checkbox"/>		



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Occurrence No.	177	Map Index:	02965	EO Index:	15391	Element Last Seen:	1985-02-13
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1985-02-13	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1998-07-22	

Quad Summary: Black Star Canyon (3311776), Prado Dam (3311786)
County Summary: Riverside

Lat/Long:	33.87099 / -117.64203	Accuracy:	specific area
UTM:	Zone-11 N3748037 E440620	Elevation (ft):	800
PLSS:	T03S, R07W, Sec. 32 (S)	Acres:	78.4

Location: LOWER-MIDDLE FRESNO CANYON, NORTH SIDE OF SIERRA PEAK.
Detailed Location: EXTANT, 1985, PER INTERPRETATION OF AERIAL PHOTOS.
Ecological: MAPPED BY WIESLANDER SURVEY AS OPEN QUERCUS AGRIFOLIA, PLATANUS RACEMOSA, ARTEMISIA CALIFORNICA, SALVIA MELLIFERA AND ERIOGONUM FASCICULATUM.
General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEO/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager: PVT

Occurrence No.	179	Map Index:	02972	EO Index:	13376	Element Last Seen:	1985-02-13
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1985-02-13	
Occ. Type:	Natural/Native occurrence	Trend:	Decreasing	Record Last Updated:		1998-07-22	

Quad Summary: Corona South (3311775), Black Star Canyon (3311776), Corona North (3311785), Prado Dam (3311786)
County Summary: Riverside

Lat/Long:	33.87313 / -117.61790	Accuracy:	specific area
UTM:	Zone-11 N3748260 E442853	Elevation (ft):	700
PLSS:	T03S, R07W, Sec. 28 (S)	Acres:	251.2

Location: WARDLOW WASH & UNNAMED INTERMITTENT CREEK JUST EAST OF FRESNO CANYON; BELOW PRADO DAM.
Detailed Location: EXTANT, 1985, PER INTERPRETATION OF AERIAL PHOTOS BUT BOUNDARY DECREASED.
Ecological: MAPPED BY WIESLANDER SURVEY AS CLOSED CANOPY QUERCUS AGRIFOLIA, PLATANUS RACEMOSA, ARTEMISIA CALIFORNICA, RHUS INTEGRIFOLIA, SALVIA MELLIFERA AND ERIOGONUM FASCICULATUM.
General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEO/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager: PVT



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Occurrence No.	183	Map Index:	02937	EO Index:	15386	Element Last Seen:	1980-04-10
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1980-04-10	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1998-07-22	

Quad Summary: Black Star Canyon (3311776)
County Summary: Riverside

Lat/Long:	33.86677 / -117.66453	Accuracy:	specific area
UTM:	Zone-11 N3747582 E438536	Elevation (ft):	660
PLSS:	T03S, R08W, Sec. 36 (S)	Acres:	85.9

Location: UNNAMED TRIBUTARY TO SANTA ANA RIVER, NEXT CANYON EAST OF COAL CANYON.
Detailed Location: EXTANT, 1985, PER INTERPRETATION OF AERIAL PHOTOS.
Ecological: MAPPED BY WIESLANDER SURVEY AS CLOSED CANOPY QUERCUS AGRIFOLIA AND PLATANUS RACEMOSA.
General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager: PVT

Occurrence No.	184	Map Index:	02970	EO Index:	15385	Element Last Seen:	1980-04-10
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1980-04-10	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1998-07-22	

Quad Summary: Black Star Canyon (3311776)
County Summary: Riverside

Lat/Long:	33.85381 / -117.64035	Accuracy:	specific area
UTM:	Zone-11 N3746131 E440763	Elevation (ft):	1850
PLSS:	T04S, R07W, Sec. 06 (S)	Acres:	40.4

Location: UNNAMED TRIBUTARY TO FRESNO CANYON, EAST OF SIERRA PEAK, BUT WEST OF WARDLOW CANYON.
Detailed Location: MAPPED PER INTERPRETATION OF 1980 AERIAL PHOTOS.
Ecological:
General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager: USFS-CLEVELAND NF



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Occurrence No.	185	Map Index: 02979	EO Index: 15383	Element Last Seen:	1980-04-10
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1980-04-10
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1998-07-22
Quad Summary:	Corona South (3311775), Black Star Canyon (3311776)				
County Summary:	Riverside				
Lat/Long:	33.85077 / -117.63451		Accuracy:	specific area	
UTM:	Zone-11 N3745790 E441302		Elevation (ft):	1350	
PLSS:	T04S, R07W, Sec. 05 (S)		Acres:	106.0	
Location:	WARDLOW CANYON, EAST OF SIERRA PEAK.				
Detailed Location:	EXTANT, 1980, PER INTERPRETATION OF AERIAL PHOTOS.				
Ecological:	MAPPED BY WIESLANDER SURVEY AS CLOSED CANOPY QUERCUS AGRIFOLIA AND PLATANUS RACEMOSA.				
General:	NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.				
Owner/Manager:	PVT				
Occurrence No.	186	Map Index: 02980	EO Index: 15384	Element Last Seen:	1980-04-10
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1980-04-10
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1998-07-22
Quad Summary:	Corona South (3311775), Black Star Canyon (3311776)				
County Summary:	Riverside				
Lat/Long:	33.84283 / -117.63129		Accuracy:	specific area	
UTM:	Zone-11 N3744908 E441594		Elevation (ft):	1600	
PLSS:	T04S, R07W, Sec. 08 (S)		Acres:	135.3	
Location:	MABEY CANYON, SE OF SIERRA PEAK.				
Detailed Location:	EXTANT, 1980, PER INTERPRETATION OF AERIAL PHOTOS.				
Ecological:	MAPPED BY WIESLANDER SURVEY AS CLOSED CANOPY QUERCUS AGRIFOLIA AND PLATANUS RACEMOSA.				
General:	NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.				
Owner/Manager:	USFS-CLEVELAND NF				



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Occurrence No.	187	Map Index:	02852	EO Index:	13375	Element Last Seen:	1980-04-10
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1980-04-10	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1998-07-22	
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.80339 / -117.68653			Accuracy:	specific area		
UTM:	Zone-11 N3740568 E436454			Elevation (ft):	820		
PLSS:	T04S, R08W, Sec. 23 (S)			Acres:	628.6		
Location:	SANTIAGO CREEK FROM PARK TO RESERVOIR, LOWER & EAST FORK FREMONT CANYON & BLIND CANYON & TRIBUTARIES.						
Detailed Location:	EXTANT, 1980, PER INTERPRETATION OF AERIAL PHOTOS BUT PORTION EXTIRPATED. COVER THIN IN BLIND CANYON.						
Ecological:	MAPPED BY WIESLANDER SURVEY AS CLOSED CANOPY QUERCUS AGRIFOLIA AND PLATANUS RACEMOSA AND SOME PURE STANDS OF PLATANUS.						
General:	NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.						
Owner/Manager:	PVT						
Occurrence No.	188	Map Index:	02947	EO Index:	15382	Element Last Seen:	1980-04-10
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1980-04-10	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1998-07-22	
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.77160 / -117.65796			Accuracy:	specific area		
UTM:	Zone-11 N3737026 E439076			Elevation (ft):	1280		
PLSS:	T05S, R07W, Sec. 06 (S)			Acres:	310.0		
Location:	BAKER CANYON, FROM LESS THAN 1 MILE U/S FROM JUNCTION W/ SANTIAGO CREEK, TRIBUTARIES AND PORTION OF HALL CREEK.						
Detailed Location:	EXTANT, 1980, PER INTERPRETATION OF AERIAL PHOTOS.						
Ecological:	MAPPED BY WIESLANDER SURVEY AS CLOSED CANOPY QUERCUS AGRIFOLIA, ALNUS RHOMBIFOLIA AND PLATANUS RACEMOSA.						
General:	NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.						
Owner/Manager:	USFS-CLEVELAND NF						



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Occurrence No.	189	Map Index: 02916	EO Index: 12463	Element Last Seen:	1988-02-10
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1988-02-10
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1998-07-22
Quad Summary:	El Toro (3311766), Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.73420 / -117.67031		Accuracy:	specific area	
UTM:	Zone-11 N3732887 E437905		Elevation (ft):	1060	
PLSS:	T05S, R08W, Sec. 13 (S)		Acres:	405.7	
Location:	MIDDLE-UPPER LIMESTONE CANYON AND TRIBUTARIES, FROM ABOUT 2 MILES U/S OF SANTAIGO RESERVOIR TO NW OF THE SINKS.				
Detailed Location:	EXTANT, 1988, PER INTERPRETATION OF AERIAL PHOTOS.				
Ecological:	MAPPED BY WIESLANDER SURVEY AS CLOSED CANOPY QUERCUS AGRIFOLIA AND PLATANUS RACEMOSA.				
General:	NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEO/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.				
Owner/Manager:	PVT				
Occurrence No.	190	Map Index: 02968	EO Index: 15381	Element Last Seen:	1988-02-10
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1988-02-10
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1998-07-22
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.68399 / -117.64139		Accuracy:	specific area	
UTM:	Zone-11 N3727303 E440550		Elevation (ft):	970	
PLSS:	T06S, R07W, Sec. 05 (S)		Acres:	110.7	
Location:	APPROXIMATELY 2 MILES IN LENGTH OF UPPER SERRANO CREEK, EAST OF EL TORO MCAS.				
Detailed Location:	EXTANT, 1988, PER INTERPRETATION OF AERIAL PHOTOS.				
Ecological:	MAPPED BY WIESLANDER SURVEY AS CLOSED CANOPY ALNUS RHOMBIFOLIA.				
General:	NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEO/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.				
Owner/Manager:	PVT				



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Occurrence No.	191	Map Index: 02948	EO Index: 15379	Element Last Seen: 1988-02-10
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 1988-02-10
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1998-07-22
Quad Summary:	El Toro (3311766)			
County Summary:	Orange			
Lat/Long:	33.69196 / -117.65592		Accuracy: specific area	
UTM:	Zone-11 N3728195 E439208		Elevation (ft): 950	
PLSS:	T05S, R07W, Sec. 31 (S)		Acres: 117.5	
Location:	BORREGO CANYON AND TRIBUTARY, FROM ABOUT ORIGIN TO ABOUT 1.5 MILES D/S.			
Detailed Location:	EXTANT, 1988, PER INTERPRETATION OF AERIAL PHOTOS.			
Ecological:	MAPPED BY WIESLANDER SURVEY AS CLOSED CANOPY QUERCUS AGRIFOLIA AND PLATANUS RACEMOSA.			
General:	NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.			
Owner/Manager:	PVT			
Occurrence No.	192	Map Index: 02939	EO Index: 15380	Element Last Seen: 1988-02-06
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 1988-02-06
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1998-07-22
Quad Summary:	El Toro (3311766)			
County Summary:	Orange			
Lat/Long:	33.63607 / -117.66217		Accuracy: specific area	
UTM:	Zone-11 N3722002 E438589		Elevation (ft): 600	
PLSS:	T06S, R08W, Sec. 24 (S)		Acres: 63.8	
Location:	ENGLISH CANYON, TRIBUTARY TO ALISO CREEK, EAST OF EL TORO.			
Detailed Location:	EXTANT BUT BOUNDARY INCREASED, PER INTERPRETATION OF 1988 AERIAL PHOTOS.			
Ecological:	MAPPED BY WIESLANDER SURVEY AS CLOSED CANOPY QUERCUS AGRIFOLIA AND PLATANUS RACEMOSA.			
General:	NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.			
Owner/Manager:	PVT			



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Occurrence No.	194	Map Index:	02914	EO Index:	15378	Element Last Seen:	1988-02-10
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1988-02-10	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1998-07-22	

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.76225 / -117.67448	Accuracy:	specific area
UTM:	Zone-11 N3735999 E437540	Elevation (ft):	920
PLSS:	T05S, R08W, Sec. 01 (S)	Acres:	15.4

Location: AT CONFLUENCE OF BAKER CANYON AND SANTIAGO CREEK, SANTA ANA MTNS.
Detailed Location: EXTANT, 1988, PER INTERPRETATION OF AERIAL PHOTOS.
Ecological: MAPPED BY WIESLANDER SURVEY AS CLOSED CANOPY QUERCUS AGRIFOLIA AND PLATANUS RACEMOSA.
General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager: PVT

Occurrence No.	195	Map Index:	02983	EO Index:	15376	Element Last Seen:	1988-02-10
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1988-02-10	
Occ. Type:	Natural/Native occurrence	Trend:	Decreasing	Record Last Updated:		1998-07-22	

Quad Summary: Santiago Peak (3311765), El Toro (3311766)
County Summary: Orange

Lat/Long:	33.67779 / -117.62355	Accuracy:	specific area
UTM:	Zone-11 N3726605 E442199	Elevation (ft):	980
PLSS:	T06S, R07W, Sec. 04 (S)	Acres:	285.2

Location: ALISO CREEK FROM 750 FT TO ABOUT 1500 FT ELEV, APPROXIMATELY 5 MILES EAST OF EL TORO.
Detailed Location: PARTIALLY EXTIRPATED PER INTERPRETATION OF 1988 AERIAL PHOTOS. EXTANT BETWEEN ABOUT 745 TO 1000 FT AND 1200 TO 1300 FT OF ALISO CREEK AND ENTIRE TRIBUTARY.
Ecological: MAPPED BY WIESLANDER SURVEY AS CLOSED CANOPY QUERCUS AGRIFOLIA AND PLATANUS RACEMOSA U/S AND PLATANUS RACEMOSA D/S.
General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager: PVT



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Occurrence No.	196	Map Index: 02982	EO Index: 15375	Element Last Seen:	1980-04-10
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1980-04-10
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1998-07-22

Quad Summary: Corona South (3311775), Black Star Canyon (3311776)

County Summary: Orange, Riverside

Lat/Long:	33.83056 / -117.62571	Accuracy:	specific area
UTM:	Zone-11 N3743545 E442102	Elevation (ft):	740
PLSS:	T04S, R07W, Sec. 08 (S)	Acres:	146.8

Location: TIN MINE CANYON AND UNNAMED TRIBUTARY, SW OF CORONA IN SANTA ANA MOUNTAINS.

Detailed Location: EXTANT, 1980, PER INTERPRETATION OF AERIAL PHOTOS.

Ecological: MAPPED BY WIESLANDER SURVEY AS CLOSED CANOPY QUERCUS AGRIFOLIA AND PLATANUS RACEMOSA.

General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: USFS-CLEVELAND NF

Occurrence No.	199	Map Index: 02993	EO Index: 15371	Element Last Seen:	1988-02-06
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1988-02-06
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1998-07-22

Quad Summary: Santiago Peak (3311765), El Toro (3311766), Corona South (3311775), Black Star Canyon (3311776)

County Summary: Orange, Riverside

Lat/Long:	33.76154 / -117.61499	Accuracy:	specific area
UTM:	Zone-11 N3735886 E443048	Elevation (ft):	1420
PLSS:	T05S, R07W, Sec. 04 (S)	Acres:	1280.2

Location: SILVERADO AND LADD CANYONS U/S OF CONFLUENCE NEAR SILVERADO.

Detailed Location: EXTANT, 1988, PER INTERPRETATION OF AERIAL PHOTOS. NO 1988 PHOTO COVERAGE OF EAST PART AVAILABLE, LAST SEEN 1980.

Ecological: MAPPED BY WIESLANDER SURVEY AS CLOSED CANOPY QUERCUS AGRIFOLIA, ALNUS RHOMBIFOLIA AND PLATANUS RACEMOSA.

General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: USFS-CLEVELAND NF



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Occurrence No.	200	Map Index: 02888	EO Index: 15370	Element Last Seen: 1988-02-06
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 1988-02-06
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1998-07-22
Quad Summary:	El Toro (3311766)			
County Summary:	Orange			
Lat/Long:	33.65425 / -117.68054		Accuracy: specific area	
UTM:	Zone-11 N3724028 E436899		Elevation (ft): 440	
PLSS:	T06S, R08W, Sec. 14 (S)		Acres: 122.2	
Location:	LOWER SERRANO CREEK, U/S & D/S OF TRABUCO ROAD FOR APPROXIMATELY 1.5 MILES EACH DIRECTION.			
Detailed Location:	EXTANT, 1988, PER INTERPRETATION OF AERIAL PHOTOS BUT BOUNDARY INCREASED.			
Ecological:	MAPPED BY WIESLANDER SURVEY AS CLOSED CANOPY SALIX SPP. AND PLATANUS RACEMOSA.			
General:	NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.			
Owner/Manager:	PVT			
Occurrence No.	201	Map Index: 02861	EO Index: 15368	Element Last Seen: 1988-06-08
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 1988-06-08
Occ. Type:	Natural/Native occurrence		Trend: Decreasing	Record Last Updated: 1998-07-22
Quad Summary:	Black Star Canyon (3311776)			
County Summary:	Orange			
Lat/Long:	33.85186 / -117.70373		Accuracy: specific area	
UTM:	Zone-11 N3745953 E434899		Elevation (ft): 480	
PLSS:	T04S, R08W, Sec. 03 (S)		Acres: 73.0	
Location:	GYPSUM CANYON TRIBUTARY TO SANTA ANA RIVER; ABOVE GRAVEL MINE FOR ONLY APPROXIMATELY 1 MILE.			
Detailed Location:	EXTANT, 1988, PER INTERPRETATION OF AERIAL PHOTOS BUT EXTENT DECREASED.			
Ecological:	MAPPED BY WIESLANDER SURVEY AS CLOSED CANOPY QUERCUS AGRIFOLIA, Q. CHRYSOLEPIS AND PLATANUS RACEMOSA WITH GRASS UNDERSTORY.			
General:	NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.			
Owner/Manager:	USFS-CLEVELAND NF			



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Occurrence No.	221	Map Index:	02705	EO Index:	15347	Element Last Seen:	1988-02-06
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1988-02-06	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1998-07-22	

Quad Summary: Tustin (3311767)
County Summary: Orange

Lat/Long:	33.64072 / -117.79596	Accuracy:	specific area
UTM:	Zone-11 N3722605 E426185	Elevation (ft):	180
PLSS:	T06S, R09W, Sec. 23 (S)	Acres:	61.9

Location: UPPER SAND CANYON RESERVOIR AND UNNAMED TRIBUTARIES, SAN JOAQUIN HILLS EAST OF NEWPORT BEACH.
Detailed Location: EXTANT AND COMMUNITY HAS EXTENDED INTO CANYON AND OTHER TRIBS PRESUMABLY DUE TO FILLING OF RESERVOIR PER INTERPRETATION OF 1988 AERIAL PHOTOS.
Ecological: MAPPED BY WIESLANDER SURVEY AS CLOSED CANOPY QUERCUS AGRIFOLIA AND PLATANUS RACEMOSA ALONG SMALL TRIBUTARY TO CANYON.
General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager: PVT

Southern Riparian Scrub **Element Code:** CTT63300CA

Southern Riparian Scrub

Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G3
	State: None		State: S3.2
	Other:		
Habitat:	General: <input type="checkbox"/>		
	Micro: <input type="checkbox"/>		

Occurrence No.	44	Map Index:	02935	EO Index:	15298	Element Last Seen:	1988-02-10
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1988-02-10	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1998-07-23	

Quad Summary: El Toro (3311766), Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.73820 / -117.66390	Accuracy:	specific area
UTM:	Zone-11 N3733326 E438502	Elevation (ft):	1070
PLSS:	T05S, R08W, Sec. 13 (S)	Acres:	346.2

Location: SANTIAGO CREEK, U/S OF SANTIAGO RESERVOIR FROM BAKER CANYON TO JUST D/S OF MODJESKA.
Detailed Location:
Ecological: 1988 EXTENT MAPPED FROM INTERPRETATION OF AERIAL PHOTOGRAPHS. UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.
General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager: PVT



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Southern Willow Scrub		Element Code: CTT63320CA	
Southern Willow Scrub			
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G3
	State: None		State: S2.1
	Other:		
Habitat:	General: <input type="checkbox"/>		
	Micro: <input type="checkbox"/>		
Occurrence No.	40	Map Index: 02778	EO Index: 15258
Occ. Rank:	Unknown	Presence: Presumed Extant	Element Last Seen: XXXX-XX-XX
Occ. Type:	Natural/Native occurrence	Trend: Unknown	Site Last Seen: 1988-06-08
			Record Last Updated: 1998-07-21
Quad Summary:	Black Star Canyon (3311776)		
County Summary:	Orange		
Lat/Long:	33.86590 / -117.74085	Accuracy:	specific area
UTM:	Zone-11 N3747534 E431475	Elevation (ft):	370
PLSS:	T03S, R08W, Sec. 32 (S)	Acres:	117.6
Location:	TRIBUTARIES TO SANTA ANA RIVER APPROXIMATELY 1 MILE SOUTH OF HORSESHOE BEND.		
Detailed Location:	EXTIRPATED BY RESIDENTIAL DEVELOPMENT PER INTERPRETATION OF 1988 AERIAL PHOTOS.		
Ecological:	MAPPED BY WIESLANDER SURVEY AS OPEN QUERCUS AGRIFOLIA, PLATANUS RACEMOSA, SALIX SPP, ARTEMISIA CALIFORNICA.		
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.		
Owner/Manager:	PVT		



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California Walnut Woodland		Element Code: CTT71210CA	
California Walnut Woodland			
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G2
	State: None		State: S2.1
	Other:		
Habitat:	General: <input type="checkbox"/>		
	Micro: <input type="checkbox"/>		

Occurrence No.	44	Map Index: 02732	EO Index: 15061	Element Last Seen: 1988-02-10
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 1988-02-10
Occ. Type:	Natural/Native occurrence		Trend: Decreasing	Record Last Updated: 1998-08-31

Quad Summary: Orange (3311777)
County Summary: Orange

Lat/Long:	33.83749 / -117.77632	Accuracy:	specific area
UTM:	Zone-11 N3744408 E428171	Elevation (ft):	720
PLSS:	T04S, R09W, Sec. 12 (S)	Acres:	11.4

Location: NORTH-FACING SLOPE OF WALNUT CANYON, SE OF ANAHEIM.
Detailed Location: EXTANT, 1988, BUT BOUNDARY GREATLY REDUCED.
Ecological: MAPPED BY WIESLANDER SURVEY AS OPEN WOODLAND OF JUGLANS CALIFORNICA AND QUERCUS AGRIFOLIA WITH UNDERSTORY OF ARTEMISIA CALIFORNICA AND SALVIA APIANA.
General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEO/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager: PVT

Occurrence No.	53	Map Index: 02763	EO Index: 15054	Element Last Seen: 1988-02-10
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 1988-02-10
Occ. Type:	Natural/Native occurrence		Trend: Decreasing	Record Last Updated: 1998-08-31

Quad Summary: Black Star Canyon (3311776), Orange (3311777)
County Summary: Orange

Lat/Long:	33.83887 / -117.75582	Accuracy:	specific area
UTM:	Zone-11 N3744547 E430069	Elevation (ft):	680
PLSS:	T04S, R08W, Sec. 07 (S)	Acres:	41.4

Location: NORTH-FACING SLOPE OF WALNUT CANYON, SW OF WALNUT CANYON RESERVOIR.
Detailed Location: EXTANT, 1988.
Ecological: MAPPED BY WIESLANDER SURVEY AS OPEN CANOPY JUGLANS CALIFORNICA AND QUERCUS AGRIFOLIA WITH UNDERSTORY OF ARTEMISIA CALIFORNICA.
General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEO/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager: PVT



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Southern Interior Cypress Forest		Element Code: CTT83230CA	
Southern Interior Cypress Forest			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G2
	State: None		State: S2.1
	Other:		
Habitat:	General: <input type="checkbox"/>		
	Micro: <input type="checkbox"/>		

Occurrence No.	19	Map Index:	02961	EO Index:	28704	Element Last Seen:	1979-06-15
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1979-06-15	
Occ. Type:	Transplant Outside of Native Hab./Range	Trend:	Unknown	Record Last Updated:		1998-09-01	

Quad Summary:	Black Star Canyon (3311776)		
County Summary:	Orange, Riverside		
Lat/Long:	33.84028 / -117.64477	Accuracy:	1 mile
UTM:	Zone-11 N3744633 E440345	Elevation (ft):	2500
PLSS:	T04S, R07W, Sec. 07, SE (S)	Acres:	0.0
Location:	SIERRA PEAK, SOUTH FACE OF PEAK ALONG MAIN DIVIDE RD (TRUCK TRAIL) BETWEEN SIERRA PEAK AND SKYLINE DR, SANTA ANA MTNS.		
Detailed Location:	ABOUT 7 TREES DESTROYED WHILE CLEARING FIRE BREAK ALONG TRUCK TRAIL.		
Ecological:	CUPRESSUS FORBESII GROVE ON SANDY LOAM, SLOPE WITH SOUTH-EXPOSURE. TREES PLANTED IN AREA OF FORMER HOMESITE.		
General:	SEE WWW.DFG.CA.GOV/BIOGEO/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.		
Owner/Manager:	USFS-CLEVELAND NF		

Occurrence No.	21	Map Index:	02898	EO Index:	14961	Element Last Seen:	2000-08-03
Occ. Rank:	Excellent	Presence:	Presumed Extant	Site Last Seen:		2000-08-03	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2005-05-10	

Quad Summary:	Black Star Canyon (3311776)		
County Summary:	Orange		
Lat/Long:	33.84447 / -117.68918	Accuracy:	specific area
UTM:	Zone-11 N3745125 E436239	Elevation (ft):	2000
PLSS:	T04S, R08W, Sec. 11 (S)	Acres:	944.1
Location:	WEST OF SIERRA PEAK, BETWEEN GYPSUM CANYON, COAL CANYON AND FREMONT CANYON, NORTH END OF SANTA ANA MOUNTAINS.		
Detailed Location:	MAPPED FROM CLAYMONT MINE SSW ABOUT 1.5 MILES. DENSE IN SECTION 34 WEST OF CLAYMONT MINE AND SECTION 27.		
Ecological:	CUPRESSUS FORBESII IN CHAPARRAL ON ROCK OUTCROP-CIENBA SOIL COMPLEX AND SOPER LOAM. GROWING WITH LEPECHINIA CARDIOPHYLLA, CALAMAGROSTIS DENSA, ASTRAGALUS BRAUNTONII. PAST FIRES; STAND REPRODUCING WELL FROM 1982 FIRE.		
General:	MAY INCLUDE LARGEST CUPRESSUS FORBESII TREE. SEE WWW.DFG.CA.GOV/BIOGEO/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.		
Owner/Manager:	PVT		



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Branchinecta sandiegonensis

Element Code: ICBRA03060

San Diego fairy shrimp

Listing Status: **Federal:** Endangered

CNDDDB Element Ranks: **Global:** G2

State: None

State: S2

Other: IUCN_EN-Endangered

Habitat: **General:** ENDEMIC TO SAN DIEGO AND ORANGE COUNTY MESAS.

Micro: VERNAL POOLS.

Occurrence No.: 32 **Map Index:** 47799 **EO Index:** 47799 **Element Last Seen:** 2006-04-08

Occ. Rank: Excellent **Presence:** Presumed Extant **Site Last Seen:** 2006-04-08

Occ. Type: Natural/Native occurrence **Trend:** Unknown **Record Last Updated:** 2014-05-22

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long: 33.80673 / -117.72869 **Accuracy:** 80 meters

UTM: Zone-11 N3740965 E432554 **Elevation (ft):** 1200

PLSS: T04S, R08W, Sec. 21 (S) **Acres:** 0.0

Location: NORTH RANCH, ABOUT 1 MILE SW OF HWY 241 AT UPPER BLIND CANYON RD, 2.2 MILES ESE OF VILLA PARK DAM, EAST OF ORANGE.

Detailed Location: "NORTH RANCH ROCK POOL" SITE, IRVINE RANCH LAND RESERVE.

Ecological: 4 METER X 2 METER ROCK POOL IN SANDSTONE ROCK, 20 CM AT THE DEEPEST POINT IN 2001. 19' X 9', MAX DEPTH 6" IN 2005. NO OTHER FAUNA PRESENT. 2" DEEP IN 2006. PREDATORY BEETLES PRESENT.

General: 100S OBSERVED 5 MAR 2001, INCLUDING REPRODUCTIVE ADULTS; VOUCHERS SUBMITTED TO LACM. ESTIMATED ABUNDANCE 300-500, 10 MAR 2004. 300-500 PRESENT ON 21 FEB 2005. ABOUT 100 JUVENILES PRESENT ON 16 MAR 2006, ADULTS SAMPLED ON 8 APR.

Owner/Manager: PVT-IRVINE RANCH LAND RESERVE



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<i>Streptocephalus woottoni</i>		Element Code: ICBRA07010	
Riverside fairy shrimp			
Listing Status:	Federal: Endangered	CNDDDB Element Ranks:	Global: G1G2
	State: None		State: S1S2
	Other: IUCN_EN-Endangered		
Habitat:	General: ENDEMIC TO WESTERN RIVERSIDE, ORANGE, AND SAN DIEGO COUNTIES IN AREAS OF TECTONIC SWALES/EARTH SLUMP BASINS IN GRASSLAND AND COASTAL SAGE SCRUB.		
	Micro: INHABIT SEASONALLY ASTATIC POOLS FILLED BY WINTER/SPRING RAINS. HATCH IN WARM WATER LATER IN THE SEASON.		

Occurrence No.	10	Map Index: 39361	EO Index: 34363	Element Last Seen: 1998-03-06
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen: 1998-03-06
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2014-05-20

Quad Summary: El Toro (3311766)
County Summary: Orange

Lat/Long:	33.66676 / -117.63927	Accuracy:	80 meters
UTM:	Zone-11 N3725391 E440734	Elevation (ft):	1000
PLSS:	T06S, R07W, Sec. 08, NW (S)	Acres:	0.0

Location: "WHITING RANCH" SITE, 0.7 AIR MILE EAST OF JUNCTION OF HIGHWAY 241 AND PORTOLA PARKWAY, FOOTHILL RANCH.
Detailed Location: "VERNAL POOL #1" IN COMPLEX OF 16 ARTIFICIAL AND NATURAL VERNAL POOLS, FROM 1998 REPORT. PROPOSED AS PART OF "SCE VIEJO CONSERVATION BANK" CIRCA 1998, STATUS UNKNOWN.
Ecological: AN APPARENTLY ARTIFICIAL SEASONAL POND, 11.6' X 15.6' AND 1.5' DEEP IN JAN 1998. POOL VEGETATION INCLUDED CALLITRICHE MARGINATA AND GNAPHALIUM PALUSTRE, WITH COASTAL SAGE SCRUB AND CHAPARRAL IN UPLANDS.
General: FIRST OBSERVED 29 JAN 1998. ESTIMATED ABUNDANCE 2,000-3,000 ADULTS ON 6 MAR 1998; 20 VOUCHERS COLLECTED AND DEPOSITED AT LACM & WITH USFWS. ACCESS DENIED IN 2009.
Owner/Manager: PVT-SCE

Occurrence No.	41	Map Index: 91938	EO Index: 93012	Element Last Seen: 2005-03-04
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 2005-03-04
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2014-03-27

Quad Summary: El Toro (3311766)
County Summary: Orange

Lat/Long:	33.68961 / -117.68738	Accuracy:	80 meters
UTM:	Zone-11 N3727953 E436291	Elevation (ft):	700
PLSS:	T05S, R08W, Sec. 35, SW (S)	Acres:	0.0

Location: "EL TORO" SITE, IN ORANGE COUNTY GREAT PARK, 0.5 MILE SE OF JUNCTION OF PORTOLA PKWY AND HIGHWAY 241, NORTH OF EL TORO.
Detailed Location: FORMERLY EL TORO MARINE CORPS AIR STATION. CONVERTED TO PRESERVE.
Ecological: MANMADE EPHEMERAL POND IN 975-ACRE HABITAT PRESERVE, UNDISTURBED LAND FORMERLY USED AS EXPLOSIVES RANGE. IN NON-NATIVE GRASSLAND, COASTAL SAGE SCRUB, AND TOYON-SUMAC CHAPARRAL.
General: IMMATURE FAIRY SHRIMP FIRST SEEN ON 4 FEB; 1000S OF IMMATURE RFS 18 FEB; 1000S OF MATURE RFS, INCLUDING GRAVID FEMALES, ON 4 MAR 2005. ACCESS DENIED IN 2009.
Owner/Manager: ORA COUNTY



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<i>Bombus crotchii</i>		Element Code: IIHYM24480	
Crotch bumble bee			
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G3G4
	State: Candidate Endangered		State: S1S2
Other:			
Habitat:	General: COASTAL CALIFORNIA EAST TO THE SIERRA-CASCADE CREST AND SOUTH INTO MEXICO.		
	Micro: FOOD PLANT GENERA INCLUDE ANTIRRHINUM, PHACELIA, CLARKIA, DENDROMECON, ESCHSCHOLZIA, AND ERIOGONUM.		

Occurrence No.	193	Map Index:	66320	EO Index:	99051	Element Last Seen:	1942-03-28
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1942-03-28	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2015-10-05	

Quad Summary: Tustin (3311767), Newport Beach (3311768), Orange (3311777), Anaheim (3311778)
County Summary: Orange

Lat/Long:	33.74572 / -117.86785	Accuracy:	1 mile
UTM:	Zone-11 N3734300 E419616	Elevation (ft):	100
PLSS:	T05S, R09W, Sec. 18 (S)	Acres:	0.0

Location: SANTA ANA.
Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB IN THE VICINITY OF THE CITY OF SANTA ANA.
Ecological:
General: COLLECTIONS WERE MADE IN THIS VICINITY ON 28 MAR 1942.
Owner/Manager: UNKNOWN

Occurrence No.	272	Map Index:	B5205	EO Index:	118152	Element Last Seen:	2016-07-01
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2016-07-01	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2020-02-28	

Quad Summary: El Toro (3311766)
County Summary: Orange

Lat/Long:	33.71226 / -117.65146	Accuracy:	1/10 mile
UTM:	Zone-11 N3730444 E439636	Elevation (ft):	1452
PLSS:	T05S, R07W, Sec. 30, N (S)	Acres:	18.0

Location: JUST N OF BOLERO LOOKOUT BETWEEN THE SINKS AND SANTIAGO CREEK, ABOUT 5.25 MILES NE OF THE FORMER EL TORO MCS IN IRVINE.
Detailed Location: MAPPED TO PROVIDED COORDINATES.
Ecological: DETECTED DURING ROAD CLEARANCE SURVEYS FOR LSA ORANGE COUNTY RAODS PROJECT. APPEARS TO BE WITHIN IRVINE RANCH OPEN SPACE.
General: ONE DETECTED ON 1 JUL 2016.
Owner/Manager: ORA COUNTY-IRVINE RANCH



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<i>Euphydryas editha quino</i>		Element Code: IILEPK405L	
quino checkerspot butterfly			
Listing Status:	Federal: Endangered	CNDDB Element Ranks:	Global: G5T1T2
	State: None		State: S1S2
	Other: XERCES_CI-Critically Imperiled		
Habitat:	General: SUNNY OPENINGS WITHIN CHAPARRAL & COASTAL SAGE SHRUBLANDS IN PARTS OF RIVERSIDE & SAN DIEGO COUNTIES.		
	Micro: HILLS AND MESAS NEAR THE COAST. NEED HIGH DENSITIES OF FOOD PLANTS PLANTAGO ERECTA, P. INSULARIS, AND ORTHOCARPUS PURPURESCENS.		

Occurrence No.	105	Map Index:	A7996	EO Index:	109778	Element Last Seen:	1937-04-23
Occ. Rank:	None			Presence:	Extirpated	Site Last Seen:	1983-03-19
Occ. Type:	Natural/Native occurrence			Trend:	Unknown	Record Last Updated:	2018-10-03

Quad Summary: Black Star Canyon (3311776), Orange (3311777)
County Summary: Orange

Lat/Long:	33.79787 / -117.74352	Accuracy:	1 mile
UTM:	Zone-11 N3739993 E431174	Elevation (ft):	680
PLSS:	T04S, R08W, Sec. 29 (S)	Acres:	1987.0

Location: IRVINE PARK, JUST N OF HWY 261 AT SANTIAGO CANYON RD, NW OF IRVINE LAKE.
Detailed Location: LOCALITIES STATED AS "ORANGE CO. PARK," "HILLS E OF ORANGE CO. PARK," "HILLS N OF ORANGE CO. PARK," AND "IRVINE PARK." ORANGE COUNTY PARK CHANGED NAMES INTO IRVINE PARK IN 1928.
Ecological: ORANGE CO EXTIRPATION: LARGE-SCALE LOSS OF POPULATIONS DUE TO NATURALLY OCCURRING EVENTS (DROUGHT, COLD-SNAPS, 100-YR FLOOD IN 1938, & FIRE) & HUMAN-CAUSED HABITAT DESTRUCTION & DEGRADATION (DEVELOPMENT, AGRICULTURE, & GRAZING) (FWS03R03).
General: COLLECTED 1917, 1918, 1921, 1922, 1927, 1928, 1931, 1933, 1934, 1935, AND 1937. 0 FOUND IN 1973 & ON 19 MAR 1983.
Owner/Manager: ORA COUNTY

Occurrence No.	113	Map Index:	B0974	EO Index:	112865	Element Last Seen:	1967-03-XX
Occ. Rank:	None			Presence:	Extirpated	Site Last Seen:	1976-XX-XX
Occ. Type:	Natural/Native occurrence			Trend:	Unknown	Record Last Updated:	2018-10-05

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.80434 / -117.65317	Accuracy:	1 mile
UTM:	Zone-11 N3740653 E439543	Elevation (ft):	1910
PLSS:	T04S, R07W, Sec. 19 (S)	Acres:	1987.0

Location: UPPER BLACK STAR CANYON, NE OF IRVINE LAKE.
Detailed Location: MAPPED GENERALLY TO PROVIDED LOCALITY "UPPER BLACK STAR [CANYON], ORANGE COUNTY." 1967 DETECTION MADE "ON DOME-SHAPED HILL APPROXIMATELY 0.4 AIR MILE SOUTH AND SLIGHTLY WEST OF HIDDEN RANCH (EAST SIDE OF FOREST SERVICE ROAD)."
Ecological: ORANGE CO EXTIRPATION: LARGE-SCALE LOSS OF POPULATIONS DUE TO NATURALLY OCCURRING EVENTS (DROUGHT, COLD-SNAPS, 100-YR FLOOD IN 1938, & FIRE) & HUMAN-CAUSED HABITAT DESTRUCTION & DEGRADATION (DEVELOPMENT, AGRICULTURE, & GRAZING) (FWS03R03).
General: SPECIMENS TAKEN IN 1920'S AND 1930'S. 1 COLLECTED ON 9 APR 1939. COMMON ON BLACK STAR CANYON ROAD IN LATE MARCH OF 1967, NEAR HIDDEN RANCH. FIRE BURNED NOV 1967, WHICH SEEMED TO ELIMINATE THE COLONY. NOT FOUND IN 1974, 1975, AND 1976.
Owner/Manager: THE WILDLANDS CONSERVANCY



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**Tryonia imitator**

Element Code: IMGASJ7040

mimic tryonia (=California brackishwater snail)

Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G2
	State: None		State: S2
	Other: IUCN_DD-Data Deficient		
Habitat:	General: INHABITS COASTAL LAGOONS, ESTUARIES AND SALT MARSHES, FROM SONOMA COUNTY SOUTH TO SAN DIEGO COUNTY.		
	Micro: FOUND ONLY IN PERMANENTLY SUBMERGED AREAS IN A VARIETY OF SEDIMENT TYPES; ABLE TO WITHSTAND A WIDE RANGE OF SALINITIES.		

Occurrence No.	6	Map Index:	02534	EO Index:	23220	Element Last Seen:	1996-09-24
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1996-09-24	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2004-12-06	

Quad Summary: Tustin (3311767), Newport Beach (3311768)**County Summary:** Orange, Pacific Ocean

Lat/Long:	33.63685 / -117.88909	Accuracy:	nonspecific area
UTM:	Zone-11 N3722246 E417545	Elevation (ft):	0
PLSS:	T06S, R10W, Sec. 23 (S)	Acres:	562.2

Location: UPPER NEWPORT BAY.**Detailed Location:** USNM COLLECTION TAKEN AT OUTLET OF SAN DIEGO CREEK.**Ecological:****General:** LIVING POPULATION REPORTED BY TAYLOR (1978). 500 COLLECTED BY CAROL L. PAQUETTE ON 24 SEP 1996 (USNM #1004198).**Owner/Manager:** DFG-UPPER NEWPORT BAY ER**Baccharis malibuensis**

Element Code: PDAST0W0W0

Malibu baccharis

Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G1
	State: None		State: S1
	Other: Rare Plant Rank - 1B.1, SB_RSABG-Rancho Santa Ana Botanic Garden		
Habitat:	General: COASTAL SCRUB, CHAPARRAL, CISMONTANE WOODLAND, RIPARIAN WOODLAND.		
	Micro: IN CONEJO VOLCANIC SUBSTRATES, OFTEN ON EXPOSED ROADCUTS. SOMETIMES OCCUPIES OAK WOODLAND HABITAT. 150-320 M.		



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Occurrence No.	8	Map Index: 53834	EO Index: 53834	Element Last Seen:	2008-06-25
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2008-06-25
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-09-14
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.79781 / -117.68941		Accuracy:	nonspecific area	
UTM:	Zone-11 N3739951 E436183		Elevation (ft):	1500	
PLSS:	T04S, R08W, Sec. 26, NW (S)		Acres:	28.0	
Location:	IRVINE RANCH RESERVE, EAST FREMONT CANYON, ABOUT 2 AIR MILES ENE OF SANTIAGO DAM, SANTA ANA MOUNTAINS.				
Detailed Location:	2 POLYGONS MAPPED BY CNDDDB. SOUTHERN POLYGON IS SPECIFIC, BASED ON 2008 RIEFNER COORDINATES. NORTHERN POLYGON IS NON-SPECIFIC, BASED ON WRITTEN DESCRIPTION OF SITE: "FREMONT CANYON...IMMEDIATELY SOUTH OF MAJOR STREAM FORK, 1000 FT ELEV."				
Ecological:	N POLY: GROWING AT THE BASE OF A N-FACING SLOPE IN THE UNDERSTORY OF QUERCUS AGRIFOLIA RIPARIAN WOODLAND ALONG AN INTERMITTENT STREAM COURSE. S POLY: GROWING ON ROAD BANK, IN CHAPARRAL, ON ROCKY SLOPE, AND ON ROCK OUTCROPS.				
General:	NORTHERN POLYGON: A SINGLE PISTILLATE SUBSHRUB SEEN IN 2000. SOUTHERN POLYGON: 15+ PLANTS OBSERVED IN 2008.				
Owner/Manager:	IRVINE RANCH CONSERVANCY				

Occurrence No.	10	Map Index: A6384	EO Index: 108140	Element Last Seen:	2008-07-02
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2008-07-02
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-09-15
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.80275 / -117.67683		Accuracy:	80 meters	
UTM:	Zone-11 N3740492 E437352		Elevation (ft):	2165	
PLSS:	T04S, R08W, Sec. 24, SW (S)		Acres:	5.0	
Location:	IRVINE RANCH RESERVE, EAST FREMONT CANYON, ABOUT 1.35 AIR MILES WSW OF HIDDEN RANCH, SANTA ANA MOUNTAINS.				
Detailed Location:	MAPPED IN THE SW 1/4 OF THE SW 1/4 OF SECTION 24.				
Ecological:	ROCK OUTCROP.				
General:	SINGLE SHRUB OBSERVED IN 2008.				
Owner/Manager:	IRVINE RANCH CONSERVANCY				



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Occurrence No.	11	Map Index: A6385	EO Index: 108141	Element Last Seen:	2008-07-17
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2008-07-17
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-09-15

Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				

Lat/Long:	33.79716 / -117.67943	Accuracy:	specific area		
UTM:	Zone-11 N3739874 E437107	Elevation (ft):	1900		
PLSS:	T04S, R08W, Sec. 26, NE (S)	Acres:	10.0		

Location:	IRVINE RANCH RESERVE, EAST FREMONT CANYON, ABOUT 1.6 AIR MILES WSW OF HIDDEN RANCH, SANTA ANA MOUNTAINS.				
Detailed Location:	MAPPED ON THE BORDER BETWEEN THE SW 1/4 OF THE NW 1/4 OF SECTION 25 AND THE SE 1/4 OF THE NE 1/4 OF SECTION 26.				
Ecological:	IN SANDY SOIL AT BASE OF ROCK OUTCROPS, AND ON OPEN SLOPE IN LOAMY SOIL.				
General:	2 PLANTS OBSERVED IN 2007. 19 PLANTS OBSERVED IN 2008.				
Owner/Manager:	IRVINE RANCH CONSERVANCY				



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<i>Pseudognaphalium leucocephalum</i>		Element Code: PDAST440C0	
white rabbit-tobacco			
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G4
	State: None		State: S2
	Other: Rare Plant Rank - 2B.2		
Habitat:	General: RIPARIAN WOODLAND, CISMONTANE WOODLAND, COASTAL SCRUB, CHAPARRAL.		
	Micro: SANDY, GRAVELLY SITES. 35-515 M.		

Occurrence No.	9	Map Index: 44022	EO Index: 70817	Element Last Seen:	1928-09-06
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1928-09-06
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2007-09-20
Quad Summary:	Black Star Canyon (3311776), Prado Dam (3311786)				
County Summary:	Orange				
Lat/Long:	33.87575 / -117.70891		Accuracy:	4/5 mile	
UTM:	Zone-11 N3748606 E434437		Elevation (ft):	500	
PLSS:	T03S, R08W, Sec. 27 (S)		Acres:	0.0	
Location:	SANTA ANA RIVER BOTTOM, RANCHO SANTA ANA.				
Detailed Location:	EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS BEST GUESS IN VICINITY OF HISTORIC RANCHO SANTA ANA BOTANIC GARDEN.				
Ecological:	RIVER BOTTOM.				
General:	MAIN SOURCE OF INFORMATION IS A 1928 COLLECTION BY HOWELL. A 1917 PARISH COLLECTION FROM "DRY SAND WASH ON SANTA ANA RIVER" ALSO ATTRIBUTED TO THIS SITE. NEEDS FIELDWORK.				
Owner/Manager:	UNKNOWN				

Occurrence No.	45	Map Index: A1144	EO Index: 102712	Element Last Seen:	2008-08-05
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2008-08-05
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2016-07-18
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.79333 / -117.71083		Accuracy:	80 meters	
UTM:	Zone-11 N3739468 E434197		Elevation (ft):	730	
PLSS:	T04S, R08W, Sec. 27, SW (S)		Acres:	5.0	
Location:	FREMONT CANYON CONSERVATION EASEMENT, IRVINE RANCH RESERVE, SANTA ANA MOUNTAINS.				
Detailed Location:	LOWER FREMONT CANYON, MAIN DRAINAGE. MAPPED ACCORDING TO 2008 RIEFNER COORDINATES, IN THE NW 1/4 OF THE SW 1/4 OF PROJECTED SECTION 27.				
Ecological:	ALLUVIAL FAN SAGE SCRUB. MARGIN OF ALLUVIAL WASH.				
General:	ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 2008 RIEFNER COLLECTION; MENTIONED AS "LOCAL AND RARE" IN 2008.				
Owner/Manager:	IRVINE RANCH CONSERVANCY				



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<i>Helianthus nuttallii ssp. parishii</i>		Element Code: PDAST4N102	
Los Angeles sunflower			
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G5TH
	State: None		State: SH
	Other: Rare Plant Rank - 1A		
Habitat:	General: MARSHES AND SWAMPS (COASTAL SALT AND FRESHWATER).		
	Micro: 35-1525 M.		

Occurrence No.	7	Map Index: 02533	EO Index: 16789	Element Last Seen:	1933-08-26
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1933-08-26
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1989-08-11
Quad Summary:	Tustin (3311767), Newport Beach (3311768)				
County Summary:	Orange				
Lat/Long:	33.64001 / -117.88895		Accuracy:	1 mile	
UTM:	Zone-11 N3722596 E417561		Elevation (ft):		
PLSS:	T06S, R10W, Sec. 23 (S)		Acres:	0.0	
Location:	EDGE OF SALT MARSH, FAR END OF NEWPORT LAGOON.				
Detailed Location:	EXACT LOCATION UNKNOWN, MAPPED BY CNDDDB AS A BEST GUESS.				
Ecological:	EDGE OF SALT MARSH.				
General:	ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1933 BOOTH COLLECTION. NEEDS FIELDWORK.				
Owner/Manager:	UNKNOWN				

<i>Centromadia parryi ssp. australis</i>		Element Code: PDAST4R0P4			
southern tarplant					
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G3T2		
	State: None		State: S2		
	Other: Rare Plant Rank - 1B.1, SB_RSABG-Rancho Santa Ana Botanic Garden				
Habitat:	General: MARSHES AND SWAMPS (MARGINS), VALLEY AND FOOTHILL GRASSLAND, VERNAL POOLS.				
	Micro: OFTEN IN DISTURBED SITES NEAR THE COAST AT MARSH EDGES; ALSO IN ALKALINE SOILS SOMETIMES WITH SALTGRASS. SOMETIMES ON VERNAL POOL MARGINS. 0-975 M.				
Occurrence No.	7	Map Index: 35383	EO Index: 29982	Element Last Seen:	1997-10-10
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	1997-10-10
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1998-08-27
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.64546 / -117.87296		Accuracy:	80 meters	
UTM:	Zone-11 N3723188 E419049		Elevation (ft):	10	
PLSS:	T06S, R10W (S)		Acres:	0.0	
Location:	NEWPORT BEACH, UPPER NEWPORT BACK BAY ALONG BAYSIDE DRIVE JUST WEST OF EASTBLUFF DRIVE.				
Detailed Location:	ALONG BOTH SIDES OF ROAD ABOUT 1000 FEET WEST OF EASTBLUFF DRIVE.				
Ecological:	ON GRASSY SLOPE WITHIN RUDERAL/GRASSLAND COMMUNITY. ASSOCIATED WITH SALSOLA KALI, CONYZA CANADENSIS, PICRIS ECHIOIDES, BRASSICA GENICULATA, FRANKENIA GRANDIFOLIA, DISTICHLIS SPICATA, BROMUS MOLLIS, FESTUCA MEGALURA, HORDEUM LEPORINUM, ETC.				
General:	60+ PLANTS OBSERVED IN 1989, SEVERAL HUNDRED PLANTS IN 1997.				
Owner/Manager:	DFG-UPPER NEWPORT BAY ER				



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Occurrence No.	8	Map Index: 35382	EO Index: 29981	Element Last Seen: 2015-05-16
Occ. Rank:	Fair		Presence: Presumed Extant	Site Last Seen: 2015-05-16
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2015-08-05

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.65265 / -117.86141	Accuracy:	specific area
UTM:	Zone-11 N3723977 E420126	Elevation (ft):	20
PLSS:	T06S, R09W, Sec. 18, W (S)	Acres:	15.0

Location: NEWPORT BEACH; VICINITY OF SAN DIEGO CREEK CHANNEL AT MACARTHUR BLVD.

Detailed Location: MAPPED BY CNDDDB AS 3 POLYGONS BASED ON A 1996 ERICKSON MAP AND 2015 VANDERHOFF COORDINATES.

Ecological: RUDERAL WETLAND EDGE AND ALONG MARGINS OF A FEW LARGE SWALES. WITH DEINANDRA FASCICULATA AND LOTS OF NON-NATIVES.

General: IN 1996, 2 PLANTS OBSERVED IN SOUTHERN POLYGON AND ABOUT 100 PLANTS OBSERVED IN NORTHERN POLYGON. "QUITE COMMON (ABUNDANT)" IN MIDDLE POLYGON IN 2015. INCLUDES FORMER OCCURRENCE #9.

Owner/Manager: UNKNOWN

Occurrence No.	10	Map Index: 35379	EO Index: 14974	Element Last Seen: 1985-09-17
Occ. Rank:	None		Presence: Possibly Extirpated	Site Last Seen: 1997-10-10
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 1998-08-27

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.70857 / -117.79842	Accuracy:	1/5 mile
UTM:	Zone-11 N3730129 E426015	Elevation (ft):	20
PLSS:	T05S, R09W (S)	Acres:	0.0

Location: IRVINE, LOT BETWEEN WALNUT AVE, HARVARD AVE, AND PETERS CREEK CHANNEL.

Detailed Location: MAPPED ABOUT 0.9 MILE WEST OF I-5 (SANTA ANA FREEWAY) AT CULVER DRIVE.

Ecological: COMMON ALONG MARGIN OF DISTURBED DITCH WITH SALSOLA AUSTRALIS, CRESSA TRUXILLENIS, AND DATURA WRIGHTII ON SANDY SOIL.

General: MAPPED BASED ON 1985 COLLECTION BY ROBERTS. SITE VISITED BY GARDINER IN 1997: WAS BEING CONVERTED INTO A TOLL HIGHWAY ALONG PETERS CANYON WASH AND THE LOT HAD BEEN COVERED WITH FILL. JUST A FEW WEEDY PLANTS PERSISTED.

Owner/Manager: UNKNOWN



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Occurrence No.	11	Map Index: 35380	EO Index: 29582	Element Last Seen: 1974-05-23
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 1974-05-23
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2006-01-12

Quad Summary: Tustin (3311767), Newport Beach (3311768)

County Summary: Orange

Lat/Long:	33.67552 / -117.86819	Accuracy:	nonspecific area
UTM:	Zone-11 N3726518 E419519	Elevation (ft):	50
PLSS:	T06S, R09W, Sec. 06 (S)	Acres:	476.7

Location: COSTA MESA, JOHN WAYNE AIRPORT.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED NON-SPECIFICALLY ACROSS THE ENTIRE AIRPORT.

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1974 COLLECTION BY NOLAN WHICH WAS CITED BY SANDERS IN A 1993 LETTER TO CNPS.

Owner/Manager: ORA COUNTY-JOHN WAYNE AIRPORT

Occurrence No.	48	Map Index: 39810	EO Index: 34812	Element Last Seen: 2003-06-28
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 2003-06-28
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2015-08-05

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.66191 / -117.85295	Accuracy:	1/10 mile
UTM:	Zone-11 N3724996 E420919	Elevation (ft):	5
PLSS:	T06S, R09W, Sec. 07, SE (S)	Acres:	0.0

Location: 2 KM NW OF CAMPUS CENTER OF UC IRVINE, SSE OF THE JUNCTION OF CAMPUS DR AND JAMBOREE RD, SAN JOAQUIN FRESHWATER MARSH.

Detailed Location: UNCLEAR IF THIS SITE WAS ORIGINALLY NATIVE OR IF IT HAS ALWAYS BEEN A PLANTED SITE.

Ecological: OCCASIONALLY ALONG DIRT ROAD AND AT MARGIN OF FRESHWATER MARSH IN ALKALI SWALE. ASSOCIATED WITH FRANKENIA SALINA, DISTICHLIS SPICATA, BROMUS HORDACEUS, AND ATRIPLEX SEMIBACCATA.

General: SITE BASED ON 1992 ROBERTS COLLECTION. 2003 ELVIN COLLECTION FROM "SAN JOAQUIN FRESHWATER MARSH, SSE OF INTERSECTION OF JAMBOREE BLVD AND CAMPUS DR" ATTRIB HERE; ELVIN NOTES PLANT IS "LOCALLY COMMON IN REVEG PLANTINGS, PLANTED AS SEED."

Owner/Manager: UC?



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Occurrence No.	59	Map Index: 48131	EO Index: 48131	Element Last Seen:	1998-07-01
Occ. Rank:	Poor		Presence: Presumed Extant	Site Last Seen:	1998-07-01
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2006-01-27

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.69280 / -117.82029	Accuracy:	specific area
UTM:	Zone-11 N3728396 E423975	Elevation (ft):	45
PLSS:	T05S, R09W, Sec. 33 (S)	Acres:	7.3

Location: PETERS CANYON CHANNEL, WEST OF WARNER DRIVE, SOUTH OF MARINE CORPS AIR STATION, TUSTIN.

Detailed Location: 4 COLONIES JUST SOUTH OF CHANNEL FROM WARNER DRIVE WEST FOR ABOUT 0.65 MILE.

Ecological: IN GRADED / RIPPED FIELD. NORTHEAST OF BALL PARK WITH TARWEED ON EDGE. SOUTHWEST OF BALLPARK IN WASTEFIELD WITH ATRIPLEX SUBERECTA AND ATRIPLEX TRIANGULARIS.

General: MORE THAN 1000 PLANTS OBSERVED IN 1998. SITES NOT AFFORDED ANY PROTECTION IN THE PRESENT NCCP SUBREGION.

Owner/Manager: PVT-IRVINE CO

Occurrence No.	60	Map Index: 48132	EO Index: 48132	Element Last Seen:	2018-08-04
Occ. Rank:	Poor		Presence: Presumed Extant	Site Last Seen:	2018-08-04
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2019-03-11

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.65719 / -117.81634	Accuracy:	specific area
UTM:	Zone-11 N3724446 E424310	Elevation (ft):	80
PLSS:	T06S, R09W, Sec. 16, NE (S)	Acres:	10.0

Location: SAND CANYON, WILLIAM R MASON REGIONAL PARK, SAN JOAQUIN HILLS, NORTH OF UC IRVINE.

Detailed Location: AT MOUTH OF SAND CANYON AT EASTERN END OF PARK, SOUTH OF UNIVERSITY DRIVE WEST OF YALE AVENUE. 2 POLYGONS MAPPED ACCORDING TO A 1998 WOLF MAP AND 2018 VANDERHOFF COORDINATES.

Ecological: IN ALKALINE GRASSLAND / MEADOW RECENTLY DISKED FOR REVEGETATION PROGRAM. FILL / SOIL MAY ORIGINATE FROM NEWPORT BACK BAY. ASSOCIATES INCLUDE HEMIZONIA FASCICULATA AND MELILOTUS INDICA.

General: EASTERN POLYGON: MORE THAN 500 PLANTS OBSERVED OVER 2 ACRES IN 1998. WESTERN POLYGON: 1 PLANT OBSERVED IN 2018, POSSIBLY INTRODUCED FROM REVEG-RESTORATION ACTIVITIES THAT APPEAR TO HAVE HAPPENED HERE IN THE LAST 3-4 YEARS.

Owner/Manager: ORA COUNTY



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Occurrence No.	61	Map Index: 48133	EO Index: 48133	Element Last Seen:	2003-08-24
Occ. Rank:	Poor		Presence: Presumed Extant	Site Last Seen:	2003-08-24
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2006-01-11

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.63408 / -117.83029	Accuracy:	specific area
UTM:	Zone-11 N3721893 E422996	Elevation (ft):	220
PLSS:	T06S, R09W, Sec. 21, W (S)	Acres:	14.9

Location: BONITA CREEK, NORTH OF BONITA DRIVE, 1 TO 1.2 AIR MILES EAST OF BONITA RESERVOIR DAM, UC IRVINE EAST CAMPUS.

Detailed Location: ALONG CREEK NORTH OF ROAD.

Ecological: IN ALKALI MEADOW WITH CRESSA TRUXILLENIS, PICRIS ECHIOIDES, FRANKENIA SALINA, CYNARA CARDUNCULUS, POLYPOGON MONSPELIENSIS, SALIX LAEVIGATA, S. LASIOLEPIS, DISTICHLIS SPICATA, MALVELLA LEPROSA, AND ANEMOPSIS CALIFORNICA. SALINE CLAY SOILS.

General: MORE THAN 500 PLANTS SEEN IN 1998. SITE SHOULD BE INCORPORATED INTO CENTRAL / COASTAL NCCP RESERVE AND WEEDED.

Owner/Manager: UC-IRVINE

Occurrence No.	73	Map Index: 63798	EO Index: 63893	Element Last Seen:	1987-07-22
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1987-07-22
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2006-01-26

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.68017 / -117.83462	Accuracy:	1/10 mile
UTM:	Zone-11 N3727007 E422635	Elevation (ft):	15
PLSS:	T06S, R09W, Sec. 05, E (S)	Acres:	0.0

Location: SAN DIEGO CREEK JUST ABOVE MAIN STREET BRIDGE.

Detailed Location:

Ecological: ALONG MARGIN OF CREEK IN EARLY SUCCESSIONAL RIPARIAN ASSOCIATION.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1987 COLLECTION BY ROBERTS. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Occurrence No.	74	Map Index: 63799	EO Index: 63894	Element Last Seen:	1996-07-28
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1996-07-28
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2006-01-26

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.65558 / -117.84546	Accuracy:	1/10 mile
UTM:	Zone-11 N3724289 E421608	Elevation (ft):	30
PLSS:	T06S, R09W, Sec. 17, NW (S)	Acres:	0.0

Location: SAN DIEGO CREEK AT CAMPUS DRIVE.

Detailed Location: ALONG DIRT ROAD.

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1996 COLLECTION BY RIEFNER. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN



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Occurrence No.	75	Map Index: 63800	EO Index: 63895	Element Last Seen: 2003-07-08
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 2003-07-08
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2006-01-26

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.81639 / -117.78972	Accuracy:	1/10 mile
UTM:	Zone-11 N3742078 E426913	Elevation (ft):	385
PLSS:	T04S, R09W, Sec. 23, NE (S)	Acres:	0.0

Location: ORANGE PARK ACRES, ALONG SANTIAGO CREEK.

Detailed Location: 0.5 KM EAST OF CANNON RD AND 0.3 KM NORTH OF SANTIAGO CANYON RD.

Ecological: DISTURBED CLAY SOIL ON STREAM TERRACE.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2003 COLLECTION BY ROBERTS. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Occurrence No.	89	Map Index: 97130	EO Index: 98377	Element Last Seen: 2013-08-12
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 2013-08-12
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2015-08-06

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.65489 / -117.82634	Accuracy:	specific area
UTM:	Zone-11 N3724198 E423381	Elevation (ft):	70
PLSS:	T06S, R09W, Sec. 16, NW (S)	Acres:	2.0

Location: SAND CANYON; JUST EAST OF CULVER DRIVE WITHIN WILLIAM R MASON REGIONAL PARK, SAN JOAQUIN HILLS.

Detailed Location: MAPPED BY CNDDB AS 2 POLYGONS ACCORDING TO 2013 RUDALEVIGE COORDINATES, IN THE EAST 1/2 OF THE NW 1/4 OF SECTION 16.

Ecological: ALONG EDGE OF PARK TRAIL. AT EDGE OF BLACKBERRY THICKET AND IN RUDERAL VEGETATION. ASSOCIATES INCLUDE RUBUS URSINUS, BRASSICA NIGRA, BROMUS HORDEACEUS, PULICARIA PALUDOSA, CENTAUREA MELITENSIS, LACTUCA SERRIOLA, LEPIDIUM, ETC.

General: IN 2013, 1 PLANT WAS OBSERVED IN NORTHERN POLYGON AND 12 PLANTS IN SOUTHERN POLYGON.

Owner/Manager: ORA COUNTY



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<i>Lasthenia glabrata ssp. coulteri</i>		Element Code: PDAST5L0A1	
Coulter's goldfields			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G4T2
	State: None		State: S2
Other:	Rare Plant Rank - 1B.1, BLM_S-Sensitive, SB_RSABG-Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden		
Habitat:	General: COASTAL SALT MARSHES, PLAYAS, VERNAL POOLS.		
	Micro: USUALLY FOUND ON ALKALINE SOILS IN PLAYAS, SINKS, AND GRASSLANDS. 1-1375 M.		

Occurrence No.	77	Map Index: 81132	EO Index: 81874	Element Last Seen:	1934-03-08
Occ. Rank:	None		Presence: Possibly Extirpated	Site Last Seen:	1934-03-08
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2010-12-20
Quad Summary:	Tustin (3311767), Newport Beach (3311768)				
County Summary:	Orange				
Lat/Long:	33.67733 / -117.87017		Accuracy:	1 mile	
UTM:	Zone-11 N3726720 E419337		Elevation (ft):		
PLSS:	T06S, R10W, Sec. 01 (S)		Acres:	0.0	
Location:	SOUTH OF ED MARTINS AIRPORT, SANTA ANA.				
Detailed Location:	EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS BEST GUESS AT LOCATION OF OLD AIRPORT AT COSTA MESA FREEWAY (RT. 55) AND MAIN STREET INTERSECTION AND AREA TO THE SOUTH.				
Ecological:	ALKALI FLATS.				
General:	ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1934 MCARTHUR COLLECTION. NEEDS FIELDWORK.				
Owner/Manager:	UNKNOWN				

<i>Pentachaeta aurea ssp. allenii</i>		Element Code: PDAST6X021	
Allen's pentachaeta			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G4T1
	State: None		State: S1
Other:	Rare Plant Rank - 1B.1		
Habitat:	General: VALLEY AND FOOTHILL GRASSLANDS, COASTAL SCRUB.		
	Micro: OPENINGS IN SCRUB OR GRASSLAND. 75-520 M.		

Occurrence No.	3	Map Index: 72080	EO Index: 73020	Element Last Seen:	1987-04-03
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1987-04-03
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-08-27
Quad Summary:	Laguna Beach (3311757), Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.62442 / -117.78901		Accuracy:	1/5 mile	
UTM:	Zone-11 N3720793 E426816		Elevation (ft):	350	
PLSS:	T06S, R09W, Sec. 26 (S)		Acres:	0.0	
Location:	2.9 KM NE OF SIGNAL HILL, CENTRAL SHADY CANYON, IRVINE.				
Detailed Location:					
Ecological:	GENTLE HILLSIDE WITH SCATTERED LOW ROCK OUTCROPS AND BARRENS IN MIXED COASTAL SAGE SCRUB. SANDY SOIL.				
General:	PLANTS SCATTERED BUT LOCALLY COMMON IN 1987.				
Owner/Manager:	CITY OF IRVINE, UNKNOWN				



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Occurrence No.	5	Map Index: 72089	EO Index: 73022	Element Last Seen:	1992-04-24
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1992-04-24
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-08-28
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.67639 / -117.68805		Accuracy:	1/5 mile	
UTM:	Zone-11 N3726488 E436218		Elevation (ft):	620	
PLSS:	T06S, R08W, Sec. 02, SW (S)		Acres:	0.0	
Location:	MOUTH OF BORREGO WASH, 2.9 KM SE OF LAMBERT RESERVOIR, EL TORO MARINE CORPS AIR STATION.				
Detailed Location:					
Ecological:	NORTH-FACING SLOPE IN MIXED GRASSLAND. SANDY SOIL. ASSOCIATED WITH STIPA PULCHRA, ERODIUM BOTRYS, VULPIA HIRSUTA, AVENA BARBATA, ORTHOCARPUS PURPURASCENS, AND SISYRINCHIUM BELLUM. SITE BURNED IN 2007.				
General:	ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1992 COLLECTION BY ROBERTS, ET AL. THIS LAND IS NOW PART OF EL TORO NATIONAL WILDLIFE REFUGE.				
Owner/Manager:	ORA COUNTY-GREAT PARK				
Occurrence No.	6	Map Index: 72093	EO Index: 73025	Element Last Seen:	1910-04-17
Occ. Rank:	None		Presence: Possibly Extirpated	Site Last Seen:	1910-04-17
Occ. Type:	Natural/Native occurrence		Trend: Decreasing	Record Last Updated:	2008-08-28
Quad Summary:	San Juan Capistrano (3311756), El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.62559 / -117.69278		Accuracy:	1 mile	
UTM:	Zone-11 N3720859 E435742		Elevation (ft):		
PLSS:	T06S, R08W, Sec. 26 (S)		Acres:	0.0	
Location:	NEAR HISTORIC EL TORO TRAIN DEPOT.				
Detailed Location:	EXACT LOCATION UNKNOWN. MAPPED NEAR EL TORO CENTERED WHERE ROAD CROSSES RR TRACKS BY CNDDDB AS A BEST GUESS.				
Ecological:	OPEN DRY MESA.				
General:	OCCURRENCE KNOWN ONLY FROM A 1903 ABRAMS COLLECTION FROM "NEAR EL TORO," AND A 1910 PAYNE COLLECTION FROM "NEAR DEPOT - EL TORO." THIS AREA HAS BEEN EXTENSIVELY DEVELOPED. OCCURRENCE IS PROBABLY EXTIRPATED.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	7	Map Index: 72094	EO Index: 73028	Element Last Seen:	2000-04-15
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2000-04-15
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-08-28

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.82997 / -117.69189	Accuracy:	1/10 mile
UTM:	Zone-11 N3743519 E435977	Elevation (ft):	1700
PLSS:	T04S, R08W, Sec. 14, NW (S)	Acres:	0.0

Location: MAIN DIVIDE ROAD, SOUTH OF GYPSUM CANYON AND SOUTH OF WINDY RIDGE.

Detailed Location:

Ecological: CHAPARRAL. OPEN CLAY SOILS.

General: 20-30 PLANTS OBSERVED IN 2000.

Owner/Manager: PVT-IRVINE CO

Occurrence No.	8	Map Index: 72095	EO Index: 73027	Element Last Seen:	2003-04-12
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2003-04-12
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2008-08-28

Quad Summary: El Toro (3311766), Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.75790 / -117.69977	Accuracy:	1 mile
UTM:	Zone-11 N3735533 E435194	Elevation (ft):	
PLSS:	T05S, R08W, Sec. 10 (S)	Acres:	0.0

Location: LIMESTONE CANYON, LIMESTONE CANYON WILDERNESS PARK.

Detailed Location: EXACT LOCATION UNKNOWN. UNCLEAR WHERE THE COLLECTION WAS TAKEN WITHIN LIMESTONE CANYON. MAPPED BY CNDDDB ALONG THE PORTION OF LIMESTONE CANYON THAT BURNED DURING THE BAKER FIRE, BASED ON ALLEN'S NOTE THAT THE SITE BURNED IN 1998.

Ecological: GENTLE SOUTH-FACING HILLSIDE WITH CASTILLEJA EXSERTA, LINANTHUS DIANTHIFLORUS, ERODIUM SPP, AND INTRODUCED BROMUS. THE AREA BURNED EXTENSIVELY IN 1998.

General: THIS IS THE TYPE LOCALITY. ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2003 COLLECTION BY ALLEN.

Owner/Manager: PVT-IRVINE CO



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<i>Senecio aphanactis</i>		Element Code: PDAST8H060	
chaparral ragwort			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G3
	State: None		State: S2
	Other: Rare Plant Rank - 2B.2, SB_RSABG-Rancho Santa Ana Botanic Garden		
Habitat:	General: CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB.		
	Micro: DRYING ALKALINE FLATS. 20-1020 M.		

Occurrence No.	31	Map Index: 55300	EO Index: 55300	Element Last Seen:	1998-03-11
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1998-03-11
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2012-08-15

Quad Summary: Tustin (3311767)
County Summary: Orange

Lat/Long:	33.63401 / -117.84730	Accuracy:	80 meters
UTM:	Zone-11 N3721898 E421418	Elevation (ft):	300
PLSS:	T06S, R09W, Sec. 20, SW (S)	Acres:	0.0

Location: UCI ECOLOGICAL RESERVE; APPROXIMATELY 305 M SOUTHWEST OF LOS TRANCOS DR AND 92 M NORTH OF HIGHWAY 73.
Detailed Location: LOCATED ON THE 303 KNOLL OF THE SW RIDGELINE IN THE RESERVE, JUST ABOVE ROADCUT. MAPPED IN THE NW 1/4 OF THE SW 1/4 OF SECTION 20 ACCORDING TO COORDINATES PROVIDED WITH A 1998 BRAMLET COLLECTION.
Ecological: ROCKY OUTCROPS OF A W-FACING SLOPE. OPENINGS IN COASTAL SAGE. ASSOC W/ BROMUS MADRITENSIS SSP. RUBENS, DUDLEYA MULTICAULIS, CRASSULA CONNATA, PLAGIOBOTHRYUS COLLINUS CALIFORNICUS, LAMARCKIA AUREA, ARTEMISIA CALIFORNICA, VULPIA MYUROS, ETC.
General: MAIN SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1998 COLLECTION BY BRAMLET. TWO 1978 COLLECTIONS BY MARSH FROM "UCI ECOLOGICAL PRESERVE: HILL #1" ARE ALSO ATTRIBUTED TO THIS OCCURRENCE.
Owner/Manager: UC-IRVINE

Occurrence No.	40	Map Index: 86504	EO Index: 87542	Element Last Seen:	1989-03-07
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1989-03-07
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2012-09-06

Quad Summary: El Toro (3311766)
County Summary: Orange

Lat/Long:	33.73039 / -117.72249	Accuracy:	1/10 mile
UTM:	Zone-11 N3732497 E433068	Elevation (ft):	600
PLSS:	T05S, R08W, Sec. 21, N (S)	Acres:	0.0

Location: LOMA RIDGE, TRIBUTARY TO HICKS CANYON, 2.1 KM WEST OF BEE SURVEY MARKER.
Detailed Location: MAPPED BY CNDDDB ACCORDING TO UTM COORDINATES PROVIDED WITH A 1989 ROBERTS COLLECTION; DATUM UNKNOWN; MAPPED USING NAD27 SINCE COORDINATES WERE LIKELY DERIVED USING AN OLD TOPOGRAPHIC MAP.
Ecological: XERIC BARREN ON N-FACING SLOPE MARGINS OF GULLY IN NATIVE GRASSLAND, SANDY CLAY SOIL. ASSOCIATED WITH PLANTAGO ERECTA, DICHELOSTEMMA PULCHELLUM, STIPA PULCHRA, AND HYPOCHOERIS GLABRA.
General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1989 COLLECTION BY ROBERTS; PLANTS NOTED AS "LOCAL, FREQUENT." NEEDS FIELDWORK.
Owner/Manager: UNKNOWN

<i>Symphotrichum defoliatum</i>		Element Code: PDASTE80C0	
San Bernardino aster			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G2
	State: None		State: S2
	Other: Rare Plant Rank - 1B.2, BLM_S-Sensitive, USFS_S-Sensitive		



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Habitat:	General: MEADOWS AND SEEPS, CISMONTANE WOODLAND, COASTAL SCRUB, LOWER MONTANE CONIFEROUS FOREST, MARSHES AND SWAMPS, VALLEY AND FOOTHILL GRASSLAND.
	Micro: VERNALLY MESIC GRASSLAND OR NEAR DITCHES, STREAMS AND SPRINGS; DISTURBED AREAS. 3-2045 M.

Occurrence No.	22	Map Index:	60500	EO Index:	60536	Element Last Seen:	1927-11-10
Occ. Rank:	None	Presence:	Extirpated	Site Last Seen:	1927-11-10		
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:	2010-05-05		

Quad Summary: Tustin (3311767)
County Summary: Orange

Lat/Long:	33.72520 / -117.83554	Accuracy:	1 mile
UTM:	Zone-11 N3732001 E422590	Elevation (ft):	
PLSS:	T05S, R09W, Sec. 20 (S)	Acres:	0.0

Location: 1 MI SOUTH OF TUSTIN.
Detailed Location: MAPPED BY CNDDDB AS BEST GUESS 1 RD MI S OF TUSTIN ALONG THE NEWPORT FREEWAY.
Ecological: SWAMPY ROADSIDE.
General: SITE BASED ON A 1927 REED COLLECTION. A 1918 JOHNSTON COLLECTION FROM "BETWEEN EL TORO AND TUSTIN" IS ALSO ATTRIBUTED HERE.
Owner/Manager: UNKNOWN

Occurrence No.	72	Map Index:	78714	EO Index:	79623	Element Last Seen:	1924-08-29
Occ. Rank:	None	Presence:	Extirpated	Site Last Seen:	1924-08-29		
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:	2010-04-27		

Quad Summary: Tustin (3311767), Newport Beach (3311768)
County Summary: Orange

Lat/Long:	33.68724 / -117.87871	Accuracy:	1 mile
UTM:	Zone-11 N3727826 E418555	Elevation (ft):	
PLSS:	T06S, R10W, Sec. 01 (S)	Acres:	0.0

Location: 4 MILES S OF SANTA ANA.
Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS BEST GUESS ~4 AIR MILES S OF SANTA ANA.
Ecological: AMONG TULE IN ROADSIDE DITCH.
General: SITE BASED ON TWO 1924 COLLECTIONS.
Owner/Manager: UNKNOWN



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Occurrence No.	73	Map Index:	02533	EO Index:	79625	Element Last Seen:	1933-10-08
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1933-10-08	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2010-04-27	

Quad Summary: Tustin (3311767), Newport Beach (3311768)

County Summary: Orange

Lat/Long:	33.64001 / -117.88895	Accuracy:	1 mile
UTM:	Zone-11 N3722596 E417561	Elevation (ft):	
PLSS:	T06S, R10W, Sec. 23 (S)	Acres:	0.0

Location: NEAR NEWPORT BAY.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS BEST GUESS AROUND UPPER NEWPORT BAY.

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1933 HOFFMASTER COLLECTION. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Lepidium virginicum var. robinsonii **Element Code:** PDBRA1M114

Robinson's pepper-grass

Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G5T3
	State: None		State: S3
	Other: Rare Plant Rank - 4.3		

Habitat: **General:** CHAPARRAL, COASTAL SCRUB.
Micro: DRY SOILS, SHRUBLAND. 4-1435 M.

Occurrence No.	132	Map Index:	85274	EO Index:	86295	Element Last Seen:	2008-06-05
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2008-06-05	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2012-03-01	

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.73771 / -117.72130	Accuracy:	1/5 mile
UTM:	Zone-11 N3733308 E433184	Elevation (ft):	660
PLSS:	T05S, R08W, Sec. 16 (S)	Acres:	0.0

Location: LOMA RIDGE, EAST FORK RATTLESNAKE CANYON, ~2.2 KM (1.4 MI) ENE RATTLESNAKE RESERVOIR SPILLWAY AND 2.3 KM WNW BEE PEAK.

Detailed Location: EXACT LOCATION UNKNOWN, MAPPED BY CNDDDB AS A BEST GUESS BASED ON LOCATION DESCRIPTION AND ELEVATION GIVEN ON COLLECTION LABEL.

Ecological: SOUTHEAST-FACING SLOPE ON ROCKY, SILTY CLAY IN COASTAL SAGE SCRUB BURNED IN OCTOBER 2007. ASSOCIATED WITH CALYSTEGIA MACROSTEGIA, ERIOGONUM FASCICULATUM, MELICA IMPERFECTA, CALOCHORTUS WEEDII, AND SALVIA APIANA.

General: MAIN SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2008 COLLECTION BY ROBERTS. PLANTS NOTED AS "SCARCE." A 1989 MARSH COLLECTION FROM "LOMAS RIDGE, RIDGE BETWEEN HICKS AND RATTLESNAKE CANYONS" IS ALSO ATTRIBUTED TO THIS OCCURRENCE.

Owner/Manager: UNKNOWN



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Occurrence No.	133	Map Index: 85275	EO Index: 86296	Element Last Seen:	2008-05-20
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2008-05-20
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2012-03-01
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.72032 / -117.65080		Accuracy:	1/10 mile	
UTM:	Zone-11 N3731337 E439702		Elevation (ft):	1200	
PLSS:	T05S, R07W, Sec. 19, S (S)		Acres:	0.0	
Location:	MOUTH OF HANGMAN TREE CANYON JUST ABOVE CONFLUENCE WITH SANTIAGO CREEK CANYON, ~0.5 MI N OF MODJESKA CANYON CONFLUENCE.				
Detailed Location:	MAPPED AS BEST GUESS BY CNDDDB ON WEST SIDE OF SANTIAGO CANYON AT MOUTH OF HANGMANS TREE ROAD CANYON.				
Ecological:	MOSTLY ON DRY S-FACING SLOPE ABOVE OAKS, BUT A FEW IN COAST LIVE OAK FOREST GROVE. AREA BURNED IN OCTOBER 2007, BUT OAKS MOSTLY SURVIVED.				
General:	ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2008 COLLECTION BY SANDERS & PROVANCE; PLANTS NOTED AS "COMMON."				
Owner/Manager:	ORA COUNTY				
Occurrence No.	134	Map Index: 85276	EO Index: 86297	Element Last Seen:	2003-01-26
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2003-01-26
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2012-03-01
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.63774 / -117.84640		Accuracy:	2/5 mile	
UTM:	Zone-11 N3722312 E421505		Elevation (ft):	200	
PLSS:	T06S, R09W, Sec. 20 (S)		Acres:	0.0	
Location:	UC IRVINE OPEN SPACE PRESERVE, BETWEEN CORE OF UCI CAMPUS (E PELTASON DR) AND HWY 73.				
Detailed Location:	NE SIDE OF PRESERVE. MAPPED AS BEST GUESS BY CNDDDB IN VICINITY OF GIVEN ELEVATION RANGE OF 150-225 FT.				
Ecological:	HILLY, NW-FACING DRAINAGES ON HILL. VOLCANIC AND SANDSTONE OUTCROPS. COASTAL SAGE SCRUB WITH ARTEMISIA CALIFORNICA, ERIOGONUM FASCICULATUM, OPUNTIA LITTORALIS, ETC.				
General:	ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2003 COLLECTION BY ELVIN; PLANTS NOTED AS "COMMON."				
Owner/Manager:	UC-IRVINE				



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Occurrence No.	138	Map Index: 85280	EO Index: 86301	Element Last Seen:	2008-05-13
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2008-05-13
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2012-03-21

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.83920 / -117.72420	Accuracy:	1/5 mile
UTM:	Zone-11 N3744563 E432995	Elevation (ft):	1100
PLSS:	T04S, R08W, Sec. 09 (S)	Acres:	0.0

Location: WEIR CANYON; 0.3 MI W OF EASTERN TRANSPORTATION CORRIDOR (HWY 241) AND 1.45 MI E OF S END OF WALNUT CANYON RESERVOIR.

Detailed Location: MAPPED AS BEST GUESS BY CNDDDB TO ENCOMPASS 2 COLLECTION LOCALITIES FROM UPPER EASTERN AREA OF WEIR CANYON: IN VICINITY OF GIVEN ELEVATION OF 1100 FT, AND "446 M W OF HWY 241 & 958 M N OF WEIR CYN ROAD [WINDY RIDGE ROAD]."

Ecological: SMALL WASH ON BOTTOM OF A GULLY AND DRY SLOPES. LOAM WITH COBBLES. BURNED CHAPARRAL FORMERLY DOMINATED BY ADENOSTOMA AND CEANOTHUS MEGACARPUS, NEAR EDGE OF BURN WITH INTACT CHAPARRAL NEARBY. ASSOCIATED W/ NOLINA PARRYI, STIPA LEPIDA, ETC.

General: OCCURRENCE IS BASED ON TWO 2008 COLLECTIONS BY SANDERS AND BRAMLET; PLANTS NOTED AS "SCARCE."

Owner/Manager: UNKNOWN

Occurrence No.	140	Map Index: 85282	EO Index: 86303	Element Last Seen:	1926-03-10
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1926-03-10
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2012-03-02

Quad Summary: Black Star Canyon (3311776), Prado Dam (3311786)

County Summary: Orange, Riverside

Lat/Long:	33.87851 / -117.65786	Accuracy:	nonspecific area
UTM:	Zone-11 N3748880 E439160	Elevation (ft):	
PLSS:	T03S, R07W, Sec. 30 (S)	Acres:	151.0

Location: SANTA ANA CANYON, RIVERSIDE COUNTY.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB ALONG MAIN ROAD THROUGH SANTA ANA CANYON (STATE ROUTE 91) WITHIN RIVERSIDE COUNTY.

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1926 COLLECTION BY JONES. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN



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<i>Nasturtium gambelii</i>		Element Code: PDBRA270V0	
Gambel's water cress			
Listing Status:	Federal: Endangered	CNDDDB Element Ranks:	Global: G1
	State: Threatened		State: S1
	Other: Rare Plant Rank - 1B.1, SB_RSABG-Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden		
Habitat:	General: MARSHES AND SWAMPS.		
	Micro: FRESHWATER AND BRACKISH MARSHES AT THE MARGINS OF LAKES AND ALONG STREAMS, IN OR JUST ABOVE THE WATER LEVEL. 5-305 M.		

Occurrence No.	17	Map Index:	66320	EO Index:	109471	Element Last Seen:	1927-06-13
Occ. Rank:	None	Presence:	Extirpated	Site Last Seen:		1927-06-13	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:	2017-12-20		

Quad Summary: Tustin (3311767), Newport Beach (3311768), Orange (3311777), Anaheim (3311778)
County Summary: Orange

Lat/Long:	33.74572 / -117.86785	Accuracy:	1 mile
UTM:	Zone-11 N3734300 E419616	Elevation (ft):	
PLSS:	T05S, R09W, Sec. 18 (S)	Acres:	0.0

Location: SANTA ANA.
Detailed Location: EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS CENTERED ON SANTA ANA.
Ecological:
General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1927 HOFFMASTER COLLECTION. PRESUMABLY EXTIRPATED.
Owner/Manager: UNKNOWN



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<i>Atriplex coulteri</i>		Element Code: PDCHE040E0	
Coulter's saltbush			
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G3
	State: None		State: S1S2
	Other: Rare Plant Rank - 1B.2, SB_RSABG-Rancho Santa Ana Botanic Garden		
Habitat:	General: COASTAL BLUFF SCRUB, COASTAL DUNES, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.		
	Micro: OCEAN BLUFFS, RIDGETOPS, AS WELL AS ALKALINE LOW PLACES. ALKALINE OR CLAY SOILS. 2-460 M.		

Occurrence No.	2	Map Index:	02534	EO Index:	19565	Element Last Seen:	1932-05-18
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1932-05-18	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:	2009-02-04		

Quad Summary: Tustin (3311767), Newport Beach (3311768)
County Summary: Orange, Pacific Ocean

Lat/Long:	33.63685 / -117.88909	Accuracy:	nonspecific area
UTM:	Zone-11 N3722246 E417545	Elevation (ft):	
PLSS:	T06S, R10W, Sec. 23 (S)	Acres:	562.2

Location: NEWPORT BAY.
Detailed Location: MAPPED AT CNDDDB AT UPPER NEWPORT BAY DUE TO PLANT'S HABITAT REQUIREMENTS.
Ecological:
General: BOTH ATRIPLEX COULTERI AND A. PACIFICA MAPPED HERE BASED ON HISTORIC COLLECTIONS.
Owner/Manager: DFG-UPPER NEWPORT BAY ER

Occurrence No.	32	Map Index:	47855	EO Index:	47855	Element Last Seen:	1998-06-01
Occ. Rank:	Poor	Presence:	Presumed Extant	Site Last Seen:		1998-06-01	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:	2006-06-22		

Quad Summary: Tustin (3311767)
County Summary: Orange

Lat/Long:	33.65395 / -117.85920	Accuracy:	80 meters
UTM:	Zone-11 N3724119 E420332	Elevation (ft):	50
PLSS:	T06S, R09W, Sec. 18, NE (S)	Acres:	0.0

Location: SAN JOAQUIN MARSH RESERVE, UC NATURAL RESERVE SYSTEM, NORTH OF UC IRVINE, WEST OF NEWPORT BEACH.
Detailed Location: JUST WEST OF THE DUCK PONDS, SOUTHEAST OF INTERSECTION OF MACARTHUR BLVD AND JAMBOREE ROAD. ON A CLAY CAP FROM AN ARTIFICIAL LANDFILL.
Ecological: ON CLAY CAP FROM ARTIFICIAL LANDFILL ORIGINATING FROM DREDGING OPERATIONS IN NEWPORT BACKBAY. ASSOCIATES INCLUDE SALICORNIA AND ATRIPLEX SPP.
General: FEWER THAN 25 PLANTS OBSERVED IN 1998. THE RARE ATRIPLEX SERENANA VAR. DAVIDSONII ALSO OCCURS AT THIS SITE, JUST TO THE NE. IS THIS NOW EXTIRPATED?
Owner/Manager: UCNR-SAN JOAQUIN MARSH



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<i>Atriplex pacifica</i>		Element Code: PDCHE041C0	
south coast saltscale			
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G4
	State: None		State: S2
	Other: Rare Plant Rank - 1B.2		
Habitat:	General: COASTAL SCRUB, COASTAL BLUFF SCRUB, PLAYAS, COASTAL DUNES.		
	Micro: ALKALI SOILS. 1-400 M.		

Occurrence No.	13	Map Index:	02534	EO Index:	19567	Element Last Seen:	1932-06-25
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		1932-06-25	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		1996-02-12	

Quad Summary: Tustin (3311767), Newport Beach (3311768)
County Summary: Orange, Pacific Ocean

Lat/Long:	33.63685 / -117.88909	Accuracy:	nonspecific area
UTM:	Zone-11 N3722246 E417545	Elevation (ft):	5
PLSS:	T06S, R10W, Sec. 23 (S)	Acres:	562.2

Location: NEWPORT BAY.
Detailed Location: MAPPED AT CNDDDB AT UPPER NEWPORT BAY DUE TO PLANT'S HABITAT REQUIREMENTS.
Ecological: DRY SANDY SOIL AT ROADSIDE.
General: BOTH ATRIPLEX PACIFICA AND A. COULTERI MAPPED HERE BASED ON COLLECTIONS IN THE SAME YEAR BY DIFFERENT COLLECTORS. 1932 COLLECTION BY BOOTH ATTRIBUTED TO SITE.
Owner/Manager: DFG-UPPER NEWPORT BAY ER



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<i>Atriplex serenana var. davidsonii</i>		Element Code: PDCHE041T1	
Davidson's saltscale			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G5T1
	State: None		State: S1
	Other: Rare Plant Rank - 1B.2		
Habitat:	General: COASTAL BLUFF SCRUB, COASTAL SCRUB.		
	Micro: ALKALINE SOIL. 0-480 M.		
Occurrence No.	8	Map Index: 47854	EO Index: 47854
Occ. Rank:	Poor	Presence: Presumed Extant	Element Last Seen: 1998-06-01
Occ. Type:	Natural/Native occurrence	Trend: Unknown	Site Last Seen: 1998-06-01
			Record Last Updated: 2013-01-23
Quad Summary:	Tustin (3311767)		
County Summary:	Orange		
Lat/Long:	33.65474 / -117.85831	Accuracy:	80 meters
UTM:	Zone-11 N3724205 E420416	Elevation (ft):	50
PLSS:	T06S, R09W, Sec. 18, NE (S)	Acres:	0.0
Location:	SAN JOAQUIN MARSH RESERVE, UC NATURAL RESERVE SYSTEM, NORTH OF UC IRVINE, WEST OF NEWPORT BEACH.		
Detailed Location:	JUST WEST OF THE DUCK PONDS, SOUTHEAST OF INTERSECTION OF MACARTHUR BLVD AND JAMBOREE ROAD. INCLUDES COLLECTION FROM "1.7 KM NW OF UC IRVINE, OCCASIONAL ALONG SIDE OF DIRT ROAD NEAR MARGIN OF FRESHWATER MARSH..."		
Ecological:	ON CLAY CAP FROM ARTIFICIAL LANDFILL ORIGINATING FROM DREDGING OPERATIONS IN NEWPORT BACKBAY. ASSOCIATED WITH SALICORNIA AND THE RARE ATRIPLEX COULTERI.		
General:	FEWER THAN 10 PLANTS SEEN IN 1998. 1987 ROBERTS COLLECTION ATTRIBUTED HERE. RECENT DEVELOPMENT COVERS HALF OF AREA MAPPED BY CNDDB, WITH SURROUNDING VIABLE HABITAT STILL INTACT; FIELDWORK NEEDED TO DETERMINE IF POPULATION IS STILL EXTANT.		
Owner/Manager:	UCNR-SAN JOAQUIN MARSH		



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<i>Suaeda esteroa</i>		Element Code: PDCHE0P0D0	
estuary seablite			
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G3
	State: None		State: S2
	Other: Rare Plant Rank - 1B.2		
Habitat:	General: MARSHES AND SWAMPS.		
	Micro: COASTAL SALT MARSHES IN CLAY, SILT, AND SAND SUBSTRATES. 0-80 M.		

Occurrence No.	12	Map Index:	A2484	EO Index:	48855	Element Last Seen:	2015-11-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2015-11-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2016-11-10	

Quad Summary: Tustin (3311767), Newport Beach (3311768)
County Summary: Orange

Lat/Long:	33.64916 / -117.87852	Accuracy:	specific area
UTM:	Zone-11 N3723602 E418538	Elevation (ft):	5
PLSS:	T06S, R10W, Sec. 13, S (S)	Acres:	5.0

Location: NE END OF UPPER NEWPORT BAY, NEWPORT BEACH.
Detailed Location: MAPPED AS 3 POLYGONS ACCORDING TO VEGETATION TRANSECT SURVEYS PERFORMED BY MERKEL & ASSOCIATES.
Ecological: COASTAL SALT MARSH. ASSOCIATED WITH SARCOCORNIA PACIFICA, JAUMEA CARNOSA, FRANKENIA SALINA, DISTICHLIS SPICATA, BATIS MARITIMA, CUSCUTA SALINA, LIMONIUM CALIFORNICUM, MONANTHOCHLOE LITTORALIS, ETC.
General: PLANTS OBSERVED IN VICINITY IN 1991. OBSERVED AT MAPPED SITE DURING TRANSECT SURVEYS IN 2015. MORE COMPLETE SURVEYS OF AREA NEEDED. VAGUE 1924 PEIRSON AND JOHNSON COLLECTIONS AND 1975 TILFORTH COLLECTION ALSO ATTRIBUTED HERE.
Owner/Manager: DFG-UPPER NEWPORT BAY ER

<i>Dudleya multicaulis</i>		Element Code: PDCRA040H0	
many-stemmed dudleya			
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G2
	State: None		State: S2
	Other: Rare Plant Rank - 1B.2, BLM_S-Sensitive, SB_RSABG-Rancho Santa Ana Botanic Garden, USFS_S-Sensitive		
Habitat:	General: CHAPARRAL, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.		
	Micro: IN HEAVY, OFTEN CLAYEY SOILS OR GRASSY SLOPES. 1-910 M.		



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Occurrence No.	8	Map Index: 02533	EO Index: 21415	Element Last Seen:	1932-05-18
Occ. Rank:	None		Presence: Extirpated	Site Last Seen:	1989-01-17
Occ. Type:	Natural/Native occurrence		Trend: Decreasing	Record Last Updated:	2015-04-14

Quad Summary: Tustin (3311767), Newport Beach (3311768)

County Summary: Orange

Lat/Long:	33.64001 / -117.88895	Accuracy:	1 mile
UTM:	Zone-11 N3722596 E417561	Elevation (ft):	
PLSS:	T06S, R10W, Sec. 23 (S)	Acres:	0.0

Location: NEWPORT BAY.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB IN UPPER NEWPORT BAY. ROBERTS (1999) REPORTED, "POPULATION WAS LIKELY LOCATED ALONG EASTERN SIDE OF BAY SOUTH OF FORD ROAD".

Ecological: ADOBE BLUFF.

General: MAIN SOURCES OF INFORMATION ARE THREE HISTORIC COLLECTIONS FROM "NEWPORT BAY". NO PLANTS OBSERVED IN 1952, 1974, OR 1989. SITE BELIEVED EXTIRPATED ACCORDING TO ROBERTS (1987). UNDATED NEVIN COLLECTION FROM "NEWPORT" ALSO ATTRIBUTED HERE.

Owner/Manager: DFG-UPPER NEWPORT BAY ER

Occurrence No.	10	Map Index: 02821	EO Index: 13947	Element Last Seen:	1983-02-01
Occ. Rank:	None		Presence: Extirpated	Site Last Seen:	1989-01-27
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2015-04-14

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.86360 / -117.73088	Accuracy:	specific area
UTM:	Zone-11 N3747272 E432396	Elevation (ft):	800
PLSS:	T03S, R08W, Sec. 33, SW (S)	Acres:	89.0

Location: NORTH END OF THE SANTA ANA MOUNTAINS, ABOUT 1 MILE SOUTH OF THE 91 FREEWAY (RIVERSIDE FWY) AND WEIR CANYON EXIT.

Detailed Location: SITE ERRONEOUSLY REFERRED TO AS WEIR CANYON IN THE PAST. WEIR CANYON IS FURTHER SOUTH AND DRAINS SW INTO SANTIAGO CREEK.

Ecological: ON ASH-COVERED SOILS IN BURNED CHAPARRAL. ASSOCIATED WITH STIPA LEPIDA AND SISYRINCHIUM BELLUM.

General: FEWER THAN 1000 PLANTS IN 1983. NO PLANTS FOUND IN 1989. ROBERTS (1992) REPORTED THAT THE POPULATION WAS PROBABLY EXTIRPATED BY HOUSING DEVELOPMENT AROUND 1989.

Owner/Manager: PVT



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Occurrence No.	11	Map Index: 02710	EO Index: 19715	Element Last Seen: 1983-04-22
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 1983-04-22
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2015-05-22

Quad Summary: Orange (3311777)
County Summary: Orange

Lat/Long:	33.83704 / -117.79236	Accuracy:	80 meters
UTM:	Zone-11 N3744369 E426687	Elevation (ft):	700
PLSS:	T04S, R09W, Sec. 11, SW (S)	Acres:	0.0

Location: PERALTA HILLS, ABOUT 1 MILE SOUTH OF SANTA ANA CANYON ROAD AT IMPERIAL HIGHWAY, ANAHEIM.
Detailed Location: ON NORTH-FACING SLOPE JUST NORTH OF POWERLINES AND 0.5 MILE NW OF NORTH MESA DRIVE AT VALLEY DRIVE IN CERRO VILLA HEIGHTS. ABOUT 0.5 MILE SOUTH OF ANAHEIM HILLS RESIDENTIAL DEVELOPMENT.
Ecological: ON HEAVY CLAY OVERLYING SANDSTONE. IN COASTAL SAGE SCRUB MIXED WITH GRASSLAND. ASSOCIATED WITH CALOCHORTUS CATALINAE, BLOOMERIA CROCEA, NASSELLA PULCHRA AND SANICULA ARGUTA.
General: FEWER THAN 50 PLANTS IN 1983.
Owner/Manager: PVT-SCE

Occurrence No.	14	Map Index: 02942	EO Index: 19713	Element Last Seen: 1966-05-10
Occ. Rank:	None		Presence: Extirpated	Site Last Seen: 199X-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2015-04-14

Quad Summary: Black Star Canyon (3311776), Prado Dam (3311786)
County Summary: Riverside

Lat/Long:	33.87584 / -117.65895	Accuracy:	1/5 mile
UTM:	Zone-11 N3748584 E439058	Elevation (ft):	600
PLSS:	T03S, R07W, Sec. 30, SW (S)	Acres:	0.0

Location: SANTA ANA CANYON, 300 YARDS SOUTH OF RIVERSIDE-NEWPORT FREEWAY, 1 MILE EAST OF ORANGE COUNTY LINE.
Detailed Location: EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB BASED ON A 1966 PRENTISS COLLECTION.
Ecological: ON GRASSY, DRY NORTH SLOPE.
General: SITE BASED ON A 1966 PRENTISS COLLECTION. ACCORDING TO ROBERTS (1999), THIS SITE IS EXTIRPATED.
Owner/Manager: PVT



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Occurrence No.	31	Map Index: 41000	EO Index: 19688	Element Last Seen:	2014-04-05
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2014-04-05
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2015-05-27
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.81862 / -117.72882		Accuracy:	nonspecific area	
UTM:	Zone-11 N3742284 E432550		Elevation (ft):		
PLSS:	T04S, R08W, Sec. 16, SW (S)		Acres:	63.0	
Location:	EAST OF WEIR CANYON, UPPER BLIND CANYON RD, FIRST TOWER, AND SOUTH OF ROAD.				
Detailed Location:	9 POLYGONS. EXACT LOCATION OF FIRST TOWER IS UNKNOWN; MAPPED AS BEST GUESS BY CNDDDB ALONG UPPER BLIND CANYON RD E OF WINDY RIDGE RD. POLYGONS S OF ROAD MAPPED FROM SPECIFIC HARMSWORTH ASSOC MAP AND 2013/2014 GPS COORDINATES.				
Ecological:	ALONG ROCKY RIDGELINE IN COASTAL SAGE SCRUB/GRASSLAND INTERFACE WITH NASSELLA PULCHRA, HEMIZONIA FASCICULATA, BROMUS MADRITENSIS, ERIOGONUM FASCICULATUM, SELAGINELLA BIGELOVII, LOLIUM PERENNE, AND ARTEMISIA CALIFORNICA.				
General:	MAIN SOURCE OF INFO FOR NON-SPECIFIC POLYGON ALONG ROAD IS A 1981 COLLECTION BY MARSH; NEEDS FIELDWORK. POPULATION NUMBERS ARE FOR PORTIONS OF OCCURRENCE: UNKNOWN # OF PLANTS SEEN IN 1983, 21+ IN 2003, 198+ IN 2013, 50+ IN 2014.				
Owner/Manager:	ORA COUNTY, UNKNOWN				
Occurrence No.	33	Map Index: 02974	EO Index: 12669	Element Last Seen:	1985-03-20
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1985-03-20
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2015-04-28
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Riverside				
Lat/Long:	33.87152 / -117.63495		Accuracy:	80 meters	
UTM:	Zone-11 N3748092 E441275		Elevation (ft):	960	
PLSS:	T03S, R07W, Sec. 32, NE (S)		Acres:	0.0	
Location:	HILLS EAST OF FRESNO CANYON AND ABOUT 1.8 MILES NORTHEAST OF SIERRA PEAK, SOUTH OF CORONA.				
Detailed Location:	SUMMIT OF HILL ON "SIERRA DEL ORO" PROJECT SITE, BETWEEN FRESNO CANYON AND SERFAS CLUB DRIVE. MAPPED WITHIN THE NW 1/4 NE 1/4 SECTION 32.				
Ecological:	ON SUMMIT OF A HILL WITHIN 2 METERS OF ERODING SLOPE IN BURNED CHAPARRAL. ASSOCIATED WITH ARTEMISIA CALIFORNICA, ERIOGONUM FASCICULATUM, RHUS, ERODIUM, AVENA, LUPINUS BICOLOR.				
General:	56 PLANTS OBSERVED OVER 20 SQUARE METERS IN 1985. POPULATION MAY HAVE BEEN TRANSPLANTED IN THE LATE 1980'S (ACCORDING TO ROBERTS 1999); STATUS OF THIS POPULATION IS UNKNOWN.				
Owner/Manager:	PVT				



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Occurrence No.	34	Map Index:	02620	EO Index:	19686	Element Last Seen:	1993-04-21
Occ. Rank:	Fair	Presence:	Presumed Extant	Site Last Seen:	1993-04-21	Record Last Updated:	2015-05-27
Occ. Type:	Natural/Native occurrence	Trend:	Decreasing				
Quad Summary:	Tustin (3311767)						
County Summary:	Orange						
Lat/Long:	33.64677 / -117.84656			Accuracy:	specific area		
UTM:	Zone-11 N3723313 E421498			Elevation (ft):	70		
PLSS:	T06S, R09W, Sec. 17, SW (S)			Acres:	10.0		
Location:	UNIVERSITY OF CALIFORNIA, IRVINE CAMPUS.						
Detailed Location:	2 COLONIES. WEST COLONY IS BEHIND HAZARDOUS WASTE LAB JUST WEST OF STANISLAUS HALL. EAST COLONY IS OFF OF THE HEALTH SERVICES ROAD.						
Ecological:	ROCK OUTCROPS WITH N-FACING SLOPES. ASSOCIATED WITH MIXED ANNUAL / NATIVE STIPA GRASSLAND WITH SOME WEEDY SPECIES. LIKELY THAT THE ORIGINAL SURROUNDING VEGETATION WAS SOUTHERN COASTAL BLUFF SCRUB COMMUNITY.						
General:	W COLONY: 200+ PLANTS OBSERVED IN 1985, APPROXIMATELY 200 IN MARCH 1987, 1200+ IN 1988. "EXTENSIVE POPULATION" OBSERVED IN E COLONY IN 1993. INCLUDES FORMER OCCURRENCE #112.						
Owner/Manager:	UC-IRVINE						
Occurrence No.	36	Map Index:	02872	EO Index:	19687	Element Last Seen:	1982-XX-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:	1982-XX-XX	Record Last Updated:	2015-04-28
Occ. Type:	Natural/Native occurrence	Trend:	Unknown				
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.79984 / -117.69445			Accuracy:	2/5 mile		
UTM:	Zone-11 N3740179 E435717			Elevation (ft):			
PLSS:	T04S, R08W, Sec. 26 (S)			Acres:	0.0		
Location:	UNDER TRANSMISSION LINES NEAR FREMONT CANYON, SOUTHWEST OF SIERRA PEAK, SANTA ANA MOUNTAINS.						
Detailed Location:	EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS BEST GUESS ABOUT 2 MILES ENE OF SANTIAGO DAM IN VICINITY OF FREMONT CANYON.						
Ecological:							
General:	SITE BASED ON A 1982 LOCATION DESCRIPTION; LARGE STANDS SEEN IN 1982. ADDITIONAL FIELDWORK NEEDED.						
Owner/Manager:	PVT						



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Occurrence No.	37	Map Index: 21264	EO Index: 8528	Element Last Seen:	1989-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1989-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2005-12-30
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.84907 / -117.71335		Accuracy:	specific area	
UTM:	Zone-11 N3745650 E434006		Elevation (ft):	700	
PLSS:	T04S, R08W (S)		Acres:	31.7	
Location:	GYPSUM CANYON, FROM JUST SOUTH OF THE RIVERSIDE FREEWAY EXTENDING SOUTHWARD 1.5 MILES, SANTA ANA MTNS.				
Detailed Location:	MAPPED AS 3 POLYGONS. IN SECTIONS 25 AND 28. (ALSO IN TOWNSHIP 03S). MOSTLY IN HILLS, RIDGES, AND CLIFFS TO WEST OF GYPSUM CANYON.				
Ecological:	GROWING IN OPENINGS IN COASTAL SAGE SCRUB ALONG RIDGES AND ROCK OUTCROPS. FROM 500-900 FT ELEVATION.				
General:	328 PLANTS SEEN IN 1989 IN 14 SUBGROUPS (MAPPED AS 3 POLYGONS). SITE UNDER JURISDICTION OF CALTRANS AND TRANSPORTATION CORRIDOR AGENCIES.				
Owner/Manager:	PVT-IRVINE CO				
Occurrence No.	38	Map Index: 02876	EO Index: 8527	Element Last Seen:	1990-XX-XX
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	1990-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2015-04-28
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.85916 / -117.69651		Accuracy:	specific area	
UTM:	Zone-11 N3746758 E435572		Elevation (ft):	1000	
PLSS:	T04S, R08W, Sec. 02 (S)		Acres:	61.3	
Location:	WEST SIDE OF COAL CANYON WHERE PIPELINE CROSSES RIDGE ROAD, ABOUT 0.7 MILE SOUTH OF 91 FWY, SANTA ANA MOUNTAINS.				
Detailed Location:	MAPPED AS FIVE SEPARATE POLYGONS AT CNDDDB; INCLUDES MANY SUBPOPULATIONS. SITE MAPPED ALONG RIDGE TOPS AND UPPER SLOPES OF DIVIDE BETWEEN COAL CANYON AND GYPSUM CANYON. AREA PRIVATELY OWNED IN 1990, NOW PART OF CHINO HILLS SP.				
Ecological:	WITHIN CLEARINGS IN BURNED-OVER CHAMISE CHAPARRAL. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, CENTAUREA, ERIOGONUM FASCICULATUM, HAPLOPAPPUS SQUARROSUS, ETC.				
General:	PARTIAL SURVEYS: TWO POPULATIONS OF 24 AND 23 INDIVIDUALS SEEN IN 1986, FEWER THAN 50 SEEN IN 1989. POPULATION OF ENTIRE OCCURRENCE ESTIMATED TO BE 500+ PLANTS AS OF 1990 (COMPOSED OF 21 SUBPOPULATIONS).				
Owner/Manager:	DPR-CHINO HILLS SP				



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Occurrence No.	42	Map Index:	02615	EO Index:	19682	Element Last Seen:	2012-02-26
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2012-02-26	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2015-05-22	
Quad Summary:	Tustin (3311767)						
County Summary:	Orange						
Lat/Long:	33.63422 / -117.84817			Accuracy:	specific area		
UTM:	Zone-11 N3721922 E421338			Elevation (ft):	200		
PLSS:	T06S, R09W, Sec. 20 (S)			Acres:	71.0		
Location:	VICINITY OF BONITA CANYON, ON BOTH SIDES OF BONITA CANYON ROAD.						
Detailed Location:	MAPPED BY CNDDDB AS 8 POLYGONS ACCORDING TO MULTIPLE SOURCES OF INFORMATION. IN 1998 WOLF REPORTS THAT THERE WERE CAGES WITH DUDLEYA SCATTERED AROUND OUTCROP IN SW-MOST POLYGON (POSSIBLE TRANSPLANTS?)						
Ecological:	ON EXPOSED IGNEOUS BASALT DIKES, AT COASTAL SAGE SCRUB/NASSELLA PULCHRA GRASSLAND ECOTONE. ASSOCIATED WITH OPUNTIA SP., CARDIONEMA RAMOSISSIMA, DUDLEYA PULVERULENTA, MUHLENBERGIA MICROSPERMA, ARTEMISIA CALIFORNICA, PLANTAGO ERECTA, ET AL.						
General:	POP NUMBERS ARE FOR PORTIONS OF OCCURRENCE: -642 PLANTS OBSERVED N OF BONITA CYN RD IN 1987-1988, 2580 PLANTS S OF ROAD (UNKNOWN DATE IN ROBERTS, 1991), 55+ S OF ROAD IN 1998, UNKNOWN # IN 2011 & 2012 N OF ROAD. INCL FORMER OCCS #43 & 44.						
Owner/Manager:	UC-IRVINE, PVT						
Occurrence No.	52	Map Index:	02878	EO Index:	13237	Element Last Seen:	1986-05-26
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		1986-05-26	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2015-05-22	
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.84498 / -117.69137			Accuracy:	specific area		
UTM:	Zone-11 N3745182 E436037			Elevation (ft):	1400		
PLSS:	T04S, R08W, Sec. 11, NW (S)			Acres:	10.4		
Location:	EASTERN SLOPE OF GYPSUM CANYON, ABOUT 2.2 MILES EAST OF SIERRA PEAK AND 2 MILES SOUTH OF THE 91 FREEWAY, SANTA ANA MTNS.						
Detailed Location:	ALONG SOUTHWEST SIDE OF HANGING MEADOW, ABOUT 0.4 MILE WEST OF COAL-GYPSUM RIDGE ROAD AT 1821' BENCHMARK.						
Ecological:	IN RELATIVELY UNTOUCHED GRASSLAND WITH STIPA, CALOCHORTUS SPLENDENS, BLOOMERIA CROCEA AND CLARKIA PURPUREA. SURROUNDED BY CHAMISE CHAPARRAL AND OCCASIONAL TECATE CYPRESS.						
General:	OVER 200 PLANTS OBSERVED IN 1986.						
Owner/Manager:	PVT						



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Occurrence No.	60	Map Index: 02718	EO Index: 13946	Element Last Seen:	2001-03-21
Occ. Rank:	Poor		Presence: Presumed Extant	Site Last Seen:	2001-03-21
Occ. Type:	Natural/Native occurrence		Trend: Decreasing	Record Last Updated:	2015-05-01

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.63554 / -117.79039	Accuracy:	specific area
UTM:	Zone-11 N3722027 E426697	Elevation (ft):	300
PLSS:	T06S, R09W, Sec. 23 (S)	Acres:	6.0

Location: EAST OF SHADY CANYON AND SE OF SAND CANYON RESERVOIR, SAN JOAQUIN HILLS, IRVINE.

Detailed Location: MAPPED AS 4 POLYGONS ALONG THE SE SIDE OF UNNAMED TRIBUTARY TO SHADY CANYON; ABOUT 1.6 MILES W OF HWY 133 (LAGUNA CANYON RD). SITE QUALITY ORIGINALLY REPORTED AS EXCELLENT; CHANGED TO POOR BY CNDDDB BASED ON 2014 AERIAL IMAGERY.

Ecological: ON ROCK OUTCROPS AND IN INTRODUCED GRASSLANDS WITHIN COASTAL SAGE SCRUB. ASSOCIATED WITH LASTHENIA CALIFORNICA, CRASSULA ERECTA, MELICA IMPERFECTA, CARDIONEMA, MIMULUS AURANTIACUS, OPUNTIA PROLIFERA, ARTEMISIA CALIFORNICA, STIPA, ET AL.

General: 1100+ PLANTS IN 4 SUBPOPULATIONS IN 1987. 50 PLANTS IN S-MOST POLYGONS IN 1998. 2001 ROBERTS COLLECTION FROM "CA. 2 KM SE FRENCH HILL, WITHIN THE SHADY CYN DEVELOPMENT" ATTRIBUTED TO THIS OCCURRENCE; 1637 PLANTS HERE, 1520 MORE NEARBY.

Owner/Manager: PVT

Occurrence No.	82	Map Index: 21268	EO Index: 8522	Element Last Seen:	2013-05-14
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2013-05-14
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2015-05-26

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.80595 / -117.73102	Accuracy:	specific area
UTM:	Zone-11 N3740881 E432337	Elevation (ft):	1100
PLSS:	T04S, R08W, Sec. 21, SW (S)	Acres:	48.0

Location: NORTH OF SANTIAGO CREEK AND WEST OF BLIND CANYON, ABOUT 1.1 MILES NNW OF SANTIAGO DAM, SANTA ANA MOUNTAINS.

Detailed Location: MAPPED ALONG RIDGE TOPS AND UPPER SLOPES OF RIDGE W OF BLIND CANYON; FROM 0.1 TO 0.5 MILE N OF ROAD IN CREEKBED. MANY COLONIES MAPPED AS 9 POLYGONS BY CNDDDB. LARGER POLYGONS ARE BASED ON SMALL SCALE MAP DETAIL AND MAY NOT BE ACCURATE.

Ecological: GROWING NEAR AND ALONG THE RIDGE CREST IN ISOLATED POCKETS IN OPENINGS IN COASTAL SAGE SCRUB, GRASSLAND, AND ROCK OUTCROPS. CLAY LOAM ON GENTLE AND MODERATE SLOPES. THE RARE CALOCHORTUS CATALINAE ALSO OCCURS NEARBY.

General: POP #S FOR PORTIONS OF SITE: 546 PLANTS IN 1989 IN 6 SUBGROUPS, 300+ IN 1998, 31 IN N PART OF SITE IN 2003, 77+ PLANTS IN TWO SMALL N POLYGONS IN 2013. PORTION UNDER JURISDICTION OF CALTRANS & TRANSPORTATION CORRIDOR AGENCIES (1991).

Owner/Manager: ORA COUNTY, PVT



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Occurrence No.	83	Map Index: 21266	EO Index: 8524	Element Last Seen:	2013-05-15
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2013-05-15
Occ. Type:	Natural/Native occurrence		Trend: Decreasing	Record Last Updated:	2015-05-07
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.82429 / -117.70825		Accuracy:	specific area	
UTM:	Zone-11 N3742899 E434459		Elevation (ft):	1500	
PLSS:	T04S, R08W, Sec. 15 (S)		Acres:	284.8	
Location:	RIDGELINES ABOVE GYPSUM, FREMONT, AND BLIND CANYONS.				
Detailed Location:	MAPPED BY CNDDDB AS 7 POLYGONS. HWY 241 BISECTS THE W PORTION OF OCCURRENCE 2.6 ROAD MILES S OF HWY 91 INTERCHANGE. AT LEAST 1056 PLANTS IMPACTED BY TRANSPORTATION CORRIDOR; MITIGATION AREAS NOT FARING WELL AS OF 1998.				
Ecological:	GROWING WITHIN GRASSY OPENINGS IN COASTAL SAGE SCRUB ALONG RIDGE CRESTS AND ROCKY OUTCROPS. 1100-1800' ELEVATION. CLAY LOAM SOILS ON GENTLE AND MODERATE SLOPES.				
General:	IN 1989: 577 PLANTS IN NE POLYGON, 2285 IN 5 POLYGONS ALONG MAIN DIVIDE TRUCK TRAIL, 2504 IN S POLY. 35 IN MIDDLE POLY IN 2003. 60 IN NW PORTION OF NW POLY IN EARLY 2008; 25 IN JUNE '08. UNKNOWN # IN NE POLY IN 2013. INCL FRMR OCCS #92, 93.				
Owner/Manager:	ORA COUNTY, PVT				
Occurrence No.	84	Map Index: 21270	EO Index: 8520	Element Last Seen:	1992-05-23
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1992-05-23
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2015-05-26
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.79861 / -117.72230		Accuracy:	specific area	
UTM:	Zone-11 N3740061 E433139		Elevation (ft):	1000	
PLSS:	T04S, R08W, Sec. 28, N (S)		Acres:	73.6	
Location:	WITHIN BLIND CANYON & ON RIDGES EAST OF THE CANYON. ROUGHLY 1 MILE NORTH OF SANTIAGO DAM.				
Detailed Location:	MAPPED BY CNDDDB AS THREE FEATURES.				
Ecological:	ALONG BARRENS AND GRASSY OPENINGS IN COASTAL SAGE SCRUB.				
General:	1264 PLANTS OBSERVED IN 1989 IN NORTH COLONY. 4098 PLANTS IN SW COLONY IN 1992. 53 PLANTS IN SE COLONY IN 1990. INCLUDES FORMER OCCURRENCES #86 & 91.				
Owner/Manager:	ORA COUNTY, PVT				



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Occurrence No.	85	Map Index: 21272	EO Index: 8519	Element Last Seen:	1990-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1990-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2006-01-05
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.80228 / -117.71051		Accuracy:	80 meters	
UTM:	Zone-11 N3740460 E434233		Elevation (ft):	1100	
PLSS:	T04S, R08W, Sec. 22, SW (S)		Acres:	0.0	
Location:	1.4 MILES NE OF SANTIAGO DAM, ON SLOPES OF UNNAMED CANYON; 0.3 MILE SOUTH OF MINE IN SECTION 37, SANTA ANA MOUNTAINS.				
Detailed Location:	MAPPED ALONG UPPER SLOPE ALONG EAST SIDE OF CANYON TRIBUTARY TO FREMONT CANYON.				
Ecological:	WEST-FACING SLOPE IN COASTAL SAGE SCRUB AND CHAPARRAL.				
General:	22 PLANTS SEEN IN 1990.				
Owner/Manager:	ORA COUNTY, PVT				
Occurrence No.	87	Map Index: 21274	EO Index: 8516	Element Last Seen:	1990-06-12
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1990-06-12
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2006-01-05
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.79416 / -117.71218		Accuracy:	80 meters	
UTM:	Zone-11 N3739561 E434072		Elevation (ft):	900	
PLSS:	T04S, R08W, Sec. 27, SW (S)		Acres:	0.0	
Location:	FREMONT CANYON, 1 MILE NORTHEAST OF SANTIAGO DAM, SANTA ANA MOUNTAINS.				
Detailed Location:	SITE MAPPED ON NORTH SIDE OF CANYON.				
Ecological:	SE-FACING SLOPES IN COASTAL SCRUB.				
General:	63 PLANTS SEEN IN 1990 IN 2 SUBGROUPS.				
Owner/Manager:	ORA COUNTY, PVT				
Occurrence No.	88	Map Index: 21275	EO Index: 8517	Element Last Seen:	1989-06-28
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1989-06-28
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2015-05-07
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.79404 / -117.73643		Accuracy:	80 meters	
UTM:	Zone-11 N3739563 E431828		Elevation (ft):	700	
PLSS:	T04S, R08W, Sec. 29, SE (S)		Acres:	0.0	
Location:	0.8 MILE NORTHWEST OF SANTIAGO DAM, SOUTH SIDE OF SANTIAGO CREEK, SANTA ANA MOUNTAINS.				
Detailed Location:	SITE MAPPED ALONG WEST SIDE OF SMALL SE - NW TRENDING TRIBUTARY CANYON TO SANTIAGO CREEK.				
Ecological:	IN GRASSLAND AND COASTAL SAGE SCRUB. GROWING WITH CALIFORNIA BUCKWHEAT ON CLAY SOILS ADJACENT TO A ROCKY OUTCROP.				
General:	200 PLANTS SEEN IN FEBRUARY 1989. 42 PLANTS SEEN IN JUNE 1989. UNDER JURISDICTION OF CALTRANS AND THE TRANSPORTATION CORRIDOR AGENCIES.				
Owner/Manager:	PVT-IRVINE CO				



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Occurrence No.	89	Map Index: 21271	EO Index: 8449	Element Last Seen:	2005-05-15
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2005-05-15
Occ. Type:	Natural/Native occurrence		Trend: Decreasing	Record Last Updated:	2015-05-27
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.78819 / -117.74433		Accuracy:	specific area	
UTM:	Zone-11 N3738921 E431091		Elevation (ft):	850	
PLSS:	T04S, R08W, Sec. 32, NW (S)		Acres:	10.0	
Location:	0.7-1.0 MILE DUE WEST OF SANTIAGO DAM, ABOUT 0.3 MILE SOUTH OF IRVINE PARK, SANTA ANA MOUNTAINS.				
Detailed Location:	SITE MAPPED AS 5 POLYGONS ALONG NNW TRENDING RIDGES AND SLOPES ABOVE SANTIAGO CREEK.				
Ecological:	GROWING ALONG RIDGES, KNOLLS, AND OPEN COBBLY SOILS IN COASTAL SCRUB, OFTEN NEAR THE BASE OF SHRUBS. ASSOCIATES INCLUDE BOTH NATIVE AND NON-NATIVE GRASSES.				
General:	3121 PLANTS SEEN IN 1989 IN 6 SUBGROUPS. UNKNOWN NUMBER OF PLANTS OBSERVED IN WESTERN POLYGON IN 2005. AREA IS UNDER JURISDICTION OF CALTRANS AND THE TRANSPORTATION CORRIDOR AGENCIES (1991).				
Owner/Manager:	PVT-IRVINE CO, ORA COUNTY				
Occurrence No.	90	Map Index: 21276	EO Index: 8515	Element Last Seen:	1991-XX-XX
Occ. Rank:	None		Presence: Extirpated	Site Last Seen:	199X-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2015-05-07
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.77556 / -117.73112		Accuracy:	80 meters	
UTM:	Zone-11 N3737511 E432305		Elevation (ft):	1260	
PLSS:	T04S, R08W, Sec. 32, SE (S)		Acres:	0.0	
Location:	0.5 MILE NORTH OF SANTIAGO CANYON ROAD, 0.4 MI WEST OF SANTIAGO RESERVOIR, SANTA ANA MOUNTAINS.				
Detailed Location:	MAPPED JUST NE OF 1332' KNOLL ON SOUTHWEST SIDE OF RESERVOIR.				
Ecological:	N-FACING SLOPES IN COASTAL SCRUB.				
General:	121 PLANTS SEEN IN 1991 IN 2 SUBGROUPS. POPULATION EXTIRPATED ACCORDING TO ROBERTS (1999).				
Owner/Manager:	ORA COUNTY				
Occurrence No.	98	Map Index: 23537	EO Index: 19204	Element Last Seen:	1992-06-06
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1992-06-06
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2010-01-14
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.84500 / -117.66943		Accuracy:	80 meters	
UTM:	Zone-11 N3745171 E438066		Elevation (ft):	2280	
PLSS:	T04S, R08W, Sec. 01, SE (S)		Acres:	0.0	
Location:	1.0 MILE SOUTHWEST OF SIERRA PEAK SUMMIT, JUST NORTH OF MAIN DIVIDE ROAD, SANTA ANA MOUNTAINS.				
Detailed Location:	ADJACENT TO AN OLD ROAD CUT.				
Ecological:	IN HEAVY CLAY SOIL WITH ARTEMISIA CALIFORNICA, TOXICODENDRON DIVERSILOBUM, AND MIMULUS LONGIFLORUS.				
General:	SEVERAL HUNDRED ROSETTES REPRESENTING PERHAPS 100 INDIVIDUALS SEEN IN 1992.				
Owner/Manager:	USFS-CLEVELAND NF				



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Occurrence No.	110	Map Index: 38123	EO Index: 33130	Element Last Seen:	1989-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1989-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2006-01-05
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.73078 / -117.72197		Accuracy:	80 meters	
UTM:	Zone-11 N3732540 E433117		Elevation (ft):	620	
PLSS:	T05S, R08W, Sec. 16, S (S)		Acres:	0.0	
Location:	EAST SIDE OF HICKS CANYON ABOUT 1.25 MILES NORTHEAST OF CANYON MOUTH, EAST OF IRVINE.				
Detailed Location:					
Ecological:					
General:	516 PLANTS OBSERVED IN 1989.				
Owner/Manager:	PVT				
Occurrence No.	111	Map Index: 38124	EO Index: 33131	Element Last Seen:	1989-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	199X-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Decreasing	Record Last Updated:	2006-01-05
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.73691 / -117.72094		Accuracy:	nonspecific area	
UTM:	Zone-11 N3733219 E433217		Elevation (ft):	620	
PLSS:	T05S, R08W, Sec. 16, E (S)		Acres:	11.0	
Location:	NORTH SIDE OF HICKS CANYON EAST OF MINING OPERATION, ABOUT 1.8 MILES NNE OF CANYON MOUTH, EAST OF IRVINE.				
Detailed Location:	FOUR COLONIES REPORTED BY ROBERTS, BUT MAP DETAIL IS NOT SPECIFIC; MAPPED AS TWO NON-SPECIFIC AREAS.				
Ecological:					
General:	379 PLANTS OBSERVED TWO COLONIES IN 1989. 120 OF THESE WERE LATER DESTROYED IN THE CONSTRUCTION OF THE EASTERN TRANSPORTATION CORRIDOR.				
Owner/Manager:	PVT				
Occurrence No.	113	Map Index: 38128	EO Index: 33135	Element Last Seen:	1990-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1990-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1998-02-17
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.82264 / -117.72094		Accuracy:	1/10 mile	
UTM:	Zone-11 N3742724 E433284		Elevation (ft):	1500	
PLSS:	T04S, R08W, Sec. 16, SE (S)		Acres:	0.0	
Location:	RIDGE WEST OF UPPER BLIND CANYON, ABOUT 2.5 MILES NORTH OF SANTIAGO DAM AND 1.1 MILE SW OF WIER CANYON, SANTA ANA MTNS.				
Detailed Location:	SINGLE COLONY MAPPED NEAR RIDGETOP.				
Ecological:					
General:	UNKNOWN NUMBER OF PLANTS OBSERVED IN 1990.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	116	Map Index: 47966	EO Index: 47966	Element Last Seen: 1998-04-24
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 1998-04-24
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2015-05-20

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.63028 / -117.80013	Accuracy:	80 meters
UTM:	Zone-11 N3721450 E425789	Elevation (ft):	250
PLSS:	T06S, R09W, Sec. 22, SE (S)	Acres:	0.0

Location: 1.4 AIR MILES SSE OF FRENCH HILL, BETWEEN BOMMER CANYON & SHADY CANYON, SAN JOAQUIN HILLS.

Detailed Location: SOUTH OF TURTLE ROCK NATURE CENTER PARKING LOT, BETWEEN 2 ACCESS ROADS.

Ecological: ROCK OUTCROP WITH VULPIA MYUROS, BROMUS DIANDRUS, AND AVENA FATUA GRASSLAND.

General: 25+ INDIVIDUALS OBSERVED IN 1998.

Owner/Manager: PVT-IRVINE CO

Occurrence No.	117	Map Index: 47980	EO Index: 47980	Element Last Seen: 1998-06-03
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen: 1998-06-03
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2002-06-28

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.84413 / -117.70697	Accuracy:	80 meters
UTM:	Zone-11 N3745098 E434593	Elevation (ft):	600
PLSS:	T04S, R08W, Sec. 10, NW (S)	Acres:	0.0

Location: WESTERN EDGE OF GYPSUM CANYON, JUST SOUTH OF BENCHMARK 545.

Detailed Location:

Ecological: COASTAL SAGE SCRUB RIDGE ABOVE ROAD IN LOOSE LOAMY SOILS.

General: UNKNOWN NUMBER OF PLANTS OBSERVED IN 1998. LOCALITY NOT IN NCCP RESERVE.

Owner/Manager: PVT-IRVINE CO

Occurrence No.	118	Map Index: 47981	EO Index: 47981	Element Last Seen: 1998-06-03
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen: 1998-06-03
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2002-06-28

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.84777 / -117.70002	Accuracy:	80 meters
UTM:	Zone-11 N3745497 E435238	Elevation (ft):	700
PLSS:	T04S, R08W, Sec. 03, SE (S)	Acres:	0.0

Location: EAST OF GYPSUM CANYON, APPROXIMATELY 1.5 MILES SOUTH OF HWY 91 ALONG GYPSUM CANYON ROAD.

Detailed Location: POPULATION LOCATED EAST WATER TANKS.

Ecological: NATIVE GRASSLAND WITH NASSELLA & CALOCHORTUS IN CLAY NEAR MINOR ROCK OUTCROPS.

General: UNKNOWN NUMBER OF PLANTS OBSERVED IN 1998. LOCALITY IN RESERVE.

Owner/Manager: CITY OF IRVINE



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Occurrence No.	120	Map Index: 48002	EO Index: 48002	Element Last Seen:	1998-03-16
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen:	1998-03-16
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2002-06-28
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.73647 / -117.73236		Accuracy:	80 meters	
UTM:	Zone-11 N3733177 E432159		Elevation (ft):	640	
PLSS:	T05S, R08W, Sec. 17, SE (S)		Acres:	0.0	
Location:	SOUTHWEST RIDGE ABOVE RATTLESNAKE CANYON, APPROXIMATELY 0.5 AIR MILE NORTHEAST OF RATTLESNAKE RESERVOIR.				
Detailed Location:					
Ecological:	WITHIN COASTAL SAGE SCRUB, INCLUDED CHAENACTIS GLABRIUSCULA, CHAENACTIS ARTEMISIIFOLIA, AND ERIOGONUM FASCICULATUM.				
General:	50+ PLANTS OBSERVED IN 1998. LOCALITY IN RESERVE.				
Owner/Manager:	ORA COUNTY				
Occurrence No.	121	Map Index: 48003	EO Index: 48003	Element Last Seen:	1998-03-16
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	1998-03-16
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2002-06-28
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.73944 / -117.72705		Accuracy:	80 meters	
UTM:	Zone-11 N3733503 E432653		Elevation (ft):	640	
PLSS:	T05S, R08W, Sec. 16, NW (S)		Acres:	0.0	
Location:	SOUTHWEST RIDGE ABOVE RATTLESNAKE CANYON, APPROXIMATELY 0.9 AIR MILE NORTHEAST OF RATTLESNAKE RESERVOIR.				
Detailed Location:					
Ecological:	WITHIN COASTAL SAGE SCRUB, INCLUDING CALOCHORTUS CATALINAE, BLOOMERIA GROCEA, VULPIA MYUROS, & PLANTAGO ERECTA.				
General:	20+ PLANTS OBSERVED IN 1998. LOCALITY IN RESERVE.				
Owner/Manager:	ORA COUNTY				
Occurrence No.	139	Map Index: 63605	EO Index: 63700	Element Last Seen:	2000-05-06
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2000-05-06
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2006-01-06
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.82492 / -117.67180		Accuracy:	80 meters	
UTM:	Zone-11 N3742947 E437832		Elevation (ft):	1900	
PLSS:	T04S, R08W, Sec. 13, NW (S)		Acres:	0.0	
Location:	1.4 AIR MILES WNW OF HORSETROUGH SPRING.				
Detailed Location:	ALONG ACCESS ROAD NEAR POWERLINE.				
Ecological:	CHAPARRAL EDGE. SHALLOW SOILS OVER OUTCROPS.				
General:	APPROXIMATELY 150 PLANTS OBSERVED IN 2000.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	140	Map Index: 63609	EO Index: 63704	Element Last Seen:	2016-01-07
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2016-01-07
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-03-08
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.80281 / -117.79635		Accuracy:	specific area	
UTM:	Zone-11 N3740577 E426288		Elevation (ft):	500	
PLSS:	T04S, R09W, Sec. 26, NW (S)		Acres:	15.0	
Location:	VICINITY OF EL MODENA AND ORANGE PARK ACRES, ABOUT 0.4 AIR MILE SOUTHEAST OF SANTIAGO BLVD/HEWES ST JUNCTION.				
Detailed Location:	3 POLYGONS MAPPED BY CNDDDB. S POLY IS BASED ON 1993 LOCATION DESCRIPTION "LOMITA AVE, 0.4 ROAD KM E SANTIAGO BLVD, 0.4 KM W BAUER SURVEY MARKER." OTHER POLYGONS ARE BASED ON 2012 AND 2016 VANDERHOFF COORDINATES.				
Ecological:	BASALTIC OUTCROPS IN COASTAL SAGE SCRUB AND ANNUAL GRASSLAND. ASSOC WITH AVENA BARBATA, ERIOGONUM FASCICULATUM, ARTEMISIA CALIFORNICA, VULPIA MYUROS, ENCELIA CALIFORNICA, OPUNTIA SP, MALOSMA LAURINA, BROMUS DIANDRUS, BLOOMERIA CROCEA, ETC.				
General:	SOUTHERN POLYGON: 100 PLANTS SEEN IN 1993. MIDDLE POLYGON: 381 PLANTS IN 1993, <50 PLANTS IN 2012. NORTHERN POLYGON: <50 PLANTS IN 2016. A 1980 MARSH ET AL. OBSERVATION FROM SANTIAGO OAKS REGIONAL PARK IS ATTRIBUTED HERE.				
Owner/Manager:	PVT				
Occurrence No.	145	Map Index: 77796	EO Index: 78692	Element Last Seen:	2008-05-14
Occ. Rank:	None		Presence: Possibly Extirpated	Site Last Seen:	2008-05-14
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2015-05-11
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.72882 / -117.70171		Accuracy:	80 meters	
UTM:	Zone-11 N3732310 E434992		Elevation (ft):	1640	
PLSS:	T05S, R08W, Sec. 22, NE (S)		Acres:	0.0	
Location:	WEST SIDE OF LOMA RIDGE, 1.9 AIR MILES EAST OF RATTLESNAKE RESERVOIR.				
Detailed Location:	BURNED IN OCTOBER 2007. A 2008 ROBERTS COLLECTION FROM "SUMMIT OF BEE PEAK...GENTLE NW-FACING ASPECT" IS ATTRIBUTED TO THIS SITE. 2014 AERIAL IMAGERY SHOWS BEE PEAK ALMOST COMPLETELY GRADED FOR LANDFILL EXPANSION. PLANTS LIKELY EXTIRPATED.				
Ecological:	N-FACING ON MODERATELY STEEP SLOPE IN BUCKWHEAT-SAGEBRUSH SCRUB. RIDGETOP, GENTLE NW ASPECT, COBBLY, GRAVELLY CLAY IN OPENING OF COASTAL SAGE SCRUB. CALLEGUAS CLAY LOAM. THE RARE CALOCHORTUS WEEDII VAR. INTERMEDIUS & C. CATALINAE ALSO HERE.				
General:	1245 PLANTS OBSERVED IN 2000. 1839 PLANTS IN 2005. 6 PLANTS IN 2008. 2000 ROBERTS COLLECTION NOTES, "POPULATION ALL OR MOSTLY DESTROYED BY GRADING IN SPRING OF 2009 DESPITE BEING WITHIN HCP CONSERVATION AREA."				
Owner/Manager:	ORA COUNTY				



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Occurrence No.	146	Map Index: 77797	EO Index: 78693	Element Last Seen:	2003-04-20
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2003-04-20
Occ. Type:	Transplant Outside of Native Hab./Range		Trend: Unknown	Record Last Updated:	2010-01-11

Quad Summary: Tustin (3311767)

County Summary: Orange

Lat/Long:	33.66082 / -117.85472	Accuracy:	nonspecific area
UTM:	Zone-11 N3724877 E420754	Elevation (ft):	5
PLSS:	T06S, R09W, Sec. 07 (S)	Acres:	41.0

Location: UC SAN JOAQUIN FRESHWATER MARSH RESERVE; BLUFFS ALONG NW EDGE OF MARSH.

Detailed Location: THESE ARE RESTORATION PLANTS THAT WERE ORIGINALLY COLLECTED AT THE UC IRVINE CAMPUS, "FROM THE CANYON NEAR THE ENVIRONMENTAL HEALTH & SAFETY FACILITY; ROCKY KNOLL BY CRAWFORD BRIDGE." (COLLECTION SITE ATTRIBUTED TO EO #42.)

Ecological: MARSH.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS 2003 BOWLER COLLECTION.

Owner/Manager: UCNR-SAN JOAQUIN MARSH

Occurrence No.	147	Map Index: 77798	EO Index: 78697	Element Last Seen:	2008-03-05
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2008-03-05
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2015-05-27

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.78879 / -117.71849	Accuracy:	80 meters
UTM:	Zone-11 N3738970 E433484	Elevation (ft):	900
PLSS:	T04S, R08W, Sec. 28, SE (S)	Acres:	0.0

Location: IRVINE RANCH RESERVE, FREMONT CANYON CONSERVATION EASEMENT, E FREMONT CANYON, LOWER LAKEVIEW SCENIC RD.

Detailed Location: MAPPED ACCORDING TO COORDINATES ON HERBARIUM LABEL; DATUM NOT PROVIDED. MAPPED BY CNDDDB IN NAD83, WHICH IS CLOSER TO LAKE VIEW SCENIC ROAD.

Ecological: CLIFF AND ROCK; GROWING ON ROCKY SHELF.

General: APPROXIMATELY 9 PLANTS OBSERVED IN 2008.

Owner/Manager: PVT-IRVINE CO



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Occurrence No.	148	Map Index:	77806	EO Index:	78698	Element Last Seen:	2008-04-29
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2008-04-29	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2015-05-27	
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.77097 / -117.74734			Accuracy:	specific area		
UTM:	Zone-11 N3737013 E430799			Elevation (ft):	1100		
PLSS:	T05S, R08W, Sec. 05, NW (S)			Acres:	10.0		
Location:	LOMA RIDGE, NORTH END ALONG SHERIFF ROAD, 1.6 KM SE OF PETERS CANYON RESERVOIR DAM.						
Detailed Location:	MAPPED BY CNDDDB AS 2 POLYGONS ACCORDING TO COORDINATES ON HERBARIUM LABELS, SOUTH OF LOMA RIDGE RD.						
Ecological:	NORTH-FACING SLOPE ON CLAY SOIL IN NATIVE GRASSLAND. SLOPES OF HILLS AND SMALL CANYONS; LOAM SOIL; BURNED CHAPARRAL/COASTAL/SAGE/ANNUAL GRASSLAND. WITH STIPA PULCHRA, CALOCHORTUS CATALINAE, BLOOMERIA CROCEA, DEINANDRA FASCICULATA, ETC.						
General:	135 PLANTS OBSERVED IN EASTERN POLYGON IN 2008 BY ROBERTS. NOTED AS "UNCOMMON" IN WESTERN POLYGON BY SANDERS.						
Owner/Manager:	ORA COUNTY						
Occurrence No.	174	Map Index:	96136	EO Index:	97292	Element Last Seen:	2005-07-14
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2005-07-14	
Occ. Type:	Transplant Outside of Native Hab./Range	Trend:	Unknown	Record Last Updated:		2015-05-26	
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.72537 / -117.66201			Accuracy:	80 meters		
UTM:	Zone-11 N3731903 E438667			Elevation (ft):	1400		
PLSS:	T05S, R08W, Sec. 24, NE (S)			Acres:	0.0		
Location:	APPROXIMATELY 1 AIR MILE NNE OF THE SINKS, LIMESTONE CANYON.						
Detailed Location:	MITIGATION SITE. MAPPED ACCORDING TO COORDINATES FROM A JONES ET AL RESEARCH PAPER, WITHIN THE SE 1/4 OF THE NE 1/4 OF SECTION 24.						
Ecological:							
General:	UNKNOWN NUMBER OF PLANTS OBSERVED IN 2005. EXTENT OF POPULATION IS UNKNOWN. THIS IS A MITIGATION SITE FOR THE SANTIAGO HILLS II PLANNED COMMUNITY, AND IS PART OF A PILOT STUDY FOR FUTURE MITIGATION.						
Owner/Manager:	ORA COUNTY						



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Occurrence No.	175	Map Index:	96137	EO Index:	97293	Element Last Seen:	2008-06-10
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2008-06-10	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2015-05-18	

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.74804 / -117.70885	Accuracy:	80 meters
UTM:	Zone-11 N3734445 E434345	Elevation (ft):	1407
PLSS:	T05S, R08W, Sec. 10, SW (S)	Acres:	0.0

Location: LOMA RIDGE, ABOVE AND TO THE WEST OF THE HAUL ROAD, 2.3 KM NNW OF BEE PEAK.

Detailed Location: LOCALITY INCLUDES "IRVINE RANCH CONSERVANCY". MAPPED ACCORDING TO COORDINATES ON HERBARIUM LABEL, NEAR THE CENTER OF THE SW 1/4 OF PROJECTED SECTION 10. DATUM NOT PROVIDED, BUT NAD83 IS CLOSER TO THE GIVEN ELEVATION OF 1407 FT.

Ecological: ALONG RIDGE ON ROCKY, LOAMY CLAY IN OPEN COASTAL SAGE SCRUB BURNED IN OCTOBER 2007. ASSOCIATED WITH ARTEMISIA CALIFORNICA, SALVIA MELLIFERA, S. APIANA, ERODIUM CICUTARIUM, AND CALOCHORTUS WEEDII VAR. INTERMEDIUS.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2008 ROBERTS COLLECTION. NOTED AS "INFREQUENT".

Owner/Manager: ORA COUNTY

Occurrence No.	177	Map Index:	96140	EO Index:	97296	Element Last Seen:	2013-05-13
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2013-05-13	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2015-05-26	

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.81301 / -117.74591	Accuracy:	specific area
UTM:	Zone-11 N3741673 E430965	Elevation (ft):	800
PLSS:	T04S, R08W, Sec. 20, NW (S)	Acres:	2.0

Location: 1.1 AIR MILES EAST OF VILLA PARK DAM, ON BOTH SIDES OF MWD ACCESS ROAD, EAST OF WEIR CANYON.

Detailed Location: 2 POLYGONS MAPPED WITHIN THE SW 1/4 OF THE NW 1/4 OF PROJECTED SECTION 20. THE NW PORTION OF THE NW POLYGON IS A MITIGATION SITE FOR THE SANTIAGO HILLS II PLANNED COMMUNITY, AND IS PART OF A PILOT STUDY FOR FUTURE MITIGATION.

Ecological: OPENINGS IN COASTAL SAGE SCRUB AND ROCK OUTCROPPINGS. CLAY LOAM SOILS ON GENTLE AND MODERATE SLOPES.

General: UNKNOWN NUMBER OF PLANTS OBSERVED IN 2005 AND 2013.

Owner/Manager: ORA COUNTY



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Occurrence No.	178	Map Index:	96141	EO Index:	97298	Element Last Seen:	2008-05-20
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2008-05-20	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2015-05-27	
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.75944 / -117.73638			Accuracy:	80 meters		
UTM:	Zone-11 N3735728 E431804			Elevation (ft):	1165		
PLSS:	T05S, R08W, Sec. 05, SE (S)			Acres:	0.0		
Location:	NORTH LOMA RIDGE, 305 M WEST OF HWY 241, 976 M SOUTH OF SANTIAGO CANYON RD, AND 61 M NORTH OF THE ACCESS ROAD.						
Detailed Location:	MAPPED ACCORDING TO COORDINATES ON HERBARIUM LABEL.						
Ecological:	ANNUAL GRASSLAND/COASTAL SAGE SCRUB. WITH DEINANDRA FASCICULATA, LESSINGIA FILAGINIFOLIA, BRASSICA GENICULATA, POA SECUNDA, GILIA ANGELENSIS, ERIOGONUM ELONGATUM.						
General:	106 PLANTS OBSERVED IN 2008.						
Owner/Manager:	ORA COUNTY						

Occurrence No.	191	Map Index:	A8614	EO Index:	110404	Element Last Seen:	2006-05-17
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2006-05-17	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2018-03-09	
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Riverside						
Lat/Long:	33.84637 / -117.6477			Accuracy:	specific area		
UTM:	Zone-11 N3745311 E440078			Elevation (ft):	2975		
PLSS:	T04S, R07W, Sec. 6, SE (S)			Acres:	1.0		
Location:	WEST SIDE OF N MAIN DIVIDE ROAD, ABOUT 0.4 AIR MILE SOUTHEAST OF THE SUMMIT OF SIERRA PEAK.						
Detailed Location:	MAPPED IN THE SW 1/4 OF THE SE 1/4 OF SECTION 6.						
Ecological:	LOW CHAPARRAL. DRY, CLAY SOIL. FULL SUN. EVIDENCE OF BROMUS MADRITENSIS, BRASSICA NIGRA, AND CENTAUREA MELITENSIS.						
General:	1 PLANT OBSERVED IN 2006. THIS AREA WAS BURNED IN THE SIERRA FIRE BUT THIS PLANT DID NOT; THIS SPECIES MAY BE FIRE TOLERANT.						
Owner/Manager:	USFS-CLEVELAND NF						

<i>Astragalus brauntonii</i>		Element Code: PDFAB0F1G0
Braunton's milk-vetch		
Listing Status:	Federal: Endangered	CNDDB Element Ranks: Global: G2
	State: None	State: S2
Other:	Rare Plant Rank - 1B.1, SB_RSABG-Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden	
Habitat:	General: CHAPARRAL, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.	
	Micro: RECENT BURNS OR DISTURBED AREAS; USUALLY ON SANDSTONE WITH CARBONATE LAYERS. SOIL SPECIALIST; REQUIRES SHALLOW SOILS TO DEFEAT POCKET GOPHERS AND OPEN AREAS, PREFERABLY ON HILLTOPS, SADDLES OR BOWLS BETWEEN HILLS. 3-640 M.	



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Occurrence No.	4	Map Index: 02886	EO Index: 52	Element Last Seen:	2006-06-XX
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2007-08-03
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2016-05-10

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.86354 / -117.686	Accuracy:	specific area
UTM:	Zone-11 N3747238 E436547	Elevation (ft):	650
PLSS:	T03S, R08W, Sec. 35 (S)	Acres:	47.0

Location: LOWER COAL CANYON AND RIDGE TO THE SW OF CANYON.

Detailed Location: ALONG THE BOTTOM OF THE CANYON, ON NE SLOPES OF THE CANYON, AND ALONG PIPELINE CORRIDOR AT INTERSECTION WITH DIRT ROAD NEAR CREST OF RIDGE. MAPPED AS 3 POLYGONS.

Ecological: LIMESTONE SUBSTRATE. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, BRICKELLIA CALIFORNICA, BROMUS MADRITENSIS, CEANOETHUS MEGACARPUS, CENTAUREA MELITENSIS, HAZARDIA SQUARROSA, HIRSCHFELDIA INCANA, MALACOTHAMNUS FASCICULATUS, RHUS LAURINA, ETC.

General: MIDDLE COLONY: 1 PLANT OBSERVED IN 1994, 1 IN 2001, 5 IN 2002. NORTH COLONY: 10 IN 2003, 1 REMOVED IN 2004, NONE IN 2005-2007. SW COLONY: 151 IN 1986, 235 IN 2003, 117 IN '05, 14 IN '06. ONLY DEAD PLANTS IN 2007. INCLUDES FORMER EO #13.

Owner/Manager: DPR-CHINO HILLS SP, DFG

Occurrence No.	10	Map Index: 02882	EO Index: 8526	Element Last Seen:	2007-08-17
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2007-08-17
Occ. Type:	Natural/Native occurrence		Trend: Decreasing	Record Last Updated:	2016-04-26

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.85165 / -117.6892	Accuracy:	specific area
UTM:	Zone-11 N3745921 E436243	Elevation (ft):	1200
PLSS:	T04S, R08W, Sec. 2 (S)	Acres:	68.0

Location: EAST OF CLAYMONT CLAY MINE, SOUTH OF COAL CANYON, AND EAST OF THE ROCKET FUEL TEST SITE. EAST OF GYPSUM CANYON.

Detailed Location: MAPPED BY CNDDDB AS 5 POLYGONS BASED ON VARIOUS SOURCES OF INFORMATION FROM 1986 TO 2007.

Ecological: SANDY CLAY SOILS. POST-BURN CHAMISE CHAPARRAL ASSOC WITH HAZARDIA SQUARROSA, ADENOSTOMA FASCICULATUM, CALYSTEGIA MACROSTEGIA, CHAENACTIS ARTEMISIIFOLIA, CENTAUREA MELITENSIS, NOLINA CISMONTANA, BROMUS MADRITENSIS, HIRSCHFELDIA INCANA, ETC.

General: POPULATION NUMBERS ARE FOR PORTIONS OF OCCURRENCE: 259 IN 1986, 5092 IN 2003, 1900 IN 2005, 264 IN 2006, 1 IN 2007.

Owner/Manager: PVT, DFG-COAL CANYON ER



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Occurrence No.	41	Map Index:	99711	EO Index:	101256	Element Last Seen:	2012-04-07
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2012-04-07	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2016-04-20	

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long: 33.79031 / -117.72522 **Accuracy:** 80 meters

UTM: Zone-11 N3739143 E432863 **Elevation (ft):** 665

PLSS: T04S, R08W, Sec. 28, SW (S) **Acres:** 5.0

Location: MOUTH OF FREMONT CANYON NEAR CONFLUENCE WITH SANTIAGO CREEK.

Detailed Location: MAPPED ACCORDING TO 2012 VANDERHOFF COORDINATES, IN THE SE 1/4 OF THE SW 1/4 OF SECTION 28.

Ecological: SANDY WASH. STREAM BANK/BED.

General: 1 MATURE PLANT OBSERVED IN 2012. POSSIBLY FROM SEED WASHED DOWN FROM HIGHER ELEVATIONS.

Owner/Manager: UNKNOWN



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<i>Nama stenocarpa</i>		Element Code: PDHYD0A0H0	
mud nama			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G4G5
	State: None		State: S1S2
	Other: Rare Plant Rank - 2B.2		
Habitat:	General: MARSHES AND SWAMPS.		
	Micro: LAKE SHORES, RIVER BANKS, INTERMITTENTLY WET AREAS. 15-815 M.		

Occurrence No.	14	Map Index: 48670	EO Index: 48670	Element Last Seen:	1998-05-15
Occ. Rank:	Poor		Presence: Presumed Extant	Site Last Seen:	1998-05-15
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2010-10-07
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.69346 / -117.71240		Accuracy:	80 meters	
UTM:	Zone-11 N3728395 E433975		Elevation (ft):	440	
PLSS:	T05S, R08W, Sec. 34, SE (S)		Acres:	0.0	
Location:	LAMBERT RESERVOIR, NORTH OF EL TORO AIR FORCE BASE.				
Detailed Location:	WEST END OF RESERVOIR.				
Ecological:	MUDFLAT ON SOUTH EDGE OF RESERVOIR. ASSOCIATED SPECIES INCLUDE SCIRPUS AMERICANA, LYTHRUM HYSSOPIFOLIA, AMMANNIA ROBUSTA & JUNCUS BUFONIUS.				
General:	FEWER THAN 5 INDIVIDUALS OBSERVED IN 1998. RESERVOIR IS IN THE ORANGE COUNTY NATURE RESERVE BOUNDARIES BUT THE PERSERVATION OF THE POND IS UNKNOWN.				
Owner/Manager:	PVT-IRVINE CO				

Occurrence No.	15	Map Index: 48671	EO Index: 48671	Element Last Seen:	1998-07-01
Occ. Rank:	Poor		Presence: Presumed Extant	Site Last Seen:	1998-07-01
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2010-10-07
Quad Summary:	Tustin (3311767)				
County Summary:	Orange				
Lat/Long:	33.68638 / -117.82742		Accuracy:	80 meters	
UTM:	Zone-11 N3727690 E423308		Elevation (ft):	49	
PLSS:	T06S, R09W, Sec. 04, NW (S)		Acres:	0.0	
Location:	EAST OF PETERS CANYON CHANNEL, APPROXIMATELY 0.4 MILE SOUTH OF BARRANCA ROAD.				
Detailed Location:	EAST OF CHANNELIZED RIVER BETWEEN ALTON AND BARRANCA, WEST OF HARVARD AVE.				
Ecological:	IN SEDIMENT BASIN, IN SOUTHWEST PORTION OF BLADED/RIPPED FIELD, FEW NATIVE PLANTS.				
General:	2 INDIVIDUALS OBSERVED IN 1998.				
Owner/Manager:	PVT-IRVINE CO				

<i>Lepechinia cardiophylla</i>		Element Code: PDLAM0V020	
heart-leaved pitcher sage			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G3
	State: None		State: S2S3
	Other: Rare Plant Rank - 1B.2, SB_RSABG-Rancho Santa Ana Botanic Garden, USFS_S-Sensitive		
Habitat:	General: CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL, CISMONTANE WOODLAND.		
	Micro: 115-1345 M.		



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Occurrence No.	1	Map Index: 02893	EO Index: 13658	Element Last Seen:	2016-03-13
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2016-03-13
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-01-16
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.84502 / -117.68296		Accuracy:	specific area	
UTM:	Zone-11 N3745182 E436815		Elevation (ft):	1800	
PLSS:	T04S, R08W, Sec. 11, N (S)		Acres:	185.0	
Location:	HEADWATERS OF COAL CANYON JUST WEST OF CLEVELAND NATIONAL FOREST BOUNDARY, SANTA ANA MOUNTAINS.				
Detailed Location:	ALONG COAL CYN RIDGELINE FROM CLAYMONT MINES SOUTH TO MAIN DIVIDE ROAD, AND WEST TO TRIBUTARY OF GYPSUM CYN. MAPPED AS SEVERAL POLYGONS ACCORDING TO 1982 LAPRE MAP, 2003 COORDINATES FROM NORTH RANCH BOTANICAL SURVEYS, & 2012 VEG SURVEY.				
Ecological:	IN TECATE CYPRESS GROVE AND CHAPARRAL GROWING WITH CEANOTHUS TOMENTOSUS OLIVACEUS, C. CRASSIFOLIUS, ARCTOSTAPHYLOS GLANDULOSA, HETEROMELES ARBUTIFOLIA, DENDROMECON RIGIDA, AND ZIGADENUS FREMONTII. IN 2003 PLANTS WERE IN POST BURN CHAPARRAL.				
General:	POP NUMBERS FOR PORTIONS OF SITE: 1000+ PLANTS IN 1982, 100+ PLANTS SEEN DURING 2003 SURVEYS, 2% COVER OF LEPECHINIA IN 2012, 50-100 PLANTS ALONG MAIN DIVIDE RD IN 2016. HISTORIC COLLECTIONS FROM "CLAYMINE CANYON" ARE ALSO ATTRIBUTED HERE.				
Owner/Manager:	DFG, PVT				
Occurrence No.	2	Map Index: 02945	EO Index: 18520	Element Last Seen:	2016-08-02
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2016-08-02
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-01-18
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange, Riverside				
Lat/Long:	33.84601 / -117.64711		Accuracy:	specific area	
UTM:	Zone-11 N3745270 E440132		Elevation (ft):	2900	
PLSS:	T04S, R07W, Sec. 6 (S)		Acres:	90.0	
Location:	VICINITY OF SIERRA PEAK; FROM JUST NW OF PEAK EXTENDING SOUTH ALONG RIDGE TO VICINITY OF BM 2771, SANTA ANA MOUNTAINS.				
Detailed Location:	MAPPED BY CNDDB AS SEVERAL POLYGONS BASED ON 1982 LAPRE MAP, 1992 MISTRETTA MAP, 2003 & 2004 UCR COORDINATES, RIESZ & USFS DIGITAL DATA, AND A 2016 WINTER MAP.				
Ecological:	HEAVY LOAM WITH COBBLES. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, ARCTOSTAPHYLOS GLANDULOSA, TOXICODENDRON DIVERSILOBUM, QUERCUS DUMOSA, HETEROMELES ARBUTIFOLIA, HAZARDIA SQUARROSA, ERIOGONUM FASCICULATUM, BRASSICA, AVENA, ETC.				
General:	POPULATION NUMBERS ARE FOR PORTIONS OF SITE: UNKNOWN NUMBER IN 1982 AND 1992, 6 PLANTS IN 2003, 11 PLANTS IN 2004, 6 PLANTS IN 2006, 8 PLANTS IN 2007, 15 PLANTS IN 2008, 38+ PLANTS IN 2016. INCLUDES FORMER OCCURRENCES #3 AND 14.				
Owner/Manager:	USFS-CLEVELAND NF				



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Occurrence No.	9	Map Index: 02973	EO Index: 18016	Element Last Seen:	2016-07-21
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2016-07-21
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-01-16
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.81868 / -117.63673		Accuracy:	specific area	
UTM:	Zone-11 N3742234 E441074		Elevation (ft):	2945	
PLSS:	T04S, R07W, Sec. 17, SW (S)		Acres:	1.0	
Location:	0.25 MILE SE OF BEEKS PLACE, ABOVE MAIN DIVIDE ROAD, TIN MINE CANYON, SANTA ANA MOUNTAINS.				
Detailed Location:	MAPPED ACCORDING TO USFS DIGITAL DATA, IN THE WEST 1/2 OF THE SW 1/4 OF SECTION 17.				
Ecological:	CHAPARRAL WITH CEANOTHUS, HETEROMELES, QUERCUS, RHUS, AND KECKIELLA.				
General:	10 PLANTS OBSERVED IN 2016. COLLECTIONS FROM "ABOVE MAIN DIVIDE ROAD 0.25 MILE SE OF BEEKS PLACE", "SPRING TRAIL AT BEACON PINES RANCH, 2500 FT", AND "TIN MINE CYN ABOVE BEEKS SPRING" ARE ALSO ATTRIBUTED HERE.				
Owner/Manager:	PVT?				
Occurrence No.	11	Map Index: 02981	EO Index: 18015	Element Last Seen:	1990-05-30
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen:	1990-05-30
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1998-05-11
Quad Summary:	Corona South (3311775), Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.80541 / -117.62554		Accuracy:	specific area	
UTM:	Zone-11 N3740756 E442100		Elevation (ft):	3560	
PLSS:	T04S, R07W, Sec. 20, SE (S)		Acres:	8.2	
Location:	ALONG NORTH MAIN DIVIDE ROAD ABOUT 1.2 MILES NORTHWEST OF PLEASANTS PEAK, SANTA ANA MOUNTAINS.				
Detailed Location:	STAND OF ABOUT 1-2 ACRES IN SIZE ON STEEP, NORTH-FACING SLOPE. MAPPED ALONG THE WEST SIDE OF ROAD WITHIN THE NE 1/4 SE 1/4 SECTION 20.				
Ecological:	DENSE MONTANE CHAPARRAL WITH HETEROMELES ARBUTIFOLIA, UMBELLULARIA CALIFORNICA, TOXICODENDRON, RIBES, CERCOCARPUS BETULOIDES, AND FRAXINUS DIPETALA.				
General:	25 PLANTS OBSERVED IN 1984, 100 PLANTS SEEN IN 1990. RUGGED TERRAIN AND ISOLATED LOCATION HAVE LEFT SITE WITH LITTLE EVIDENCE OF DISTURBANCE. NOT RECENTLY BURNED (AS OF 1990).				
Owner/Manager:	USFS-CLEVELAND NF				



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Occurrence No.	17	Map Index: 61401	EO Index: 61437	Element Last Seen:	2000-04-05
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2000-04-05
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2005-05-24

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.83931 / -117.66798	Accuracy:	80 meters
UTM:	Zone-11 N3744540 E438196	Elevation (ft):	2000
PLSS:	T04S, R08W, Sec. 12, NE (S)	Acres:	0.0

Location: 1.1 AIR MILES SW OF THE SUMMIT OF SIERRA PEAK. SOUTH OF MAIN DIVIDE TRUCK TRAIL.

Detailed Location: COLLECTION LABEL READS: "NORTH RANCH POLICY PLAN AREA; MAIN DIVIDE ROAD; TOP OF GYPSUM CYN, E OF WINDY RIDGE." MAPPED ACCORDING TO COORDINATES PROVIDED ON LABEL.

Ecological: TECATE FOREST / DENSE CHAPARRAL.

General: FEWER THAN 3 PLANTS OBSERVED IN 2000.

Owner/Manager: USFS-CLEVELAND NF

Occurrence No.	18	Map Index: 61403	EO Index: 61439	Element Last Seen:	2012-05-18
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2012-05-18
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-01-17

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.83091 / -117.69175	Accuracy:	specific area
UTM:	Zone-11 N3743622 E435991	Elevation (ft):	1800
PLSS:	T04S, R08W, Sec. 14, NW (S)	Acres:	24.0

Location: MAIN DIVIDE TRUCK TRAIL NORTH OF FREMONT CANYON, ABOUT 0.5 TO 1 AIR MILE SW OF COAL CANYON ECOLOGICAL RESERVE.

Detailed Location: MAPPED AS 3 POLYGONS ACCORDING TO 2000 AND 2008 RIEFNER COORDINATES, 2003 COORDINATES FROM A 2005 HARMSWORTH ASSOCIATES REPORT, AND 2012 VEGETATION SURVEY COORDINATES.

Ecological: DENSE POST-BURN NOLINA CHAPARRAL. ASSOCIATED WITH CALYSTEGIA MACROSTEGIA, HEMIZONIA FASCICULATA, CORDYLANTHUS RIGIDUS, HELIANTHUS ANNUUS, HAZARDIA SQUARROSA, LOMATIUM, NASSELLA LEPIDA, HETEROMELES ARBUTIFOLIA, CALOCHORTUS SPLENDENS, ETC.

General: NORTHERN POLYGON: 139+ PLANTS OBSERVED IN 2003. MIDDLE POLYGON: ~8 PLANTS OBSERVED IN 2000, 77 SHRUBS OBSERVED IN POST-BURN CHARATE SOILS IN 2008, 1% COVER OF LEPECHINIA IN 2012. SOUTHERN POLYGON: 48 SHRUBS OBSERVED IN 2008.

Owner/Manager: UNKNOWN



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Occurrence No.	23	Map Index: A1387	EO Index: 102961	Element Last Seen:	1986-06-06
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1986-06-06
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2016-08-09
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange, Riverside				
Lat/Long:	33.83062 / -117.63707		Accuracy:	1/10 mile	
UTM:	Zone-11 N3743558 E441051		Elevation (ft):	2690	
PLSS:	T04S, R07W, Sec. 8, SW (S)		Acres:	18.0	
Location:	JUST NORTH OF SKYLINE DRIVE NEAR ORANGE COUNTY LINE, RIDGE SOUTH OF MABEY CANYON, SANTA ANA MOUNTAINS.				
Detailed Location:	MAPPED AS BEST GUESS AROUND THE NORTH SIDE OF SKYLINE DRIVE NEAR THE ORANGE/RIVERSIDE COUNTY LINE.				
Ecological:	NORTH-FACING SLOPE IN SHADED UNDERSTORY OF CHAPARRAL IN ROCKY SANDY LOAM WITH GARRYA FLAVESCENS AND KECKIELLA CORDIFOLIA.				
General:	SOLITARY SHRUB OBSERVED IN 1986.				
Owner/Manager:	UNKNOWN				
Occurrence No.	24	Map Index: A1388	EO Index: 102962	Element Last Seen:	2007-06-25
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2007-06-25
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-01-17
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Riverside				
Lat/Long:	33.8357 / -117.62891		Accuracy:	80 meters	
UTM:	Zone-11 N3744117 E441809		Elevation (ft):	2665	
PLSS:	T04S, R07W, Sec. 8, SE (S)		Acres:	5.0	
Location:	ALONG SKYLINE DRIVE, ABOUT 0.8 MILE NE OF ITS JUNCTION WITH THE ORANGE/RIVERSIDE COUNTY LINE, SANTA ANA MOUNTAINS.				
Detailed Location:	MAPPED ACCORDING TO UCR DIGITAL DATA, IN THE NW 1/4 OF THE SE 1/4 OF SECTION 8.				
Ecological:					
General:	1 PLANT OBSERVED IN 2003. 3 PLANTS OBSERVED IN 2004. 2 PLANTS OBSERVED IN 2007.				
Owner/Manager:	USFS-CLEVELAND NF				
Occurrence No.	25	Map Index: A1389	EO Index: 102963	Element Last Seen:	2016-08-02
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2016-08-02
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-01-17
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.84775 / -117.66461		Accuracy:	80 meters	
UTM:	Zone-11 N3745474 E438514		Elevation (ft):	2600	
PLSS:	T04S, R08W, Sec. 1, SE (S)		Acres:	5.0	
Location:	ALONG MAIN DIVIDE ROAD ABOUT 0.6 AIR MILE WSW OF SIERRA PEAK, SANTA ANA MOUNTAINS.				
Detailed Location:	SITE NORTH OF ROAD BY 10 METERS. MAPPED ACCORDING TO USFS DIGITAL DATA, IN THE SE 1/4 OF THE SE 1/4 OF SECTION 1.				
Ecological:	PARTIAL SHADE. NORTH ASPECT. BROMUS MADRITENSIS AND SONCHUS ARE PRESENT.				
General:	2 PLANTS OBSERVED IN 2006. 200 PLANTS OBSERVED IN 2010. 10-20 PLANTS OBSERVED IN 2016.				
Owner/Manager:	USFS-CLEVELAND NF				



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Occurrence No.	26	Map Index:	A1390	EO Index:	102964	Element Last Seen:	2003-XX-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2003-XX-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2016-08-09	
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.8419 / -117.69856			Accuracy:	specific area		
UTM:	Zone-11 N3744846 E435369			Elevation (ft):	750		
PLSS:	T04S, R08W, Sec. 10, NE (S)			Acres:	10.0		
Location:	TRIBUTARY OF GYPSUM CANYON, ABOUT 1 AIR MILE SW OF CLAYMONT CLAY MINE, SANTA ANA MOUNTAINS.						
Detailed Location:	MAPPED AS 2 POLYGONS ACCORDING TO A 2005 HARMSWORTH ASSOCIATES REPORT.						
Ecological:	IN UNDERSTORY OF DENSE UNBURNED SCRUB OAK CHAPARRAL & POST-BURN CHAMISE CHAPARRAL. NW-FACING 10% SLOPE, SANDY SOIL. ASSOCIATED WITH CEANOTHUS, QUERCUS BERBERIDIFOLIA, NOLINA CISMONTANA, BRASSICA NIGRA, ERIODICTYON CRASSIFOLIUM, YUCCA, ETC.						
General:	IN 2003, NE POLYGON HAD 4 PLANTS AND SW POLYGON HAD 12+ PLANTS.						
Owner/Manager:	UNKNOWN						

<i>Monardella hypoleuca ssp. intermedia</i>				Element Code: PDLAM180A4			
intermediate monardella							
Listing Status:	Federal:	None		CNDDB Element Ranks:	Global:	G4T2?	
	State:	None			State:	S2?	
	Other:	Rare Plant Rank - 1B.3					
Habitat:	General:	CHAPARRAL, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST (SOMETIMES).					
	Micro:	OFTEN IN STEEP, BRUSHY AREAS. 195-1675 M.					

Occurrence No.	26	Map Index:	88044	EO Index:	89022	Element Last Seen:	2008-07-05
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2008-07-05	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2013-01-28	
Quad Summary:	Santiago Peak (3311765), El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.70251 / -117.62778			Accuracy:	nonspecific area		
UTM:	Zone-11 N3729349 E441823			Elevation (ft):	1900		
PLSS:	T05S, R07W, Sec. 29, SE (S)			Acres:	37.0		
Location:	ALONG SANTIAGO TRUCK TRAIL, 0.5 AIR MI EAST OF FOREST GATE AT MODJESKA GRADE RD, SOUTH OF MODJESKA CYN, SANTA ANA MTNS.						
Detailed Location:	MAPPED BY CNDDDB ALONG THE PORTION OF SANTIAGO TRUCK TRAIL THAT IS ABOUT 0.5 AIR MILE EAST OF MODJESKA ROAD. IN THE SOUTH HALF OF THE SE 1/4 OF SECTION 29.						
Ecological:	THIS AREA WAS BURNED DURING THE 2007 SANTIAGO FIRE. PLANTS AT BASE OF VERY LARGE NOLINA CISMONTANA. ALSO ASSOCIATED WITH ALLOPHYLLUM GLUTINOSUM, CALOCHORTUS WEEDII VAR. INTERMEDIUS, CAMISSONIA CALIFORNICA, HELIANTHUS GRACILENTUS, ETC.						
General:	ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 2008 ALLEN COLLECTION.						
Owner/Manager:	UNKNOWN						



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Occurrence No.	27	Map Index: 88045	EO Index: 89023	Element Last Seen:	2008-07-16
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2008-07-16
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-01-28

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.73419 / -117.68111	Accuracy:	1/10 mile
UTM:	Zone-11 N3732893 E436904	Elevation (ft):	1280
PLSS:	T05S, R08W, Sec. 14, SE (S)	Acres:	0.0

Location: DRIPPING SPRINGS OFF OF LIMESTONE CANYON, LOMAS DE SANTIAGO, SANTA ANA MOUNTAINS.

Detailed Location: 100 METERS BELOW THE SPRING BETWEEN ACCESS ROAD AND STREAM. MAPPED BY CNDDDB AS BEST GUESS ABOUT 100 METERS NW OF SPRING BETWEEN ACCESS ROAD AND STREAM.

Ecological: ON DRY SLOPE IN OPEN BRUSH. FOREST OF QUERCUS AGRIFOLIA AND PLATANUS RACEMOSA WITH SAMBUCUS MEXICANA, RUBUS URSINUS, SOLANUM DOUGLASII, HETEROMELES ARBUTIFOLIA, RIBES MALVACEUM, R. SPECIOSUM, ROSA CALIFORNICA, KECKIELLA CORDIFOLIA, ETC.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 2008 SANDERS & ROBERTS COLLECTION; MENTIONED AS "LOCALLY COMMON" IN 2008.

Owner/Manager: NATURE RESERVE OF ORA COUNTY

Occurrence No.	28	Map Index: 88047	EO Index: 89024	Element Last Seen:	2008-06-23
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2008-06-23
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-02-01

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.70793 / -117.66653	Accuracy:	3/5 mile
UTM:	Zone-11 N3729972 E438236	Elevation (ft):	1150
PLSS:	T05S, R08W, Sec. 25 (S)	Acres:	0.0

Location: IRVINE RANCH; APPROXIMATELY 1/2 MILE SOUTH OF THE SINKS, SOUTH OF LIMESTONE CANYON, SANTA ANA MOUNTAINS.

Detailed Location: MAPPED BY CNDDDB AS BEST GUESS APPROXIMATELY 1/2 AIR MILE SOUTH OF THE SINKS IN VICINITY OF 1150 FEET IN ELEVATION, ACCORDING TO DIRECTIONS AND ELEVATION GIVEN ON COLLECTION LABEL.

Ecological: RECENTLY BURNED OAK WOODLAND.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 2008 WOOD COLLECTION; MENTIONED AS "SCARCE" IN 2008.

Owner/Manager: ORA COUNTY



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Occurrence No.	30	Map Index: 88049	EO Index: 89026	Element Last Seen:	1962-06-30
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1962-06-30
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-01-28

Quad Summary: Corona South (3311775), Black Star Canyon (3311776)

County Summary: Orange, Riverside

Lat/Long:	33.79663 / -117.61653	Accuracy:	nonspecific area
UTM:	Zone-11 N3739777 E442928	Elevation (ft):	3700
PLSS:	T04S, R07W, Sec. 28, N (S)	Acres:	144.0

Location: SKYLINE DRIVE AT THE HEAD OF HAGADOR CANYON, SANTA ANA MOUNTAINS.

Detailed Location: MAPPED BY CNDDDB AS BEST GUESS ALONG THE PORTION OF MAIN DIVIDE ROAD (WHICH TURNS INTO SKYLINE DRIVE FURTHER NORTH) AT THE HEAD OF HAGADOR CANYON AT AROUND 3700 FEET IN ELEVATION.

Ecological: WITH ADENOSTOMA FASCICULATUM.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1962 ROOS COLLECTION. NEEDS FIELDWORK.

Owner/Manager: USFS-CLEVELAND NF

Occurrence No.	31	Map Index: 88050	EO Index: 89027	Element Last Seen:	1963-07-26
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1963-07-26
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-01-28

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.82262 / -117.63571	Accuracy:	1/10 mile
UTM:	Zone-11 N3742671 E441171	Elevation (ft):	2400
PLSS:	T04S, R07W, Sec. 17, W (S)	Acres:	0.0

Location: ABOVE BEEKS SPRING, TIN MINE CANYON, SANTA ANA MOUNTAINS.

Detailed Location: MAPPED BY CNDDDB AS BEST GUESS JUST EAST OF BEEKS PLACE AROUND THE PORTION OF UPPER TIN MINE CANYON AT ABOUT 2400 FEET IN ELEVATION, ACCORDING TO ELEVATION GIVEN ON COLLECTION LABEL.

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1963 THORNE COLLECTION. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN



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Occurrence No.	32	Map Index: 88051	EO Index: 89028	Element Last Seen:	1986-06-06
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1986-06-06
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-01-28

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange, Riverside

Lat/Long:	33.83086 / -117.63902	Accuracy:	1/5 mile
UTM:	Zone-11 N3743586 E440870	Elevation (ft):	2690
PLSS:	T04S, R07W, Sec. 08, SW (S)	Acres:	0.0

Location: JUST NORTH OF SKYLINE DRIVE ON THE RIDGE SOUTH OF MABEY CANYON, NEAR THE ORANGE / RIVERSIDE COUNTY LINE, SANTA ANA MTNS.
Detailed Location: MAPPED BY CNDDDB TO ENCOMPASS THE RIDGE SOUTH OF MABEY CANYON AND NORTH OF SKYLINE DRIVE, JUST WEST OF THE ORANGE / RIVERSIDE COUNTY LINE.
Ecological: NORTH-FACING SLOPE. FOUND IN CHAPARRAL UNDERSTORY IN SILTY CLAY SOIL.
General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1986 ROBERTS & MARSH COLLECTION; MENTIONED AS "LOCALLY COMMON" IN 1986. NEEDS FIELDWORK.
Owner/Manager: UNKNOWN

Occurrence No.	33	Map Index: 88052	EO Index: 89029	Element Last Seen:	2008-07-03
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2008-07-03
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-01-28

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.83226 / -117.71916	Accuracy:	2/5 mile
UTM:	Zone-11 N3743790 E433456	Elevation (ft):	1300
PLSS:	T04S, R08W, Sec. 09, S (S)	Acres:	0.0

Location: WEIR CANYON; OFF WINDY RIDGE ROAD BELOW SADDLE ON RIDGE ABOVE THE EASTERN TRANSPORTATION CORRIDOR, SANTA ANA MTNS.
Detailed Location: MAPPED BY CNDDDB AS BEST GUESS AROUND THE PORTION OF WINDY RIDGE ROAD NEAR THE EASTERN TRANSPORTATION CORRIDOR (HIGHWAY 241) WITHIN THE GIVEN ELEVATION RANGE OF 1197-1361 FEET.
Ecological: HEAD OF CANYON NEAR RIDGE TOP. LOAM SOIL. BURNED CHAPARRAL AND COASTAL SAGE SCRUB WITH GROVES OF QUERCUS AGRIFOLIA. RHUS INTEGRIFOLIA, HETEROMELES AND QUERCUS BERBERIDIFOLIA SKELETONS AND RESPROUTS COMMON. ON N-FACING SLOPE.
General: A FEW DENSE COLONIES WITH ABOUT 300 STEMS SEEN IN 2008.
Owner/Manager: UNKNOWN



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Occurrence No.	34	Map Index: 88053	EO Index: 89030	Element Last Seen:	1976-03-06
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1976-03-06
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-01-28

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long: 33.78103 / -117.66843 **Accuracy:** nonspecific area

UTM: Zone-11 N3738078 E438113 **Elevation (ft):** 1000

PLSS: T04S, R08W, Sec. 36 (S) **Acres:** 87.0

Location: BLACK STAR CANYON, SANTA ANA MOUNTAINS.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS BEST GUESS ALONG THE PORTION OF THE MAIN ROAD THROUGH BLACK STAR CANYON AT ABOUT 1000 FEET IN ELEVATION BASED ON ELEVATION ON COLLECTION LABEL.

Ecological: SHADY NORTH-SLOPE UNDER CHAPARRAL.

General: SITE BASED ON A 1928 HOWELL COLLECTION. A 1976 SANDERS COLLECTION FROM "BLACK STAR CANYON, 1200-1800 FEET" IS ALSO ATTRIBUTED TO THIS SITE BUT MAY HAVE BEEN FROM FURTHER UP THE CANYON IN HIGHER ELEVATION AREAS.

Owner/Manager: UNKNOWN

Occurrence No.	35	Map Index: 88054	EO Index: 89031	Element Last Seen:	1949-07-10
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Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1949-07-10
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Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-01-28
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Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long: 33.76267 / -117.66139 **Accuracy:** nonspecific area

UTM: Zone-11 N3736038 E438751 **Elevation (ft):** 1100

PLSS: T05S, R08W, Sec. 01, SE (S) **Acres:** 77.0

Location: BAKER CANYON, SANTA ANA MOUNTAINS.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS BEST GUESS ALONG THE PORTION OF THE MAIN ROAD THROUGH BAKER CANYON AT ABOUT 1100 FEET IN ELEVATION BASED ON ELEVATION ON COLLECTION LABEL.

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1949 DRESSLER COLLECTION. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN



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<i>Sidalcea neomexicana</i>		Element Code: PDMAL110J0	
salt spring checkerbloom			
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G4
	State: None		State: S2
	Other: Rare Plant Rank - 2B.2, USFS_S-Sensitive		
Habitat:	General: PLAYAS, CHAPARRAL, COASTAL SCRUB, LOWER MONTANE CONIFEROUS FOREST, MOJAVEAN DESERT SCRUB.		
	Micro: ALKALI SPRINGS AND MARSHES. 3-2380 M.		

Occurrence No.	21	Map Index: 66320	EO Index: 105318	Element Last Seen: 1929-04-01
Occ. Rank:	None		Presence: Possibly Extirpated	Site Last Seen: 1929-04-01
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2017-02-21

Quad Summary: Tustin (3311767), Newport Beach (3311768), Orange (3311777), Anaheim (3311778)
County Summary: Orange

Lat/Long:	33.74572 / -117.86785	Accuracy:	1 mile
UTM:	Zone-11 N3734300 E419616	Elevation (ft):	
PLSS:	T05S, R09W, Sec. 18 (S)	Acres:	0.0

Location: SANTA ANA.
Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB IN THE GENERAL VICINITY OF SANTA ANA.
Ecological:
General: MAIN SOURCE OF INFORMATION FOR THIS SITE IS A 1929 ELMORE COLLECTION. A 1908 KING COLLECTION FROM "BETWEEN SANTA ANA AND NEWPORT" IS ALSO ATTRIBUTED TO THIS SITE. NEEDS FIELDWORK.
Owner/Manager: UNKNOWN

<i>Abronia villosa var. aurita</i>		Element Code: PDNYC010P1	
chaparral sand-verbena			
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G5T2?
	State: None		State: S2
	Other: Rare Plant Rank - 1B.1, BLM_S-Sensitive, SB_RSABG-Rancho Santa Ana Botanic Garden, USFS_S-Sensitive		
Habitat:	General: CHAPARRAL, COASTAL SCRUB, DESERT DUNES.		
	Micro: SANDY AREAS. -60-1570 M.		



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Occurrence No.	27	Map Index:	79109	EO Index:	45059	Element Last Seen:	1931-07-01
Occ. Rank:	None	Presence:	Extirpated	Site Last Seen:		1931-07-01	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2010-06-21	

Quad Summary: Black Star Canyon (3311776), Prado Dam (3311786)

County Summary: Orange

Lat/Long:	33.87241 / -117.73017	Accuracy:	1 mile
UTM:	Zone-11 N3748250 E432468	Elevation (ft):	350
PLSS:	T03S, R08W, Sec. 28 (S)	Acres:	0.0

Location: ATWOOD, LOWER END OF SANTA ANA CANYON.

Detailed Location: EXACT LOCATION UNKNOWN, MAPPED AS BEST GUESS AT LOWER END OF SANTA ANA CANYON AT APPROXIMATELY 350 FOOT ELEVATION BASED ON ELEVATION ON COLLECTION LABEL.

Ecological:

General: SITE BASED ON A 1931 WOLF COLLECTION. LIKELY EXTIRPATED ACCORDING TO ROBERTS AS A RESULT OF CHANNELIZATION OF THE SANTA ANA RIVER IN THE 1940S.

Owner/Manager: ORA COUNTY, OTHERS

Occurrence No.	28	Map Index:	45060	EO Index:	45060	Element Last Seen:	1935-06-28
Occ. Rank:	None	Presence:	Extirpated	Site Last Seen:		1935-06-28	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2010-06-21	

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.86638 / -117.81750	Accuracy:	nonspecific area
UTM:	Zone-11 N3747641 E424385	Elevation (ft):	350
PLSS:	T03S, R09W, Sec. 34 (S)	Acres:	37.0

Location: 0.8 MILE EAST OF ATWOOD.

Detailed Location: ON S SIDE OF RR TRACKS. MAPPED BY CNDDDB AS BEST GUESS ~0.8 MI E OF ATWOOD ALONG S SIDE OF RR TRACKS. ELEVATION IN AREA IS LOWER THAN ELEVATION ON COLLECTION LABEL (350 FT). COLLECTION MAY HAVE BEEN MADE FURTHER S NEAR THE SANTA ANA RIVER.

Ecological: OPEN DRY FIELD, SANDY SOIL.

General: SITE BASED ON A 1935 EVERETT COLLECTION. LIKELY EXTIRPATED ACCORDING TO ROBERTS AS A RESULT OF CHANNELIZATION OF THE SANTA ANA RIVER IN THE 1940S.

Owner/Manager: UNKNOWN



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Occurrence No.	29	Map Index: 45061	EO Index: 45061	Element Last Seen:	1929-04-06
Occ. Rank:	None		Presence: Extirpated	Site Last Seen:	1929-04-06
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2010-06-21

Quad Summary: Orange (3311777)

County Summary: Orange

Lat/Long:	33.86797 / -117.84887	Accuracy:	nonspecific area
UTM:	Zone-11 N3747842 E421485	Elevation (ft):	300
PLSS:	T03S, R09W, Sec. 32 (S)	Acres:	68.0

Location: 1 MILE WEST OF ATWOOD.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS BEST GUESS ALONG THE RR TRACKS ABOUT 1 MI W OF ATWOOD; UNCLEAR WHAT ROADS WERE PRESENT IN THE 1920S WHEN THE COLLECTION WAS MADE. COLLECTION MAY HAVE BEEN MADE FURTHER S NEAR THE SANTA ANA RIVER.

Ecological: SANDY LANDS.

General: SITE BASED ON A 1929 JOHNSON COLLECTION. LIKELY EXTIRPATED ACCORDING TO ROBERTS AS A RESULT OF CHANNELIZATION OF THE SANTA ANA RIVER IN THE 1940S.

Owner/Manager: UNKNOWN

Occurrence No.	30	Map Index: 45062	EO Index: 45062	Element Last Seen:	1924-08-29
Occ. Rank:	None		Presence: Extirpated	Site Last Seen:	1924-08-29
Occ. Type:	Natural/Native occurrence		Trend: Decreasing	Record Last Updated:	2010-06-21

Quad Summary: Orange (3311777), Anaheim (3311778)

County Summary: Orange

Lat/Long:	33.79869 / -117.87795	Accuracy:	nonspecific area
UTM:	Zone-11 N3740182 E418730	Elevation (ft):	150
PLSS:	T04S, R10W, Sec. 25 (S)	Acres:	345.0

Location: SANTA ANA RIVER BED, BETWEEN ANAHEIM AND SANTA ANA.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB ALONG THE PRESENT LOCATION OF THE CHANNELIZED SANTA ANA RIVER. ADMITTEDLY, THIS DOES NOT REPRESENT THE HISTORICAL DISTRIBUTION OF THE PLANT HERE.

Ecological: DRY, OPEN SANDY STREAMBED.

General: EXTIRPATED. OCCURRENCE KNOWN FROM A 1924 JOHNSTON COLLECTION FROM "SANTA ANA RIVER BED, BETWEEN ANAHEIM AND SANTA ANA." PEIRSON COLLECTION FROM THE SAME DATE FROM "SANTA ANA" AND 1903 BAKER COLLECTION FROM "ANAHEIM" ALSO ATTRIBUTED HERE.

Owner/Manager: UNKNOWN



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Chorizanthe parryi var. fernandina

Element Code: PDPGN040J1

San Fernando Valley spineflower

Listing Status:	Federal: Proposed Threatened	CNDDDB Element Ranks:	Global: G2T1
	State: Endangered		State: S1
	Other: Rare Plant Rank - 1B.1, SB_RSABG-Rancho Santa Ana Botanic Garden, USFS_S-Sensitive		
Habitat:	General: COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.		
	Micro: SANDY SOILS. 15-1015 M.		

Occurrence No.	8	Map Index:	41265	EO Index:	41265	Element Last Seen:	1902-XX-XX
Occ. Rank:	None	Presence:	Possibly Extirpated	Site Last Seen:		1902-XX-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:	2008-09-26		

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.78817 / -117.71469	Accuracy:	1 mile
UTM:	Zone-11 N3738898 E433835	Elevation (ft):	
PLSS:	T04S, R08W, Sec. 28 (S)	Acres:	0.0

Location: HILLS NEAR SANTA ANA.

Detailed Location: EXACT LOCATION UNKNOWN. ROBERTS (1999) MENTIONS THAT THIS SITE WAS PROB LOCATED IN THE FOOTHILLS OF THE LOMAS DE SANTIAGO (SEE STO99U0001). MAPPED BY CNDDDB IN VICINITY OF THE LOMAS DE SANTIAGO; HOWEVER, THIS IS A LARGER AREA THAN MAPPED.

Ecological:

General: ONLY SOURCE OF INFO FOR THIS SITE IS 1902 COLLECTION BY GEIS. ROBERTS SURVEYS IN ADJACENT NATURAL AREAS FAILED TO FIND ANY EVIDENCE OF THIS SPECIES IN ORANGE COUNTY (YEARS SURVEYS WERE CONDUCTED UNKNOWN). NEEDS FIELDWORK.

Owner/Manager: UNKNOWN



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<i>Chorizanthe polygonoides var. longispina</i>		Element Code: PDPGN040K1
long-spined spineflower		
Listing Status:	Federal: None	CNDDB Element Ranks: Global: G5T3
	State: None	State: S3
	Other: Rare Plant Rank - 1B.2, BLM_S-Sensitive, SB_RSABG-Rancho Santa Ana Botanic Garden	
Habitat:	General: CHAPARRAL, COASTAL SCRUB, MEADOWS AND SEEPS, VALLEY AND FOOTHILL GRASSLAND, VERNAL POOLS.	
	Micro: GABBROIC CLAY. 30-1630 M.	

Occurrence No.	61	Map Index: 02858	EO Index: 61304	Element Last Seen:	2001-05-29
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2001-05-29
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2005-05-16

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.85639 / -117.70588	Accuracy:	1 mile
UTM:	Zone-11 N3746457 E434703	Elevation (ft):	500
PLSS:	T04S, R08W, Sec. 03 (S)	Acres:	0.0

Location: GYPSUM CANYON, WITHIN BOUNDARY OF MOUNTAIN PARK PROJECT.
Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS BEST GUESS.
Ecological:
General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2001 COLLECTION BY SZABO. NEEDS FIELDWORK.
Owner/Manager: UNKNOWN

<i>Eriastrum densifolium ssp. sanctorum</i>		Element Code: PDPLM03035
Santa Ana River woollystar		
Listing Status:	Federal: Endangered	CNDDB Element Ranks: Global: G4T1
	State: Endangered	State: S1
	Other: Rare Plant Rank - 1B.1, SB_RSABG-Rancho Santa Ana Botanic Garden	
Habitat:	General: COASTAL SCRUB, CHAPARRAL.	
	Micro: IN SANDY SOILS ON RIVER FLOODPLAINS OR TERRACED FLUVIAL DEPOSITS. 180-705 M.	

Occurrence No.	2	Map Index: 02802	EO Index: 18416	Element Last Seen:	1927-08-13
Occ. Rank:	None		Presence: Possibly Extirpated	Site Last Seen:	1927-08-13
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2009-09-02

Quad Summary: Black Star Canyon (3311776), Orange (3311777), Prado Dam (3311786), Yorba Linda (3311787)
County Summary: Orange

Lat/Long:	33.86473 / -117.73894	Accuracy:	1 mile
UTM:	Zone-11 N3747403 E431652	Elevation (ft):	
PLSS:	T03S, R08W, Sec. 32 (S)	Acres:	0.0

Location: BLACK STAR CANYON QUADRANGLE, POSSIBLY NEAR JCT OF WEIR CYN RD & RIVERSIDE FREEWAY.
Detailed Location: TWO 1927 HOWELL COLLECTIONS FROM "SANTA ANA RIVER BOTTOM" AND "SANTA ANA CANYON" IN ORANGE COUNTY, ALSO ATTRIBUTED TO THIS SITE BUT ELEVATION (500 FEET) PLACES THEM FURTHER EAST IN RIVERSIDE COUNTY.
Ecological:
General: SITE BASED ON A PERSONAL COMMUNICATION WITH MARSH THAT IT MAY BE LOCATED NEAR THE JUNCTION OF WEIR CYN RD & RIVERSIDE FREEWAY. NEEDS FIELDWORK.
Owner/Manager: UNKNOWN



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<i>Horkelia cuneata var. puberula</i>		Element Code: PDROS0W045	
mesa horkelia			
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G4T1
	State: None		State: S1
	Other: Rare Plant Rank - 1B.1, USFS_S-Sensitive		
Habitat:	General: CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB.		
	Micro: SANDY OR GRAVELLY SITES. 15-1645 M.		

Occurrence No.	66	Map Index:	98731	EO Index:	100200	Element Last Seen:	2008-04-28
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2008-04-28	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2016-01-07	

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.83124 / -117.72192	Accuracy:	80 meters
UTM:	Zone-11 N3743679 E433200	Elevation (ft):	1330
PLSS:	T04S, R08W, Sec. 16, NE (S)	Acres:	5.0

Location: EAST FORK OF UPPER WEIR CANYON ON THE SOUTH SIDE OF THE EXISTING ACCESS ROAD; 1.6 KM EAST OF THE MAIN CANYON.
Detailed Location: MAPPED ACCORDING TO 2008 BRAMLET COORDINATES.
Ecological: OAK WOODLAND. QUERCUS AGRIFOLIA, ARTEMISIA CALIFORNICA, LOLIUM PERENNE, AND BROMUS DIANDRUS.
General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 2008 BRAMLET COLLECTION.
Owner/Manager: UNKNOWN



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<i>Penstemon californicus</i>		Element Code: PDSCR1L110	
California beardtongue			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G3
	State: None		State: S2
Other:	Rare Plant Rank - 1B.2, SB_RSABG-Rancho Santa Ana Botanic Garden, SB_USDA-US Dept of Agriculture, USFS_S-Sensitive		
Habitat:	General: CHAPARRAL, LOWER MONTANE CONIFEROUS FOREST, PINYON AND JUNIPER WOODLAND.		
	Micro: STONY SLOPES AND SHRUBBY OPENINGS; SANDY OR GRANITIC SOILS. 240-2290 M.		

Occurrence No.	20	Map Index:	78524	EO Index:	79444	Element Last Seen:	1981-05-16
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:			1981-05-16
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:			2010-04-12

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.82700 / -117.74200	Accuracy:	2/5 mile
UTM:	Zone-11 N3743222 E431338	Elevation (ft):	800
PLSS:	T04S, R08W, Sec. 17 (S)	Acres:	0.0

Location: SOUTH ON HIDDEN CANYON ROAD, 0.6 KM INTO WEIR CANYON, SANTA ANA MTNS.
Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS BEST GUESS AROUND INTERSECTION OF HIDDEN CANYON RD AND WEIR CANYON.
Ecological:
General: PRIMARY SOURCE OF INFORMATION FOR THIS SITE IS A 1981 LIGGETT COLLECTION. A US FOREST SERVICE DOCUMENT MENTIONS THAT THIS COLLECTION SEEMS UNLIKELY BASED ON HABITAT AND IS A POSSIBLE MIS-IDENTIFICATION NEEDING CONFIRMATION. NEEDS FIELDWORK.
Owner/Manager: UNKNOWN

<i>Hesperocyparis forbesii</i>		Element Code: PGCUP040C0	
Tecate cypress			
Listing Status:	Federal: None	CNDDB Element Ranks:	Global: G2
	State: None		State: S2
Other:	Rare Plant Rank - 1B.1, BLM_S-Sensitive, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank, SB_RSABG-Rancho Santa Ana Botanic Garden, SB_UCSC-UC Santa Cruz, SB_USDA-US Dept of Agriculture, USFS_S-Sensitive		
Habitat:	General: CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL.		
	Micro: PRIMARILY ON NORTH-FACING SLOPES; GROVES OFTEN ASSOCIATED WITH CHAPARRAL. ON CLAY OR GABBRO. 60-1650 M.		



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Occurrence No.	3	Map Index: 77053	EO Index: 14430	Element Last Seen:	2010-02-18
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2010-02-18
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-03-29
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.84271 / -117.68941		Accuracy:	specific area	
UTM:	Zone-11 N3744929 E436217		Elevation (ft):	1600	
PLSS:	T04S, R08W, Sec. 11 (S)		Acres:	1157.0	
Location:	WEST OF SIERRA PEAK, BETWEEN GYPSUM CANYON, COAL CANYON, AND FREMONT CANYON, N END OF SANTA ANA MOUNTAINS.				
Detailed Location:	MAPPED FROM CLAYMONT CLAY MINE SSW ABOUT 1.5 MILES. DENSE IN SECTION 34, W OF CLAYMONT CLAY MINE AND SECTION 27. MAY INCLUDE LARGEST TECATE CYPRESS TREE. AS OF 2009, POPULATION IS HIGHLY FRAGMENTED AS A RESULT OF FIRE.				
Ecological:	IN CHAPARRAL ON ROCK OUTCROP-CIENBA SOIL COMPLEX AND SOPER LOAM. ASSOCIATED WITH LEPECHINIA CARDIOPHYLLA, CALAMAGROSTIS DENSA, ASTRAGALUS BRAUNTONII, AND BACCHARIS SALICIFOLIA. PAST FIRES; STAND REPRODUCING WELL FROM 1982 FIRE.				
General:	PAST FIRES IN STAND; IN 1983 MANY CONES BURNED. OVER 374 TREES OBSERVED IN 2003. 2000 MATURE TREES OBSERVED AFTER 2006 FIRE. 3800 ADULTS ESTIMATED IN 2009. MANY COLLECTIONS AND OBSERVATIONS FROM 1922 THROUGH 2010 ATTRIBUTED HERE.				
Owner/Manager:	DFG-COAL CANYON ER, PVT				
Occurrence No.	24	Map Index: 61287	EO Index: 61323	Element Last Seen:	2011-11-03
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2011-11-03
Occ. Type:	Transplant Outside of Native Hab./Range		Trend: Unknown	Record Last Updated:	2017-03-29
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Riverside				
Lat/Long:	33.84982 / -117.64997		Accuracy:	80 meters	
UTM:	Zone-11 N3745694 E439870		Elevation (ft):	2900	
PLSS:	T04S, R07W, Sec. 06, SE (S)		Acres:	0.0	
Location:	0.2 AIR MILE ESE OF THE SUMMIT OF SIERRA PEAK, ON SADDLE OF MAIN DIVIDE TRUCK TRAIL (USFS ROAD 3S04).				
Detailed Location:	MAPPED IN THE NW 1/4 OF THE SE 1/4 OF SECTION 6 ACCORDING TO 2011 SANDERS COORDINATES. ADDITIONAL 2011 KAUFFMANN OBSERVATION FROM "JUST NORTH OF SIERRA PEAK" IS ATTRIBUTED TO THIS SITE.				
Ecological:	CHAMISE CHAPARRAL. ASSOCIATED WITH ERIODICTYON CRASSIFOLIUM, CEANOTHUS CRASSIFOLIUS, CEANOTHUS TOMENTOSUS, ARCTOSTAPHYLOS GLANDULOSA, YUCCA WHIPPLEI, ERIOGONUM FASCICULATUM, RHUS OVATA, DENDROMECON RIGIDA, & HETEROMELES ARBUTIFOLIA.				
General:	PLANTED (~1960S). 20 TREES OBSERVED IN 2004. "SMALL DENSE STAND OF SHRUBBY TREES" SEEN IN 2011. 1976 SHEVOCK & 1978 LATTING COLLECTIONS FROM VICINITY OF SIERRA PEAK AT 2900 FT AND 3000 FT ATTRIBUTED HERE; "A LARGE POPULATION" SEEN IN 1976.				
Owner/Manager:	USFS-CLEVELAND NF				



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Occurrence No.	25	Map Index: 61288	EO Index: 61324	Element Last Seen:	2000-06-01
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2000-06-01
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2014-11-04
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.80081 / -117.68039		Accuracy:	80 meters	
UTM:	Zone-11 N3740278 E437019		Elevation (ft):	1700	
PLSS:	T04S, R08W, Sec. 26, NE (S)		Acres:	0.0	
Location:	W SLOPE OF FREMONT CANYON, N OF IRVINE LAKE (SANTIAGO RESERVOIR) & W OF BLACK STAR CANYON. W OF DIRT ACCESS RD.				
Detailed Location:	IN NORTH RANCH POLICY PLAN AREA. MAPPED IN THE NE 1/4 OF THE NE 1/4 OF PROJECTED SECTION 26 ACCORDING TO UTM COORDINATES PROVIDED WITH A 2000 RIEFNER COLLECTION.				
Ecological:	CHAMISE CHAPARRAL OVER SANDSTONE BEDROCK. ASSOCIATED WITH QUERCUS BERBERIDIFOLIA, YUCCA WHIPPLEI, SALVIA MELLIFERA, CEANOTHUS CRASSIFOLIUS, C. TOMENTOSUS, ARCTOSTAPHYLOS GLANDULOSA, MALOSMA, ERIDICTYON CRASSIFOLIUM, & MIMULUS AURANTIACUS.				
General:	APPROXIMATELY 70 SMALL TREES OBSERVED IN 2000. A 1938 BLANDING COLLECTION FROM "NEAR BLACK STAR CANYON" IS ALSO ATTRIBUTED TO THIS OCCURRENCE.				
Owner/Manager:	USFS-CLEVELAND NF				
Occurrence No.	33	Map Index: A4157	EO Index: 105833	Element Last Seen:	2009-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2009-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-04-03
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.82015 / -117.63833		Accuracy:	80 meters	
UTM:	Zone-11 N3742398 E440927		Elevation (ft):	2842	
PLSS:	T04S, R07W, Sec. 17, SW (S)		Acres:	5.0	
Location:	VICINITY OF BEEKS PLACE ALONG MAIN DIVIDE ROAD, CLEVELAND NATIONAL FOREST.				
Detailed Location:	MAPPED ACCORDING TO A 2010 TECATE CYPRESS MANAGMENT PLAN.				
Ecological:					
General:	4 ADULT PLANTS OBSERVED IN 2009.				
Owner/Manager:	USFS-CLEVELAND NF				



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Occurrence No.	34	Map Index: A4158	EO Index: 105834	Element Last Seen:	2009-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2009-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-04-03

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.83518 / -117.64768	Accuracy:	80 meters
UTM:	Zone-11 N3744070 E440072	Elevation (ft):	2735
PLSS:	T04S, R07W, Sec. 7, SE (S)	Acres:	5.0

Location: ALONG MAIN DIVIDE TRUCK TRAIL, HEAD OF MABEY CANYON, CLEVELAND NATIONAL FOREST.
Detailed Location: MAPPED ACCORDING TO A 2010 TECATE CYPRESS MANAGMENT PLAN.
Ecological:
General: 5 ADULT PLANTS OBSERVED IN 2009.
Owner/Manager: USFS-CLEVELAND NF

Occurrence No.	35	Map Index: A4159	EO Index: 105835	Element Last Seen:	2009-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2009-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-04-03

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.84524 / -117.66702	Accuracy:	specific area
UTM:	Zone-11 N3745197 E438290	Elevation (ft):	2428
PLSS:	T04S, R08W, Sec. 1, SE (S)	Acres:	8.0

Location: ALONG MAIN DIVIDE TRUCK TRAIL, ABOUT 0.8 AIR MILE SW OF SIERRA PEAK, CLEVELAND NATIONAL FOREST.
Detailed Location: MAPPED ACCORDING TO A 2010 TECATE CYPRESS MANAGMENT PLAN.
Ecological: SITE BURNED IN 2002 AND 2006. NO RECRUITMENT OBSERVED IN 2009.
General: 18 ADULT PLANTS OBSERVED IN 2009.
Owner/Manager: USFS-CLEVELAND NF

<i>Nolina cismontana</i>		Element Code: PMAGA080E0
chaparral nolina		
Listing Status:	Federal: None	CNDDB Element Ranks: Global: G3
	State: None	State: S3
Other:	Rare Plant Rank - 1B.2, SB_RSABG-Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden, USFS_S-Sensitive	
Habitat:	General: CHAPARRAL, COASTAL SCRUB.	
	Micro: PRIMARILY ON SANDSTONE AND SHALE SUBSTRATES; ALSO KNOWN FROM GABBRO. 140-1100 M.	



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Occurrence No.	14	Map Index: 54552	EO Index: 54552	Element Last Seen:	1986-05-03
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1986-05-03
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2014-07-21

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.70173 / -117.64150	Accuracy:	nonspecific area
UTM:	Zone-11 N3729270 E440552	Elevation (ft):	1440
PLSS:	T05S, R07W, Sec. 29, SW (S)	Acres:	33.0

Location: UPPER BORREGO CANYON, ALONG SANTIAGO CANYON ROAD, 1.8 KM SOUTH OF MODJESKA CANYON ROAD.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB ALONG SANTIAGO CANYON RD AROUND 1.8 ROAD KM SOUTH OF MODJESKA CANYON RD. OBSERVATION FROM "LIMESTONE CYN PROPOSED REGIONAL PARK" ATTRIB HERE; LIMESTONE PARK IS ON SW SIDE OF RD.

Ecological: S-FACING SLOPE ON SOFT SANDSTONE-DERIVED SOIL. RECENTLY BURNED CHAPARRAL. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, MALOSMA LAURINA, QUERCUS AGRIFOLIA, SILENE LACINIATA, AND DIPLACUS SP.

General: PLANTS "LOCALLY ABUNDANT" IN 1985. ALSO SEEN IN 1986. BEFORE WORK BEGAN ON THE FOOTHILL RANCH PROJECT, POPULATION WAS DESCRIBED AS "EXTENSIVE." A SMALL POPULATION IS PROTECTED WITHIN LIMESTONE CANYON PARK (ROBERTS 1999). INCL FORMER EO#15.

Owner/Manager: ORA COUNTY?

Occurrence No.	16	Map Index: 54554	EO Index: 54554	Element Last Seen:	2009-04-15
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2009-04-15
Occ. Type:	Natural/Native occurrence		Trend: Decreasing	Record Last Updated:	2014-07-22

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.64002 / -117.65180	Accuracy:	1/10 mile
UTM:	Zone-11 N3722433 E439554	Elevation (ft):	900
PLSS:	T06S, R07W, Sec. 19, NW (S)	Acres:	0.0

Location: MISSION VIEJO, 1.2 KM NW OF LAKE MISSION VIEJO, ALONG SW EDGE OF VISTA DEL LAGO JUST W OF INTERSECTION WITH CANAVERAS.

Detailed Location: MAPPED BY CNDDDB BASED ON COLLECTIONS FROM NW OF VISTA DEL LAGO/CANAVERAS INTERSECTION, "RIDGE E OF ENGLISH CRK AND W OF VISTA DEL LAGO DR, 5.3 KM ENE EL TORO FIRE STATION," AND "NEAR VISTA DEL LAGO DR, 0.9 KM NE LOS ALIOS BLVD."

Ecological: N AND NW-FACING SLOPES. CHALKY SILT SANDSTONE DERIVED SOILS. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, RHUS OVATA, RHAMNUS ILICIFOLIA, SALVIA MELLIFERA, AND YUCCA. NO PLANTS IN POPULATION FLOWERED IN 1985 OR 1986.

General: BASED ON COLLECTIONS/OBSERVATIONS FROM 1984, 1986, 1992, 2006, & 2009. LOCALLY COMMON IN 1986, LOCALLY FREQUENT IN 1992, OCCASIONAL IN 2006. PER ROBERTS, 1991, THIS SITE REPRESENTED ABOUT 30-50 PLANTS, BUT AREA HAS BEEN BUILT OUT.

Owner/Manager: CITY OF MISSION VIEJO



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Occurrence No.	17	Map Index: 54555	EO Index: 54555	Element Last Seen:	2014-03-20
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2014-03-20
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-10-12

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.86719 / -117.68459	Accuracy:	specific area
UTM:	Zone-11 N3747642 E436681	Elevation (ft):	800
PLSS:	T03S, R08W, Sec. 35, NE (S)	Acres:	10.0

Location: EAST SIDE OF LOWER COAL CANYON, ABOUT 1 AIR MILE NORTH OF CLAYMONT CLAY MINE.

Detailed Location: 2 POLYGONS MAPPED ACCORDING TO 2014 CNPS VEGETATION SURVEY COORDINATES. INCLUDES COLLECTIONS FROM COAL CANYON FROM 500-1000 FT, CLAYMINE CANYON, AND UPPER SANTA ANA CREEK.

Ecological: ON RIDGE AND IN WASH.

General: 100-200 INDIVIDUALS IN CLUMPS SEEN IN 2014. ALSO INCLUDES COLLECTIONS FROM 1923, 1927, 1947, 1957, AND 2006.

Owner/Manager: DPR-CHINO HILLS SP

Occurrence No.	18	Map Index: 54598	EO Index: 54598	Element Last Seen:	2008-05-09
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2008-05-09
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2014-07-22

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.83524 / -117.72281	Accuracy:	specific area
UTM:	Zone-11 N3744123 E433120	Elevation (ft):	1000
PLSS:	T04S, R08W, Sec. 09, S (S)	Acres:	10.0

Location: UPPER WEIR CANYON AND RIDGE BETWEEN HEAD OF WEIR CANYON AND HEAD OF GYPSUM CANYON.

Detailed Location: 2 POLYGONS MAPPED ACCORDING TO COORDINATES FROM 2008 COLLECTIONS BY ROBERTS AND SANDERS.

Ecological: LARGE POPULATION SCATTERED OVER CANYON FORMING POCKETS. LARGEST STANDS ARE ON THE UPPER WESTERN SLOPES. FIREBREAK FOLLOWING SANDSTONE RIDGE IN CEANOTHUS CHAPARRAL AT BORDER OF FEBRUARY 2007 FIRE. ASSOC W/ ADENOSTOMA, YUCCA, ETC.

General: 2008 POPULATION INFORMATION: "ABUNDANT HERE AT EDGE OF POPULATION OF ~4000 PLANTS" IN EASTERN POLYGON, SCATTERED COLONIES IN WESTERN POLYGON. 1981 BOYD COLLECTION FROM "RIDGES E OF WEIR CYN & HEAD OF GYPSUM CYN" ALSO ATTRIBUTED HERE.

Owner/Manager: ORA COUNTY



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Occurrence No.	19	Map Index: 54599	EO Index: 54599	Element Last Seen:	1993-06-17
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	1993-06-17
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2004-03-10
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.77645 / -117.66679		Accuracy:	specific area	
UTM:	Zone-11 N3737570 E438261		Elevation (ft):	1600	
PLSS:	T04S, R08W, Sec. 36, SE (S)		Acres:	22.3	
Location:	SOUTH OF BLACK STAR CANYON, EAST OF SANTIAGO RESERVOIR.				
Detailed Location:	6 COLONIES MAPPED AS 4 POLYGONS BY CNDDb, APPROXIMATELY 0.2 MILE SOUTH OF BLACK STAR CANYON AND 0.8 MILE EAST OF SANTIAGO CREEK.				
Ecological:	ON COBBLY CONGLOMERATE SOIL; ASSOCIATED WITH ADENOSTOMA FASCICULATUM AND SALVIA MELLIFERA.				
General:	400 PLANTS SEEN IN 1993.				
Owner/Manager:	USFS-CLEVELAND NF				
Occurrence No.	25	Map Index: 60994	EO Index: 61905	Element Last Seen:	2000-07-08
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2000-07-08
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2005-07-06
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.81149 / -117.69522		Accuracy:	80 meters	
UTM:	Zone-11 N3741472 E435655		Elevation (ft):	1400	
PLSS:	T04S, R08W, Sec. 23, NW (S)		Acres:	0.0	
Location:	RIDGELINE OVERLOOKING UPPER WEST FORK OF FREMONT CANYON; EAST OF MAIN DIVIDE RD AND SE FROM WINDY RIDGE CYPRESS FOREST.				
Detailed Location:	MAPPED BASED ON UTM COORDINATES PROVIDED.				
Ecological:	OPEN SCRUB ON RIDGELINE. CALOCHORTUS PLUMMERAE NEARBY.				
General:	ONE PLANT IN FRUIT SEEN IN 2000.				
Owner/Manager:	UNKNOWN				
Occurrence No.	26	Map Index: 61871	EO Index: 61907	Element Last Seen:	2000-07-06
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2000-07-06
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2005-07-06
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.80926 / -117.67035		Accuracy:	80 meters	
UTM:	Zone-11 N3741210 E437955		Elevation (ft):	2200	
PLSS:	T04S, R08W, Sec. 24 (S)		Acres:	0.0	
Location:	NCCP NORTH RANCH POLICY PLAN AREA, NORTHEAST PROPERTY; ALONG THE NATIONAL FOREST BOUNDARY SOUTH OF CLAYMORE MINE.				
Detailed Location:	MAPPED BASED ON UTM COORDINATES PROVIDED, 1 AIR MILE WNW OF HIDDEN RANCH.				
Ecological:	ROCKY CHAPARRAL ON ACCESS ROAD SLOPE.				
General:	ABOUT 5 SCATTERED PLANTS SEEN IN 2000.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	34	Map Index:	93262	EO Index:	94399	Element Last Seen:	2016-06-08
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2016-06-08	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2017-10-19	
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.73843 / -117.64576			Accuracy:	specific area		
UTM:	Zone-11 N3733342 E440183			Elevation (ft):	1300		
PLSS:	T05S, R07W, Sec. 18, N (S)			Acres:	31.0		
Location:	BETWEEN SILVERADO CANYON AND SPRING CANYON; EAST OF SANTIAGO CANYON ROAD AND MOSTLY SOUTH OF IRVINE MESA RD.						
Detailed Location:	10 POLYGONS MAPPED ACCORDING TO A 1990 MAP BY ROBERTS AND 2016 DIGITAL DATA FROM WRENN.						
Ecological:	SOUTHERN MIXED CHAPARRAL. ASSOCIATED WITH CEANOETHUS CRASSIFOLIUS, ADENOSTOMA FASCICULATUM, MALOSMA LAURINA, SALVIA MELLIFERA, ARTEMISIA CALIFORNICA, MALACOTHAMNUS DENSIFLORUS, STIPA CORONATA, RHAMNUS ILICIFOLIA, ETC.						
General:	UNKNOWN NUMBER OF PLANTS OBSERVED IN 1990. 1465 PLANTS OBSERVED IN 2016.						
Owner/Manager:	THE WILDLANDS CONSERVANCY						
Occurrence No.	35	Map Index:	93263	EO Index:	94400	Element Last Seen:	2007-06-XX
Occ. Rank:	Fair	Presence:	Presumed Extant	Site Last Seen:		2007-06-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2017-10-12	
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.73201 / -117.64357			Accuracy:	specific area		
UTM:	Zone-11 N3732628 E440381			Elevation (ft):	1400		
PLSS:	T05S, R07W, Sec. 18, SE (S)			Acres:	4.0		
Location:	SPRING CANYON, 0.35 AND 0.45 AIR MILE ENE OF THE INTERSECTION OF SANTIAGO CYN RD AND WILLIAMS CYN RD.						
Detailed Location:	MAPPED BY CNDDDB AS 3 POLYGONS IN THE SE 1/4 OF THE SE 1/4 OF SECTION 18 ACCORDING TO A 2007 CUMMINS MAP AND A 2007 SWCA MAP.						
Ecological:	CHAMISE-HOARY-LEAF CEANOETHUS, CIENEBA SANDY LOAM, 30-75 PERCENT SLOPES.						
General:	13+ PLANTS OBSERVED IN 2007. PORTION OF THIS SITE WILL BE DEVELOPED AND A TOTAL OF 6 INDIVIDUALS WILL BE REMOVED.						
Owner/Manager:	PVT						



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Occurrence No.	36	Map Index:	93296	EO Index:	94431	Element Last Seen:	2012-05-30
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2012-05-30	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2017-10-12	
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.7027 / -117.62966			Accuracy:	specific area		
UTM:	Zone-11 N3729371 E441650			Elevation (ft):	1800		
PLSS:	T05S, R07W, Sec. 29, SE (S)			Acres:	4.0		
Location:	SANTIAGO TRUCK TRAIL, FROM 0.2 TO 0.6 AIR MILE EAST OF INTERSECTION WITH MODJESKA GRADE RD, JUST SOUTH OF MODJESKA.						
Detailed Location:	4 POLYGONS MAPPED IN THE SOUTH 1/2 OF THE SE 1/4 OF SECTION 29 ACCORDING TO 2010 DIGITAL DATA FROM SMITH AND 2012 VEGETATION SURVEY COORDINATES.						
Ecological:	AREA COMPLETELY BURNED DURING SANTIAGO FIRE OF 2007. RECOVERING SAGE SCRUB AND CHAPARRAL. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, MALOSMA LAURINA, SALVIA MELLIFERA, ENCELIA CALIFORNICA, MONARDELLA HYPOLEUCA, ALLOPHYLLUM GLUTINOSUM, ETC.						
General:	550 PLANTS OBSERVED IN 2010. FEWER THAN 1000 PLANTS OBSERVED IN 2012. POPULATION CONTINUES TO THE SOUTH BUT WAS NOT MAPPED DUE TO LACK OF ACCESS. 1923 MUNZ COLLECTION AND 2008 ALLEN COLLECTION ALSO ATTRIBUTED TO THIS OCCURRENCE.						
Owner/Manager:	UNKNOWN						
Occurrence No.	38	Map Index:	93298	EO Index:	94433	Element Last Seen:	2003-XX-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2003-XX-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2014-07-29	
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.84704 / -117.71195			Accuracy:	specific area		
UTM:	Zone-11 N3745424 E434134			Elevation (ft):	800		
PLSS:	T04S, R08W, Sec. 03, SW (S)			Acres:	1.0		
Location:	WEST SIDE OF GYPSUM CANYON, APPROXIMATELY 3.3 AIR MILES WEST OF SIERRA PEAK.						
Detailed Location:	MAPPED IN THE SW 1/4 OF THE SW 1/4 OF SECTION 3 ACCORDING TO A 2005 HARMSWORTH ASSOCIATES MAP/COORDINATES.						
Ecological:	SCATTERED ON NE-FACING SLOPE ON RIDGE IN UNBURNED CHAPARRAL. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, ARTEMISIA CALIFORNICA, SALVIA MELLIFERA, MALOSMA LAURINA, HEMIZONIA FASCICULATA, HETEROMELES ARBUTIFOLIA, AND PHACELIA CICUTARIA.						
General:	5+ PLANTS OBSERVED IN 2003.						
Owner/Manager:	PVT						



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Occurrence No.	39	Map Index:	93302	EO Index:	94437	Element Last Seen:	2014-03-20
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2014-03-20	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2017-10-13	
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.84499 / -117.69451			Accuracy:	specific area		
UTM:	Zone-11 N3745186 E435746			Elevation (ft):	1200		
PLSS:	T04S, R08W, Sec. 11 (S)			Acres:	68.0		
Location:	EAST SIDE OF GYPSUM CANYON, SOUTHWEST OF CLAYMONT CLAY MINE, FROM 2 TO 3 AIR MILES WEST OF SIERRA PEAK.						
Detailed Location:	MANY POLYGONS MAPPED AROUND THE COMMON CORNER OF SECTIONS 2, 3, 10, & 11 ACCORDING TO A 2005 HARMSWORTH ASSOCIATES MAP/COORDINATES, AND VEGETATION SURVEY COORDINATES FROM 2012 AND 2014.						
Ecological:	POST BURN CHAMISE AND NOLINA CHAPARRAL. RIDGELINES, DRAINAGES, STEEP SLOPES, ETC. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, CALYSTEGIA MACROSTEGIA, YUCCA WHIPPLEI, NASSELLA LEPIDA, HEMIZONIA FASCICULATA, CHAENACTIS ARTEMISIIFOLIA, ETC.						
General:	3150+ PLANTS OBSERVED IN 2003. 3% COVER OF NOLINA CISMONTANA SEEN ON THE WESTERN EDGE OF THE OCCURRENCE IN 2012. ~4-9% COVER OF NOLINA CISMONTANA SEEN AT THE NE END OF THE OCCURRENCE IN 2014.						
Owner/Manager:	PVT						
Occurrence No.	40	Map Index:	93303	EO Index:	94438	Element Last Seen:	2003-XX-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2003-XX-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2014-07-29	
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.83376 / -117.68844			Accuracy:	specific area		
UTM:	Zone-11 N3743937 E436299			Elevation (ft):	1950		
PLSS:	T04S, R08W, Sec. 11, S (S)			Acres:	1.0		
Location:	RIDGELINE BETWEEN GYPSUM CANYON AND FREMONT CANYON, APPROXIMATELY 2.3 AIR MILES SOUTHWEST OF SIERRA PEAK.						
Detailed Location:	MAPPED IN THE CENTER OF THE SOUTHERN 1/2 OF SECTION 11 ACCORDING TO A 2005 HARMSWORTH ASSOCIATES MAP/COORDINATES.						
Ecological:	POST BURN NOLINA CHAPARRAL. ON RIDGE LINE, SANDSTONE OUTCROP AND SANDY SOIL, NOLINA COVER = 30%. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, CALYSTEGIA MACROSTEGIA, CHAENACTIS ARTEMISIIFOLIA, ACHNATHERUM CORONATUM, BRASSICA NIGRA, ETC.						
General:	GREATER THAN 250 PLANTS OBSERVED IN 2003.						
Owner/Manager:	PVT						



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Occurrence No.	41	Map Index: 93304	EO Index: 94439	Element Last Seen:	2007-06-14
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2007-06-14
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2014-07-29

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.82317 / -117.68789	Accuracy:	80 meters
UTM:	Zone-11 N3742763 E436342	Elevation (ft):	1250
PLSS:	T04S, R08W, Sec. 14 (S)	Acres:	0.0

Location: WEST FORK FREMONT CANYON, DONALDSON RANCH AREA, ABOUT 2.7 AIR MILE SOUTHWEST OF SIERRA PEAK, SANTA ANA MOUNTAINS.
Detailed Location: MAPPED NEAR THE CENTER OF SECTION 14 ACCORDING TO 2007 RIEFNER COORDINATES.
Ecological: POST-BURN CHAMISE CHAPARRAL.
General: 13 SHRUBS OBSERVED IN 2007.
Owner/Manager: PVT

Occurrence No.	42	Map Index: 93305	EO Index: 94440	Element Last Seen:	2003-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2003-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2014-07-29

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.81824 / -117.72001	Accuracy:	specific area
UTM:	Zone-11 N3742237 E433366	Elevation (ft):	1250
PLSS:	T04S, R08W, Sec. 16, SE (S)	Acres:	1.0

Location: RIDGE AT HEAD OF BLIND CANYON, APPROXIMATELY 2.6 AIR MILES EAST OF VILLA PARK DAM.
Detailed Location: MAPPED IN THE SW 1/4 OF THE SE 1/4 OF SECTION 16 ACCORDING TO A 2005 HARMSWORTH ASSOCIATES MAP/COORDINATES.
Ecological: CHAMISE CHAPARRAL. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, SALVIA MELLIFERA, RHAMNUS ILICIFOLIA, ADENOSTOMA FASCICULATUM, YUCCA WHIPPLEI, TRICHOSTEMA LANATUM, AND CALOCHORTUS WEEDII VAR. INTERMEDIUS.
General: 8 PLANTS OBSERVED IN 2003.
Owner/Manager: PVT



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Occurrence No.	43	Map Index: 93306	EO Index: 94441	Element Last Seen:	2014-04-25
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2014-04-25
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-10-13

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.80664 / -117.70757	Accuracy:	specific area
UTM:	Zone-11 N3740942 E434509	Elevation (ft):	1500
PLSS:	T04S, R08W, Sec. 22, SW (S)	Acres:	18.0

Location: RIDGE BETWEEN BLIND CANYON AND FREMONT CANYON, APPROXIMATELY 1.8 AIR MILES NORTHEAST OF SANTIAGO DAM.

Detailed Location: 3 POLYGONS MAPPED IN THE NE 1/4 OF THE SW 1/4 OF SECTION 22 ACCORDING TO A 2005 HARMSWORTH ASSOCIATES MAP/COORDINATES, 2011 NEWELL COORDINATES, AND 2012 & 2014 VEGETATION SURVEY COORDINATES.

Ecological: HILLTOP. CHAMISE CHAPARRAL. IN SANDY CLAY SOILS. ASSOCIATED WITH YUCCA, SALVIA MELLIFERA, ADENOSTOMA FASCICULATUM, CALOCHORTUS WEEDII VAR. INTERMEDIUS, RHAMNUS ILICIFOLIA, LOTUS SCOPARIUS, AND ERIOGONUM FASCICULATUM.

General: 2 PLANTS SEEN IN NW-MOST POLYGON AND 2 PLANTS SEEN IN NE-MOST POLYGON IN 2003. SEEN IN SOUTHERN POLYGON IN 2011, 2012, AND 2014.

Owner/Manager: PVT

Occurrence No.	44	Map Index: 93307	EO Index: 94442	Element Last Seen:	2014-04-29
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2014-04-29
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-10-13

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.79764 / -117.67717	Accuracy:	specific area
UTM:	Zone-11 N3739925 E437316	Elevation (ft):	2150
PLSS:	T04S, R08W, Sec. 25, NW (S)	Acres:	10.0

Location: DIRT ROAD ALONG RIDGE BETWEEN BLACK STAR AND FREMONT CYNS, 4.4 KM ENE IRVINE LAKE SPILLWAY AND 2.4 KM WSW HIDDEN RANCH.

Detailed Location: 2 POLYGONS MAPPED NORTH OF THE ROAD IN THE SW 1/4 OF THE NW 1/4 OF SECTION 25 ACCORDING TO 2007 ROBERTS COORDINATES AND 2014 VEGETATION SURVEY COORDINATES.

Ecological: ALONG RIDGE TOP ON SANDY, ROCKY SOIL IN CHAPARRAL BURNED LAST YEAR (2006). ASSOCIATED WITH HELIANTHUS GRACILENTUS, ERIODICTYON CRASSIFOLIUM, ADENOSTOMA FASCICULATUM, HELIANTHEMUM SCOPARIUM, AND SALVIA MELLIFERA.

General: SOUTHERN POLYGON: PLANTS NOTED AS "SCATTERED AND PATCHY" IN 2007. NORTHERN POLYGON: 1% COVER OF NOLINA SEEN IN 2014.

Owner/Manager: UNKNOWN



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Occurrence No.	45	Map Index: 93308	EO Index: 94443	Element Last Seen:	2012-05-16
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2012-05-16
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-10-13

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.78769 / -117.66976	Accuracy:	80 meters
UTM:	Zone-11 N3738818 E437995	Elevation (ft):	1500
PLSS:	T04S, R08W, Sec. 25, S (S)	Acres:	5.0

Location: WEST SIDE OF BLACK STAR CANYON, ABOUT 0.9 AIR MILE NNE OF BLACK STAR COAL MINE, NORTHEAST OF LAKE IRVINE.
Detailed Location: MAPPED ACCORDING TO 2012 VEGETATION SURVEY COORDINATES, ON THE CENTER OF THE SOUTHERN EDGE OF SECTION 25.
Ecological: GRASSY CLEARINGS AND CHAPARRAL ON THE CANYON SLOPES. ASSOCIATED WITH MALACOTHAMNUS FASCICULATUS, MIRABILIS LAEVIS, SALVIA MELLIFERA, S. LEUCOPHYLLA, HIRSCHFELDIA INCANA, STIPA LEPIDA, ARTEMISIA CALIFORNICA, CENTAUREA MELITENSIS, ETC.
General: <1% COVER OF NOLINA OBSERVED IN 2012. A 1976 LATHROP COLLECTION FROM "4 MILES NE OF LAKE IRVINE, BLACK STAR CANYON...GRASSY CLEARINGS AND CHAPARRAL ON THE CANYON SLOPES" IS ALSO ATTRIBUTED TO THIS SITE.
Owner/Manager: USFS-CLEVELAND NF

Occurrence No.	46	Map Index: 93309	EO Index: 94444	Element Last Seen:	2012-05-16
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2012-05-16
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-10-13

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.77645 / -117.68064	Accuracy:	nonspecific area
UTM:	Zone-11 N3737578 E436980	Elevation (ft):	1000
PLSS:	T04S, R08W, Sec. 35, SE (S)	Acres:	22.0

Location: RIDGE W OF BLACK STAR CYN AND N OF CONFLUENCE OF BLACK STAR CYN AND SANTIAGO CYN, 4.3 KM ESE IRVINE LAKE SPILLWAY.
Detailed Location: MAPPED IN THE EAST 1/2 OF THE SE 1/4 OF SECTION 35 ACCORDING TO UTM COORDINATES PROVIDED WITH 1992 ROBERTS COLLECTION, AND 2012 VEGETATION SURVEY COORDINATES.
Ecological: SE RUNNING RIDGE IN MIXED CHAPARRAL AND GRASSLAND. ASSOCIATED WITH CEANOTHUS CRASSIFOLIUS, C. TOMENTOSUS, YUCCA WHIPPLEI, SALVIA MELLIFERA, ADENOSTOMA FASCICULATUM, MALOSMA LAURINA, CENTAUREA MELITENSIS, QUERCUS AGRIFOLIA, ETC.
General: NORTHERN POLYGON: PLANTS NOTED AS "OCCASIONAL" IN 1992. SOUTHERN POLYGON: 3% COVER OF NOLINA OBSERVED IN 2012.
Owner/Manager: UNKNOWN



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Occurrence No.	53	Map Index:	A6829	EO Index:	108599	Element Last Seen:	2016-06-24
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2016-06-24	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2017-10-16	
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.69607 / -117.62681		Accuracy:	80 meters			
UTM:	Zone-11 N3728634 E441910		Elevation (ft):	1400			
PLSS:	T05S, R07W, Sec. 32, NE (S)		Acres:	5.0			
Location:	ABOUT 1 AIR MILE NNW OF THE INTERSECTION OF SANTIAGO CANYON RD AND LIVE OAK CANYON ROAD, SOUTH OF MODJESKA.						
Detailed Location:	MAPPED IN THE SE 1/4 OF THE NE 1/4 OF SECTION 32.						
Ecological:	SOUTHERN MIXED CHAPARRAL. ASSOCIATED WITH SALVIA MELLIFERA, MALOSMA LAURINA, AND RHUS OVATA. THE RARE CALOCHORTUS WEEDII VAR. INTERMEDIUS ALSO OCCURS AT THIS SITE.						
General:	3000 PLANTS OBSERVED IN 2016.						
Owner/Manager:	PVT						
Occurrence No.	54	Map Index:	A6830	EO Index:	108600	Element Last Seen:	2012-04-04
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2012-04-04	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2017-10-16	
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.69109 / -117.6357		Accuracy:	specific area			
UTM:	Zone-11 N3728087 E441082		Elevation (ft):	1200			
PLSS:	T05S, R07W, Sec. 32, SW (S)		Acres:	10.0			
Location:	BOTH SIDES OF WHITING ROAD, ABOUT 0.2 MILE NORTH OF ITS JUNCTION WITH CONCOURSE RD, NEAR HEADWATERS OF SERRANO CREEK,						
Detailed Location:	MAPPED IN THE NE 1/4 OF THE SW 1/4 OF SECTION 32 ACCORDING TO 2012 VEGETATION SURVEY COORDINATES.						
Ecological:	ASSOCIATED WITH ACMISPON GLABER, SALVIA MELLIFERA, ARTEMISIA CALIFORNICA, MALOSMA LAURINA, HETEROMELES ARBUTIFOLIA, BRASSICA NIGRA, HESPEROYUCCA WHIPPLEI, ADENOSTOMA FASCICULATUM, RHAMNUS ILICIFOLIA, CUSCUTA OCCIDENTALIS, ETC.						
General:	<1% COVER OF NOLINA OBSERVED IN 2012.						
Owner/Manager:	ORA COUNTY						



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Occurrence No.	55	Map Index: A6838	EO Index: 108608	Element Last Seen:	2012-04-05
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2012-04-05
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-10-17

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.67619 / -117.64427	Accuracy:	80 meters
UTM:	Zone-11 N3726440 E440277	Elevation (ft):	940
PLSS:	T06S, R07W, Sec. 6, SE (S)	Acres:	5.0

Location: EAST OF SERRANO CREEK, ABOUT 0.65 AIR MILE NNE OF THE INTERSECTION OF PORTOLA PARKWAY AND HIGHWAY 241.

Detailed Location: MAPPED IN THE NE 1/4 OF THE SE 1/4 OF SECTION 6 ACCORDING TO 2012 VEGETATION SURVEY COORDINATES.

Ecological: ASSOCIATED WITH SALVIA MELLIFERA, ACMISPON GLABER, ARTEMISIA CALIFORNICA, HESPEROYUCCA WHIPPLEI, RHUS INTEGRIFOLIA, CERCOCARPUS BETULOIDES VAR. BETULOIDES, RHUS OVATA, OPUNTIA LITTORALIS, GUTIERREZIA CALIFORNICA, BRASSICA NIGRA, ETC.

General: 1% COVER OF NOLINA OBSERVED IN 2012.

Owner/Manager: ORA COUNTY

Occurrence No.	57	Map Index: A6841	EO Index: 108610	Element Last Seen:	2014-03-20
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2014-03-20
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-10-17

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.86219 / -117.69029	Accuracy:	specific area
UTM:	Zone-11 N3747091 E436150	Elevation (ft):	1100
PLSS:	T03S, R08W, Sec. 35, SW (S)	Acres:	13.0

Location: RIDGE WEST OF COAL CANYON, ABOUT 0.6 AIR MILE SSW OF CANYON MOUTH, SANTA ANA MOUNTAINS.

Detailed Location: 3 SITES MAPPED BY CNDDDB AS A SINGLE POLYGON ACCORDING TO 2014 VEGETATION SURVEY COORDINATES, IN THE SE 1/4 OF THE SW 1/4 OF SECTION 35.

Ecological:

General: ~1% COVER OF NOLINA OBSERVED IN 2014.

Owner/Manager: DPR-CHINO HILLS SP



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Occurrence No.	58	Map Index: A6842	EO Index: 108611	Element Last Seen:	2014-03-20
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2014-03-20
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-10-17

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.84858 / -117.6836	Accuracy:	80 meters
UTM:	Zone-11 N3745577 E436759	Elevation (ft):	1700
PLSS:	T04S, R08W, Sec. 2, SE (S)	Acres:	5.0

Location: RIDGE BETWEEN COAL CANYON AND GYPSUM CANYON, ABOUT 0.2 AIR MILE SOUTH OF CLAYMONT CLAY MINE, SANTA ANA MOUNTAINS.

Detailed Location: MAPPED ACCORDING TO 2014 VEGETATION SURVEY COORDINATES, IN THE SE 1/4 OF THE SE 1/4 OF SECTION 2.

Ecological:

General: 4% COVER OF NOLINA OBSERVED IN 2014.

Owner/Manager: DFG-COAL CANYON ER

Occurrence No.	59	Map Index: A6843	EO Index: 108612	Element Last Seen:	2014-03-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2014-03-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-10-17

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.84254 / -117.677	Accuracy:	specific area
UTM:	Zone-11 N3744903 E437365	Elevation (ft):	2300
PLSS:	T04S, R08W, Sec. 12, NW (S)	Acres:	10.0

Location: ALONG RIDGE ABOUT 1.2 AND 1.5 AIR MILES WSW OF SIERRA PEAK, SANTA ANA MOUNTAINS.

Detailed Location: 2 POLYGONS MAPPED ACCORDING TO 2012 AND 2014 VEGETATION SURVEY COORDINATES, IN THE NORTH 1/2 OF THE NW 1/4 OF SECTION 12.

Ecological: ASSOCIATED WITH CEANOTHUS TOMENTOSUS, ERIODICTYON CRASSIFOLIUM, HELIANTHEMUM SCOPARIUM, ADENOSTOMA FASCICULATUM, LEPECHINIA CARDIOPHYLLA, HELIANTHUS GRACILENTUS, ERIOPHYLLUM CONFERTIFLORUM, SALVIA MELLIFERA, ACMISPON GLABER, ETC.

General: 1% COVER OF NOLINA OBSERVED IN SOUTHWESTERN POLYGON IN 2012. ABOUT 4 INDIVIDUALS OBSERVED IN NORTHEASTERN POLYGON IN 2014.

Owner/Manager: DFG-COAL CANYON ER



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Occurrence No.	60	Map Index: A6844	EO Index: 108613	Element Last Seen:	2017-08-20
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2017-08-20
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-10-17
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.85609 / -117.71821		Accuracy:	80 meters	
UTM:	Zone-11 N3746432 E433563		Elevation (ft):	735	
PLSS:	T04S, R08W, Sec. 4, NE (S)		Acres:	5.0	
Location:	RIDGE WEST OF GYPSUM CANYON, ABOUT 0.8 AIR MILE SOUTHWEST OF THE MOUTH OF THE CANYON, SANTA ANA MOUNTAINS.				
Detailed Location:	MAPPED IN THE EAST 1/2 OF THE NE 1/4 OF SECTION 4.				
Ecological:	COMMON IN LIGHT CHAPARRAL/CSS ECOTONE.				
General:	FEWER THAN 100 PLANTS OBSERVED IN 2017.				
Owner/Manager:	UNKNOWN				
Occurrence No.	61	Map Index: A6845	EO Index: 108614	Element Last Seen:	2014-04-25
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2014-04-25
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-10-17
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.81287 / -117.71287		Accuracy:	80 meters	
UTM:	Zone-11 N3741636 E434023		Elevation (ft):	1443	
PLSS:	T04S, R08W, Sec. 22, NW (S)		Acres:	5.0	
Location:	EAST SIDE OF BLIND CANYON, ALONG UPPER BLIND CANYON ROAD ABOUT 0.4 AIR MILE SE OF ITS JUNCTION WITH HIGHWAY 241.				
Detailed Location:	MAPPED ACCORDING TO 2014 VEGETATION SURVEY COORDINATES, IN THE SW 1/4 OF THE NW 1/4 OF SECTION 22.				
Ecological:					
General:	1% COVER OF NOLINA OBSERVED IN 2014.				
Owner/Manager:	UNKNOWN				
Occurrence No.	62	Map Index: A6846	EO Index: 108615	Element Last Seen:	2014-04-25
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2014-04-25
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-10-17
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.80132 / -117.69686		Accuracy:	specific area	
UTM:	Zone-11 N3740346 E435496		Elevation (ft):	1100	
PLSS:	T04S, R08W, Sec. 27, NE (S)		Acres:	10.0	
Location:	NORTH SIDE OF FREMONT CANYON, ABOUT 1.9 AND 2 AIR MILES ENE OF SANTIAGO DAM, SANTA ANA MOUNTAINS.				
Detailed Location:	2 POLYGONS MAPPED ACCORDING TO 2014 VEGETATION SURVEY COORDINATES, WITHIN THE FAR NE 1/4 OF SECTION 27 AND ON THE BORDER BETWEEN THE SW 1/4 SW 1/4 OF SECTION 23 AND THE NW 1/4 NW 1/4 OF SECTION 26.				
Ecological:					
General:	IN 2014, ABOUT 50 INDIVIDUALS SEEN IN WESTERN POLYGON AND <1% COVER OF NOLINA SEEN IN EASTERN POLYGON.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	63	Map Index:	A6847	EO Index:	108616	Element Last Seen:	2012-05-18
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2012-05-18	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2017-10-17	
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.7934 / -117.6855			Accuracy:	specific area		
UTM:	Zone-11 N3739460 E436542			Elevation (ft):	2070		
PLSS:	T04S, R08W, Sec. 26, E (S)			Acres:	10.0		
Location:	RIDGE BETWEEN FREMONT CANYON AND BLACK STAR CANYON, ABOUT 2.4 AIR MILES ENE OF SANTIAGO DAM, SANTA ANA MOUNTAINS.						
Detailed Location:	2 POLYGONS MAPPED ACCORDING TO 2012 VEGETATION SURVEY COORDINATES, IN THE EAST 1/2 OF SECTION 26.						
Ecological:	ASSOCIATED WITH ADENOSTOMA FASCICULATUM, ERIODICTYON CRASSIFOLIUM, SALVIA MELLIFERA, HELIANTHEMUM SCOPARIUM, MALOSMA LAURINA, BROMUS MADRITENSIS, HESPEROYUCCA WHIPPLEI, HELIANTHUS GRACILENTUS, ACMISPON GLABER, MIMULUS AURANTIACUS, ETC.						
General:	IN 2012, <1% COVER OF NOLINA SEEN IN NORTHERN POLYGON AND 4% COVER OF NOLINA SEEN IN SOUTHERN POLYGON.						
Owner/Manager:	UNKNOWN						
Occurrence No.	64	Map Index:	A6848	EO Index:	108617	Element Last Seen:	2012-05-16
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2012-05-16	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2017-10-17	
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.78399 / -117.67946			Accuracy:	80 meters		
UTM:	Zone-11 N3738413 E437095			Elevation (ft):	1500		
PLSS:	T04S, R08W, Sec. 35, NE (S)			Acres:	5.0		
Location:	RIDGE NORTH OF BLACK STAR CANYON, ABOUT 0.7 AIR MILE NORTHWEST OF BLACK STAR COAL MINE, SANTA ANA MOUNTAINS.						
Detailed Location:	MAPPED ACCORDING TO 2012 VEGETATION SURVEY COORDINATES, IN THE EAST 1/2 OF THE NE 1/4 OF SECTION 35.						
Ecological:	ASSOCIATED WITH ADENOSTOMA FASCICULATUM, CEANOTHUS CRASSIFOLIUS, SALVIA MELLIFERA, OPUNTIA LITTORALIS, CEANOTHUS TOMENTOSUS, MALOSMA LAURINA, STIPA LEPIDA, TRICHOSTEMA LANATUM, HESPEROYUCCA WHIPPLEI, ARCTOSTAPHYLOS GLANDULOSA, ETC.						
General:	4% COVER OF NOLINA OBSERVED IN 2012.						
Owner/Manager:	UNKNOWN						



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Occurrence No.	65	Map Index: A6849	EO Index: 108618	Element Last Seen:	2014-05-20
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2014-05-20
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-10-17

Quad Summary: El Toro (3311766), Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.75321 / -117.65695	Accuracy:	specific area
UTM:	Zone-11 N3734987 E439157	Elevation (ft):	1300
PLSS:	T05S, R07W, Sec. 7, W (S)	Acres:	8.0

Location: HILLS NORTH OF SILVERADO CANYON, BETWEEN 0.35 AND 1 AIR MILE NORTH OF SILVERADO STATION.

Detailed Location: 6 POLYGONS MAPPED ACCORDING TO 2014 RUDALEVIGE COORDINATES, IN THE WEST 1/2 OF SECTION 7.

Ecological: OBSERVED IN COASTAL SAGE SCRUB AND CHAPARRAL VEGETATION. PRIMARILY ON S-FACING SLOPES AND CANYON BOTTOMS IN CLAY LOAM SOILS. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, SALVIA MELLIFERA, AND CEANOTHUS CRASSIFOLIUS.

General: 324 PLANTS OBSERVED IN 2014. SITE IS PROTECTED AS PART OF THE OCTA MEASURE M2 ENVIRONMENTAL MITIGATION PROGRAM.

Owner/Manager: ORA COUNTY TRANS AUTHORITY

Occurrence No.	66	Map Index: A6850	EO Index: 108619	Element Last Seen:	2014-05-20
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2014-05-20
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2017-10-17

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.75398 / -117.65096	Accuracy:	specific area
UTM:	Zone-11 N3735069 E439712	Elevation (ft):	1620
PLSS:	T05S, R07W, Sec. 7, NW (S)	Acres:	1.0

Location: HILLS NORTH OF SILVERADO CANYON, ABOUT 0.85 AIR MILE NORTHEAST OF SILVERADO STATION.

Detailed Location: MAPPED IN THE SE 1/4 OF THE NW 1/4 OF SECTION 7.

Ecological: OBSERVED IN COASTAL SAGE SCRUB AND CHAPARRAL VEGETATION. PRIMARILY ON S-FACING SLOPES AND CANYON BOTTOMS IN CLAY LOAM SOILS. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, SALVIA MELLIFERA, AND CEANOTHUS CRASSIFOLIUS.

General: 2 PLANTS OBSERVED IN 2014. SITE IS PROTECTED AS PART OF THE OCTA MEASURE M2 ENVIRONMENTAL MITIGATION PROGRAM.

Owner/Manager: ORA COUNTY TRANS AUTHORITY



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<i>Brodiaea filifolia</i>		Element Code: PMLI0C050	
thread-leaved brodiaea			
Listing Status:	Federal: Threatened	CNDDDB Element Ranks:	Global: G2
	State: Endangered		State: S2
Other:	Rare Plant Rank - 1B.1, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank, SB_RSABG-Rancho Santa Ana Botanic Garden		
Habitat:	General: CHAPARRAL (OPENINGS), CISMONTANE WOODLAND, COASTAL SCRUB, PLAYAS, VALLEY AND FOOTHILL GRASSLAND, VERNAL POOLS.		
	Micro: USUALLY ASSOCIATED WITH ANNUAL GRASSLAND AND VERNAL POOLS; OFTEN SURROUNDED BY SHRUBLAND HABITATS. OCCURS IN OPENINGS ON CLAY SOILS. 15-1030 M.		

Occurrence No.	55	Map Index:	41599	EO Index:	41599	Element Last Seen:	1998-06-19
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		1998-06-19	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2005-04-08	

Quad Summary: El Toro (3311766)
County Summary: Orange

Lat/Long:	33.67200 / -117.63842	Accuracy:	80 meters
UTM:	Zone-11 N3725971 E440817	Elevation (ft):	970
PLSS:	T06S, R07W, Sec. 08 (S)	Acres:	0.0

Location: SOUTHERN CALIFORNIA EDISON EASEMENT, BETWEEN ALISO AND SERRANO CREEKS, ABOUT 2.5 MILES SOUTH OF MODJESKA, EL TORO.
Detailed Location: ON WEST-FACING SLOPE, 4300 FEET NORTH OF EL TORO ROAD AND 5250 FEET EAST OF PORTOLA PARKWAY.
Ecological: REMNANT NATIVE NEEDLEGRASS GRASSLAND DOMINATED BY NASSELLA PULCHRA. OTHER ASSOCIATES INCLUDE ISOCOMA MENZIESII AND BLOOMERIA CROCEA. HEAVY CLAY SOILS.
General: 15 PLANTS OBSERVED BY HAMILTON IN 1998. THE SOUTHERN CALIFORNIA EDISON EASEMENT IS PLANNED AS OPEN SPACE WITHIN THE NATURAL COMMUNITIES CONSERVATION PLAN FOR ORANGE COUNTY. UNUSUALLY TALL SPECIMENS FROM THIS LOCATION-OVER 1 METER IN HEIGHT.
Owner/Manager: PVT-SCE

<i>Calochortus plummerae</i>		Element Code: PMLI0D150	
Plummer's mariposa-lily			
Listing Status:	Federal: None	CNDDDB Element Ranks:	Global: G4
	State: None		State: S4
Other:	Rare Plant Rank - 4.2, SB_RSABG-Rancho Santa Ana Botanic Garden		
Habitat:	General: COASTAL SCRUB, CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.		
	Micro: OCCURS ON ROCKY AND SANDY SITES, USUALLY OF GRANITIC OR ALLUVIAL MATERIAL. CAN BE VERY COMMON AFTER FIRE. 60-2500 M.		



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Occurrence No.	57	Map Index: 28332	EO Index: 29526	Element Last Seen:	1992-07-09
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1992-07-09
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	1996-09-24

Quad Summary: Corona South (3311775), Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.81394 / -117.62680	Accuracy:	1/5 mile
UTM:	Zone-11 N3741702 E441990	Elevation (ft):	3200
PLSS:	T04S, R07W, Sec. 20, NE (S)	Acres:	0.0

Location: 1.5 MILES SOUTH OF SKYLINE ROAD ALONG MAIN DIVIDE ROAD, BETWEEN OAK FLAT AND PLEASANTS PEAK, SANTA ANA MOUNTAINS.

Detailed Location:

Ecological: SCATTERED IN AND WITH CHAPARRAL OF ADENOSTOMA FASCICULATUM, CEANOTHUS CRASSIFOLIUS, QUERCUS DUMOSA, AND ARCTOSTAPHYLOS GLANDULOSA.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1992 COLLECTION BY BOYD AND BOYD.

Owner/Manager: UNKNOWN

Occurrence No.	86	Map Index: 60993	EO Index: 61029	Element Last Seen:	2000-06-27
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2000-06-27
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2005-04-18

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.82850 / -117.69251	Accuracy:	80 meters
UTM:	Zone-11 N3743356 E435918	Elevation (ft):	1825
PLSS:	T04S, R08W, Sec. 14 (S)	Acres:	0.0

Location: MAPPED ROUGHLY 4 AIR MILES NNE OF SANTIAGO RESERVOIR. RIDGE NW OF FREMONT CANYON.

Detailed Location: SOURCE STATES: EAST OF MAIN DIVIDE ROAD AND SE FROM WINDY RIDGE CYPRESS FOREST. MAPPED USING COORDINATES PROVIDED.

Ecological: OPEN MIXED SCRUB ON RIDGELINE.

General: 1 PLANT SEEN IN 2000. ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2000 COLLECTION BY RIEFNER.

Owner/Manager: UNKNOWN



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Occurrence No.	87	Map Index: 60994	EO Index: 61030	Element Last Seen: 2000-07-08
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 2000-07-08
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2005-04-18

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.81149 / -117.69522	Accuracy:	80 meters
UTM:	Zone-11 N3741472 E435655	Elevation (ft):	1400
PLSS:	T04S, R08W, Sec. 23 (S)	Acres:	0.0

Location: MAPPED ROUGHLY 3 AIR MILES NNE OF SANTIAGO RESERVOIR. RIDGELINE OVERLOOKING UPPER WEST FORK OF FREMONT CANYON.

Detailed Location: SOURCE GIVES: EAST OF MAIN DIVIDE ROAD AND SE FROM WINDY RIDGE CYPRESS FOREST. MAPPED USING COORDINATES IN SOURCE.

Ecological: OPEN NOLINA SCRUB ON RIDGELINE.

General: 1 PLANT SEEN IN 2000. ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2000 COLLECTION BY RIEFNER.

Owner/Manager: UNKNOWN

Occurrence No.	115	Map Index: 63391	EO Index: 78075	Element Last Seen: 2000-07-27
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 2000-07-27
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2009-10-29

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.80738 / -117.70674	Accuracy:	80 meters
UTM:	Zone-11 N3741023 E434586	Elevation (ft):	1580
PLSS:	T04S, R08W, Sec. 22, SW (S)	Acres:	0.0

Location: FREMONT CANYON RIDGE ROAD AT CROSSING OF EDISON TRANSMISSION LINES, SOUTH OF JUNCTION WITH BLIND CANYON ACCESS ROAD.

Detailed Location: 366 METERS NE OF OLD MINE. 4 METERS EAST OF EXISTING RIDGE ROAD. 30 METERS SOUTH OF JUNCTION WITH ACCESS ROAD.

Ecological: DISTURBED CHAMISAL CHAPARRAL. CIENEBA SANDY LOAM SOIL. ASSOCIATED WITH CORDYLANTHUS RIGIDUS, LOTUS SCOPARIUS, ISOCOMA MENZIESII, HELIANTHUS GRACILENTUS, SISYRINCHIUM BELLUM, TRICHOSTEMMA LANATUM, AND ARTEMISIA CALIFORNICA.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2000 COLLECTION BY BRAMLET. PLANTS HERE MAY BE HYBRIDS WITH C. WEEDII VAR. INTERMEDIUS.

Owner/Manager: UNKNOWN

Calochortus weedii* var. *intermedius **Element Code:** PMLIL0D1J1

intermediate mariposa-lily

Listing Status: **Federal:** None **CNDDB Element Ranks:** **Global:** G3G4T2

State: None **State:** S2

Other: Rare Plant Rank - 1B.2, SB_RSABG-Rancho Santa Ana Botanic Garden, USFS_S-Sensitive

Habitat: **General:** COASTAL SCRUB, CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND.

Micro: DRY, ROCKY CALCAREOUS SLOPES AND ROCK OUTCROPS. 60-1575 M.



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Occurrence No.	12	Map Index: 26719	EO Index: 27592	Element Last Seen:	2016-06-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2016-06-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-02-26
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.8463 / -117.69201		Accuracy:	specific area	
UTM:	Zone-11 N3745330 E435979		Elevation (ft):	1400	
PLSS:	T04S, R08W, Sec. 2 (S)		Acres:	170.0	
Location:	2002 GREEN FIRE BURN AREA, EAST SIDE OF GYPSUM CANYON, AND CLAYMINE CANYON, NORTHERN SANTA ANA MOUNTAINS.				
Detailed Location:	MANY POLYGONS: SMALL POLYS BASED ON COORDS FROM A 2003 HARMSWORTH ASSOC BOTANICAL SURVEY AND VANDERHOFF (2016). LARGE NE POLY BASED ON A NON-SPECIFIC 1927 HOWELL COLL FROM CLAYMINE CYN (TRIBUTARY TO COAL CYN, JUST N OF CLAYMONT CLAY MINE).				
Ecological:	IN POST BURN CHAMISE AND POST BURN NOLINA CHAPARRAL, POST-BURN TECATE FOREST, OPENINGS IN UNBURNED CHAMISE CHAPARRAL, COASTAL SAGE SCRUB, AND ANNUAL/NEEDLEGRASS GRASSLANDS. OCCURS IN ROCKY, SANDY, LOAM AND CLAY SOILS.				
General:	6567 INDIVIDUALS OBSERVED IN 2003. 3-4 PLANTS IN S-MOST POLYGON IN 2016. NE-MOST POLYGON GROWING ON DRY, ROCKY SLOPE IN CLAYMINE CANYON; NEEDS FIELDWORK TO DETERMINE IF PLANTS STILL OCCUR THERE. INCLUDES FORMER OCCURRENCE #88.				
Owner/Manager:	IRVINE RANCH CONSERVANCY, DPR				
Occurrence No.	13	Map Index: 26720	EO Index: 6879	Element Last Seen:	2008-06-02
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2008-06-02
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-02-28
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange, Riverside				
Lat/Long:	33.85137 / -117.65989		Accuracy:	2/5 mile	
UTM:	Zone-11 N3745872 E438953		Elevation (ft):	2800	
PLSS:	T04S, R07W, Sec. 06, W (S)		Acres:	0.0	
Location:	SIERRA PEAK AND ALONG OLD ROAD COMING OFF 3S04 W OF SIERRA PEAK. HEAD OF ROAD.				
Detailed Location:	MAPPED AS BEST GUESS AROUND AREA JUST WEST OF SIERRA PEAK; NEED MAP DETAIL.				
Ecological:	CHAMISE CHAPARRAL.				
General:	OBSERVED BY MISTRETTE IN 1992. 9 PLANTS REPORTED FROM SIERRA PEAK BY GALVIN IN 2008. A 1940 COLLECTION BY PEQUEGNAT FROM "SIERRA PEAK" IS ATTRIBUTED TO THIS OCCURRENCE. NEEDS FIELDWORK.				
Owner/Manager:	USFS-CLEVELAND NF				



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Occurrence No.	17	Map Index: 44022	EO Index: 883	Element Last Seen:	1927-06-22
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	1927-06-22
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2005-12-13

Quad Summary: Black Star Canyon (3311776), Prado Dam (3311786)

County Summary: Orange

Lat/Long:	33.87575 / -117.70891	Accuracy:	4/5 mile
UTM:	Zone-11 N3748606 E434437	Elevation (ft):	
PLSS:	T03S, R08W, Sec. 27 (S)	Acres:	0.0

Location: SUMMIT OF HILLS NEAR BUILDING SITE FOR BOTANICAL GARDEN (RANCHO SANTA ANA).

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS BEST GUESS.

Ecological:

General: ONLY SOURCES OF INFO FOR THIS SITE ARE TWO 1927 COLLECTIONS. PEIRSON, WITH SITE DESCRIPTION AS ABOVE; AND HOWELL, FROM "BOTANY GARDEN, RANCHO SANTA ANA." THIS WAS THE SITE OF THE ORIGINAL RSA GARDEN, WHICH WAS UNDER CONSTRUCTION IN 1927.

Owner/Manager: UNKNOWN

Occurrence No.	38	Map Index: 48184	EO Index: 48184	Element Last Seen:	2008-05-09
Occ. Rank:	Fair		Presence: Presumed Extant	Site Last Seen:	2008-05-09
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-09-11

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.84077 / -117.73321	Accuracy:	specific area
UTM:	Zone-11 N3744743 E432162	Elevation (ft):	1050
PLSS:	T04S, R08W, Sec. 08, NE (S)	Acres:	10.0

Location: UPPER WIER CANYON, 0.9 AIR MILE E OF WALNUT CANYON RESERVOIR, AND RIDGE BETWEEN UPPER TWO TRIBUTARIES, E OF YORBA LINDA.

Detailed Location: N POLYGON MAPPED ACCORDING TO A 1998 MAP PROVIDED BY WOLF; ADJACENT TO ABANDONED ROAD IN NCCP SUBREGION RESERVE. S POLYGON MAPPED ACCORDING TO UTM COORDINATES ON 2008 BRAMLET COLLECTION (DATUM NOT PROVIDED; LIKELY NAD83 BASED ON LOCALITY).

Ecological: IN COASTAL SAGE SCRUB ON EAST SIDE OF ROAD WITH SALVIA MELLIFERA ADJACENT TO OAK WOODLAND. BURNED CHAPARRAL WITH ADENOSTOMA FASCICULATUM (SEEDLINGS), HAZARDIA SQUARROSA, NOLINA PARRYI, CORDYLANTHUS RIGIDUS, CAMISSONIA CALIFORNICA, ETC.

General: 2 PLANTS OBSERVED IN NORTHERN POLYGON IN 1998. 126 PLANTS OBSERVED IN SOUTHERN POLYGON IN 2008. SITE IS IN RESERVE OF NCCP SUBREGION.

Owner/Manager: NATURE RESERVE OF ORA COUNTY



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Occurrence No.	41	Map Index: 49705	EO Index: 49705	Element Last Seen:	2016-06-01
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2016-06-01
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-02-26

Quad Summary: Santiago Peak (3311765), El Toro (3311766)
County Summary: Orange

Lat/Long:	33.69678 / -117.62561	Accuracy:	specific area
UTM:	Zone-11 N3728712 E442022	Elevation (ft):	1600
PLSS:	T05S, R07W, Sec. 32, NE (S)	Acres:	10.0

Location: SOUTH OF MODJESKA, 1.1 AND 1.4 AIR MILES WNW OF VULTURE CRAGS, WEST OF SANTIAGO PEAK.
Detailed Location: 2 POLYGONS MAPPED BY CNDDDB. EASTERN POLYGON: ON NE-SW FACING RIDGELINE NORTH OF COUNTRY HOME ROAD, WITHIN THE NW 1/4 OF THE NW 1/4 OF SECTION 33. WESTERN POLYGON: WITHIN THE SE 1/4 OF THE NE 1/4 OF SECTION 32.
Ecological: SEVERAL PLANTS OBSERVED IN CHAPARRAL REGROWTH AFTER FIRE, WITHIN OPENINGS IN SOUTHERN MIXED CHAPARRAL. DOMINATED BY ADENOSTOMA FASCICULATUM AND LOTUS SCOPARIUS. ASSOCIATED WITH SALVIA MELLIFERA, MALOSMA LAURINA, AND RHUS OVATA.
General: EASTERN POLYGON: 5 TO 7 PLANTS OBSERVED IN 1999 BETWEEN THIS OCCURRENCE AND OCCURRENCE #19. WESTERN POLYGON: 444 PLANTS OBSERVED IN 2016.
Owner/Manager: PVT

Occurrence No.	43	Map Index: 53997	EO Index: 53997	Element Last Seen:	2001-XX-XX
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2003-06-25
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-09-17

Quad Summary: El Toro (3311766)
County Summary: Orange

Lat/Long:	33.69723 / -117.70781	Accuracy:	80 meters
UTM:	Zone-11 N3728812 E434403	Elevation (ft):	530
PLSS:	T05S, R08W, Sec. 34, NW (S)	Acres:	0.0

Location: JUST NORTHEAST OF TOMATO SPRING, NORTH OF LAMBERT RESERVOIR AND THE EL TORO MARINE CORPS AIR STATION.
Detailed Location: IN A NON-RESERVE OPEN SPACE AREA, EAST OF DIRT ROAD.
Ecological: IN DISTURBED COASTAL SAGE SCRUB. SPECIES OCCURRING IN THIS AREA INCLUDE ERIOGONUM FASCICULATUM, ARTEMISIA CALIFORNICA, OSMADENIA TENELLA, CHORIZANTHE STATICOIDES, FILAGO CALIFORNICA, ISOCOMA MENZIESII, AND OPUNTIA LITTORALIS.
General: 4 PLANTS SEEN IN 2001. PLANTS NOT DETECTED DURING 2003 SURVEY IN PLANNING AREA 6 FOR THE NORTHERN SPHERE EIR.
Owner/Manager: PVT



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Occurrence No.	44	Map Index: 53998	EO Index: 53998	Element Last Seen:	2003-06-25
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2003-06-25
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-09-17

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.69140 / -117.69954	Accuracy:	80 meters
UTM:	Zone-11 N3728159 E435165	Elevation (ft):	669
PLSS:	T05S, R08W, Sec. 34, SE (S)	Acres:	0.0

Location: RIDGE BETWEEN AGUA CHINON AND LAMBERT RESERVOIR, 0.65 AIR MILE SOUTHEAST OF TOMATO SPRING, NORTHEAST OF EL TORO STATION.

Detailed Location: LOCATED WITHIN THE DEVELOPMENT AREA OF PLANNING AREA 6. PLANTS FOUND ON A ROCKY CONGLOMERATE LEDGE IN UNBURNED COASTAL SAGE SCRUB.

Ecological: WITHIN THE DEVELOPMENT AREA IN A LARGE PATCH OF COASTAL SAGE SCRUB SURROUNDED BY ORCHARDS AND NURSERY. ASSOCIATES INCLUDE ERIOGONUM FASCICULATUM, ARTEMISIA CALIFORNICA, MELICA IMPERFECTA, BLOOMERIA CROCEA, MIMULUS AURANTIACUS, ET AL.

General: 1 PLANT SEEN IN 2001, 7 PLANTS SEEN IN 2003.

Owner/Manager: PVT

Occurrence No.	45	Map Index: 54002	EO Index: 54002	Element Last Seen:	2003-06-25
Occ. Rank:	Excellent		Presence: Presumed Extant	Site Last Seen:	2003-06-25
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-09-20

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.69230 / -117.69212	Accuracy:	specific area
UTM:	Zone-11 N3728254 E435853	Elevation (ft):	630
PLSS:	T05S, R08W, Sec. 35, SW (S)	Acres:	8.2

Location: WEST OF AGUA CHINON AND EAST OF PORTOLA PARKWAY, 1 AIR MILE ESE OF TOMATO SPRING, NORTH OF EL TORO STATION.

Detailed Location: LOCATED WITHIN THE DEVELOPMENT AREA OF PLANNING AREA 6. WEST SIDE OF AGUA CHINON CANYON ALONG DIRT ROAD. TWO COLONIES MAPPED AS ONE POLYGON BY CNDDDB.

Ecological: FOUND ALONG EXPOSED SOILS IN OPEN COASTAL SAGE SCRUB DOMINATED BY YUCCA WHIPPLEI, OPUNTIA LITTORALIS, ERIOGONUM FASCICULATUM, SALVIA MELLIFERA, AND LESSINGIA FILAGINIFOLIA.

General: IN 2001, 27 PLANTS AT EASTERN COLONY AND NONE SEEN AT WESTERN COLONY. IN 2003, 52 PLANTS AT EASTERN COLONY AND 5 PLANTS AT WESTERN COLONY.

Owner/Manager: PVT



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Occurrence No.	63	Map Index:	90352	EO Index:	63483	Element Last Seen:	2016-06-19
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2016-06-19	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2018-02-26	
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.80492 / -117.71034			Accuracy:	specific area		
UTM:	Zone-11 N3740754 E434252			Elevation (ft):	1400		
PLSS:	T04S, R08W, Sec. 22, SW (S)			Acres:	14.0		
Location:	COAL RD, SOUTH COAL RD, AND UPPER BLIND CANYON RD, EAST OF BLIND CANYON, SANTA ANA MTNS.						
Detailed Location:	MAPPED AS 9 POLYGONS MOSTLY BASED ON COORDINATE INFO FROM A 2003 SURVEY BY HARMSWORTH ASSOCIATES, COORDINATES FROM A 2000 BRAMLET COLLECTION (PART OF E-MOST POLYGON) AND A 2008 RIEFNER COLLECTION (LARGEST POLYGON).						
Ecological:	POST-BURN CHAMISE CHAPARRAL AND COASTAL SAGE SCRUB IN SANDY CLAY SOILS. ASSOCIATES INCLUDE NOLINA CISMONTANA, LOTUS SCOPARIUS, ISOCOMA MENZIESII, TRICHOSTEMMA LANATUM, NASELLA SPP, HEMIZONIA FASCICULATA, ADENOSTOMA FASCICULATUM, ETC.						
General:	POPULATION NUMBERS FOR PORTIONS OF OCC: 9 PLANTS SEEN IN 2000, 144 PLANTS SEEN IN 2003, 175 ESTIMATED IN LARGEST POLYGON IN 2008, 6 PLANTS SEEN IN 2016. PLANTS MAY BE HYBRIDS WITH C. PLUMMERAE. INCLUDES FORMER OCCURRENCE #S 94 & 95.						
Owner/Manager:	IRVINE RANCH CONSERVANCY						
Occurrence No.	64	Map Index:	63393	EO Index:	63485	Element Last Seen:	2008-06-03
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2008-06-03	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2009-10-29	
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.81738 / -117.67203			Accuracy:	1/10 mile		
UTM:	Zone-11 N3742111 E437805			Elevation (ft):	2040		
PLSS:	T04S, R08W, Sec. 13 (S)			Acres:	0.0		
Location:	FREMONT CYN CONSERVATION EASEMENT, IRVINE RANCH RESERVE; BLACK STAR SCE RD, E FORK OF FREMONT CYN.						
Detailed Location:	MAPPED BY CNDDDB AS BEST GUESS BASED ON COORDINATE INFORMATION FROM 2008 COLLECTION LABEL; DATUM UNKNOWN, MAPPED AROUND POINT IN NAD 27 AND NAD 83.						
Ecological:	POST-BURN, MIXED CHAPARRAL WITH NOLINA.						
General:	SEEN IN 2008. A 1997 RIEFNER COLLECTION FROM "HIDDEN RANCH" ALSO ATTRIBUTED HERE.						
Owner/Manager:	IRVINE RANCH CONSERVANCY						



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Occurrence No.	65	Map Index: 63395	EO Index: 63487	Element Last Seen:	2000-06-22
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2000-06-22
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-09-25
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.79532 / -117.67130		Accuracy:	1/10 mile	
UTM:	Zone-11 N3739664 E437857		Elevation (ft):	2000	
PLSS:	T04S, R08W, Sec. 25, N (S)		Acres:	0.0	
Location:	1.25 AIR MILES WSW OF HIDDEN RANCH, NEAR ACCESS ROAD ON THE WEST SIDE OF BLACK STAR CANYON.				
Detailed Location:	EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB TO INCLUDE NAD27 AND NAD83 COORDINATES FROM A 2000 WOLF COLLECTION (NO DATUM PROVIDED).				
Ecological:	POST-BURN CHAPARRAL. >20% SLOPE WITH EAST ASPECT. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, QUERCUS AGRIFOLIA, MALOSMA LAURINA, HELIANTHEMUM SCOPARIUM, SALVIA MELLIFERA, AND HELIANTHUS GRACILENTUS.				
General:	170 PLANTS OBSERVED IN 2000. ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2000 COLLECTION BY WOLF.				
Owner/Manager:	UNKNOWN				
Occurrence No.	66	Map Index: 63396	EO Index: 63488	Element Last Seen:	2000-06-26
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2000-06-26
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2005-12-13
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.79328 / -117.68506		Accuracy:	80 meters	
UTM:	Zone-11 N3739447 E436582		Elevation (ft):	2070	
PLSS:	T04S, R08W, Sec. 26, SE (S)		Acres:	0.0	
Location:	2.0 AIR MILES WSW OF HIDDEN RANCH. ALONG DIRT ROAD RUNNING NORTH AND WEST OF BLACK STAR CANYON ROAD.				
Detailed Location:	AT POWERLINE TOWER.				
Ecological:	POST-BURN CHAPARRAL ON ROCKY, GRAVEL LOAM SLOPES.				
General:	APPROXIMATELY 250-275 PLANTS OBSERVED IN 2000.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	67	Map Index: 63399	EO Index: 63491	Element Last Seen:	2000-06-20
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2000-06-20
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2005-12-13

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.77806 / -117.68022	Accuracy:	1/10 mile
UTM:	Zone-11 N3737756 E437019	Elevation (ft):	1000
PLSS:	T04S, R08W, Sec. 35, SE (S)	Acres:	0.0

Location: 0.62 KM NNW OF THE MOUTH OF BLACK STAR CANYON.

Detailed Location:

Ecological: POST-BURN CHAMISE CHAPARRAL. NE ASPECT. ASSOC WITH HELIANTHUS GRACILENTUS, HELIANTHEMUM SCOPARIUM, ADENOSTOMA FASCICULATUM, CALYSTEGIA MACROSTEGIA, NOLINA CISMONTANA, YUCCA WHIPPLEI.

General: 95 PLANTS OBSERVED IN 2000.

Owner/Manager: UNKNOWN

Occurrence No.	68	Map Index: 63400	EO Index: 63492	Element Last Seen:	2000-06-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2000-06-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2005-12-13

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.76972 / -117.67259	Accuracy:	1/10 mile
UTM:	Zone-11 N3736826 E437719	Elevation (ft):	1300
PLSS:	T05S, R08W, Sec. 01, NW (S)	Acres:	0.0

Location: 0.3 AIR MILE SOUTH OF BLACK STAR COAL MINE.

Detailed Location: IN ADDITION TO COORDINATES, COLLECTION GIVES THIS AS LOCATION: "PANHANDLE" SOUTH OF BLACK STAR CANYON; E OF BLACK STAR RD.

Ecological: POST-BURN CHAPARRAL. SW & SE ASPECTS. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, NOLINA CISMONTANA, NASSELLA LEPIDA, HELIANTHEMUM SCOPARIUM, CORDYLANTHUS RIGIDUS, HELIANTHUS GRACILENTUS, MALOSMA LAURINA, ARISTIDA, & YUCCA WHIPPLEI.

General: >60 PLANTS OBSERVED IN 2000. OTHER ASSOCIATES INCLUDE: TRICHOSTEMA LANATUM, CHLOROGALUM POMERIDIANUM, LOTUS SCOPARIUS, AND SALVIA MELLIFERA.

Owner/Manager: UNKNOWN



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Occurrence No.	69	Map Index: 63402	EO Index: 63494	Element Last Seen:	2000-06-26
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2000-06-26
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2005-12-19

Quad Summary: Black Star Canyon (3311776)
County Summary: Orange

Lat/Long:	33.76075 / -117.67561	Accuracy:	1/10 mile
UTM:	Zone-11 N3735834 E437433	Elevation (ft):	1000
PLSS:	T05S, R08W, Sec. 01, SW (S)	Acres:	0.0

Location: MOUTH OF BAKER CANYON; ALONG DIRT ROAD RUNNING NORTH FROM BAKER CANYON ROAD.
Detailed Location:
Ecological: OPEN SHRUBLANDS.
General: <250 PLANTS OBSERVED IN 2000.
Owner/Manager: UNKNOWN

Occurrence No.	74	Map Index: 76923	EO Index: 77855	Element Last Seen:	2017-06-05
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2017-06-05
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-03-02

Quad Summary: El Toro (3311766)
County Summary: Orange

Lat/Long:	33.70974 / -117.70304	Accuracy:	specific area
UTM:	Zone-11 N3730195 E434855	Elevation (ft):	1000
PLSS:	T05S, R08W, Sec. 27, N (S)	Acres:	3.0

Location: FRANK R. BOWERMAN LANDFILL; SOUTH OF LANDFILL, BETWEEN BEAR CANYON AND ROUND CANYON, LOMAS DE SANTIAGO.
Detailed Location: MAPPED BY CNDDDB AS 4 POLYGONS ACCORDING TO A 2005 LEATHERMAN MAP AND RUDALEVIEGE COORDINATES FROM 2016 AND 2017.
Ecological: IN CALLEGUS CLAY LOAM SOIL IN BLACK SAGEBRUSH SCRUB ON A S-FACING, MODERATELY STEEP SLOPE. ASSOCIATES INCLUDE SALVIA MELLIFERA, YUCCA WHIPPLEI, ERIOGONUM FASCICULATUM, ETC. DUDLEYA MULTICAULIS AND CALOCHORTUS CATALINAE ALSO OCCUR HERE.
General: 815 INDIVIDUALS SEEN BY LEATHERMAN IN 2005 BETWEEN OCCURRENCES #74-76 AND #111. 18 PLANTS SEEN IN WESTERN POLYGON IN 2016. 8 PLANTS SEEN IN MIDDLE POLYGON IN 2017.
Owner/Manager: NATURE RESERVE OF ORA COUNTY



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Occurrence No.	75	Map Index:	76924	EO Index:	77856	Element Last Seen:	2017-04-21
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2017-04-21	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2018-03-05	

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.71622 / -117.71223	Accuracy:	specific area
UTM:	Zone-11 N3730919 E434009	Elevation (ft):	900
PLSS:	T05S, R08W, Sec. 22, SW (S)	Acres:	13.0

Location: FRANK R. BOWERMAN LANDFILL; SW OF LANDFILL, BEE CANYON, LOMAS DE SANTIAGO.

Detailed Location: MAPPED BY CNDDDB AS 7 POLYGONS ACCORDING TO A 2005 LEATHERMAN MAP AND RUDALEVIGE COORDINATES FROM 2015 & 2017.

Ecological: IN CALLEGUS CLAY LOAM SOIL IN BLACK SAGEBRUSH SCRUB ON A S-FACING, MODERATELY STEEP SLOPE. ASSOCIATES INCLUDE SALVIA MELLIFERA, YUCCA WHIPPLEI, ERIOGONUM FASCICULATUM, ETC. DUDLEYA MULTICAULIS AND CALOCHORTUS CATALINAE ALSO OCCUR HERE.

General: 815 INDIVIDUALS SEEN BY LEATHERMAN IN 2005 AMONG OCCURRENCES #74-76 AND #111. 1000+ PLANTS SEEN IN 2008. UNKNOWN NUMBER OF PLANTS SEEN IN 2015. 10-20 PLANTS SEEN AT NORTHERN POLYGON IN 2017. SITE BURNED SOMETIME BETWEEN 2005 AND 2008.

Owner/Manager: ORA COUNTY

Occurrence No.	76	Map Index:	76925	EO Index:	77857	Element Last Seen:	2005-05-19
Occ. Rank:	None	Presence:	Extirpated	Site Last Seen:		2005-05-19	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2018-02-26	

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.72476 / -117.70356	Accuracy:	specific area
UTM:	Zone-11 N3731861 E434817	Elevation (ft):	1200
PLSS:	T05S, R08W, Sec. 22, NE (S)	Acres:	1.0

Location: FRANK R. BOWERMAN LANDFILL; N SIDE OF LANDFILL, N OF BEE CYN, 0.37 AIR MILE SW OF BEE PEAK, LOMAS DE SANTIAGO.

Detailed Location: MAPPED BY CNDDDB ACCORDING TO A 2005 LEATHERMAN MAP.

Ecological: IN CALLEGUS CLAY LOAM SOIL IN BLACK SAGEBRUSH SCRUB ON A S-FACING, MODERATELY STEEP SLOPE. ASSOCIATES INCLUDE SALVIA MELLIFERA, YUCCA WHIPPLEI, ERIOGONUM FASCICULATUM, ETC. DUDLEYA MULTICAULIS AND CALOCHORTUS CATALINAE ALSO OCCUR HERE.

General: 815 INDIVIDUALS SEEN BY LEATHERMAN IN 2005 FOR OCCURRENCES #74-76 AND #111.

Owner/Manager: ORA COUNTY



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Occurrence No.	78	Map Index:	90441	EO Index:	91554	Element Last Seen:	2007-06-15
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2007-06-15	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2013-09-25	

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.80690 / -117.67286	Accuracy:	2/5 mile
UTM:	Zone-11 N3740949 E437721	Elevation (ft):	2200
PLSS:	T04S, R08W, Sec. 24 (S)	Acres:	0.0

Location: 3.2 MI (5.2 KM) ENE OF IRVINE LAKE SPILLWAY AND 1.2 MI (2.0 KM) WNW OF HIDDEN RANCH, UPPER FREMONT CYN, SANTA ANA MTNS.

Detailed Location: MAPPED BY CNDDDB AS BEST GUESS BASED ON LOCATION DESCRIPTION.

Ecological: ON A RIDGE ON A ROCKY SLOPE WITH A S-FACING ASPECT IN SANDY GRAVEL IN CHAMISE CHAPARRAL (BURNED IN 2006), ASSOCIATES INCLUDE ADENOSTOMA FASCICULATUM, NOLINA CISMONTANA, AND HELIANTHEMUM SCOPARIUM.

General: A FEW SCATTERED INDIVIDUALS SEEN BY ROBERTS IN 2007.

Owner/Manager: UNKNOWN

Occurrence No.	89	Map Index:	76940	EO Index:	77876	Element Last Seen:	2003-XX-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2003-XX-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2009-10-14	

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.84500 / -117.71234	Accuracy:	specific area
UTM:	Zone-11 N3745198 E434096	Elevation (ft):	900
PLSS:	T04S, R08W, Sec. 10, NW (S)	Acres:	1.0

Location: WEST SIDE OF GYPSUM CANYON, ABOUT 0.4 AIR MILE WEST OF BM 545, SANTA ANA MOUNTAINS.

Detailed Location: GROWS FROM RIDGETOP DOWN SOUTH SLOPE. MAPPED BY CNDDDB AS A SMALL POLYGON BASED ON COORDINATE INFO FROM A 2003 HARMSWORTH ASSOCIATES BOTANICAL SURVEY.

Ecological: IN POST BURN CHAMISE CHAPARRAL. ASSOCIATES INCLUDE CALYSTEGIA MACROSTEGIA, CHAENACTIS ARTEMISIFOLIA, ADENOSTOMA FASCICULATUM, ARTEMISIA CALIFORNICA, HAZARDIA SQUARROSA, FILAGO CALIFORNICA, HYPOCHAERIS GLABRA AND VULPIA MYUROS.

General: 6 INDIVIDUALS SEEN IN 2003. THE RIDGETOP BURNED AND FURTHER DOWN THE SLOPE DID NOT BURN.

Owner/Manager: IRVINE RANCH CONSERVANCY



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Occurrence No.	90	Map Index: 76941	EO Index: 77874	Element Last Seen:	2003-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2003-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2009-10-14
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.82250 / -117.72142		Accuracy:	specific area	
UTM:	Zone-11 N3742709 E433238		Elevation (ft):	1400	
PLSS:	T04S, R08W, Sec. 16 (S)		Acres:	60.0	
Location:	BETWEEN FREMONT AND WEIR CANYONS; BOTH SIDES OF SR 241 IN VICINITY OF UPPER BLIND CANYON RD, SANTA ANA MOUNTAINS.				
Detailed Location:	MAPPED BY CNDDDB AS MANY SMALL POLYGONS BASED ON COORDINATE INFO FROM A 2003 HARMSWORTH ASSOCIATES BOTANICAL SURVEY.				
Ecological:	IN POST BURN CHAMISE AND POST BURN NOLINA CHAPARRAL, POST BURN TECATE FOREST, OPENINGS IN UNBURNED CHAMISE CHAPARRAL, COASTAL SAGE SCRUB, AND ANNUAL/NEEDLEGRASS GRASSLANDS. OCCURS IN ROCKY, SANDY, LOAM AND CLAY SOILS.				
General:	2047 INDIVIDUALS SEEN IN 2003. ELEVATION RANGES FROM 800 TO 1500 FT.				
Owner/Manager:	IRVINE RANCH CONSERVANCY				
Occurrence No.	91	Map Index: 76942	EO Index: 77877	Element Last Seen:	2003-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2003-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-02-26
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.82924 / -117.70865		Accuracy:	specific area	
UTM:	Zone-11 N3743448 E434425		Elevation (ft):	1300	
PLSS:	T04S, R08W, Sec. 15, NW (S)		Acres:	1.0	
Location:	BETWEEN FREMONT AND WEIR CYNS; E SIDE OF SR 241 IN VICINITY OF WINDY RIDGE RD, JUST S OF GYPSUM CREEK, SANTA ANA MTNS.				
Detailed Location:	MAPPED BY CNDDDB AS A SMALL POLYGON BASED ON COORDINATE INFO FROM A 2003 HARMSWORTH ASSOCIATES BOTANICAL SURVEY.				
Ecological:	IN ROCK OUTCROP IN COASTAL SAGE SCRUB. ASSOCIATES INCLUDE ARTEMISIA CALIFORNICA AND ERIOGONUM FASCICULATUM.				
General:	PRESENCE NOTED AS "OCCASIONAL" AT COLLECTION SITE IN 1989. 1 INDIVIDUAL SEEN IN 2003. INCLUDES FORMER OCCURRENCE #14.				
Owner/Manager:	IRVINE RANCH CONSERVANCY				



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Occurrence No.	92	Map Index: 76943	EO Index: 77878	Element Last Seen:	2016-06-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2016-06-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-02-26
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.82388 / -117.70421		Accuracy:	specific area	
UTM:	Zone-11 N3742852 E434834		Elevation (ft):	1600	
PLSS:	T04S, R08W, Sec. 15, SE (S)		Acres:	1.0	
Location:	BETWEEN FREMONT AND WEIR CANYONS; ~0.1 MILE NW OF BM 1669, WINDY RIDGE RD, EAST SIDE OF SR 241, SANTA ANA MOUNTAINS.				
Detailed Location:	2 POLYGONS MAPPED BASED ON COORDINATE INFO FROM A 2003 HARMSWORTH ASSOCIATES BOTANICAL SURVEY AND 2016 VANDERHOFF COORDINATES. IN THE FAR NW 1/4 OF THE SE 1/4 OF SECTION 15.				
Ecological:	IN ROCK OUTCROP IN COASTAL SAGE SCRUB. ASSOCIATES INCLUDE CENTAUREA MELITENSIS, SALVIA MELLIFERA AND PRUNUS ILICIFOLIA.				
General:	1 PLANT SEEN IN SOUTHERN POLYGON IN 2003. 2 PLANTS SEEN IN NORTHERN POLYGON IN 2016.				
Owner/Manager:	IRVINE RANCH CONSERVANCY				
Occurrence No.	93	Map Index: 76945	EO Index: 77879	Element Last Seen:	2003-XX-XX
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2003-XX-XX
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2009-10-14
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.81197 / -117.74555		Accuracy:	specific area	
UTM:	Zone-11 N3741557 E430997		Elevation (ft):	800	
PLSS:	T04S, R08W, Sec. 20, NW (S)		Acres:	1.0	
Location:	BETWEEN WEIR AND BLIND CANYONS; ~0.7 AIR MI EAST OF THE MOUTH OF WEIR CANYON, WEST SIDE OF SR 241, SANTA ANA MOUNTAINS.				
Detailed Location:	MAPPED BY CNDDDB AS A SMALL POLYGON BASED ON COORDINATE INFO FROM A 2003 HARMSWORTH ASSOCIATES BOTANICAL SURVEY.				
Ecological:	IN COASTAL SAGE SCRUB ON NW-FACING SLOPE. ASSOCIATES INCLUDE ARTEMISIA CALIFORNICA, SALVIA MELLIFERA, SALIX APIANA, HEMIZONIA FASCICULATA AND HELIANTHUS ANNUUS.				
General:	80 INDIVIDUALS SEEN IN 2003.				
Owner/Manager:	NATURE RESERVE OF ORA COUNTY				



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Occurrence No.	96	Map Index:	76948	EO Index:	77882	Element Last Seen:	2003-XX-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2003-XX-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2009-10-14	
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.80265 / -117.69644			Accuracy:	specific area		
UTM:	Zone-11 N3740492 E435536			Elevation (ft):	1200		
PLSS:	T04S, R08W, Sec. 23, SW (S)			Acres:	1.0		
Location:	FREMONT CANYON, ABOUT 2.5 AIR MILES WEST OF HIDDEN RANCH, SANTA ANA MOUNTAINS.						
Detailed Location:	MAPPED AS A SMALL POLYGON BASED ON COORDINATE INFO FROM A 2003 HARMSWORTH ASSOCIATES BOTANICAL SURVEY.						
Ecological:	IN CHAMISE CHAPARRAL IN ROCKY, SANDY SOIL ON SLOPE. ASSOCIATES INCLUDE ADENOSTOMA FASCICULATUM, SALVIA MELLIFERA AND CHAENACTIS ARTEMISIFOLIA.						
General:	4 INDIVIDUALS SEEN IN 2003.						
Owner/Manager:	IRVINE RANCH CONSERVANCY						

Occurrence No.	97	Map Index:	76949	EO Index:	77883	Element Last Seen:	2003-XX-XX
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2003-XX-XX	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2009-10-14	
Quad Summary:	Black Star Canyon (3311776)						
County Summary:	Orange						
Lat/Long:	33.79135 / -117.69935			Accuracy:	specific area		
UTM:	Zone-11 N3739241 E435257			Elevation (ft):	1600		
PLSS:	T04S, R08W, Sec. 27, SE (S)			Acres:	1.0		
Location:	BETWEEN BLACK STAR AND FREMONT CANYONS; LAKE VIEW SCENIC ROAD, SANTA ANA MOUNTAINS.						
Detailed Location:	MAPPED BY CNDDDB AS A SMALL POLYGON BASED ON COORDINATE INFO FROM A 2003 HARMSWORTH ASSOCIATES BOTANICAL SURVEY.						
Ecological:	IN POST BURN COASTAL SAGE SCRUB. ASSOCIATES INCLUDE ARTEMISIA CALIFORNICA AND MALACOTHAMNUS FASCICULATUS.						
General:	162 INDIVIDUALS SEEN IN 2003.						
Owner/Manager:	IRVINE RANCH CONSERVANCY						



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Occurrence No.	107	Map Index: 90309	EO Index: 91352	Element Last Seen: 2008-06-08
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 2008-06-08
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2013-09-25

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.74862 / -117.71361	Accuracy:	80 meters
UTM:	Zone-11 N3734513 E433905	Elevation (ft):	1290
PLSS:	T05S, R08W, Sec. 09, SE (S)	Acres:	0.0

Location: LOMA RIDGE, WEST LOMA RIDGE ROAD AT CALOCHORTUS RIDGE, 2.5 KM NNW OF BEE PEAK, IRVINE RANCH CONSERVANCY.

Detailed Location: MAPPED ACCORDING TO COORDINATES FROM A 2008 ROBERTS ET AL COLLECTION. DATUM IS PROBABLY NAD83, BASED ON LOCALITY.

Ecological: W-FACING SLOPE ON ROCKY CLAY SOIL IN CHAPARRAL/COASTAL SAGE SCRUB BURNED IN OCTOBER 2007. ASSOCIATED WITH SALVIA MELLIFERA, CALYSTEGIA MACROSTEGIA, CASTILLEJA AFFINIS, CORDYLANTHUS RIGIDUS, GUTIERREZIA CALIFORNICA, CALOCHORTUS SPLENDENS.

General: SEVERAL THOUSAND INDIVIDUALS OBSERVED BY ROBERTS ET AL. IN 2008. DESCRIBED AS "LOCALLY ABUNDANT". NEEDS FIELDWORK TO DETERMINE EXTENT OF POPULATION.

Owner/Manager: NATURE RESERVE OF ORA COUNTY

Occurrence No.	108	Map Index: 90310	EO Index: 91355	Element Last Seen: 2008-06-03
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen: 2008-06-03
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated: 2013-09-18

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.73888 / -117.72026	Accuracy:	specific area
UTM:	Zone-11 N3733437 E433281	Elevation (ft):	715
PLSS:	T05S, R08W, Sec. 16 (S)	Acres:	15.0

Location: LOMA RIDGE, BETWEEN RATTLESNAKE AND HICKS CYN, APPROXIMATELY 1.2 TO 1.6 AIR MILES NE OF RATTLESNAKE RESERVOIR SPILLWAY.

Detailed Location: 3 POLYGONS MAPPED BY CNDDDB BASED ON COORDINATES FROM 3 ROBERTS COLLECTIONS. IN THE WEST 1/2 OF THE NE 1/4 OF SECTION 16 AND THE NE 1/4 OF THE SW 1/4 OF SECTION 16.

Ecological: S-FACING SLOPE ON ROCKY, SILTY CLAY SOIL AND STEEP N-FACING SLOPE ON LOAMY CLAY SOIL. COASTAL SAGE SCRUB BURNED OCTOBER 2007. ASSOCIATED WITH ELYMUS CONDENSATUS, ACOURTIA MICROCEPHALA, STIPA LEPIDA, CALYSTEGIA MACROSTEGIA, ETC.

General: ABOUT 330 PLANTS OBSERVED IN THE N POLYGON, 180 PLANTS IN THE MIDDLE POLYGON, AND 181 IN THE S POLYGON IN 2008. DESCRIBED AS "OCCASIONAL, PATCHY".

Owner/Manager: NATURE RESERVE OF ORA COUNTY



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Occurrence No.	110	Map Index:	90312	EO Index:	91357	Element Last Seen:	2008-06-05
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2008-06-05	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2013-09-13	
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.73283 / -117.73329			Accuracy:	80 meters		
UTM:	Zone-11 N3732775 E432069			Elevation (ft):	540		
PLSS:	T05S, R08W, Sec. 17, SE (S)			Acres:	0.0		
Location:	WEST SIDE OF HICKS HAUL RD, APPROXIMATELY 0.6 AIR MILE ENE OF RATTLESNAKE RESERVOIR SPILLWAY, IRVINE RANCH RESERVE.						
Detailed Location:	SW OF THE ASPHALT PLANT. MANAGEMENT AREA 6. MAPPED ACCORDING TO COORDINATES PROVIDED ON A 2008 RIEFNER COLLECTION. DATUM NOT PROVIDED, BUT NAD 83 BETTER MATCHES THE LOCALITY DESCRIPTION.						
Ecological:	POST-BURN COASTAL SAGE SCRUB.						
General:	ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2008 RIEFNER COLLECTION. DESCRIBED AS "LOCALLY ABUNDANT".						
Owner/Manager:	IRVINE RANCH CONSERVANCY						
Occurrence No.	111	Map Index:	90313	EO Index:	91358	Element Last Seen:	2017-06-05
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2017-06-05	
Occ. Type:	Natural/Native occurrence	Trend:	Decreasing	Record Last Updated:		2018-02-26	
Quad Summary:	El Toro (3311766)						
County Summary:	Orange						
Lat/Long:	33.7297 / -117.69813			Accuracy:	specific area		
UTM:	Zone-11 N3732405 E435325			Elevation (ft):	1650		
PLSS:	T05S, R08W, Sec. 22, NE (S)			Acres:	5.0		
Location:	FRANK R. BOWERMAN LANDFILL; N SIDE OF LANDFILL, N OF BEE CYN, JUST NORTHEAST AND SOUTH OF BEE PEAK, LOMAS DE SANTIAGO.						
Detailed Location:	MAPPED BY CNDDDB AS 6 POLYGONS ACCORDING TO A 2005 LEATHERMAN MAP AND 2017 RUDALEVIGE DIGITAL DATA. WITHIN THE NE 1/4 NE 1/4 OF SECTION 22 AND THE SE 1/4 SE 1/4 OF SECTION 15.						
Ecological:	IN CALLEGUS CLAY LOAM SOIL IN BLACK SAGEBRUSH SCRUB ON A S-FACING, MODERATELY STEEP SLOPE. ASSOCIATES INCLUDE SALVIA MELLIFERA, YUCCA WHIPPLEI, ERIOGONUM FASCICULATUM, ETC. DUDLEYA MULTICAULIS AND CALOCHORTUS CATALINAE ALSO OCCUR HERE.						
General:	2 SW POLYGONS: 815 PLANTS SEEN IN 2005 BETWEEN THESE POLYGONS AND OCCURRENCES #74-76, EXTIRPATED BY LANDFILL EXPANSION ACCORDING TO AERIAL IMAGERY. 4 NE POLYGONS: 329 PLANTS SEEN IN 2017.						
Owner/Manager:	ORA COUNTY						



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Occurrence No.	112	Map Index: 90315	EO Index: 91360	Element Last Seen:	2008-05-16
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2008-05-16
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-09-13

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.70637 / -117.67722	Accuracy:	1/10 mile
UTM:	Zone-11 N3729806 E437244	Elevation (ft):	882
PLSS:	T05S, R08W, Sec. 25, SW (S)	Acres:	0.0

Location: AGUA CHINON WASH, 1.1 AIR MILES (1.83 KM) NE OF STATE ROUTE 241, LOMAS DE SANTIAGO.

Detailed Location: MAPPED NON-SPECIFICALLY TO INCLUDE BRAMLET COORDINATES AND LOCATION DESCRIPTION FROM 3 METERS NORTH OF ACCESS ROAD AT GIVEN ELEVATION OF 269 M (882 FT).

Ecological: BURNED COASTAL SAGE SCRUB. ASSOCIATED WITH SALVIA MELLIFERA, CAULANTHUS HETEROPHYLLUS, RHUS INTEGRIFOLIA, STIPA LEPIDA, PHACELIA PARRYI, ENCELIA CALIFORNICA, YUCCA WHIPPLEI, CALOCHORTUS CATALINAE, ERIOPHYLLUM CONFERTIFLORUM, ETC.

General: ABOUT 280 PLANTS OBSERVED BY ROBERTS IN 1999. 71 PLANTS OBSERVED BY BRAMLET IN 2008. NEED MAP DETAIL FOR THIS SITE.

Owner/Manager: NATURE RESERVE OF ORA COUNTY

Occurrence No.	113	Map Index: 90317	EO Index: 91361	Element Last Seen:	2011-06-21
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2011-06-21
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-09-13

Quad Summary: El Toro (3311766)

County Summary: Orange

Lat/Long:	33.69866 / -117.68195	Accuracy:	80 meters
UTM:	Zone-11 N3728954 E436801	Elevation (ft):	740
PLSS:	T05S, R08W, Sec. 35, NE (S)	Acres:	0.0

Location: AGUA CHINON WASH, 0.5 AIR MILE NE OF STATE ROUTE 241, LOMAS DE SANTIAGO.

Detailed Location: MAPPED ACCORDING TO COORDINATES PROVIDED ON A 2011 NEWELL ET AL COLLECTION, IN THE NE 1/4 OF THE NE 1/4 OF SECTION 35. DATUM NOT PROVIDED; NAD83 IS CLOSER TO GIVEN ELEVATION OF 740 FT.

Ecological: DRY BANK ABOVE WASH. HILLSIDE WITH SANDY CLAY SOIL. COASTAL SAGE SCRUB WITH LOTUS SCOPARIUS, ARTEMISIA CALIFORNICA, AND PLUCHEA SERICEA.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2011 NEWELL ET AL COLLECTION. DESCRIBED AS "OCCASIONAL".

Owner/Manager: NATURE RESERVE OF ORA COUNTY



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Occurrence No.	114	Map Index: 90318	EO Index: 91364	Element Last Seen:	2008-06-03
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2008-06-03
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-09-13
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.70611 / -117.65971		Accuracy:	specific area	
UTM:	Zone-11 N3729766 E438867		Elevation (ft):	1420	
PLSS:	T05S, R08W, Sec. 25, SE (S)		Acres:	10.0	
Location:	UPPER BORREGO CANYON, APPROXIMATELY 0.9 AIR MI (1.5 KM) WEST OF SANTIAGO CYN ROAD, SW OF BOLERO LOOKOUT, SANTA ANA MTNS.				
Detailed Location:	MAPPED AS TWO POLYGONS BASED ON COORDINATES FROM TWO 2008 BRAMLET COLLECTIONS. ONE COLLECTION STATES PLANTS WERE "136 METERS SE OF THE ACCESS ROAD" AND THE OTHER COLLECTION STATES PLANTS WERE "215 METERS SE OF THE ACCESS ROAD."				
Ecological:	BURNED CHAPARRAL. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, CEANOTHUS CRASSIFOLIUS, STIPA LEPIDA, EMMENANTHE PENDULIFLORA, LUPINUS HIRSUTISSIMUS, RHUS INTEGRIFOLIA, SALVIA MELLIFERA, LOTUS SCOPARIUS, AND ELYMUS CONDENSATUS.				
General:	700 PLANTS OBSERVED IN THE WESTERN POLYGON AND 85 PLANTS OBSERVED IN THE EASTERN POLYGON IN 2008.				
Owner/Manager:	ORA COUNTY				
Occurrence No.	115	Map Index: 90320	EO Index: 91369	Element Last Seen:	2010-06-19
Occ. Rank:	Good		Presence: Presumed Extant	Site Last Seen:	2010-06-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-09-13
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.70414 / -117.63127		Accuracy:	specific area	
UTM:	Zone-11 N3729531 E441501		Elevation (ft):	1800	
PLSS:	T05S, R07W, Sec. 29, S (S)		Acres:	16.0	
Location:	SANTIAGO TRUCK TRAIL, ALONG THE RIDGE JUST NORTH OF THE TRAIL, JUST SOUTH OF MODJESKA.				
Detailed Location:	BETWEEN 0.1 AND 0.8 MILE. 2 POLYGONS MAPPED BY CNDDDB BASED ON A KMZ FILE CONTAINING 6 POLYGONS PROVIDED WITH A 2010 SMITH SURVEY FORM. ELEVATION RANGES FROM 1700-1920 FT.				
Ecological:	THIRD YEAR POST BURN. HABITAT CONSISTS OF RECOVERING SAGE SCRUB AND CHAPARRAL.				
General:	1725 PLANTS OBSERVED IN 2010. IMMEDIATE LAND USE CONSISTS OF HIKING AND MOUNTAIN BIKING.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	116	Map Index:	90324	EO Index:	91374	Element Last Seen:	2008-06-17
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2008-06-17	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2018-02-28	

Quad Summary: Black Star Canyon (3311776)

County Summary: Riverside

Lat/Long:	33.84617 / -117.64738	Accuracy:	specific area
UTM:	Zone-11 N3745288 E440108	Elevation (ft):	2980
PLSS:	T04S, R07W, Sec. 6, SE (S)	Acres:	2.0

Location: SOUTH OF SIERRA PEAK ALONG MAIN ACCESS ROAD, ABOUT 2.5 MILES SOUTH OF PRADO DAM, SANTA ANA MOUNTAINS.

Detailed Location: MAPPED BY CNDDDB ACCORDING TO USFS DIGITAL DATA, IN THE SW 1/4 OF THE SE 1/4 OF SECTION 6.

Ecological: GROWING IN NARROW BAND OF COASTAL SAGE SCRUB ALONG ROAD TO SIERRA PEAK. COASTAL SAGE SCRUB AND CHAPARRAL DOMINATED BY SALVIA MELLIFERA, ADENOSTOMA FASCICULATUM, ERIOGONUM FASCICULATUM, AND RHUS OVATA.

General: 1 PLANT OBSERVED IN NORTHERN POLYGON IN 2007. 176 PLANTS OBSERVED IN SOUTHERN POLYGON IN 2008.

Owner/Manager: USFS-CLEVELAND NF

Occurrence No.	117	Map Index:	90330	EO Index:	91387	Element Last Seen:	2008-06-05
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2008-06-05	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2013-09-16	

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.83112 / -117.74028	Accuracy:	80 meters
UTM:	Zone-11 N3743678 E431500	Elevation (ft):	843
PLSS:	T04S, R08W, Sec. 17, N (S)	Acres:	0.0

Location: TRIBUTARY TO WEIR CANYON, 731 METERS N OF SCE TRANSMISSION LINE AND 229 METERS W OF WEIR CANYON RD, E OF ROBBERS PEAK.

Detailed Location: MAPPED ACCORDING TO COORDINATES PROVIDED ON BRAMLET'S JUGLANS CALIFORNICA COLLECTION #4291 FROM THE SAME DAY AND SAME LOCALITY.

Ecological: COAST LIVE OAK RIPARIAN FOREST. ASSOCIATED WITH QUERCUS AGRIFOLIA, TOXICODENDRON DIVERSILOBUM, SAMBUCUS MEXICANA, AND ELYMUS CONDENSATUS.

General: 19 PLANTS OBSERVED IN 2008.

Owner/Manager: NATURE RESERVE OF ORA COUNTY



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Occurrence No.	118	Map Index:	90331	EO Index:	91388	Element Last Seen:	2008-05-28
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2008-05-28	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2013-09-16	

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.83811 / -117.72216	Accuracy:	nonspecific area
UTM:	Zone-11 N3744441 E433182	Elevation (ft):	1220
PLSS:	T04S, R08W, Sec. 09 (S)	Acres:	34.0

Location: UPPER WEIR CANYON, ALONG OLD DIRT ROAD W OF EASTERN TRANSPORTATION CORRIDOR, 1.65 MI E OF S END OF WALNUT CYN RESERVOIR.

Detailed Location: MAPPED BY CNDDDB AS BEST GUESS ALONG THE PORTION OF DIRT ROAD JUST WEST OF SR 241 AND THAT IS ABOUT 1.65 AIR MILES EAST OF WALNUT CYN RESERVOIR BASED ON LOCATION DESCRIPTION ON COLLECTION LABEL.

Ecological: ROCKY, DRY HILLS; BURNED CHAPARRAL, NEAR EDGE OF UNBURNED PATCH, WITH CEANOTHUS MEGACARPUS AND ADENOSTOMA FASCICULATUM DOMINANT.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2008 SANDERS & BROKAW COLLECTION. DESCRIBED AS "UNCOMMON".

Owner/Manager: NATURE RESERVE OF ORA COUNTY

Occurrence No.	119	Map Index:	90336	EO Index:	91400	Element Last Seen:	2008-06-12
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2008-06-12	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2013-09-25	

Quad Summary: Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.76528 / -117.71972	Accuracy:	80 meters
UTM:	Zone-11 N3736364 E433351	Elevation (ft):	1100
PLSS:	T05S, R08W, Sec. 04, SE (S)	Acres:	0.0

Location: LOMA RIDGE, RIDGE NORTH OF SHOESTRING ROAD, ABOUT 1.4 MILES S OF IRVINE LAKE DAM, IRVINE RANCH LAND CONSERVANCY.

Detailed Location: MAPPED BY CNDDDB BASED ON COORDINATES ON A 2008 ROBERTS COLLECTION.

Ecological: GROWING ON RIDGELINE WITH SOUTH-FACING ASPECT ON LOAMY CLAY SOIL IN COASTAL SAGE SCRUB BURNED OCTOBER 2007.

General: ABOUT 140 PLANTS OBSERVED IN 2008. DESCRIBED AS "LOCAL, PATCHY" AND "SCARCE AMONG MORE TYPICAL PLANTS". MAY BE INTERMEDIATE WITH CALOCHORTUS PLUMMERAE.

Owner/Manager: NATURE RESERVE OF ORA COUNTY



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Occurrence No.	120	Map Index: 90337	EO Index: 91403	Element Last Seen:	2003-06-06
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2003-06-06
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2013-09-16
Quad Summary:	Orange (3311777)				
County Summary:	Orange				
Lat/Long:	33.82792 / -117.75597		Accuracy:	nonspecific area	
UTM:	Zone-11 N3743333 E430045		Elevation (ft):	1100	
PLSS:	T04S, R08W, Sec. 18, N (S)		Acres:	63.0	
Location:	ROBBERS PEAK SUBDIVISION, APPROX 2 AIR MI W OF THE EASTERN TRANSPORTATION CORRIDOR AND 2 MI S OF SR 91, PERALTA HILLS.				
Detailed Location:	EXACT LOCATION WITHIN THE SUBDIVISION IS UNKNOWN. MAPPED ACCORDING TO A MAP OUTLINING THE PROJECT SITE PROVIDED BY SZABO, IN THE NORTH 1/2 OF SECTION 18.				
Ecological:	MOSTLY ANNUAL GRASSLAND AND MIXED SAGE SCRUB. POLIOPTILA CALIFORNICA CALIFORNICA AND CAMPYLORHYNCHUS BRUNNEICAPILLUS SANDIEGENSIS WERE ALSO OBSERVED AT THIS SITE.				
General:	UNKNOWN NUMBER OF PLANTS OBSERVED DURING SURVEYS FOR POLIOPTILA CALIFORNICA CALIFORNICA. 2003 SZABO PHOTOS ARE ALSO ATTRIBUTED HERE; LIKELY FROM THE SAME SURVEY AS 2003 SZABO POLIOPTILA SURVEYS.				
Owner/Manager:	PVT				
Occurrence No.	137	Map Index: 99487	EO Index: 101028	Element Last Seen:	2010-05-30
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2010-05-30
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2016-03-25
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.73722 / -117.65888		Accuracy:	1/10 mile	
UTM:	Zone-11 N3733215 E438967		Elevation (ft):	1100	
PLSS:	T05S, R07W, Sec. 18, W (S)		Acres:	18.0	
Location:	SMALL CANYON BELOW IRVINE MESA, ALONG SANTIAGO CANYON RD 1.1 KM SE OF SILVERADO SCHOOL.				
Detailed Location:	EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AT MOUTH OF SMALL CANYON BELOW IRVINE MESA BASED ON LOCATION DESCRIPTION PROVIDED BY ROBERTS.				
Ecological:	SOUTHWEST SLOPE ON ROCKY SOIL IN CHAMISE CHAPARRAL. ASSOCIATES INCLUDE ADENOSTOMA FASCICULATUM, CALYSTEGIA MACROSTEGIA, QUERCUS BERBERIDIFOLIA, AND YUCCA WHIPPLEI. AREA BURNED IN 2007.				
General:	ABOUT 1500 PLANTS OBSERVED IN 2010.				
Owner/Manager:	UNKNOWN				



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Occurrence No.	146	Map Index:	99468	EO Index:	101037	Element Last Seen:	2014-05-20
Occ. Rank:	Good	Presence:	Presumed Extant	Site Last Seen:		2014-05-20	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2016-03-25	

Quad Summary: El Toro (3311766), Black Star Canyon (3311776)

County Summary: Orange

Lat/Long:	33.75425 / -117.65432	Accuracy:	specific area
UTM:	Zone-11 N3735101 E439401	Elevation (ft):	1400
PLSS:	T05S, R07W, Sec. 7, W (S)	Acres:	6.0

Location: HILLS BETWEEN SILVERADO CANYON AND BAKER CANYON, ABOUT 1 AIR MILE WEST OF MUSTANG SPRING.

Detailed Location: MAPPED AS 7 POLYGONS FROM 2014 RUDALEVIGE COORDINATES IN THE WEST HALF OF SECTION 7.

Ecological: OBSERVED IN COASTAL SAGE SCRUB AND CHAPARRAL VEGETATION, PRIMARILY ON SOUTH-FACING SLOPES IN CLAY LOAM SOIL. ASSOCIATES INCLUDE ADENOSTOMA FASCICULATUM, SALVIA MELLIFERA, HESPEROYUCCA WHIPPLEI, ERIGONUM FASCICULATUM, BROMUS, AVENA, ETC.

General: 18 PLANTS OBSERVED IN 2014.

Owner/Manager: ORA COUNTY

Occurrence No.	149	Map Index:	A8565	EO Index:	110353	Element Last Seen:	2016-06-08
Occ. Rank:	Unknown	Presence:	Presumed Extant	Site Last Seen:		2016-06-08	
Occ. Type:	Natural/Native occurrence	Trend:	Unknown	Record Last Updated:		2018-02-28	

Quad Summary: Santiago Peak (3311765), El Toro (3311766)

County Summary: Orange

Lat/Long:	33.74038 / -117.62353	Accuracy:	specific area
UTM:	Zone-11 N3733545 E442243	Elevation (ft):	1900
PLSS:	T05S, R07W, Sec. 16, W (S)	Acres:	24.0

Location: BETWEEN SILVERADO CANYON AND WILLIAMS CANYON, BETWEEN 1.2 AND 2 AIR MILES E OF SANTIAGO CANYON, SE OF SILVERADO.

Detailed Location: SEVERAL POLYGONS MAPPED IN THE WEST 1/2 OF SECTION 16 AND THE EAST 1/2 OF SECTION 17.

Ecological: BUCKWHEAT-BLACK SAGE SCRUB AND CHAPARRAL. CIENEBA SANDY LOAM AND ANAHEIM CLAY LOAM SOILS. ASSOCIATED WITH CEANOETHUS CRASSIFOLIUS, SALVIA MELLIFERA, ERIOGONUM FASCICULATUM, ADENOSTOMA FASCICULATUM, MALOSMA LAURINA, ACMISPON GLABER, ETC.

General: 153 PLANTS OBSERVED IN 2016.

Owner/Manager: THE WILDLANDS CONSERVANCY



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Occurrence No.	150	Map Index: A8566	EO Index: 110354	Element Last Seen:	2016-06-08
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2016-06-08
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-02-28
Quad Summary:	El Toro (3311766)				
County Summary:	Orange				
Lat/Long:	33.74262 / -117.64859		Accuracy:	specific area	
UTM:	Zone-11 N3733808 E439923		Elevation (ft):	1400	
PLSS:	T05S, R07W, Sec. 18, N (S)		Acres:	15.0	
Location:	JUST EAST OF IRVINE MESA, ABOUT 0.3 TO 1 AIR MILE SOUTHWEST OF SILVERADO.				
Detailed Location:	7 POLYGONS MAPPED IN THE NORTH 1/2 OF SECTION 18.				
Ecological:	CHAMISE CHAPARRAL, BLACK SAGE SCRUB, COAST LIVE OAK WOODLAND. CINEBA SANDY LOAM, 30 TO 75 PERCENT SLOPES, ERODED. ASSOC W/ ADENOSTOMA FASCICULATUM, CEANOTHUS CRASSIFOLIUS, RHAMNUS ILLICIFOLIA, SALVIA MELLIFERA, ERIOGONUM FASCICULATUM, ETC.				
General:	~490 PLANTS OBSERVED IN 2016.				
Owner/Manager:	THE WILDLANDS CONSERVANCY				
Occurrence No.	151	Map Index: A8567	EO Index: 110355	Element Last Seen:	2016-06-19
Occ. Rank:	Unknown		Presence: Presumed Extant	Site Last Seen:	2016-06-19
Occ. Type:	Natural/Native occurrence		Trend: Unknown	Record Last Updated:	2018-02-28
Quad Summary:	Black Star Canyon (3311776)				
County Summary:	Orange				
Lat/Long:	33.83132 / -117.68308		Accuracy:	specific area	
UTM:	Zone-11 N3743663 E436794		Elevation (ft):	1868	
PLSS:	T04S, R08W, Sec. 11, SE (S)		Acres:	1.0	
Location:	WEST SLOPE OF UPPER FREMONT CANYON, ABOUT 2.1 AIR MILES SOUTHWEST OF SIERRA PEAK.				
Detailed Location:	MAPPED IN THE SE 1/4 OF THE SE 1/4 OF SECTION 11.				
Ecological:	SLIGHTLY ROCKY, OPEN COASTAL SAGE SCRUB.				
General:	4 PLANTS OBSERVED IN 2016.				
Owner/Manager:	UNKNOWN				



Summary Table Report

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Query Criteria: Quad< IS > (Tustin (3311767)< OR > Orange (3311777)< OR > Black Star Canyon (3311776)< OR > El Toro (3311766))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Abronia villosa var. aurita</i> chaparral sand-verbena	G5T2? S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	150 350	98 S:4	0	0	0	0	4	0	4	0	0	0	4
<i>Accipiter cooperii</i> Cooper's hawk	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	142 1,800	118 S:4	2	0	0	0	0	2	1	3	4	0	0
<i>Agelaius tricolor</i> tricolored blackbird	G2G3 S1S2	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	157 531	955 S:5	0	0	0	0	2	3	4	1	3	1	1
<i>Aimophila ruficeps canescens</i> southern California rufous-crowned sparrow	G5T3 S3	None None	CDFW_WL-Watch List	300 1,400	235 S:9	2	0	0	0	0	7	2	7	9	0	0
<i>Ammodramus savannarum</i> grasshopper sparrow	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	45 450	27 S:2	0	2	0	0	0	0	0	2	2	0	0
<i>Anaxyrus californicus</i> arroyo toad	G2G3 S2S3	Endangered None	CDFW_SSC-Species of Special Concern IUCN_EN-Endangered	1,000 1,000	139 S:1	0	1	0	0	0	0	1	0	1	0	0
<i>Anniella stebbinsi</i> southern California legless lizard	G3 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	209 988	417 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Antrozous pallidus</i> pallid bat	G5 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	700 700	420 S:1	0	1	0	0	0	0	1	0	1	0	0



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Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Ardea herodias</i> great blue heron	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	250 250	155 S:1	0	0	1	0	0	0	0	1	1	0	0
<i>Arizona elegans occidentalis</i> California glossy snake	G5T2 S2	None None	CDFW_SSC-Species of Special Concern	397 397	260 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Asio otus</i> long-eared owl	G5 S3?	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	700 800	48 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Aspidoscelis hyperythra</i> orange-throated whiptail	G5 S2S3	None None	CDFW_WL-Watch List IUCN_LC-Least Concern USFS_S-Sensitive	480 1,499	369 S:18	5	3	1	0	0	9	12	6	18	0	0
<i>Aspidoscelis tigris stejnegeri</i> coastal whiptail	G5T5 S3	None None	CDFW_SSC-Species of Special Concern	540 1,400	148 S:5	0	0	1	0	0	4	4	1	5	0	0
<i>Astragalus brauntonii</i> Braunton's milk-vetch	G2 S2	Endangered None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden	650 1,200	44 S:3	0	2	0	0	0	1	0	3	3	0	0
<i>Athene cunicularia</i> burrowing owl	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	5 350	1989 S:7	1	0	1	3	1	1	4	3	6	1	0
<i>Atriplex coulteri</i> Coulter's saltbush	G3 S1S2	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	50 50	121 S:2	0	0	0	1	0	1	2	0	2	0	0
<i>Atriplex pacifica</i> south coast saltscale	G4 S2	None None	Rare Plant Rank - 1B.2	5 5	109 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Atriplex serenana var. davidsonii</i> Davidson's saltscale	G5T1 S1	None None	Rare Plant Rank - 1B.2	50 50	27 S:1	0	0	0	1	0	0	1	0	1	0	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Baccharis malibuensis</i> Malibu baccharis	G1 S1	None None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	1,500 2,165	13 S:3	0	0	0	0	0	3	0	3	3	0	0
<i>Bombus crotchii</i> Crotch bumble bee	G3G4 S1S2	None Candidate Endangered		100 1,452	276 S:2	0	1	0	0	0	1	1	1	2	0	0
<i>Branchinecta sandiegonensis</i> San Diego fairy shrimp	G2 S2	Endangered None	IUCN_EN-Endangered	1,200 1,200	122 S:1	1	0	0	0	0	0	0	1	1	0	0
<i>Brodiaea filifolia</i> thread-leaved brodiaea	G2 S2	Threatened Endangered	Rare Plant Rank - 1B.1 SB_CRES-San Diego Zoo CRES Native Gene Seed Bank SB_RSABG-Rancho Santa Ana Botanic Garden	970 970	136 S:1	0	1	0	0	0	0	1	0	1	0	0
<i>Buteo regalis</i> ferruginous hawk	G4 S3S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	500 520	107 S:2	0	0	0	0	0	2	0	2	2	0	0
<i>California Walnut Woodland</i> California Walnut Woodland	G2 S2.1	None None		680 720	76 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Calochortus plummerae</i> Plummer's mariposa-lily	G4 S4	None None	Rare Plant Rank - 4.2 SB_RSABG-Rancho Santa Ana Botanic Garden	1,400 3,200	230 S:4	0	0	0	0	0	4	1	3	4	0	0
<i>Calochortus weedii var. intermedius</i> intermediate mariposa-lily	G3G4T2 S2	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	530 2,980	140 S:44	1	10	1	0	1	31	1	43	43	0	1
<i>Campylorhynchus brunneicapillus sandiegonensis</i> coastal cactus wren	G5T3Q S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	200 1,200	156 S:24	1	12	5	1	0	5	15	9	24	0	0
<i>Catostomus santaanae</i> Santa Ana sucker	G1 S1	Threatened None	AFS_TH-Threatened IUCN_VU-Vulnerable	260 500	28 S:5	0	0	0	0	0	5	4	1	5	0	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Centromadia parryi ssp. australis</i> southern tarplant	G3T2 S2	None None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	5 385	94 S:12	0	1	1	3	1	6	6	6	11	1	0
<i>Chaetodipus fallax fallax</i> northwestern San Diego pocket mouse	G5T3T4 S3S4	None None	CDFW_SSC-Species of Special Concern	1,379 1,379	101 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Choeronycteris mexicana</i> Mexican long-tongued bat	G4 S1	None None	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened WBWG_H-High Priority	125 125	14 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Chorizanthe parryi var. fernandina</i> San Fernando Valley spineflower	G2T1 S1	Proposed Threatened Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive		21 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Chorizanthe polygonoides var. longispina</i> long-spined spineflower	G5T3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden	500 500	166 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	G5T2T3 S1	Threatened Endangered	BLM_S-Sensitive NABCI_RWL-Red Watch List USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	120 120	156 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Coturnicops noveboracensis</i> yellow rail	G4 S1S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern NABCI_RWL-Red Watch List USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	0 674	45 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Crotalus ruber</i> red-diamond rattlesnake	G4 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	500 1,520	192 S:4	0	0	0	0	0	4	3	1	4	0	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Dudleya multicaulis</i> many-stemmed dudleya	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	5 2,975	154 S:41	2	8	1	1	5	24	24	17	36	1	4
<i>Elanus leucurus</i> white-tailed kite	G5 S3S4	None None	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern	12 870	180 S:15	0	1	0	0	0	14	0	15	15	0	0
<i>Emys marmorata</i> western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	5 1,300	1385 S:9	0	1	2	0	1	5	9	0	8	1	0
<i>Eremophila alpestris actia</i> California horned lark	G5T4Q S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	220 1,000	94 S:5	0	1	0	3	0	1	0	5	5	0	0
<i>Eriastrum densifolium ssp. sanctorum</i> Santa Ana River woollystar	G4T1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden		31 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Eumops perotis californicus</i> western mastiff bat	G5T4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern WBWG_H-High Priority	10 1,300	296 S:8	0	1	0	0	0	7	8	0	8	0	0
<i>Euphydryas editha quino</i> quino checkerspot butterfly	G5T1T2 S1S2	Endangered None	XERCES_CI-Critically Imperiled	680 1,910	127 S:2	0	0	0	0	2	0	2	0	0	0	2
<i>Falco peregrinus anatum</i> American peregrine falcon	G4T4 S3S4	Delisted Delisted	CDF_S-Sensitive CDFW_FP-Fully Protected USFWS_BCC-Birds of Conservation Concern	161 161	56 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Haliaeetus leucocephalus</i> bald eagle	G5 S3	Delisted Endangered	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	1,055 1,055	327 S:1	0	0	0	0	0	1	0	1	1	0	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Helianthus nuttallii ssp. parishii</i> Los Angeles sunflower	G5TH SH	None None	Rare Plant Rank - 1A		7 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Hesperocyparis forbesii</i> Tecate cypress	G2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_CRES-San Diego Zoo CRES Native Gene Seed Bank SB_RSABG-Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz SB_USDA-US Dept of Agriculture USFS_S-Sensitive	1,600 2,900	27 S:6	0	2	0	0	0	4	0	6	6	0	0
<i>Horkelia cuneata var. puberula</i> mesa horkelia	G4T1 S1	None None	Rare Plant Rank - 1B.1 USFS_S-Sensitive	1,330 1,330	103 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Icteria virens</i> yellow-breasted chat	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	10 600	100 S:5	1	2	0	0	0	2	2	3	5	0	0
<i>Lasthenia glabrata ssp. coulteri</i> Coulter's goldfields	G4T2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden		111 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Laterallus jamaicensis coturniculus</i> California black rail	G3G4T1 S1	None Threatened	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_NT-Near Threatened NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	0 170	303 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Lepechinia cardiophylla</i> heart-leaved pitcher sage	G3 S2S3	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	750 3,560	25 S:10	1	1	0	0	0	8	3	7	10	0	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Lepidium virginicum var. robinsonii</i> Robinson's pepper-grass	G5T3 S3	None None	Rare Plant Rank - 4.3	200 1,200	142 S:5	0	0	0	0	0	5	1	4	5	0	0
<i>Monardella hypoleuca ssp. intermedia</i> intermediate monardella	G4T2? S2?	None None	Rare Plant Rank - 1B.3	1,000 3,700	38 S:9	0	0	0	0	0	9	5	4	9	0	0
<i>Myotis yumanensis</i> Yuma myotis	G5 S4	None None	BLM_S-Sensitive IUCN_LC-Least Concern WBWG_LM-Low-Medium Priority	300 300	265 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Nama stenocarpa</i> mud nama	G4G5 S1S2	None None	Rare Plant Rank - 2B.2	49 440	22 S:2	0	0	0	2	0	0	2	0	2	0	0
<i>Nasturtium gambelii</i> Gambel's water cress	G1 S1	Endangered Threatened	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden		13 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	G5T3T4 S3S4	None None	CDFW_SSC-Species of Special Concern	500 1,341	132 S:2	0	1	0	0	0	1	0	2	2	0	0
<i>Nolina cismontana</i> chaparral nolina	G3 S3	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	735 2,300	68 S:32	0	5	1	0	0	26	2	30	32	0	0
<i>Oncorhynchus mykiss irideus pop. 10</i> steelhead - southern California DPS	G5T1Q S1	Endangered None	AFS_EN-Endangered	71 108	20 S:2	0	0	0	0	2	0	2	0	0	1	1
<i>Onychomys torridus ramona</i> southern grasshopper mouse	G5T3 S3	None None	CDFW_SSC-Species of Special Concern	1,388 1,388	28 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Passerculus sandwichensis beldingi</i> Belding's savannah sparrow	G5T3 S3	None Endangered		0 455	39 S:2	0	2	0	0	0	0	0	2	2	0	0



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<i>Penstemon californicus</i> California beardtongue	G3 S2	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture USFS_S-Sensitive	800 800	13 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Pentachaeta aurea ssp. allenii</i> Allen's pentachaeta	G4T1 S1	None None	Rare Plant Rank - 1B.1	350 1,700	8 S:5	0	0	0	0	1	4	4	1	4	1	0
<i>Perognathus longimembris pacificus</i> Pacific pocket mouse	G5T1 S1	Endangered None	CDFW_SSC-Species of Special Concern	500 500	14 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Phrynosoma blainvillii</i> coast horned lizard	G3G4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	135 1,800	784 S:15	2	3	1	0	1	8	13	2	14	1	0
<i>Poliophtila californica californica</i> coastal California gnatcatcher	G4G5T2Q S2	Threatened None	CDFW_SSC-Species of Special Concern NABCI_YWL-Yellow Watch List	50 1,660	846 S:78	9	11	6	5	3	44	23	55	75	3	0
<i>Pseudognaphalium leucocephalum</i> white rabbit-tobacco	G4 S2	None None	Rare Plant Rank - 2B.2	500 730	62 S:2	0	0	0	0	0	2	1	1	2	0	0
<i>Rallus obsoletus levipes</i> light-footed Ridgway's rail	G5T1T2 S1	Endangered Endangered	CDFW_FP-Fully Protected NABCI_RWL-Red Watch List	0 5	32 S:2	0	1	0	0	0	1	1	1	2	0	0
<i>Rhinichthys osculus ssp. 3</i> Santa Ana speckled dace	G5T1 S1	None None	AFS_TH-Threatened CDFW_SSC-Species of Special Concern USFS_S-Sensitive	1,360 1,360	13 S:1	0	0	1	0	0	0	1	0	1	0	0
<i>Riversidian Alluvial Fan Sage Scrub</i> Riversidian Alluvial Fan Sage Scrub	G1 S1.1	None None		800 800	30 S:1	0	0	1	0	0	0	1	0	1	0	0
<i>Salvadora hexalepis virgultea</i> coast patch-nosed snake	G5T4 S2S3	None None	CDFW_SSC-Species of Special Concern	875 1,500	34 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Senecio aphanactis</i> chaparral ragwort	G3 S2	None None	Rare Plant Rank - 2B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	300 600	98 S:2	0	0	0	0	0	2	2	0	2	0	0



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<i>Setophaga petechia</i> yellow warbler	G5 S3S4	None None	CDFW_SSC-Species of Special Concern USFWS_BCC-Birds of Conservation Concern	300 482	78 S:2	0	1	0	0	0	1	0	2	2	0	0
<i>Sidalcea neomexicana</i> salt spring checkerbloom	G4 S2	None None	Rare Plant Rank - 2B.2 USFS_S-Sensitive		30 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Sorex ornatus salicornicus</i> southern California saltmarsh shrew	G5T1? S1	None None	CDFW_SSC-Species of Special Concern	5 5	4 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Southern California Arroyo Chub/Santa Ana Sucker Stream</i> Southern California Arroyo Chub/Santa Ana Sucker Stream	GNR SNR	None None		570 570	4 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Southern Coast Live Oak Riparian Forest</i> Southern Coast Live Oak Riparian Forest	G4 S4	None None		450 2,100	246 S:15	0	0	0	0	3	12	15	0	12	0	3
<i>Southern Coastal Salt Marsh</i> Southern Coastal Salt Marsh	G2 S2.1	None None		0 0	24 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Southern Cottonwood Willow Riparian Forest</i> Southern Cottonwood Willow Riparian Forest	G3 S3.2	None None		300 520	111 S:3	0	0	1	0	1	1	3	0	2	0	1
<i>Southern Interior Cypress Forest</i> Southern Interior Cypress Forest	G2 S2.1	None None		2,000 2,500	24 S:2	1	0	0	0	0	1	1	1	2	0	0
<i>Southern Riparian Scrub</i> Southern Riparian Scrub	G3 S3.2	None None		1,070 1,070	56 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Southern Sycamore Alder Riparian Woodland</i> Southern Sycamore Alder Riparian Woodland	G4 S4	None None		180 1,850	230 S:19	0	0	0	0	0	19	19	0	19	0	0
<i>Southern Willow Scrub</i> Southern Willow Scrub	G3 S2.1	None None		370 370	45 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Spea hammondi</i> western spadefoot	G3 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	422 1,684	1334 S:25	3	8	1	4	2	7	6	19	23	2	0



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<i>Sternula antillarum browni</i> California least tern	G4T2T3Q S2	Endangered Endangered	CDFW_FP-Fully Protected NABCI_RWL-Red Watch List	8 204	75 S:3	0	0	0	0	0	3	0	3	3	0	0
<i>Streptocephalus woottoni</i> Riverside fairy shrimp	G1G2 S1S2	Endangered None	IUCN_EN-Endangered	700 1,000	83 S:2	0	1	0	0	0	1	1	1	2	0	0
<i>Suaeda esteroa</i> estuary seablite	G3 S2	None None	Rare Plant Rank - 1B.2	5 5	39 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Symphotrichum defoliatum</i> San Bernardino aster	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive		102 S:3	0	0	0	0	2	1	3	0	1	0	2
<i>Taricha torosa</i> Coast Range newt	G4 S4	None None	CDFW_SSC-Species of Special Concern	1,800 2,040	88 S:2	0	2	0	0	0	0	2	0	2	0	0
<i>Thamnophis hammondi</i> two-striped gartersnake	G4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	700 1,225	184 S:2	0	1	1	0	0	0	0	2	2	0	0
<i>Tryonia imitator</i> mimic tryonia (=California brackishwater snail)	G2 S2	None None	IUCN_DD-Data Deficient	0 0	39 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Vireo bellii pusillus</i> least Bell's vireo	G5T2 S2	Endangered Endangered	IUCN_NT-Near Threatened NABCI_YWL-Yellow Watch List	10 951	503 S:29	2	9	5	2	0	11	0	29	29	0	0

*The database used to provide updates to the Online Inventory is under construction. [View updates and changes made since May 2019 here.](#)

Plant List

42 matches found. [Click on scientific name for details](#)

Search Criteria

Found in Quads 3311777, 3311767 3311776 and 3311766;

[Modify Search Criteria](#) [Export to Excel](#) [Modify Columns](#) [Modify Sort](#) [Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Abronia villosa var. aurita	chaparral sand-verbena	Nyctaginaceae	annual herb	(Jan)Mar-Sep	1B.1	S2	G5T2?
Astragalus brauntonii	Braunton's milk-vetch	Fabaceae	perennial herb	Jan-Aug	1B.1	S2	G2
Atriplex coulteri	Coulter's saltbush	Chenopodiaceae	perennial herb	Mar-Oct	1B.2	S1S2	G3
Atriplex pacifica	South Coast saltscale	Chenopodiaceae	annual herb	Mar-Oct	1B.2	S2	G4
Atriplex serenana var. davidsonii	Davidson's saltscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S1	G5T1
Baccharis malibuensis	Malibu baccharis	Asteraceae	perennial deciduous shrub	Aug	1B.1	S1	G1
Brodiaea filifolia	thread-leaved brodiaea	Themidaceae	perennial bulbiferous herb	Mar-Jun	1B.1	S2	G2
Calandrinia breweri	Brewer's calandrinia	Montiaceae	annual herb	(Jan)Mar-Jun	4.2	S4	G4
Calochortus catalinae	Catalina mariposa lily	Liliaceae	perennial bulbiferous herb	(Feb)Mar-Jun	4.2	S3S4	G3G4
Calochortus plummerae	Plummer's mariposa lily	Liliaceae	perennial bulbiferous herb	May-Jul	4.2	S4	G4
Calochortus weedii var. intermedius	intermediate mariposa lily	Liliaceae	perennial bulbiferous herb	May-Jul	1B.2	S2	G3G4T2
Camissoniopsis lewisii	Lewis' evening-primrose	Onagraceae	annual herb	Mar-May(Jun)	3	S4	G4
Centromadia parryi ssp. australis	southern tarplant	Asteraceae	annual herb	May-Nov	1B.1	S2	G3T2
Chorizanthe parryi var. fernandina	San Fernando Valley spineflower	Polygonaceae	annual herb	Apr-Jul	1B.1	S1	G2T1
Chorizanthe polygonoides var. longispina	long-spined spineflower	Polygonaceae	annual herb	Apr-Jul	1B.2	S3	G5T3
Convolvulus simulans	small-flowered morning-glory	Convolvulaceae	annual herb	Mar-Jul	4.2	S4	G4
Deinandra paniculata	paniculate tarplant	Asteraceae	annual herb	(Mar)Apr-	4.2	S4	G4

					Nov(Dec)			
<u>Dodecahema leptoceras</u>	slender-horned spineflower	Polygonaceae	annual herb	Apr-Jun	1B.1	S1	G1	
<u>Dudleya multicaulis</u>	many-stemmed dudleya	Crassulaceae	perennial herb	Apr-Jul	1B.2	S2	G2	
<u>Eriastrum densifolium ssp. sanctorum</u>	Santa Ana River woollystar	Polemoniaceae	perennial herb	Apr-Sep	1B.1	S1	G4T1	
<u>Harpagonella palmeri</u>	Palmer's grapplinghook	Boraginaceae	annual herb	Mar-May	4.2	S3	G4	
<u>Hesperocyparis forbesii</u>	Tecate cypress	Cupressaceae	perennial evergreen tree		1B.1	S2	G2	
<u>Hordeum intercedens</u>	vernal barley	Poaceae	annual herb	Mar-Jun	3.2	S3S4	G3G4	
<u>Horkelia cuneata var. puberula</u>	mesa horkelia	Rosaceae	perennial herb	Feb-Jul(Sep)	1B.1	S1	G4T1	
<u>Lasthenia glabrata ssp. coulteri</u>	Coulter's goldfields	Asteraceae	annual herb	Feb-Jun	1B.1	S2	G4T2	
<u>Lepechinia cardiophylla</u>	heart-leaved pitcher sage	Lamiaceae	perennial shrub	Apr-Jul	1B.2	S2S3	G3	
<u>Lepidium virginicum var. robinsonii</u>	Robinson's pepper-grass	Brassicaceae	annual herb	Jan-Jul	4.3	S3	G5T3	
<u>Lilium humboldtii ssp. ocellatum</u>	ocellated Humboldt lily	Liliaceae	perennial bulbiferous herb	Mar-Jul(Aug)	4.2	S4?	G4T4?	
<u>Monardella hypoleuca ssp. intermedia</u>	intermediate monardella	Lamiaceae	perennial rhizomatous herb	Apr-Sep	1B.3	S2?	G4T2?	
<u>Nama stenocarpa</u>	mud nama	Namaceae	annual / perennial herb	Jan-Jul	2B.2	S1S2	G4G5	
<u>Nasturtium gambelii</u>	Gambel's water cress	Brassicaceae	perennial rhizomatous herb	Apr-Oct	1B.1	S1	G1	
<u>Nolina cismontana</u>	chaparral nolina	Ruscaceae	perennial evergreen shrub	(Mar)May-Jul	1B.2	S3	G3	
<u>Penstemon californicus</u>	California beardtongue	Plantaginaceae	perennial herb	May-Jun(Aug)	1B.2	S2	G3	
<u>Pentachaeta aurea ssp. allenii</u>	Allen's pentachaeta	Asteraceae	annual herb	Mar-Jun	1B.1	S1	G4T1	
<u>Pickeringia montana var. tomentosa</u>	woolly chaparral-pea	Fabaceae	evergreen shrub	May-Aug	4.3	S3S4	G5T3T4	
<u>Polygala cornuta var. fishiae</u>	Fish's milkwort	Polygalaceae	perennial deciduous shrub	May-Aug	4.3	S4	G5T4	
<u>Pseudognaphalium leucocephalum</u>	white rabbit-tobacco	Asteraceae	perennial herb	(Jul)Aug-Nov(Dec)	2B.2	S2	G4	
<u>Romneya coulteri</u>	Coulter's matilija poppy	Papaveraceae	perennial rhizomatous herb	Mar-Jul(Aug)	4.2	S4	G4	
<u>Senecio aphanactis</u>	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	2B.2	S2	G3	
<u>Sidalcea neomexicana</u>	salt spring checkerbloom	Malvaceae	perennial herb	Mar-Jun	2B.2	S2	G4	
<u>Suaeda esteroa</u>	estuary seablite	Chenopodiaceae	perennial herb	(May)Jul-Oct(Jan)	1B.2	S2	G3	
	San Bernardino aster	Asteraceae	perennial	Jul-	1B.2	S2	G2	

[Symphyotrichum
defoliatum](#)

rhizomatous
herb

Nov(Dec)

Suggested Citation

California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 21 April 2020].

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Questions and Comments

rareplants@cnps.org

Appendix C

Cultural/Scientific Resources

Appendix C-1

Cultural Resources Record Search Data

**Sacred Lands File & Native American Contacts List
Request Native American Heritage Commission**

1550 Harbor Blvd, Suite 100

West Sacramento, CA 95691

916-373-3710

916-373-5471 – Fax

nahc@nahc.ca.gov

Information below is required for a Sacred Lands File Search

Project: Tustin Hills Project (3RHP010100)

County: Orange County

USGS Quadrangle Name: Orange 7.5 Quadrangle

Township: 05S

Range: 09W

Company/Firm/Agency: Psomas

Contact Person: Charles Cisneros

Street Address: 225 South Lake Avenue, Suite 1000

City: Pasadena

Zip: 91101

Phone: 626-204-6510 x 6520

Fax:

Email: Charles.Cisneros@psomas.com

Project Description:

Psomas will conduct a cultural resources assessment to determine if project-related activities could have a significant effect on any cultural resources located on the project site. Psomas and its team members will conduct environmental studies, including cultural and tribal cultural resources for the Project in support of the California Environmental Quality Act (CEQA) Checklist.

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-00062		1976	Desautels, Roger J.	Archaeological Survey Report on Lot 13 - Irvine Tract 694 - Assessors Parcel #103-052-13 Located in the Lemon Heights Area of Orange County, California	Scientific Resource Surveys, Inc.	
OR-00077		1976		Archaeological Survey Report on Lot No. 318, Block 13- Irvine's Subdivision Per Map Recorded in Book 1, Page 88 of Msc. Record Maps, County of Orange, California	Scientific Resource Surveys, Inc.	
OR-00130		1976	Desautels, Roger J.	Archaeological Survey Report on 3 Parcels of Land Located in the Lemon Heights Area of the County of Orange	Scientific Resource Surveys	
OR-00133		1976	Desautels, Roger	Archaeological Survey Report on 1.5 Acres of Land Located in the Lemon Heights Area of the County of Orange.	Scientific Resource Surveys, Inc.	
OR-00151		1977	Desautels, Roger J.	Archaeological Survey Report on Tt 9688 Located in the Lemon Heights Area of the County of Orange	Scientific Resource Surveys, Inc.	
OR-00172		1977	Desautels, Roger J.	Archaeological Survey Report on Two Acres of Land Located in the Lemon Heights Area of the County of Orange	Scientific Resource Surveys, Inc.	
OR-00200		1977	Perry, Robert	Archaeological Survey Report on Four Parcels of Land Located in the Lemon Heights Area of the County of Orange	Scientific Resource Surveys, Inc.	
OR-00274		1978	Anonymous	Report of Archaeological Resources Survey Conducted for Laguna and Peter's Canyons	Archaeological Resource Management Corp.	30-000184, 30-000305, 30-000306, 30-000307, 30-000308, 30-000309, 30-000314, 30-000317, 30-000502, 30-000508, 30-000547, 30-000548, 30-000556, 30-000557, 30-000681, 30-000682, 30-000688, 30-000767, 30-000768, 30-000769
OR-00305		1979	Schroth, Adella	The History of Archaeological Research on Irvine Ranch Property: the Evolution of a Company Tradition	Archaeological Resource Management Corp.	30-000002, 30-000044, 30-000047, 30-000048, 30-000051, 30-000053, 30-000059, 30-000060, 30-000061, 30-000062, 30-000063, 30-000064, 30-000065, 30-000066, 30-000067, 30-000068, 30-000069, 30-000070, 30-000071, 30-000072, 30-000073, 30-000077, 30-000091, 30-000099, 30-000100, 30-000104, 30-000106, 30-000107, 30-000109, 30-000111

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-00494		1976	Singer, Clay A.	Preliminary Assessment of Cultural Resources Within the Proposed Peters Canyon Regional Park, Orange County,		30-000184, 30-000547, 30-000548, 30-000556, 30-000557
OR-00500		1980	Desautels, Roger J.	Archaeological Survey Report on Lot 38 Located in the Lemon Heights Area of the County of Orange	Scientific Resource Surveys, Inc.	
OR-00616		1981	Van Horn, David M.	Archaeological Survey Report: Tentative Parcel Map No.465 Located in Lemon Heights, County of Orange, California	Archaeological Associates, Ltd.	
OR-00752		1984	Mason, Roger D.	Eastern Corridor Alignment Study, Orange County, California; Volume II: Prehistory and History	Scientific Resource Surveys, Inc.	30-000184, 30-000303, 30-000304, 30-000321, 30-000513, 30-000541, 30-000546, 30-000547, 30-000556, 30-000557, 30-000584, 30-000585, 30-000586, 30-000587, 30-000588, 30-000589, 30-000590, 30-000591, 30-000592, 30-000626, 30-000770, 30-000771, 30-000772, 30-000793, 30-000794, 30-000795, 30-000818, 30-000819, 30-000820, 30-000962, 30-001067, 30-001068, 30-001195, 30-001196, 30-001197, 30-001198, 30-001199, 30-001200, 30-001201
OR-00936		1988	Breece, William H. and Jane Rosenthal	Test Level Investigations at CA-ORA-184 and CA-ORA-548 Peters Canyon, Tustin, California	LSA Associates, Inc.	30-000184, 30-000548
OR-00961		1988	Breece, William, Jane Rosenthal, and Beth Padon	The Results of the Test Phase and Data Recovery Program at Ca ORA-772 TusTin, California	LSA Associates, Inc.	30-000772
OR-01040	Paleo -	1990	Jertberg, Patricia R.	Archaeological and Paleontological Monitoring Report for Tract 13627	LSA Associates, Inc.	
OR-01078		1990	Rosenthal, Jane, Beth Padon, and Scott Crownover	Archaeological Investigations at CA-ORA-184 Locus B, CA-ora 547 Locus B, CA-ORA-548 Extension, CA-ORA-771 and CA-ORA-771 Extension, Peters Canyon, Tustin, California	LSA Associates, Inc.	30-000184, 30-000547, 30-000548, 30-000771
OR-01132		1990	Jertberg, Patricia R.	Monitoring and Supplemental Data Recovery at CA-ORA-184a/548 Peters Canyon, Tustin, California.	LSA Associates, Inc.	30-000184, 30-000548
OR-02225	Other - Irvine Ranch	1978	Strozier, Hardy	The Irvine Company Planning Process and California Archaeology- A Review and Critique	The Irvine Company	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-02534		1976		Annual Report to The Irvine Company from Archaeological Research, Inc.	ARI	30-000051, 30-000064, 30-000099, 30-000100, 30-000106, 30-000119, 30-000130, 30-000184, 30-000196, 30-000197, 30-000484, 30-000518, 30-000575
OR-03808	Cellular -	2009	Bonner, Wayne	Cultural Resources Records Search and Site Visit Results for T-Mobile USA Candidate LA33842 (Cedar Grove Park), 11385 Pioneer Road, Tustin, Orange County, California	MBA	30-000548, 30-001195
OR-04155	Cellular -	2011	Bonner, Wayne	Cedar Grove LA33842-E, 11385 Pioneer Road, Tustin, CA 92782	Michael Brandman Associates	30-000771, 30-000772
OR-04360	Paleo -	1998	Stevens, Dave and Patrick Maxon	Final Paleontological and Archaeological Monitoring Report for Tustin Ranch Project, Tract 15601, City of Tustin, California	RMW Paleo Associates	

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-30-000548	CA-ORA-000548		Site	Prehistoric	AP02 (Lithic scatter); AP15 (Habitation debris)	1976 (Singer, C., Archaeological Research, Inc.); 1978 (Bickford, Archaeological Resource Management Corp.); 1984 (Cody, A., Scientific Resource Surveys, Inc.)	OR-00274, OR- 00494, OR-00936, OR-01078, OR- 01132, OR-01995, OR-03808
P-30-000711	CA-ORA-000711	Resource Name - SM-1	Site	Prehistoric	AP02 (Lithic scatter)	1978 (Tadlock, Tadlock, CSUF); 1989 (Dillon, Brian, Scientific Resource Surveys); 1995 (R. Bissell, E. Knell, RMW Paleo Associates)	OR-00207, OR- 00648, OR-01007, OR-01036, OR- 01571, OR-01995, OR-02582, OR- 04111, OR-04112, OR-04118
P-30-000772	CA-ORA-000772		Site	Prehistoric	AP02 (Lithic scatter)	1978 (BICKFORD, Archaeological Resource Management Corp); 1984 (CODY, A., Scientific Resource Surveys, Inc.)	OR-00752, OR- 00961, OR-01995, OR-04155
P-30-001195	CA-ORA-001195/H	Resource Name - SRS-2	Site	Prehistoric, Historic	AH16 (Other); AP05 (Petroglyphs)	1984 (BANKS, Scientific Resource Surveys, Inc.)	OR-00752, OR- 03808

Appendix C-2

Historical Resource Assessment



Historical Resource Assessment of the Tustin Hills Racquet Club, Orange County, California

Submitted to:

Psomas
3 Hutton Center Drive, Suite 200
Santa Ana, CA 92807

Technical Report 19-368

October 30, 2019

HISTORICAL RESOURCE ASSESSMENT OF THE TUSTIN HILLS RACQUET CLUB, ORANGE COUNTY, CALIFORNIA

Prepared by:
Justin Castells, M.A.

Prepared for:
Psomas

Technical Report No. 19-368

PaleoWest Archaeology
3990 Old Town Avenue, Suite C101
San Diego, California 92110
(619) 210-0199

October 30, 2019

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MANAGEMENT SUMMARY

The Applicant proposes to demolish the existing Tustin Hills Racquet Club to allow construction of 37 single family attached townhome units in 17 buildings and 3 single family detached homes, with related site improvements for transportation and outdoor recreation (Project). PaleoWest was contracted by Psomas to complete a Historical Resource Assessment Report of the Tustin Hills Racquet Club located at 11782 Simon Ranch Road, Santa Ana, CA 92705 (Tustin Hills Racquet Club) in compliance with the California Environmental Quality Act (CEQA). The County of Orange is the Lead Agency for the purposes of the CEQA.

This report summarizes the methods and results of the historical resource investigation of the Tustin Hills Racquet Club. This investigation included background research and survey and evaluation of the approximately 5.88-acre property. The purpose of the investigation was to determine the potential for the Project to impact historical resources under CEQA.

The South Central Coastal Information Center (SCCIC) search included a review of all recorded sites and cultural resources reports on file for the specified area. The results from the information center indicated that five cultural resources investigations were previously conducted within the 0.25-mile search radius (herein study area). Of the five previous investigations, the SCCIC indicated that four of the studies overlapped with the current Project area. The SCCIC search identified no prehistoric or historic archaeological sites located within the study area or within the Project area. No previously recorded historical built environment resources are within the Project area or the study area. The Tustin Hills Racquet Club was constructed in 1958 and is, therefore, a historic-period property.

An intensive pedestrian survey of the Project area was conducted by PaleoWest on October 24, 2019. During the field survey, the exteriors of the subject buildings within the Project area were analyzed, photographed, and recorded. 903-917 East 25th Street was evaluated for historic significance by applying the criteria of the California Register of Historical Resources (CRHR). PaleoWest recommends that the Tustin Hills Racquet Club is not eligible for inclusion in the CRHR. Therefore, the Tustin Hills Racquet Club is not considered a historical resource for the purposes of CEQA.

1.0 INTRODUCTION

The Applicant proposes to demolish the existing Tustin Hills Racquet Club to allow construction of 37 single family attached townhome units in 17 buildings and 3 single family detached homes, with related site improvements for transportation and outdoor recreation (Project). PaleoWest was contracted by Psomas to complete a Historical Resource Assessment Report for the Tustin Hills Racquet Club located at 11782 Simon Ranch Road, Orange County, California (Tustin Hills Racquet Club) in compliance with the California Environmental Quality Act (CEQA). The County of Orange is the Lead Agency for the purposes of the CEQA.

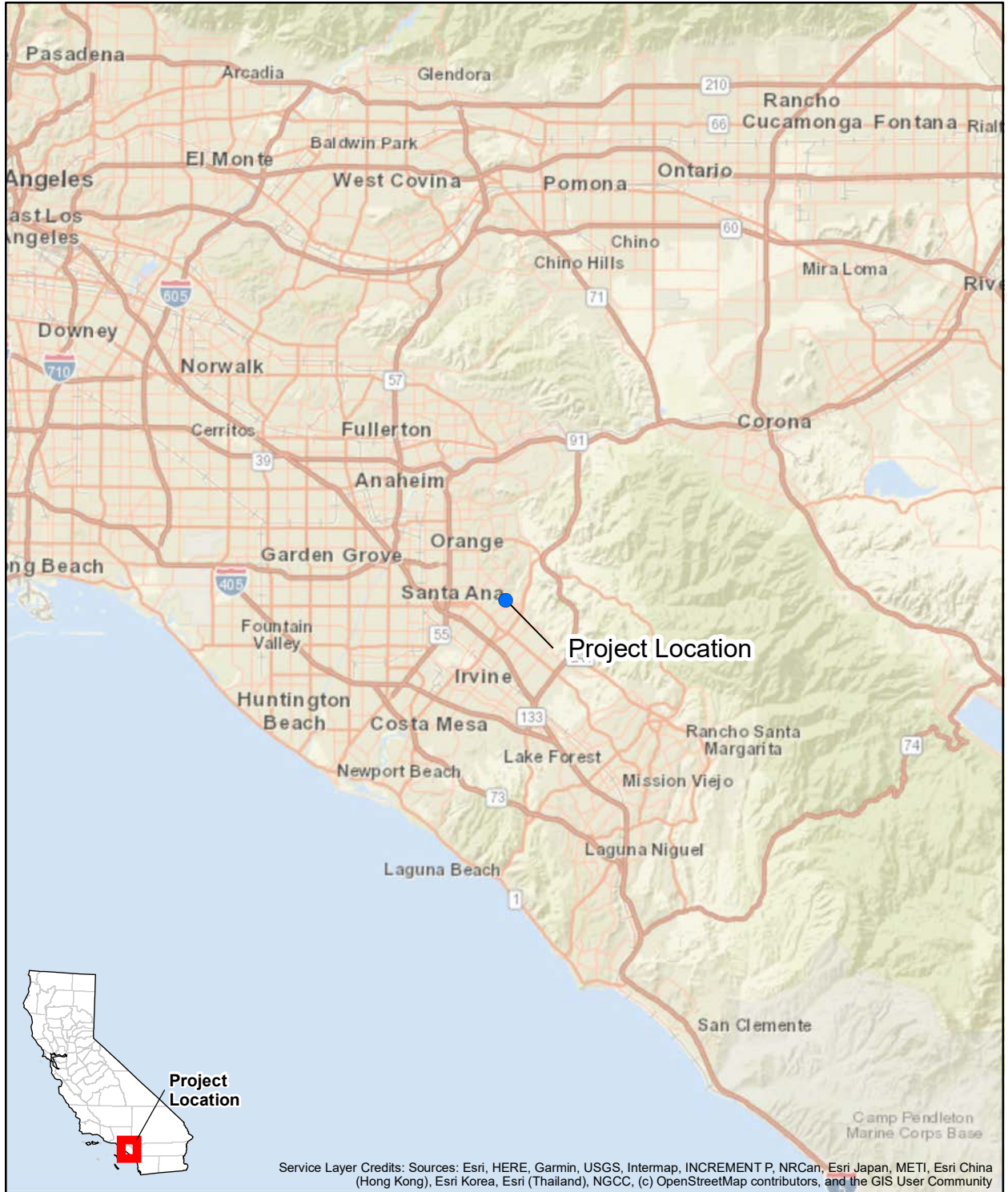
1.1 PROJECT LOCATION AND DESCRIPTION

Tustin Hills Racquet Club is located on approximately 5.88 acres in Orange County, California (Figure 1-1). The Project area is situated within the Orange, CA 7.5' U.S. Geological Survey (USGS) topographic quadrangle (Figure 1-2). The Project area includes a one-story ranch-style clubhouse, 11 full tennis courts and one half-court, a swimming pool, hardscape, and landscaped vegetation (Figure 1-3). The elevation of the Project area is approximately 260 feet above mean sea level (amsl).

The Project includes the demolition of all existing Tustin Hills Racquet Club facilities.

Report Organization

This report documents the results of a historical resource investigation conducted for the proposed Project. Chapter 1 has introduced the Project location and description. Chapter 2 states the regulatory context that should be considered for the Project. The results of the cultural resource literature and records search conducted at the South Central Coastal Information Center (SCCIC) is presented in Chapter 3. Chapter 4 synthesizes the historical context of the Project area and surrounding region. The field methods employed during this investigation and findings are outlined in Chapter 5 with conclusions provided in Chapter 6. This is followed by bibliographic references. The Department of Parks and Recreation (DPR) 523 Series forms for the Tustin Hills Racquet Club are located in Appendix A and the results of the SCCIC records search are included in confidential Appendix B.



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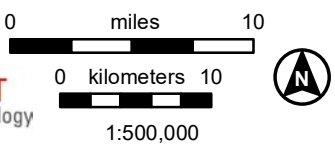
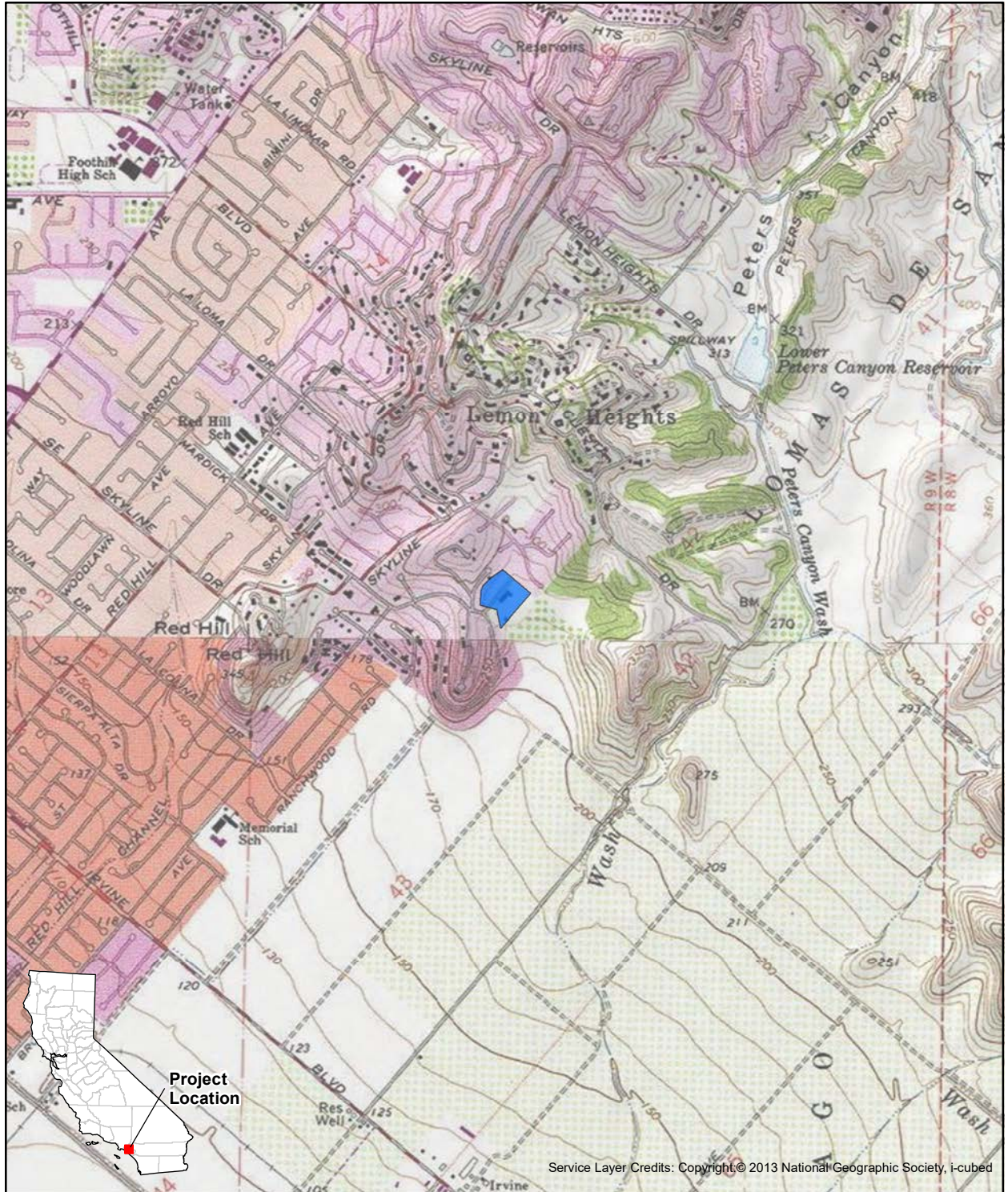


Figure 1-1
Project Vicinity Map
USGS 7.5' Quadrangle:
Orange, CA (1977)
NAD 83 UTM Zone 11

 Project Area



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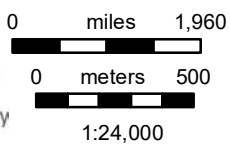


Figure 1-2
Project Location Map
USGS 7.5' Quadrangle:
Orange, CA (1977)
NAD 83 UTM Zone 11

 Project Area

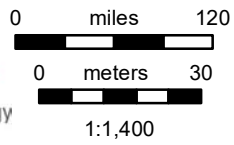


Figure 1-3
USGS 7.5' Quadrangle:
Orange, CA (1977)
NAD 83 UTM Zone 11

 Project Area

2.0 REGULATORY CONTEXT

2.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

The proposed Project is subject to compliance with CEQA, as amended. Compliance with CEQA statutes and guidelines requires both public and private projects with financing or approval from a public agency to assess the project's impact on cultural resources (Public Resources Code Section 21082, 21083.2 and 21084 and California Code of Regulations 10564.5). The first step in the process is to identify cultural resources that may be impacted by the project and then determine whether the resources are “historically significant” resources.

CEQA defines historically significant resources as “resources listed or eligible for listing in the California Register of Historical Resources (CRHR)” (Public Resources Code Section 5024.1). A cultural resource may be considered historically significant if the resource is 45 years old or older, possesses integrity of location, design, setting, materials, workmanship, feeling, and association, and meets any of the following criteria for listing on the CRHR:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or,
4. Has yielded, or may be likely to yield, information important in prehistory or history (Public Resources Code Section 5024.1).

Cultural resources are buildings, sites, humanly modified landscapes, traditional cultural properties, structures, or objects that may have historical, architectural, cultural, or scientific importance. CEQA states that if a project will have a significant impact on important cultural resources, deemed “historically significant,” then project alternatives and mitigation measures must be considered. Additionally, any proposed project that may affect historically significant cultural resources must be submitted to the State Historic Preservation Officer (SHPO) for review and comment prior to project approval by the responsible agency and prior to construction.

3.0 RESEARCH METHODS

A literature review and records search were conducted at the SCCIC at California State University, Fullerton on October 24, 2019. This inventory effort included the Project area and a 0.25-mile radius around the Project area, collectively termed the Project study area. The objective of this records search was to identify prehistoric or historical cultural resources that have been recorded within the study area during prior cultural resource investigations.

3.1 RECORDS SEARCH

The SCCIC search included a review of all recorded sites and cultural resources reports on file for the specified area. The results from the information center indicated that five cultural resources investigations were previously conducted within the 0.25-mile search radius. Of the five previous investigations, the SCCIC indicated that four of the studies overlapped with the current Project area.

The SCCIC search identified no prehistoric or historic archaeological sites located within the study area or within the Project area. No previously recorded historical built environment resources are within the Project area or the study area. A copy of the records search results in is included in confidential Appendix B.

3.2 ADDITIONAL SOURCES

In addition to the records search, general contextual and site-specific research was conducted for the subject property and the surrounding area. Additional sources consulted include the National Register of Historic Places, the Office of Historic Preservation Directory of Properties in the Historic Property Data File, Orange County Assessor, historic newspaper databases, historic Sanborn Fire Insurance Maps, and the Los Angeles Public Library databases. There are no listed historic properties, historical resources, or historic landmarks recorded within the Project area.

Historical maps consulted include the Orange (1964, 1972, 1974, and 1981) 7.5-minute USGS quadrangles. The Tustin Hills racquet Club first appears on the 1964 map and on all subsequent maps.

4.0 HISTORICAL OVERVIEW

This section of the report summarizes information regarding the historic context of the Project area. Overarching historic themes were identified to establish a historic context within which to evaluate historic-period properties within the Project area. These themes include the history of Tustin, tennis in California, and the Tustin Hills Racquet Club.

4.1 TUSTIN

Spanish explorers with the expedition led by Don Gaspar de Portola first entered what is now Orange County in 1769, however; the first permanent European settlement in the region was not established until 1776 with the founding of Mission San Juan Capistrano. In 1809 the Spanish Government granted Rancho Santiago de Santa Ana, which includes present day Tustin, Santa Ana, Orange, Olive, El Modena, Costa Mesa, and parts of Newport, to Jose Antonio Yorba (Lovret 2011). In 1868 Columbus Tustin and his partner Nelson O. Stafford each invested \$2,500 to buy 1,359 acres of the Santiago de Santa Ana Land Grant. The partners split the land with Tustin taking approximately 840 acres and later purchasing an additional 159 acres from Stafford. In 1870 Tustin moved his family from Petaluma, where he and Stafford owned a carriage-making business, to the land he purchased (Ball et. al. 2011). Tustin filled the original plat map for Tustin City in 1870-1871 and his sister Barbara was the first person to purchase land from him. In order to attract settlers to his venture, Tustin began giving free lots to anyone who would build on them and by 1874 the community began to take shape with many permanent residences and businesses. The community continued to grow until 1877 when the Southern Pacific Railway bypassed Tustin for Santa Ana as the terminus of the newly expanded rail line from Anaheim (Lovret 2011).

During the 20th century, Tustin remained largely rural with an economy supported by citrus orchards. Development was slow until the 1920s when Tustin experience a period of modest residential growth. Tustin built its own high school in 1922. By 1927, the population topped 900 and the citizens voted to incorporate as a city. The new City Council elected Byron Crawford the first mayor. With the start of World War II, three military bases (Santa Ana Army Air Base, the El Toro Marine Corps Air Station, and the Navy's Lighter-Than-Air Base) were constructed in and near Tustin resulting in a dramatic increase in residential and commercial development to help support military operations. Tustin grew at a rapid pace in the post-War years due to the housing boom of the 1950s. A devastating citrus disease decimated orange groves in the mid-1950s, forcing landowners to sell to developers who transformed the groves into large housing tracts (Tustin Area Historical Society 2019).

4.2 TENNIS IN CALIFORNIA

The origins of tennis can be traced to handball games developed 12th century France. By the 16th century the game had evolved from hitting a ball with a bare hand or glove to the use rackets. It was also during the 16th century that the game began to increasingly be played indoors and regularized rules were developed. The game spread throughout Europe and by the 1860s more standardized rules were developed and outside courts became more common. Major Walter Clopton Wingfield of England created a standardized set of rules in 1873 or 1874 on which modern tennis is based (Kimball 2017).

The origins of tennis in the United States is largely contested, but credit often goes to one of three individuals who reportedly set up games in 1874. Mary Outerbridge who reportedly brought a tennis net back from Bermuda that she set up in Staten Island, New York, James White reportedly set up a game on the lawn of William Appleton in Nahant, Massachusetts as did Martha Summerhayes who reportedly set up a game at Camp Apache in the Arizona Territory (Kimball 2017).

The first tennis match billed as a “national championship” in the United States was held on Staten island in 1880. A year later, in 1881, the United States Tennis Association was formed (Kimball 2017).

The first tennis club to be founded in California, and the oldest west of the Mississippi River, is the California Tennis Club in San Francisco in 1884 (California Tennis Club 2019). In 1895, the Ojai Valley Tennis Club was established in Ojai, California making it among the earliest clubs dedicated to tennis in Southern California (Ojai Valley inn 2019). Many other tennis clubs were established in Southern California throughout the Twentieth Century including the Los Angeles Tennis Club in 1920 (Los Angeles Tennis Club 2019). By the mid-twentieth century many affluent communities in Southern California boasted private tennis clubs.

4.3 TUSTIN HILLS RACQUET CLUB

The Tustin Hills Racquet Club was established in 1958 and is considered the first private tennis club to be established in Orange County (Tustin Hills Racquet Club 2019). In 1976 the club was purchased by Charles and Janis Pate from the previous owners, Rolf Engen and Warren Finely. Among the notable tennis players who have played at the club were former Tustin mayor and Wimbledon contender, and college and pro players including Tracy Willis, Carlos Bustos, Bill Behrensd, and Terry Marcoline (Leach 1999). Over the years the club has hosted countless weddings, events, and tennis tournaments.

A review of historic aerials shows that between 1946 and 1952 the surrounding area was redeveloped from citrus orchards to residential tracts. The construction of the Tustin Hills Racquet Club coincided with this residential development. Aerials from 1963 show the clubhouse building, at least four tennis courts, two of which correspond with extant tennis courts, and the clubhouse. By 1966 there are at least six tennis courts visible, four of which that correspond with extant tennis courts and an additional two tennis courts that correspond with extant tennis courts are visible in the 1972 aerial. Between 1972 and 1980 the property was configured as it is today with 11 tennis courts, a pool with associated facilities, and a pergola on the southwest elevation of the clubhouse (NETR 2019).

5.0 FIELD INVESTIGATION

5.1 FIELD METHODS

A pedestrian survey of the Project area was conducted by PaleoWest on October 24, 2019. During the field survey, the exteriors of the buildings within the Project area were analyzed, photographed, and recorded. Any building or structure determined to have been built prior to 1974 or to be potentially eligible for the CRHR were formally evaluated on DPR 523 series forms. The resulting forms are included as Appendix A.

5.2 TUSTIN HILLS RACQUET CLUB

Tustin Hills Racquet Club is comprised of a one-story ranch-style clubhouse constructed in 1958, a pool constructed between 1972 and 1980, tennis courts constructed between 1958 and 1980, hardscape and landscaped vegetation. The club house has an irregular plan with a low-pitched cross hipped asphalt shingle roof. The building had board-and-batten and stucco siding. The northwest elevation is the primary façade and roughly has a U-shape. The primary entrance is located off center on the elevation where the elevation recesses. The roofline extends over the entry to form a small cover. The entry door is wood and is flanked by two fixed windows. The portion of the building features board-and-batten siding with decorative cobble siding on the bottom third of the section. The cobble siding extends onto the bottom 5th of north portion of the south portion of the elevation. North of the entry door are fixed multi-light windows and decorative cobble and board-and-batten siding. The north portion of the elevation is clad in stucco and features an entrance door with a panel window. The entry door is flanked by one fixed window to the north and two fixed windows to the south. Two rectangular multi-light fixed windows are located on the south portion of this section of the elevation. The south portion of the elevation features stucco siding. The south portion of the elevation features fixed multi-light windows, vents, and utility doors. The south and north elevation features stucco siding. The south portion of the southeast elevation features two sets of double doors with glass panels. Each set of doors is flanked on either side by fixed windows. The enter portion of the elevation features a hipped patio that extends out under the roofline and is supported by wood poles. Glass doors and windows are located on the portions of the elevation beneath the patio cover. The north portion of the elevation has board-and-batten siding, entrance doors, windows and a pergola.



Figure 5-1 Clubhouse, southeast elevation, facing north



Figure 5-2 Clubhouse, northwest elevation, facing north



Figure 5-3 Clubhouse, northwest elevation, facing south



Figure 5-4 Clubhouse, northwest elevation, facing south



Figure 5-5 Representative view of tennis courts, facing southeast



Figure 5-6 Swimming Pool, facing west

5.2.1 California Register of Historical Resources Evaluation

The following presents an assessment of the historical significance of the Tustin Hills Racquet Club by applying the procedure and criteria for the CRHR. The purpose of this assessment is to evaluate the eligibility of the resource for listing on the CRHR.

CRHR Criterion 1: The Tustin Hills Racquet Club does not meet CRHR Criterion 1 for association with events that have made a significant contribution to the broad patterns of California's history and cultural heritage. The racquet club was constructed in 1958 during a period that corresponds with the residential growth of the north Tustin area. While the earliest private tennis club to be constructed in orange County, the inclusion of private and public recreational facilities was a common development as large housing tracts, particularly those in affluent areas, we designed and built. While the club is the earliest in Orange County, it is not the earliest within the state of California or within southern California. Research has yielded no information to suggest that the development of the tennis club fundamentally affected the history of recreation in the area. And while its presence made the immediate surrounding area more attractive to potential homeowners, there is no indication that the tennis club was crucial to the development of Orange County. Therefore, the Tustin Hills Racquet Club is not eligible for the CRHR under Criterion 1.

CRHR Criterion 2: The Tustin Hills Racquet Club does not meet CRHR Criterion 2 for any direct associations with the productive lives of persons important in local, state, or national history. While many players have utilized the club over its history, including professional players, research has yielded no information to suggest that any having achieved a level of historical significance or that any persons that have achieved historical significance did so based on their specific associated with this property. Therefore, the Tustin Hills Racquet Club is not eligible for the CRHR under Criterion 2.

CRHR Criterion 3: The Tustin Hills Racquet Club does not to meet CRHR Criterion 3 for embodying the distinctive characteristics of a type, period, and method of construction, or as the work of an important creative individual, or as having high artistic value. The ranch style clubhouse was constructed in 1958. It is a common and unremarkable example of this style and property type. It is one of countless buildings and many clubhouses constructed in this style during the mid-twentieth century. Research has yielded information to suggest that the layout of the property represents a departure from standard practices in the development of private tennis clubs. The architect and builder were not identified, however; it is unlikely that the clubhouse and the rest of the property are the work of a master. Therefore, the Tustin Hills Racquet Club is not eligible for the CRHR under Criterion 3.

CRHR Criterion 4: The Tustin Hills Racquet Club does not meet CRHR Criterion 4 since it is unlikely to yield information important to prehistory or history. This criterion is usually reserved to address archaeological resources, which were not addressed as part of this study. It is unlikely that this property has the potential to broaden our understanding of history. Therefore, Tustin Hills racquet Club is not eligible for the CRHR under Criterion 4.

6.0 CONCLUSIONS AND MANAGEMENT RECOMMENDATIONS

The Tustin Hills Racquet Club was evaluated for historical significance by applying the criteria of the CRHR using data gathered during the pedestrian survey and information acquired through historical research. PaleoWest recommends that the Tustin Hills Racquet Club is not eligible for the CRHR under any criteria. Therefore, the Tustin Hills Racquet Club is not considered a historical resource for the purposes of CEQA.

7.0 REFERENCES

- Ball, Guy and the Tustin Area Historical Society
2011 *Images of America: Tustin*. Arcadia Publishing: Charleston, S.C.
- California Tennis Club
2019 “History.” Accessed at: <https://www.calclubtennis.com/history>
- Kimball, Warren F.
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- Tustin Area Historical Society
2019 “Tustin History.” Accessed at: <http://www.tustinhistory.com/tustin-history.htm>
- Tustin Hills Racquet Club
2019 “About Tustin Hills Racquet Club.” Accessed at: <https://tustinhillsracquetclub.com/about/>.
- U.S. Geological Survey, Washington, D.C. (USGS)
1964 Orange, California (1:12,000) topographic quadrangle.
1972 Orange es, California (1:12,000) topographic quadrangle.
1974 Orange, California (1:12,000) topographic quadrangle.
1981 Orange, California (1:12,000) topographic quadrangle.



***Appendix A.
Tustin Hills Racquet Club DPR***

Other Listings
Review Code

Reviewer

Date

Page 1 of 11

*Resource Name or #: Tustin Hills Racquet Club

P1. Other Identifier: N/A

*P2. Location: Not for Publication Unrestricted

*a. County: Orange

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad: Orange

Date: 1977 T S; R W; ¼ of ¼ of Sec ; SB

B.M.

c. Address: 11782 Simon Ranch Road

City: Santa Ana

Zip: 92705

d. UTM: Zone: 11N; 427614 mE/ 3734910 mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

The property is located at Assessor Parcel Number (APN) 104-321-01

*P3a. **Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries) Tustin Hills Racquet Club is comprised of a one-story ranch-style clubhouse constructed in 1958, a pool constructed between 1972 and 1980, tennis courts constructed between 1958 and 1980, hardscape and landscaped vegetation. The club house has an irregular plan with a low-pitched cross hipped asphalt shingle roof. The building had board-and-batten and stucco siding. The northwest elevation is the primary façade and roughly has a U-shape. The primary entrance is located off center on the elevation where the elevation recesses. The roofline extends over the entry to form a small cover. The entry door is wood and is flanked by two fixed windows. The portion of the building features board-and-batten siding with decorative cobble siding on the bottom third of the section. The cobble siding extends onto the bottom 5th of north portion of the south portion of the elevation. North of the entry door are fixed multi-light windows and decorative cobble and board-and-batten siding. The north portion of the elevation is clad in stucco and features an entrance door with a panel window. The entry door is flanked by one fixed window to the north and two fixed windows to the south. Two rectangular multi-light fixed windows are located on the south portion of this section of the elevation. The south portion of the elevation features stucco siding. The south portion of the elevation features fixed multi-light windows, vents, and utility doors. The south and north elevation features stucco siding. The south portion of the southeast elevation features two sets of double doors with glass panels. Each set of doors is flanked on either side by fixed windows. The enter portion of the elevation features a hipped patio that extends out under the roofline and is supported by wood poles. Glass doors and windows are located on the portions of the elevation beneath the patio cover. The north portion of the elevation has board-and-batten siding, entrance doors, windows and a pergola.

*P3b. **Resource Attributes:** (List attributes and codes) HP39. Other, racquet club

*P4. **Resources Present:** Building Structure Object Site District Element of District Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



Racquet Club, Orange County, California. PaleoWest, 2019

P5b. Description of Photo: (View, date, accession #)
View of Clubhouse, southeast elevation, facing north,
October 24, 2019

*P6. **Date Constructed/Age and Sources:**

Historic

Prehistoric Both

1958, Tustin Hills Racquet Club

*P7. **Owner and Address:**

Charles Pate

11782 Simon ranch Road

Santa Ana, CA 92705

*P8. **Recorded by:** (Name, affiliation, and address)

PaleoWest

3990 Old Town Avenue, Suite C101

San Diego, CA 92110

*P9. **Date Recorded:** October 2019

*P10. **Survey Type:** (Describe)

Intensive

*P11. **Report Citation:** (Cite survey report and other sources, or enter "none.")

Historical Resource Assessment of the Tustin Hills

*Attachments: NONE Location Map Sketch Map Continuation Sheet Building, Structure, and Object Record
 Archaeological Record District Record Linear Feature Record Milling Station Record Rock Art Record
 Artifact Record Photograph Record Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

Page 2 of 11

*Resource Name or # (Assigned by recorder) Tustin Hills Racquet Club

*Recorded by: PaleoWest Archaeology

*Date: October 2019

B1. Historic Name: Tustin Hills Racquet Club

B2. Common Name: Tustin Hills Racquet Club

B3. Original Use: Farm/Racquet club

B4. Present Use: Racquet club

***B5. Architectural Style:** Ranch

***B6. Construction History:** (Construction date, alterations, and date of alterations)

Constructed 1958, pool constructed between 1972 and 1980 (NETR 2019), tennis courts constructed between 1958 and 1980 (NETR 2019)

***B7. Moved?** No Yes Unknown **Date:** N/A

Original Location: N/A

***B8. Related Features:** N/A

B9a. Architect: Unknown

b. Builder: Unknown

***B10. Significance: Theme:** N/A

Area: N/A

Period of Significance: N/A

Property Type: Recreational facility

Applicable Criteria: N/A

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Spanish explorers with the expedition led by Don Gaspar de Portola first entered what is now Orange County in 1769, however; the first permanent European settlement in the region was not established until 1776 with the founding of Mission San Juan Capistrano. In 1809 the Spanish Government granted Rancho Santiago de Santa Ana, which includes present day Tustin, Santa Ana, Orange, Olive, El Modena, Costa Mesa, and parts of Newport, to Jose Antonio Yorba (Lovret 2011). In 1868 Columbus Tustin and his partner Nelson O. Stafford each invested \$2,500 to buy 1,359-acres of the Santiago de Santa Ana Land Grant. The partners split the land with Tustin taking approximately 840 acres and later purchasing an additional 159 acres from Stafford. In 1870 Tustin moved his family from Petaluma, where he and Stafford owned a carriage-making business, to the land he purchased (Ball et. al. 2011). Tustin filled the original plat map for Tustin City in 1970-1871 and his sister Barbara was the first person to purchase land from him. In order to attract settlers to his venture, Tustin began giving free lots to anyone who would build on them and by 1874 the community began to take shape with many permanent residences and businesses. The community continued to grow until 1877 when the Southern Pacific Railway bypassed Tustin for Santa Ana as the terminus of the newly expanded rail line from Anaheim (Lovret 2011).

During the 20th century, Tustin remained largely rural with an economy supported by citrus orchards. Development was slow until the 1920s when Tustin experience a period of modest residential growth. Tustin built its own high school in 1922. By 1927, the population topped 900 and the citizens voted to incorporate as a city. The new City Council elected Byron Crawford the first mayor. With the start of World War II, three military bases (Santa Ana Army Air Base, the El Toro Marine Corps Air Station, and the Navy's Lighter-Than-Air Base) were constructed in and near Tustin resulting in a dramatic increase in residential and commercial development to help support military operations. Tustin grew at a rapid pace in the post-War years due to the housing boom of the 1950s. A devastating citrus disease decimated orange groves in the mid-1950s, forcing landowners to sell to developers who transformed the groves into large housing tracts (Tustin Area Historical Society 2019).

(See Continuation Sheet)

B11. Additional Resource Attributes: (List attributes and codes) N/A

***B12. References:**

Refer to Continuation Sheet

B13. Remarks: N/A

***B14. Evaluator:** J. Castells, MA

Date of Evaluation: October 2019

(Sketch Map with north arrow required.)

Please see attached

CONTINUATION SHEET

Page 3 of 11

*Resource Name or # (Assigned by recorder) Tustin Hills Racquet Club

*Recorded by: PaleoWest Archaeology

*Date: October 2019 Continuation Update

*D6. Significance (Continued):

The origins of tennis can be traced to handball games developed 12th century France. By the 16th century the game had evolved from hitting a ball with a bare hand or glove to the use rackets. It was also during the 16th century that the game began to increasingly be played indoors and regularized rules were developed. The game spread throughout Europe and by the 1860s more standardized rules were developed and outside courts became more common. Major Walter Clopton Wingfield of England created a standardized set of rules in 1873 or 1874 on which modern tennis is based (Kimball 2017).

The origins of tennis in the United States is largely contested, but credit often goes to one of three individuals who reportedly set up games in 1874. Mary Outerbridge who reportedly brought a tennis net back from Bermuda that she set up in Staten Island, New York, James White reportedly set up a game on the lawn of William Appleton in Nahant, Massachusetts as did Martha Summerhayes who reportedly set up a game at Camp Apache in the Arizona Territory (Kimball 2017).

The first tennis match billed as a “national championship” in the United States was held on Staten island in 1880. A year later, in 1881, the United States Tennis Association was formed (Kimball 2017).

The first tennis club to be founded in California, and the oldest west of the Mississippi River, is the California Tennis Club in San Francisco in 1884 (California Tennis Club 2019). In 1895 the Ojai Valley Tennis Club was established in Ojai, California making it among the earliest clubs dedicated to tennis in Southern California (Ojai Valley inn 2019). Many other tennis clubs were established in Southern California throughout the Twentieth Century including the Los Angeles Tennis Club in 1920 (Los Angeles Tennis Club 2019). By the mid-twentieth century many affluent communities in Southern California boasted private tennis clubs.

The Tustin Hills Racquet Club was established in 1958 and is considered the first private tennis club to be established in Orange County (Tustin Hills Racquet Club 2019). In 1976 the club was purchased by Charles and Janis Pate from the previous owners, Rolf Engen and Warren Finely. Among the notable tennis players who have played at the club were former Tustin mayor and Wimbledon contender, and college and pro players including Tracy Willis, Carlos Bustos, Bill Behrensd, and Terry Marcoline (Leach 1999). Ove the years the club has hosted countless weddings, events, and tennis tournaments.

A review of historic aerials shows that between 1946 and 1952 the surrounding area was redeveloped from citrus orchards to residential tracts. The construction of the Tustin Hills Racquet Club coincided with this residential development. Aerials from 1963 show the clubhouse building, at least four tennis courts, two of which correspond with extant tennis courts, and the clubhouse. By 1966 there are at least 6 tennis courts visible, four of which that correspond with extant tennis courts and an additional two tennis courts that correspond with extant tennis courts are visible in the 1972 aerial. Between 1972 and 1980 the property was configured as it is today with 11 tennis courts, a pool with associated facilities, and a pergola on the southwest elevation of the clubhouse (NETR 2019).

CRHR Evaluation

The historical significance of the subject property was determined by applying the procedure and criteria forth by the California Register of Historical Resources (CRHR).

CRHR Criterion 1: The Tustin Hills Racquet Club does not meet CRHR Criterion 1 for association with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage. The racquet club was constructed in 1958 during a period that corresponds with the residential growth of the north Tustin area. While the earliest private tennis club to be constructed in orange County, the inclusion of private and public recreational facilities was a common development as large housing tracts, particularly those in affluent areas, we designed and built. While the club is the earliest in Orange County, it is not the earliest within the state of California or within southern California. Research has yielded no information to suggest that the development of the tennis club fundamentally affected the history of recreation in the area. And while its presence made the immediate surrounding area more attractive to potential homeowners, there is no indication that the tennis club was crucial to the development of Orange County. Therefore, the Tustin Hills Racquet Club is not eligible for the CRHR under Criterion 1.

(See Continuation Sheet)

***D6. Significance (Continued):**

CRHR Criterion 2: The Tustin Hills Racquet Club does not meet CRHR Criterion 2 for any direct associations with the productive lives of persons important in local, state, or national history. While many players have utilized the club over its history, including professional players, research has yielded no information to suggest that any having achieved a level of historical significance or that any persons that have achieved historical significance did so based on their specific associated with this property. Therefore, the Tustin Hills Racquet Club is not eligible for the CRHR under Criterion 2.

CRHR Criterion 3: The Tustin Hills Racquet Club does not to meet CRHR Criterion 3 for embodying the distinctive characteristics of a type, period, and method of construction, or as the work of an important creative individual, or as having high artistic value. The ranch style clubhouse was constructed in 1958. It is a common and unremarkable example of this style and property type. It is one of countless buildings and many clubhouses constructed in this style during the mid-twentieth century. Research has yielded information to suggest that the layout of the property represents a departure from standard practices in the development of private tennis clubs. The architect and builder were not identified, however; it is unlikely that the clubhouse and the rest of the property are the work of a master. Therefore, the Tustin Hills Racquet Club is not eligible for the CRHR under Criterion 3.

CRHR Criterion 4: The Tustin Hills Racquet Club does not meet CRHR Criterion 4 since it is unlikely to yield information important to prehistory or history. This criterion is usually reserved to address archaeological resources, which were not addressed as part of this study. It is unlikely that this property has the potential to broaden our understanding of history. Therefore, Tustin Hills racquet Club is not eligible for the CRHR under Criterion 4.

***B12. References (Continued):**

- Ball, Guy and the Tustin Area Historical Society
2011 *Images of America: Tustin*. Arcadia Publishing: Charleston, S.C.
- California Tennis Club
2019 "History." Accessed at: <https://www.calclubtennis.com/history>
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2019 "Ojai Tennis History." Accessed at: <https://www.ojavalleyinn.com/recreation/ojai-california-recreation/ojai-california-tennis-resort/ojai-tennis-history>.
- Tustin Area Historical Society
2019 "Tustin History." Accessed at: <http://www.tustinhistory.com/tustin-history.htm>
- Tustin Hills Racquet Club
2019 "About Tustin Hills Racquet Club." Accessed at: <https://tustinhillsracquetclub.com/about/>.



Clubhouse, northwest elevation, facing north



Clubhouse, northwest elevation, facing south



Clubhouse, northwest elevation, facing south



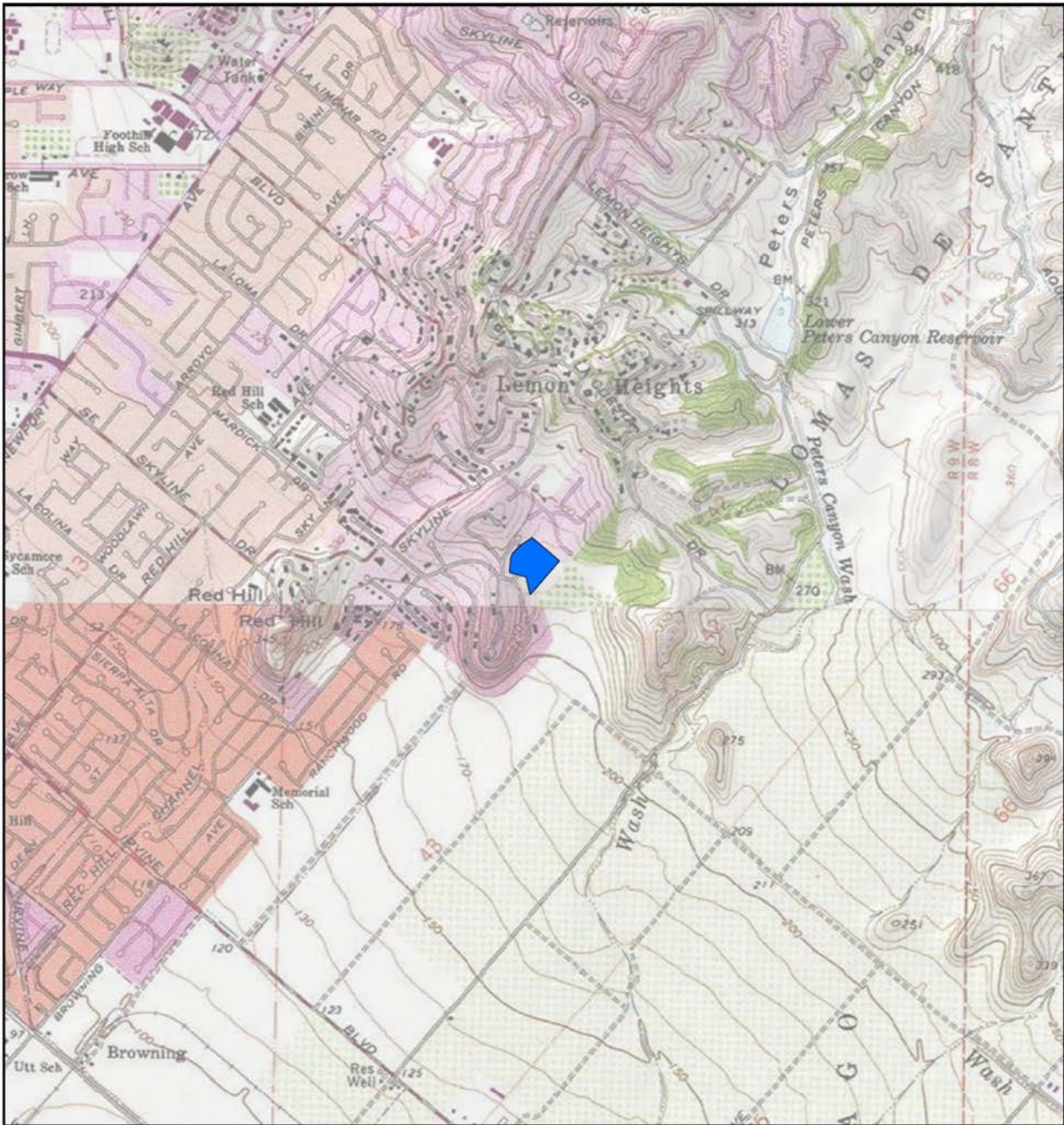
Representative view of tennis courts, facing southeast



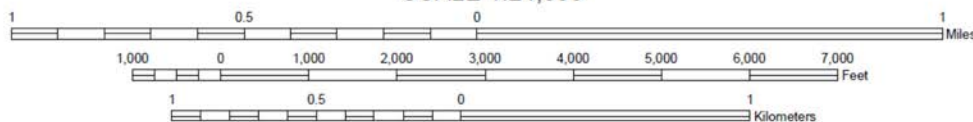
Swimming Pool, facing west

Map Name: Orange, CA 7.5' USGS Quad.

Date: 1977



SCALE 1:24,000



TRUE NORTH

*Drawn by: B.Spelts

*Scale: 1:2,400

*Date of map: October 2019





***Appendix B.
Records Search Results
(Confidential)***

Appendix D

Energy Calculations

Summary of Energy Usage

Immediate Improvements

Phase Name	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Demolition	15	0	63	14.7	6.9	20
Site Preparation	8	0	0	14.7	6.9	20
Grading	15	0	0	14.7	6.9	20
Trenching	8	0	0	14.7	6.9	20
Trenching	8	0	0	14.7	6.9	20
Building Construction	60	17	0	14.7	6.9	20
Paving	20	0	0	14.7	6.9	20
Architectural Coating	12	0	0	14.7	6.9	20

Total Trips and VMT

Phase Name	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
All Trips	146	17	63	15	7	20

Fuel Consumption (Gasoline)

Fuel Consumption (Diesel)

Phase Name	Fuel Consumption (Gasoline)			Fuel Consumption (Diesel)		
	Worker Trips	Vendor Trips	Hauling Trips	Worker Trips	Vendor Trips	Hauling Trips
All Trips	104	8	2	0	0	216
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	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	104	8	2	0	0	216

113

216

Gallons of Gasoline and Diesel

Summary of Energy Usage
2020

Vehicle Types	MPG by Fuel Type			Population by Fuel Type				Total
	GAS	DSL	ELEC	GAS	DSL	ELEC		
LDA	27.7	37.1		6,057,424	56,830	135,127	6,114,253	
LDT1	23.2	26.5		513,376	635	391	514,011	
LDT2	20.7	28.2		2,127,118	3,604		2,130,723	
LHDT1	10.9	20.4		119,024	90,013		209,037	
LHDT2	10.2	18.7		24,274	37,748		62,022	
MCY	35.2			281,781			281,781	
MDV	15.3	21.8		1,429,909	21,913		1,451,822	
MH	7.4	10.2		36,719	9,447		46,167	
MHDT	7.0	8.7		19,066	130,263		149,329	
HHDT	4.7	5.8		775	85,233		86,008	
OBUS	7.2	7.3		8,230	5,193		13,424	
SBUS	11.3	7.2		2,199	5,153		7,352	
UBUS	5.0	4.8		2,260	4,492		6,752	

Trips/Day	Trips/day	Trips/day	Trips/day
Land Use	Weekday	Saturday	Sunday
Condo/Townhouse	348.91	340.77	290.82
Total	349	341	291

Fleet Mix	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	Total
Land Use	0.696901	0.044938	0.215587	0.010249	0.003587	0.010249	0	0.010249	0	0.001625	0.004988	0.000601	0.001027	100.0%
Condo/Townhouse	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%

Vehicle Trips	LDA	LDT1	LDT2	MDV	LHDT1	LHDT2	MHDT	HHDT	Obus	Ubus	MCY	Sbus	MH	Total	Weekday	
															Daily VMT	Annual VMT
Weekday Trips	243	16	75	4	1	4	0	4	0	1	2	0	0	349	3,186.67	828,534
Condo/Townhouse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0
	0	0	0	0	0	0	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	243	16	75	4	1	4	0	4	0	1	2	0	0	349		828,534
Saturday Trips	237	15	73	3	1	3	0	3	0	1	2	0	0	341	3,187	165,707
Condo/Townhouse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0
	0	0	0	0	0	0	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	237	15	73	3	1	3	0	3	0	1	2	0	0	341		165,707
Sunday Trips	203	13	63	3	1	3	0	3	0	0	1	0	0	291	3,187	165,707
Condo/Townhouse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0
	0	0	0	0	0	0	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	203	13	63	3	1	3	0	3	0	0	1	0	0	291		165,707

Gallons of Fuel	LDA	LDT1	LDT2	MDV	LHDT1	LHDT2	MHDT	HHD	Obus	Ubus	MCY	Sbus	MH	Total	Total Gallons	
															Gasoline	Diesel
Gasoline	28,964	2,242	12,060	764	217	458	0	23	0	126	164	18	128	45,164		45,164
Condo/Townhouse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0
	0	0	0	0	0	0	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	28,964	2,242	12,060	764	217	458	0	23	0	126	164	18	128			45,164
Diesel	203	2	15	8	88	387	0	2,038	0	262	0	68	24	3,095		3,095
Condo/Townhouse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0
	0	0	0	0	0	0	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	203	2	15	8	88	387	0	2,038	0	262	0	68	24			3,095

48,259 Total Gallons of Diesel and
24 Average MPG

Appendix E
Geotechnical Study

GEOTECHNICAL INVESTIGATION

**PROPERTY TRANSACTION AND
PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA**



GEOCON
WEST, INC.

GEOTECHNICAL
ENVIRONMENTAL
MATERIALS

PREPARED FOR

**RANCH HILL PARTERS, LP
NEWPORT BEACH, CALIFORNIA**

**MAY 16, 2017
PROJECT NO. A9568-88-02**



Project No. A9568-88-02
May 16, 2017

Ranch Hill Partners, LP
124 Tustin Avenue, Suite 200
Newport Beach, California 92663

Attention: Mr. Peter Zehnder

Subject: GEOTECHNICAL INVESTIGATION
PROPERTY TRANSACTION AND
PROPOSED SINGLE-FAMILY RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

Dear Mr. Zehnder:

In accordance with your authorization, we have prepared this geotechnical investigation report for the pending property transaction and the proposed single-family residential tract development for the parcel designated as 11782 Simon Ranch Road within the City of Santa Ana, California. The accompanying report presents the findings of our study and our conclusions and recommendations pertaining to the geotechnical aspects of proposed design and construction. Based on the results of our investigation, it is our opinion that the site can be developed as proposed provided the recommendations of this report are followed and implemented during design and construction.

Geocon West Inc. is the Geotechnical Consultant of Record and will be providing the necessary geotechnical consultation, plan review, design recommendations, inspections, and testing services for this project.

If you have any questions regarding this report, or if we may be of further service, please contact the undersigned.

Very truly yours,

GEOCON WEST, INC.



Arnold Gastelum
PE 81553



Jelisa Thomas Adams
GE 3092



Susan F. Kirkgard
CEG 1754

(EMAIL) Addressee

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LIMITATIONS AND UNIFORMITY OF CONDITIONS

LIST OF REFERENCES

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- Figure 2, Site Plan – Existing
- Figure 3, Regional Fault Map
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- Figure 5, Fill Slope Detail
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APPENDIX A

FIELD INVESTIGATION

Figures A1 through A5, Boring Logs

APPENDIX B

LABORATORY TESTING

Figures B1 and B2, Direct Shear Test Results

Figure B3, Consolidation Test Results

Figure B4, Grain Size Distribution

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GEOTECHNICAL INVESTIGATION

1. PURPOSE AND SCOPE

This report presents the results of a geotechnical investigation for the pending property transaction and proposed single-family residential tract development for the parcel designated as 11782 Simon Ranch Road within the City of Santa Ana, California (see Vicinity Map, Figure 1). The purpose of the investigation was to evaluate subsurface soil and geologic conditions underlying the site and, based on conditions encountered, to provide conclusions and recommendations pertaining to the geotechnical aspects of design and construction.

The scope of this investigation included a site reconnaissance, field exploration, laboratory testing, engineering analysis, and the preparation of this report. The site was explored on April 13, 2017, by excavating five 8-inch diameter borings to depths of approximately 18½ to 33½ feet below the existing ground surface utilizing a truck-mounted hollow-stem auger drilling machine. The approximate locations of the exploratory borings are depicted on the Site Plan (see Figure 2). A detailed discussion of the field investigation, including boring logs, is presented in Appendix A.

Laboratory tests were performed on selected soil samples obtained during the investigation to determine pertinent physical and chemical soil properties. Appendix B presents a summary of the laboratory test results.

The recommendations presented herein are based on analysis of the data obtained during the investigation and our experience with similar soil and geologic conditions. References reviewed to prepare this report are provided in the *List of References* section.

If project details vary significantly from those described herein, Geocon should be contacted to determine the necessity for review and possible revision of this report.

2. SITE AND PROJECT DESCRIPTION

The subject site is located at 11782 Simon Ranch Road within the City of Santa Ana, in the County of Orange, California. The site is an irregularly-shaped parcel and is currently occupied by three pads that step down from northwest to southeast. Existing site improvements include a paved parking lot, single-story clubhouse, swimming pool, twelve tennis courts, and lawn/patio/hardscape areas. The site is bounded by single-family residences to the northeast, northwest, southeast, and southwest. Current topographic relief is gently southeasterly sloping, accommodating a total elevation change of roughly 48 vertical feet (Elevation 227 to Elevation 275 feet above mean sea level [MSL]). Changes in elevation between pads are accommodated by retaining walls and 2:1 (H:V) slopes. Surface water drainage at the site appears to be by sheet flow along the existing ground contours to the city streets. Vegetation onsite consists of grass and trees, which are located in the lawn and planter areas.

Based on the information provided by the Client, it is our understanding that the proposed development will consist of 37 dwelling units comprised of 17 duplex buildings and 3 single unit buildings with internal streets and an openspace lot. We anticipate construction will consist of two-story wood-framed structures with conventional spread footings and slab-on-grade floors. The proposed slopes around the perimeter of the site and between the individual pads will be up to 15 feet in height and will be constructed at a gradient of 2:1 (horizontal to vertical). Due to the preliminary nature of the project, formal plans depicting the proposed development are not available for inclusion in this report. The existing site conditions are depicted on the Site Plan – Existing (see Figure 2A).

Based on the preliminary nature of the design at this time, wall and column loads were not available. It is anticipated that column loads for the proposed residential buildings will be up to 75 kips, and wall loads will be up to 2 kips per linear foot.

Once the design phase and foundation loading configuration proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Any changes in the design, location or elevation of any structure, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

3. GEOLOGIC SETTING

The site is located on a bedrock high along the eastern portion of the Coastal Plain of Orange County. The site is situated on the western flank of the foothills at the base of the Santa Ana Mountains north and west of Peters Canyon Wash. Published geologic maps indicate a northeasterly trending contact transects the site, separating early Miocene to late Eocene age bedrock on the northwest from alluvial deposits on the southeast. Based on a review of aerial photography the original grading of the site likely resulted in a wedge of artificial fill that thickens to the southeast overlying a former drainage channel.

4. SOIL AND GEOLOGIC CONDITIONS

Based on our field investigation and published geologic maps of the area, the site is underlain by artificial fill and Holocene age alluvial deposits underlain by early Miocene to late Eocene age sedimentary bedrock of the undifferentiated Vaqueros and Sespe Formations (Morton, 1999). Detailed stratigraphic profiles of the materials encountered at the site are provided on the boring logs in Appendix A.

4.1 Artificial Fill

Artificial fill was encountered in our field explorations to a maximum depth of 8 feet below existing ground surface. The artificial fill generally consists of dark brown to dark yellowish brown sandy silt. The artificial fill is characterized as slightly moist and soft to firm. The fill is likely the result of past grading or construction activities at the site. Deeper fill may exist between excavations and in other portions of the site that were not directly explored.

4.2 Alluvium

Holocene age alluvium was encountered beneath the fill in borings B2, B3, and B5. The fill consists primarily of sandy silt, clayey silt, silty sand and silt with sand. The soil is primarily yellowish brown to dark yellowish brown, slightly moist and medium dense to dense or stiff to hard.

4.3 Undifferentiated Vaqueros and Sespe Formations

The artificial fill and alluvium is underlain by sedimentary bedrock of the early Miocene age to late Eocene age undifferentiated Vaqueros and Sespe Formations (Morton, 1999). The bedrock was encountered in the borings at depths ranging from 5 to 23 feet beneath the existing ground surface and generally consist of yellowish brown, olive brown, and gray interbedded sandstone and siltstone. The bedrock is slightly moist and soft to moderately hard, unfractured to intensely fractured, and fresh to moderately weathered.

5. GROUNDWATER

The site is elevated above the local alluviated groundwater basin and is underlain by sedimentary bedrock units that are not considered water-bearing. Review of the Seismic Hazard Zone Report for the Orange Quadrangle (California Division of Mines and Geology [CDMG], 2001) indicates there is no available historic or current groundwater data for the site or the immediately surrounding area.

At the time of our field investigation, no evidence of near surface water, such as seeps, springs, or phreatophytes were observed at the site. Groundwater was not encountered in our field explorations, drilled to a maximum depth of 33½ feet below the existing ground surface. Based on the lack of groundwater in our borings and depth of proposed construction, groundwater is neither expected to be encountered during construction or impact foundation excavations or grading operations. However, it is not uncommon for groundwater levels to vary seasonally or for groundwater seepage conditions to develop where none previously existed, especially in impermeable fine-grained soils which are heavily irrigated or after seasonal rainfall. In addition, recent requirements for stormwater infiltration could result in shallower seepage conditions in the immediate site vicinity. Proper surface drainage of irrigation and precipitation will be critical for future performance of the project. Recommendations for drainage are provided in the *Surface Drainage* section of this report (see Section 7.17).

6. GEOLOGIC HAZARDS

6.1 Surface Fault Rupture

The numerous faults in Southern California include active, potentially active, and inactive faults. The criteria for these major groups are based on criteria developed by the California Geological Survey (CGS, formerly known as CDMG) for the Alquist-Priolo Earthquake Fault Zone Program (Bryant and Hart, 2007). By definition, an active fault is one that has had surface displacement within Holocene time (about the last 11,000 years). A potentially active fault has demonstrated surface displacement during Quaternary time (approximately the last 1.6 million years), but has had no known Holocene movement. Faults that have not moved in the last 1.6 million years are considered inactive.

The site is not within a state-designated Alquist-Priolo Earthquake Fault Zone (CGS, 2017) for surface fault rupture hazards. No active or potentially active faults with the potential for surface fault rupture are known to pass directly beneath the site. Therefore, the potential for surface rupture due to faulting occurring beneath the site during the design life of the proposed development is considered low. However, the site is located in the seismically active Southern California region, and could be subjected to moderate to strong ground shaking in the event of an earthquake on one of the many active Southern California faults. The faults in the vicinity of the site are shown in Figure 3, Regional Fault Map.

The closest surface trace of an active fault to the site is the Whittier Fault located approximately 10.5 miles to the northeast (Ziony and Jones, 1989). Other nearby active faults include the Elsinore Fault, the Newport-Inglewood Fault Zone, the Chino Fault, and the Central Avenue Fault located approximately 11.5 miles northeast, 12.0 miles southwest, 13.0 miles northeast, and 15.5 miles north-northeast of the site, respectively (Ziony and Jones, 1989). The active San Andreas Fault Zone is located approximately 39 miles northeast of the site.

The closest potentially active fault to the site is the Peralta Hills Fault located approximately 5.0 miles to the northwest (Ziony and Jones, 1989). Other nearby potentially active faults are the Pelican Hill Fault, the Norwalk Fault, and the Los Alamitos Fault located approximately 10.0 miles southwest, 13.5 miles northwest, and 17.5 miles northwest of the site, respectively (Ziony and Jones, 1989).

Several buried thrust faults, commonly referred to as blind thrusts, underlie the Los Angeles Basin (including the Orange County Coastal Plain) at depth. These faults are not exposed at the ground surface and are typically identified at depths greater than 3.0 kilometers. The October 1, 1987 M_w 5.9 Whittier Narrows earthquake and the January 17, 1994 M_w 6.7 Northridge earthquake were a result of movement on the Puente Hills Blind Thrust and the Northridge Thrust, respectively. These thrust faults and others in the greater Los Angeles area are not exposed at the surface and do not present a potential surface fault rupture hazard at the site; however, these deep thrust faults are considered active features capable of generating future earthquakes that could result in moderate to significant ground shaking at the site.

6.2 Seismicity

As with all of Southern California, the site has experienced historic earthquakes from various regional faults. The seismicity of the region surrounding the site was formulated based on research of an electronic database of earthquake data. The epicenters of recorded earthquakes with magnitudes equal to or greater than 5.0 in the site vicinity are depicted on Figure 4, Regional Seismicity Map. A partial list of moderate to major magnitude earthquakes that have occurred in the Southern California area within the last 100 years is included in the following table.

LIST OF HISTORIC EARTHQUAKES

Earthquake (Oldest to Youngest)	Date of Earthquake	Magnitude	Distance to Epicenter (Miles)	Direction to Epicenter
San Jacinto-Hemet area	April 21, 1918	6.8	45	E
Near Redlands	July 23, 1923	6.3	35	ENE
Long Beach	March 10, 1933	6.4	14	SW
Tehachapi	July 21, 1952	7.5	58	NW
San Fernando	February 9, 1971	6.6	27	NW
Whittier Narrows	October 1, 1987	5.9	37	NNW
Sierra Madre	June 28, 1991	5.8	83	ENE
Landers	June 28, 1992	7.3	63	ENE
Big Bear	June 28, 1992	6.4	54	NW
Northridge	January 17, 1994	6.7	104	ENE
Hector Mine	October 16, 1999	7.1	45	E

The site could be subjected to strong ground shaking in the event of an earthquake. However, this hazard is common in Southern California and the effects of ground shaking can be mitigated if the proposed structures are designed and constructed in conformance with current building codes and engineering practices.

6.3 Seismic Design Criteria

The following table summarizes site-specific design criteria obtained from the 2016 California Building Code (CBC; Based on the 2015 International Building Code [IBC] and ASCE 7-10), Chapter 16 Structural Design, Section 1613 Earthquake Loads. The data was calculated using the computer program *U.S. Seismic Design Maps*, provided by the USGS. The short spectral response uses a period of 0.2 second. We evaluated the Site Class based on the discussion in Section 1613.3.2 of the 2016 CBC and Table 20.3-1 of ASCE 7-10. The values presented below are for the risk-targeted maximum considered earthquake (MCE_R).

2016 CBC SEISMIC DESIGN PARAMETERS

Parameter	Value	2016 CBC Reference
Site Class	C	Section 1613.3.2
MCE_R Ground Motion Spectral Response Acceleration – Class B (short), S_S	1.504g	Figure 1613.3.1(1)
MCE_R Ground Motion Spectral Response Acceleration – Class B (1 sec), S_1	0.551g	Figure 1613.3.1(2)
Site Coefficient, F_A	1.0	Table 1613.3.3(1)
Site Coefficient, F_V	1.3	Table 1613.3.3(2)
Site Class Modified MCE_R Spectral Response Acceleration (short), S_{MS}	1.504g	Section 1613.3.3 (Eqn 16-37)
Site Class Modified MCE_R Spectral Response Acceleration – (1 sec), S_{M1}	0.716g	Section 1613.3.3 (Eqn 16-38)
5% Damped Design Spectral Response Acceleration (short), S_{DS}	1.003g	Section 1613.3.4 (Eqn 16-39)
5% Damped Design Spectral Response Acceleration (1 sec), S_{D1}	0.477g	Section 1613.3.4 (Eqn 16-40)

The table below presents the mapped maximum considered geometric mean (MCE_G) seismic design parameters for projects located in Seismic Design Categories of D through F in accordance with ASCE 7-10.

ASCE 7-10 PEAK GROUND ACCELERATION

Parameter	Value	ASCE 7-10 Reference
Mapped MCE_G Peak Ground Acceleration, PGA	0.537g	Figure 22-7
Site Coefficient, F_{PGA}	1.0	Table 11.8-1
Site Class Modified MCE_G Peak Ground Acceleration, PGA_M	0.537g	Section 11.8.3 (Eqn 11.8-1)

The Maximum Considered Earthquake Ground Motion (MCE) is the level of ground motion that has a 2 percent chance of exceedance in 50 years, with a statistical return period of 2,475 years. According to the 2016 California Building Code and ASCE 7-10, the MCE is to be utilized for the evaluation of liquefaction, lateral spreading, seismic settlements, and it is our understanding that the intent of the Building code is to maintain “Life Safety” during a MCE event. The Design Earthquake Ground Motion (DE) is the level of ground motion that has a 10 percent chance of exceedance in 50 years, with a statistical return period of 475 years.

Deaggregation of the MCE peak ground acceleration was performed using the USGS online BETA Unified Hazard Tool, 2008 Conterminous U.S. Dynamic edition. The result of the deaggregation analysis indicates that the predominant earthquake contributing to the MCE peak ground acceleration is characterized as a 6.56 magnitude event occurring at a hypocentral distance of 13.0 kilometers from the site.

Deaggregation was also performed for the Design Earthquake (DE) peak ground acceleration, and the result of the analysis indicates that the predominant earthquake contributing to the DE peak ground acceleration is characterized as a 6.61 magnitude occurring at a hypocentral distance of 18.78 kilometers from the site.

Conformance to the criteria in the above tables for seismic design does not constitute any kind of guarantee or assurance that significant structural damage or ground failure will not occur if a large earthquake occurs. The primary goal of seismic design is to protect life, not to avoid all damage, since such design may be economically prohibitive.

6.4 Liquefaction Potential

Liquefaction is a phenomenon in which loose, saturated, relatively cohesionless soil deposits lose shear strength during strong ground motions. Primary factors controlling liquefaction include intensity and duration of ground motion, gradation characteristics of the subsurface soils, in-situ stress conditions, and the depth to groundwater. Liquefaction is typified by a loss of shear strength in the liquefied layers due to rapid increases in pore water pressure generated by earthquake accelerations.

The current standard of practice, as outlined in the “Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction in California” and “Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazards in California” requires liquefaction analysis to a depth of 50 feet below the lowest portion of the proposed structure. Liquefaction typically occurs in areas where the soils below the water table are composed of poorly consolidated, fine to medium-grained, primarily sandy soil. In addition to the requisite soil conditions, the ground acceleration and duration of the earthquake must also be of a sufficient level to induce liquefaction.

The State of California Seismic Hazard Zone Map for the Orange Quadrangle (1998) indicates that the site is not located in an area designated as “liquefiable.” In addition, the Orange County General Plan (2004) indicates that the site is not located within an area identified as having a potential for liquefaction. As previously discussed, consolidated early Miocene to late Eocene age sedimentary bedrock that is not prone to liquefaction underlies the site at depths ranging from 5 to 23 feet beneath the existing ground surface. Based on these considerations, it is our opinion that the potential for liquefaction and associated ground deformations beneath the site is very low.

6.5 Slope Stability

The topography at the site is sloping gently southeast accommodating a total elevation change of roughly 48 vertical feet from Elevation 275 MSL to Elevation 227 (above mean sea level [MSL]). Changes in elevations between pads are accommodated by retaining walls and 2:1 (H:V) graded slopes. According to the Orange County General Plan (2004), the site is not within an area identified as having a potential for slope instability. Additionally, the site is not within an area identified as having a potential for seismic slope instability (CDMG, 1998). There are no known landslides near the site, nor is the site in the path of any known or potential landslides. Therefore, the potential for slope stability hazards to adversely affect the proposed development is considered low.

Based on published geologic maps, the geologic structure of the bedrock in the area is oriented favorably with respect to the existing on-site slopes. However, the orientation of the bedrock will require further assessment during the future design phases of the project and prior to grading.

6.6 Earthquake-Induced Flooding

Earthquake-induced flooding is inundation caused by failure of dams or other water-retaining structures due to earthquakes. Based on a review of the Orange County General Plan (2004), the site is not located within a potential inundation area for an earthquake-induced dam failure. The probability of earthquake-induced flooding is considered very low.

6.7 Tsunamis, Seiches, and Flooding

The site is not located within a coastal area. Therefore, tsunamis, seismic sea waves, are not considered a significant hazard at the site.

Seiches are large waves generated in enclosed bodies of water in response to ground shaking. No major water-retaining structures are located immediately up gradient from the project site. Therefore, flooding resulting from a seismically-induced seiche is considered unlikely.

The site is within an area of minimal flooding (Zone X) as defined by the Federal Emergency Management Agency (FEMA, 2017).

6.8 Oil Fields & Methane Potential

Based on a review of the California Division of Oil, Gas and Geothermal Resources (DOGGR) Oil and Gas Well Location Map W1-6, the site is not located within the limits of an oilfield and oil or gas wells are not located in the immediate site vicinity. However, due to the voluntary nature of record reporting by the oil well drilling companies, wells may be improperly located or not shown on the location map and undocumented wells could be encountered during construction. Any wells encountered during construction will need to be properly abandoned in accordance with the current requirements of the DOGGR.

Since the site is not located within the boundaries of a known oil field, the potential for the presence of methane or other volatile gases at the site is considered low. However, should it be determined that a methane study is required for the proposed development it is recommended that a qualified methane consultant be retained to perform the study and provide mitigation measures as necessary.

6.9 Subsidence

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Soils that are particularly subject to subsidence include those with high silt or clay content. The site is not located within an area of known ground subsidence. No large-scale extraction of groundwater, gas, oil, or geothermal energy is occurring or planned at the site or in the general site vicinity. There appears to be little or no potential for ground subsidence due to withdrawal of fluids or gases at the site.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 General

- 7.1.1 It is our opinion that neither soil nor geologic conditions were encountered during the investigation that would preclude the construction of the proposed development provided the recommendations presented herein are followed and implemented during design and construction.
- 7.1.2 Up to 8 feet of existing artificial fill was encountered during the site investigation. The existing fill encountered is believed to be the result of past grading and construction activities at the site. Deeper fill may exist in other areas of the site that were not directly explored. Future demolition of the existing structures which occupy the site will likely disturb the upper few feet of soil. It is our opinion that the existing fill, in its present condition, is not suitable for direct support of proposed foundations or slabs. The existing fill and site soils are suitable for re-use as engineered fill provided the recommendations in the Grading section of this report are followed (see Section 7.4). If bedrock is to be utilized as engineered fill, it may be blocky and may have to be crushed, moisture conditioned, and blended prior to utilization.
- 7.1.3 Based on these considerations, at a minimum it is recommended that the upper 5 feet of existing earth materials within the building footprint areas be excavated and properly compacted for foundation and slab support. Deeper excavations should be conducted as needed to remove any encountered fill or soft soils as necessary at the direction of the Geotechnical Engineer (a representative of Geocon). Removals of 8 feet or more should be expected, especially over the former drainage channel in the southeastern portion of the site. The excavation should extend laterally a minimum distance of 3 feet beyond the building footprint areas, including building appurtenances, or a distance equal to the depth of fill below the foundation, whichever is greater. Proposed building foundations should be underlain by a minimum of 3 feet of newly placed engineered fill. The limits of existing fill and/or soft soil removal will be verified by the Geocon representative during site grading activities. Recommendations for earthwork are provided in the *Grading* section of this report (see Section 7.4).
- 7.1.4 Subsequent to the recommended grading, the proposed residential buildings may be supported on conventional shallow spread foundation systems deriving support in newly placed engineered fill.
- 7.1.5 All excavations must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon). Prior to placing any fill, the upper 12 inches of the excavation bottom must be scarified, moistened, and proof-rolled with heavy equipment in the presence of the Geotechnical Engineer (a representative of Geocon West, Inc.).

- 7.1.6 It is anticipated that stable excavations for the recommended grading associated with the proposed residential buildings can be achieved with sloping measures. However, if excavations in close proximity to an adjacent property line and/or structure are required, special excavation measures may be necessary in order to maintain lateral support of offsite improvements. Excavation recommendations are provided in the *Temporary Excavations* section of this report (Section 7.15).
- 7.1.7 Foundations for small outlying structures, such as block walls less than 6 feet in height, planter walls or trash enclosures, which will not be tied to the proposed residential buildings, may be supported on conventional foundations deriving support on a minimum of 12 inches of newly placed engineered fill which extends laterally at least 12 inches beyond the foundation area. Where excavation and compaction cannot be performed or is undesirable, foundations may derive support directly in the competent undisturbed alluvial soils found at or below a depth of 30 inches, and should be deepened as necessary to maintain a minimum 12-inch embedment into the recommended bearing materials. Based on the variable subsurface conditions across the site, alternative miscellaneous foundation recommendations may be required and can be provided as the project progresses under separate cover. If the soils exposed in the excavation bottom are soft or loose, compaction of the soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative.
- 7.1.8 Where new paving is to be placed, it is recommended that all existing fill and soft alluvial soils be excavated and properly compacted for paving support. The client should be aware that excavation and compaction of all existing fill and soft alluvial soils in the area of new paving is not required; however, paving constructed over existing uncertified fill or unsuitable alluvial soil may experience increased settlement and/or cracking, and may therefore have a shorter design life and increased maintenance costs. As a minimum, the upper 12 inches of subgrade soil should be scarified and properly compacted for paving support. Paving recommendations are provided in *Preliminary Pavement Recommendations* section of this report (see Section 7.12).
- 7.1.9 Based on the results of percolation testing performed at the site, a stormwater infiltration system is considered feasible for this project. Recommendations for infiltration are provided in the *Stormwater Infiltration* section of this report (see Section 7.16).
- 7.1.10 Additional site exploration and laboratory testing should be considered to study the eastern portion of the property, which is currently occupied by tennis courts. The additional site exploration can be conducted as a second phase of geotechnical investigation or immediately following site demolition. Until additional site exploration is conducted, the recommendations provided herein should be considered preliminary with respect to the western portion of the site.

7.1.11 Once the design and foundation loading configuration for the proposed residential buildings proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Based on the final foundation loading configurations, the potential for settlement should be re-evaluated by this office.

7.1.12 Any changes in the design, location or elevation, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

7.2 Soil and Excavation Characteristics

7.2.1 The in-situ soils can be excavated with moderate to heavy effort using conventional excavation equipment. Some caving should be anticipated in unshored excavations, especially where granular soils are encountered.

7.2.2 It is the responsibility of the contractor to ensure that all excavations and trenches are properly shored and maintained in accordance with applicable OSHA rules and regulations to maintain safety and maintain the stability of existing adjacent improvements.

7.2.3 All onsite excavations must be conducted in such a manner that potential surcharges from existing structures, construction equipment, and vehicle loads are resisted. The surcharge area may be defined by a 1:1 projection down and away from the bottom of an existing foundation or vehicle load. Penetrations below this 1:1 projection will require special excavation measures such as sloping or shoring. Excavation recommendations are provided in the *Temporary Excavations* section of this report (see Section 7.15).

7.2.4 The upper 5 feet of existing site soils encountered during this investigation are considered to have a “medium” expansive potential (EI = 66); and are classified as “expansive” based on the 2016 California Building Code (CBC) Section 1803.5.3. Recommendations presented herein assume that the building foundations and slabs will derive support in these materials.

7.3 Minimum Resistivity, pH, and Water-Soluble Sulfate

7.3.1 Potential of Hydrogen (pH) and resistivity testing as well as chloride content testing were performed on representative samples of soil to generally evaluate the corrosion potential to surface utilities. The tests were performed in accordance with California Test Method Nos. 643 and 422 and indicate that the soils are considered “corrosive” with respect to corrosion of buried ferrous metals on site. The results are presented in Appendix B (Figure B6) and should be considered for design of underground structures.

- 7.3.2 Laboratory tests were performed on representative samples of the site materials to measure the percentage of water-soluble sulfate content. Results from the laboratory water-soluble sulfate tests are presented in Appendix B (Figure B6) and indicate that the on-site materials possess “not applicable” sulfate exposure to concrete structures as defined by 2016 CBC Section 1904 and ACI 318-11 Sections 4.2 and 4.3.
- 7.3.3 Geocon West, Inc. does not practice in the field of corrosion engineering and mitigation. If corrosion sensitive improvements are planned, it is recommended that a corrosion engineer be retained to evaluate corrosion test results and incorporate the necessary precautions to avoid premature corrosion of buried metal pipes and concrete structures in direct contact with the soils.

7.4 Grading

- 7.4.1 Earthwork should be observed, and compacted fill tested by representatives of Geocon West, Inc. The existing fill and alluvial soil encountered during exploration is suitable for re-use as engineered fill, provided any encountered oversize material (greater than 6 inches) and any encountered deleterious debris are removed. If bedrock is to be utilized as engineered fill, it may be blocky and may have to be crushed, moisture conditioned, and blended prior to utilization.
- 7.4.2 A preconstruction conference should be held at the site prior to the beginning of grading operations with the owner, contractor, civil engineer, geotechnical engineer, and building official in attendance. Special soil handling requirements can be discussed at that time.
- 7.4.3 Grading should commence with the removal of all existing vegetation and existing improvements from the area to be graded. Deleterious debris such as wood and root structures should be exported from the site and should not be mixed with the fill soils. Asphalt and concrete should not be mixed with the fill soils unless approved by the Geotechnical Engineer. All existing underground improvements planned for removal should be completely excavated and the resulting depressions properly backfilled in accordance with the procedures described herein. Once a clean excavation bottom has been established it must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.).
- 7.4.4 As a minimum, it is recommended that the upper 5 feet of existing earth materials within the proposed building footprint areas be excavated and properly compacted for foundation and slab support. Deeper excavations should be conducted as necessary to remove deeper artificial fill or soft alluvial soil at the direction of the Geotechnical Engineer (a representative of Geocon). Removals of 8 feet or more should be expected in the southern portion of the site. The excavation should extend laterally a minimum distance of 3 feet beyond the building footprint area, including building appurtenances, or a distance equal to the depth of fill below the foundation, whichever is greater. Proposed building foundations should be underlain by a minimum of 3 feet

of newly placed engineered fill. The limits of existing fill and/or soft alluvial soils removal will be verified by the Geocon representative during site grading activities.

- 7.4.5 All excavations must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon). Prior to placing any fill, the upper 12 inches of the excavation bottom must be scarified, moistened, and proof-rolled with heavy equipment in the presence of the Geotechnical Engineer (a representative of Geocon West, Inc.).
- 7.4.6 All fill and backfill soils should be placed in horizontal loose layers approximately 6 to 8 inches thick, moisture conditioned to optimum moisture content, and properly compacted to a minimum 90 percent of the maximum dry density in accordance with ASTM D 1557 (latest edition).
- 7.4.7. Where new paving is to be placed, it is recommended that all existing fill and soft alluvium be excavated and properly compacted for paving support. As a minimum, the upper 12 inches of soil should be scarified, moisture conditioned to optimum moisture content, and compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition). Paving recommendations are provided in *Preliminary Pavement Recommendations* section of this report (see Section 7.12).
- 7.4.8 It is anticipated that stable excavations for the recommended grading can be achieved with sloping measures. However, if excavations in close proximity to an adjacent property line and/or structure are required, special excavation measures may be necessary in order to maintain lateral support of the existing offsite improvements. Excavation recommendations are provided in the *Temporary Excavations* section of this report (Section 7.15).
- 7.4.9 Foundations for small outlying structures, such as block walls less than 6 feet high, planter walls or trash enclosures, which will not be tied to the proposed building, may be supported on conventional foundations deriving support on a minimum of 12 inches of newly placed engineered fill which extends laterally at least 12 inches beyond the foundation area. Where excavation and proper compaction cannot be performed or is undesirable, foundations may derive support directly in the undisturbed alluvial soils found at or below a depth of 30 inches, and should be deepened as necessary to maintain a minimum 12 inch embedment into the recommended bearing materials. Based on the variable subsurface conditions across the site, alternative miscellaneous foundation recommendations may be required and can be provided as the project progresses under separate cover. If the soils exposed in the excavation bottom are soft or loose, compaction of the soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative.

- 7.4.10 Utility trenches should be properly backfilled in accordance with the requirements of the Green Book (latest edition). The pipe should be bedded with clean sands (Sand Equivalent greater than 30) to a depth of at least 1 foot over the pipe, and the bedding material must be inspected and approved in writing by the Geotechnical Engineer (a representative of Geocon). The use of gravel is not acceptable unless used in conjunction with filter fabric to prevent the gravel from having direct contact with soil. The remainder of the trench backfill may be derived from onsite soil or approved import soil, compacted as necessary, until the required compaction is obtained. The use of minimum 2-sack slurry is also acceptable as backfill (see Section 7.4). Prior to placing any bedding materials or pipes, the excavation bottom must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon).
- 7.4.11 All imported fill shall be observed, tested, and approved by Geocon West, Inc. prior to bringing soil to the site. Rocks larger than 6 inches in diameter shall not be used in the fill. If necessary, import soils used as structural fill should have an expansion index less than 50 and corrosivity properties that are equally or less detrimental to that of the existing onsite soils (see Figure B6). Import soils placed in the building area should be placed uniformly across a building pad or in a manner that is approved by the Geotechnical Engineer (a representative of Geocon).
- 7.4.12 All trench and foundation excavation bottoms must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon), prior to placing bedding materials, fill, steel, gravel, or concrete.

7.5 Slope Construction

- 7.5.1 Prior to construction of slopes, it is recommended that all existing artificial fill be excavated within the footprint of the proposed slope. If all artificial fill may not be removed prior to placement of additional fill for construction of proposed slopes, the Client should be aware that placement of additional engineered fill over the existing artificial fill could induce settlement of the existing artificial fill that could adversely affect proposed improvements. If settlement of the existing artificial fill occurs, the overlying improvements may experience distress such as settlement or, in extreme circumstances, slope failure may occur. Recommendations for earthwork are provided in Section 7.4.
- 7.5.2 A keyway is required at the toe of all proposed fill slopes which are not directly underlain by newly placed engineered fill. The keyway should be cut a minimum of 2 feet into competent material and must be observed and approved in writing by the Geotechnical Engineer prior to placement of any fill. A detail is provided on Figure 5.

- 7.5.3 All engineered fill must be placed and compacted on a horizontal surface; benching into the existing ground surface must be performed as necessary such that all fill is placed and compacted on a horizontal surface.
- 7.5.4 Fill slopes comprised of on-site materials should be constructed at a gradient of 2:1 or flatter. Fill slopes should be overbuilt by at least 3 feet measured perpendicular to the slope face and trimmed back to the tight fill core. This procedure is considered preferable to track-walking of slopes, as described in the following paragraph.
- 7.5.5 As an alternative, fill slope faces may be compacted by track-rolling with a loaded sheepsfoot roller at vertical intervals not to exceed 4 feet, and should be track-walked at the completion of each slope such that the fill is compacted to a dry density of at least 90 percent of the laboratory maximum dry density.
- 7.5.6 All slopes should be planted, drained, and property maintained to reduce erosion. It is recommended that finished slopes be planted as soon after completion of grading as possible. Planting on the slope stabilizes the surface and reduces the potential for erosion. It is further suggested that a jute or mesh product be placed on the slope face prior to planting. The planting of the slope should be performed at the direction of a qualified landscaping consultant.

7.6 Shrinkage

- 7.6.1 Shrinkage results when a volume of material removed at one density is compacted to a higher density. A shrinkage factor of up to 8 percent should be anticipated when excavating and compacting the upper 5 feet of existing earth materials on the site to an average relative compaction of 92 percent. Bulking of cut bedrock is likely to occur and anticipated bulking percentages should be evaluated once the project proceeds to a more finalized plan.
- 7.4.2 If import soils will be utilized in the building pads, the soils must be placed uniformly and at equal thickness at the direction of the Geotechnical Engineer (a representative of Geocon West, Inc.). Soils can be borrowed from non-building pad areas and later replaced with imported soils.

7.7 Foundation Design

- 7.7.1 Subsequent to the recommended grading, a conventional shallow spread foundation system may be utilized for support of the proposed residential buildings provided foundations derive support in newly placed engineered fill. Foundations should be underlain by a minimum of 3 feet of newly placed engineered fill.
- 7.7.2 Continuous footings may be designed for an allowable bearing capacity of 2,400 pounds per square foot (psf), and should be a minimum of 12 inches in width, 24 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing material.

- 7.7.3 Isolated spread foundations may be designed for an allowable bearing capacity of 3,000 psf, and should be a minimum of 24 inches in width, 24 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing material.
- 7.7.4 The allowable soil bearing pressure above may be increased by 160 psf and 500 psf for each additional foot of foundation width and depth, respectively, up to a maximum allowable soil bearing pressure of 3,500 psf.
- 7.7.5 The allowable bearing pressures may be increased by one-third for transient loads due to wind or seismic forces.
- 7.7.6 If depth increases are utilized for the perimeter foundations, this office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary. Additional grading should be conducted as-needed in order to maintain the required 3-foot thick blanket of engineered fill below proposed foundations.
- 7.7.7 Continuous footings should be reinforced with four No. 4 steel reinforcing bars, two placed near the top of the footing and two near the bottom. Reinforcement for spread footings should be designed by the project structural engineer.
- 7.7.8 The above foundation dimensions and minimum reinforcement recommendations are based on soil conditions and building code requirements only, and are not intended to be used in lieu of those required for structural purposes.
- 7.7.9 Due to the expansive potential of the subgrade soils, the moisture content in the slab and foundation subgrade should be maintained at 2 percent above optimum moisture content prior to and at the time of concrete placement.
- 7.7.10 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to the placement of reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated. If unanticipated soil conditions are encountered, foundation modifications may be required.
- 7.7.11 This office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary.

7.8 Foundation Settlement

- 7.8.1 The maximum expected static settlement for a residential building supported on a conventional foundation system deriving support in the recommended bearing materials and designed with a maximum bearing pressure of 3,500 psf is estimated to be less than ½ inch and occur below the heaviest loaded structural element. Settlement of the foundation system is expected to occur on initial application of loading. Differential settlement is not expected to exceed ¼ inch over a distance of 20 feet.
- 7.8.2 Once the design and foundation loading configurations for the proposed residential buildings proceeds to a more finalized plan, the estimated settlements presented in this report should be reviewed and revised, if necessary. If the final foundation loading configurations are greater than the assumed loading conditions, the potential for settlement should be reevaluated by this office.

7.9 Miscellaneous Foundations

- 7.9.1 Foundations for small outlying structures, such as block walls less than 6 feet in height, planter walls or trash enclosures which will not be tied to a proposed residential building may be supported on conventional foundations bearing on a minimum of 12 inches of newly placed engineered fill which extends laterally at least 12 inches beyond the foundation area. Where excavation and compaction cannot be performed or is undesirable, such as adjacent to property lines, foundations may derive support in the undisturbed alluvial soils found at or below a depth of 30 inches, and should be deepened as necessary to maintain a minimum 12 inch embedment into the recommended bearing materials. Based on the variable subsurface conditions across the site, alternative miscellaneous foundation recommendations may be required and can be provided as the project progresses under separate cover
- 7.9.2 If the soils exposed in the excavation bottom are soft, compaction of the soft soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative. Miscellaneous foundations may be designed for a bearing value of 1,500 psf, and should be a minimum of 12 inches in width, 24 inches in depth below the lowest adjacent grade and 12 inches into the recommended bearing material. The allowable bearing pressure may be increased by up to one-third for transient loads due to wind or seismic forces.
- 7.9.3 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to the placement of reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated.

7.10 Lateral Design

- 7.10.1 Resistance to lateral loading may be provided by friction acting at the base of foundations, slabs and by passive earth pressure. An allowable coefficient of friction of 0.3 may be used with the dead load forces in properly compacted engineered fill or competent alluvial soils.
- 7.10.2 Passive earth pressure for the sides of foundations and slabs poured against properly compacted engineered fill or competent alluvial soils may be computed as an equivalent fluid having a density of 200 pcf with a maximum earth pressure of 2,000 psf. When combining passive and friction for lateral resistance, the passive component should be reduced by one-third.

7.11 Concrete Slabs-on-Grade

- 7.11.1 Concrete slabs-on-grade subject to vehicle loading should be designed in accordance with the recommendations in the *Preliminary Pavement Recommendations* section of this report (Section 7.12).
- 7.11.2 Subsequent to the recommended grading, concrete slabs-on-grade for structures, not subject to vehicle loading, should be a minimum of 4 inches thick and minimum slab reinforcement should consist of No. 4 steel reinforcing bars placed 16 inches on center in both horizontal directions. Steel reinforcing should be positioned vertically near the slab midpoint.
- 7.11.3 Slabs-on-grade at the ground surface that may receive moisture-sensitive floor coverings or may be used to store moisture-sensitive materials should be underlain by a vapor retarder placed directly beneath the slab. The vapor retarder and acceptable permeance should be specified by the project architect or developer based on the type of floor covering that will be installed. The vapor retarder design should be consistent with the guidelines presented in Section 9.3 of the American Concrete Institute's (ACI) Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials (ACI 302.2R-06) and should be installed in general conformance with ASTM E 1643 (latest edition) and the manufacturer's recommendations. A minimum thickness of 15 mils extruded polyolefin plastic is recommended; vapor retarders which contain recycled content or woven materials are not recommended. The vapor retarder should have a permeance of less than 0.01 perms demonstrated by testing before and after mandatory conditioning. The vapor retarder should be installed in direct contact with the concrete slab with proper perimeter seal. If the California Green Building Code requirements apply to this project, the vapor retarder should be underlain by 4 inches of clean aggregate. It is important that the vapor retarder be puncture resistant since it will be in direct contact with angular gravel. As an alternative to the clean aggregate suggested in the Green Building Code, it is our opinion that the concrete slab-on-grade may be underlain by a vapor retarder over 4 inches of clean sand (sand equivalent greater than 30), since the sand will serve a capillary break and will minimize the potential for punctures and damage to the vapor barrier.

- 7.11.4 For seismic design purposes, a coefficient of friction of 0.3 may be utilized between concrete slabs and subgrade soils without a moisture barrier, and 0.15 for slabs underlain by a moisture barrier.
- 7.11.5 Exterior slabs for walkways or flatwork, not subject to traffic loads, should be at least 4 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions, positioned near the slab midpoint. Prior to construction of slabs, the upper 12 inches of subgrade should be moistened to optimum moisture content and properly compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition). Crack control joints should be spaced at intervals not greater than 10 feet and should be constructed using saw-cuts or other methods as soon as practical following concrete placement. Crack control joints should extend a minimum depth of one-fourth the slab thickness. The project structural engineer should design construction joints as necessary.
- 7.11.6 The recommendations of this report are intended to reduce the potential for cracking of slabs due to settlement. However, even with the incorporation of the recommendations presented herein, foundations, stucco walls, and slabs-on-grade may exhibit some cracking due to minor soil movement and/or concrete shrinkage. The occurrence of concrete shrinkage cracks is independent of the supporting soil characteristics. Their occurrence may be reduced and/or controlled by limiting the slump of the concrete, proper concrete placement and curing, and by the placement of crack control joints at periodic intervals, in particular, where re-entrant slab corners occur.

7.12 Preliminary Pavement Recommendations

- 7.12.1 Where new paving is to be placed, it is recommended that all existing fill and soft or unsuitable alluvial materials be excavated and properly recompact for paving support. The client should be aware that excavation and compaction of all existing artificial fill and soft alluvium in the area of new paving is not required; however, paving constructed over existing unsuitable material may experience increased settlement and/or cracking, and may therefore have a shorter design life and increased maintenance costs. As a minimum, the upper 12 inches of paving subgrade should be scarified, moisture conditioned to optimum moisture content, and properly compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition).
- 7.12.2 The following pavement sections are based on R-Value laboratory test result of 13. Once site grading activities are complete another R-Value should be obtained for laboratory testing to confirm the properties of the soils serving as paving subgrade, prior to placing pavement.

7.12.3 The Traffic Indices listed below are estimates. Geocon does not practice in the field of traffic engineering. The actual Traffic Index for each area should be determined by the project civil engineer. If pavement sections for Traffic Indices other than those listed below are required, Geocon should be contacted to provide additional recommendations. Pavement thicknesses were determined following procedures outlined in the *California Highway Design Manual* (Caltrans). It is anticipated that the majority of traffic will consist of automobile and large truck traffic.

PRELIMINARY PAVEMENT DESIGN SECTIONS

Location	Estimated Traffic Index (TI)	Asphalt Concrete (inches)	Class 2 Aggregate Base (inches)
Automobile Parking And Driveways	4.0	3.0	5.0
Trash Truck & Fire Lanes	7.0	4.0	13.5

7.12.4 Asphalt concrete should conform to Section 203-6 of the “*Standard Specifications for Public Works Construction*” (Green Book). Class 2 aggregate base materials should conform to Section 26-1.02A of the “*Standard Specifications of the State of California, Department of Transportation*” (Caltrans). The use of Crushed Miscellaneous Base in lieu of Class 2 aggregate base is acceptable. Crushed Miscellaneous Base should conform to Section 200 2.4 of the “*Standard Specifications for Public Works Construction*” (Green Book).

7.12.5 Unless specifically designed and evaluated by the project structural engineer, where exterior concrete paving will be utilized for support of vehicles, it is recommended that the concrete be a minimum of 6 inches of concrete reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions. Concrete paving supporting vehicular traffic should be underlain by a minimum of 4 inches of aggregate base and a properly compacted subgrade. The subgrade and base material should be compacted to 95 percent relative compactions as determined by ASTM Test Method D 1557 (latest edition).

7.12.6 The performance of pavements is highly dependent upon providing positive surface drainage away from the edge of pavements. Ponding of water on or adjacent to the pavement will likely result in saturation of the subgrade materials and subsequent cracking, subsidence and pavement distress. If planters are planned adjacent to paving, it is recommended that the perimeter curb be extended at least 12 inches below the bottom of the aggregate base to minimize the introduction of water beneath the paving.

7.13 Retaining Walls Design

- 7.13.1 The recommendations presented below are generally applicable to the design of rigid concrete or masonry retaining walls having a maximum height of 6 feet. In the event that walls significantly higher than 6 feet are planned, Geocon should be contacted for additional recommendations.
- 7.13.2 Retaining wall foundations may be designed in accordance with the recommendations provided in the *Foundation Design* sections of this report (see Section 7.7).
- 7.13.3 Retaining walls with a level backfill surface that are not restrained at the top should be designed utilizing a triangular distribution of pressure (active pressure) of 30 pcf.
- 7.13.4 Restrained walls are those that are not allowed to rotate more than $0.001H$ (where H equals the height of the retaining portion of the wall in feet) at the top of the wall. Where walls are restrained from movement at the top, walls may be designed utilizing a triangular distribution of pressure (at-rest pressure) of 50 pcf.
- 7.13.5 The wall pressures provided above assume that the proposed retaining walls will support relatively undisturbed alluvial soils or engineered fill derived from onsite soils. If import material is placed behind proposed walls, revised earth pressures may be required. This should be evaluated once the use of import material is established and the geotechnical characteristics of the import soils can be further evaluated.
- 7.13.6 The wall pressures provided above assume that the retaining wall will be properly drained preventing the buildup of hydrostatic pressure. If retaining wall drainage is not implemented, the equivalent fluid pressure to be used in design of undrained walls is 90 pcf. The value includes hydrostatic pressures plus buoyant lateral earth pressures.
- 7.13.7 Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent structures and should be designed for each condition as the project progresses. Once the design becomes more finalized, an addendum letter can be prepared revising recommendations and addressing specific surcharge conditions throughout the project, if necessary.

7.14 Retaining Wall Drainage

- 7.14.1 Retaining walls should be provided with a drainage system extended at least two-thirds the height of the wall. At the base of the drain system, a subdrain covered with a minimum of 12 inches of gravel should be installed, and a compacted fill blanket or other seal placed at the surface (see Figure 6). The clean bottom and subdrain pipe, behind a retaining wall, should be observed by the Geotechnical Engineer (a representative of Geocon), prior to placement of gravel or compacting backfill.

- 7.14.2 As an alternative, a plastic drainage composite such as Miradrain or equivalent may be installed in continuous, 4-foot wide columns along the entire back face of the wall, at 8 feet on center. The top of these drainage composite columns should terminate approximately 18 inches below the ground surface, where either hardscape or a minimum of 18 inches of relatively cohesive material should be placed as a cap (see Figure 7). These vertical columns of drainage material would then be connected at the bottom of the wall to a collection panel or a 1-cubic-foot rock pocket drained by a 4-inch subdrain pipe.
- 7.14.3 Subdrainage pipes at the base of the retaining wall drainage system should outlet to an acceptable location via controlled drainage structures. Drainage should not be allowed to flow uncontrolled over descending slopes.
- 7.14.4 Moisture affecting below grade walls is one of the most common post-construction complaints. Poorly applied or omitted waterproofing can lead to efflorescence or standing water. Particular care should be taken in the design and installation of waterproofing to avoid moisture problems, or actual water seepage into the structure through any normal shrinkage cracks which may develop in the concrete walls, floor slab, foundations and/or construction joints. The design and inspection of the waterproofing is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend a product or method, which would provide protection to subterranean walls, floor slabs and foundations.

7.15 Temporary Excavations

- 7.15.1 Excavations on the order of 8 feet in height may be required during grading operations. The excavations are expected to expose artificial fill, alluvial soils, and bedrock which are suitable for vertical excavations up to 5 feet in height where loose soils or caving sands are not present, and where not surcharged by adjacent traffic or structures.
- 7.15.2 Vertical excavations greater than 5 feet or where surcharged by existing structures will require sloping or shoring measures in order to provide a stable excavation. Where sufficient space is available, temporary unsurcharged embankments could be sloped back at a uniform 1:1 slope gradient or flatter up to maximum height of 10 feet. A uniform slope does not have a vertical portion.
- 7.15.3 If excavations in close proximity to an adjacent property line and/or structure are required, special excavation measures such as slot-cutting or shoring may be necessary in order to maintain lateral support of offsite improvements. Recommendations for special temporary excavation measures can be provided under separate cover once the proposed building layout is established.

7.15.4 Where sloped embankments are utilized, the top of the slope should be barricaded to prevent vehicles and storage loads at the top of the slope within a horizontal distance equal to the height of the slope. If the temporary construction embankments are to be maintained during the rainy season, berms are suggested along the tops of the slopes where necessary to prevent runoff water from entering the excavation and eroding the slope faces. Geocon personnel should inspect the soils exposed in the cut slopes during excavation so that modifications of the slopes can be made if variations in the soil conditions occur. All excavations should be stabilized within 30 days of initial excavation.

7.16 Stormwater Infiltration

7.16.1 During the April 13, 2017, site exploration, boring B3 was utilized to perform percolation testing. The percolation testing was performed at the depths listed in the table below. Slotted casing was placed in the boring, and the annular space between the casing and excavation was filled with gravel. The boring was then filled with water to pre-saturate the soils. On April 14, 2017, the casing was refilled with water and percolation test readings were performed after repeated flooding of the cased excavation. Based on the test results, the average infiltration rate (adjusted percolation rate), for the earth materials encountered, is provided in the following table. The field-measured percolation rate has been adjusted to infiltration rates in accordance with the County of Orange Technical Guidance Document for the Preparation of Conceptual/Preliminary and/or Project Water Quality Management Plans (December 2013). Additional correction factors may be required and should be applied by the engineer in responsible charge of the design of the stormwater infiltration system and based on applicable guidelines. Percolation test data is provided as Figure 8.

Boring	Infiltration Depth (ft.)	Average Infiltration Rate (in / hour)
B3	20-22	1.9

7.16.2 The results of the percolation testing indicate that the soils at depths in the above table are conducive to infiltration. It is our opinion that the soil zone encountered at the depth and location as listed in the table above are suitable for infiltration of stormwater and will not induce excessive hydro-consolidation, will not affect soil structure interaction of existing or proposed foundations due to expansive soils, will not saturate soils supported by existing or proposed retaining walls, and will not increase the potential for liquefaction. Resulting settlements are anticipated to be less than ¼ inch, if any. Additional studies may be required to confirm that stormwater infiltration will not create a perched groundwater condition that would adversely affect the subject site or surrounding properties.

- 7.16.3 Where infiltration systems will be utilized, it is recommended that a minimum 10-foot horizontal and vertical setback be maintained from existing or proposed foundations. Additional setbacks may be required by the governing jurisdiction and should be incorporated into the stormwater infiltration system design as necessary.
- 7.16.4 Subsequent to the placement of the infiltration system, it is acceptable to backfill the resulting void space between the excavation sidewalls and the infiltration system with minimum two-sack slurry provided the slurry is not placed in the infiltration zone. It is recommended that pea gravel be utilized adjacent to the infiltration zone so communication of water to the soil is not hindered.
- 7.16.5 Due to the preliminary nature of the project at this time, the type of stormwater infiltration system and location of the stormwater infiltration systems has not yet been determined. The design drawings should be reviewed and approved by the Geotechnical Engineer. The installation of the stormwater infiltration system should be observed and approved by the Geotechnical Engineer (a representative of Geocon).

7.17 Surface Drainage

- 7.17.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.
- 7.17.2 All site drainage should be collected and controlled in non-erosive drainage devices. Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. The site should be graded and maintained such that surface drainage is directed away from structures in accordance with 2016 CBC 1804.4 or other applicable standards. In addition, drainage should not be allowed to flow uncontrolled over any descending slope. Discharge from downspouts, roof drains and scuppers are not recommended onto unprotected soils within five feet of the building perimeter. Planters which are located adjacent to foundations should be sealed to prevent moisture intrusion into the soils providing foundation support. Landscape irrigation is not recommended within 5 feet of the building perimeter footings except when enclosed in protected planters.
- 7.17.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

7.17.4 Landscaping planters immediately adjacent to paved areas are not recommended due to the potential for surface or irrigation water to infiltrate the pavement's subgrade and base course. Either a subdrain, which collects excess irrigation water and transmits it to drainage structures, or an impervious above-grade planter boxes should be used. In addition, where landscaping is planned adjacent to the pavement, it is recommended that consideration be given to providing a cutoff wall along the edge of the pavement that extends at least 12 inches below the base material.

7.18 Plan Review

7.18.1 Grading and foundation plans should be reviewed by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to finalization to verify that the plans have been prepared in substantial conformance with the recommendations of this report and to provide additional analyses or recommendations.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geocon West, Inc. should be notified so that supplemental recommendations can be given. The evaluation or identification of the potential presence of hazardous or corrosive materials was not part of the scope of services provided by Geocon West, Inc.
2. This report is issued with the understanding that it is the responsibility of the owner, or of his representative, to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.
3. The findings of this report are valid as of the date of this report. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.
4. The firm that performed the geotechnical investigation for the project should be retained to provide testing and observation services during construction to provide continuity of geotechnical interpretation and to check that the recommendations presented for geotechnical aspects of site development are incorporated during site grading, construction of improvements, and excavation of foundations. If another geotechnical firm is selected to perform the testing and observation services during construction operations, that firm should prepare a letter indicating their intent to assume the responsibilities of project geotechnical engineer of record. A copy of the letter should be provided to the regulatory agency for their records. In addition, that firm should provide revised recommendations concerning the geotechnical aspects of the proposed development, or a written acknowledgement of their concurrence with the recommendations presented in our report. They should also perform additional analyses deemed necessary to assume the role of Geotechnical Engineer of Record.

LIST OF REFERENCES

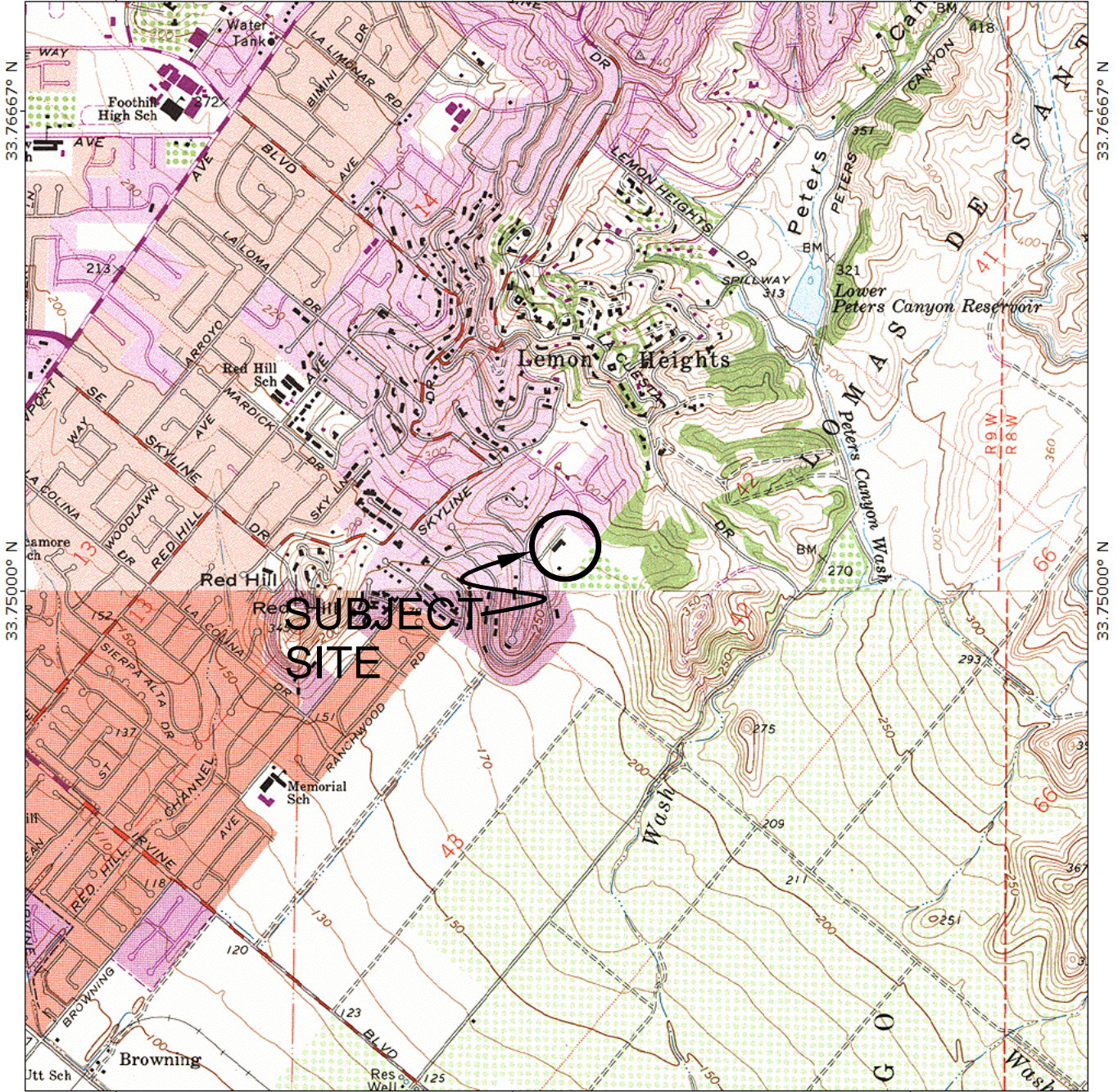
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TOPO! map printed on 05/08/17 from "LA.TPO" and "Untitled.tpg"

117.80000° W

117.78333° W

WGS84 117.76667° W



33.76667° N

33.75000° N

33.76667° N

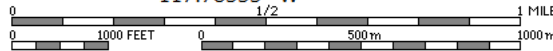
33.75000° N

SUBJECT SITE

117.80000° W

117.78333° W

WGS84 117.76667° W



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REFERENCE: U.S.G.S. TOPOGRAPHIC MAPS, 7.5 MINUTE SERIES, ORANGE, CA QUADRANGLE

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ENVIRONMENTAL GEOTECHNICAL MATERIALS
15520 ROCKFIELD BLVD. - SUITE J - IRVINE, CA 92618
PHONE (949) 491-6570

VICINITY MAP

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

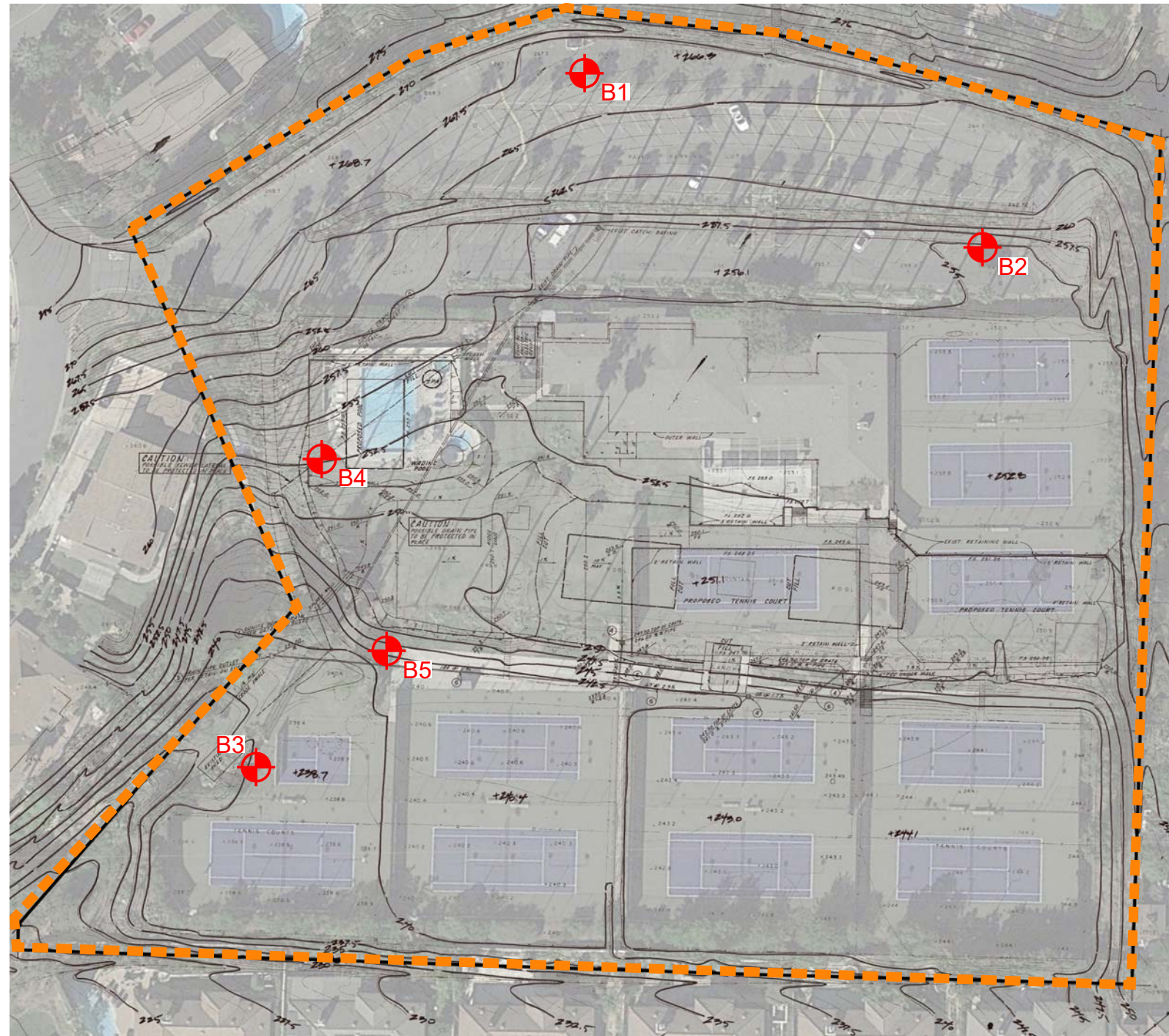
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CHECKED BY: GAK/SFK



MAY 2017

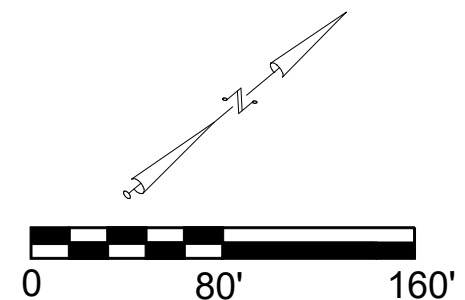
PROJECT NO. A9568-88-02


FIG. 1



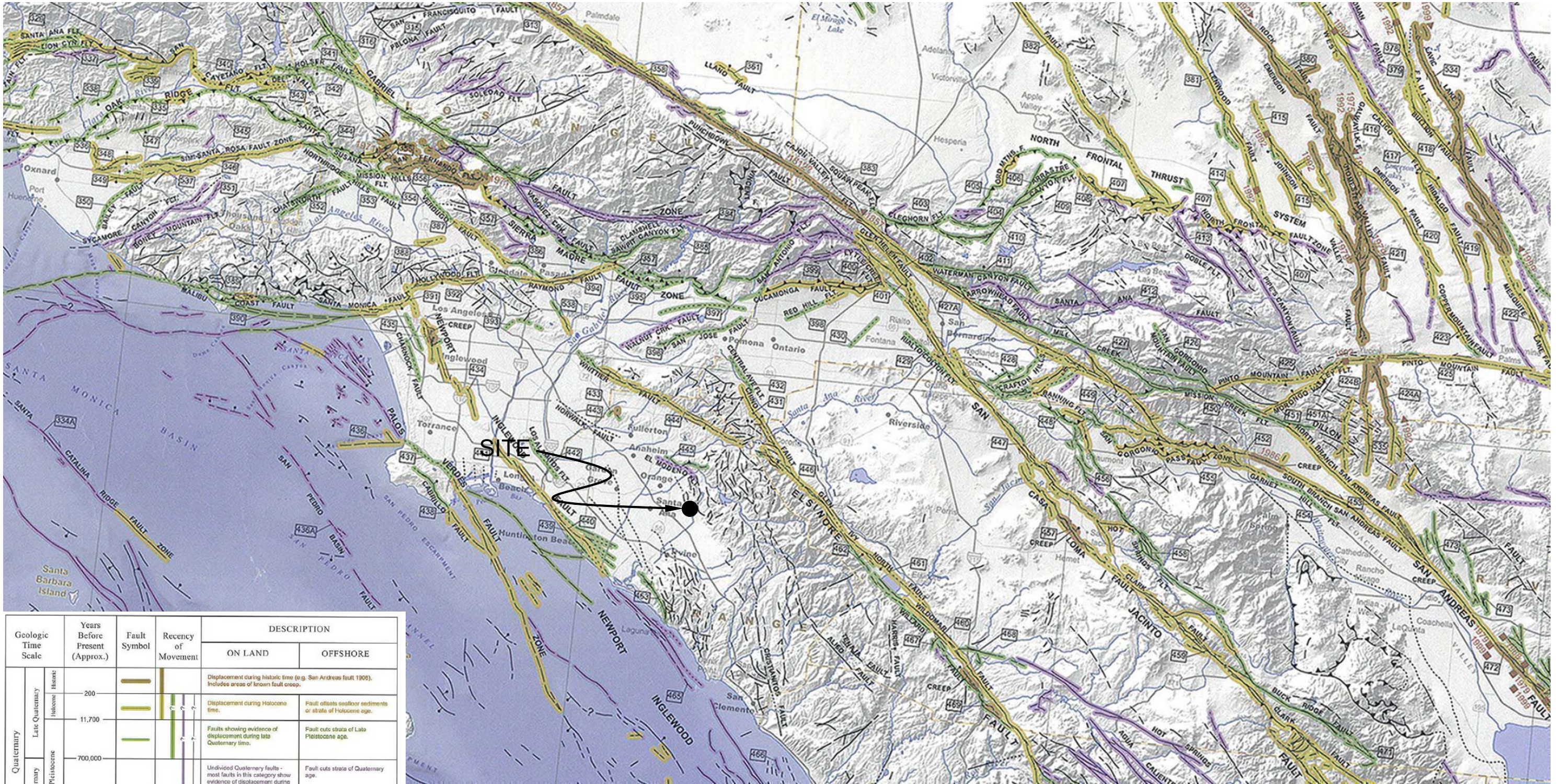
LEGEND

-  B5 Approximate Location of Boring
-  Approximate Location of Property Line



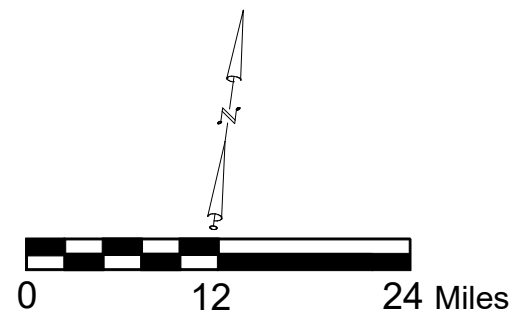
GEOCON WEST, INC.			
ENVIRONMENTAL GEOTECHNICAL MATERIALS 15520 ROCKFIELD BLVD. - SUITE J - IRVINE, CA 92618 PHONE (949) 491-6570			
DRAFTED BY: RMA		CHECKED BY: SFK	
SITE PLAN - EXISTING PROPOSED SINGLE-FAMILY RESIDENTIAL TRACT DEVELOPMENT 11782 SIMON RANCH ROAD SANTA ANA, CALIFORNIA		MAY 2017	PROJECT NO. A9568-88-02
			FIG. 2

Reference: Jennings, C.W. and Bryant, W. A., 2010, Fault Activity Map of California, California Geological Survey Geologic Data Map No. 6.



Geologic Time Scale	Years Before Present (Approx.)	Fault Symbol	Recency of Movement	DESCRIPTION	
				ON LAND	OFFSHORE
Quaternary	Late Quaternary Holocene			Displacement during historic time (e.g. San Andreas fault 1906). Includes areas of known fault creep.	Fault offsets onshore sediments or strata of Holocene age.
	11,700			Faults showing evidence of displacement during late Quaternary time.	Fault cuts strata of Late Pleistocene age.
Pre-Quaternary	700,000			Undivided Quaternary faults - most faults in this category show evidence of displacement during the last 1,800,000 years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age.	Fault cuts strata of Quaternary age.
	1,600,000			Faults without recognized Quaternary displacement or showing evidence of no displacement during Quaternary time. Not necessarily inactive.	Fault cuts strata of Pliocene or older age.
	4.5 billion (Age of Earth)				

* Quaternary now recognized as extending to 2.6 Ma (Walker and Geissman, 2009). Quaternary faults in this map were established using the previous 1.8 Ma criterion.



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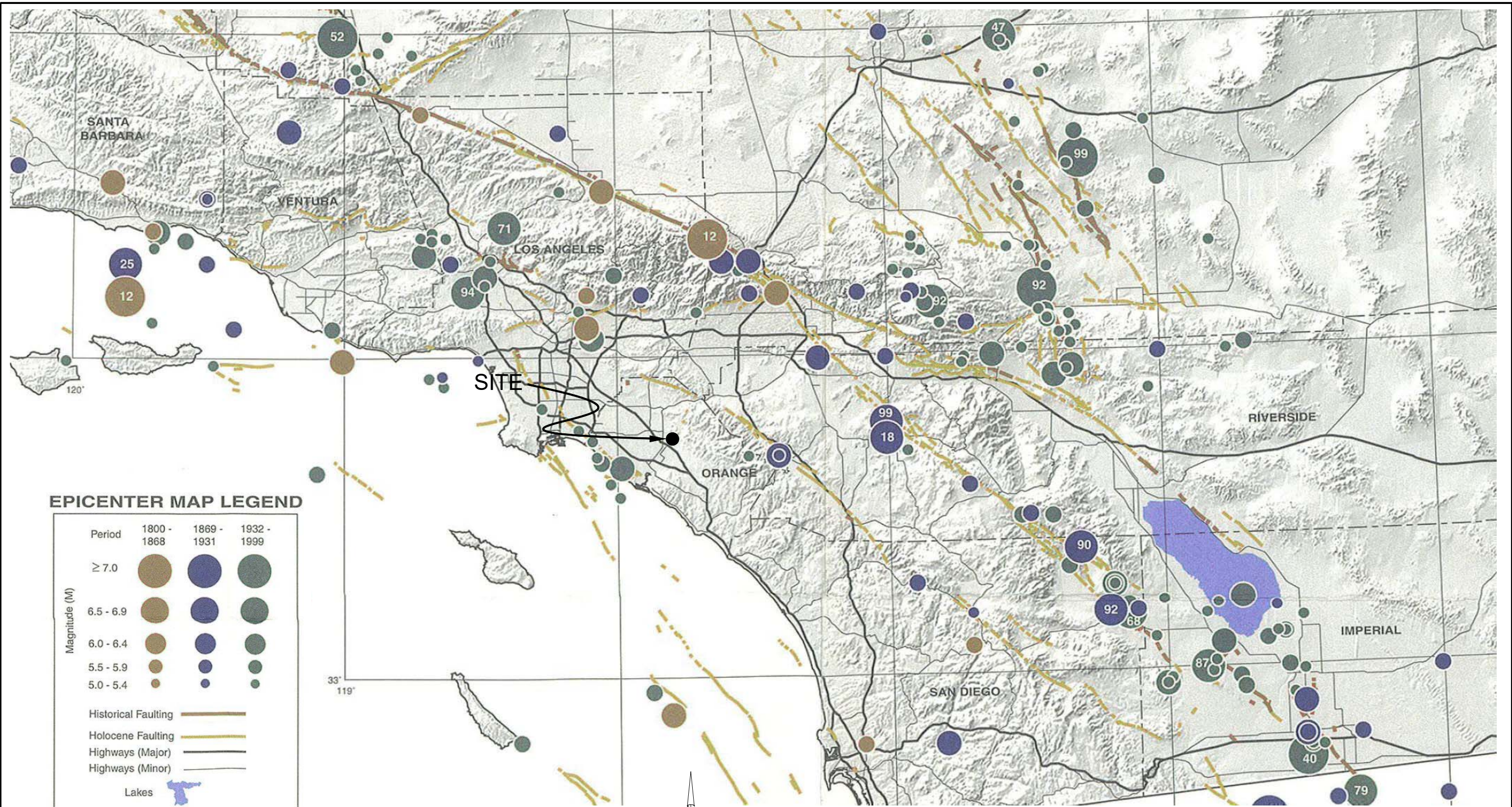
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REGIONAL FAULT MAP

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
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SANTA ANA, CALIFORNIA

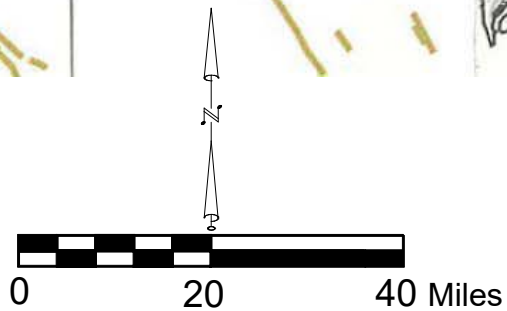
MAY 2017 PROJECT NO. A9568-88-02 FIG. 3



EPICENTER MAP LEGEND

Period	1800 - 1868	1869 - 1931	1932 - 1999
Magnitude (M)			
≥ 7.0			
6.5 - 6.9			
6.0 - 6.4			
5.5 - 5.9			
5.0 - 5.4			
Historical Faulting			
Holocene Faulting			
Highways (Major)			
Highways (Minor)			
Lakes			
	Last two digits of M ≥ 6.5 earthquake year		

Reference: Topozada, T., Branum, D., Petersen, M., Hallstrom, C., Cramer, C., and Reichle, M., 2000, Epicenters and Areas Damaged by M≥5 California Earthquakes, 1800 - 1999, California Geological Survey, Map Sheet 49.



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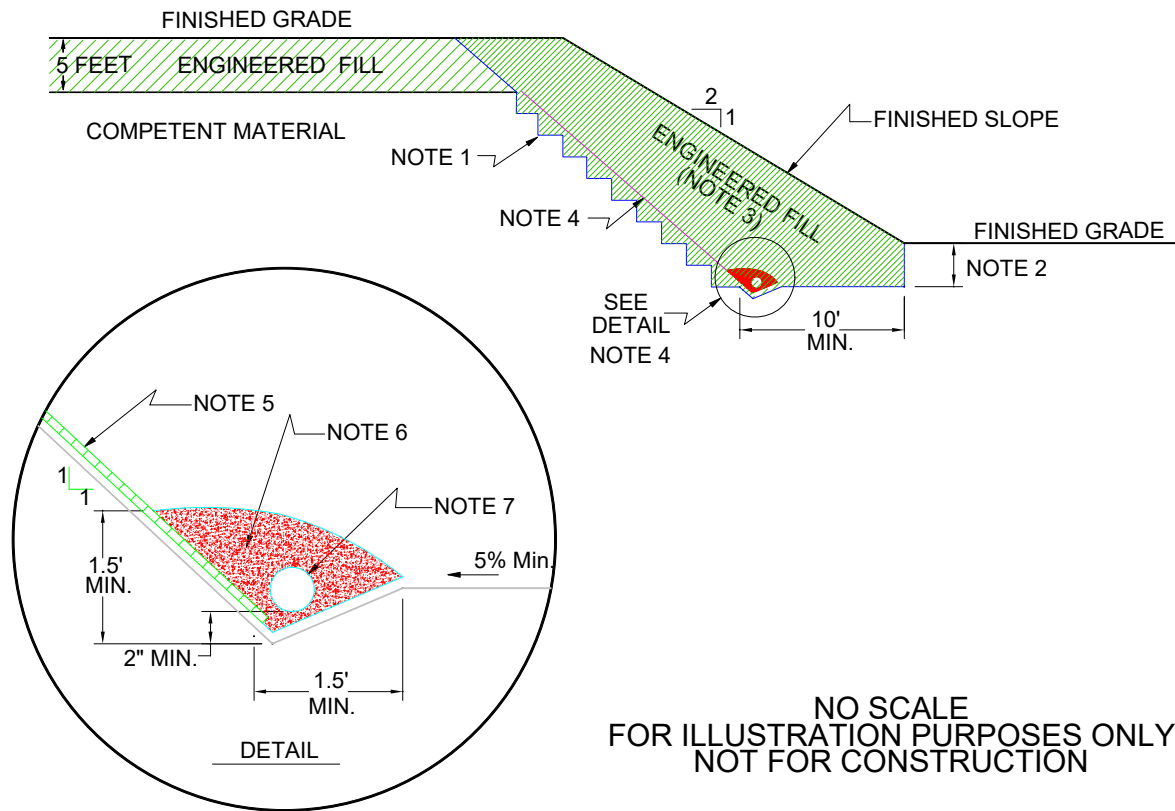
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REGIONAL SEISMICITY MAP

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

MAY 2017 PROJECT NO. A9568-88-02 FIG. 4



NO SCALE
 FOR ILLUSTRATION PURPOSES ONLY
 NOT FOR CONSTRUCTION

NOTES

- 1 EXCAVATE BENCHED BACKCUT AT 1:1 INCLINATION OR FLATTER
- 2 BASE OF SLOPE KEYWAY TO BE 2 FEET BELOW PAD GRADE SLOPING A MINIMUM 5% INTO SLOPE
- 3 FILL SLOPE TO BE COMPOSED OF PROPERLY COMPACTED ENGINEERED FILL
- 4 KEYWAY DRAIN TO BE INSTALLED WHERE BEDROCK IS EXPOSED WITHIN EXCAVATION FOR FILL SLOPE
- 5 WHERE SEEPAGE IS ENCOUNTERED IN BACKCUT OR SLOPE HEIGHT EXCEEDS 15 FEET, CHIMNEY DRAINS ARE RECOMMENDED, CHIMNEY DRAINS TO BE APPROVED, PREFABRICATED DRAINS ARE CHIMNEY DRAIN PANELS (MIRIDRAIN 5000 OR EQUIVALENT) SPACED APPROXIMATELY 20 FEET CENTER TO CENTER AND 4 FEET WIDE
- 6 FILTER MATERIAL TO BE 1-INCH, OPEN-GRADED CRUSHED ROCK ENCLOSED IN APPROVED FILTER FABRIC
- 7 COLLECTOR PIPE TO BE 4-INCH MINIMUM DIAMETER, PERFORATED, THICK-WALLED PVC SCHEDULE 40 OR EQUIVALENT, AND SLOPED TO DRAIN AT 1 PERCENT MINIMUM TO APPROVED OUTLET

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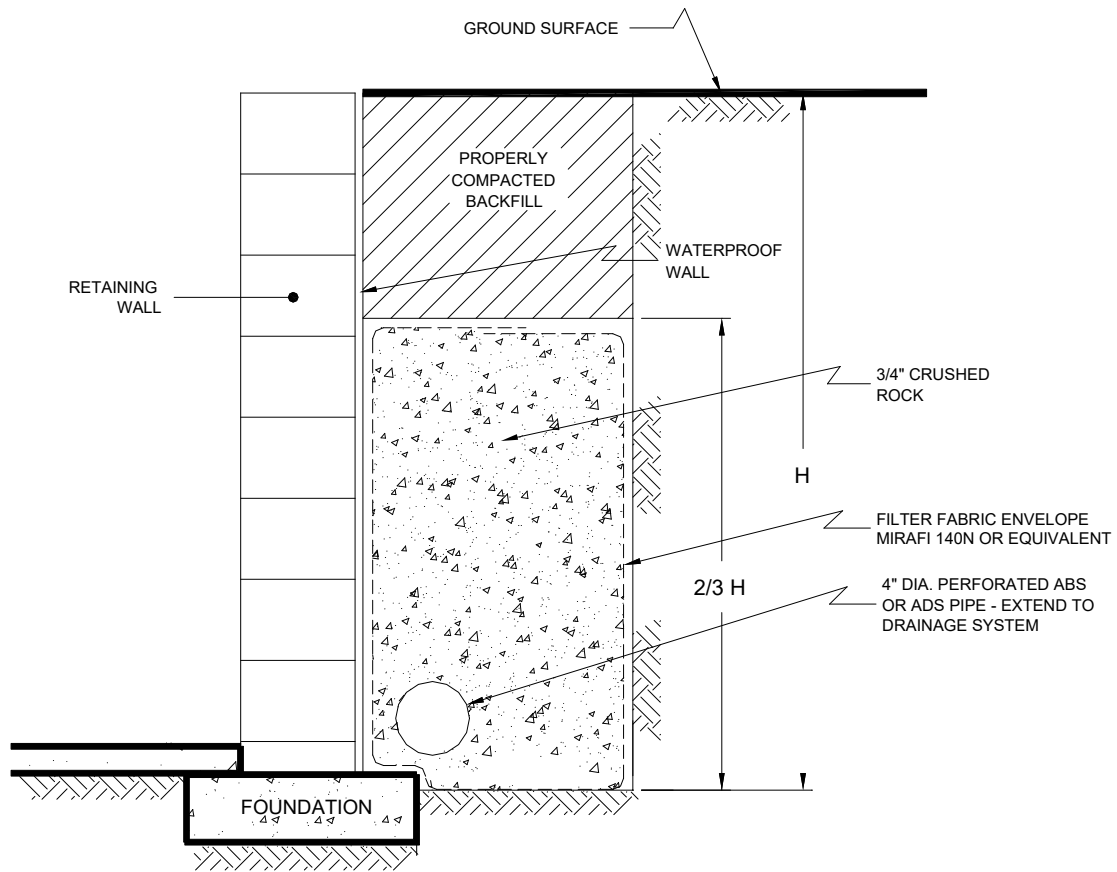
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FILL SLOPE DETAIL

PROPOSED SINGLE-FAMILY
 RESIDENTIAL TRACT DEVELOPMENT
 11782 SIMON RANCH ROAD
 SANTA ANA, CALIFORNIA

MAY 2017 PROJECT NO. A9568-88-02 FIG. 5



NO SCALE

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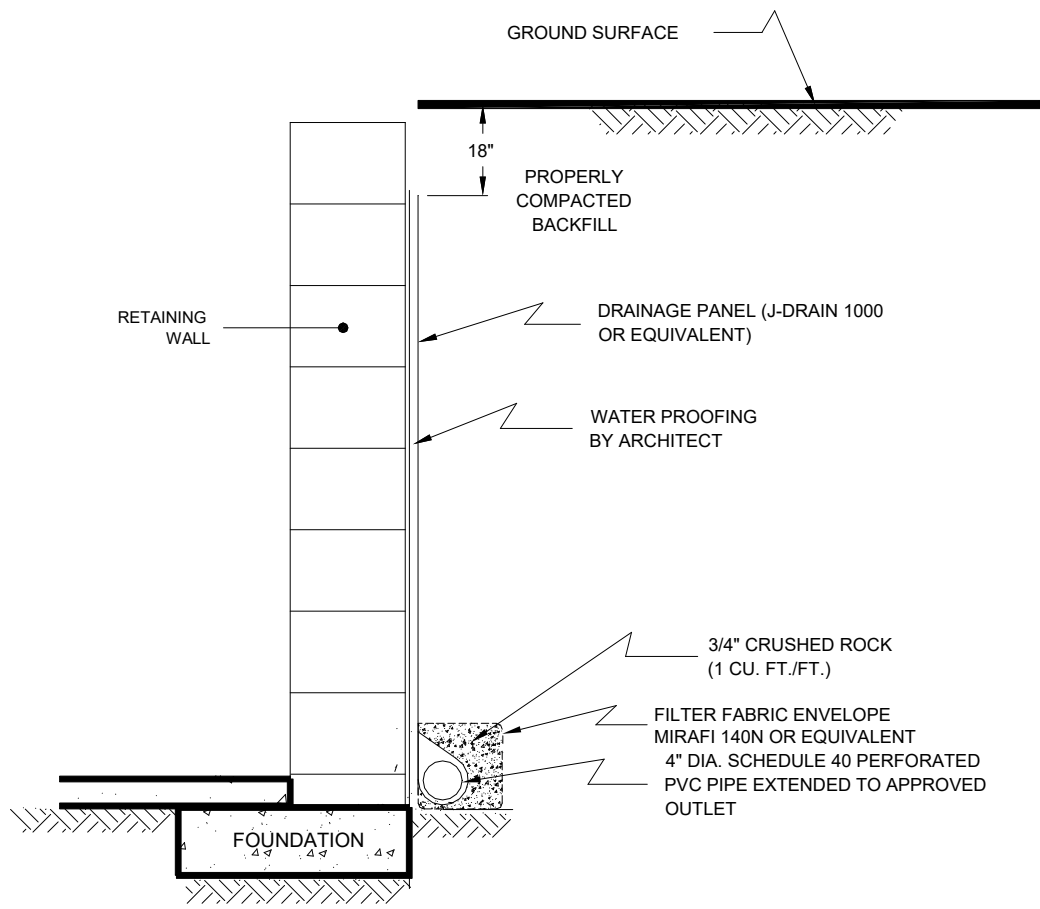
RETAINING WALL DRAIN DETAIL

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

MAY 2017

PROJECT NO. A9568-88-02

FIG. 6



NO SCALE

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DRAFTED BY: AG

CHECKED BY: JTA

RETAINING WALL DRAIN DETAIL

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

MAY 2017

PROJECT NO. A9568-88-02

FIG. 7

PERCOLATION TEST DATA SHEET

Project:	11782 Simon Ranch Rd	Project No:	A9568-88-02	Date:	4/14/2017
Test Hole No:	B3	Tested By:	RA		
Depth of Test Hole, D _T :	22	USCS Soil Classification:			
Test Hole Dimensions (inches)			Length	Width	
Diameter (if round) =	8	Sides (if rectangular) =	---	---	

Sandy Soil Criteria Test*

Trial No.	Start Time	Stop Time	Δt Time Interval (min)	D ₀ Initial Depth to Water (in)	D _f Final Depth to Water (in)	ΔD Change in Water Level (in)	Greater than or Equal to 6"? (y/n)
1	10:14	10:39	25	204.0	225.6	21.6	y
2	10:58	11:23	25	198.0	223.2	25.2	y

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements, taken every 10 minutes. Otherwise, pre-soak (fill) overnight. Obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25".

Trial No.	Start Time	Stop Time	Δt Time Interval (min)	D ₀ Initial Depth to Water (in)	D _f Final Depth to Water (in)	ΔD Change in Water Level (in)	Percolation Rate (min/in)
1	11:32	11:42	10	204.0	213.6	9.6	1500
2	11:57	12:07	10	204.0	213.6	9.6	1500
3	12:10	12:20	10	204.0	214.9	10.9	1319
4	12:26	12:36	10	204.0	213.7	9.7	1481
5	12:38	12:48	10	201.0	210.0	9.0	1600
6	12:51	13:01	10	200.4	209.9	9.5	1519
7							
8							

Infiltration Rate Calculation:

Time Interval, Δt =	10	minutes	Ho =	63.6	inches
Final Depth to Water, D _f =	209.9	inches	H _f =	54.1	inches
Test Hole Radius, r =	4	inches	ΔH =	9.5	inches
Initial Depth to Water, D ₀ =	200.4	inches	H _{avg} =	58.9	inches
Total Depth of Test Hole, D _T =	264.0	inches			

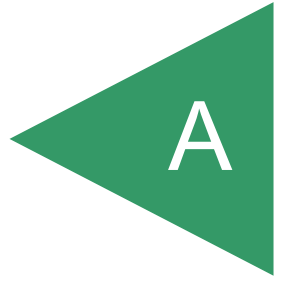
$$I_t = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

Infiltration Rate, I_t = **1.9** inches/hour

Figure 8

APPENDIX

A



APPENDIX A

FIELD INVESTIGATION

The site was explored on April 13, 2017, by excavating five 8-inch diameter borings to depths of approximately 18½ to 33½ feet below the existing ground surface utilizing a truck-mounted hollow-stem auger drilling machine. Representative and relatively undisturbed samples were obtained by driving a 3-inch, O. D., California Modified Sampler into the “undisturbed” soil mass with blows from a 140-pound auto-hammer falling 30 inches. The California Modified Sampler was equipped with 1-inch high by 2³/₈-inch diameter brass sampler rings to facilitate soil removal and testing. Bulk samples were also obtained.

The soil conditions encountered in the borings were visually examined, classified and logged in general accordance with the Unified Soil Classification System (USCS). Logs of the borings are presented on Figures A1 through A5. The logs depict the soil and geologic conditions encountered and the depth at which samples were obtained. The location of the borings are shown on Figure 2.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING 1		PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>266.0</u>	DATE COMPLETED <u>4/13/17</u>			
					EQUIPMENT <u>HOLLOW STEM AUGER</u>		BY: <u>RMA</u>		
MATERIAL DESCRIPTION									
0	BULK 0-5'				AC: 5" BASE: NONE ARTIFICIAL FILL Sandy Silt, firm, slightly moist, yellowish brown, fine-grained, trace clay.				
2									
4									
6	B1@5'				UNDIFFERENTIATED VAQUEROS-SESPE FORMATION Sandy Siltstone, soft, slightly moist, light yellowish brown, thinly bedded, unfractured to slightly fractured, slightly weathered.		50 (5.5")	109.7	12.1
8					- increase in fine-grained				
10	B1@10'						50 (6")	113.1	11.4
12									
14					Siltstone, olive brown, slightly fractured, thinly bedded, some oxidation staining, moderately weathered.				
16	B1@15'				Clayey Siltstone, soft, thinly bedded, moderately weathered.		70	99.1	23.5
18									
20	B1@20'				- soft to medium hard		50 (3")	97.2	29.4
					Total depth of boring: refusal at 21 feet Fill to 5 feet. No groundwater encountered. Backfilled with soil cuttings and tamped. Asphalt patched.				
					*Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.				

**Figure A1,
Log of Boring 1, Page 1 of 1**

A9568-88-02 BORING LOGS.GPJ

SAMPLE SYMBOLS		... SAMPLING UNSUCCESSFUL		... STANDARD PENETRATION TEST		... DRIVE SAMPLE (UNDISTURBED)
		... DISTURBED OR BAG SAMPLE		... CHUNK SAMPLE		... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING 2		PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>255.0</u>	DATE COMPLETED <u>4/13/17</u>			
					EQUIPMENT <u>HOLLOW STEM AUGER</u>		BY: <u>RMA</u>		
MATERIAL DESCRIPTION									
0	BULK 0-5'					AC: 5.5" BASE: NONE ARTIFICIAL FILL Sandy Silt, firm, slightly moist, dark yellowish brown, fine-grained, some asphalt debris & rootlets, trace fine gravel.			
2	B2@3'			SM		ALLUVIUM Silty Sand, medium dense to dense, slightly moist, dark yellowish brown, fine- to medium-grained, trace coarse-grained. - moderately weathered, some oxidation, trace rootlets	56	119.6	12.1
4	B2@6'			SM			41	121.6	13.3
6	B2@9'			ML		Clayey Silt, stiff, slightly moist, dark yellowish brown, trace fine-grained sand.	35	114.8	15.9
8	B2@12'					UNDIFFERENTIATED VAQUEROS-SESPE FORMATION Silty Sandstone, soft, slightly moist, slightly fractured, light yellowish brown, massive, slightly fractured, moderately weathered.	64	122.1	11.5
10	B2@15'					Sandy Siltstone, soft, slightly moist, light yellowish brown, thinly bedded, slightly weathered, slightly fractured.	50 (4")	122.9	11.2
12	B2@18'					Sandstone, moderately hard, slightly moist, light yellowish brown, massive, intensely fractured, slightly weathered.	50 (6")	125.4	7.4
14	B2@21'					Siltstone, moderately hard, slightly moist, olive brown, thinly bedded, slightly fractured, moderately weathered. - highly weathered, dark red mottles	50 (6")	110.0	17.1
16						Total depth of boring: 21.5 feet Fill to 2.5 feet. No groundwater encountered. Backfilled with soil cuttings and tamped. Asphalt patched. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.			

Figure A2,
Log of Boring 2, Page 1 of 1

A9568-88-02 BORING LOGS.GPJ

SAMPLE SYMBOLS		... SAMPLING UNSUCCESSFUL		... STANDARD PENETRATION TEST		... DRIVE SAMPLE (UNDISTURBED)
		... DISTURBED OR BAG SAMPLE		... CHUNK SAMPLE		... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.


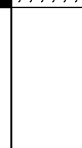
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING 3		PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)			
					ELEV. (MSL.) <u>238.0</u>	DATE COMPLETED <u>4/13/17</u>						
					EQUIPMENT <u>HOLLOW STEM AUGER</u> BY: <u>RMA</u>							
MATERIAL DESCRIPTION												
0	BULK 0-5'				ARTIFICIAL FILL Sandy Silt, soft, slightly moist, dark brown, fine-grained, some fine gravel (to 3"). - decrease in sand content							
2	B3@3'									11	113.4	14.7
4	B3@6'									11	103.5	18.5
6	B3@9'									32	120.1	13.4
8	B3@12'									49	117.3	14.9
10	B3@15'									39	117.2	14.7
12	BULK 15-20'			ML	Silty Sand, medium dense, slightly moist, yellowish brown, fine- to medium-grained. - increase in silt content, trace clay							
14	B3@18'									43	110.4	17.4
16	B3@21'									21	117.1	13.6
18	B3@24'									19	104.0	19.4
20	BULK 20-22'			SM	Sandy Siltstone, very soft, slightly moist, light grayish brown with dark orange mottles, thinly bedded to laminated, fine-grained, slightly fractured, slightly weathered.							
22	B3@27'									50 (6")	120.8	12.1
24	B3@27'											

**Figure A3,
Log of Boring 3, Page 1 of 2**

A9568-88-02 BORING LOGS.GPJ







SAMPLE SYMBOLS	... SAMPLING UNSUCCESSFUL	... STANDARD PENETRATION TEST	... DRIVE SAMPLE (UNDISTURBED)
	... DISTURBED OR BAG SAMPLE	... CHUNK SAMPLE	... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING 3		PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>238.0</u>	DATE COMPLETED <u>4/13/17</u>			
					EQUIPMENT <u>HOLLOW STEM AUGER</u> BY: <u>RMA</u>				
MATERIAL DESCRIPTION									
30	B3@30'						50 (6")	111.9	10.7
32	B3@33'					- slightly weathered, trace secondary clay			
						Total depth of boring: 33.5 feet Fill to 8 feet. No groundwater encountered. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.	50 (3")	110.5	11.7

**Figure A3,
Log of Boring 3, Page 2 of 2**

A9568-88-02 BORING LOGS.GPJ

SAMPLE SYMBOLS	 ... SAMPLING UNSUCCESSFUL	 ... STANDARD PENETRATION TEST	 ... DRIVE SAMPLE (UNDISTURBED)
	 ... DISTURBED OR BAG SAMPLE	 ... CHUNK SAMPLE	 ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING 4		PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>253.0</u>	DATE COMPLETED <u>4/13/17</u>			
					EQUIPMENT <u>HOLLOW STEM AUGER</u> BY: <u>RMA</u>				
MATERIAL DESCRIPTION									
0	BULK 0-5'				ARTIFICIAL FILL Sandy Silt, firm, slightly moist, dark brown, fine- to medium-grained, some coarse-grained, some fine gravel (to 4"), some rootlets, trace clay.				
2									
4									
6	B4@6'				UNDIFFERENTIATED VAQUEROS-SESPE FORMATION Silty Sandstone, gray, thinly bedded, friable, slightly fractured, fresh to slightly weathered. - decrease in silt content - slightly weathered	11	107.8	13.6	
8									
10	B4@9' BULK 9-12'					86	121.4	10.7	
12	B4@12'					50 (6")	116.5	6.8	
14									
16	B4@15'					50 (4")	107.5	9.3	
18	B4@18'				50 (6")	111.8	8.1		
					Total depth of boring: 18.5 feet Fill to 6.5 feet. No groundwater encountered. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.				

Figure A4,
Log of Boring 4, Page 1 of 1

A9568-88-02 BORING LOGS.GPJ







SAMPLE SYMBOLS	□ ... SAMPLING UNSUCCESSFUL	□ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	⊗ ... DISTURBED OR BAG SAMPLE	■ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING 5		PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>292.5</u>	DATE COMPLETED <u>4/13/17</u>			
					EQUIPMENT <u>HOLLOW STEM AUGER</u> BY: <u>RMA</u>				
MATERIAL DESCRIPTION									
0					ARTIFICIAL FILL Sandy Silt, firm, slightly moist, dark brown, fine-grained.				
2									
4	B5@3'				ALLUVIUM Silt with Sand, stiff, slightly moist, dark yellowish brown, fine-grained, trace clay. - hard, reddish brown		24	118.9	13.9
6	B5@6'						52	121.3	13.8
8				ML					
10	B5@9'						50	122.3	13.1
12	B5@12'				- gray mottling				
14									
16	B5@15'			SM	Silty Sand, dense, slightly moist, dark yellowish brown, fine-grained, trace clay.		75	126.4	9.4
18				SP-SM	Sand with Silt, poorly graded, medium dense, slightly moist, brown, fine- to medium-grained.				
20	B5@18'				Sandy Silt, hard, slightly moist, dark yellowish brown, fine-grained.		47	116.4	12.0
22				ML					
24	B5@21'				UNDIFFERENTIATED VAQUEROS-SESPE FORMATION Siltstone, reddish brown, massive, slightly fractured, moderately weathered.		65	117.9	15.3
26					- some clay				
28	B5@24'						50 (6")	116.1	14.3
	B5@27'				Sandstone, moderately hard, slightly moist, gray, massive, friable, unfractured, fresh.		50 (4")	120.4	15.1

**Figure A5,
Log of Boring 5, Page 1 of 2**

A9568-88-02 BORING LOGS.GPJ

SAMPLE SYMBOLS	 ... SAMPLING UNSUCCESSFUL	 ... STANDARD PENETRATION TEST	 ... DRIVE SAMPLE (UNDISTURBED)
	 ... DISTURBED OR BAG SAMPLE	 ... CHUNK SAMPLE	 ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING 5		PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)	
					ELEV. (MSL.) <u>292.5</u>	DATE COMPLETED <u>4/13/17</u>				
					EQUIPMENT <u>HOLLOW STEM AUGER</u> BY: <u>RMA</u>					
					MATERIAL DESCRIPTION					
30	B5@30'				Total depth of boring: 30.5 feet Fill to 3 feet. No groundwater encountered. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.		50 (5")	117.0	9.0	

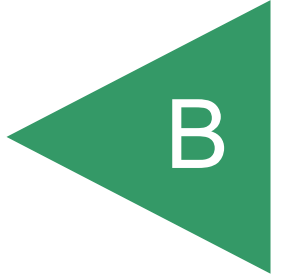
**Figure A5,
Log of Boring 5, Page 2 of 2**

A9568-88-02 BORING LOGS.GPJ

SAMPLE SYMBOLS	<input type="checkbox"/> ... SAMPLING UNSUCCESSFUL	<input type="checkbox"/> ... STANDARD PENETRATION TEST	<input type="checkbox"/> ... DRIVE SAMPLE (UNDISTURBED)
	<input checked="" type="checkbox"/> ... DISTURBED OR BAG SAMPLE	<input checked="" type="checkbox"/> ... CHUNK SAMPLE	<input checked="" type="checkbox"/> ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

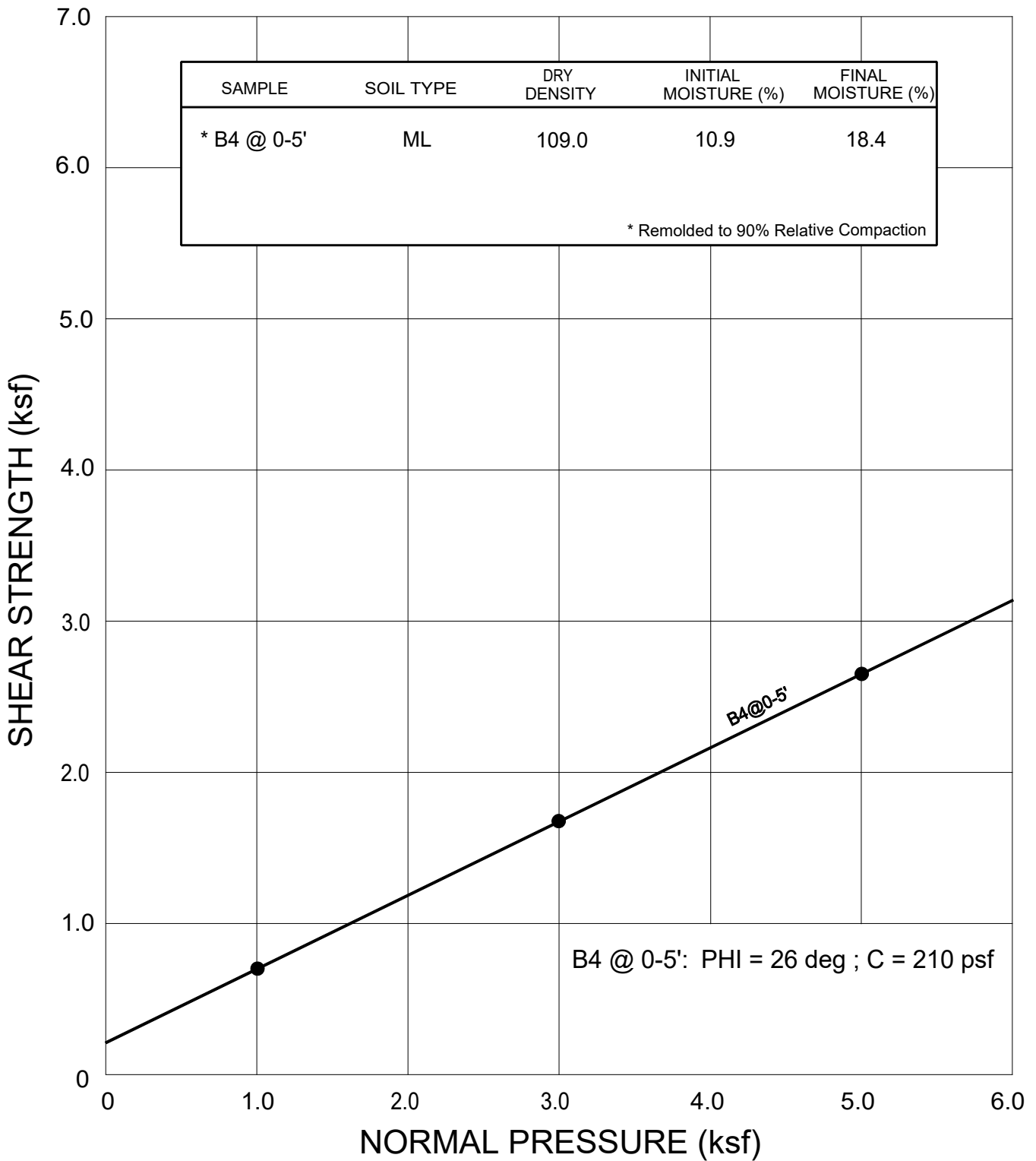
APPENDIX



APPENDIX B

LABORATORY TESTING

Laboratory tests were performed in accordance with generally accepted test methods of the “American Society for Testing and Materials (ASTM)”, or other suggested procedures. Selected samples were tested for direct shear strength, consolidation, gradation, and expansion characteristics, compaction, resistance value (R-value), corrosivity, and in-place dry density and moisture content. The results of the laboratory tests are summarized in Figures B1 through B6. The in-place dry density and moisture content of the samples tested are presented on the boring logs, Appendix A.



● DIRECT SHEAR, SATURATED

GEOCON
WEST, INC.



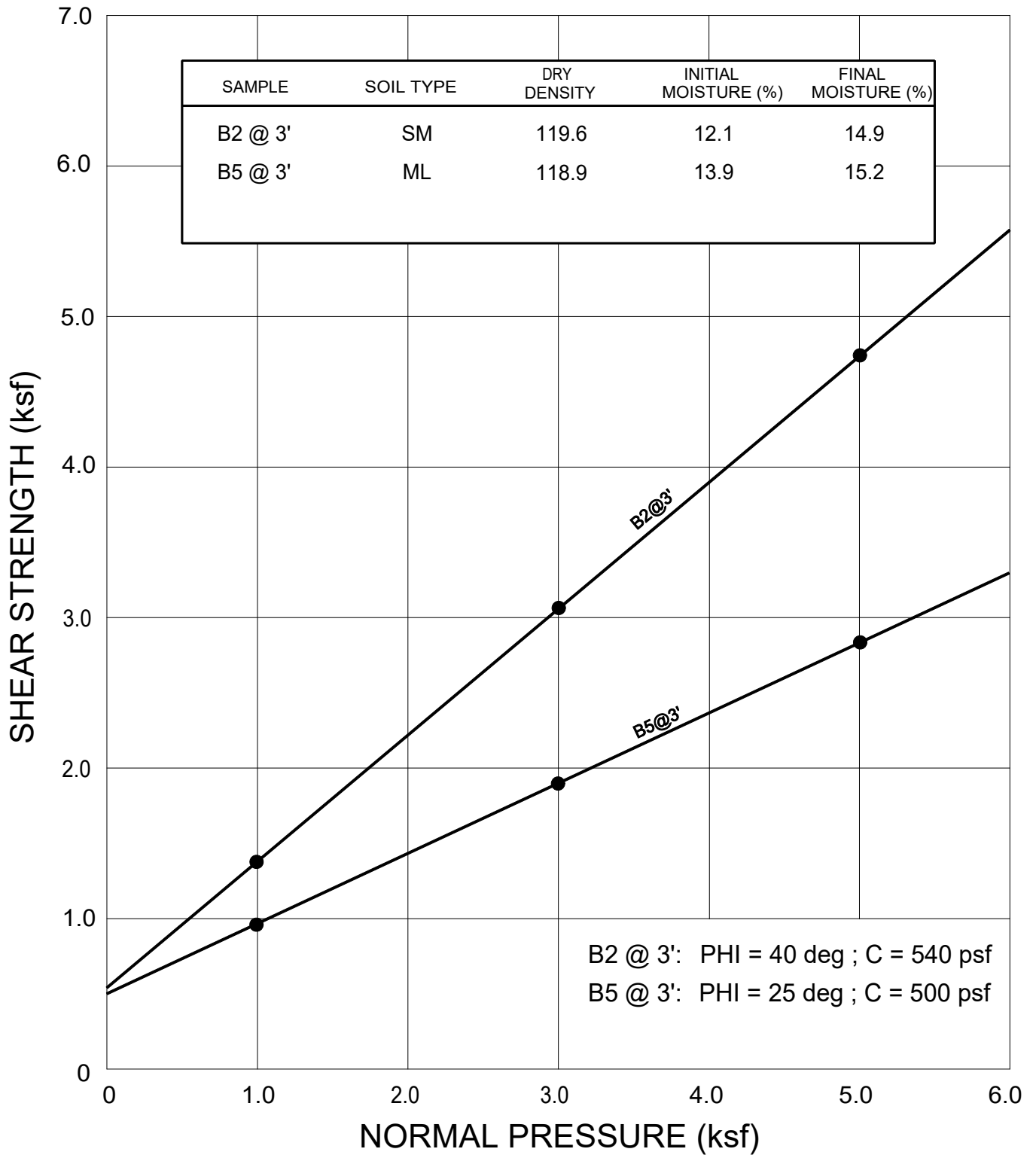
ENVIRONMENTAL GEOTECHNICAL MATERIALS
15520 ROCKFIELD BLVD. - SUITE J - IRVINE, CA 92618
PHONE (949) 491-6570

DRAFTED BY: AG CHECKED BY: JTA

DIRECT SHEAR TEST RESULTS

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

MAY 2017 PROJECT NO. A9568-88-02 FIG. B1



● DIRECT SHEAR, SATURATED

GEOCON
WEST, INC.



ENVIRONMENTAL GEOTECHNICAL MATERIALS
15520 ROCKFIELD BLVD. - SUITE J - IRVINE, CA 92618
PHONE (949) 491-6570

DRAFTED BY: AG

CHECKED BY: JTA

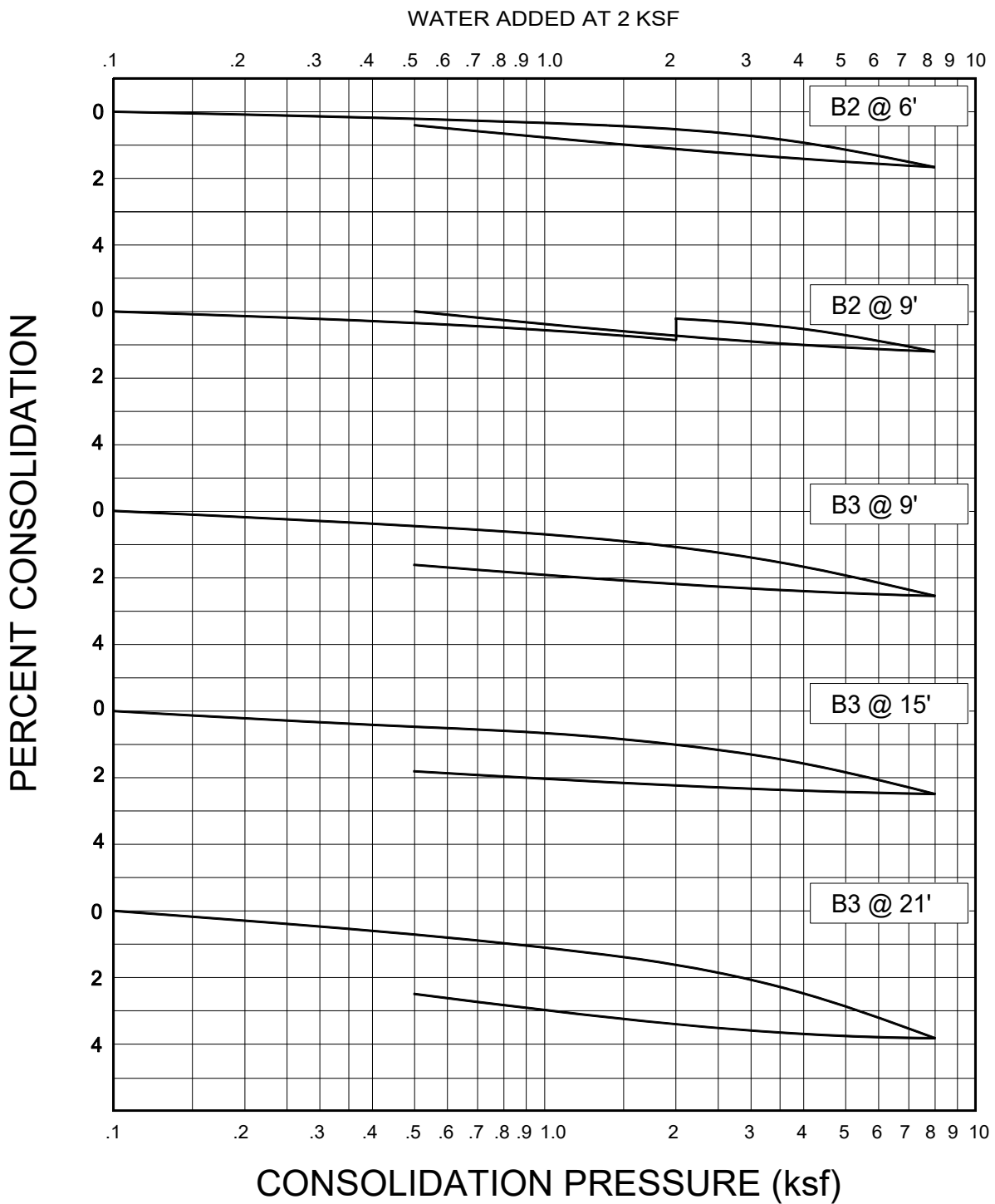
DIRECT SHEAR TEST RESULTS

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

MAY 2017

PROJECT NO. A9568-88-02

FIG. B2



GEOCON
WEST, INC.



ENVIRONMENTAL GEOTECHNICAL MATERIALS
15520 ROCKFIELD BLVD. - SUITE J - IRVINE, CA 92618
PHONE (949) 491-6570

DRAFTED BY: AG

CHECKED BY: JTA

CONSOLIDATION TEST RESULTS

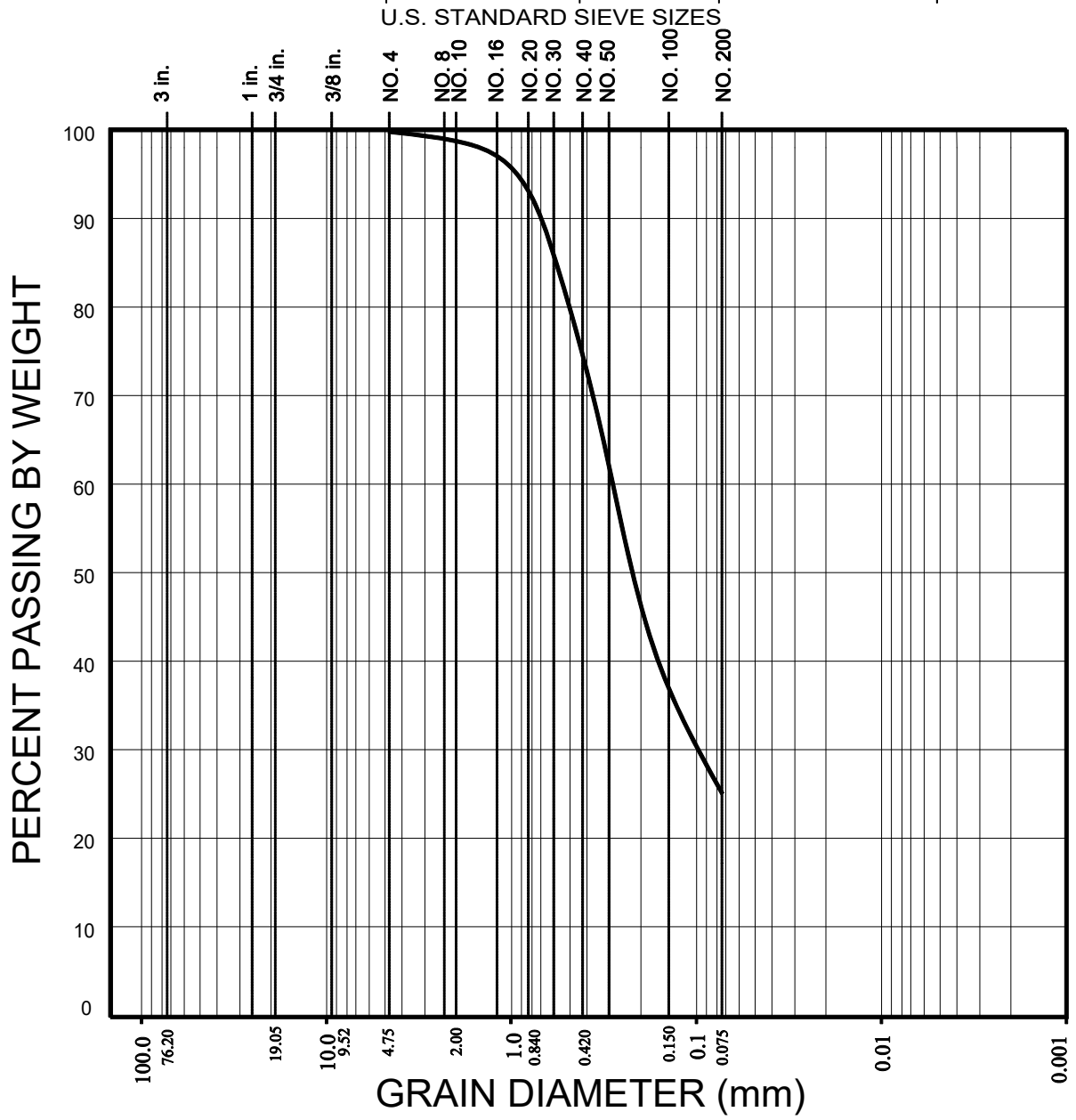
PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

MAY 2017

PROJECT NO. A9568-88-02

FIG. B3

GRAVEL	SAND		SILT	CLAY
	MEDIUM TO COARSE	FINE		



SAMPLE	UNIFIED SOIL CLASSIFICATION
— B3 @ 20-22'	SM

GEOCON
WEST, INC.



ENVIRONMENTAL GEOTECHNICAL MATERIALS
15520 ROCKFIELD BLVD. - SUITE J - IRVINE, CA 92618
PHONE (949) 491-6570

DRAFTED BY: AG	CHECKED BY: JTA
----------------	-----------------

GRAIN SIZE DISTRIBUTION

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

MAY 2017	PROJECT NO. A9568-88-02	FIG. B4
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**SUMMARY OF LABORATORY EXPANSION INDEX TEST RESULTS
ASTM D 4829-11**

SAMPLE NO.	MOISTURE CONTENT(%)		DRY DENSITY (PCF)	EXPANSION INDEX	*UBC CLASSIFICATION	**CBC CLASSIFICATION
	BEFORE	AFTER				
B4 @ 0-5'	10.0	20.5	110.4	66	Medium	Expansive

* Reference: 1997 Uniform Building Code, Table 18-I-B.

** Reference: 2016 California Building Code, Section 1803.5.3

**SUMMARY OF LABORATORY MAXIMUM DENSITY AND
AND OPTIMUM MOISTURE CONTENT TEST RESULTS
ASTM D 1557-12**

SAMPLE NO.	SOIL DESCRIPTION	MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)
B4 @0-5'	Dark Brown Sandy Silt	122.7	9.6

**SUMMARY OF LABORATORY RESISTANCE VALUE
(R-VALUE) TEST RESULTS
ASTM D 2844**

SAMPLE NO.	RESISTANCE VALUE (R-VALUE)
B1 @0-5'	13

GEOCON
WEST, INC.



ENVIRONMENTAL GEOTECHNICAL MATERIALS
15520 ROCKFIELD BLVD. - SUITE J - IRVINE, CA 92618
PHONE (949) 491-6570

DRAFTED BY: AG

CHECKED BY: JTA

LABORATORY TEST RESULTS

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

MAY 2017

PROJECT NO. A9568-88-02

FIG. B5

**SUMMARY OF LABORATORY POTENTIAL OF
HYDROGEN (pH) AND RESISTIVITY TEST RESULTS
CALIFORNIA TEST NO. 643**

SAMPLE NO.	pH	RESISTIVITY (OHM CENTIMETERS)
B4 @ 0-5'	8.4	1011 (Corrosive)

**SUMMARY OF LABORATORY CHLORIDE CONTENT TEST RESULTS
EPA NO. 325.3**

SAMPLE NO.	CHLORIDE ION CONTENT (%)
B4 @ 0-5'	0.030

**SUMMARY OF LABORATORY WATER SOLUBLE SULFATE TEST RESULTS
CALIFORNIA TEST NO. 417**

SAMPLE NO.	WATER SOLUBLE SULFATE (% SO ₄)	SULFATE EXPOSURE *
B4 @ 0-5'	0.002	Not Applicable (S0)

* Reference: 2016 California Building Code, Section 1904.3 and ACI 318-11 Section 4.3.

GEOCON
WEST, INC.



ENVIRONMENTAL GEOTECHNICAL MATERIALS
15520 ROCKFIELD BLVD. - SUITE J - IRVINE, CA 92618
PHONE (949) 491-6570

DRAFTED BY: AG

CHECKED BY: JTA

CORROSIVITY TEST RESULTS

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

MAY 2017

PROJECT NO. A9568-88-02

FIG. B6

Appendix F

Hazardous Materials

Appendix F-1

EDR Report

Tustin Hills Single Family Residential Development

11782 Simon Ranch Road
SANTA ANA, CA 92705

Inquiry Number: 5100798.2s
November 07, 2017

The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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 <u>GEOCHECK ADDENDUM</u>	
Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
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Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

11782 SIMON RANCH ROAD
SANTA ANA, CA 92705

COORDINATES

Latitude (North): 33.7515570 - 33° 45' 5.60"
Longitude (West): 117.7815430 - 117° 46' 53.55"
Universal Transverse Mercator: Zone 11
UTM X (Meters): 427614.3
UTM Y (Meters): 3734690.2
Elevation: 256 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 5641308 ORANGE, CA
Version Date: 2012

South Map: 5640942 TUSTIN, CA
Version Date: 2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20140514, 20140515
Source: USDA

MAPPED SITES SUMMARY

Target Property Address:
11782 SIMON RANCH ROAD
SANTA ANA, CA 92705

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	RED HILL MINE	BETWEEN RANCHVIEW DR	RESPONSE, ENVIROSTOR	Higher	3152, 0.597, WSW
A2	CAMP COMMANDER		FUDS	Higher	4893, 0.927, NE
A3	CAMP COMMANDER	LOWER PETERS CANYON	ENVIROSTOR	Higher	4899, 0.928, NE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY..... Federal Facility Site Information listing
SEMS..... Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators
RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System
US ENG CONTROLS..... Engineering Controls Sites List

EXECUTIVE SUMMARY

US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

LUST..... Geotracker's Leaking Underground Fuel Tank Report

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

SLIC..... Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing

UST..... Active UST Facilities

AST..... Aboveground Petroleum Storage Tank Facilities

INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

VCP..... Voluntary Cleanup Program Properties

INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Considered Brownfields Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT..... Waste Management Unit Database

SWRCY..... Recycler Database

HAULERS..... Registered Waste Tire Haulers Listing

INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

ODI..... Open Dump Inventory

IHS OPEN DUMPS..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register

HIST Cal-Sites..... Historical Calsites Database

SCH..... School Property Evaluation Program

CDL..... Clandestine Drug Labs

EXECUTIVE SUMMARY

Toxic Pits..... Toxic Pits Cleanup Act Sites
US CDL..... National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

SWEEPS UST..... SWEEPS UST Listing
HIST UST..... Hazardous Substance Storage Container Database
CA FID UST..... Facility Inventory Database

Local Land Records

LIENS..... Environmental Liens Listing
LIENS 2..... CERCLA Lien Information
DEED..... Deed Restriction Listing

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System
CHMIRS..... California Hazardous Material Incident Report System
LDS..... Land Disposal Sites Listing
MCS..... Military Cleanup Sites Listing
Orange Co. Industrial Site..... List of Industrial Site Cleanups
SPILLS 90..... SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR..... RCRA - Non Generators / No Longer Regulated
DOD..... Department of Defense Sites
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR..... Financial Assurance Information
EPA WATCH LIST..... EPA WATCH LIST
2020 COR ACTION..... 2020 Corrective Action Program List
TSCA..... Toxic Substances Control Act
TRIS..... Toxic Chemical Release Inventory System
SSTS..... Section 7 Tracking Systems
ROD..... Records Of Decision
RMP..... Risk Management Plans
RAATS..... RCRA Administrative Action Tracking System
PRP..... Potentially Responsible Parties
PADS..... PCB Activity Database System
ICIS..... Integrated Compliance Information System
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS..... Material Licensing Tracking System
COAL ASH DOE..... Steam-Electric Plant Operation Data
COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER..... PCB Transformer Registration Database
RADINFO..... Radiation Information Database
HIST FTTS..... FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS..... Incident and Accident Data
CONSENT..... Superfund (CERCLA) Consent Decrees
INDIAN RESERV..... Indian Reservations
FUSRAP..... Formerly Utilized Sites Remedial Action Program
UMTRA..... Uranium Mill Tailings Sites
LEAD SMELTERS..... Lead Smelter Sites

EXECUTIVE SUMMARY

US AIRS.....	Aerometric Information Retrieval System Facility Subsystem
US MINES.....	Mines Master Index File
ABANDONED MINES.....	Abandoned Mines
FINDS.....	Facility Index System/Facility Registry System
UXO.....	Unexploded Ordnance Sites
DOCKET HWC.....	Hazardous Waste Compliance Docket Listing
ECHO.....	Enforcement & Compliance History Information
FUELS PROGRAM.....	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN.....	Bond Expenditure Plan
Cortese.....	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings.....	CUPA Resources List
DRYCLEANERS.....	Cleaner Facilities
EML.....	Emissions Inventory Data
ENF.....	Enforcement Action Listing
Financial Assurance.....	Financial Assurance Information Listing
HAZNET.....	Facility and Manifest Data
ICE.....	ICE
HIST CORTESE.....	Hazardous Waste & Substance Site List
HWP.....	EnviroStor Permitted Facilities Listing
HWT.....	Registered Hazardous Waste Transporter Database
MINES.....	Mines Site Location Listing
MWMP.....	Medical Waste Management Program Listing
NPDES.....	NPDES Permits Listing
PEST LIC.....	Pesticide Regulation Licenses Listing
PROC.....	Certified Processors Database
Notify 65.....	Proposition 65 Records
UIC.....	UIC Listing
WASTEWATER PITS.....	Oil Wastewater Pits Listing
WDS.....	Waste Discharge System
WIP.....	Well Investigation Program Case List

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP.....	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto.....	EDR Exclusive Historic Auto Stations
EDR Hist Cleaner.....	EDR Exclusive Historic Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF.....	Recovered Government Archive Solid Waste Facilities List
RGA LUST.....	Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent NPL

RESPONSE: Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

A review of the RESPONSE list, as provided by EDR, has revealed that there is 1 RESPONSE site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
RED HILL MINE Database: RESPONSE, Date of Government Version: 07/31/2017 Status: No Further Action Facility Id: 60001226	BETWEEN RANCHVIEW DR	WSW 1/2 - 1 (0.597 mi.)	1	8

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 07/31/2017 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
RED HILL MINE Facility Id: 60001226 Status: No Further Action	BETWEEN RANCHVIEW DR	WSW 1/2 - 1 (0.597 mi.)	1	8
CAMP COMMANDER Facility Id: 80001098 Status: Inactive - Action Required	LOWER PETERS CANYON	NE 1/2 - 1 (0.928 mi.)	A3	11

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

FUDS: The Listing includes locations of Formerly Used Defense Sites Properties where the US Army Corps Of Engineers is actively working or will take necessary cleanup actions.

A review of the FUDS list, as provided by EDR, and dated 01/31/2015 has revealed that there is 1 FUDS

EXECUTIVE SUMMARY

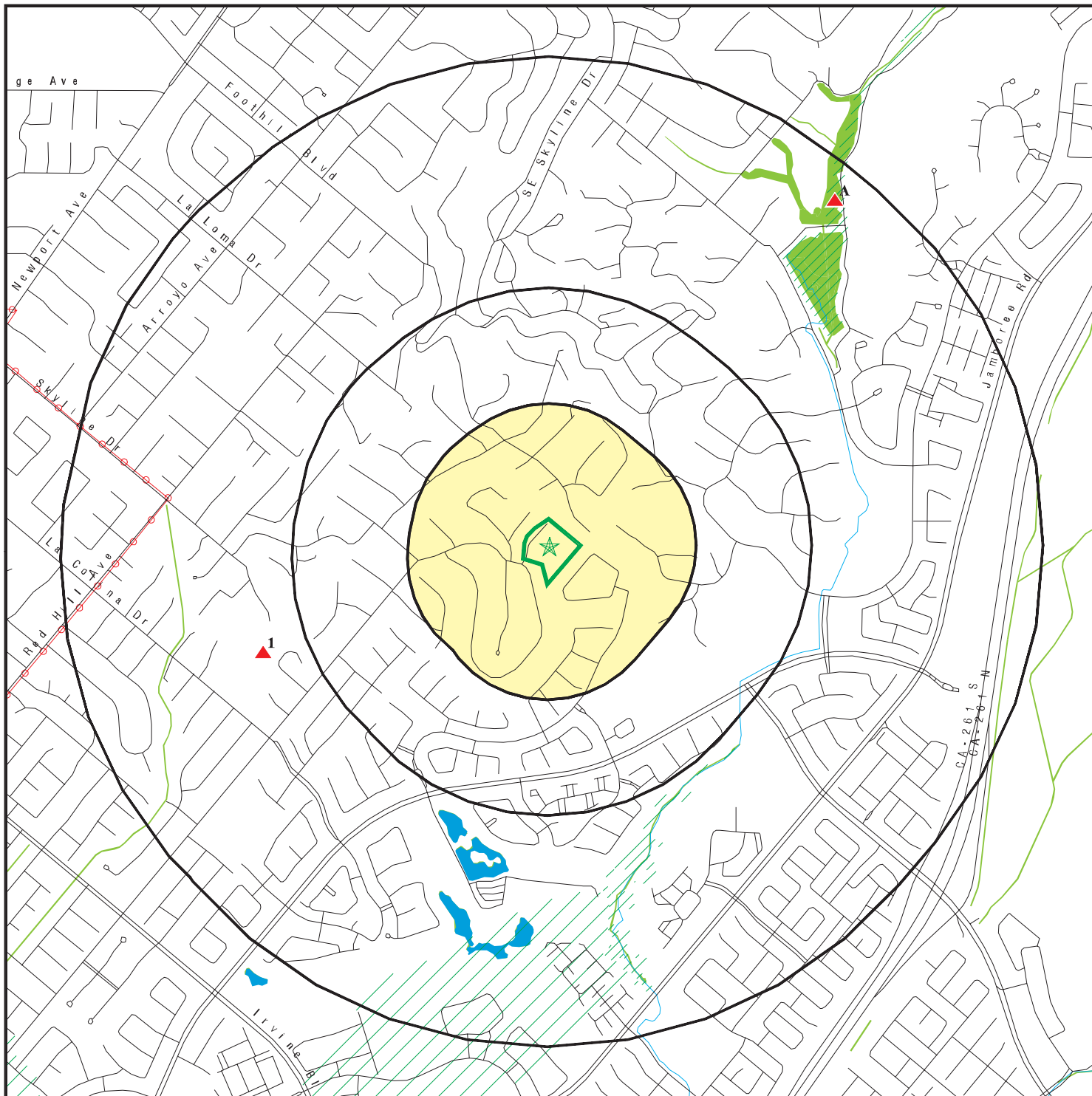
site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CAMP COMMANDER		NE 1/2 - 1 (0.927 mi.)	A2	10


EXECUTIVE SUMMARY


There were no unmapped sites in this report.

OVERVIEW MAP - 5100798.2S



 Target Property

 Sites at elevations higher than or equal to the target property

 Sites at elevations lower than the target property

 Manufactured Gas Plants

 National Priority List Sites

 Dept. Defense Sites

 Indian Reservations BIA

 Power transmission lines


 100-year flood zone

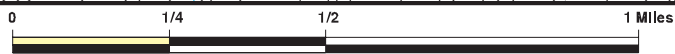
 500-year flood zone

 National Wetland Inventory

 State Wetlands

 Upgradient Area

 Areas of Concern

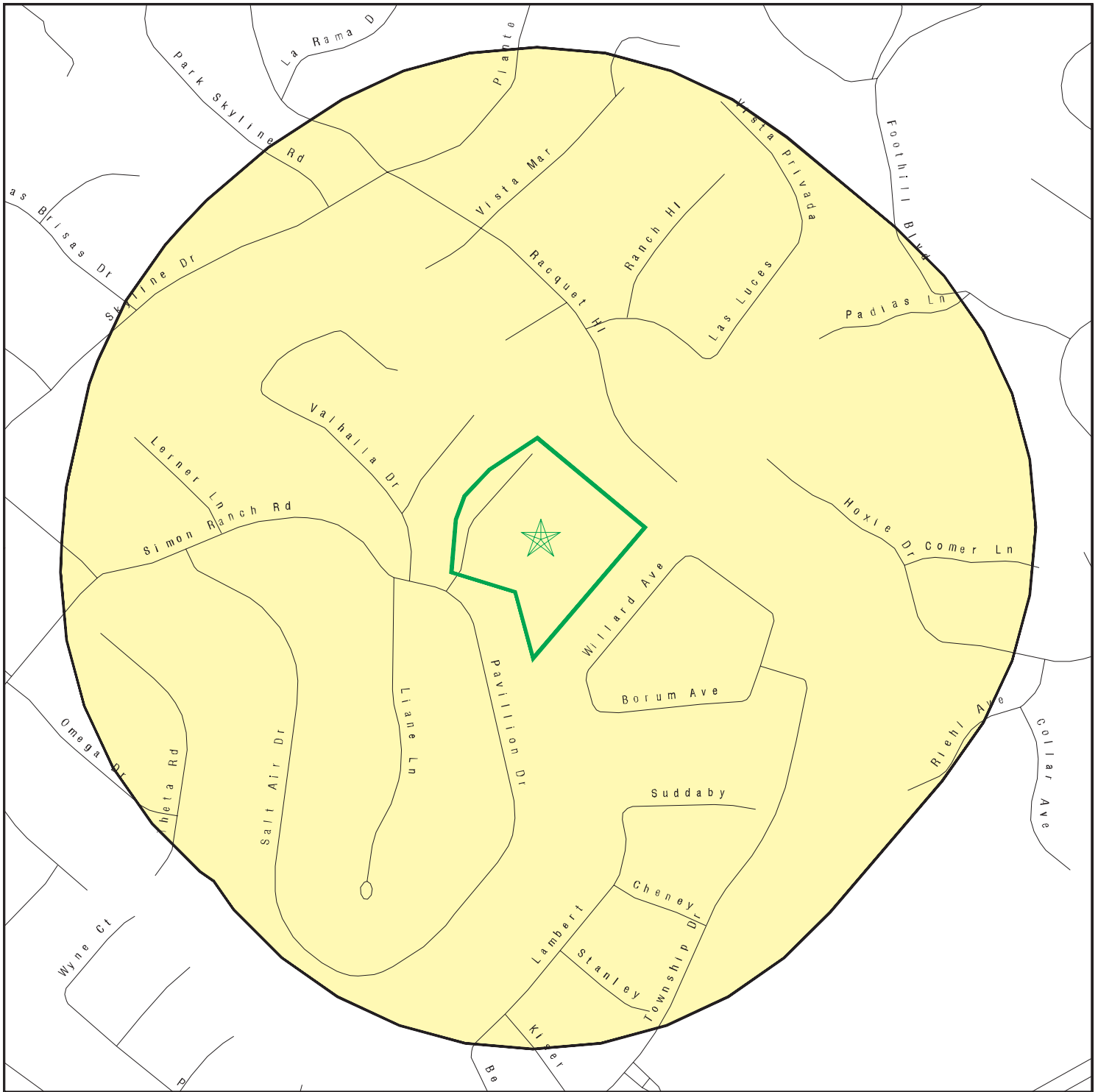









This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.





SITE NAME: Tustin Hills Single Family Residential Development
 ADDRESS: 11782 Simon Ranch Road
 SANTA ANA CA 92705
 LAT/LONG: 33.751557 / 117.781543

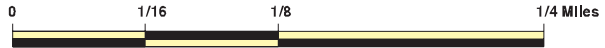
CLIENT: Psomas
 CONTACT: Agnieszka Napiatek
 INQUIRY #: 5100798.2s
 DATE: November 07, 2017 7:36 pm

DETAIL MAP - 5100798.2S



-  Target Property
-  Sites at elevations higher than or equal to the target property
-  Sites at elevations lower than the target property
-  Manufactured Gas Plants
-  Sensitive Receptors
-  National Priority List Sites
-  Dept. Defense Sites

-  Indian Reservations BIA
-  100-year flood zone
-  500-year flood zone
-  Areas of Concern



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Tustin Hills Single Family Residential Development
 ADDRESS: 11782 Simon Ranch Road
 SANTA ANA CA 92705
 LAT/LONG: 33.751557 / 117.781543

CLIENT: Psomas
 CONTACT: Agnieszka Napiatek
 INQUIRY #: 5100798.2s
 DATE: November 07, 2017 7:37 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	0.001		0	NR	NR	NR	NR	0
<i>State- and tribal - equivalent NPL RESPONSE</i>								
RESPONSE	1.000		0	0	0	1	NR	1
<i>State- and tribal - equivalent CERCLIS ENVIROSTOR</i>								
ENVIROSTOR	1.000		0	0	0	2	NR	2
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
SLIC	0.500		0	0	0	NR	NR	0
<i>State and tribal registered storage tank lists</i>								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
<i>State and tribal voluntary cleanup sites</i>								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
<i>State and tribal Brownfields sites</i>								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
<u>ADDITIONAL ENVIRONMENTAL RECORDS</u>								
<i>Local Brownfield lists</i>								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Landfill / Solid Waste Disposal Sites</i>								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Hazardous waste / Contaminated Sites</i>								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
<i>Local Lists of Registered Storage Tanks</i>								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
<i>Local Land Records</i>								
LIENS	0.001		0	NR	NR	NR	NR	0
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
<i>Records of Emergency Release Reports</i>								
HMIRS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
Orange Co. Industrial Site	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	1	NR	1
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	0.001		0	NR	NR	NR	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.001		0	NR	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
HAZNET	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.001		0	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0

- Totals --		0	0	0	0	4	0	4
-------------	--	---	---	---	---	---	---	---

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

1
WSW
1/2-1
0.597 mi.
3152 ft.

RED HILL MINE
BETWEEN RANCHVIEW DRIVE & MCLEAN DR
TUSTIN, CA 92780

RESPONSE S110121727
ENVIROSTOR N/A

Relative:
Higher

RESPONSE:

Actual:
272 ft.

Facility ID: 60001226
Site Type: State Response
Site Type Detail: State Response or NPL
Acres: 0
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Not reported
Supervisor: Manny Alonzo
Division Branch: Cleanup Cypress
Site Code: 401515
Site Mgmt. Req.: NONE SPECIFIED
Assembly: 68
Senate: 37
Special Program Status: EPA - PASI
Status: No Further Action
Status Date: 08/08/2016
Restricted Use: NO
Funding: EPA Grant
Latitude: 33.74735
Longitude: -117.7929
APN: NONE SPECIFIED
Past Use: MINE
Potential COC : Arsenic Mercury (elemental)
Confirmed COC: Arsenic Mercury (elemental)
Potential Description: NONE SPECIFIED
Alias Name: 401515
Alias Type: Project Code (Site Code)
Alias Name: 60001226
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 12/26/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: PA/SI Site Screening
Completed Date: 01/10/2011
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

RED HILL MINE (Continued)

S110121727

ENVIROSTOR:

Facility ID: 60001226
Status: No Further Action
Status Date: 08/08/2016
Site Code: 401515
Site Type: State Response
Site Type Detailed: State Response or NPL
Acres: 0
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: Manny Alonzo
Division Branch: Cleanup Cypress
Assembly: 68
Senate: 37
Special Program: EPA - PASI
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: EPA Grant
Latitude: 33.74735
Longitude: -117.7929
APN: NONE SPECIFIED
Past Use: MINE
Potential COC: Arsenic Mercury (elemental)
Confirmed COC: Arsenic Mercury (elemental)
Potential Description: NONE SPECIFIED
Alias Name: 401515
Alias Type: Project Code (Site Code)
Alias Name: 60001226
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 12/26/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: PA/SI Site Screening
Completed Date: 01/10/2011
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

MAP FINDINGS

Map ID
Direction
Distance
Elevation

Site

Database(s)

EDR ID Number
EPA ID Number

A2
NE
1/2-1
0.927 mi.
4893 ft.

CAMP COMMANDER
TUSTIN, CA
Site 1 of 2 in cluster A

FUDS 1011813671
N/A

Relative:
Higher

FUDS:

Actual:
322 ft.

EPA Region: 09
Congressional District: 45
FUDS Number: J09CA7347
State: CA
Facility Name: CAMP COMMANDER
Fiscal Year: 2013
City: TUSTIN
Federal Facility ID: CA9799FA375
Telephone: 213-452-3920
INST ID: 63083
County: ORANGE
RAB: Not reported
****CORPS_DIST**:** Los Angeles District (SPL)
NPL Status: Not Listed
CTC: 9.5
Current Owner: Local Government
Future Prog: Not reported
Description: The U.S. Army leased land from private owner before or during 1944 for establishment of the area known as Camp Commander near Little Peters Lake, California. The number of acres leased is unknown. Real estate records were neither specific, nor complete. The site of the former Camp Commander is adjacent to Little Peters Lake, now known as Lower Peters Canyon Retarding Basin, in Peters Canyon Regional Park, Orange County, California. It is located at the eastern boundary of the City of Tustin. The Army disposed of the site before or during 1946. The land was returned to private ownership. Records were neither complete, nor specific. The site is currently owned by Orange County, and, as part of Peters Canyon Regional Park, is used by the public for recreation. The site is part of a recreational area, Peters Canyon Regional Park, used by the general public. The land surrounding the park is either highly developed as a residential area or is undergoing development as a residential area. The Army did not erect permanent structures at the site, which today is without evidence of an Army camp. This property is known or suspected to contain military munitions and explosives of concern (e.g., unexploded ordnance) and therefore may present an explosive hazard.

Current Program:

History:

Not reported
The Army acquired the site, estimated as 10 acres, before or during 1944. A tent camp was established on the eastern shore of Little Peters Lake, in a eucalyptus grove. The Army used the camp to train infantry troops in field exercises. Mock battles were staged with Camp Rathke, another Army post 2 miles north. The Army left Camp Commander before or during 1946, when it also left Camp Rathke. The site was returned to private ownership. In 1952 it was renamed Camp Myford. The Boy Scouts of America starting using the site in 1957, and it was used as a youth site until 1986. In 1992, the Irvine Company donated 354 acres of Peters Canyon, including the site, to the County of Orange. The County created Peters Canyon Regional Park for public recreation.

Latitude Degree: 33
Latitude Minute: 46
Latitude Second: 38
Latitude Direction: N

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CAMP COMMANDER (Continued)

1011813671

Longitude Degree: -117
Longitude Minute: 46
Longitude Second: 8
Longitude Direction: E

A3
NE
1/2-1
0.928 mi.
4899 ft.

**CAMP COMMANDER
LOWER PETERS CANYON RETARDING BASIN
ORANGE, CA 92869**

**ENVIROSTOR S118757500
N/A**

Site 2 of 2 in cluster A

**Relative:
Higher**

ENVIROSTOR:

Facility ID: 80001098
Status: Inactive - Action Required
Status Date: 09/15/2016
Site Code: Not reported
Site Type: Military Evaluation
Site Type Detailed: FUDS
Acres: 10
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: Noel Shrum
Division Branch: Cleanup Sacramento
Assembly: 68
Senate: 37
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: DERA
Latitude: 33.7625
Longitude: -117.7708
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: Explosives (UXO, MEC)
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CA99799FA37500
Alias Type: Federal Facility ID
Alias Name: J09CA7347
Alias Type: INPR
Alias Name: 80001098
Alias Type: Envirostor ID Number

**Actual:
322 ft.**

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Inventory Project Report (INPR)
Completed Date: 09/28/1999
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 11/03/2015
Comments: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CAMP COMMANDER (Continued)

S118757500

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
NO SITES FOUND					

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 05/30/2017	Source: EPA
Date Data Arrived at EDR: 06/08/2017	Telephone: N/A
Date Made Active in Reports: 09/15/2017	Last EDR Contact: 11/03/2017
Number of Days to Update: 99	Next Scheduled EDR Contact: 01/15/2018
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 05/30/2017	Source: EPA
Date Data Arrived at EDR: 06/09/2017	Telephone: N/A
Date Made Active in Reports: 09/15/2017	Last EDR Contact: 11/03/2017
Number of Days to Update: 98	Next Scheduled EDR Contact: 01/15/2018
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 08/15/2011
Number of Days to Update: 56	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 05/30/2017	Source: EPA
Date Data Arrived at EDR: 06/09/2017	Telephone: N/A
Date Made Active in Reports: 09/15/2017	Last EDR Contact: 11/03/2017
Number of Days to Update: 98	Next Scheduled EDR Contact: 01/15/2018
	Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/05/2017	Telephone: 703-603-8704
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 10/06/2017
Number of Days to Update: 92	Next Scheduled EDR Contact: 01/15/2018
	Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/11/2017	Source: EPA
Date Data Arrived at EDR: 07/21/2017	Telephone: 800-424-9346
Date Made Active in Reports: 10/06/2017	Last EDR Contact: 11/03/2017
Number of Days to Update: 77	Next Scheduled EDR Contact: 01/29/2018
	Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 07/11/2017	Source: EPA
Date Data Arrived at EDR: 07/28/2017	Telephone: 800-424-9346
Date Made Active in Reports: 10/06/2017	Last EDR Contact: 11/03/2017
Number of Days to Update: 70	Next Scheduled EDR Contact: 01/29/2018
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/13/2017	Source: EPA
Date Data Arrived at EDR: 09/26/2017	Telephone: 800-424-9346
Date Made Active in Reports: 10/06/2017	Last EDR Contact: 09/26/2017
Number of Days to Update: 10	Next Scheduled EDR Contact: 01/08/2018
	Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 09/13/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/26/2017	Telephone: (415) 495-8895
Date Made Active in Reports: 10/06/2017	Last EDR Contact: 09/26/2017
Number of Days to Update: 10	Next Scheduled EDR Contact: 01/08/2018
	Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/13/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/26/2017	Telephone: (415) 495-8895
Date Made Active in Reports: 10/06/2017	Last EDR Contact: 09/26/2017
Number of Days to Update: 10	Next Scheduled EDR Contact: 01/08/2018
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 09/13/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/26/2017	Telephone: (415) 495-8895
Date Made Active in Reports: 10/06/2017	Last EDR Contact: 09/26/2017
Number of Days to Update: 10	Next Scheduled EDR Contact: 01/08/2018
	Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/13/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/26/2017	Telephone: (415) 495-8895
Date Made Active in Reports: 10/06/2017	Last EDR Contact: 09/26/2017
Number of Days to Update: 10	Next Scheduled EDR Contact: 01/08/2018
	Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/22/2017	Source: Department of the Navy
Date Data Arrived at EDR: 06/13/2017	Telephone: 843-820-7326
Date Made Active in Reports: 09/15/2017	Last EDR Contact: 08/10/2017
Number of Days to Update: 94	Next Scheduled EDR Contact: 11/27/2017
	Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/10/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/30/2017	Telephone: 703-603-0695
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 08/30/2017
Number of Days to Update: 44	Next Scheduled EDR Contact: 12/11/2017
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 08/10/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/30/2017	Telephone: 703-603-0695
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 08/30/2017
Number of Days to Update: 44	Next Scheduled EDR Contact: 12/11/2017
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/18/2017

Date Data Arrived at EDR: 09/21/2017

Date Made Active in Reports: 10/13/2017

Number of Days to Update: 22

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180

Last EDR Contact: 09/21/2017

Next Scheduled EDR Contact: 01/08/2018

Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 07/31/2017

Date Data Arrived at EDR: 08/01/2017

Date Made Active in Reports: 08/15/2017

Number of Days to Update: 14

Source: Department of Toxic Substances Control

Telephone: 916-323-3400

Last EDR Contact: 10/31/2017

Next Scheduled EDR Contact: 02/12/2018

Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 07/31/2017

Date Data Arrived at EDR: 08/01/2017

Date Made Active in Reports: 08/15/2017

Number of Days to Update: 14

Source: Department of Toxic Substances Control

Telephone: 916-323-3400

Last EDR Contact: 10/31/2017

Next Scheduled EDR Contact: 02/12/2018

Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/14/2017

Date Data Arrived at EDR: 08/17/2017

Date Made Active in Reports: 09/21/2017

Number of Days to Update: 35

Source: Department of Resources Recycling and Recovery

Telephone: 916-341-6320

Last EDR Contact: 08/17/2017

Next Scheduled EDR Contact: 11/27/2017

Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/12/2017	Source: State Water Resources Control Board
Date Data Arrived at EDR: 06/14/2017	Telephone: see region list
Date Made Active in Reports: 08/22/2017	Last EDR Contact: 09/12/2017
Number of Days to Update: 69	Next Scheduled EDR Contact: 12/25/2017
	Data Release Frequency: Quarterly

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004	Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Date Data Arrived at EDR: 10/20/2004	Telephone: 510-622-2433
Date Made Active in Reports: 11/19/2004	Last EDR Contact: 09/19/2011
Number of Days to Update: 30	Next Scheduled EDR Contact: 01/02/2012
	Data Release Frequency: Quarterly

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001	Source: California Regional Water Quality Control Board San Diego Region (9)
Date Data Arrived at EDR: 04/23/2001	Telephone: 858-637-5595
Date Made Active in Reports: 05/21/2001	Last EDR Contact: 09/26/2011
Number of Days to Update: 28	Next Scheduled EDR Contact: 01/09/2012
	Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005	Source: California Regional Water Quality Control Board Santa Ana Region (8)
Date Data Arrived at EDR: 02/15/2005	Telephone: 909-782-4496
Date Made Active in Reports: 03/28/2005	Last EDR Contact: 08/15/2011
Number of Days to Update: 41	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: Varies

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004	Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Date Data Arrived at EDR: 02/26/2004	Telephone: 760-776-8943
Date Made Active in Reports: 03/24/2004	Last EDR Contact: 08/01/2011
Number of Days to Update: 27	Next Scheduled EDR Contact: 11/14/2011
	Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005	Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Date Data Arrived at EDR: 06/07/2005	Telephone: 760-241-7365
Date Made Active in Reports: 06/29/2005	Last EDR Contact: 09/12/2011
Number of Days to Update: 22	Next Scheduled EDR Contact: 12/26/2011
	Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/24/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/14/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/01/2017	Source: EPA Region 8
Date Data Arrived at EDR: 07/27/2017	Telephone: 303-312-6271
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 10/27/2017
Number of Days to Update: 78	Next Scheduled EDR Contact: 02/05/2018
	Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/13/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/27/2017	Telephone: 415-972-3372
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 10/27/2017
Number of Days to Update: 78	Next Scheduled EDR Contact: 02/05/2018
	Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 10/07/2016	Source: EPA Region 10
Date Data Arrived at EDR: 01/26/2017	Telephone: 206-553-2857
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 10/27/2017
Number of Days to Update: 99	Next Scheduled EDR Contact: 02/05/2018
	Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/14/2017	Source: EPA Region 1
Date Data Arrived at EDR: 07/27/2017	Telephone: 617-918-1313
Date Made Active in Reports: 10/06/2017	Last EDR Contact: 10/27/2017
Number of Days to Update: 71	Next Scheduled EDR Contact: 02/05/2018
	Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/26/2017	Source: EPA, Region 5
Date Data Arrived at EDR: 07/27/2017	Telephone: 312-886-7439
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 10/27/2017
Number of Days to Update: 78	Next Scheduled EDR Contact: 02/05/2018
	Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2016	Source: EPA Region 4
Date Data Arrived at EDR: 01/27/2017	Telephone: 404-562-8677
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 10/27/2017
Number of Days to Update: 98	Next Scheduled EDR Contact: 02/05/2018
	Data Release Frequency: Semi-Annually

SLIC: Statewide SLIC Cases (GEOTRACKER)

Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/12/2017	Source: State Water Resources Control Board
Date Data Arrived at EDR: 06/14/2017	Telephone: 866-480-1028
Date Made Active in Reports: 08/23/2017	Last EDR Contact: 09/12/2017
Number of Days to Update: 70	Next Scheduled EDR Contact: 12/25/2017
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 6L: SLIC Sites

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/13/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Varies

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 06/12/2017
Date Data Arrived at EDR: 06/14/2017
Date Made Active in Reports: 08/23/2017
Number of Days to Update: 70

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 07/12/2016	Telephone: 916-327-5092
Date Made Active in Reports: 09/19/2016	Last EDR Contact: 09/25/2017
Number of Days to Update: 69	Next Scheduled EDR Contact: 01/08/2018
	Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/26/2017	Source: EPA Region 5
Date Data Arrived at EDR: 07/27/2017	Telephone: 312-886-6136
Date Made Active in Reports: 10/06/2017	Last EDR Contact: 10/27/2017
Number of Days to Update: 71	Next Scheduled EDR Contact: 02/05/2018
	Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/14/2016	Source: EPA Region 4
Date Data Arrived at EDR: 01/27/2017	Telephone: 404-562-9424
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 10/27/2017
Number of Days to Update: 98	Next Scheduled EDR Contact: 02/05/2018
	Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/02/2017	Source: EPA Region 7
Date Data Arrived at EDR: 07/27/2017	Telephone: 913-551-7003
Date Made Active in Reports: 10/06/2017	Last EDR Contact: 10/27/2017
Number of Days to Update: 71	Next Scheduled EDR Contact: 02/05/2018
	Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/25/2017	Source: EPA Region 10
Date Data Arrived at EDR: 07/27/2017	Telephone: 206-553-2857
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 10/27/2017
Number of Days to Update: 78	Next Scheduled EDR Contact: 02/05/2018
	Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/13/2017	Source: EPA Region 9
Date Data Arrived at EDR: 07/27/2017	Telephone: 415-972-3368
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 10/27/2017
Number of Days to Update: 78	Next Scheduled EDR Contact: 02/05/2018
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/01/2017	Source: EPA Region 8
Date Data Arrived at EDR: 07/27/2017	Telephone: 303-312-6137
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 10/27/2017
Number of Days to Update: 78	Next Scheduled EDR Contact: 02/05/2018
	Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 10/01/2016	Source: EPA Region 6
Date Data Arrived at EDR: 01/26/2017	Telephone: 214-665-7591
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 10/27/2017
Number of Days to Update: 99	Next Scheduled EDR Contact: 02/05/2018
	Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/14/2017	Source: EPA, Region 1
Date Data Arrived at EDR: 07/27/2017	Telephone: 617-918-1313
Date Made Active in Reports: 10/06/2017	Last EDR Contact: 10/27/2017
Number of Days to Update: 71	Next Scheduled EDR Contact: 02/05/2018
	Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 07/31/2017	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 08/01/2017	Telephone: 916-323-3400
Date Made Active in Reports: 08/15/2017	Last EDR Contact: 10/31/2017
Number of Days to Update: 14	Next Scheduled EDR Contact: 02/12/2018
	Data Release Frequency: Quarterly

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 04/20/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015	Source: EPA, Region 1
Date Data Arrived at EDR: 09/29/2015	Telephone: 617-918-1102
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 09/25/2017
Number of Days to Update: 142	Next Scheduled EDR Contact: 01/08/2018
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfields Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 06/27/2017
Date Data Arrived at EDR: 06/28/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 09/21/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/19/2017
Date Data Arrived at EDR: 06/20/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/20/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 11/06/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 9

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/30/2017
Date Data Arrived at EDR: 05/31/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 76

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 08/10/2017
Next Scheduled EDR Contact: 11/27/2017
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/30/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/20/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Services, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 11/03/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 07/13/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 30

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/30/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 07/31/2017
Date Data Arrived at EDR: 08/01/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 14

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/31/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2017
Date Data Arrived at EDR: 08/18/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 34

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 07/13/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 30

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/30/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 06/02/2017
Date Data Arrived at EDR: 06/06/2017
Date Made Active in Reports: 08/25/2017
Number of Days to Update: 80

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 08/24/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 06/02/2017
Date Data Arrived at EDR: 06/06/2017
Date Made Active in Reports: 08/22/2017
Number of Days to Update: 77

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/31/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 07/11/2017
Date Data Arrived at EDR: 07/26/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 11/03/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 06/05/2017	Source: DTSC and SWRCB
Date Data Arrived at EDR: 06/06/2017	Telephone: 916-323-3400
Date Made Active in Reports: 08/10/2017	Last EDR Contact: 09/06/2017
Number of Days to Update: 65	Next Scheduled EDR Contact: 12/18/2017
	Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/21/2017	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 09/21/2017	Telephone: 202-366-4555
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 09/21/2017
Number of Days to Update: 22	Next Scheduled EDR Contact: 01/08/2018
	Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 05/09/2017	Source: Office of Emergency Services
Date Data Arrived at EDR: 07/26/2017	Telephone: 916-845-8400
Date Made Active in Reports: 09/21/2017	Last EDR Contact: 10/27/2017
Number of Days to Update: 57	Next Scheduled EDR Contact: 02/05/2018
	Data Release Frequency: Varies

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/12/2017	Source: State Water Quality Control Board
Date Data Arrived at EDR: 06/14/2017	Telephone: 866-480-1028
Date Made Active in Reports: 08/18/2017	Last EDR Contact: 09/12/2017
Number of Days to Update: 65	Next Scheduled EDR Contact: 12/25/2017
	Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/12/2017	Source: State Water Resources Control Board
Date Data Arrived at EDR: 06/14/2017	Telephone: 866-480-1028
Date Made Active in Reports: 08/22/2017	Last EDR Contact: 09/12/2017
Number of Days to Update: 69	Next Scheduled EDR Contact: 12/25/2017
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012	Source: FirstSearch
Date Data Arrived at EDR: 01/03/2013	Telephone: N/A
Date Made Active in Reports: 02/22/2013	Last EDR Contact: 01/03/2013
Number of Days to Update: 50	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 09/13/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/26/2017	Telephone: (415) 495-8895
Date Made Active in Reports: 10/06/2017	Last EDR Contact: 09/26/2017
Number of Days to Update: 10	Next Scheduled EDR Contact: 01/08/2018
	Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 07/08/2015	Telephone: 202-528-4285
Date Made Active in Reports: 10/13/2015	Last EDR Contact: 08/25/2017
Number of Days to Update: 97	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 11/10/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 10/13/2017
Number of Days to Update: 62	Next Scheduled EDR Contact: 01/22/2018
	Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005	Source: U.S. Geological Survey
Date Data Arrived at EDR: 02/06/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 10/11/2017
Number of Days to Update: 339	Next Scheduled EDR Contact: 01/22/2018
	Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 11/27/2017
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 05/10/2017
Date Data Arrived at EDR: 05/17/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 121

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 11/06/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/24/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/22/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 133

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/23/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 09/27/2017
Date Data Arrived at EDR: 10/12/2017
Date Made Active in Reports: 10/20/2017
Number of Days to Update: 8

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 11/03/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 02/01/2017
Date Data Arrived at EDR: 02/09/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 10/17/2014	Telephone: 202-564-6023
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 11/03/2017
Number of Days to Update: 3	Next Scheduled EDR Contact: 11/20/2017
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2017	Source: EPA
Date Data Arrived at EDR: 06/09/2017	Telephone: 202-566-0500
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 10/13/2017
Number of Days to Update: 126	Next Scheduled EDR Contact: 01/22/2018
	Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/23/2016	Telephone: 202-564-2501
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 10/11/2017
Number of Days to Update: 79	Next Scheduled EDR Contact: 01/22/2018
	Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 09/08/2016	Telephone: 301-415-7169
Date Made Active in Reports: 10/21/2016	Last EDR Contact: 10/16/2017
Number of Days to Update: 43	Next Scheduled EDR Contact: 11/20/2017
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005	Source: Department of Energy
Date Data Arrived at EDR: 08/07/2009	Telephone: 202-586-8719
Date Made Active in Reports: 10/22/2009	Last EDR Contact: 10/03/2017
Number of Days to Update: 76	Next Scheduled EDR Contact: 12/18/2017
	Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/10/2014	Telephone: N/A
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 09/08/2017
Number of Days to Update: 40	Next Scheduled EDR Contact: 12/18/2017
	Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/19/2011	Telephone: 202-566-0517
Date Made Active in Reports: 01/10/2012	Last EDR Contact: 10/26/2017
Number of Days to Update: 83	Next Scheduled EDR Contact: 02/05/2018
	Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/02/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/05/2017	Telephone: 202-343-9775
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 10/05/2017
Number of Days to Update: 8	Next Scheduled EDR Contact: 01/15/2018
	Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transportation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/31/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2017
Date Data Arrived at EDR: 08/03/2017
Date Made Active in Reports: 10/20/2017
Number of Days to Update: 78

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/21/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/11/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016
Date Data Arrived at EDR: 12/27/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 52

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 11/02/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 05/30/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 98

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 11/03/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 07/31/2017
Date Data Arrived at EDR: 08/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 44

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 08/30/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 09/01/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 09/01/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/25/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/20/2017
Number of Days to Update: 24

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/23/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 9

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 09/06/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 10/25/2016
Date Data Arrived at EDR: 06/02/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 133

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/02/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 10/20/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 09/06/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 02/13/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/15/2017	Telephone: 202-564-0527
Date Made Active in Reports: 11/03/2017	Last EDR Contact: 09/21/2017
Number of Days to Update: 261	Next Scheduled EDR Contact: 12/11/2017
	Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/17/2017	Source: EPA
Date Data Arrived at EDR: 08/17/2017	Telephone: 800-385-6164
Date Made Active in Reports: 09/15/2017	Last EDR Contact: 08/17/2017
Number of Days to Update: 29	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989	Source: Department of Health Services
Date Data Arrived at EDR: 07/27/1994	Telephone: 916-255-2118
Date Made Active in Reports: 08/02/1994	Last EDR Contact: 05/31/1994
Number of Days to Update: 6	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 09/21/2017	Source: CAL EPA/Office of Emergency Information
Date Data Arrived at EDR: 09/21/2017	Telephone: 916-323-3400
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 09/21/2017
Number of Days to Update: 22	Next Scheduled EDR Contact: 01/01/2018
	Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 08/02/2017	Source: Department of Toxic Substance Control
Date Data Arrived at EDR: 08/08/2017	Telephone: 916-327-4498
Date Made Active in Reports: 10/16/2017	Last EDR Contact: 08/08/2017
Number of Days to Update: 69	Next Scheduled EDR Contact: 12/18/2017
	Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2015	Source: California Air Resources Board
Date Data Arrived at EDR: 03/21/2017	Telephone: 916-322-2990
Date Made Active in Reports: 08/15/2017	Last EDR Contact: 09/22/2017
Number of Days to Update: 147	Next Scheduled EDR Contact: 01/01/2018
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 08/18/2017	Source: State Water Resources Control Board
Date Data Arrived at EDR: 08/22/2017	Telephone: 916-445-9379
Date Made Active in Reports: 10/24/2017	Last EDR Contact: 11/01/2017
Number of Days to Update: 63	Next Scheduled EDR Contact: 02/05/2018
	Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 07/21/2017	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 07/25/2017	Telephone: 916-255-3628
Date Made Active in Reports: 10/17/2017	Last EDR Contact: 10/23/2017
Number of Days to Update: 84	Next Scheduled EDR Contact: 02/05/2018
	Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/15/2017	Source: California Integrated Waste Management Board
Date Data Arrived at EDR: 08/22/2017	Telephone: 916-341-6066
Date Made Active in Reports: 10/25/2017	Last EDR Contact: 08/10/2017
Number of Days to Update: 64	Next Scheduled EDR Contact: 11/27/2017
	Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2016	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 07/12/2017	Telephone: 916-255-1136
Date Made Active in Reports: 10/17/2017	Last EDR Contact: 10/10/2017
Number of Days to Update: 97	Next Scheduled EDR Contact: 01/22/2018
	Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 08/21/2017	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 08/22/2017	Telephone: 877-786-9427
Date Made Active in Reports: 10/25/2017	Last EDR Contact: 08/22/2017
Number of Days to Update: 64	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 01/22/2009	Telephone: 916-323-3400
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 01/22/2009
Number of Days to Update: 76	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/21/2017	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 08/22/2017	Telephone: 916-323-3400
Date Made Active in Reports: 10/25/2017	Last EDR Contact: 08/22/2017
Number of Days to Update: 64	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 10/10/2017	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 10/10/2017	Telephone: 916-440-7145
Date Made Active in Reports: 10/17/2017	Last EDR Contact: 10/10/2017
Number of Days to Update: 7	Next Scheduled EDR Contact: 01/22/2018
	Data Release Frequency: Quarterly

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 09/11/2017	Source: Department of Conservation
Date Data Arrived at EDR: 09/12/2017	Telephone: 916-322-1080
Date Made Active in Reports: 11/01/2017	Last EDR Contact: 09/12/2017
Number of Days to Update: 50	Next Scheduled EDR Contact: 12/25/2017
	Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 05/25/2017	Source: Department of Public Health
Date Data Arrived at EDR: 06/06/2017	Telephone: 916-558-1784
Date Made Active in Reports: 08/23/2017	Last EDR Contact: 09/06/2017
Number of Days to Update: 78	Next Scheduled EDR Contact: 12/18/2017
	Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 08/14/2017	Source: State Water Resources Control Board
Date Data Arrived at EDR: 08/17/2017	Telephone: 916-445-9379
Date Made Active in Reports: 10/17/2017	Last EDR Contact: 08/17/2017
Number of Days to Update: 61	Next Scheduled EDR Contact: 11/27/2017
	Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 06/05/2017	Source: Department of Pesticide Regulation
Date Data Arrived at EDR: 06/07/2017	Telephone: 916-445-4038
Date Made Active in Reports: 08/25/2017	Last EDR Contact: 09/06/2017
Number of Days to Update: 79	Next Scheduled EDR Contact: 12/18/2017
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 10/18/2017
Number of Days to Update: 36

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 06/16/2017
Date Data Arrived at EDR: 06/20/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 119

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 09/18/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 01/20/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 50

Source: Department of Conservation
Telephone: 916-445-2408
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing

Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water board's review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 10/13/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Varies

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historic Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historic Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 09/22/2017
Date Data Arrived at EDR: 09/22/2017
Date Made Active in Reports: 10/10/2017
Number of Days to Update: 18

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 09/21/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 07/07/2017
Date Data Arrived at EDR: 07/11/2017
Date Made Active in Reports: 08/23/2017
Number of Days to Update: 43

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 06/20/2017
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 49

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 08/31/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 09/18/2017
Next Scheduled EDR Contact: 10/23/2017
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing Cupa Facility Listing

Date of Government Version: 04/25/2017
Date Data Arrived at EDR: 04/27/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 104

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 09/05/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List Cupa facility list.

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 69

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 08/17/2017
Date Data Arrived at EDR: 08/22/2017
Date Made Active in Reports: 10/25/2017
Number of Days to Update: 64

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 10/30/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List Cupa Facility list

Date of Government Version: 08/02/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 66

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 10/25/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List CUPA facility list.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/18/2017
Date Data Arrived at EDR: 08/22/2017
Date Made Active in Reports: 10/24/2017
Number of Days to Update: 63

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 10/30/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 06/30/2017
Date Data Arrived at EDR: 07/05/2017
Date Made Active in Reports: 08/04/2017
Number of Days to Update: 30

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 09/27/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 07/26/2017
Date Data Arrived at EDR: 07/28/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 77

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 08/03/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 69

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 07/21/2017
Date Data Arrived at EDR: 07/25/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 83

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INYO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

Cupa facility list.

Date of Government Version: 06/08/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 08/04/2017
Number of Days to Update: 56

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 08/31/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing Kern County Sites and Tanks Listing.

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 44

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 09/22/2017
Date Data Arrived at EDR: 09/22/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 24

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 09/22/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 08/03/2017
Date Data Arrived at EDR: 08/03/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 74

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 07/24/2017
Date Data Arrived at EDR: 07/26/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 82

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

LOS ANGELES COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 09/18/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: No Update Planned

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 10/11/2017
Date Data Arrived at EDR: 10/12/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 5

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/17/2017
Date Data Arrived at EDR: 07/18/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 65

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/17/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 04/21/2017
Date Made Active in Reports: 10/09/2017
Number of Days to Update: 171

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 06/21/2017
Date Data Arrived at EDR: 06/23/2017
Date Made Active in Reports: 10/30/2017
Number of Days to Update: 129

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/24/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/10/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 54

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 07/11/2017
Date Data Arrived at EDR: 07/14/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 69

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 10/26/2017
Date Data Arrived at EDR: 10/27/2017
Date Made Active in Reports: 11/06/2017
Number of Days to Update: 10

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 10/26/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 07/03/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 15

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 09/27/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 10/02/2017
Date Data Arrived at EDR: 10/03/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 14

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 09/27/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List

CUPA Facility List

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 40

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 08/08/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: Varies

MONTEREY COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility Listing

CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/22/2017
Date Data Arrived at EDR: 06/23/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 47

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 08/21/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination

A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/24/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites

Underground storage tank sites located in Napa county.

Date of Government Version: 08/24/2017
Date Data Arrived at EDR: 08/25/2017
Date Made Active in Reports: 10/27/2017
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/24/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 08/04/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 69

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 10/25/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups

Petroleum and non-petroleum spills.

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/11/2017
Date Made Active in Reports: 10/11/2017
Number of Days to Update: 61

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/06/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/11/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 41

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/06/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 08/07/2017	Source: Health Care Agency
Date Data Arrived at EDR: 08/09/2017	Telephone: 714-834-3446
Date Made Active in Reports: 09/21/2017	Last EDR Contact: 08/09/2017
Number of Days to Update: 43	Next Scheduled EDR Contact: 11/20/2017
	Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities

List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 06/02/2017	Source: Placer County Health and Human Services
Date Data Arrived at EDR: 06/06/2017	Telephone: 530-745-2363
Date Made Active in Reports: 08/22/2017	Last EDR Contact: 08/31/2017
Number of Days to Update: 77	Next Scheduled EDR Contact: 12/18/2017
	Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA Facility List

Plumas County CUPA Program facilities.

Date of Government Version: 06/19/2017	Source: Plumas County Environmental Health
Date Data Arrived at EDR: 07/05/2017	Telephone: 530-283-6355
Date Made Active in Reports: 08/09/2017	Last EDR Contact: 11/01/2017
Number of Days to Update: 35	Next Scheduled EDR Contact: 02/05/2018
	Data Release Frequency: Varies

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites

Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 07/11/2017	Source: Department of Environmental Health
Date Data Arrived at EDR: 07/14/2017	Telephone: 951-358-5055
Date Made Active in Reports: 09/21/2017	Last EDR Contact: 09/18/2017
Number of Days to Update: 69	Next Scheduled EDR Contact: 01/01/2018
	Data Release Frequency: Quarterly

Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 07/11/2017	Source: Department of Environmental Health
Date Data Arrived at EDR: 07/14/2017	Telephone: 951-358-5055
Date Made Active in Reports: 09/21/2017	Last EDR Contact: 09/18/2017
Number of Days to Update: 69	Next Scheduled EDR Contact: 01/01/2018
	Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/02/2017
Date Data Arrived at EDR: 10/03/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 3

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/03/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 05/03/2017
Date Data Arrived at EDR: 07/06/2017
Date Made Active in Reports: 08/22/2017
Number of Days to Update: 47

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/03/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 08/11/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 66

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 05/30/2017
Date Data Arrived at EDR: 06/01/2017
Date Made Active in Reports: 08/25/2017
Number of Days to Update: 85

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 11/06/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 06/05/2017
Date Data Arrived at EDR: 06/07/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 69

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 09/06/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 08/31/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversight Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 05/03/2017
Date Data Arrived at EDR: 05/08/2017
Date Made Active in Reports: 08/25/2017
Number of Days to Update: 109

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 10/03/2017
Date Data Arrived at EDR: 10/06/2017
Date Made Active in Reports: 10/10/2017
Number of Days to Update: 4

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 08/28/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 08/18/2017
Date Data Arrived at EDR: 08/22/2017
Date Made Active in Reports: 10/25/2017
Number of Days to Update: 64

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

SAN MATEO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 09/15/2017
Date Data Arrived at EDR: 09/19/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 28

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/07/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Annually

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/22/2017
Number of Days to Update: 64

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/07/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing

CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List

Cupa facility list

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/10/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 67

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 08/07/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 08/24/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/15/2017
Date Made Active in Reports: 10/24/2017
Number of Days to Update: 90

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List

CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 08/21/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks

A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/20/2017
Date Made Active in Reports: 08/22/2017
Number of Days to Update: 63

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 08/29/2017
Number of Days to Update: 69

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List

Cupa Facility list

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 06/27/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 43

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 07/05/2017
Date Data Arrived at EDR: 07/06/2017
Date Made Active in Reports: 08/22/2017
Number of Days to Update: 47

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 08/17/2017
Date Data Arrived at EDR: 08/22/2017
Date Made Active in Reports: 10/25/2017
Number of Days to Update: 64

Source: Stanislaus County Department of Environmental Protection
Telephone: 209-525-6751
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 06/02/2017
Date Data Arrived at EDR: 06/06/2017
Date Made Active in Reports: 08/25/2017
Number of Days to Update: 80

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 08/31/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA Facility List

Cupa facilities

Date of Government Version: 07/19/2017
Date Data Arrived at EDR: 08/11/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 66

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 07/21/2017
Date Data Arrived at EDR: 07/25/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 83

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

TULARE COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

Cupa program facilities

Date of Government Version: 09/27/2017
Date Data Arrived at EDR: 09/28/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 18

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 08/21/2017
Date Data Arrived at EDR: 08/22/2017
Date Made Active in Reports: 10/25/2017
Number of Days to Update: 64

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 06/26/2017
Date Data Arrived at EDR: 08/03/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 74

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/27/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/10/2017
Next Scheduled EDR Contact: 11/27/2017
Data Release Frequency: Quarterly

Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 06/26/2017
Date Data Arrived at EDR: 08/03/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 75

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 08/28/2017	Source: Environmental Health Division
Date Data Arrived at EDR: 09/12/2017	Telephone: 805-654-2813
Date Made Active in Reports: 09/21/2017	Last EDR Contact: 09/12/2017
Number of Days to Update: 9	Next Scheduled EDR Contact: 12/25/2017
	Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 06/29/2017	Source: Yolo County Department of Health
Date Data Arrived at EDR: 07/05/2017	Telephone: 530-666-8646
Date Made Active in Reports: 08/25/2017	Last EDR Contact: 09/27/2017
Number of Days to Update: 51	Next Scheduled EDR Contact: 01/15/2018
	Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List

CUPA facility listing for Yuba County.

Date of Government Version: 07/31/2017	Source: Yuba County Environmental Health Department
Date Data Arrived at EDR: 08/03/2017	Telephone: 530-749-7523
Date Made Active in Reports: 10/16/2017	Last EDR Contact: 10/25/2017
Number of Days to Update: 74	Next Scheduled EDR Contact: 02/12/2018
	Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013	Source: Department of Energy & Environmental Protection
Date Data Arrived at EDR: 08/19/2013	Telephone: 860-424-3375
Date Made Active in Reports: 10/03/2013	Last EDR Contact: 08/18/2017
Number of Days to Update: 45	Next Scheduled EDR Contact: 11/27/2017
	Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016	Source: Department of Environmental Protection
Date Data Arrived at EDR: 04/11/2017	Telephone: N/A
Date Made Active in Reports: 07/27/2017	Last EDR Contact: 10/05/2017
Number of Days to Update: 107	Next Scheduled EDR Contact: 01/22/2018
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 07/31/2017
Date Data Arrived at EDR: 08/03/2017
Date Made Active in Reports: 10/12/2017
Number of Days to Update: 70

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 07/25/2017
Date Made Active in Reports: 09/25/2017
Number of Days to Update: 62

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/21/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 04/13/2017
Date Made Active in Reports: 07/14/2017
Number of Days to Update: 92

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/11/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities

Source: Department of Social Services

Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Department of Fish & Game

Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

TUSTIN HILLS SINGLE FAMILY RESIDENTIAL DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CA 92705

TARGET PROPERTY COORDINATES

Latitude (North):	33.751557 - 33° 45' 5.61"
Longitude (West):	117.781543 - 117° 46' 53.55"
Universal Transverse Mercator:	Zone 11
UTM X (Meters):	427614.3
UTM Y (Meters):	3734690.2
Elevation:	256 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5641308 ORANGE, CA
Version Date:	2012
South Map:	5640942 TUSTIN, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

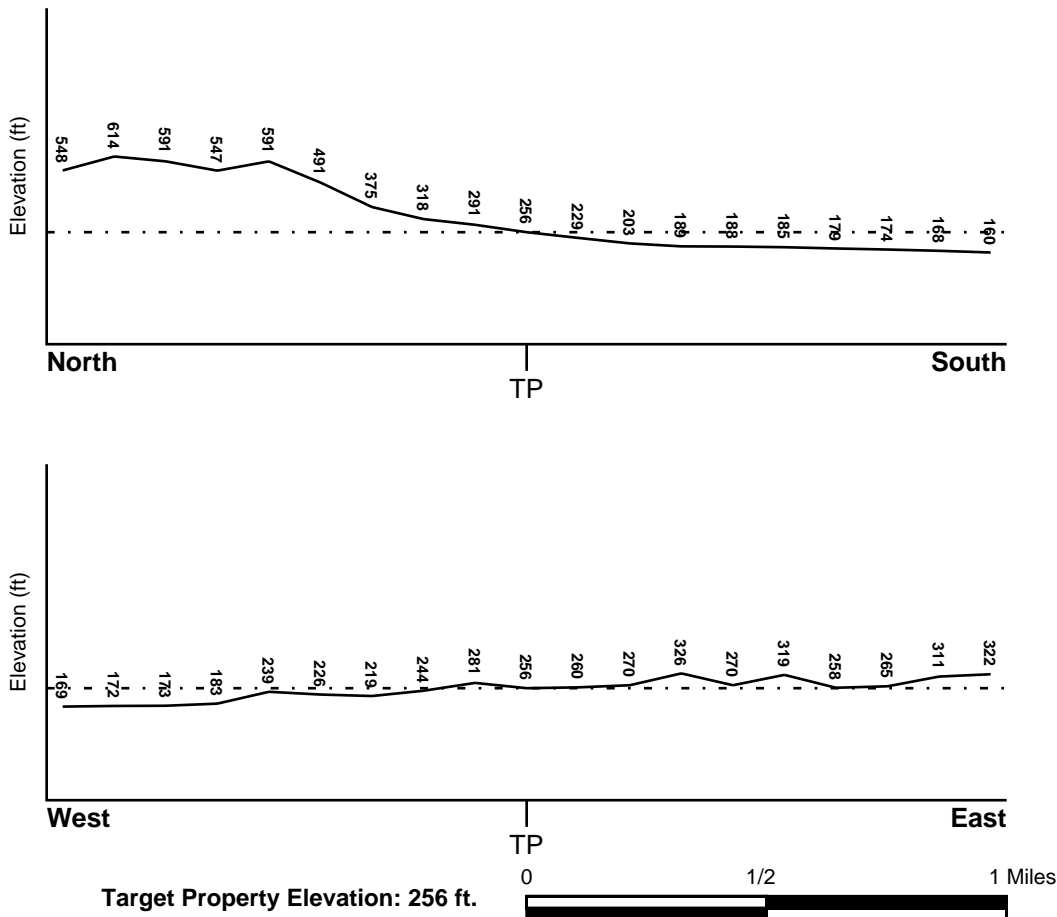
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
06059C0168J	FEMA FIRM Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
06059C0169J	FEMA FIRM Flood data
06059C0281J	FEMA FIRM Flood data
06059C0282J	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
ORANGE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

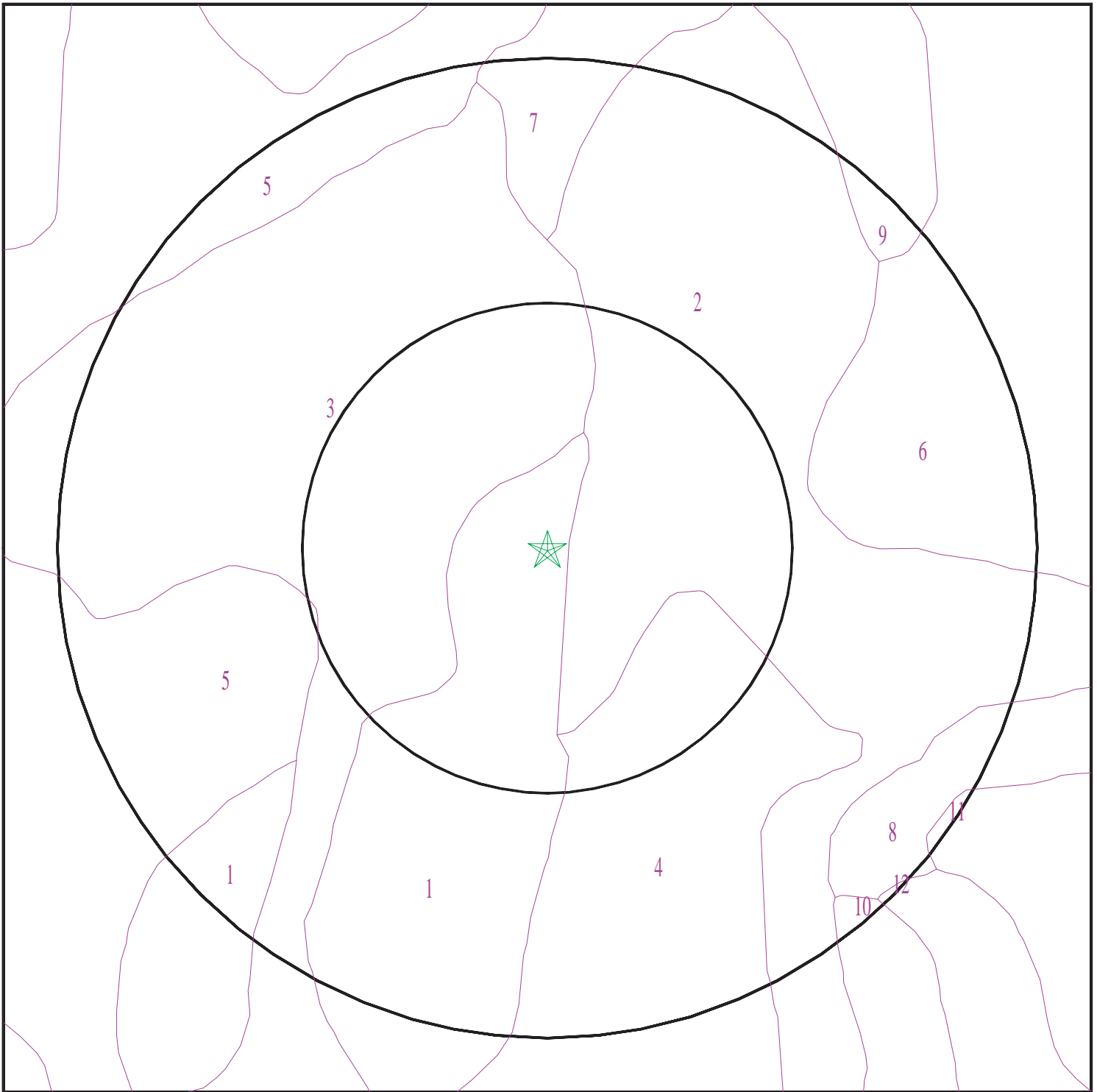
Era:	Cenozoic
System:	Tertiary
Series:	Eocene
Code:	Te (decoded above as Era, System & Series)

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5100798.2s



- ★ Target Property
- SSURGO Soil
- Water



SITE NAME: Tustin Hills Single Family Residential Development
ADDRESS: 11782 Simon Ranch Road
SANTA ANA CA 92705
LAT/LONG: 33.751557 / 117.781543

CLIENT: Psomas
CONTACT: Agnieszka Napiatek
INQUIRY #: 5100798.2s
DATE: November 07, 2017 7:38 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: BALCOM

Soil Surface Texture: clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	29 inches	clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9
2	29 inches	33 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 2

Soil Component Name: MYFORD

Soil Surface Texture: sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	11 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 14	Max: 6 Min: 5.1
2	11 inches	18 inches	sandy clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 0.42 Min: 0.01	Max: 8.4 Min: 5.6
3	18 inches	27 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 0.42 Min: 0.01	Max: 8.4 Min: 5.6
4	27 inches	70 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 0.42 Min: 0.01	Max: 8.4 Min: 6.1
5	70 inches	79 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 3

Soil Component Name: BALCOM

Soil Surface Texture: clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	33 inches	clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9
2	33 inches	38 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 4

Soil Component Name: MYFORD

Soil Surface Texture: sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	22 inches	sandy loam	Not reported	Not reported	Max: 42 Min: 14	Max: 6 Min: 5.1
2	22 inches	27 inches	sandy clay	Not reported	Not reported	Max: 0.42 Min: 0.01	Max: 8.4 Min: 5.6
3	27 inches	38 inches	sandy clay loam	Not reported	Not reported	Max: 0.42 Min: 0.01	Max: 8.4 Min: 5.6
4	38 inches	70 inches	sandy clay loam	Not reported	Not reported	Max: 0.42 Min: 0.01	Max: 8.4 Min: 6.1
5	70 inches	79 inches	sandy loam	Not reported	Not reported	Max: 14 Min: 4	Max: 6.5 Min: 6.1

Soil Map ID: 5

Soil Component Name: BOTELLA

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	loam	Not reported	Not reported	Max: 14 Min: 4	Max: 7.3 Min: 5.6
2	7 inches	35 inches	silty clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6
3	35 inches	66 inches	sandy clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 6

Soil Component Name: SOPER

Soil Surface Texture: cobbly loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	9 inches	cobbly loam	Not reported	Not reported	Max: 14 Min: 4	Max: 7.3 Min: 6.1
2	9 inches	29 inches	cobbly clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 7.8 Min: 6.1
3	29 inches	33 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 7

Soil Component Name: BALCOM

Soil Surface Texture: clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	33 inches	clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9
2	33 inches	38 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 8

Soil Component Name: ALO VARIANT

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	25 inches	clay	Not reported	Not reported	Max: 1.4 Min: 0.42	Max: 7.8 Min: 6.1
2	25 inches	38 inches	clay	Not reported	Not reported	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
3	38 inches	42 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 9

Soil Component Name: CIENEBA

Soil Surface Texture: sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Somewhat excessively drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 14	Max: 7.3 Min: 5.6
2	7 inches	11 inches	weathered bedrock	Not reported	Not reported	Max: 0.42 Min: 0	Max: Min:

Soil Map ID: 10

Soil Component Name: CALLEGUAS

Soil Surface Texture: clay loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	14 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 8.4 Min: 7.9

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
2	14 inches	18 inches	weathered bedrock	Not reported	Not reported	Max: 1.4 Min: 0	Max: Min:

Soil Map ID: 11

Soil Component Name: SOPER

Soil Surface Texture: gravelly loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	9 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 6.1
2	9 inches	29 inches	gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 4 Min: 1.4	Max: 7.8 Min: 6.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
3	29 inches	33 inches	weathered bedrock	Not reported	Not reported	Max: 4 Min: 1.4	Max: Min:

Soil Map ID: 12

Soil Component Name: ANAHEIM

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	25 inches	loam	Not reported	Not reported	Max: 14 Min: 4	Max: 7.8 Min: 6.1
2	25 inches	29 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	USGS40000137851	1/4 - 1/2 Mile WSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

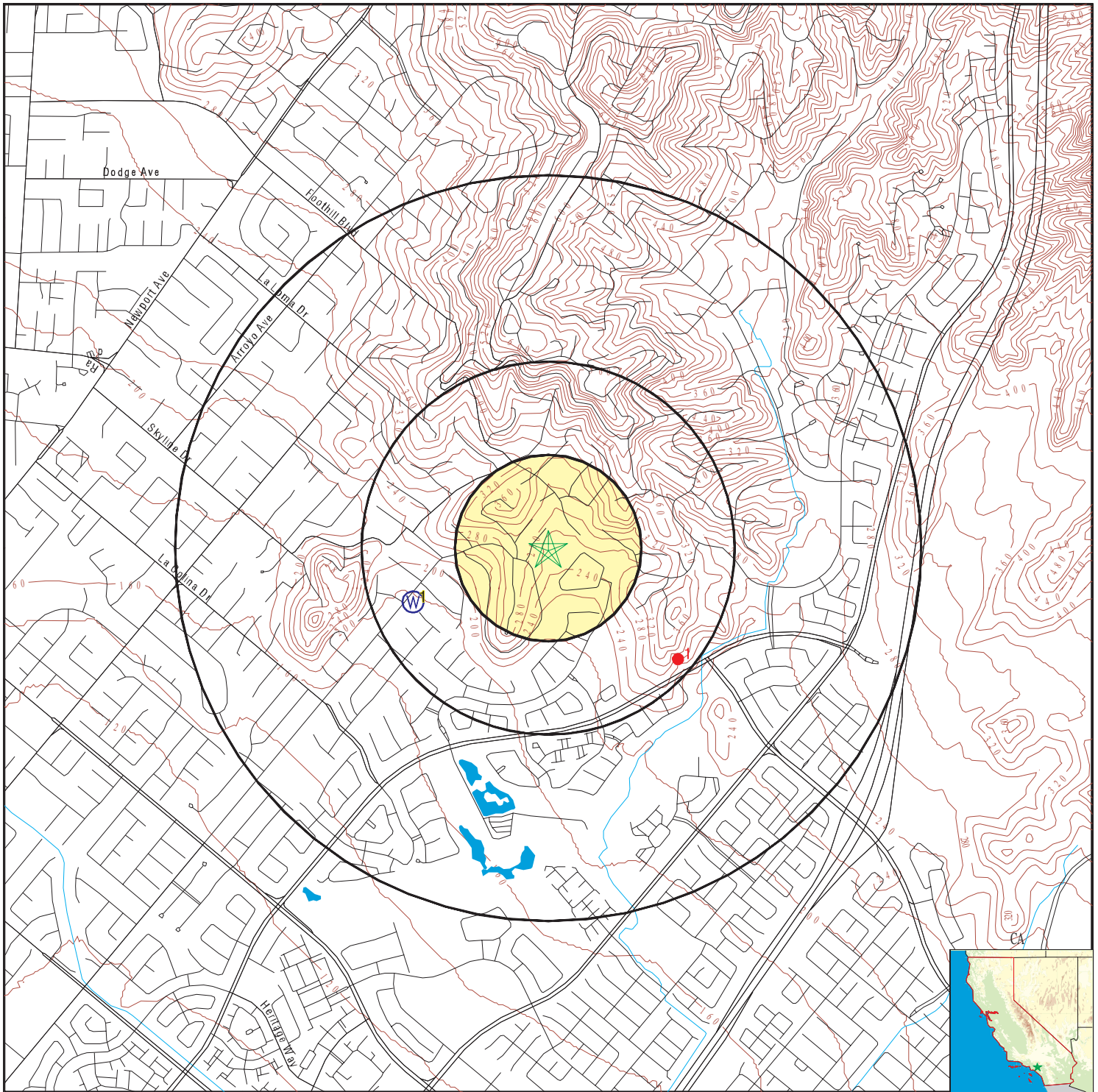
<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No Wells Found		

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	CAOG11000217997	1/4 - 1/2 Mile SE

PHYSICAL SETTING SOURCE MAP - 5100798.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons



- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells



SITE NAME: Tustin Hills Single Family Residential Development
 ADDRESS: 11782 Simon Ranch Road
 SANTA ANA CA 92705
 LAT/LONG: 33.751557 / 117.781543

CLIENT: Psomas
 CONTACT: Agnieszka Napiatek
 INQUIRY #: 5100798.2s
 DATE: November 07, 2017 7:38 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

1
WSW **FED USGS** **USGS40000137851**
1/4 - 1/2 Mile
Lower

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-334458117471301		
Monloc name:	005S009W14Q002S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070204	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	33.7494624
Longitude:	-117.7878315	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	124.00
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 26

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1986-08-15	128.09		1986-04-30	109.22	
1986-02-20	77.98		1985-11-05	126.15	
1985-08-16	125.45		1985-05-06	123.70	
1985-02-12	66.90		1984-10-26	125.03	
1984-08-13	84.68		1984-05-09	92.07	
1984-02-07	57.17		1983-11-03	72.03	
1983-08-09	84.77		1983-05-16	52.60	
1983-02-14	51.56		1982-11-05	74.69	
1982-08-02	83.60				
Note: A nearby site that taps the same aquifer had been pumped recently.					
1982-04-30	56.98		1982-01-28	49.39	
1981-11-05	77.25		1981-07-28	78.44	
1981-05-05	66.58		1981-02-06	48.22	
1980-10-31	60.20		1980-08-27	75.08	
1980-06-19	75.37				

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1

SE

1/4 - 1/2 Mile

OIL_GAS

CAOG11000217997

District nun:	1	Api number:	05901219
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Orange	Fieldname:	Any Field
Area name:	Any Area	Section:	12
Township:	05S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Irvine Core Hole	Wellnumber:	5-1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000217997		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92705	64	5

Federal EPA Radon Zone for ORANGE County: 3

- Note: Zone 1 indoor average level > 4 pCi/L.
 : Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
 : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for ORANGE COUNTY, CA

Number of sites tested: 30

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.763 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Department of Fish & Game

Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database

Source: Department of Water Resources

Telephone: 916-651-9648

California Drinking Water Quality Database

Source: Department of Public Health

Telephone: 916-324-2319

The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations

Source: Department of Conservation

Telephone: 916-323-1779

Oil and Gas well locations in the state.

RADON

State Database: CA Radon

Source: Department of Health Services

Telephone: 916-324-2208

Radon Database for California

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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Appendix F-2

Phase I Environmental Site Assessment



PHASE I
ENVIRONMENTAL SITE ASSESSMENT

TUSTIN HILLS RACQUET CLUB
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

PREPARED FOR:

**COLLECTIVE HOUSING SUPPLY COMPANY
124 TUSTIN AVENUE, SUITE 200
NEWPORT BEACH, CALIFORNIA 92663**

PREPARED BY:

**GEOCON WEST, INC.
3303 N. SAN FERNANDO ROAD, SUITE 100
BURBANK, CALIFORNIA 91504-2531**



GEOCON PROJECT NO. A9568-77-01

APRIL 2017



Project No. A9568-77-01
April 19, 2017

Mr. Peter Zehnder
Collective Housing Supply Company
124 Tustin Avenue, Suite 200
Newport Beach, California 92663

Subject: PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT
TUSTIN HILLS RACQUET CLUB
11782 SIMON RANCH ROAD
SANTA ANA, ORANGE COUNTY, CALIFORNIA

Dear Mr. Zehnder:

As you (on behalf of Collective Housing Supply Company, the Client) requested we have performed a Phase I Environmental Site Assessment (ESA) for the 5.88-acre parcel developed as the Tustin Hills Racquet Club located at 11782 Simon Ranch Road in Santa Ana, California. The Site is identified by the County of Orange assessor's parcel number 104-321-01.

You requested a Phase I ESA to provide information regarding the potential for existing hazardous substances and/or petroleum products at the Site prior to purchasing for redevelopment. The accompanying report presents the details of our Phase I ESA.

We appreciate the opportunity to have performed this Phase I ESA for you. Please contact us if you have any questions concerning this report or if we may be of further service.

Very truly yours,

GEOCON WEST, INC.

Scott M. Nunes, CAC
Senior Environmental Scientist

John E. Juhrend, PE, CEG
Senior Engineer

(EMAIL) Addressee

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PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

1.0 INTRODUCTION

This report presents the findings of a Phase I Environmental Site Assessment (ESA) of a 5.88-acre parcel developed as the Tustin Hills Racquet Club (the Site) located at 11782 Simon Ranch Road in Santa Ana, California (Figure 1). The Phase I ESA was requested by Collective Housing Supply Company (the Client) to provide information regarding the potential for existing hazardous substances and/or petroleum product impacts at the Site prior to purchasing for redevelopment.

1.1 Purpose and Objectives

The purpose of the Phase I ESA was to identify evidence or indications of ‘recognized environmental conditions’ (REC) as defined by the American Society for Testing and Materials (ASTM) *Designation E 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. Section 1.1.1 of ASTM Designation E 1527-13 defines an REC as “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions.” De minimis conditions are those that generally do not present a threat to human health or the environment and that generally would not be the subject of the enforcement action if brought to the attention of appropriate governmental agencies.

ASTM *Designation E 1527-13* also defines ‘Historical’ and ‘Controlled’ RECs. They define an ‘Historical REC’ as “A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).” ASTM defines a ‘Controlled REC’ as “a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).” An HREC is not a REC if the property meets current standards for unrestricted residential use. A CREC remains a REC by definition because the property does not meet the unrestricted residential use requirement unconditionally.

We also conducted the Phase I ESA in general accordance with the requirements of 40 Code of Federal Regulations (CFR) Part 312 titled *Standards and Practices for All Appropriate Inquiries*, as required under Sections 101(35)(B)(ii) and (iii) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The purpose of conducting an all appropriate inquiries investigation into the previous ownership and uses of a property is to meet the provisions necessary for the landowner, contiguous property owner, and/or bona fide prospective purchaser to qualify for certain landowner liability protections under CERCLA.

The following principles are an integral part of ASTM Designation E1527-13:

- **“Uncertainty Not Eliminated** - No environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with a property, and this practice recognizes reasonable limits of time and cost.”
- **“Not Exhaustive** - All Appropriate Inquiries does not mean an exhaustive assessment of a property. There is a point at which the cost of information obtained or the time required to gather it outweighs the usefulness of the information and, in fact, may be a material detriment to the orderly completion of transactions. One of the purposes of this practice is to identify a balance between the competing goals of limiting the costs and time demands inherent in performing an environmental site assessment and the reduction of uncertainty about unknown conditions resulting from additional information.”
- **“Level of Inquiry is Variable** – Not every property will warrant the same level of assessment. Consistent with good commercial and customary practice, the appropriate level of environmental site assessment will be guided by the type of property subject to assessment, the expertise and risk tolerance of the user, and the information developed in the course of the inquiry.”

1.2 Scope of Services

Our Proposal No. LP-2017-143, dated February 16, 2017, describes the scope of services for this Phase I ESA. We performed the scope of services outlined in the proposal with the exception that Sanborn Maps were not reviewed. Environmental Data Resources, Inc. (EDR) stated that Sanborn Map coverage does not exist for the Site.

1.3 Report Limitations

The main components of the Phase I ESA and their objectives, as specified by the referenced standards, include the following:

- **Physical Setting:** we reviewed physical setting references to obtain information concerning the topographic, geologic, and hydrogeologic characteristics of the Site and vicinity. Such information may be indicative of the direction and/or extent that a contaminant could migrate in the event of a spill or release.
- **Regulatory Agency Records Review:** we reviewed regulatory agency records to obtain information that could potentially help identify RECs at or potentially affecting the Site. We reviewed publicly available Federal, State, and local regulatory agency records for the Site.

- **Site History:** we reviewed historical references to assess the previous uses of the Site and surrounding area to identify those that could have led to RECs on or near the Site. Historical sources reviewed included aerial photographs, topographic maps, and city directories. In addition, we conducted interviews with persons who were expected to be reasonably knowledgeable about historical and/or current conditions at and uses of the Site.
- **Site Reconnaissance:** we performed a site reconnaissance to observe site conditions and activities for indications of evidence of RECs. The site reconnaissance was for the Site only. Offsite properties and features were viewed solely from the vantage of the Site and public thoroughfares.

1.4 Data Gaps

ASTM Designation E 1527-13 defines a data gap as “a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information.” Data gaps could include such things as insufficient historical information, the inability to interview persons with direct site knowledge (e.g., the owner(s), past owner(s), tenants, workers, etc.) or the lack of access to all parts of a site during the site reconnaissance. No significant data gaps were identified during the performance of this Phase I ESA. Sanborn maps were not available for the Site, however, this is not considered a data gap as it did not affect our ability to assess the historical use of the Site.

2.0 SITE DESCRIPTION

This section provides information regarding the location and physical characteristics of the Site including its size, topography, geologic, soil, and hydrogeologic conditions.

2.1 Location and Legal Description

The Site is located at 11782 Simon Ranch Road in Santa Ana, California (Figure 1). The Site is identified by County of Orange assessor’s parcel number (APN) 104-321-01. The Site is depicted in Section 11 of Township 5 South, Range 9 West, San Bernardino Base and Meridian on the United States Geological Survey’s (USGS) *Orange, California, 7.5-minute Topographic Map* (USGS, 2012).

2.2 Site and Vicinity General Characteristics

The Site is currently developed with the Tustin Hills Racquet Club consisting of a clubhouse, twelve tennis courts, and a swimming pool. Paved parking is located on the upper western portion of the Site. The site vicinity is single-family residential development in all directions. The Site Plan (Figure 2) depicts the site boundaries and features, and surrounding properties.

2.2.1 Topography

The topography of the Site and surrounding vicinity generally slopes to the south-southeast. The *USGS Orange, 7.5-minute Topographic Map* (USGS, 2012) shows the site elevation ranging from approximately 242 feet to 275 feet above mean sea level, with a general topographic gradient of the site vicinity to the southwest.

2.2.2 Geologic Conditions

Based on a concurrent geotechnical subsurface exploration performed by Geocon (five borings drilled to depths ranging from 21.5 to 33 feet), a northeasterly trending geologic contact transects the Site, separating Eocene age bedrock on the northwest from alluvium/colluvium deposits of Quaternary age on the southeast. The bedrock is reportedly sandstone and conglomerate assigned to the Vaqueros/Sespe Formation, and the alluvium/colluvium is composed of unconsolidated to well indurated sands, silts and gravels.

According to the United States Department of Agriculture's (USDA) Soil Conservation Service (SCS), which leads the National Cooperative Soil Survey (NCSS), soil at the Site is generally moderately well-drained clay loam. The soil has moderate infiltration rates.

2.2.3 Hydrologic and Hydrogeologic Conditions

State historical groundwater maps reveal an absence of shallow groundwater beneath the Site (to a depth of at least 50 feet). No groundwater was encountered in the geotechnical borings that were advanced to depths ranging from 21.5 to 33 feet. The flow direction of groundwater is anticipated to generally follow the topography of the site vicinity to the southwest.

2.3 Current and Planned Uses of the Site

The Site is currently developed with the Tustin Hills Racquet Club. The planned use of the Site is for construction of 37 dwelling units comprised of 17 duplexes and 3 single unit buildings.

2.4 Descriptions of Structures, Roads, Other Improvements on the Site

A one-story clubhouse, twelve tennis courts, and a swimming pool are located on the Site. Paved parking is located on the upper western portion of the Site. Further description of the Site is presented in Section 6.0.

2.5 Current Uses of Adjoining Properties

Current uses of adjoining properties are single-family residences in all directions.

3.0 USER-PROVIDED INFORMATION

This section provides responses to inquiries made to the Client for site information. The Client was asked if they know of previous environmental reports or documents that may exist and, if so, whether copies could be provided. They were also asked if they have knowledge of legal or administrative proceedings involving the Site. Peter Zehnder, the Client representative, completed a User Questionnaire (Appendix A).

3.1 Title, Appraisal and Sale Agreement Records

The Client did not provide any title, appraisal, or sale agreement records for review.

3.2 Environmental Liens or Activity and Use Limitations

Mr. Zehnder stated the he is unaware of any environmental liens on, or use limitations for, the Site.

3.3 Specialized Knowledge

Mr. Zehnder indicated that he has no specialized knowledge of the Site.

3.4 Commonly Known or Reasonably Ascertainable Information

Mr. Zehnder stated that he has no known or reasonably ascertainable information regarding the Site.

3.5 Owner, Property Manager, and Occupant Information

Mr. Chuck Pate owns the Site. Interview information provided by Mr. Pate is summarized in Section 7.0.

3.6 Valuation Reduction for Environmental Issues

Mr. Zehnder indicated that he was not aware of any environmental conditions on the Site which could lead to a potential valuation reduction of the Site.

3.7 Reason for Performing Phase I ESA

The Client requested the Phase I ESA to obtain information regarding the potential for existing hazardous substances or petroleum product impacts at the Site prior to purchasing for redevelopment.

4.0 RECORDS REVIEW

This section summarizes our review of readily available agency records for the Site and properties in the surrounding vicinity.

4.1 Standard Environmental Record Sources

Environmental Data Resources, Inc. (EDR) searched Federal, State, and local databases for the Site and surrounding area within one mile of the Site. A copy of *The EDR Radius Map™ Report with GeoCheck*, dated March 1, 2017, is in Appendix B.

4.2 Site

The Site is not listed in any of the databases searched by EDR.

4.3 Nearby Properties

No adjacent or other properties within ¼-mile of the Site are listed on databases searched by EDR.

4.4 Orphan Summary

The Orphan Summary in EDR's report identifies properties that have incomplete address information and could not be specifically plotted. No properties are listed in the Orphan Summary.

4.5 Additional Environmental Record Sources

We searched additional readily available environmental record sources for properties/facilities within approximately 1/4 mile of the Site. This section summarizes our findings.

4.5.1 GeoTracker and EnviroStor Websites

We searched GeoTracker (<http://geotracker.waterboards.ca.gov/>) and the DTSC EnviroStor webpage (<http://www.envirostor.dtsc.ca.gov/public/>) for information regarding properties/facilities of concern within 1/4 mile of the Site. The GeoTracker and EnviroStor website databases do not have any contamination, assessment, or remediation listings for properties/facilities within approximately 1/4 mile of the Site.

4.5.2 State of California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR)

We reviewed information available from the DOGGR website (<http://www.conservation.ca.gov>) for existing/former oil, gas, or geothermal wells on or within the site vicinity. According to the website, no oil and gas wells are listed on or adjacent to the Site.

4.5.3 Orange County Agricultural Commissioner

We submitted a request to the Orange County Agricultural Commissioner regarding restricted pesticide use at the Site. No response to our inquiry regarding possible pesticide use at the Site has been received to date.

4.5.4 Orange County Health Care Agency

We submitted a request to the Orange County Health Care Agency for records pertaining to the Site. No response to our inquiry has been received to date.

5.0 HISTORICAL USE

This section summarizes information we obtained from a variety of sources regarding the historical uses of the Site and identifies historical uses that could have led to RECs. The sources of information included historical aerial photographs, historical topographic maps, and city directories provided by EDR.

5.1 Sanborn, Inc. Fire Insurance Maps

According to EDR's Sanborn Map Report dated March 1, 2017, Sanborn maps do not exist for the Site or site vicinity.

5.2 Aerial Photographs

We reviewed historical aerial photographs provided by EDR for the years 1938, 1946, 1952, 1963, 1966, 1972, 1977, 1985, 1989, 1994, 2005, 2009, 2010 and 2012 (Appendix C) for indications of past land uses that had the potential to have impacted the Site through the use, storage or disposal of hazardous substances and/or petroleum. The following table summarizes the observations of the Site and adjacent properties on the aerial photographs.

AERIAL PHOTOGRAPH REVIEW SUMMARY

Year	Observations	
	Site	Adjacent Properties
1938 (1" = 500")	The Site appears to have been agricultural groves.	Adjacent properties appear to have been agricultural groves in all directions.
1946 (1" = 500')	We observed no significant change in conditions from those observed on the previous photograph.	We observed no significant change in conditions from those observed on the previous photograph, with the exception to the east appears to be fallow land.
1952 (1" = 500')	We observed no significant change in conditions from those observed on the previous photograph.	We observed no significant change in conditions from those observed on the previous photograph.
1963 (1" = 500')	The Site appears to have been under construction with the current racquet club.	We observed no significant change in conditions from those observed on the previous photograph, with the exception the properties to the northwest, west, and south appear to have been graded in preparation for residential development. In addition, the fallow land to the east now has groves.
1966 (1" = 500')	The Site appears to have been developed with the current Tustin Hill Racquet Club.	We observed no significant change in conditions from those observed on the previous photograph, with the exception of some residences built to the north, west, and south.
1972 (1" = 500')	We observed no significant change in conditions from those observed on the previous photograph.	We observed no significant change in conditions from those observed on the previous photograph, with the exception fallow land is present to the east and southeast.
1977 (1" = 500')	We observed no significant change in conditions from those observed on the previous photograph.	We observed no significant change in conditions from those observed on the previous photograph, with the exception that all of the residential lots to the north, west, and south appear to have been developed. Also, agriculture is now present to the southeast.
1985 (1" = 500')	We observed no significant change in conditions from those observed on the previous photograph.	We observed no significant change in conditions from those observed on the previous photograph.
1989 (1" = 500')	We observed no significant change in conditions from those observed on the previous photograph.	We observed no significant change in conditions from those observed on the previous photograph, with the exception of fallow land to the southeast.

Year	Observations	
	Site	Adjacent Properties
1994 (1" = 500')	We observed no significant change in conditions from those observed on the previous photograph.	We observed no significant change in conditions from those observed on the previous photograph.
2005 (1" = 500')	We observed no significant change in conditions from those observed on the previous photograph.	The adjacent properties to the east and southeast are now developed with residences.
2009 (1" = 500')	We observed no significant change in conditions from those observed on the previous photograph.	We observed no significant change in conditions from those observed on the previous photograph.
2010 (1" = 500')	We observed no significant change in conditions from those observed on the previous photograph.	We observed no significant change in conditions from those observed on the previous photograph.
2012 (1" = 500')	We observed no significant change in conditions from those observed on the previous photograph.	We observed no significant change in conditions from those observed on the previous photograph.

We observed no site or vicinity conditions on the aerial photographs that would suggest the potential presence of RECs on the Site or adjoining or nearby properties. Agricultural use (groves) was present on the Site from at least 1938 until sometime prior to 1963 and represents a potential environmental concern because of the possible use of pesticides. However, the Site has since been graded and developed with the current Tustin Hills Racquet Club and the potential presence of pesticides in soil from past agricultural use is not expected to be of concern due to the disturbance/grading of the soil, construction of buildings, and hardscape, likely diminishing pesticides (if present).

5.3 Topographic Maps

We reviewed historical topographic maps for the years 1896, 1898, 1901, 1902, 1932, 1935, 1942, 1948/1949, 1950, 1964/1965, 1972, 1981, and 2012 provided by EDR (Appendix D). The following summarizes observations of the Site and adjacent properties on the historical topographic maps.

TOPOGRAPHIC MAP REVIEW SUMMARY

Year	Observations	
	Site	Adjacent Properties
1896 (1:62,500)	No land use is depicted.	No land use is depicted.
1898 (1:62,500)	No land use is depicted.	No land use is depicted.
1901 (1: 62,500)	No land use is depicted.	No land use is depicted.
1902 (1:125,000)	No land use is depicted.	No land use is depicted.
1932 (1:31,680)	No land use is depicted.	No land use is depicted.
1935 (1:31,680)	No land use is depicted.	No land use is depicted.
1942 (1: 50,000)	The Site is depicted with agricultural groves.	Adjacent properties are depicted with agricultural groves.
1948/1949 (1:24,000)	No significant changes are depicted on the Site from the previous topographic map.	No significant changes are depicted from the previous topographic map.
1950 (1:24,000)	No significant changes are depicted on the Site from the previous topographic map.	No significant changes are depicted from the previous topographic map.
1964/1965 (1:24,000)	The Site is depicted with structures (current racquet club).	Agricultural groves are depicted to the north, east, and southeast. No land use is depicted to the west and south, with the exception of roads.
1972 (1:24,000)	No significant changes are depicted on the Site from the previous topographic map.	No significant changes are depicted from the previous topographic map, with the exception of some residential development to the west and south.
1981 (1:24,000)	No significant changes are depicted on the Site from the previous topographic map.	No significant changes are depicted from the previous topographic map, with the exception of some residential development to the north.
2012 (1:24,000)	No significant changes are depicted on the Site from the previous topographic map.	The adjacent properties are depicted with residential development.

The historical topographic maps did not depict features that would suggest the presence of RECs on the Site or adjacent properties. Agricultural use (groves) was depicted on the Site from at least 1942 until sometime prior to 1964 and represents a potential environmental concern because of the possible use of pesticides. However, the Site has since been graded and developed with the current Tustin Hills Racquet Club and the potential presence of pesticides in soil from past agricultural use is not expected to be of concern due the disturbance/grading of the soil, construction of buildings, and hardscape, likely diminishing pesticides (if present).

5.4 City Directories

EDR prepared a city directory image report of cross-referenced directories reviewed at approximately 5-year intervals from 1920 through 2013. The Site is listed as either Red Hill Tennis Club or Tustin Hills Racquet Club from 1966 to 2013. There are listings for residential properties in the site vicinity. A copy of the EDR city directory image report including information regarding offsite facilities is in Appendix E.

6.0 SITE RECONNAISSANCE

This section summarizes observations of the Site and surrounding properties made during the site reconnaissance.

6.1 Methodology and Limiting Conditions

Scott Nunes with Geocon performed the site reconnaissance on March 9, 2017, by walking the Site. Mr. Nunes performed the offsite survey by making observations of adjacent properties from the Site and adjacent roads and thoroughfares. Observations of the tennis courts (eastern portion of the Site) were made from the clubhouse area, as the owner did not want Geocon walking on that portion of the Site. Weather on the day of the site reconnaissance was sunny with temperatures in the mid-70s. Photographs of various site features and offsite properties are attached. Figure 2 illustrates selected site features and photo locations and orientations.

6.2 General Site Setting

The Site is located in an area of residential properties.

6.3 Onsite Survey

The Site consists of the Tustin Hills Racquet Club, consisting of a clubhouse, twelve tennis courts, swimming pool, and paved parking (Photo #s 1-5). The Site in general slopes from the western portion to the eastern portion. The clubhouse has a banquet room (Photo # 6) and a kitchen (Photo # 7). Paints and cleaners are stored on shelving in the hot water heater room of the clubhouse (Photo # 8). Five-gallon containers of chlorine and muriatic acid are stored in a metal cabinet in the pool pump area (Photo # 9). Paints and lubricants are stored in the area between the clubhouse and the pool pump

equipment (Photo # 10). No leaks or stains were observed where the chemicals were stored. A block enclosure with a chain-link gate and ceiling between the clubhouse and the pool equipment enclosure contains three utility-owned (Southern California Edison) electrical transformers (Photo # 11). No leaks or staining were observed around the transformers. Sewer manhole covers (Photo #12) are located in a concrete driveway southwest of the clubhouse. A concrete drainage culvert is located along the northwestern, north, and eastern boundaries.

6.4 Offsite Survey

Properties within the site vicinity include:

- **North** – Residences (Photo #13).
- **East** – Residences (Photo #14).
- **South** – Residences (Photo #15).
- **West** – Residences (Photo #16).

7.0 INTERVIEWS

We interviewed Mr. Chuck Pate, the site owner, via a site owner questionnaire regarding the current and past uses of the Site (the questionnaire is in Appendix A). Mr. Pate stated the Site has been a private tennis club from 1958 to the present. Mr. Pate stated the current and past uses of the adjoining properties and vicinity were residential and agriculture. Mr. Pate was not aware of any environmental concerns on the Site.

8.0 CONCLUSIONS AND RECOMMENDATIONS

We have performed a Phase I ESA, in general conformance with the scope and limitations of ASTM *Designation E 1527-13*, for the Site in Santa Ana, California. Any exceptions to, or deletions from, this practice are described in Section 1.4 of this report.

The assessment has revealed no evidence of RECs on the Site.

Agricultural use (groves) was present on the Site from at least 1938 until sometime prior to 1963 and represents a potential environmental concern because of the possible use of pesticides. However, the Site has since been plowed and tilled and the potential presence of pesticides in soil from past agricultural use is not expected to be of concern due the disturbance/grading of the soil, construction of buildings, and hardscape, likely diminishing pesticides (if present).

Chemicals such as chlorine tablets, muriatic acid, paints, lubricants, and cleaners are stored in the general area of the pool pump equipment and the hot water heater storage room. No leaks or staining were observed. However, it is recommended that all chemicals be stored in non-flammable storage cabinets or on secondary containment devices.

9.0 REFERENCES

American Society for Testing and Materials, *Designation E 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, 2013.

California Division of Oil, Gas & Geothermal Resources, 2016. Website database, District 1, <http://maps.conservation.ca.gov/doms/index.html>.

California State Water Resources Control Board, GeoTracker website, 2016, <https://geotracker.waterboards.ca.gov>.

Department of Toxic Substances Control, EnviroStor website, 2016, <http://www.envirostor.dtsc.ca.gov>.

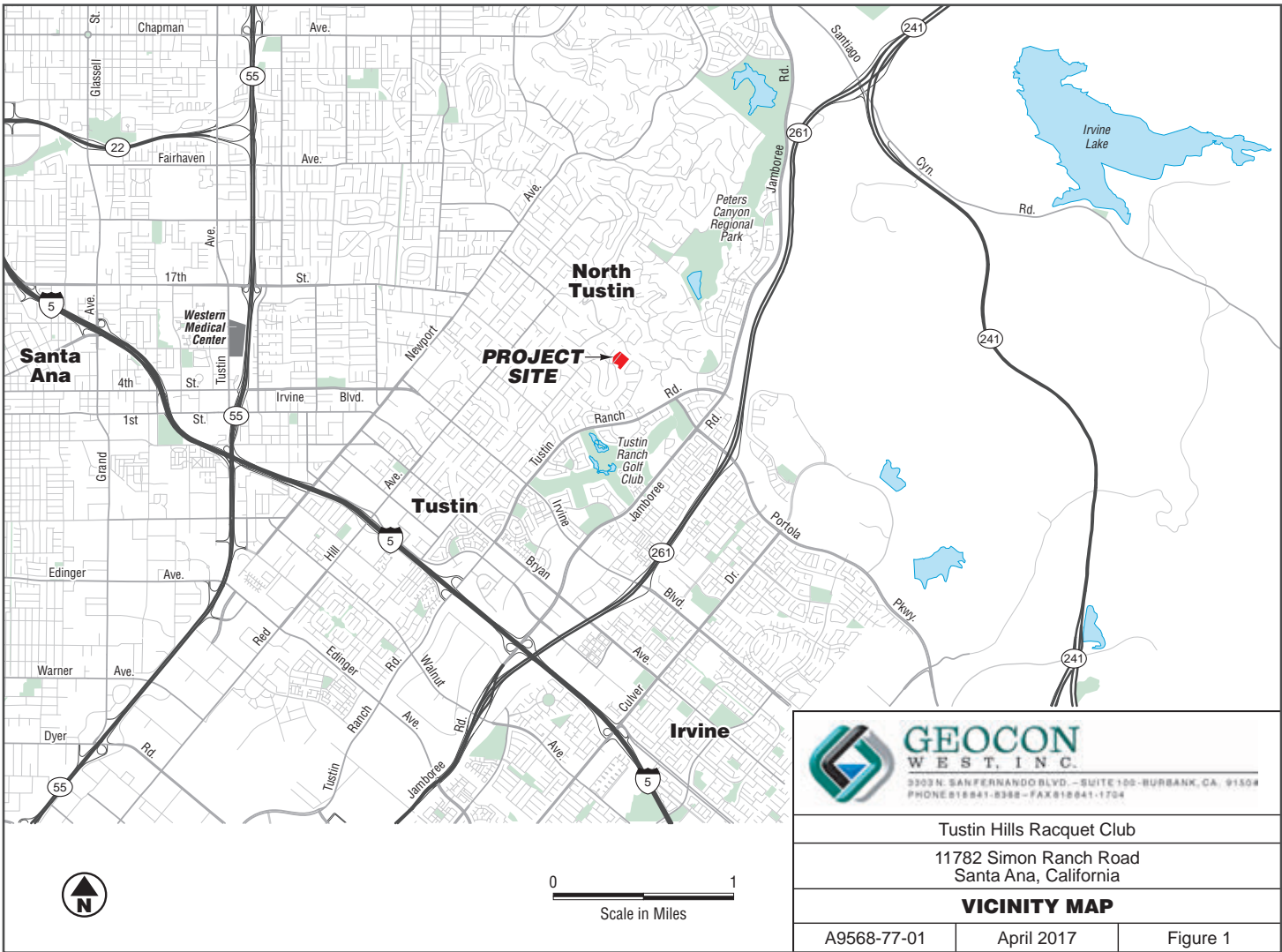
United States Geological Survey, *Orange, California, Quadrangle Topographic Map (7.5', 1:24,000)*, 2012.

10.0 QUALIFICATIONS

This Phase I ESA report was prepared by Mr. Scott Nunes and reviewed by Mr. John Juhrend. We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR Part 312. We have the specific qualifications based on education, training, and experience, to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries investigation in conformance with the standards and practices set forth in 40 CFR Part 312.

Mr. Juhrend has over 31 years of experience in the environmental and geotechnical consulting industry in California. Mr. Juhrend is Professional Geologist and Certified Engineering Geologist, with a BS degree in engineering geology and MS degree in civil engineering. His personal experience includes the performance of hundreds of environmental projects including Phase I and Phase II site assessments, remedial investigations and feasibility studies, corrective action programs and litigation support. His primary expertise includes hazardous waste evaluations of transportation corridors, industrial, commercial and residential properties.

Mr. Nunes is a Senior Environmental Scientist for Geocon. He has over 29 years conducting and managing environmental investigations. Mr. Nunes has completed numerous Phase I and II ESAs, Preliminary Endangerment Assessments, underground storage tank removals, and asbestos and lead-based paint survey and abatement activities for a variety of residential, commercial, school, hospital, industrial, agricultural, and municipal properties. He has a Bachelor's of Arts in Geography-Ecosystems (Environmental Science) and is a Certified Asbestos Consultant (CAC) in California.




GEOCON
 WEST, INC.
3303 N. SAN FERNANDO BLVD. - SUITE 100 - BURBANK, CA. 91504
 PHONE 818 841-8388 - FAX 818 841-1704

Tustin Hills Racquet Club
 11782 Simon Ranch Road
 Santa Ana, California

VICINITY MAP
 A9568-77-01 April 2017 Figure 1



LEGEND:

- ① Site Photograph Location & Orientation



GEOCON
WEST, INC.

3303 N. SAN FERNANDO BLVD. - SUITE 100 - BURBANK, CA. 91504
PHONE 818 841-8388 - FAX 818 841-1704

Tustin Hills Racquet Club

11782 Simon Ranch Road
Santa Ana, California

SITE PLAN

A9568-77-01

April 2017

Figure 2



Photo 1 – View to the northeast of the Site.



Photo 2 – View to the north along the western portion of the Site.



SITE PHOTOS 1 & 2

Tustin Hills Racquet Club
 11782 Simon Ranch Road
 Santa Ana California

A9568-77-01

April 2017



Photo 3 – View to the southeast along the northern edge of the Site.



Photo 4 – View of the clubhouse.

SITE PHOTOS 3 & 4		
Tustin Hills Racquet Club 11782 Simon Ranch Road Santa Ana California		
A9568-77-01		April 2017



Photo 5 – View of tennis courts from the clubhouse.



Photo 6 – View of the banquet room in the clubhouse.



Photo 7 – View of the kitchen in the clubhouse.



Photo 8 – Paints and cleaners storage in the hot water heater room in the clubhouse.



Photo 9 – Chlorine and muriatic acid storage at pool pump area.



Photo 10 – Paints and lubricants adjacent to transformer cage.



Photo 11 – Transformer cage.



Photo 12 – Sewer manhole covers southwest of the clubhouse.



Photo 13 – View to the north of adjacent residential properties.



Photo 14 – View to the east of adjacent residential properties.



SITE PHOTOS 13 & 14

Tustin Hills Racquet Club
 11782 Simon Ranch Road
 Santa Ana California

A9568-77-01

April 2017

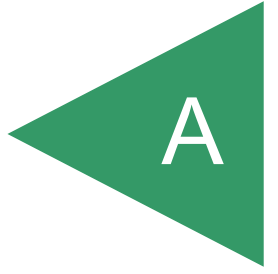


Photo 15 – View to the south of adjacent residential properties.



Photo 16 – View to the west of adjacent residential properties.

APPENDIX



CLIENT-PROVIDED INFORMATION FOR THE SITE

SITE: Tustin Hills Racquet Club
Geocon Project Number: A9568-77-01

***Please elaborate on any question answered "yes." If the question does not apply to the site, please answer "N/A".**

1. If possible, please provide us with the title, appraisal, or sale agreement records to review and discuss in the Phase I ESA. **Attached.**
2. Are you aware of any environmental liens or activity and use limitations associated with the Site? **No**
3. Do you have any specialized knowledge of the Site? **No**
4. Please provide any commonly known or reasonably ascertainable information about the Site **.N/A**
5. Who currently owns, manages, and operates the Site? **Mr Chuck Pate**
6. Has the monetary value of the Site been reduced due to environmental issues associated with the Site or adjacent properties? **No**
7. Why are you requesting a Phase I ESA for the Site? **We plan on purchasing the site for redevelopment.**

Peter Zehnder

4/12/2017

NAME (IN PRINT)

DATE

SIGNATURE

COMPANY NAME AND TITLE

Please feel free to contact me if you have any questions.
When complete, return the questionnaire via email or fax:

Mr. Scott Nunes
Geocon West, Inc.
nunes@geoconinc.com

PHASE I INTERVIEW QUESTIONNAIRE

The purpose of this questionnaire is to obtain information from knowledgeable individuals regarding the site. This questionnaire will become part of the Phase I ESA report.

A. SITE INFORMATION

Project Number: A9568-7-01 Site Name/Reference: Tustin Hills Racquet Club
Site Location: 11782 Simon Ranch Road, Santa Ana, CA

B. INTERVIEW INFORMATION

Date/Time: MARCH 10, 2017 / 9:25AM In Person
Interviewer: _____ By Telephone, Number: _____
Person Interviewed: CHUCK PATE By Facsimile, Number: _____
Title/Company: OWNER By E-mail, address: _____

1. What is your relationship to the site? OWNER OF PROPERTY

2. Do you have good knowledge regarding the uses and physical characteristics of the site?
 Yes
 No If not, who does? _____ Phone Number: _____

3. Do you have good knowledge regarding the activities/processes conducted at the site?
 Yes
 No If not, who does? _____ Phone Number: _____

C. PROPERTY INFORMATION

1. To the best of your knowledge, what are the current and past uses of the site? Please describe with approximate dates.

PRIVATE TENNIS CLUB 1958 TO PRESENT

2. To the best of your knowledge, what are the current and past uses of the adjoining properties?

HOMES
AGRICULTURE

3. To the best of your knowledge, what are the current and past uses in the surrounding area?

HOMES
AGRICULTURE

PHASE I INTERVIEW QUESTIONNAIRE

Page 2 of 7

4. Are there currently, or have there been in the past, any surface water bodies such as creeks or streams or other surface drainage on or adjacent to the site?

NA

5. Any historical or current pools of liquid noted? Source? Location? Describe.

NA

6. Any historical or current standing water noted? Source? Location? Describe.

NA

7. Are there any waste water discharges (including storm water) to a drain, ditch, or stream on the site and/or on adjacent properties:

NA

8. Are there currently, or have there been in the past, any wells (e.g. water, oil, gas, irrigation, injection, abandoned), pits, clarifiers, cisterns, cesspools, or similar receptacles noted where liquids drain, collect or are stored (sumps) that are likely to contain hazardous substances or petroleum products on the site or adjacent properties?

NA

9. Identify the source of potable water on the site.

TUSTIN WATER DISTRICT

10. Identify the sewage disposal system on the site (type and age).

NA

11. Is there any historical or current solid waste disposal on site? Describe.

NA

12. Is there any historical or current unnatural fill or grading, particularly fill of unknown origin? Describe.

NA

PHASE I INTERVIEW QUESTIONNAIRE

Page 3 of 7

13. Is there any historical or currently stained soil or pavement? Describe

NA

14. Is there any historical or current stressed vegetation noted (other than caused by drought)? Describe.

NA

15. To your knowledge, are there or have there been:

Hazardous substances on the site?

Yes No

Petroleum products on the site?

Yes No

If current uses involve hazardous substances or petroleum products, please identify the type, quantity and storage conditions of those substances.

Hazardous Substance or Petroleum Products	Location	Quantity	Storage Conditions
<u>NOT TO MY KNOWLEDGE</u>			

If hazardous or otherwise controlled waste storage areas are present on the site, please identify the type, location, quantity, and storage conditions of the waste materials.

Material Stored	Location	Quantity	Storage Conditions
<u>NOT TO MY KNOWLEDGE</u>			

16. If hazardous substances and/or petroleum products are present, are there indications of any of the following:

An existing release?

Yes No

A past release?

Yes No

A threat of their release?

Yes No

If yes to any of the above, please describe: _____

PHASE I INTERVIEW QUESTIONNAIRE

17. Are there any aboveground or underground storage tanks? Identify tank volume, location, material, age.

AST/UST and Age	Location	Tank Volume	Material stored
<i>No</i>			

18. Are there any historical or current drums and/or other containers? Identify volume, material, and location.

Volume	Material	Location
<i>No</i>		

19. Have there been any historical or any current noxious odors noted on the Site? Source? Describe.

No

20. To your knowledge, are there any utility corridors on the Site? Describe.

No

21. Any electrical or hydraulic equipment likely to contain PCB's such as transformers, hydraulic lifts, or elevators (fluorescent light ballast excluded).

No

22. Are there any occupants on the Site? Describe and list duration of occupancy.

No

PHASE I INTERVIEW QUESTIONNAIRE

Page 5 of 7

23. Are there structures present on the site? Provide a general description of the structures on the site (amount, size, and age)?

Structure	Sq. Footage	Age
<i>CLUBHOUSE</i>	<i>APPROXIMATELY 10,000</i>	<i>59 YEARS</i>

24. If any structures identify the type of HVAC system and fuel source on the interior. Any boilers present?

NA

25. Is the facility equipped with any backup generators? Fuel source?

NO

26. Any historical or current stains or corrosion on floors, walls or ceilings?

NO

27. Do you have good knowledge regarding the identity of any existing documents relating to the site?

Yes

No

If not, who does? _____ Phone Number: _____

28. To your knowledge, do any of the following documents exist with respect to the site? If yes, please name the document and comment upon whether it is available for review.

Document	Availability/ Source	Title of Document
Environmental site assessment reports?	<i>NA</i>	
Environmental audit reports?	<i>NA</i>	
Environmental permits?	<i>NA</i>	
Storage Tank registrations?	<i>NA</i>	
Underground Injection System registrations?	<i>NA</i>	
Material safety data sheets (MSDS)?	<i>NA</i>	
Community right-to-know plans?	<i>NA</i>	

PHASE I INTERVIEW QUESTIONNAIRE

Page 6 of 7

Document	Availability/ Source	Title of Document
Safety plans?	NA	
Spill Prevention, Countermeasure, & Control Plans?	NA	
Illness and Injury Prevention Plans?	NO	
Reports regarding hydrogeologic conditions on the site or surrounding area?	NA	
Hazardous waste generator notices or reports?	NA	
Geotechnical studies?	NA	
Risk assessments?	NA	
Recorded Activity and Use Limitations (AULs)?	NA	

To your knowledge, do any of the following exist with respect to the Site?

29. Notices or other correspondence from any government agency relating to past or current violations of environmental laws? Yes No

If yes, describe: _____

30. Notices or other correspondence from any government agency relating to environmental liens encumbering the Site? Yes No

If yes, describe: _____

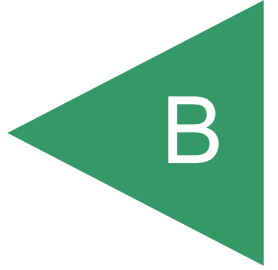
31. Pending, threatened, or past litigation or administrative proceedings relevant to hazardous substances, or petroleum products in, on, or from the Site? Yes No

If yes, describe: _____

32. Notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products? Yes No

If yes, describe: _____

APPENDIX



B

Tustin Hills Racquet Club Phase I

11782 Simon Ranch Road
Santa Ana, CA 92705

Inquiry Number: 4866681.2s
March 01, 2017

The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
 Please contact EDR at 1-800-352-0050
 with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

11782 SIMON RANCH ROAD
SANTA ANA, CA 92705

COORDINATES

Latitude (North): 33.7515570 - 33° 45' 5.60"
Longitude (West): 117.7815430 - 117° 46' 53.55"
Universal Transverse Mercator: Zone 11
UTM X (Meters): 427614.3
UTM Y (Meters): 3734690.2
Elevation: 256 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 5641308 ORANGE, CA
Version Date: 2012

South Map: 5640942 TUSTIN, CA
Version Date: 2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20140514, 20140515
Source: USDA

MAPPED SITES SUMMARY

Target Property Address:
 11782 SIMON RANCH ROAD
 SANTA ANA, CA 92705

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	RED HILL MINE	BETWEEN RANCHVIEW DR	RESPONSE, ENVIROSTOR	Higher	3150, 0.597, WSW
A2	CAMP COMMANDER		FUDS	Higher	4889, 0.926, NE
A3	CAMP COMMANDER	LOWER PETERS CANYON	ENVIROSTOR	Higher	4896, 0.927, NE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY..... Federal Facility Site Information listing
SEMS..... Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators
RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System
US ENG CONTROLS..... Engineering Controls Sites List

EXECUTIVE SUMMARY

US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

LUST..... Geotracker's Leaking Underground Fuel Tank Report

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

SLIC..... Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing

UST..... Active UST Facilities

AST..... Aboveground Petroleum Storage Tank Facilities

INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

VCP..... Voluntary Cleanup Program Properties

INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Considered Brownfields Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT..... Waste Management Unit Database

SWRCY..... Recycler Database

HAULERS..... Registered Waste Tire Haulers Listing

INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

ODI..... Open Dump Inventory

IHS OPEN DUMPS..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register

HIST Cal-Sites..... Historical Calsites Database

SCH..... School Property Evaluation Program

CDL..... Clandestine Drug Labs

EXECUTIVE SUMMARY

Toxic Pits..... Toxic Pits Cleanup Act Sites
US CDL..... National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

SWEEPS UST..... SWEEPS UST Listing
HIST UST..... Hazardous Substance Storage Container Database
CA FID UST..... Facility Inventory Database

Local Land Records

LIENS..... Environmental Liens Listing
LIENS 2..... CERCLA Lien Information
DEED..... Deed Restriction Listing

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System
CHMIRS..... California Hazardous Material Incident Report System
LDS..... Land Disposal Sites Listing
MCS..... Military Cleanup Sites Listing
Orange Co. Industrial Site..... List of Industrial Site Cleanups
SPILLS 90..... SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR..... RCRA - Non Generators / No Longer Regulated
DOD..... Department of Defense Sites
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR..... Financial Assurance Information
EPA WATCH LIST..... EPA WATCH LIST
2020 COR ACTION..... 2020 Corrective Action Program List
TSCA..... Toxic Substances Control Act
TRIS..... Toxic Chemical Release Inventory System
SSTS..... Section 7 Tracking Systems
ROD..... Records Of Decision
RMP..... Risk Management Plans
RAATS..... RCRA Administrative Action Tracking System
PRP..... Potentially Responsible Parties
PADS..... PCB Activity Database System
ICIS..... Integrated Compliance Information System
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS..... Material Licensing Tracking System
COAL ASH DOE..... Steam-Electric Plant Operation Data
COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER..... PCB Transformer Registration Database
RADINFO..... Radiation Information Database
HIST FTTS..... FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS..... Incident and Accident Data
CONSENT..... Superfund (CERCLA) Consent Decrees
INDIAN RESERV..... Indian Reservations
FUSRAP..... Formerly Utilized Sites Remedial Action Program
UMTRA..... Uranium Mill Tailings Sites
LEAD SMELTERS..... Lead Smelter Sites

EXECUTIVE SUMMARY

US AIRS.....	Aerometric Information Retrieval System Facility Subsystem
US MINES.....	Mines Master Index File
FINDS.....	Facility Index System/Facility Registry System
DOCKET HWC.....	Hazardous Waste Compliance Docket Listing
UXO.....	Unexploded Ordnance Sites
CA BOND EXP. PLAN.....	Bond Expenditure Plan
Cortese.....	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings.....	CUPA Resources List
DRYCLEANERS.....	Cleaner Facilities
EMI.....	Emissions Inventory Data
ENF.....	Enforcement Action Listing
Financial Assurance.....	Financial Assurance Information Listing
HAZNET.....	Facility and Manifest Data
ICE.....	ICE
HIST CORTESE.....	Hazardous Waste & Substance Site List
HWP.....	EnviroStor Permitted Facilities Listing
HWT.....	Registered Hazardous Waste Transporter Database
MINES.....	Mines Site Location Listing
MWMP.....	Medical Waste Management Program Listing
NPDES.....	NPDES Permits Listing
PEST LIC.....	Pesticide Regulation Licenses Listing
PROC.....	Certified Processors Database
Notify 65.....	Proposition 65 Records
UIC.....	UIC Listing
WASTEWATER PITS.....	Oil Wastewater Pits Listing
WDS.....	Waste Discharge System
WIP.....	Well Investigation Program Case List
ABANDONED MINES.....	Abandoned Mines
FUELS PROGRAM.....	EPA Fuels Program Registered Listing
ECHO.....	Enforcement & Compliance History Information

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP.....	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto.....	EDR Exclusive Historic Gas Stations
EDR Hist Cleaner.....	EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF.....	Recovered Government Archive Solid Waste Facilities List
RGA LUST.....	Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property. Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent NPL

RESPONSE: Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

A review of the RESPONSE list, as provided by EDR, has revealed that there is 1 RESPONSE site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
RED HILL MINE Database: RESPONSE, Date of Government Version: 10/31/2016 Status: No Further Action Facility Id: 60001226	BETWEEN RANCHVIEW DR	WSW 1/2 - 1 (0.597 mi.)	1	8

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 10/31/2016 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
RED HILL MINE Facility Id: 60001226 Status: No Further Action	BETWEEN RANCHVIEW DR	WSW 1/2 - 1 (0.597 mi.)	1	8
CAMP COMMANDER Facility Id: 80001098 Status: Inactive - Action Required	LOWER PETERS CANYON	NE 1/2 - 1 (0.927 mi.)	A3	11

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

FUDS: The Listing includes locations of Formerly Used Defense Sites Properties where the US Army Corps Of Engineers is actively working or will take necessary cleanup actions.

A review of the FUDS list, as provided by EDR, and dated 01/31/2015 has revealed that there is 1 FUDS

EXECUTIVE SUMMARY

site within approximately 1 mile of the target property.














<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CAMP COMMANDER		NE 1/2 - 1 (0.926 mi.)	A2	10

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 4866681.2S



-  Target Property
-  Sites at elevations higher than or equal to the target property
-  Sites at elevations lower than the target property
-  Manufactured Gas Plants
-  National Priority List Sites
-  Dept. Defense Sites
-  Indian Reservations BIA
-  Power transmission lines
-  100-year flood zone
-  500-year flood zone
-  National Wetland Inventory
-  State Wetlands
-  Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

<p>SITE NAME: Tustin Hills Racquet Club Phase I ADDRESS: 11782 Simon Ranch Road Santa Ana CA 92705 LAT/LONG: 33.751557 / 117.781543</p>	<p>CLIENT: Geocon Geotechnical & Env CONTACT: Mike Akoto INQUIRY #: 4866681.2s DATE: March 01, 2017 2:52 pm</p>
---	--

DETAIL MAP - 4866681.2S



Target Property

Sites at elevations higher than or equal to the target property

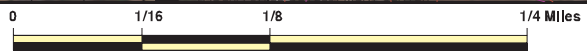
Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites



Indian Reservations BIA

100-year flood zone

500-year flood zone

Areas of Concern



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Tustin Hills Racquet Club Phase I
 ADDRESS: 11782 Simon Ranch Road
 Santa Ana CA 92705
 LAT/LONG: 33.751557 / 117.781543

CLIENT: Geocon Geotechnical & Env
 CONTACT: Mike Akoto
 INQUIRY #: 4866681.2s
 DATE: March 01, 2017 2:53 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<u>STANDARD ENVIRONMENTAL RECORDS</u>								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	0.001		0	NR	NR	NR	NR	0
<i>State- and tribal - equivalent NPL RESPONSE</i>								
RESPONSE	1.000		0	0	0	1	NR	1
<i>State- and tribal - equivalent CERCLIS ENVIROSTOR</i>								
ENVIROSTOR	1.000		0	0	0	2	NR	2
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
SLIC	0.500		0	0	0	NR	NR	0
<i>State and tribal registered storage tank lists</i>								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
<i>State and tribal voluntary cleanup sites</i>								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
<i>State and tribal Brownfields sites</i>								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
<u>ADDITIONAL ENVIRONMENTAL RECORDS</u>								
<i>Local Brownfield lists</i>								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Landfill / Solid Waste Disposal Sites</i>								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Hazardous waste / Contaminated Sites</i>								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
<i>Local Lists of Registered Storage Tanks</i>								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
<i>Local Land Records</i>								
LIENS	0.001		0	NR	NR	NR	NR	0
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
<i>Records of Emergency Release Reports</i>								
HMIRS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
Orange Co. Industrial Site	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	1	NR	1
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	0.001		0	NR	NR	NR	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.001		0	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0

- Totals --		0	0	0	0	4	0	4
-------------	--	---	---	---	---	---	---	---

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

1
WSW
1/2-1
0.597 mi.
3150 ft.

RED HILL MINE
BETWEEN RANCHVIEW DRIVE & MCLEAN DR
TUSTIN, CA 92780

RESPONSE **S110121727**
ENVIROSTOR **N/A**

Relative:
Higher

Actual:
272 ft.

RESPONSE:
 Facility ID: 60001226
 Site Type: State Response
 Site Type Detail: State Response or NPL
 Acres: 0
 National Priorities List: NO
 Cleanup Oversight Agencies: SMBRP
 Lead Agency Description: DTSC - Site Cleanup Program
 Project Manager: Not reported
 Supervisor: Manny Alonzo
 Division Branch: Cleanup Cypress
 Site Code: 401515
 Site Mgmt. Req.: NONE SPECIFIED
 Assembly: 68
 Senate: 37
 Special Program Status: EPA - PASI
 Status: No Further Action
 Status Date: 08/08/2016
 Restricted Use: NO
 Funding: EPA Grant
 Latitude: 33.74735
 Longitude: -117.7929
 APN: NONE SPECIFIED
 Past Use: MINE
 Potential COC : Arsenic Mercury (elemental)
 Confirmed COC: Arsenic Mercury (elemental)
 Potential Description: NONE SPECIFIED
 Alias Name: 401515
 Alias Type: Project Code (Site Code)
 Alias Name: 60001226
 Alias Type: Envirostor ID Number

Completed Info:
 Completed Area Name: PROJECT WIDE
 Completed Sub Area Name: Not reported
 Completed Document Type: Correspondence
 Completed Date: 12/26/2012
 Comments: Not reported

 Completed Area Name: PROJECT WIDE
 Completed Sub Area Name: Not reported
 Completed Document Type: PA/SI Site Screening
 Completed Date: 01/10/2011
 Comments: Not reported

 Future Area Name: Not reported
 Future Sub Area Name: Not reported
 Future Document Type: Not reported
 Future Due Date: Not reported
 Schedule Area Name: Not reported
 Schedule Sub Area Name: Not reported
 Schedule Document Type: Not reported
 Schedule Due Date: Not reported
 Schedule Revised Date: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

RED HILL MINE (Continued)

S110121727

ENVIROSTOR:

Facility ID: 60001226
Status: No Further Action
Status Date: 08/08/2016
Site Code: 401515
Site Type: State Response
Site Type Detailed: State Response or NPL
Acres: 0
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: Manny Alonzo
Division Branch: Cleanup Cypress
Assembly: 68
Senate: 37
Special Program: EPA - PASI
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: EPA Grant
Latitude: 33.74735
Longitude: -117.7929
APN: NONE SPECIFIED
Past Use: MINE
Potential COC: Arsenic Mercury (elemental)
Confirmed COC: Arsenic Mercury (elemental)
Potential Description: NONE SPECIFIED
Alias Name: 401515
Alias Type: Project Code (Site Code)
Alias Name: 60001226
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 12/26/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: PA/SI Site Screening
Completed Date: 01/10/2011
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

CAMP COMMANDER (Continued)

1011813671

Longitude Degree: -117
 Longitude Minute: 46
 Longitude Second: 8
 Longitude Direction: E

**A3
 NE
 1/2-1
 0.927 mi.
 4896 ft.**

**CAMP COMMANDER
 LOWER PETERS CANYON RETARDING BASIN
 ORANGE, CA 92869**

**ENVIROSTOR S118757500
 N/A**

Site 2 of 2 in cluster A

**Relative:
 Higher**

ENVIROSTOR:
 Facility ID: 80001098
 Status: Inactive - Action Required
 Status Date: 09/15/2016
 Site Code: Not reported
 Site Type: Military Evaluation
 Site Type Detailed: FUDS
 Acres: 10
 NPL: NO
 Regulatory Agencies: SMBRP
 Lead Agency: SMBRP
 Program Manager: Martin Herrmann
 Supervisor: Noel Shrum
 Division Branch: Cleanup Sacramento
 Assembly: 68
 Senate: 37
 Special Program: Not reported
 Restricted Use: NO
 Site Mgmt Req: NONE SPECIFIED
 Funding: DERA
 Latitude: 33.7625
 Longitude: -117.7708
 APN: NONE SPECIFIED
 Past Use: NONE SPECIFIED
 Potential COC: Explosives (UXO, MEC)
 Confirmed COC: NONE SPECIFIED
 Potential Description: NONE SPECIFIED
 Alias Name: CA99799FA37500
 Alias Type: Federal Facility ID
 Alias Name: J09CA7347
 Alias Type: INPR
 Alias Name: 80001098
 Alias Type: Envirostor ID Number

**Actual:
 322 ft.**

Completed Info:

Completed Area Name: PROJECT WIDE
 Completed Sub Area Name: Not reported
 Completed Document Type: Inventory Project Report (INPR)
 Completed Date: 09/28/1999
 Comments: Not reported

Completed Area Name: PROJECT WIDE
 Completed Sub Area Name: Not reported
 Completed Document Type: Site Screening
 Completed Date: 11/03/2015
 Comments: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CAMP COMMANDER (Continued)

S118757500

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Count: 0 records.

ORPHAN SUMMARY

<u>City</u>	<u>EDR ID</u>	<u>Site Name</u>	<u>Site Address</u>	<u>Zip</u>	<u>Database(s)</u>
NO SITES FOUND					

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/05/2016	Source: EPA
Date Data Arrived at EDR: 01/05/2017	Telephone: N/A
Date Made Active in Reports: 02/03/2017	Last EDR Contact: 01/05/2017
Number of Days to Update: 29	Next Scheduled EDR Contact: 04/17/2017
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/05/2016	Source: EPA
Date Data Arrived at EDR: 01/05/2017	Telephone: N/A
Date Made Active in Reports: 02/03/2017	Last EDR Contact: 01/05/2017
Number of Days to Update: 29	Next Scheduled EDR Contact: 04/17/2017
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 08/15/2011
Number of Days to Update: 56	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/05/2016	Source: EPA
Date Data Arrived at EDR: 01/05/2017	Telephone: N/A
Date Made Active in Reports: 02/03/2017	Last EDR Contact: 01/05/2017
Number of Days to Update: 29	Next Scheduled EDR Contact: 04/17/2017
	Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 09/14/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/04/2016	Telephone: 703-603-8704
Date Made Active in Reports: 10/21/2016	Last EDR Contact: 01/05/2017
Number of Days to Update: 17	Next Scheduled EDR Contact: 04/17/2017
	Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/10/2016	Source: EPA
Date Data Arrived at EDR: 10/20/2016	Telephone: 800-424-9346
Date Made Active in Reports: 01/06/2017	Last EDR Contact: 01/06/2017
Number of Days to Update: 78	Next Scheduled EDR Contact: 05/01/2017
	Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 10/10/2016	Source: EPA
Date Data Arrived at EDR: 10/20/2016	Telephone: 800-424-9346
Date Made Active in Reports: 01/06/2017	Last EDR Contact: 01/06/2017
Number of Days to Update: 78	Next Scheduled EDR Contact: 05/01/2017
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/12/2016	Source: EPA
Date Data Arrived at EDR: 12/28/2016	Telephone: 800-424-9346
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 12/28/2016
Number of Days to Update: 44	Next Scheduled EDR Contact: 04/10/2017
	Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/12/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/28/2016	Telephone: (415) 495-8895
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 12/28/2016
Number of Days to Update: 44	Next Scheduled EDR Contact: 04/10/2017
	Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/12/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/28/2016	Telephone: (415) 495-8895
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 12/28/2016
Number of Days to Update: 44	Next Scheduled EDR Contact: 04/10/2017
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/12/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/28/2016	Telephone: (415) 495-8895
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 12/28/2016
Number of Days to Update: 44	Next Scheduled EDR Contact: 04/10/2017
	Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/12/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/28/2016	Telephone: (415) 495-8895
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 12/28/2016
Number of Days to Update: 44	Next Scheduled EDR Contact: 04/10/2017
	Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015	Source: Department of the Navy
Date Data Arrived at EDR: 05/29/2015	Telephone: 843-820-7326
Date Made Active in Reports: 06/11/2015	Last EDR Contact: 02/13/2017
Number of Days to Update: 13	Next Scheduled EDR Contact: 05/29/2017
	Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 11/15/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/29/2016	Telephone: 703-603-0695
Date Made Active in Reports: 02/03/2017	Last EDR Contact: 02/28/2017
Number of Days to Update: 66	Next Scheduled EDR Contact: 06/12/2017
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 11/15/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/29/2016	Telephone: 703-603-0695
Date Made Active in Reports: 02/03/2017	Last EDR Contact: 02/28/2017
Number of Days to Update: 66	Next Scheduled EDR Contact: 06/12/2017
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/26/2016
Date Data Arrived at EDR: 09/29/2016
Date Made Active in Reports: 11/11/2016
Number of Days to Update: 43

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/28/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 10/31/2016
Date Data Arrived at EDR: 11/01/2016
Date Made Active in Reports: 01/18/2017
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/31/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 10/31/2016
Date Data Arrived at EDR: 11/01/2016
Date Made Active in Reports: 01/18/2017
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/31/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/14/2016
Date Data Arrived at EDR: 11/15/2016
Date Made Active in Reports: 01/20/2017
Number of Days to Update: 66

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 02/15/2017
Next Scheduled EDR Contact: 05/29/2017
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/12/2016	Source: State Water Resources Control Board
Date Data Arrived at EDR: 12/14/2016	Telephone: see region list
Date Made Active in Reports: 01/20/2017	Last EDR Contact: 12/14/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 03/27/2017
	Data Release Frequency: Quarterly

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003	Source: California Regional Water Quality Control Board Central Coast Region (3)
Date Data Arrived at EDR: 05/19/2003	Telephone: 805-542-4786
Date Made Active in Reports: 06/02/2003	Last EDR Contact: 07/18/2011
Number of Days to Update: 14	Next Scheduled EDR Contact: 10/31/2011
	Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004	Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Date Data Arrived at EDR: 10/20/2004	Telephone: 510-622-2433
Date Made Active in Reports: 11/19/2004	Last EDR Contact: 09/19/2011
Number of Days to Update: 30	Next Scheduled EDR Contact: 01/02/2012
	Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001	Source: California Regional Water Quality Control Board North Coast (1)
Date Data Arrived at EDR: 02/28/2001	Telephone: 707-570-3769
Date Made Active in Reports: 03/29/2001	Last EDR Contact: 08/01/2011
Number of Days to Update: 29	Next Scheduled EDR Contact: 11/14/2011
	Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008	Source: California Regional Water Quality Control Board Central Valley Region (5)
Date Data Arrived at EDR: 07/22/2008	Telephone: 916-464-4834
Date Made Active in Reports: 07/31/2008	Last EDR Contact: 07/01/2011
Number of Days to Update: 9	Next Scheduled EDR Contact: 10/17/2011
	Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003	Source: California Regional Water Quality Control Board Lahontan Region (6)
Date Data Arrived at EDR: 09/10/2003	Telephone: 530-542-5572
Date Made Active in Reports: 10/07/2003	Last EDR Contact: 09/12/2011
Number of Days to Update: 27	Next Scheduled EDR Contact: 12/26/2011
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005	Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Date Data Arrived at EDR: 06/07/2005	Telephone: 760-241-7365
Date Made Active in Reports: 06/29/2005	Last EDR Contact: 09/12/2011
Number of Days to Update: 22	Next Scheduled EDR Contact: 12/26/2011
	Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004	Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Date Data Arrived at EDR: 02/26/2004	Telephone: 760-776-8943
Date Made Active in Reports: 03/24/2004	Last EDR Contact: 08/01/2011
Number of Days to Update: 27	Next Scheduled EDR Contact: 11/14/2011
	Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004	Source: California Regional Water Quality Control Board Los Angeles Region (4)
Date Data Arrived at EDR: 09/07/2004	Telephone: 213-576-6710
Date Made Active in Reports: 10/12/2004	Last EDR Contact: 09/06/2011
Number of Days to Update: 35	Next Scheduled EDR Contact: 12/19/2011
	Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001	Source: California Regional Water Quality Control Board San Diego Region (9)
Date Data Arrived at EDR: 04/23/2001	Telephone: 858-637-5595
Date Made Active in Reports: 05/21/2001	Last EDR Contact: 09/26/2011
Number of Days to Update: 28	Next Scheduled EDR Contact: 01/09/2012
	Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005	Source: California Regional Water Quality Control Board Santa Ana Region (8)
Date Data Arrived at EDR: 02/15/2005	Telephone: 909-782-4496
Date Made Active in Reports: 03/28/2005	Last EDR Contact: 08/15/2011
Number of Days to Update: 41	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 01/07/2016	Source: EPA Region 10
Date Data Arrived at EDR: 01/08/2016	Telephone: 206-553-2857
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 01/26/2017
Number of Days to Update: 41	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 02/25/2016 Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/27/2016 Telephone: 415-972-3372
Date Made Active in Reports: 06/03/2016 Last EDR Contact: 01/26/2017
Number of Days to Update: 37 Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/13/2015 Source: EPA Region 8
Date Data Arrived at EDR: 10/23/2015 Telephone: 303-312-6271
Date Made Active in Reports: 02/18/2016 Last EDR Contact: 01/26/2017
Number of Days to Update: 118 Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/09/2015 Source: EPA Region 7
Date Data Arrived at EDR: 02/12/2016 Telephone: 913-551-7003
Date Made Active in Reports: 06/03/2016 Last EDR Contact: 01/26/2017
Number of Days to Update: 112 Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 12/11/2015 Source: EPA Region 6
Date Data Arrived at EDR: 02/19/2016 Telephone: 214-665-6597
Date Made Active in Reports: 06/03/2016 Last EDR Contact: 01/26/2017
Number of Days to Update: 105 Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 02/05/2016 Source: EPA Region 4
Date Data Arrived at EDR: 04/29/2016 Telephone: 404-562-8677
Date Made Active in Reports: 06/03/2016 Last EDR Contact: 01/24/2017
Number of Days to Update: 35 Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/27/2015 Source: EPA Region 1
Date Data Arrived at EDR: 10/29/2015 Telephone: 617-918-1313
Date Made Active in Reports: 01/04/2016 Last EDR Contact: 01/26/2017
Number of Days to Update: 67 Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 02/17/2016 Source: EPA, Region 5
Date Data Arrived at EDR: 04/27/2016 Telephone: 312-886-7439
Date Made Active in Reports: 06/03/2016 Last EDR Contact: 01/26/2017
Number of Days to Update: 37 Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC: Statewide SLIC Cases

Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/12/2016
Date Data Arrived at EDR: 12/14/2016
Date Made Active in Reports: 01/23/2017
Number of Days to Update: 40

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/14/2016
Next Scheduled EDR Contact: 03/27/2017
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/23/2017
Next Scheduled EDR Contact: 04/24/2017
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 09/12/2016	Source: SWRCB
Date Data Arrived at EDR: 09/14/2016	Telephone: 916-341-5851
Date Made Active in Reports: 10/14/2016	Last EDR Contact: 12/15/2016
Number of Days to Update: 30	Next Scheduled EDR Contact: 03/27/2017
	Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 07/12/2016	Telephone: 916-327-5092
Date Made Active in Reports: 09/19/2016	Last EDR Contact: 12/22/2016
Number of Days to Update: 69	Next Scheduled EDR Contact: 04/10/2017
	Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 01/26/2016	Source: EPA Region 8
Date Data Arrived at EDR: 02/05/2016	Telephone: 303-312-6137
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 01/26/2017
Number of Days to Update: 119	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014	Source: EPA Region 7
Date Data Arrived at EDR: 11/25/2014	Telephone: 913-551-7003
Date Made Active in Reports: 01/29/2015	Last EDR Contact: 01/26/2017
Number of Days to Update: 65	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 12/03/2015	Source: EPA Region 6
Date Data Arrived at EDR: 02/04/2016	Telephone: 214-665-7591
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 01/26/2017
Number of Days to Update: 120	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/20/2015	Source: EPA, Region 1
Date Data Arrived at EDR: 10/29/2015	Telephone: 617-918-1313
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 01/26/2017
Number of Days to Update: 67	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 02/05/2016	Source: EPA Region 4
Date Data Arrived at EDR: 04/29/2016	Telephone: 404-562-9424
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 01/24/2017
Number of Days to Update: 35	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/05/2015	Source: EPA Region 5
Date Data Arrived at EDR: 11/13/2015	Telephone: 312-886-6136
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 01/26/2017
Number of Days to Update: 52	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 01/07/2016	Source: EPA Region 10
Date Data Arrived at EDR: 01/08/2016	Telephone: 206-553-2857
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 01/26/2017
Number of Days to Update: 41	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 02/25/2016	Source: EPA Region 9
Date Data Arrived at EDR: 04/27/2016	Telephone: 415-972-3368
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 01/26/2017
Number of Days to Update: 37	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015	Source: EPA, Region 1
Date Data Arrived at EDR: 09/29/2015	Telephone: 617-918-1102
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 12/27/2016
Number of Days to Update: 142	Next Scheduled EDR Contact: 04/10/2017
	Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 10/31/2016	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 11/01/2016	Telephone: 916-323-3400
Date Made Active in Reports: 01/18/2017	Last EDR Contact: 01/31/2017
Number of Days to Update: 78	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 04/20/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfields Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 02/29/2016	Source: State Water Resources Control Board
Date Data Arrived at EDR: 03/07/2016	Telephone: 916-323-7905
Date Made Active in Reports: 05/04/2016	Last EDR Contact: 01/04/2017
Number of Days to Update: 58	Next Scheduled EDR Contact: 04/10/2017
	Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/19/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/20/2016	Telephone: 202-566-2777
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 12/20/2016
Number of Days to Update: 52	Next Scheduled EDR Contact: 04/03/2017
	Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000	Source: State Water Resources Control Board
Date Data Arrived at EDR: 04/10/2000	Telephone: 916-227-4448
Date Made Active in Reports: 05/10/2000	Last EDR Contact: 02/03/2017
Number of Days to Update: 30	Next Scheduled EDR Contact: 05/22/2017
	Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/12/2016
Date Data Arrived at EDR: 09/14/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 30

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/14/2016
Next Scheduled EDR Contact: 03/27/2017
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 08/25/2016
Date Data Arrived at EDR: 08/26/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 49

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 02/13/2017
Next Scheduled EDR Contact: 05/29/2017
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/31/2016
Next Scheduled EDR Contact: 02/13/2017
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/23/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Services, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 01/30/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/30/2016	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 01/05/2017	Telephone: 202-307-1000
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 02/28/2017
Number of Days to Update: 36	Next Scheduled EDR Contact: 06/12/2017
	Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005	Source: Department of Toxic Substance Control
Date Data Arrived at EDR: 08/03/2006	Telephone: 916-323-3400
Date Made Active in Reports: 08/24/2006	Last EDR Contact: 02/23/2009
Number of Days to Update: 21	Next Scheduled EDR Contact: 05/25/2009
	Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 10/31/2016	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 11/01/2016	Telephone: 916-323-3400
Date Made Active in Reports: 01/18/2017	Last EDR Contact: 01/31/2017
Number of Days to Update: 78	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 08/31/2016	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 11/18/2016	Telephone: 916-255-6504
Date Made Active in Reports: 12/22/2016	Last EDR Contact: 01/09/2017
Number of Days to Update: 34	Next Scheduled EDR Contact: 04/24/2017
	Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995	Source: State Water Resources Control Board
Date Data Arrived at EDR: 08/30/1995	Telephone: 916-227-4364
Date Made Active in Reports: 09/26/1995	Last EDR Contact: 01/26/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 04/27/2009
	Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/30/2016	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 12/05/2016	Telephone: 202-307-1000
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 02/28/2017
Number of Days to Update: 67	Next Scheduled EDR Contact: 06/12/2017
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994	Source: State Water Resources Control Board
Date Data Arrived at EDR: 07/07/2005	Telephone: N/A
Date Made Active in Reports: 08/11/2005	Last EDR Contact: 06/03/2005
Number of Days to Update: 35	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 12/01/2016	Source: Department of Public Health
Date Data Arrived at EDR: 12/06/2016	Telephone: 707-463-4466
Date Made Active in Reports: 01/10/2017	Last EDR Contact: 02/27/2017
Number of Days to Update: 35	Next Scheduled EDR Contact: 06/12/2017
	Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990	Source: State Water Resources Control Board
Date Data Arrived at EDR: 01/25/1991	Telephone: 916-341-5851
Date Made Active in Reports: 02/12/1991	Last EDR Contact: 07/26/2001
Number of Days to Update: 18	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 09/05/1995	Telephone: 916-341-5851
Date Made Active in Reports: 09/29/1995	Last EDR Contact: 12/28/1998
Number of Days to Update: 24	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 11/29/2016	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 12/06/2016	Telephone: 916-323-3400
Date Made Active in Reports: 01/23/2017	Last EDR Contact: 12/02/2016
Number of Days to Update: 48	Next Scheduled EDR Contact: 03/20/2017
	Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/18/2014	Telephone: 202-564-6023
Date Made Active in Reports: 04/24/2014	Last EDR Contact: 01/24/2017
Number of Days to Update: 37	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 12/06/2016	Source: DTSC and SWRCB
Date Data Arrived at EDR: 12/06/2016	Telephone: 916-323-3400
Date Made Active in Reports: 01/20/2017	Last EDR Contact: 12/06/2016
Number of Days to Update: 45	Next Scheduled EDR Contact: 03/20/2017
	Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/28/2016	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 12/28/2016	Telephone: 202-366-4555
Date Made Active in Reports: 02/03/2017	Last EDR Contact: 12/28/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 04/10/2017
	Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 09/26/2016	Source: Office of Emergency Services
Date Data Arrived at EDR: 10/26/2016	Telephone: 916-845-8400
Date Made Active in Reports: 01/17/2017	Last EDR Contact: 01/25/2017
Number of Days to Update: 83	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/12/2016	Source: State Water Quality Control Board
Date Data Arrived at EDR: 12/14/2016	Telephone: 866-480-1028
Date Made Active in Reports: 01/20/2017	Last EDR Contact: 12/14/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 03/27/2017
	Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/12/2016	Source: State Water Resources Control Board
Date Data Arrived at EDR: 12/14/2016	Telephone: 866-480-1028
Date Made Active in Reports: 01/20/2017	Last EDR Contact: 12/14/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 03/27/2017
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012	Source: FirstSearch
Date Data Arrived at EDR: 01/03/2013	Telephone: N/A
Date Made Active in Reports: 02/22/2013	Last EDR Contact: 01/03/2013
Number of Days to Update: 50	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/12/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/28/2016	Telephone: (415) 495-8895
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 12/28/2016
Number of Days to Update: 44	Next Scheduled EDR Contact: 04/10/2017
	Data Release Frequency: Varies

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 07/08/2015	Telephone: 202-528-4285
Date Made Active in Reports: 10/13/2015	Last EDR Contact: 02/24/2017
Number of Days to Update: 97	Next Scheduled EDR Contact: 06/05/2017
	Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 11/10/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 01/13/2017
Number of Days to Update: 62	Next Scheduled EDR Contact: 04/24/2017
	Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005	Source: U.S. Geological Survey
Date Data Arrived at EDR: 02/06/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 01/13/2017
Number of Days to Update: 339	Next Scheduled EDR Contact: 04/24/2017
	Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/07/2011 Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/09/2011 Telephone: 615-532-8599
Date Made Active in Reports: 05/02/2011 Last EDR Contact: 02/03/2017
Number of Days to Update: 54 Next Scheduled EDR Contact: 05/29/2017
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 10/11/2016 Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/16/2016 Telephone: 202-566-1917
Date Made Active in Reports: 02/03/2017 Last EDR Contact: 02/15/2017
Number of Days to Update: 79 Next Scheduled EDR Contact: 05/29/2017
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013 Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/21/2014 Telephone: 617-520-3000
Date Made Active in Reports: 06/17/2014 Last EDR Contact: 02/03/2017
Number of Days to Update: 88 Next Scheduled EDR Contact: 05/22/2017
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013 Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/03/2015 Telephone: 703-308-4044
Date Made Active in Reports: 03/09/2015 Last EDR Contact: 02/10/2017
Number of Days to Update: 6 Next Scheduled EDR Contact: 05/22/2017
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012 Source: EPA
Date Data Arrived at EDR: 01/15/2015 Telephone: 202-260-5521
Date Made Active in Reports: 01/29/2015 Last EDR Contact: 12/23/2016
Number of Days to Update: 14 Next Scheduled EDR Contact: 04/03/2017
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2014	Source: EPA
Date Data Arrived at EDR: 11/24/2015	Telephone: 202-566-0250
Date Made Active in Reports: 04/05/2016	Last EDR Contact: 02/24/2017
Number of Days to Update: 133	Next Scheduled EDR Contact: 06/05/2017
	Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009	Source: EPA
Date Data Arrived at EDR: 12/10/2010	Telephone: 202-564-4203
Date Made Active in Reports: 02/25/2011	Last EDR Contact: 01/23/2017
Number of Days to Update: 77	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013	Source: EPA
Date Data Arrived at EDR: 12/12/2013	Telephone: 703-416-0223
Date Made Active in Reports: 02/24/2014	Last EDR Contact: 12/06/2016
Number of Days to Update: 74	Next Scheduled EDR Contact: 03/20/2017
	Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 08/01/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/22/2016	Telephone: 202-564-8600
Date Made Active in Reports: 11/11/2016	Last EDR Contact: 01/23/2017
Number of Days to Update: 81	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 10/17/2014	Telephone: 202-564-6023
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 02/10/2017
Number of Days to Update: 3	Next Scheduled EDR Contact: 05/22/2017
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 01/20/2016	Source: EPA
Date Data Arrived at EDR: 04/28/2016	Telephone: 202-566-0500
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 01/13/2017
Number of Days to Update: 127	Next Scheduled EDR Contact: 04/24/2017
	Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/23/2016	Telephone: 202-564-5088
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 01/09/2017
Number of Days to Update: 79	Next Scheduled EDR Contact: 04/24/2017
	Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 02/17/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 06/05/2017
	Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 02/17/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 06/05/2017
	Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 09/08/2016	Telephone: 301-415-7169
Date Made Active in Reports: 10/21/2016	Last EDR Contact: 02/03/2017
Number of Days to Update: 43	Next Scheduled EDR Contact: 05/22/2017
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005	Source: Department of Energy
Date Data Arrived at EDR: 08/07/2009	Telephone: 202-586-8719
Date Made Active in Reports: 10/22/2009	Last EDR Contact: 12/06/2016
Number of Days to Update: 76	Next Scheduled EDR Contact: 03/20/2017
	Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/10/2014	Telephone: N/A
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 12/06/2016
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/20/2017
	Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/19/2011	Telephone: 202-566-0517
Date Made Active in Reports: 01/10/2012	Last EDR Contact: 01/29/2016
Number of Days to Update: 83	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/04/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/06/2017	Telephone: 202-343-9775
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 01/06/2017
Number of Days to Update: 35	Next Scheduled EDR Contact: 04/17/2017
	Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transportation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 02/01/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2016
Date Data Arrived at EDR: 11/18/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 77

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/23/2017
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 09/30/2015
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/22/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/13/2017
Next Scheduled EDR Contact: 04/24/2017
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016
Date Data Arrived at EDR: 12/27/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 52

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 02/03/2017
Next Scheduled EDR Contact: 05/22/2017
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/21/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/05/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 01/05/2017
Next Scheduled EDR Contact: 04/17/2017
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 12/22/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 12/22/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/05/2016
Date Data Arrived at EDR: 09/01/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 22

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 02/28/2017
Next Scheduled EDR Contact: 06/12/2017
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/05/2005 Source: USGS
Date Data Arrived at EDR: 02/29/2008 Telephone: 703-648-7709
Date Made Active in Reports: 04/18/2008 Last EDR Contact: 12/12/2016
Number of Days to Update: 49 Next Scheduled EDR Contact: 03/13/2017
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011 Source: USGS
Date Data Arrived at EDR: 06/08/2011 Telephone: 703-648-7709
Date Made Active in Reports: 09/13/2011 Last EDR Contact: 12/02/2016
Number of Days to Update: 97 Next Scheduled EDR Contact: 03/13/2017
Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/15/2016 Source: EPA
Date Data Arrived at EDR: 09/07/2016 Telephone: (415) 947-8000
Date Made Active in Reports: 11/11/2016 Last EDR Contact: 02/22/2017
Number of Days to Update: 65 Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 06/02/2016 Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/03/2016 Telephone: 202-564-0527
Date Made Active in Reports: 09/02/2016 Last EDR Contact: 02/24/2017
Number of Days to Update: 91 Next Scheduled EDR Contact: 06/12/2017
Data Release Frequency: Varies

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 10/25/2015 Source: Department of Defense
Date Data Arrived at EDR: 01/29/2016 Telephone: 571-373-0407
Date Made Active in Reports: 04/05/2016 Last EDR Contact: 01/20/2017
Number of Days to Update: 67 Next Scheduled EDR Contact: 05/01/2017
Data Release Frequency: Varies

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989 Source: Department of Health Services
Date Data Arrived at EDR: 07/27/1994 Telephone: 916-255-2118
Date Made Active in Reports: 08/02/1994 Last EDR Contact: 05/31/1994
Number of Days to Update: 6 Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/26/2016	Source: CAL EPA/Office of Emergency Information
Date Data Arrived at EDR: 09/27/2016	Telephone: 916-323-3400
Date Made Active in Reports: 11/18/2016	Last EDR Contact: 12/28/2016
Number of Days to Update: 52	Next Scheduled EDR Contact: 04/10/2017
	Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 09/02/2016	Source: Department of Toxic Substance Control
Date Data Arrived at EDR: 09/27/2016	Telephone: 916-327-4498
Date Made Active in Reports: 12/15/2016	Last EDR Contact: 12/02/2016
Number of Days to Update: 79	Next Scheduled EDR Contact: 03/20/2017
	Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2014	Source: California Air Resources Board
Date Data Arrived at EDR: 09/23/2016	Telephone: 916-322-2990
Date Made Active in Reports: 10/24/2016	Last EDR Contact: 12/23/2016
Number of Days to Update: 31	Next Scheduled EDR Contact: 04/03/2017
	Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 12/06/2016	Source: State Water Resources Control Board
Date Data Arrived at EDR: 12/09/2016	Telephone: 916-445-9379
Date Made Active in Reports: 01/18/2017	Last EDR Contact: 01/23/2017
Number of Days to Update: 40	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 04/25/2016	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 04/29/2016	Telephone: 916-255-3628
Date Made Active in Reports: 06/21/2016	Last EDR Contact: 01/23/2017
Number of Days to Update: 53	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 11/16/2016	Source: California Integrated Waste Management Board
Date Data Arrived at EDR: 11/18/2016	Telephone: 916-341-6066
Date Made Active in Reports: 01/20/2017	Last EDR Contact: 02/13/2017
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/29/2017
	Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 10/12/2016
Date Made Active in Reports: 12/15/2016
Number of Days to Update: 64

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 01/09/2017
Next Scheduled EDR Contact: 04/24/2017
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 11/21/2016
Date Data Arrived at EDR: 11/22/2016
Date Made Active in Reports: 01/23/2017
Number of Days to Update: 62

Source: Department of Toxic Substances Control
Telephone: 877-786-9427
Last EDR Contact: 02/22/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSTITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 11/21/2016
Date Data Arrived at EDR: 11/22/2016
Date Made Active in Reports: 01/23/2017
Number of Days to Update: 62

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/22/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/12/2016
Date Made Active in Reports: 12/15/2016
Number of Days to Update: 64

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 01/11/2017
Next Scheduled EDR Contact: 04/24/2017
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 09/12/2016
Date Data Arrived at EDR: 09/14/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 30

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 01/13/2017
Next Scheduled EDR Contact: 03/27/2017
Data Release Frequency: Varies

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/06/2016
Date Data Arrived at EDR: 09/07/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 37

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 12/06/2016
Next Scheduled EDR Contact: 03/20/2017
Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 05/16/2016
Date Data Arrived at EDR: 05/18/2016
Date Made Active in Reports: 06/23/2016
Number of Days to Update: 36

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 02/15/2017
Next Scheduled EDR Contact: 05/29/2017
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 09/06/2016
Date Data Arrived at EDR: 09/07/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 37

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 12/06/2016
Next Scheduled EDR Contact: 03/20/2017
Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 09/12/2016
Date Data Arrived at EDR: 09/14/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 30

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/14/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 09/19/2016
Date Data Arrived at EDR: 09/20/2016
Date Made Active in Reports: 12/16/2016
Number of Days to Update: 87

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 12/16/2016
Next Scheduled EDR Contact: 04/03/2017
Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 09/14/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 30

Source: Department of Conservation
Telephone: 916-445-2408
Last EDR Contact: 12/14/2016
Next Scheduled EDR Contact: 03/27/2017
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing

Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water board's review found that more than one-third of the region's active disposal pits are operating without permission.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 01/13/2017
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Varies

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 02/17/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Quarterly

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 12/22/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 06/09/2016
Date Data Arrived at EDR: 06/13/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 81

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 12/09/2016
Next Scheduled EDR Contact: 03/27/2017
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 12/11/2016
Date Data Arrived at EDR: 12/20/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 59

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 12/20/2016
Next Scheduled EDR Contact: 04/03/2017
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 11/21/2016
Date Data Arrived at EDR: 11/22/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 73

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/22/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGALF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A	Source: Department of Resources Recycling and Recovery
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 01/13/2014	Last EDR Contact: 06/01/2012
Number of Days to Update: 196	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A

Date Data Arrived at EDR: 07/01/2013

Date Made Active in Reports: 12/30/2013

Number of Days to Update: 182

Source: State Water Resources Control Board

Telephone: N/A

Last EDR Contact: 06/01/2012

Next Scheduled EDR Contact: N/A

Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 10/12/2016

Date Data Arrived at EDR: 10/14/2016

Date Made Active in Reports: 11/18/2016

Number of Days to Update: 35

Source: Alameda County Environmental Health Services

Telephone: 510-567-6700

Last EDR Contact: 01/06/2017

Next Scheduled EDR Contact: 04/24/2017

Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 10/10/2016

Date Data Arrived at EDR: 10/12/2016

Date Made Active in Reports: 01/10/2017

Number of Days to Update: 90

Source: Alameda County Environmental Health Services

Telephone: 510-567-6700

Last EDR Contact: 01/09/2017

Next Scheduled EDR Contact: 04/24/2047

Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 11/10/2016

Date Data Arrived at EDR: 12/13/2016

Date Made Active in Reports: 12/22/2016

Number of Days to Update: 9

Source: Amador County Environmental Health

Telephone: 209-223-6439

Last EDR Contact: 12/02/2016

Next Scheduled EDR Contact: 03/20/2017

Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

Date of Government Version: 10/21/2016

Date Data Arrived at EDR: 10/26/2016

Date Made Active in Reports: 11/18/2016

Number of Days to Update: 23

Source: Public Health Department

Telephone: 530-538-7149

Last EDR Contact: 01/23/2017

Next Scheduled EDR Contact: 04/24/2017

Data Release Frequency: No Update Planned

CALVERAS COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility Listing

Cupa Facility Listing

Date of Government Version: 10/25/2016
Date Data Arrived at EDR: 10/27/2016
Date Made Active in Reports: 11/18/2016
Number of Days to Update: 22

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 12/27/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 09/02/2016
Date Data Arrived at EDR: 09/06/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 38

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 02/21/2017
Next Scheduled EDR Contact: 05/22/2017
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 11/17/2016
Date Data Arrived at EDR: 11/22/2016
Date Made Active in Reports: 01/26/2017
Number of Days to Update: 65

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 01/30/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List

Cupa Facility list

Date of Government Version: 11/01/2016
Date Data Arrived at EDR: 11/03/2016
Date Made Active in Reports: 11/22/2016
Number of Days to Update: 19

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 01/30/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 11/22/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 01/17/2017
Number of Days to Update: 55

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 01/30/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

FRESNO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 10/11/2016	Source: Dept. of Community Health
Date Data Arrived at EDR: 10/14/2016	Telephone: 559-445-3271
Date Made Active in Reports: 11/18/2016	Last EDR Contact: 01/03/2017
Number of Days to Update: 35	Next Scheduled EDR Contact: 04/17/2017
	Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 10/25/2016	Source: Humboldt County Environmental Health
Date Data Arrived at EDR: 10/27/2016	Telephone: N/A
Date Made Active in Reports: 11/18/2016	Last EDR Contact: 02/21/2017
Number of Days to Update: 22	Next Scheduled EDR Contact: 06/05/2017
	Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 10/24/2016	Source: San Diego Border Field Office
Date Data Arrived at EDR: 10/27/2016	Telephone: 760-339-2777
Date Made Active in Reports: 11/18/2016	Last EDR Contact: 01/23/2017
Number of Days to Update: 22	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 09/10/2013	Source: Inyo County Environmental Health Services
Date Data Arrived at EDR: 09/11/2013	Telephone: 760-878-0238
Date Made Active in Reports: 10/14/2013	Last EDR Contact: 02/21/2017
Number of Days to Update: 33	Next Scheduled EDR Contact: 06/05/2017
	Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing

Kern County Sites and Tanks Listing.

Date of Government Version: 11/07/2016	Source: Kern County Environment Health Services Department
Date Data Arrived at EDR: 11/08/2016	Telephone: 661-862-8700
Date Made Active in Reports: 01/10/2017	Last EDR Contact: 02/06/2017
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/22/2017
	Data Release Frequency: Quarterly

KINGS COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 12/14/2016	Source: Kings County Department of Public Health
Date Data Arrived at EDR: 12/16/2016	Telephone: 559-584-1411
Date Made Active in Reports: 12/22/2016	Last EDR Contact: 02/21/2017
Number of Days to Update: 6	Next Scheduled EDR Contact: 06/05/2017
	Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 09/08/2016	Source: Lake County Environmental Health
Date Data Arrived at EDR: 09/09/2016	Telephone: 707-263-1164
Date Made Active in Reports: 10/14/2016	Last EDR Contact: 01/17/2017
Number of Days to Update: 35	Next Scheduled EDR Contact: 05/01/2017
	Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009	Source: EPA Region 9
Date Data Arrived at EDR: 03/31/2009	Telephone: 415-972-3178
Date Made Active in Reports: 10/23/2009	Last EDR Contact: 12/15/2016
Number of Days to Update: 206	Next Scheduled EDR Contact: 04/03/2017
	Data Release Frequency: No Update Planned

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 11/14/2016	Source: Department of Public Works
Date Data Arrived at EDR: 11/18/2016	Telephone: 626-458-3517
Date Made Active in Reports: 01/23/2017	Last EDR Contact: 01/23/2017
Number of Days to Update: 66	Next Scheduled EDR Contact: 04/24/2017
	Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 10/17/2016	Source: La County Department of Public Works
Date Data Arrived at EDR: 10/18/2016	Telephone: 818-458-5185
Date Made Active in Reports: 12/15/2016	Last EDR Contact: 01/18/2017
Number of Days to Update: 58	Next Scheduled EDR Contact: 05/01/2017
	Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2016	Source: Engineering & Construction Division
Date Data Arrived at EDR: 01/26/2016	Telephone: 213-473-7869
Date Made Active in Reports: 03/22/2016	Last EDR Contact: 01/17/2017
Number of Days to Update: 56	Next Scheduled EDR Contact: 05/01/2017
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 03/29/2016	Source: Community Health Services
Date Data Arrived at EDR: 04/06/2016	Telephone: 323-890-7806
Date Made Active in Reports: 06/13/2016	Last EDR Contact: 01/17/2017
Number of Days to Update: 68	Next Scheduled EDR Contact: 05/01/2017
	Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 03/30/2015	Source: City of El Segundo Fire Department
Date Data Arrived at EDR: 04/02/2015	Telephone: 310-524-2236
Date Made Active in Reports: 04/13/2015	Last EDR Contact: 01/17/2017
Number of Days to Update: 11	Next Scheduled EDR Contact: 05/01/2017
	Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 11/04/2015	Source: City of Long Beach Fire Department
Date Data Arrived at EDR: 11/13/2015	Telephone: 562-570-2563
Date Made Active in Reports: 12/17/2015	Last EDR Contact: 01/23/2017
Number of Days to Update: 34	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 10/04/2016	Source: City of Torrance Fire Department
Date Data Arrived at EDR: 10/11/2016	Telephone: 310-618-2973
Date Made Active in Reports: 01/12/2017	Last EDR Contact: 01/09/2017
Number of Days to Update: 93	Next Scheduled EDR Contact: 04/24/2017
	Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 12/05/2016	Source: Madera County Environmental Health
Date Data Arrived at EDR: 12/09/2016	Telephone: 559-675-7823
Date Made Active in Reports: 01/19/2017	Last EDR Contact: 02/21/2017
Number of Days to Update: 41	Next Scheduled EDR Contact: 06/05/2017
	Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 10/19/2016	Source: Public Works Department Waste Management
Date Data Arrived at EDR: 10/25/2016	Telephone: 415-499-6647
Date Made Active in Reports: 01/12/2017	Last EDR Contact: 01/17/2017
Number of Days to Update: 79	Next Scheduled EDR Contact: 04/17/2017
	Data Release Frequency: Semi-Annually

MERCED COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

CUPA facility list.

Date of Government Version: 12/02/2016
Date Data Arrived at EDR: 12/06/2016
Date Made Active in Reports: 01/17/2017
Number of Days to Update: 42

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 02/21/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List

CUPA Facility List

Date of Government Version: 11/29/2016
Date Data Arrived at EDR: 12/05/2016
Date Made Active in Reports: 12/22/2016
Number of Days to Update: 17

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 02/24/2017
Next Scheduled EDR Contact: 06/12/2017
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing

CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/24/2016
Date Data Arrived at EDR: 06/27/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 43

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 02/21/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination

A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/24/2017
Next Scheduled EDR Contact: 06/12/2017
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites

Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/24/2017
Next Scheduled EDR Contact: 06/12/2017
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List

CUPA facility list.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 11/08/2016
Date Made Active in Reports: 12/22/2016
Number of Days to Update: 44

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 01/30/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups

Petroleum and non-petroleum spills.

Date of Government Version: 11/03/2016
Date Data Arrived at EDR: 11/11/2016
Date Made Active in Reports: 01/23/2017
Number of Days to Update: 73

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/06/2017
Next Scheduled EDR Contact: 05/22/2017
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 11/04/2016
Date Data Arrived at EDR: 11/11/2016
Date Made Active in Reports: 01/23/2017
Number of Days to Update: 73

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/06/2017
Next Scheduled EDR Contact: 05/22/2017
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 11/03/2016
Date Data Arrived at EDR: 11/08/2016
Date Made Active in Reports: 01/12/2017
Number of Days to Update: 65

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/07/2017
Next Scheduled EDR Contact: 05/22/2017
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities

List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 09/02/2016
Date Data Arrived at EDR: 09/06/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 38

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 12/02/2016
Next Scheduled EDR Contact: 03/20/2017
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites

Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 10/20/2016
Date Data Arrived at EDR: 10/25/2016
Date Made Active in Reports: 12/15/2016
Number of Days to Update: 51

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/19/2016
Next Scheduled EDR Contact: 04/03/2017
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 10/20/2016	Source: Department of Environmental Health
Date Data Arrived at EDR: 10/25/2016	Telephone: 951-358-5055
Date Made Active in Reports: 01/10/2017	Last EDR Contact: 12/19/2016
Number of Days to Update: 77	Next Scheduled EDR Contact: 04/03/2017
	Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 08/22/2016	Source: Sacramento County Environmental Management
Date Data Arrived at EDR: 10/04/2016	Telephone: 916-875-8406
Date Made Active in Reports: 11/18/2016	Last EDR Contact: 01/05/2017
Number of Days to Update: 45	Next Scheduled EDR Contact: 04/17/2017
	Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 08/22/2016	Source: Sacramento County Environmental Management
Date Data Arrived at EDR: 10/04/2016	Telephone: 916-875-8406
Date Made Active in Reports: 12/16/2016	Last EDR Contact: 01/05/2017
Number of Days to Update: 73	Next Scheduled EDR Contact: 04/17/2017
	Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 09/06/2016	Source: San Bernardino County Fire Department Hazardous Materials Division
Date Data Arrived at EDR: 09/07/2016	Telephone: 909-387-3041
Date Made Active in Reports: 10/19/2016	Last EDR Contact: 02/06/2017
Number of Days to Update: 42	Next Scheduled EDR Contact: 05/22/2017
	Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/23/2013	Source: Hazardous Materials Management Division
Date Data Arrived at EDR: 09/24/2013	Telephone: 619-338-2268
Date Made Active in Reports: 10/17/2013	Last EDR Contact: 12/06/2016
Number of Days to Update: 23	Next Scheduled EDR Contact: 03/20/2017
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 01/23/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 12/02/2016
Next Scheduled EDR Contact: 03/20/2017
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversight Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 02/03/2017
Next Scheduled EDR Contact: 05/22/2017
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/16/2016
Date Data Arrived at EDR: 11/21/2016
Date Made Active in Reports: 01/12/2017
Number of Days to Update: 52

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 02/21/2017
Next Scheduled EDR Contact: 05/22/2017
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 12/21/2016
Date Data Arrived at EDR: 12/27/2016
Date Made Active in Reports: 02/14/2017
Number of Days to Update: 49

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 12/15/2016
Next Scheduled EDR Contact: 04/03/2017
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 11/17/2016
Date Data Arrived at EDR: 11/21/2016
Date Made Active in Reports: 01/19/2017
Number of Days to Update: 59

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 02/21/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Varies

SAN MATEO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 06/02/2016	Source: San Mateo County Environmental Health Services Division
Date Data Arrived at EDR: 06/07/2016	Telephone: 650-363-1921
Date Made Active in Reports: 06/22/2016	Last EDR Contact: 01/30/2017
Number of Days to Update: 15	Next Scheduled EDR Contact: 03/20/2017
	Data Release Frequency: Annually

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 06/09/2016	Source: San Mateo County Environmental Health Services Division
Date Data Arrived at EDR: 06/13/2016	Telephone: 650-363-1921
Date Made Active in Reports: 08/09/2016	Last EDR Contact: 12/09/2016
Number of Days to Update: 57	Next Scheduled EDR Contact: 03/27/2017
	Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing

CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011	Source: Santa Barbara County Public Health Department
Date Data Arrived at EDR: 09/09/2011	Telephone: 805-686-8167
Date Made Active in Reports: 10/07/2011	Last EDR Contact: 02/21/2017
Number of Days to Update: 28	Next Scheduled EDR Contact: 06/05/2017
	Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List

Cupa facility list

Date of Government Version: 11/16/2016	Source: Department of Environmental Health
Date Data Arrived at EDR: 11/21/2016	Telephone: 408-918-1973
Date Made Active in Reports: 01/19/2017	Last EDR Contact: 02/21/2017
Number of Days to Update: 59	Next Scheduled EDR Contact: 06/05/2017
	Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005	Source: Santa Clara Valley Water District
Date Data Arrived at EDR: 03/30/2005	Telephone: 408-265-2600
Date Made Active in Reports: 04/21/2005	Last EDR Contact: 03/23/2009
Number of Days to Update: 22	Next Scheduled EDR Contact: 06/22/2009
	Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014	Source: Department of Environmental Health
Date Data Arrived at EDR: 03/05/2014	Telephone: 408-918-3417
Date Made Active in Reports: 03/18/2014	Last EDR Contact: 02/24/2017
Number of Days to Update: 13	Next Scheduled EDR Contact: 06/12/2017
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/07/2016	Source: City of San Jose Fire Department
Date Data Arrived at EDR: 11/10/2016	Telephone: 408-535-7694
Date Made Active in Reports: 01/24/2017	Last EDR Contact: 02/06/2017
Number of Days to Update: 75	Next Scheduled EDR Contact: 05/22/2017
	Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List

CUPA facility listing.

Date of Government Version: 11/16/2016	Source: Santa Cruz County Environmental Health
Date Data Arrived at EDR: 11/21/2016	Telephone: 831-464-2761
Date Made Active in Reports: 01/19/2017	Last EDR Contact: 02/21/2017
Number of Days to Update: 59	Next Scheduled EDR Contact: 06/05/2017
	Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 09/12/2016	Source: Shasta County Department of Resource Management
Date Data Arrived at EDR: 09/15/2016	Telephone: 530-225-5789
Date Made Active in Reports: 10/14/2016	Last EDR Contact: 02/21/2017
Number of Days to Update: 29	Next Scheduled EDR Contact: 06/05/2017
	Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks

A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 11/29/2016	Source: Solano County Department of Environmental Management
Date Data Arrived at EDR: 12/21/2016	Telephone: 707-784-6770
Date Made Active in Reports: 12/22/2016	Last EDR Contact: 12/09/2016
Number of Days to Update: 1	Next Scheduled EDR Contact: 03/27/2017
	Data Release Frequency: Quarterly

Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 11/29/2016	Source: Solano County Department of Environmental Management
Date Data Arrived at EDR: 12/22/2016	Telephone: 707-784-6770
Date Made Active in Reports: 01/10/2017	Last EDR Contact: 12/09/2016
Number of Days to Update: 19	Next Scheduled EDR Contact: 03/27/2017
	Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List

Cupa Facility list

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/27/2016
Date Data Arrived at EDR: 09/28/2016
Date Made Active in Reports: 11/22/2016
Number of Days to Update: 55

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 12/22/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 10/04/2016
Date Data Arrived at EDR: 10/06/2016
Date Made Active in Reports: 12/16/2016
Number of Days to Update: 71

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 12/22/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 12/02/2016
Date Data Arrived at EDR: 12/06/2016
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 35

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 12/02/2016
Next Scheduled EDR Contact: 03/20/2017
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 10/27/2016
Date Data Arrived at EDR: 10/28/2016
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 74

Source: Division of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 01/23/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 09/26/2016
Date Data Arrived at EDR: 10/27/2016
Date Made Active in Reports: 01/17/2017
Number of Days to Update: 82

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 01/23/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/30/2016
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008	Source: Environmental Health Division
Date Data Arrived at EDR: 06/24/2008	Telephone: 805-654-2813
Date Made Active in Reports: 07/31/2008	Last EDR Contact: 02/13/2017
Number of Days to Update: 37	Next Scheduled EDR Contact: 05/29/2017
	Data Release Frequency: Quarterly

Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 09/26/2016	Source: Ventura County Resource Management Agency
Date Data Arrived at EDR: 10/27/2016	Telephone: 805-654-2813
Date Made Active in Reports: 01/24/2017	Last EDR Contact: 01/23/2017
Number of Days to Update: 89	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 11/28/2016	Source: Environmental Health Division
Date Data Arrived at EDR: 12/14/2016	Telephone: 805-654-2813
Date Made Active in Reports: 01/12/2017	Last EDR Contact: 12/14/2016
Number of Days to Update: 29	Next Scheduled EDR Contact: 03/27/2017
	Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 11/14/2016	Source: Yolo County Department of Health
Date Data Arrived at EDR: 11/18/2016	Telephone: 530-666-8646
Date Made Active in Reports: 01/12/2017	Last EDR Contact: 01/03/2017
Number of Days to Update: 55	Next Scheduled EDR Contact: 04/17/2017
	Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List

CUPA facility listing for Yuba County.

Date of Government Version: 10/28/2016	Source: Yuba County Environmental Health Department
Date Data Arrived at EDR: 11/03/2016	Telephone: 530-749-7523
Date Made Active in Reports: 12/15/2016	Last EDR Contact: 01/30/2017
Number of Days to Update: 42	Next Scheduled EDR Contact: 05/08/2017
	Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/11/2016
Next Scheduled EDR Contact: 02/27/2017
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 09/29/2016
Date Made Active in Reports: 01/03/2017
Number of Days to Update: 96

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 01/09/2017
Next Scheduled EDR Contact: 04/24/2017
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/30/2017
Date Data Arrived at EDR: 02/01/2017
Date Made Active in Reports: 02/13/2017
Number of Days to Update: 12

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 02/01/2017
Next Scheduled EDR Contact: 05/08/2017
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 07/22/2016
Date Made Active in Reports: 11/22/2016
Number of Days to Update: 123

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/12/2017
Next Scheduled EDR Contact: 05/01/2017
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/21/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 04/14/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 50

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 12/12/2016
Next Scheduled EDR Contact: 03/27/2017
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

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GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities

Source: Department of Social Services

Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Department of Fish & Game

Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STREET AND ADDRESS INFORMATION

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GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

TUSTIN HILLS RACQUET CLUB PHASE I
11782 SIMON RANCH ROAD
SANTA ANA, CA 92705

TARGET PROPERTY COORDINATES

Latitude (North): 33.751557 - 33° 45' 5.61"
Longitude (West): 117.781543 - 117° 46' 53.55"
Universal Tranverse Mercator: Zone 11
UTM X (Meters): 427614.3
UTM Y (Meters): 3734690.2
Elevation: 256 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map: 5641308 ORANGE, CA
Version Date: 2012

South Map: 5640942 TUSTIN, CA
Version Date: 2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

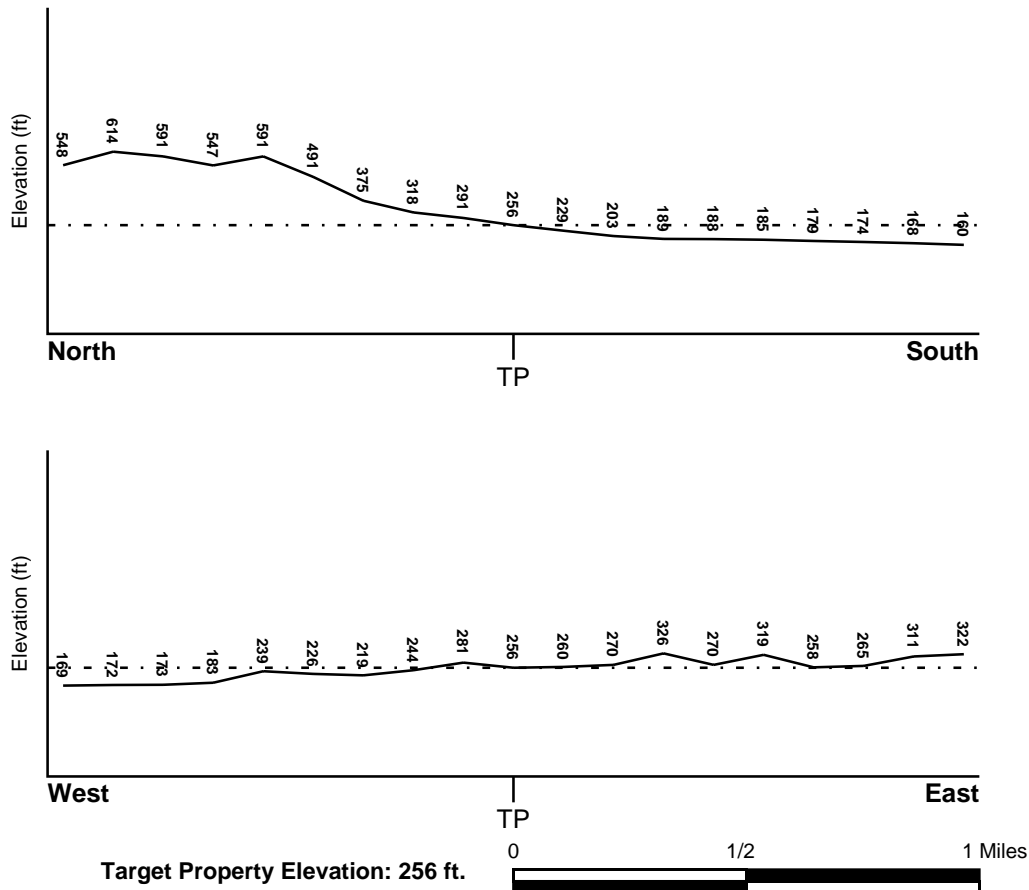
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
06059C0168J	FEMA FIRM Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
06059C0169J	FEMA FIRM Flood data
06059C0281J	FEMA FIRM Flood data
06059C0282J	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
ORANGE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius: 1.25 miles
Status: Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

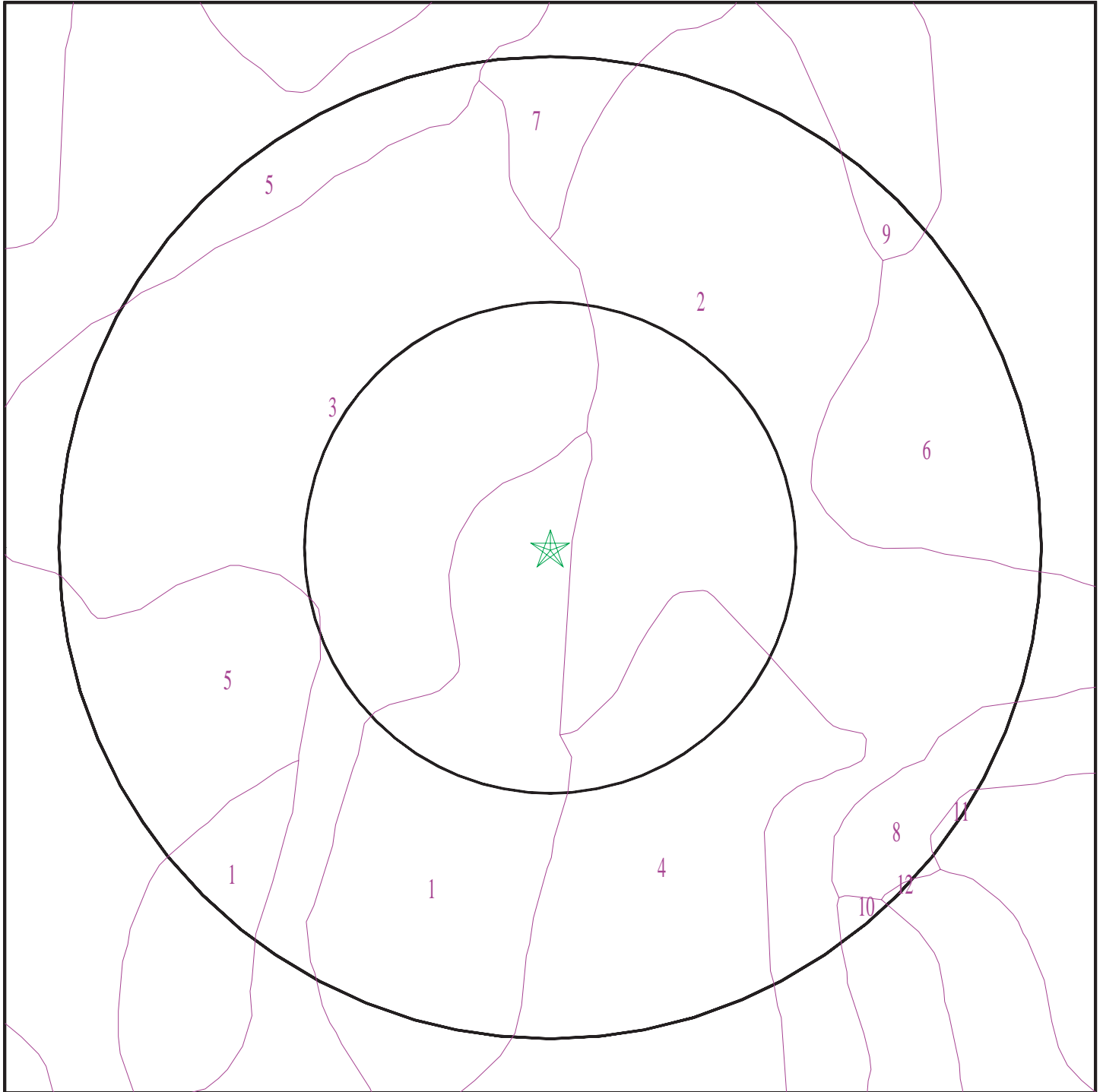
Era:	Cenozoic
System:	Tertiary
Series:	Eocene
Code:	Te (decoded above as Era, System & Series)

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4866681.2s



- ★ Target Property
- ∕ SSURGO Soil
- ∕ Water



SITE NAME: Tustin Hills Racquet Club Phase I
ADDRESS: 11782 Simon Ranch Road
Santa Ana CA 92705
LAT/LONG: 33.751557 / 117.781543

CLIENT: Geocon Geotechnical & Env
CONTACT: Mike Akoto
INQUIRY #: 4866681.2s
DATE: March 01, 2017 2:54 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: BALCOM

Soil Surface Texture: clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	29 inches	clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9
2	29 inches	33 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 2

Soil Component Name: MYFORD

Soil Surface Texture: sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	11 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 14	Max: 6 Min: 5.1
2	11 inches	18 inches	sandy clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 8.4 Min: 5.6
3	18 inches	27 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 8.4 Min: 5.6
4	27 inches	70 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 8.4 Min: 6.1
5	70 inches	79 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1

GEOCHECK[®] - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 3

Soil Component Name: BALCOM

Soil Surface Texture: clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	33 inches	clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9
2	33 inches	38 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 4

Soil Component Name: MYFORD

Soil Surface Texture: sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	22 inches	sandy loam	Not reported	Not reported	Max: 42 Min: 14	Max: 6 Min: 5.1
2	22 inches	27 inches	sandy clay	Not reported	Not reported	Max: 0.42 Min: 0.01	Max: 8.4 Min: 5.6
3	27 inches	38 inches	sandy clay loam	Not reported	Not reported	Max: 0.42 Min: 0.01	Max: 8.4 Min: 5.6
4	38 inches	70 inches	sandy clay loam	Not reported	Not reported	Max: 0.42 Min: 0.01	Max: 8.4 Min: 6.1
5	70 inches	79 inches	sandy loam	Not reported	Not reported	Max: 14 Min: 4	Max: 6.5 Min: 6.1

Soil Map ID: 5

Soil Component Name: BOTELLA

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	loam	Not reported	Not reported	Max: 14 Min: 4	Max: 7.3 Min: 5.6
2	7 inches	35 inches	silty clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6
3	35 inches	66 inches	sandy clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 6

Soil Component Name: SOPER

Soil Surface Texture: cobbly loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	9 inches	cobbly loam	Not reported	Not reported	Max: 14 Min: 4	Max: 7.3 Min: 6.1
2	9 inches	29 inches	cobbly clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 7.8 Min: 6.1
3	29 inches	33 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 7

Soil Component Name: BALCOM

Soil Surface Texture: clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	33 inches	clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9
2	33 inches	38 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 8

Soil Component Name: ALO VARIANT

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	25 inches	clay	Not reported	Not reported	Max: 1.4 Min: 0.42	Max: 7.8 Min: 6.1
2	25 inches	38 inches	clay	Not reported	Not reported	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
3	38 inches	42 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 9

Soil Component Name: CIENEBA

Soil Surface Texture: sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Somewhat excessively drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 14	Max: 7.3 Min: 5.6
2	7 inches	11 inches	weathered bedrock	Not reported	Not reported	Max: 0.42 Min: 0	Max: Min:

Soil Map ID: 10

Soil Component Name: CALLEGUAS

Soil Surface Texture: clay loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	14 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 14 Min: 4	Max: 8.4 Min: 7.9

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
2	14 inches	18 inches	weathered bedrock	Not reported	Not reported	Max: 1.4 Min: 0	Max: Min:

Soil Map ID: 11

Soil Component Name: SOPER

Soil Surface Texture: gravelly loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	9 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 6.1
2	9 inches	29 inches	gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.8 Min: 6.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
3	29 inches	33 inches	weathered bedrock	Not reported	Not reported	Max: 4 Min: 1.4	Max: Min:

Soil Map ID: 12

Soil Component Name: ANAHEIM

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	25 inches	loam	Not reported	Not reported	Max: 14 Min: 4	Max: 7.8 Min: 6.1
2	25 inches	29 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	USGS40000137851	1/4 - 1/2 Mile WSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

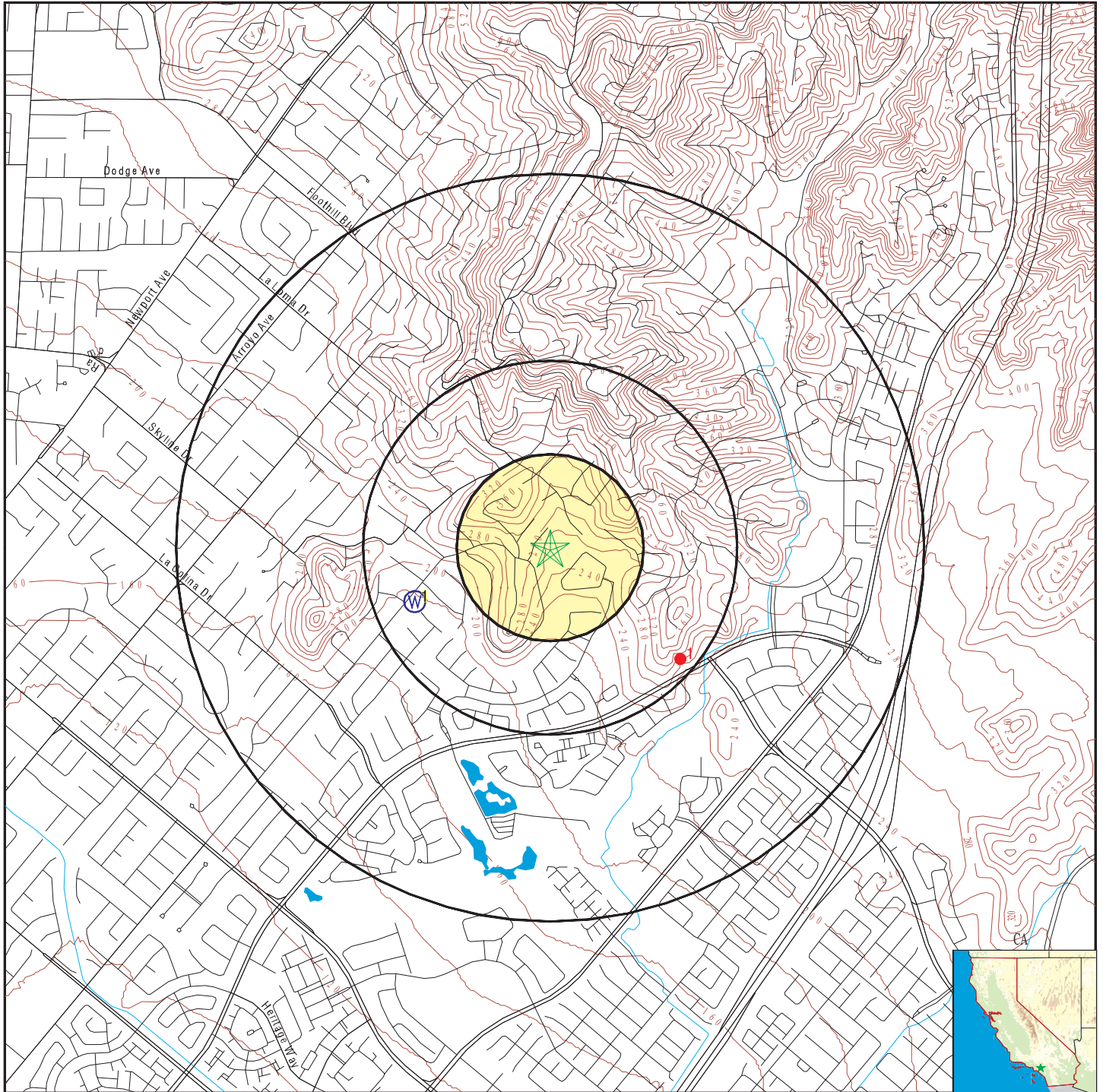
<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No Wells Found		

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	CAOG11000217997	1/4 - 1/2 Mile SE

PHYSICAL SETTING SOURCE MAP - 486681.2s



County Boundary

Major Roads

Contour Lines

Earthquake Fault Lines

Earthquake epicenter, Richter 5 or greater

Water Wells

Public Water Supply Wells

Cluster of Multiple Icons

Groundwater Flow Direction

Indeterminate Groundwater Flow at Location

Groundwater Flow Varies at Location

Closest Hydrogeological Data

Oil, gas or related wells



SITE NAME: Tustin Hills Racquet Club Phase I
 ADDRESS: 11782 Simon Ranch Road
 Santa Ana CA 92705
 LAT/LONG: 33.751557 / 117.781543

CLIENT: Geocon Geotechnical & Env
 CONTACT: Mike Akoto
 INQUIRY #: 486681.2s
 DATE: March 01, 2017 2:54 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

1
WSW **FED USGS** **USGS40000137851**
1/4 - 1/2 Mile
Lower

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-334458117471301		
Monloc name:	005S009W14Q002S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070204	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	33.7494624
Longitude:	-117.7878315	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	124.00
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 26

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1986-08-15	128.09		1986-04-30	109.22	
1986-02-20	77.98		1985-11-05	126.15	
1985-08-16	125.45		1985-05-06	123.70	
1985-02-12	66.90		1984-10-26	125.03	
1984-08-13	84.68		1984-05-09	92.07	
1984-02-07	57.17		1983-11-03	72.03	
1983-08-09	84.77		1983-05-16	52.60	
1983-02-14	51.56		1982-11-05	74.69	
1982-08-02	83.60				
Note: A nearby site that taps the same aquifer had been pumped recently.					
1982-04-30	56.98		1982-01-28	49.39	
1981-11-05	77.25		1981-07-28	78.44	
1981-05-05	66.58		1981-02-06	48.22	
1980-10-31	60.20		1980-08-27	75.08	
1980-06-19	75.37				

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1
SE

OIL_GAS CAOG11000217997

1/4 - 1/2 Mile

District nun:	1	Api number:	05901219
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Orange	Fieldname:	Any Field
Area name:	Any Area	Section:	12
Township:	05S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Irvine Core Hole	Wellnumber:	5-1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000217997		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92705	64	5

Federal EPA Radon Zone for ORANGE County: 3

- Note: Zone 1 indoor average level > 4 pCi/L.
- : Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
- : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for ORANGE COUNTY, CA

Number of sites tested: 30

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.763 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Department of Fish & Game

Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database

Source: Department of Water Resources

Telephone: 916-651-9648

California Drinking Water Quality Database

Source: Department of Public Health

Telephone: 916-324-2319

The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations

Source: Department of Conservation

Telephone: 916-323-1779

Oil and Gas well locations in the state.

RADON

State Database: CA Radon

Source: Department of Health Services

Telephone: 916-324-2208

Radon Database for California

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

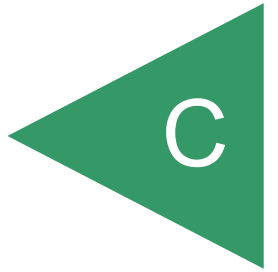
Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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APPENDIX



Tustin Hills Racquet Club Phase I
11782 Simon Ranch Road
Santa Ana, CA 92705

Inquiry Number: 4866681.9

March 01, 2017

The EDR Aerial Photo Decade Package



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

03/01/17

Site Name:

Tustin Hills Racquet Club Phas
11782 Simon Ranch Road
Santa Ana, CA 92705
EDR Inquiry # 4866681.9

Client Name:

Geocon Geotechnical & Env
3303 North San Fernando Blvd.
Burbank, CA 91504
Contact: Mike Akoto



Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

<i>Year</i>	<i>Scale</i>	<i>Details</i>	<i>Source</i>
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2010	1"=500'	Flight Year: 2010	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
1994	1"=500'	Acquisition Date: June 01, 1994	USGS/DOQQ
1989	1"=500'	Flight Date: August 03, 1989	USDA
1985	1"=500'	Flight Date: September 13, 1985	USDA
1977	1"=500'	Flight Date: January 18, 1977	EDR Proprietary Brewster Pacific
1972	1"=500'	Flight Date: October 30, 1972	USGS
1966	1"=500'	Flight Date: April 16, 1966	USGS
1963	1"=500'	Flight Date: February 28, 1963	USGS
1952	1"=500'	Flight Date: December 12, 1952	USDA
1946	1"=500'	Flight Date: December 29, 1946	USGS
1938	1"=500'	Flight Date: June 21, 1938	USDA

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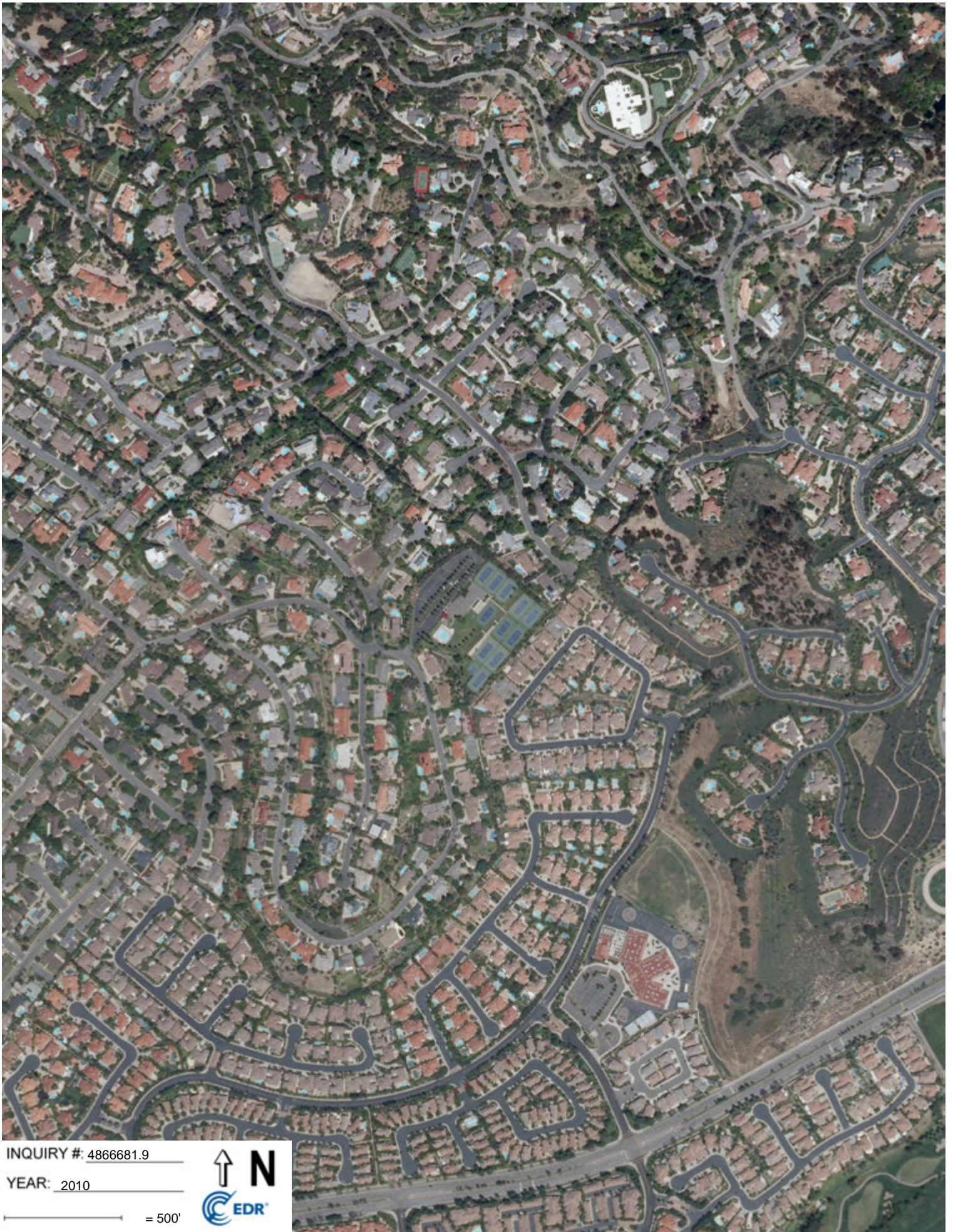


INQUIRY #: 4866681.9

YEAR: 2012

— = 500'





INQUIRY #: 4866681.9

YEAR: 2010

— = 500'





INQUIRY #: 4866681.9

YEAR: 2009

— = 500'





INQUIRY #: 4866681.9

YEAR: 2005

— = 500'





INQUIRY #: 4866681.9

YEAR: 1994

— = 500'





INQUIRY #: 4866681.9

YEAR: 1989

— = 500'





INQUIRY #: 4866681.9

YEAR: 1985

← = 500'





INQUIRY #: 4866681.9

YEAR: 1977

— = 500'





INQUIRY #: 4866681.9

YEAR: 1972

— = 500'





INQUIRY #: 4866681.9

YEAR: 1966

— = 500'





INQUIRY #: 4866681.9

YEAR: 1963

— = 500'





INQUIRY #: 4866681.9

YEAR: 1952

— = 500'



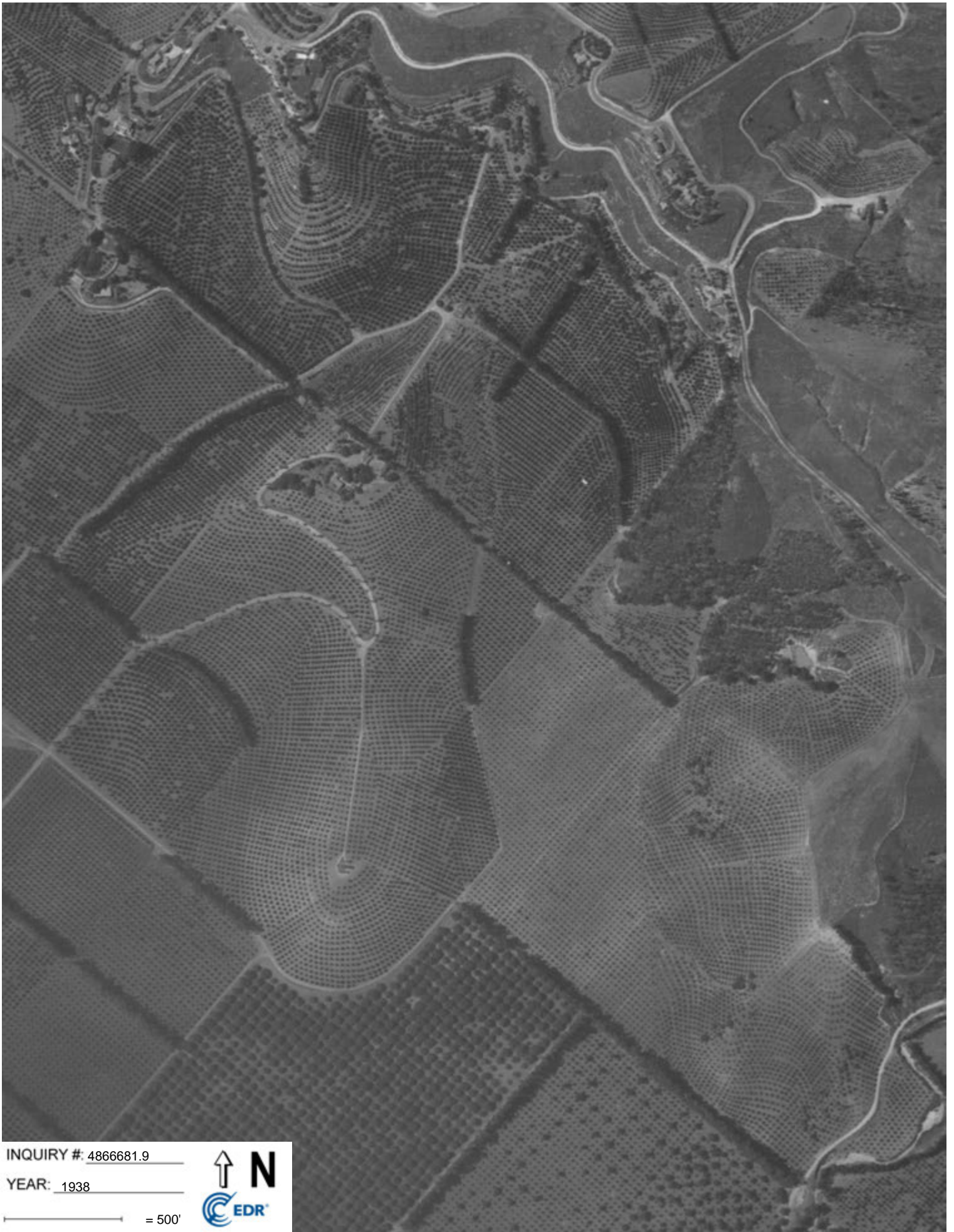


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YEAR: 1946

— = 500'





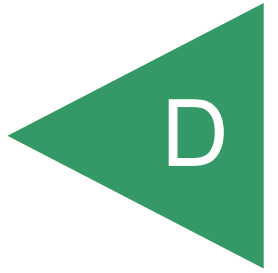
INQUIRY #: 4866681.9

YEAR: 1938

— = 500'



APPENDIX



Tustin Hills Racquet Club Phase I
11782 Simon Ranch Road
Santa Ana, CA 92705

Inquiry Number: 4866681.4
March 01, 2017

EDR Historical Topo Map Report

with QuadMatch™



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

03/01/17

Site Name:

Tustin Hills Racquet Club Phas
11782 Simon Ranch Road
Santa Ana, CA 92705
EDR Inquiry # 4866681.4

Client Name:

Geocon Geotechnical & Env
3303 North San Fernando Blvd.
Burbank, CA 91504
Contact: Mike Akoto



EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Geocon Geotechnical & Env were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDR's Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:**Coordinates:**

P.O.#	A9568-77-01	Latitude:	33.751557 33° 45' 6" North
Project:	Tustin Hills Club Phase I	Longitude:	-117.781543 -117° 46' 54" West
		UTM Zone:	Zone 11 North
		UTM X Meters:	427615.89
		UTM Y Meters:	3734883.96
		Elevation:	256.66' above sea level

Maps Provided:

2012	1932
1981	1902
1972	1901
1964, 1965	1898
1950	1896
1948, 1949	
1942	
1935	

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets



Orange

7.5-minute, 24000



Tustin

7.5-minute, 24000

1981 Source Sheets



Orange

7.5-minute, 24000
Aerial Photo Revised 1978



Tustin

7.5-minute, 24000
Aerial Photo Revised 1978

1972 Source Sheets



Tustin

7.5-minute, 24000
Aerial Photo Revised 1972



Orange

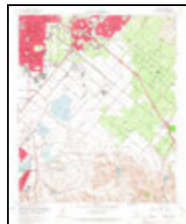
7.5-minute, 24000
Aerial Photo Revised 1972

1964, 1965 Source Sheets



Orange

7.5-minute, 24000
Aerial Photo Revised 1963



Tustin

7.5-minute, 24000
Aerial Photo Revised 1963

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1950 Source Sheets



Tustin

7.5-minute, 24000
Aerial Photo Revised 1946



Orange

7.5-minute, 24000
Aerial Photo Revised 1946

1948, 1949 Source Sheets



Tustin

7.5-minute, 24000
Aerial Photo Revised 1946



Orange

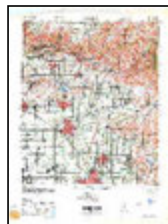
7.5-minute, 24000
Aerial Photo Revised 1946

1942 Source Sheets



SANTA ANA

15-minute, 50000



ANAHEIM

15-minute, 50000

1935 Source Sheets



Orange

7.5-minute, 31680



Tustin

7.5-minute, 31680

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1932 Source Sheets



Orange

7.5-minute, 31680



Tustin

7.5-minute, 31680

1902 Source Sheets



Corona

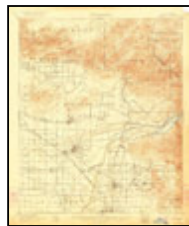
30-minute, 125000

1901 Source Sheets



Santa Ana

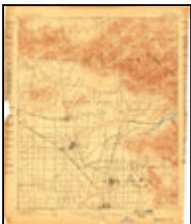
15-minute, 62500



Anaheim

15-minute, 62500

1898 Source Sheets



Anaheim

15-minute, 62500

Topo Sheet Key

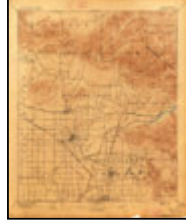
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1896 Source Sheets



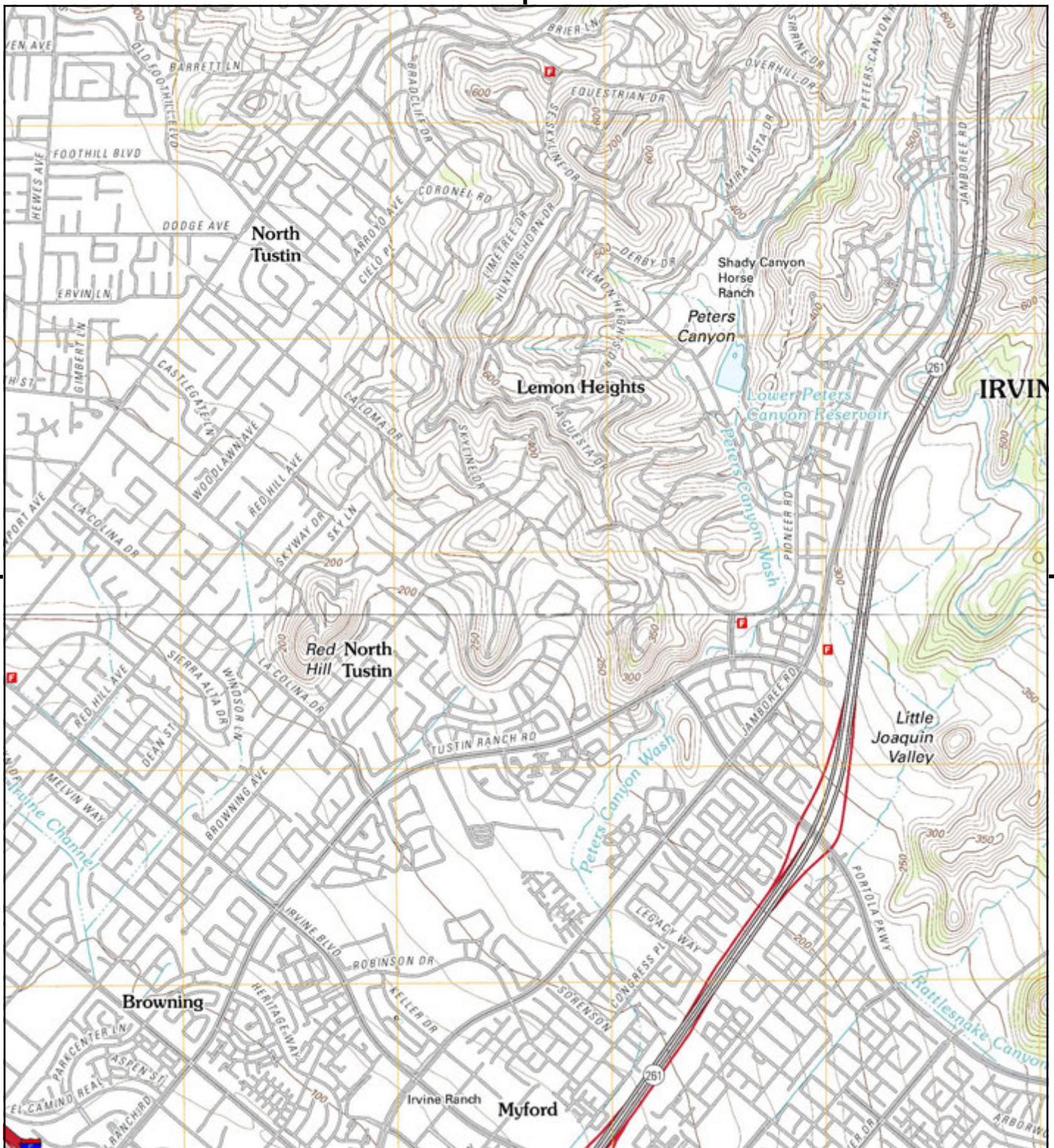
Santa Ana

15-minute, 62500

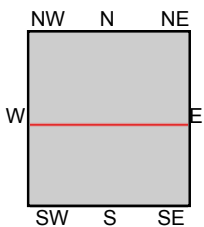
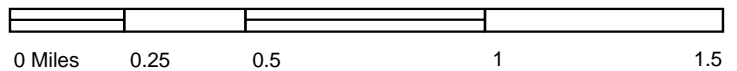


Anaheim

15-minute, 62500



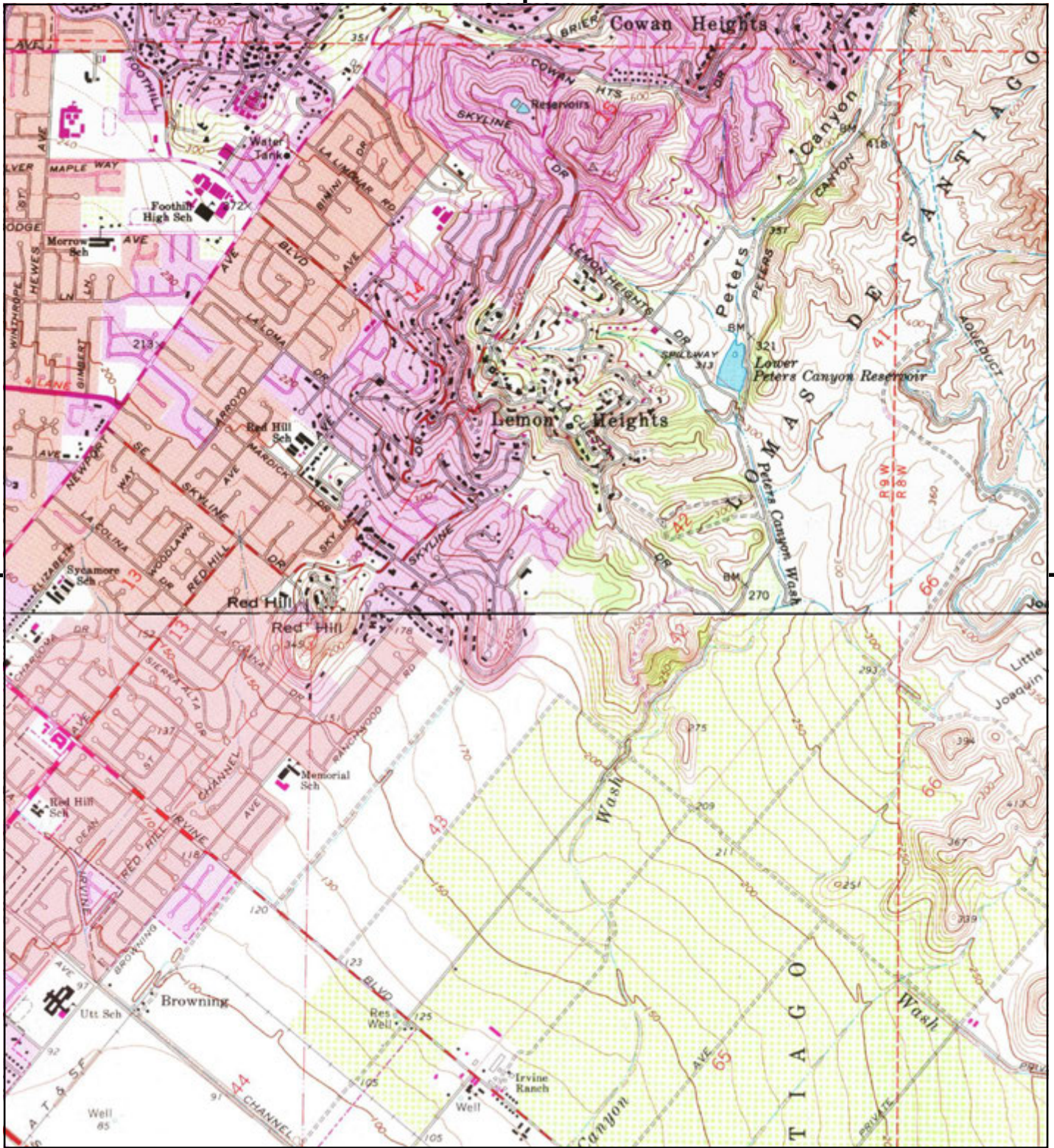
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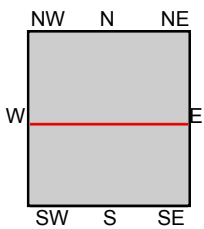
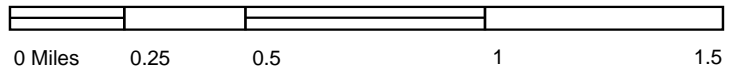
TP, Orange, 2012, 7.5-minute
S, Tustin, 2012, 7.5-minute

SITE NAME: Tustin Hills Racquet Club Phase I
ADDRESS: 11782 Simon Ranch Road
Santa Ana, CA 92705
CLIENT: Geocon Geotechnical & Env





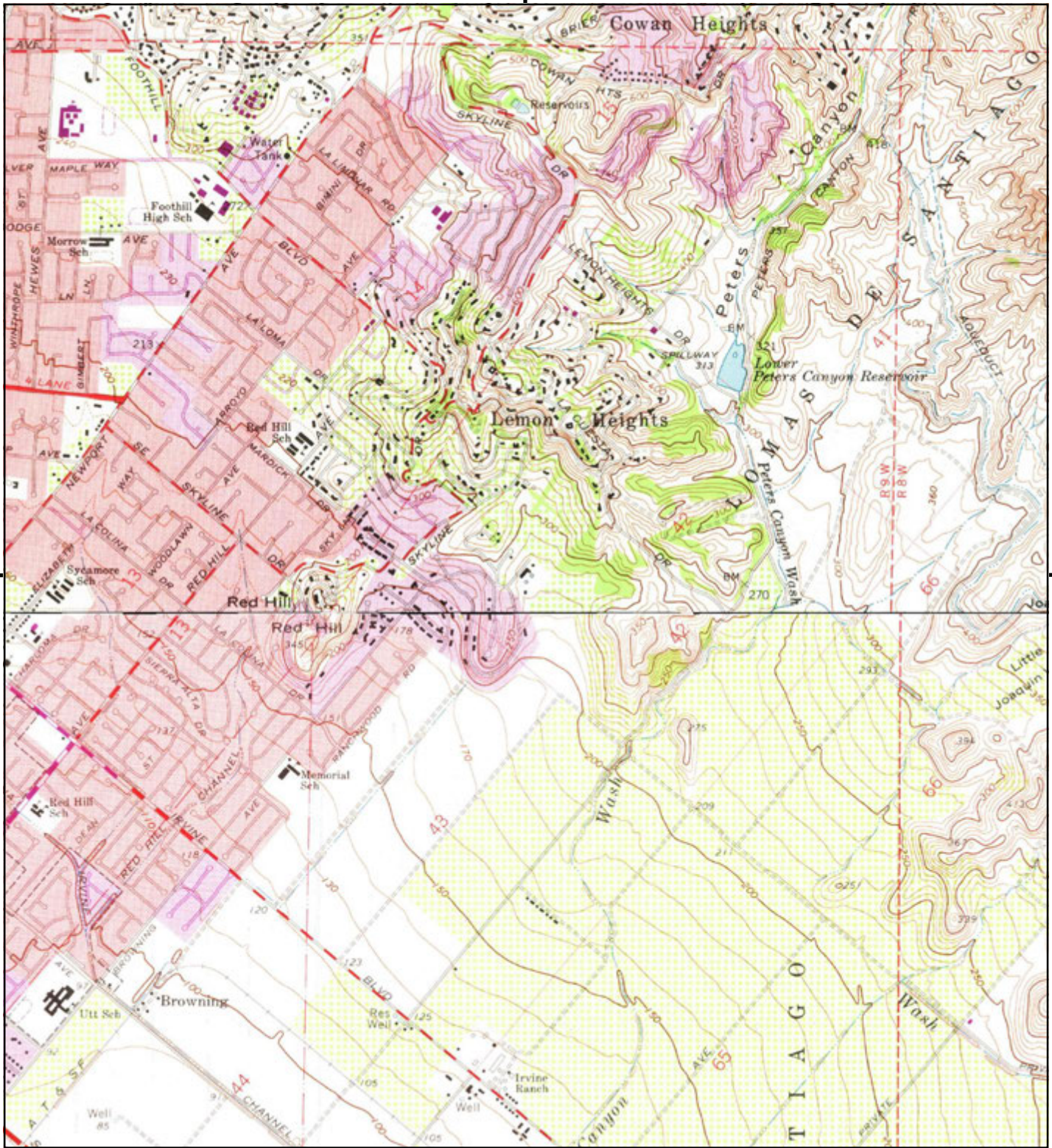
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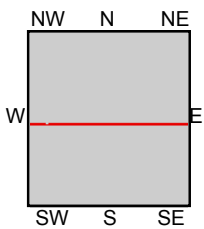
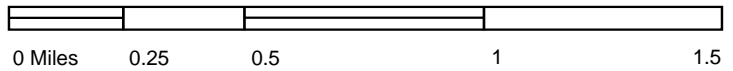
TP, Orange, 1981, 7.5-minute
S, Tustin, 1981, 7.5-minute

SITE NAME: Tustin Hills Racquet Club Phase I
ADDRESS: 11782 Simon Ranch Road
Santa Ana, CA 92705
CLIENT: Geocon Geotechnical & Env





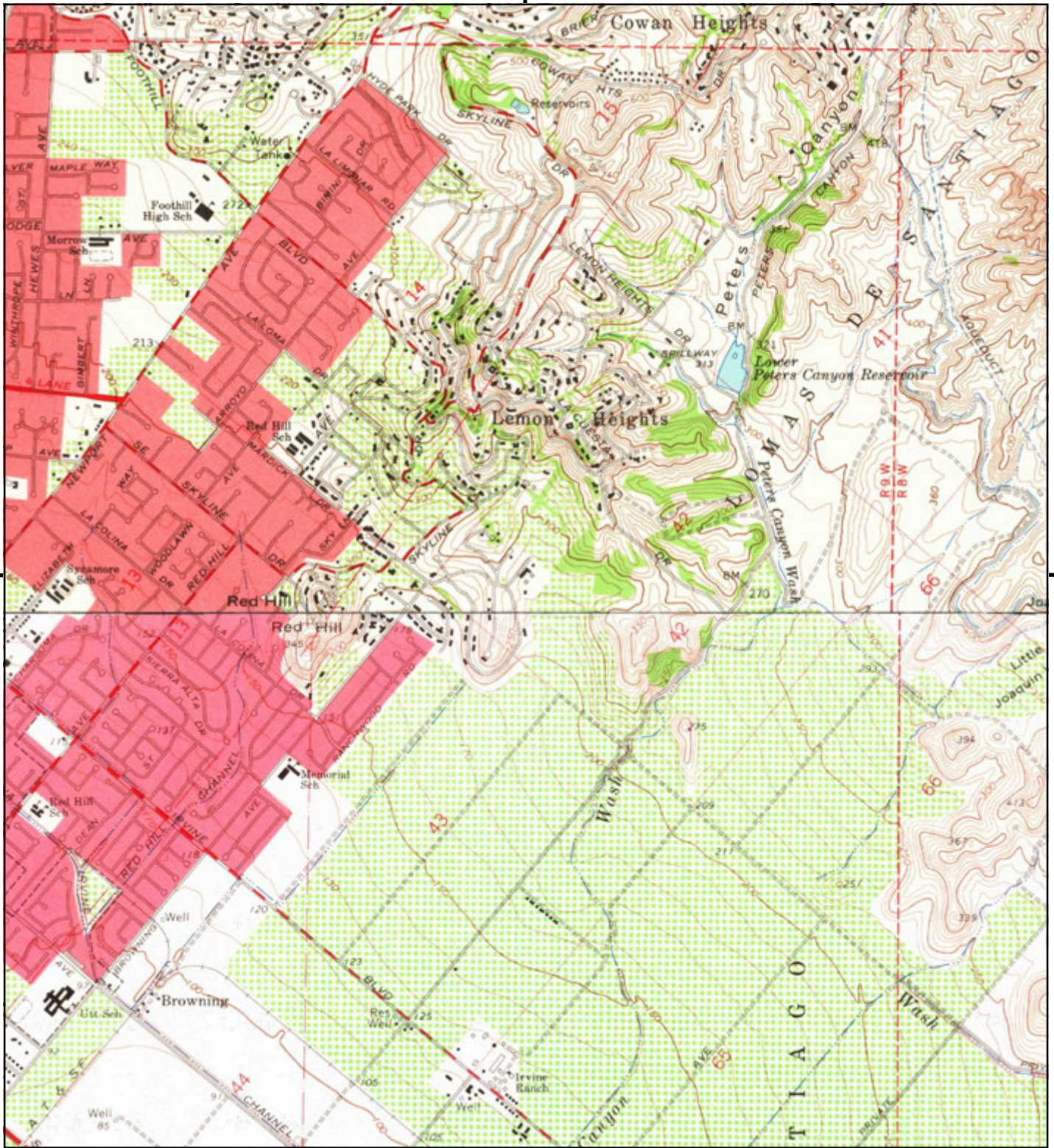
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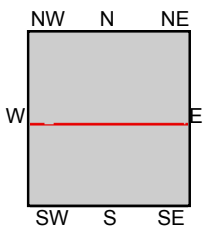
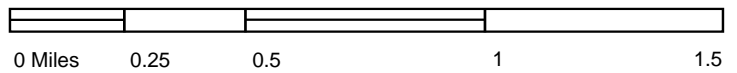
TP, Orange, 1972, 7.5-minute
S, Tustin, 1972, 7.5-minute

SITE NAME: Tustin Hills Racquet Club Phase I
ADDRESS: 11782 Simon Ranch Road
Santa Ana, CA 92705
CLIENT: Geocon Geotechnical & Env





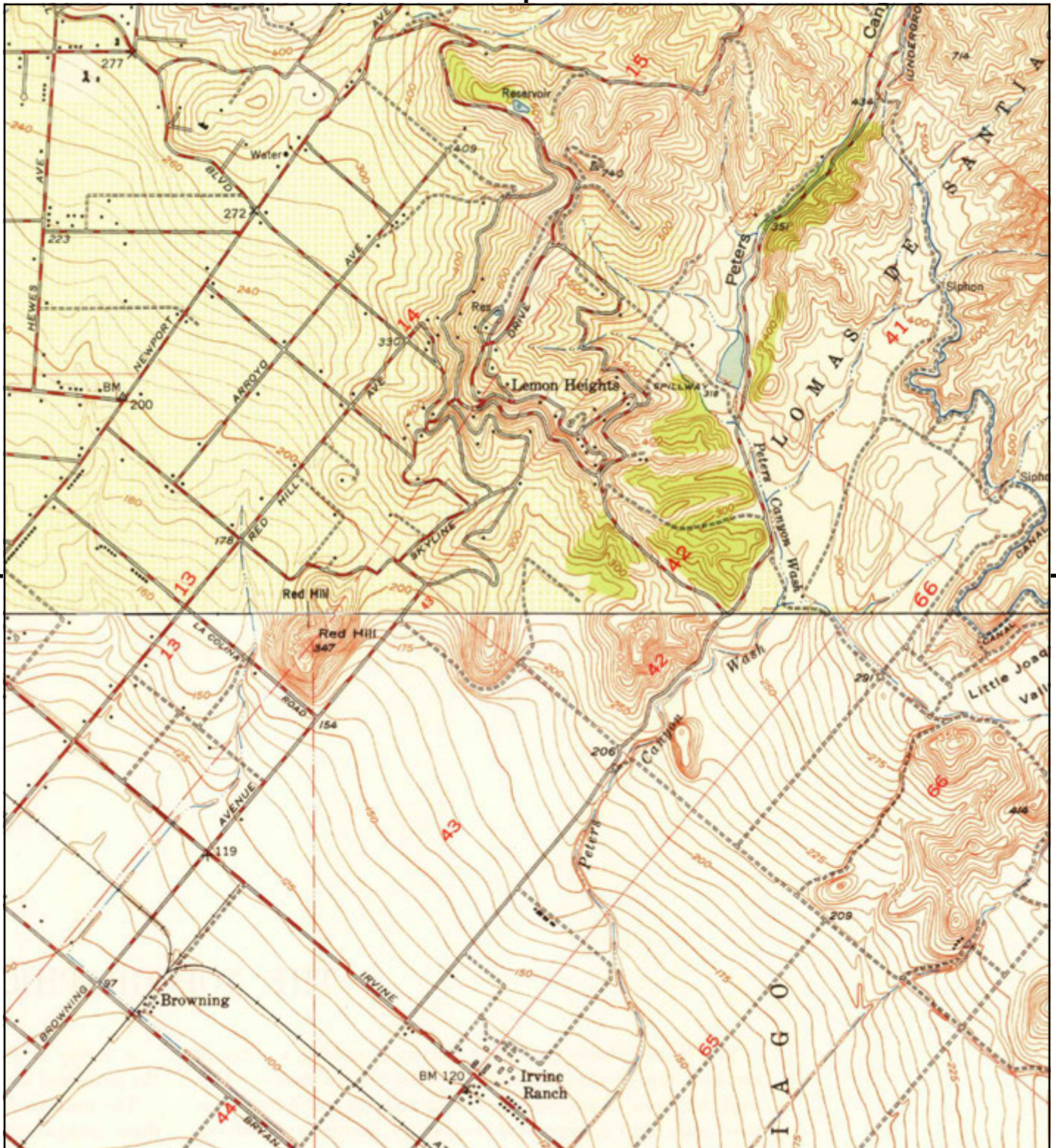
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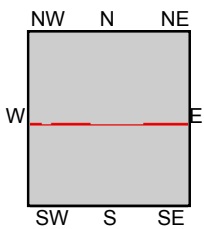
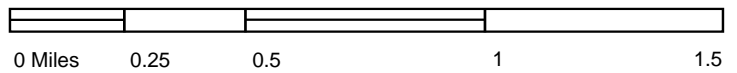
TP, Orange, 1964, 7.5-minute
S, Tustin, 1965, 7.5-minute

SITE NAME: Tustin Hills Racquet Club Phase I
ADDRESS: 11782 Simon Ranch Road
Santa Ana, CA 92705
CLIENT: Geocon Geotechnical & Env





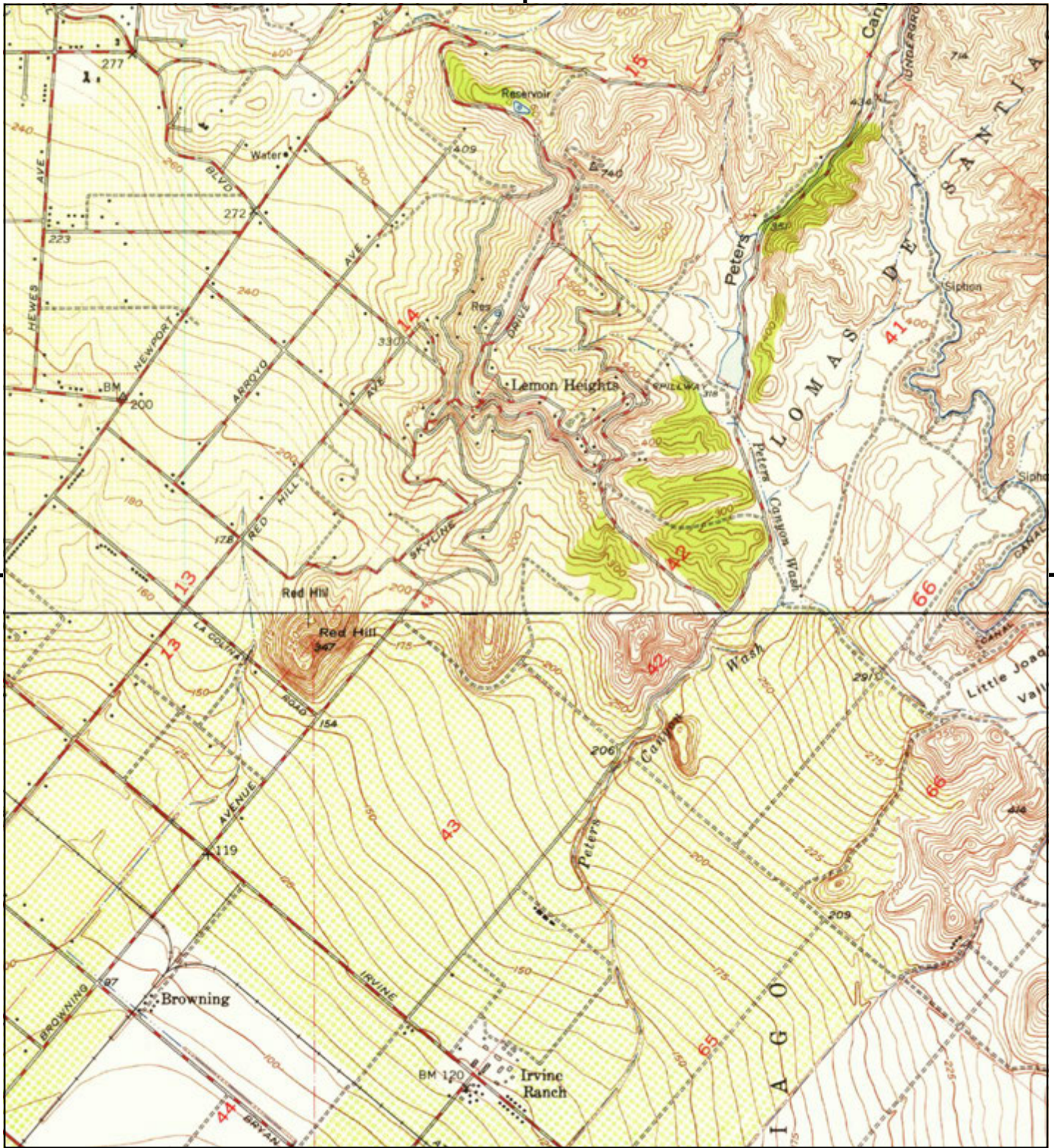
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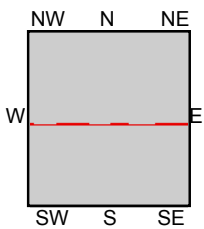
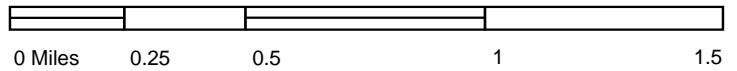
TP, Orange, 1950, 7.5-minute
S, Tustin, 1950, 7.5-minute

SITE NAME: Tustin Hills Racquet Club Phase I
ADDRESS: 11782 Simon Ranch Road
Santa Ana, CA 92705
CLIENT: Geocon Geotechnical & Env





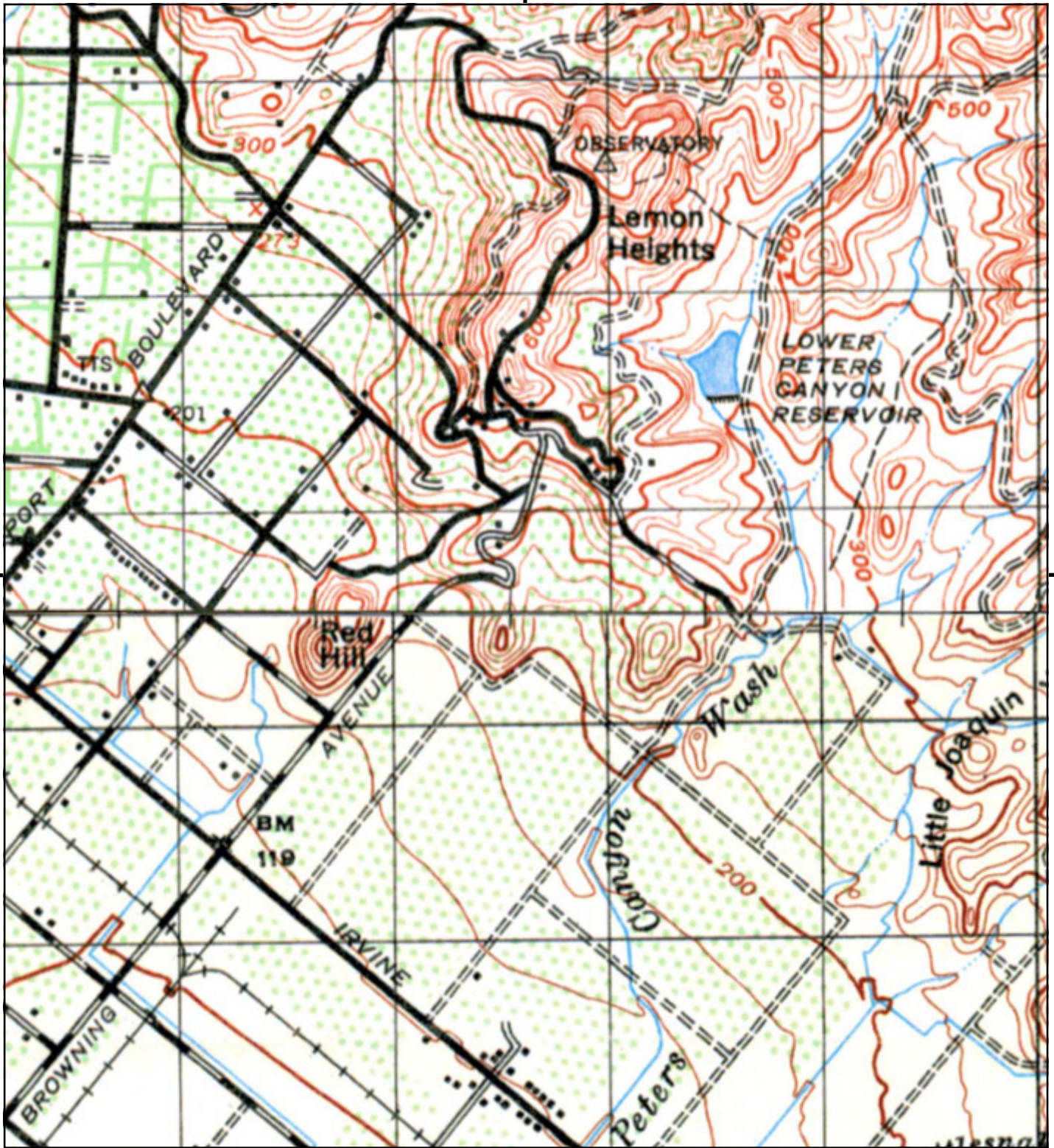
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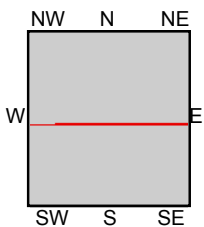
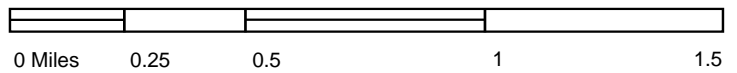
TP, Orange, 1949, 7.5-minute
S, Tustin, 1948, 7.5-minute

SITE NAME: Tustin Hills Racquet Club Phase I
ADDRESS: 11782 Simon Ranch Road
Santa Ana, CA 92705
CLIENT: Geocon Geotechnical & Env





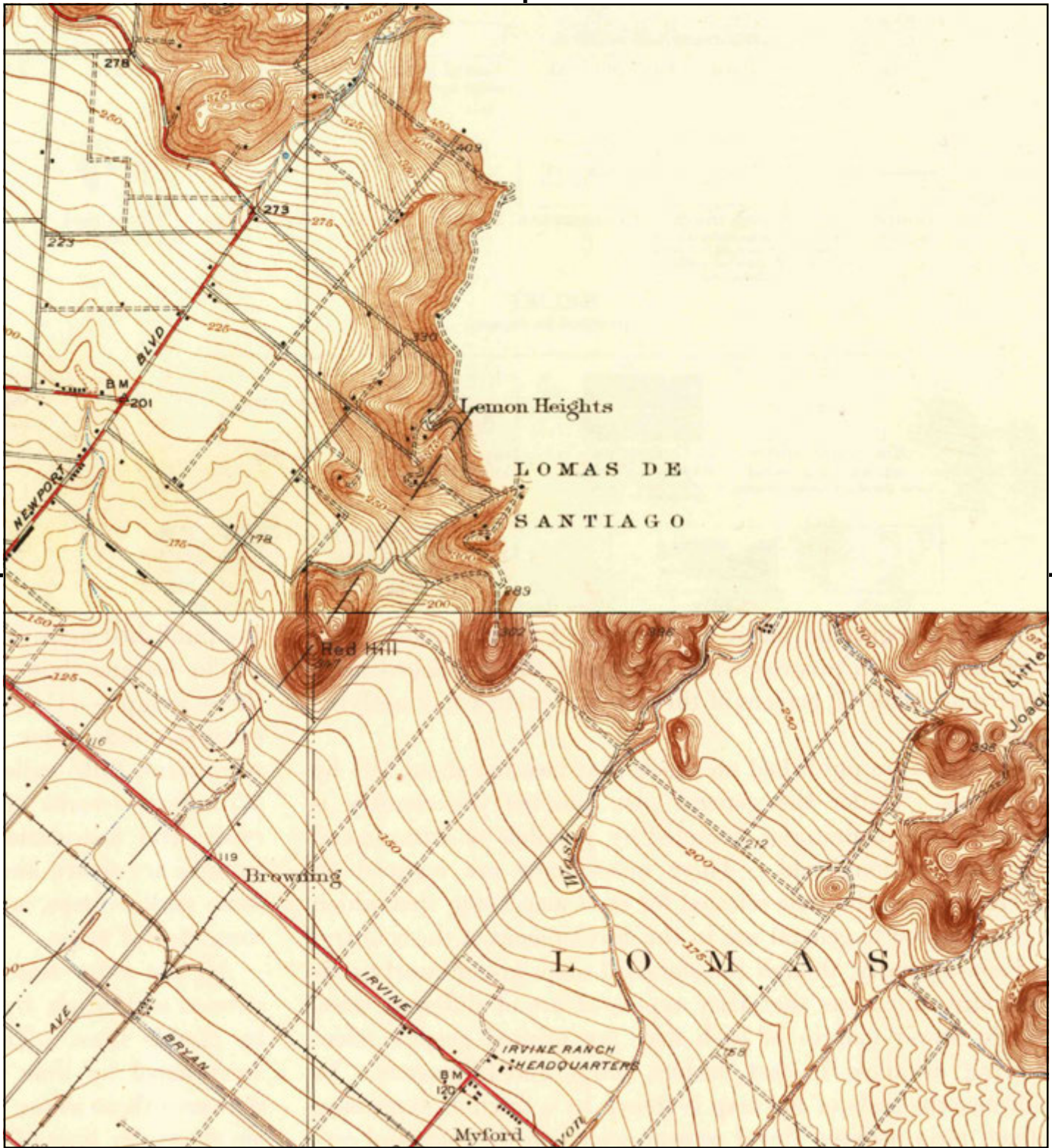
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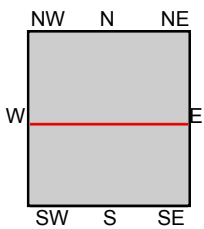
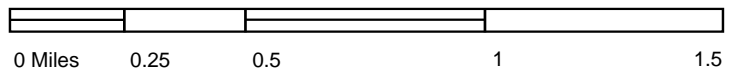
TP, ANAHEIM, 1942, 15-minute
SW, SANTA ANA, 1942, 15-minute

SITE NAME: Tustin Hills Racquet Club Phase I
ADDRESS: 11782 Simon Ranch Road
Santa Ana, CA 92705
CLIENT: Geocon Geotechnical & Env





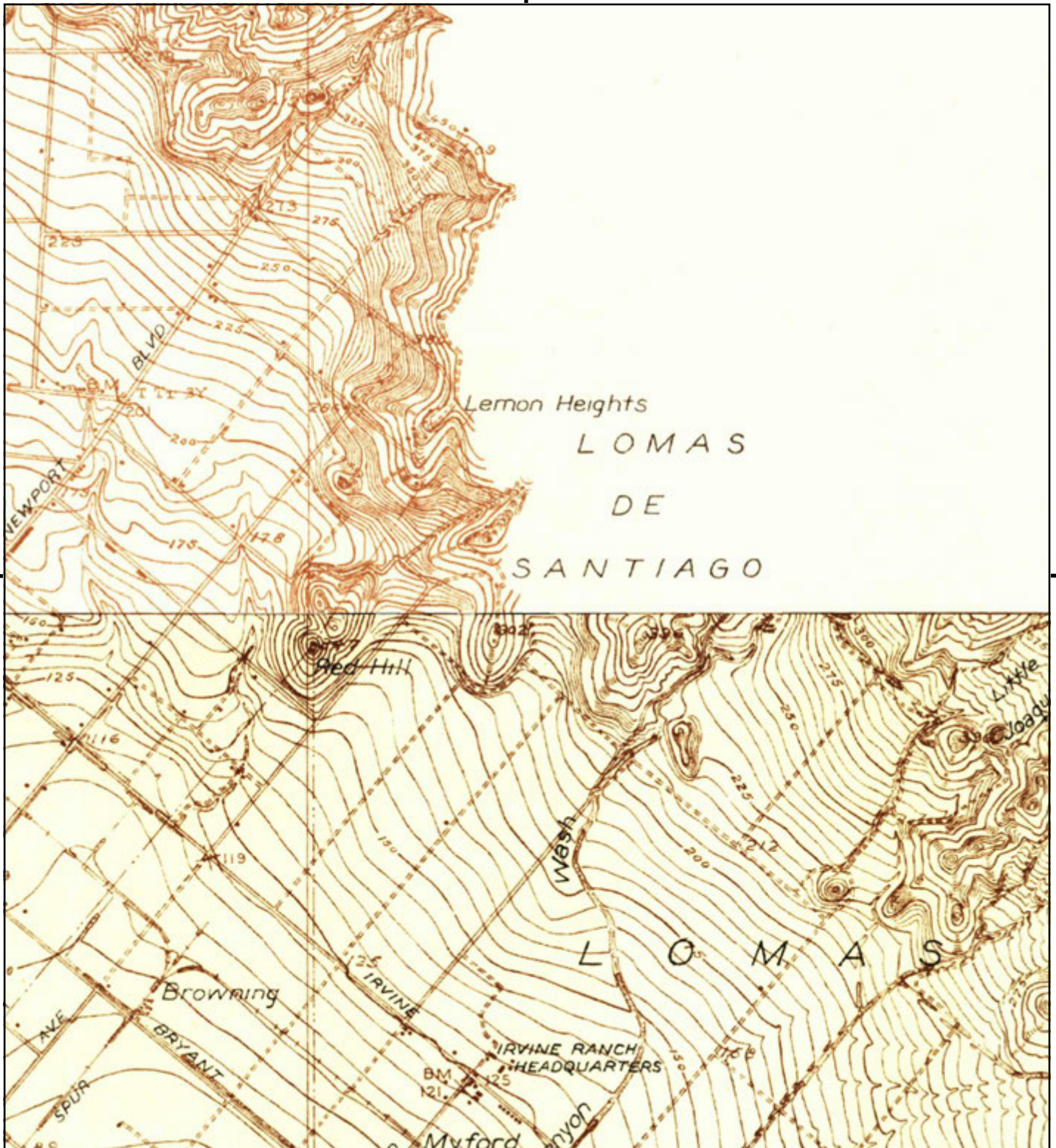
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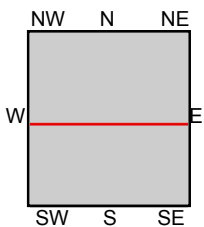
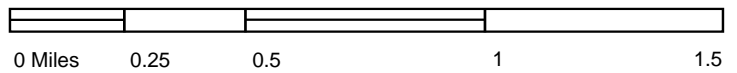
TP, Orange, 1935, 7.5-minute
S, Tustin, 1935, 7.5-minute

SITE NAME: Tustin Hills Racquet Club Phase I
ADDRESS: 11782 Simon Ranch Road
 Santa Ana, CA 92705
CLIENT: Geocon Geotechnical & Env





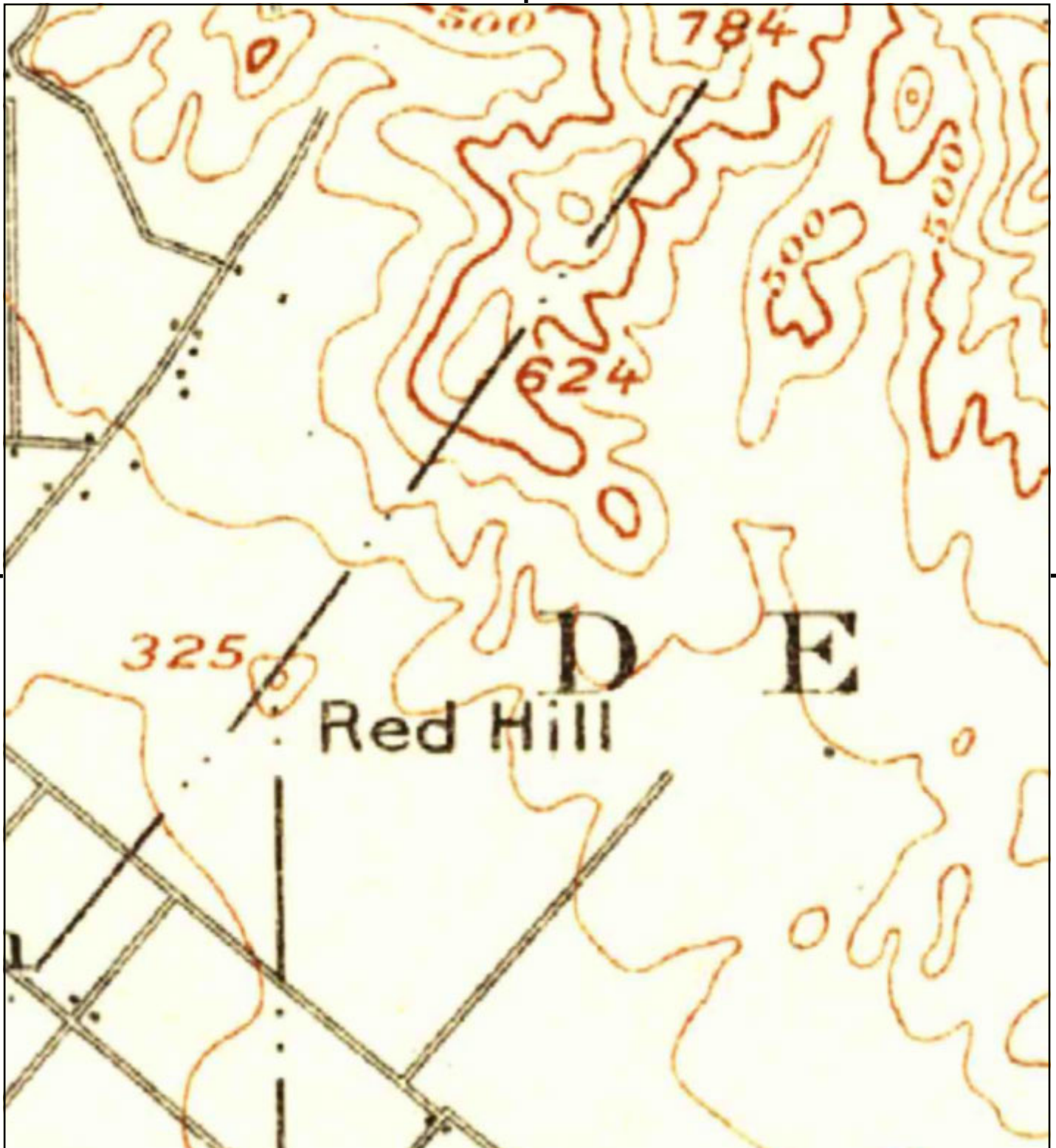
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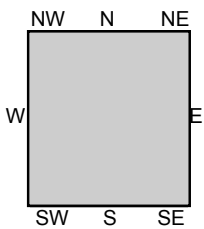
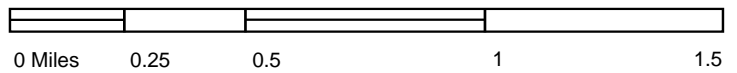
TP, Orange, 1932, 7.5-minute
S, Tustin, 1932, 7.5-minute

SITE NAME: Tustin Hills Racquet Club Phase I
ADDRESS: 11782 Simon Ranch Road
Santa Ana, CA 92705
CLIENT: Geocon Geotechnical & Env





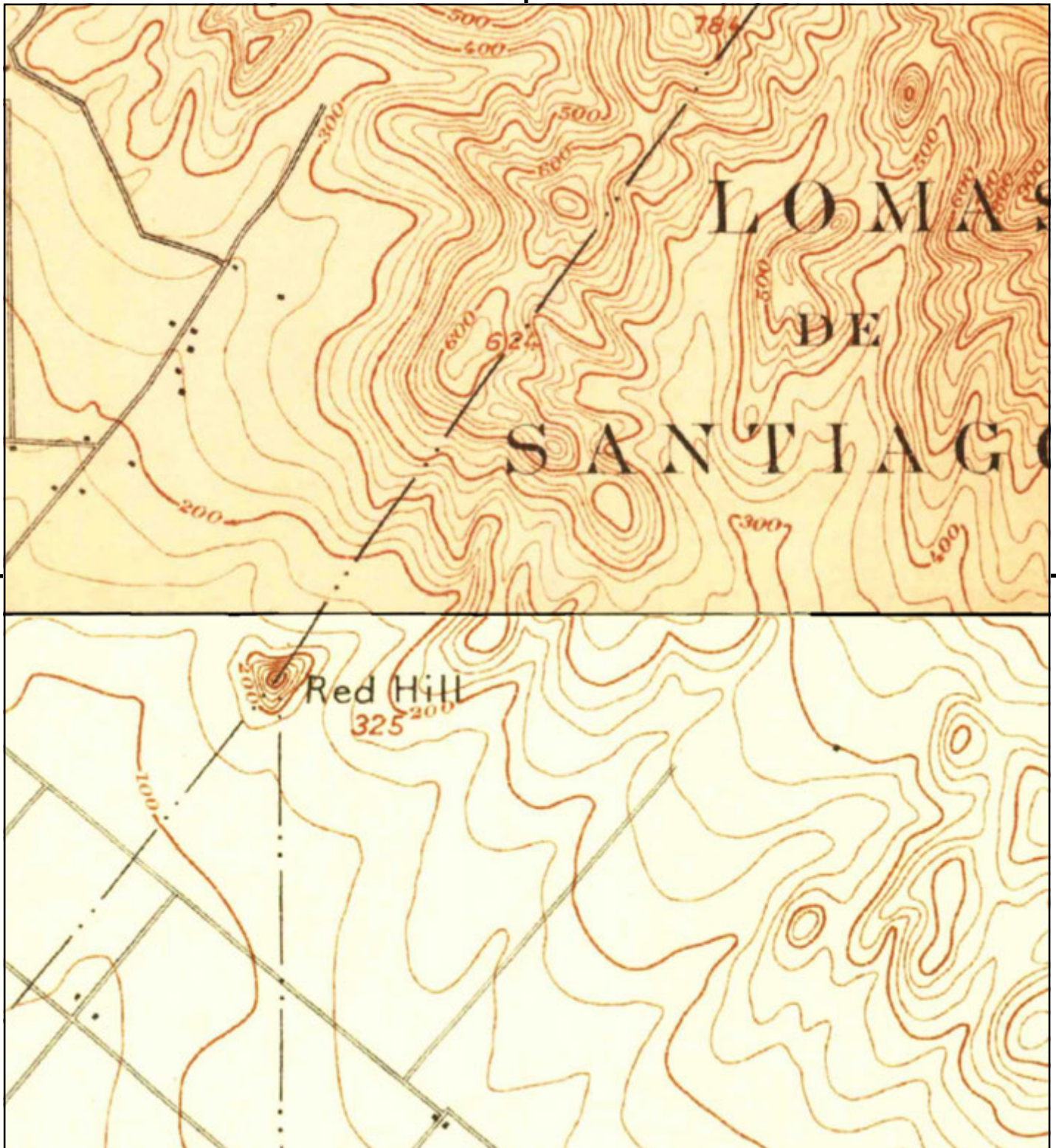
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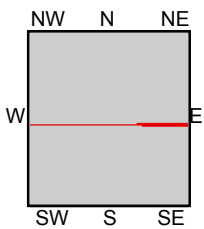
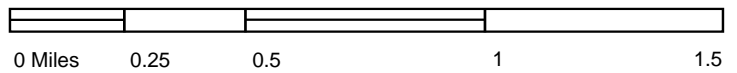
TP, Corona, 1902, 30-minute

SITE NAME: Tustin Hills Racquet Club Phase I
ADDRESS: 11782 Simon Ranch Road
Santa Ana, CA 92705
CLIENT: Geocon Geotechnical & Env





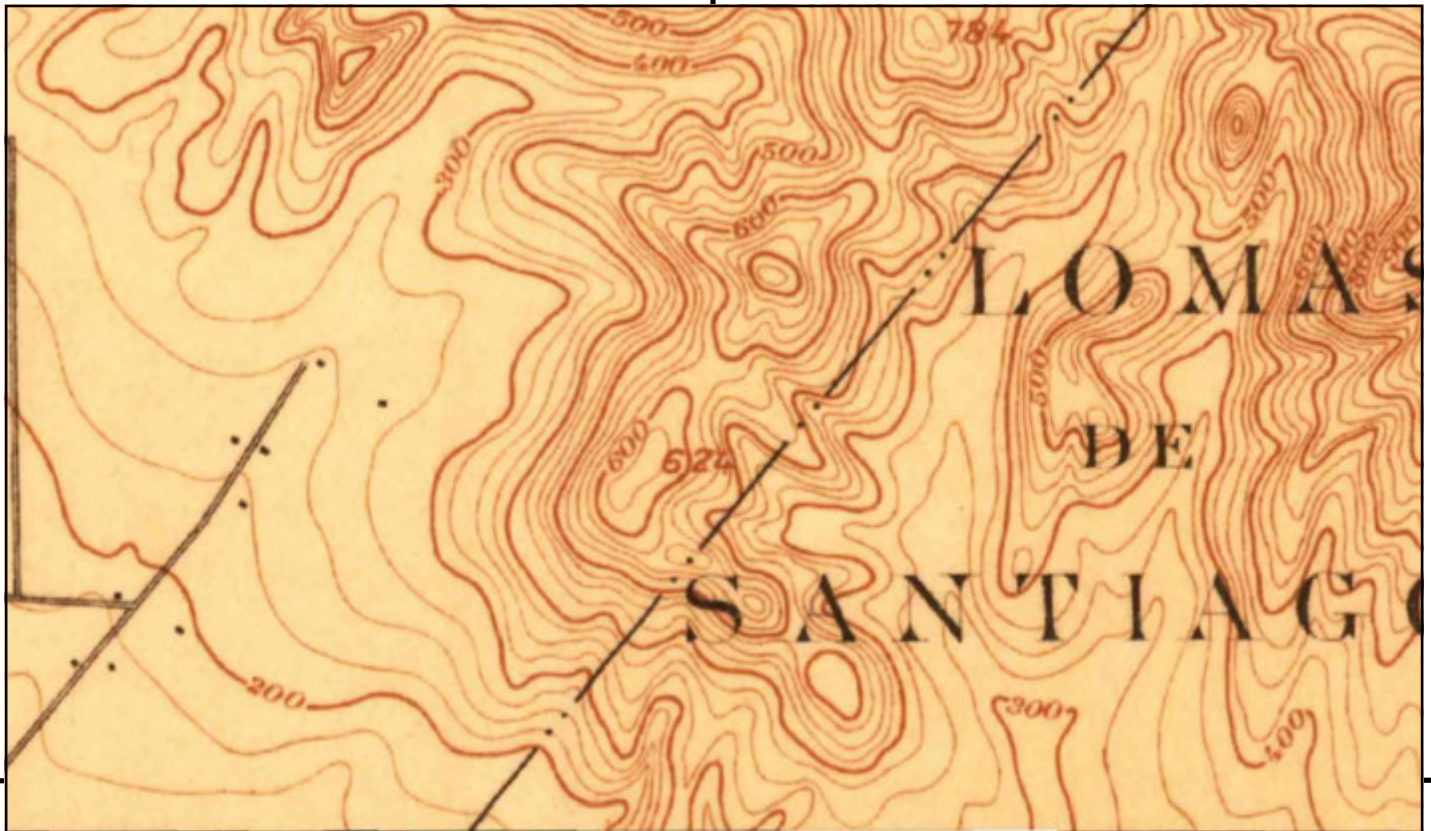
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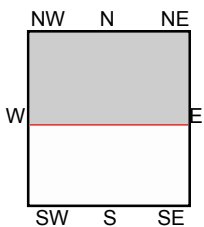
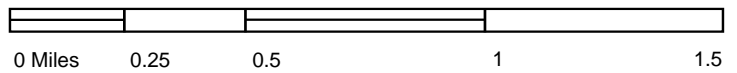
TP, Anaheim, 1901, 15-minute
SW, Santa Ana, 1901, 15-minute

SITE NAME: Tustin Hills Racquet Club Phase I
ADDRESS: 11782 Simon Ranch Road
Santa Ana, CA 92705
CLIENT: Geocon Geotechnical & Env





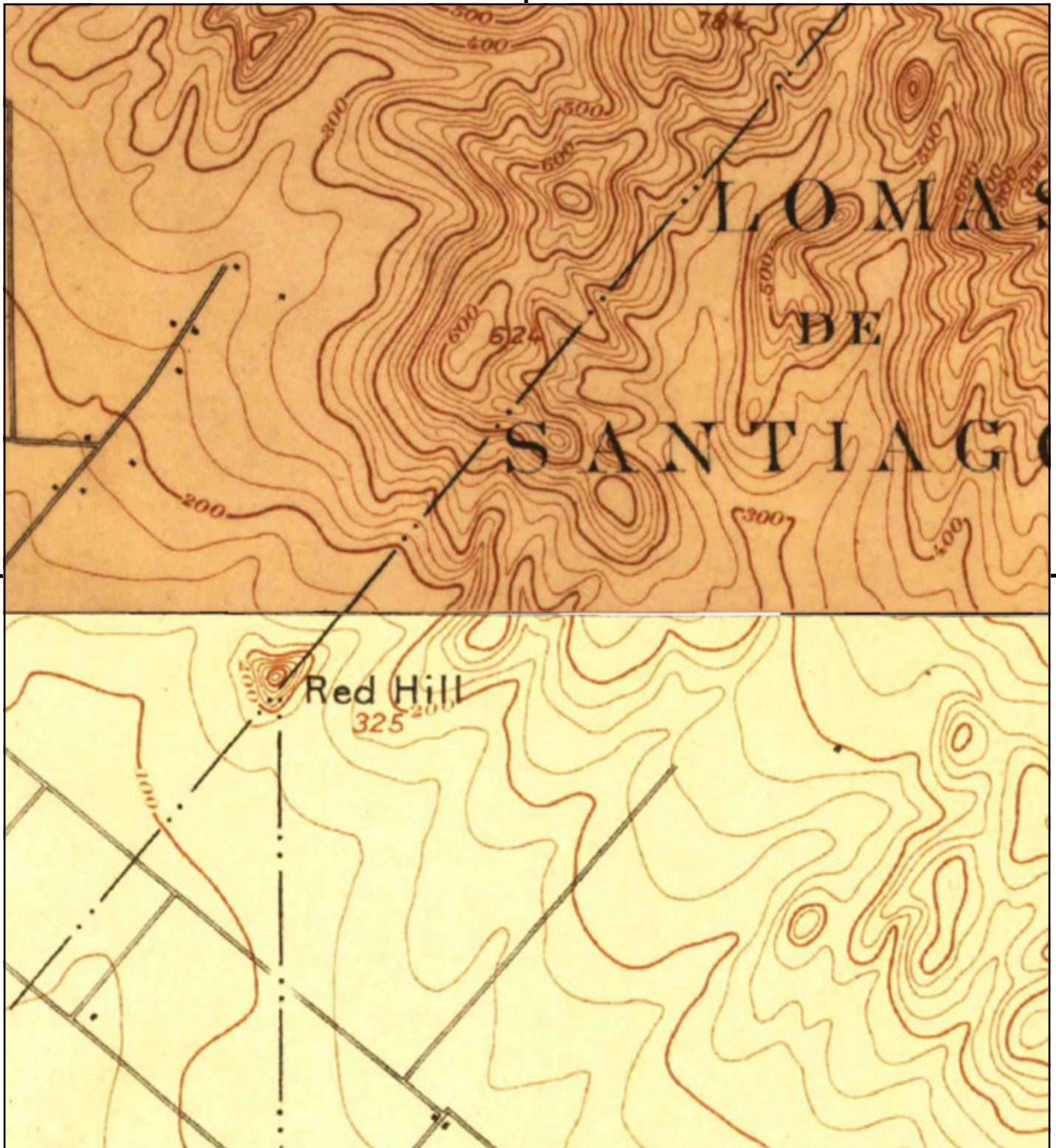
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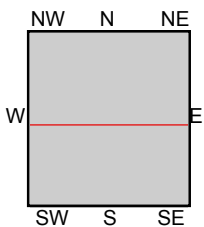
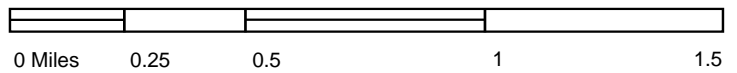
TP, Anaheim, 1898, 15-minute

SITE NAME: Tustin Hills Racquet Club Phase I
ADDRESS: 11782 Simon Ranch Road
Santa Ana, CA 92705
CLIENT: Geocon Geotechnical & Env





This report includes information from the following map sheet(s).

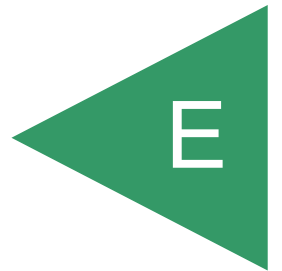


TP, Anaheim, 1896, 15-minute
SW, Santa Ana, 1896, 15-minute

SITE NAME: Tustin Hills Racquet Club Phase I
ADDRESS: 11782 Simon Ranch Road
Santa Ana, CA 92705
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APPENDIX



Tustin Hills Racquet Club Phase I

11782 Simon Ranch Road
Santa Ana, CA 92705

Inquiry Number: 4866681.5
March 01, 2017

The EDR-City Directory Abstract

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City Directory Images

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with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1920 through 2013. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 660 feet of the target property.

A summary of the information obtained is provided in the text of this report.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

<u>Year</u>	<u>Source</u>	<u>TP</u>	<u>Adjoining</u>	<u>Text Abstract</u>	<u>Source Image</u>
2013	Cole Information Services	-	X	X	-
	Cole Information Services	X	X	X	-
2008	Cole Information Services	-	X	X	-
	Cole Information Services	X	X	X	-
2003	Cole Information Services	-	X	X	-
	Cole Information Services	X	X	X	-
2002	Haines Company	X	X	X	-
2001	Pacific Telephone	-	-	-	-
1997	Pacific Bell	-	-	-	-
1995	Pacific Bell	X	X	X	-
1992	Pacific Bell	-	-	-	-
1991	Pacific Bell	X	X	X	-
1986	Pacific Bell	X	X	X	-
1980	Pacific Telephone	-	X	X	-
1975	Luskey Brothers & Co., Inc.	X	X	X	-
1971	Luskey Brothers Co., Inc.	-	-	-	-
1970	General Telephone Co., of California	X	X	X	-
1966	Pacific Telephone	X	X	X	-
1965	Ross Publications, Inc.,	-	-	-	-
1961	Luskey Brothers & Co.,	-	-	-	-
1960	Unknown	-	-	-	-
1956	The Pacific Telephone and Telegraph Co.	-	-	-	-
1955	The Pacific Telephone and Telegraph Co.	-	-	-	-
1952	Luskeys Directory Service Co.	-	-	-	-
1950	West Directory Co.	-	-	-	-

EXECUTIVE SUMMARY

<u>Year</u>	<u>Source</u>	<u>TP</u>	<u>Adjoining</u>	<u>Text Abstract</u>	<u>Source Image</u>
1946	Southern California Telephone Co.	-	-	-	-
1945	Western Directory Co.	-	-	-	-
1941	Southern California Telephone Co.	-	-	-	-
1936	Western Directory Co.	-	-	-	-
1930	Western Directory Co.	-	-	-	-
1926	Pacific Telephone	-	-	-	-
1925	Western Directory Co.	-	-	-	-
1922	Kaasen Directory Co.	-	-	-	-
1921	Western Directory Co.	-	-	-	-
1920	Santa Ana Directory Co.	-	-	-	-

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

11782 Simon Ranch Road
Santa Ana, CA 92705

FINDINGS DETAIL

Target Property research detail.

SIMON RANCH RD

11782 SIMON RANCH RD

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2013	TUSTIN HILLS RACQUET CLUB	Cole Information Services
2008	TUSTIN HILLS RACQUET CLUB LP	Cole Information Services
2003	NOVA SWIM SCHOOL	Cole Information Services
	TUSTIN HILLS RACQUET CLUB	Cole Information Services
2002	FRENCHJohn	Haines Company
	RACQUETCLUB	Haines Company
	TUSTIN HILLS	Haines Company
1995	French John	Pacific Bell
1991	French John	Pacific Bell
	Tustin Hills Racquet Club	Pacific Bell
1986	French John	Pacific Bell
1975	TUSTIN HILLS RACQUET CLUB	Luskey Brothers & Co., Inc.
1970	Macro Systems Associates	General Telephone Co., of California
	San Mai ino Caterers	General Telephone Co., of California
1966	BROWNE STEWART C tennis pro	Pacific Telephone
	Ofc	Pacific Telephone
	Red Hill Tennis Club	Pacific Telephone
	Tennis Shop	Pacific Telephone

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

BORUM AVE

11912 BORUM AVE

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	NGUYENDrep	Haines Company

11915 BORUM AVE

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	LAMV 5h	Haines Company

LIANE LN

2141 LIANE LN

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	AMIRVANDNader	Haines Company

2142 LIANE LN

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2008	GOOD LAND INVESTMENT 2 A	Cole Information Services
	ATIA CO	Cole Information Services
2002	TINGOarwin	Haines Company
1975	Mitchell Doretha	Luskey Brothers & Co., Inc.

2152 LIANE LN

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	ENGLISHWIIIam	Haines Company
	WATSON Steve	Haines Company
	WATSON Steve	Haines Company
1995	Watson Steve	Pacific Bell
1991	Watson Steve	Pacific Bell
1966	Walker Robt	Pacific Telephone

2161 LIANE LN

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	OWEYMOUTHKay	Haines Company
	OWEYMOUTHJim	Haines Company
1995	Weymouth Jim & Key	Pacific Bell

FINDINGS

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1991	Anderson James H & Zelma	Pacific Bell
1975	Anderson Jas H	Luskey Brothers & Co., Inc.
1970	Davidson Donald B	General Telephone Co., of California

2172 LIANE LN

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2013	SHANNON REX B INSURANCE	Cole Information Services
2002	SHANNONRea B	Haines Company
1995	Shannon Rex B	Pacific Bell
1980	Bernhardt Patrick	Pacific Telephone
	Bernhardt Patrick	Pacific Telephone
1975	Shannon Rex B	Luskey Brothers & Co., Inc.
1970	Shannon Rex B	General Telephone Co., of California

2181 LIANE LN

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2008	GREGORY S TELSON DDS	Cole Information Services
2002	TELSON Gregory	Haines Company
1991	Triplett Deslyn	Pacific Bell
1975	Triplett Deslyn	Luskey Brothers & Co., Inc.
1970	Triplett Deslyn	General Telephone Co., of California

2192 LIANE LN

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	ABEDOR David	Haines Company
1966	Rowe Donald E	Pacific Telephone
	Robison Kathleen	Pacific Telephone
	Robison Gerald M	Pacific Telephone

OUTLOOK LN

11751 OUTLOOK LN

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	GREEN Nancy C	Haines Company
	GREENJohn L	Haines Company
1995	Green Nancy C	Pacific Bell
1991	Green John L	Pacific Bell
	Green Nancy C	Pacific Bell
1986	Green John L	Pacific Bell
1980	Green John L	Pacific Telephone

FINDINGS

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1975	Green John L	Luskey Brothers & Co., Inc.

11752 OUTLOOK LN

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	KANNOJim	Haines Company
	KANNOJim	Haines Company
1995	Kanno Jim rl est brkr	Pacific Bell
	Kanno Jim	Pacific Bell
1991	Kanno Jim rl est brkr	Pacific Bell
	Kanno Jim	Pacific Bell
1986	Kanno Jim rl est brkr	Pacific Bell
	Kanno Jim	Pacific Bell
1975	Kanno Jim	Luskey Brothers & Co., Inc.
1970	Kanno Jim	General Telephone Co., of California

11781 OUTLOOK LN

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	SGAGLIOThomas	Haines Company
1995	Lu T Y	Pacific Bell
1991	Lu T Y	Pacific Bell
1980	Harper David	Pacific Telephone
1975	Jesman Milton L	Luskey Brothers & Co., Inc.

11782 OUTLOOK LN

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	SMITHGeorge	Haines Company
1986	Smith Geo W	Pacific Bell
1980	Smith Geo W	Pacific Telephone
1975	Smith Christine	Luskey Brothers & Co., Inc.
	Smith Geo W	Luskey Brothers & Co., Inc.
	Smith Robt Michael	Luskey Brothers & Co., Inc.
1970	Smith Christine	General Telephone Co., of California
	Smith Geo W	General Telephone Co., of California
	Smith Robt Michael	General Telephone Co., of California
1966	Smith Geo W	Pacific Telephone

11882 OUTLOOK LN

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	SBEAUVAISEarl	Haines Company
	BEAUVAI SEarl	Haines Company

FINDINGS

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	BEAUVAISSozanne	Haines Company
	BEAUVAISSozanne	Haines Company
1995	Weaver Michael & Marlan	Pacific Bell
1991	Weaver Michael&Man an	Pacific Bell
	Weaver Michele A	Pacific Bell
1980	Karamardian Stephan	Pacific Telephone
	Rugs Intemational	Pacific Telephone
1975	Karamardian Stephan	Luskey Brothers & Co., Inc.
	Karamardian Stephan	Luskey Brothers & Co., Inc.

PAVILLION DR

2171 PAVILLION DR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1980	Klingensmith C H	Pacific Telephone

2202 PAVILLION DR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	KENTRUPGall	Haines Company
1986	Snyder Bryan E	Pacific Bell
1966	Clark Geo D	Pacific Telephone

2211 PAVILLION DR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	BRADSHAWAsh Se	Haines Company
1975	Crosby Sharon	Luskey Brothers & Co., Inc.

2222 PAVILLION DR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	OMURET Richard	Haines Company
1991	Muret Richard N	Pacific Bell
1986	Muret Richard N	Pacific Bell
1980	Muret Richard N	Pacific Telephone
1975	Muret Richard N	Luskey Brothers & Co., Inc.
1970	Muret Richard N	General Telephone Co., of California

FINDINGS

SALT AIR CIR

2032 SALT AIR CIR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	KATZAdam	Haines Company
	KATZJoshua	Haines Company
	KATZ Norman	Haines Company
	KATZNorman	Haines Company
1995	Katz Adam & Joshua	Pacific Bell
	Katz Norman & Pepita	Pacific Bell
1991	Katz Norman &Pepita	Pacific Bell

2051 SALT AIR CIR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1995	Blatchford WL	Pacific Bell
1991	Blatchford W L	Pacific Bell
1980	Kiaune Kazimieras	Pacific Telephone
1975	Kiaune Kazimieras	Luskey Brothers & Co., Inc.

2062 SALT AIR CIR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1980	W inokur H L	Pacific Telephone
	Winokur Arnold	Pacific Telephone

2072 SALT AIR CIR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	FLORMAN Martin	Haines Company
1975	Del Bunch Corp	Luskey Brothers & Co., Inc.
	Bunch Del Jr	Luskey Brothers & Co., Inc.
	Bunch Del Corp	Luskey Brothers & Co., Inc.

2091 SALT AIR CIR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1995	Niu Shi Un	Pacific Bell
1991	Niu William	Pacific Bell
	Niu Gary Shi Ln	Pacific Bell

2092 SALT AIR CIR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	WALDMAN Michael	Haines Company
1995	Mackiddn JWLt Col USMC	Pacific Bell

FINDINGS

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1991	Mackin J W Lt Col USMC	Pacific Bell
1986	Mackn J W Lt Col US MC	Pacific Bell
1980	Mackin J W Lt Col US MC	Pacific Telephone
1975	Mackin J W Lt Col USMC	Luskey Brothers & Co., Inc.

2101 SALT AIR CIR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	RENZI Michael	Haines Company

2111 SALT AIR CIR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	SCHULTZEula	Haines Company

2112 SALT AIR CIR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	NIVENLouos	Haines Company

2131 SALT AIR CIR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	TORNAYPe ler	Haines Company

2132 SALT AIR CIR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	ENDRESRob SF	Haines Company
1995	Endres Robt F	Pacific Bell
	Sanford Rose Associates Santa ANAHEIM	Pacific Bell
1991	Endres Robt F	Pacific Bell
1986	Endres Robt F	Pacific Bell
1980	Endres Robt F	Pacific Telephone
1975	Endres Robt F	Luskey Brothers & Co., Inc.
1970	BWen Jas D	General Telephone Co., of California
	Bowes Iresn	General Telephone Co., of California

2142 SALT AIR CIR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	STARKJames	Haines Company
1986	Staniforth Alan	Pacific Bell

FINDINGS

2151 SALT AIR CIR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	MOTZKUS Paul F	Haines Company
	MYERS Mar Ilyn	Haines Company
1995	Motzkus Paul F	Pacific Bell
1991	Motzkus Paul F	Pacific Bell
1986	Motzkus Paul F	Pacific Bell
1980	Motzkus Paul F	Pacific Telephone
	Motzkus Richard Jr	Pacific Telephone
1975	St Charles Dale	Luskey Brothers & Co., Inc.

2152 SALT AIR CIR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	LKANEDavid	Haines Company
1975	Gayer Claude E	Luskey Brothers & Co., Inc.
1970	Dussault John	General Telephone Co., of California

2161 SALT AIR CIR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	RUEHLTG	Haines Company
1995	Ruehl T G	Pacific Bell
1991	Ruehl T G	Pacific Bell
1986	Ruehl T G	Pacific Bell
1980	Ruehi T G	Pacific Telephone
1975	Ruehl T G	Luskey Brothers & Co., Inc.

2172 SALT AIR CIR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	LAJSZOi Ph Slp	Haines Company

2181 SALT AIR CIR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	OPAU LDewi I	Haines Company
1995	Paul De Witt	Pacific Bell
1991	Paul De Witt	Pacific Bell
1986	Paul De Witt	Pacific Bell

2182 SALT AIR CIR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	ZOBEL Gilber L	Haines Company
1986	Nelson Shirley G	Pacific Bell

FINDINGS

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1986	Nelson R Battle	Pacific Bell
1980	Nelson R Battle	Pacific Telephone
	Nelson RC	Pacific Telephone
1975	Nelson R Battle	Luskey Brothers & Co., Inc.

SALT AIR DR

2052 SALT AIR DR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2008	ENVIRONMENTAL DESIGN	Cole Information Services
2003	ENVIRONMENTAL DESIGN	Cole Information Services
1966	Brenneman R J	Pacific Telephone

2072 SALT AIR DR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2008	RAA CAPITAL LLC	Cole Information Services
1966	Bunch Del Jr	Pacific Telephone

2091 SALT AIR DR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2008	INTERGRATED ENGINEERING MANAGEMENT	Cole Information Services

2111 SALT AIR DR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1966	Schultz Cleve	Pacific Telephone

2132 SALT AIR DR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1966	Ruby H W	Pacific Telephone

2152 SALT AIR DR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2008	PAGE GROUP	Cole Information Services
1966	Barletta Nicholas P	Pacific Telephone

2182 SALT AIR DR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1966	Mc Cutchen John H	Pacific Telephone

FINDINGS

SIMON RANCH RD

11851 SIMON RANCH RD

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	CHOWSusan	Haines Company
	TESMERDanusz	Haines Company
1975	Weinberg Martin B	Luskey Brothers & Co., Inc.
	Weinberg Elaine Joseph	Luskey Brothers & Co., Inc.
1970	Weinberg Martin B	General Telephone Co., of California
1966	Weinberg Martin B	Pacific Telephone

11861 SIMON RANCH RD

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	SSIEMERSLarry D	Haines Company
1995	Siemers Larry D	Pacific Bell
1991	Siemers Larry D	Pacific Bell
1986	Siemers Larry D	Pacific Bell
1980	Lafferty Ralph F	Pacific Telephone
1975	Writer Carl P	Luskey Brothers & Co., Inc.
1970	Writer Carl P	General Telephone Co., of California
1966	Writer Carl P	Pacific Telephone

11862 SIMON RANCH RD

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	WEAVERTheodore	Haines Company
	OLBRICHTTh Omas	Haines Company
1991	Weaver Theodore	Pacific Bell
1980	Wtaver paw	Pacific Telephone

11871 SIMON RANCH RD

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	TOLLTheresa	Haines Company

11872 SIMON RANCH RD

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	HOSKINSCortez W	Haines Company
1995	Hoskins Cortez W	Pacific Bell
1991	Hoskins Cortez W	Pacific Bell
1986	Askin Allyson	Pacific Bell
	Gold Roy E	Pacific Bell
1980	Gold Roy E	Pacific Telephone

FINDINGS

11881 SIMON RANCH RD

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	NELSONGarry	Haines Company
1986	Markle David H DDS	Pacific Bell
	Nelson Garry & Tonm	Pacific Bell
1980	Markle David H DDS	Pacific Telephone
1975	Larsen Kent P	Luskey Brothers & Co., Inc.
1970	Stocker Lloyd H	General Telephone Co., of California

11882 SIMON RANCH RD

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2003	WILLIAM H WINTER PHD INC	Cole Information Services
2002	WINTERH	Haines Company
1970	Stutt Leslie	General Telephone Co., of California
1966	Clements David W	Pacific Telephone

VALHALLA DR

2022 VALHALLA DR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1970	Felman Richard	General Telephone Co., of California
1966	Felman Richard	Pacific Telephone

2031 VALHALLA DR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1991	Bell John M	Pacific Bell
1986	Bell John M	Pacific Bell
1980	Bell John M	Pacific Telephone
1975	Bell John M	Luskey Brothers & Co., Inc.
1970	Moran Michael	General Telephone Co., of California

2121 VALHALLA DR

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2008	ARTFUL DOG	Cole Information Services
1991	Morcos Anton F	Pacific Bell
	Morcos Tony F	Pacific Bell
1986	Morcos Anton F	Pacific Bell
	Morcos Tony F	Pacific Bell
1980	Morcos Tony F	Pacific Telephone
	Morcos Anton F	Pacific Telephone
1975	Morcos Anton F	Luskey Brothers & Co., Inc.

FINDINGS

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1975	Morcos Tony F	Luskey Brothers & Co., Inc.

WILLARD AVE

2300 WILLARD AVE

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	SULLIVANTimo lhy	Haines Company

2308 WILLARD AVE

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	FRANKOErn	Haines Company

2316 WILLARD AVE

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	JOOMyong	Haines Company

2364 WILLARD AVE

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2002	0 YUYung	Haines Company

FINDINGS

TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

Address Researched

11782 Simon Ranch Road

Address Not Identified in Research Source

2001, 1997, 1992, 1980, 1971, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920

ADJOINING PROPERTY: ADDRESSES NOT IDENTIFIED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not identified in research source.

Address Researched

11751 OUTLOOK LN

Address Not Identified in Research Source

2013, 2008, 2003, 2001, 1997, 1992, 1971, 1970, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920

11752 OUTLOOK LN

2013, 2008, 2003, 2001, 1997, 1992, 1980, 1971, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920

11781 OUTLOOK LN

2013, 2008, 2003, 2001, 1997, 1992, 1986, 1971, 1970, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920

11782 OUTLOOK LN

2013, 2008, 2003, 2001, 1997, 1995, 1992, 1991, 1971, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920

11851 SIMON RANCH RD

2013, 2008, 2003, 2001, 1997, 1995, 1992, 1991, 1986, 1980, 1971, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920

11861 SIMON RANCH RD

2013, 2008, 2003, 2001, 1997, 1992, 1971, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920

11862 SIMON RANCH RD

2013, 2008, 2003, 2001, 1997, 1995, 1992, 1986, 1975, 1971, 1970, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920

11871 SIMON RANCH RD

2013, 2008, 2003, 2001, 1997, 1995, 1992, 1991, 1986, 1980, 1975, 1971, 1970, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920

11872 SIMON RANCH RD

2013, 2008, 2003, 2001, 1997, 1992, 1975, 1971, 1970, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920

11881 SIMON RANCH RD

2013, 2008, 2003, 2001, 1997, 1995, 1992, 1991, 1971, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920

11882 OUTLOOK LN

2013, 2008, 2003, 2001, 1997, 1992, 1986, 1971, 1970, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920

11882 SIMON RANCH RD

2013, 2008, 2003, 2001, 1997, 1995, 1992, 1991, 1986, 1980, 1975, 1971, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920

11882 SIMON RANCH RD

2013, 2008, 2002, 2001, 1997, 1995, 1992, 1991, 1986, 1980, 1975, 1971, 1970, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920

FINDINGS

Address Researched

Address Not Identified in Research Source

2171 PAVILLION DR	2013, 2008, 2003, 2002, 2001, 1997, 1995, 1992, 1991, 1986, 1975, 1971, 1970, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920
2172 LIANE LN	2013, 2008, 2003, 2001, 1997, 1992, 1991, 1986, 1971, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920
2172 LIANE LN	2008, 2003, 2002, 2001, 1997, 1995, 1992, 1991, 1986, 1980, 1975, 1971, 1970, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920
2172 SALT AIR CIR	2013, 2008, 2003, 2001, 1997, 1995, 1992, 1991, 1986, 1980, 1975, 1971, 1970, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920
2181 LIANE LN	2013, 2008, 2003, 2001, 1997, 1995, 1992, 1986, 1980, 1971, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920
2181 LIANE LN	2013, 2003, 2002, 2001, 1997, 1995, 1992, 1991, 1986, 1980, 1975, 1971, 1970, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920
2181 SALT AIR CIR	2013, 2008, 2003, 2001, 1997, 1992, 1980, 1975, 1971, 1970, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920
2182 SALT AIR CIR	2013, 2008, 2003, 2001, 1997, 1995, 1992, 1991, 1971, 1970, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920
2182 SALT AIR DR	2013, 2008, 2003, 2002, 2001, 1997, 1995, 1992, 1991, 1986, 1980, 1975, 1971, 1970, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920
2192 LIANE LN	2013, 2008, 2003, 2001, 1997, 1995, 1992, 1991, 1986, 1980, 1975, 1971, 1970, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920
2202 PAVILLION DR	2013, 2008, 2003, 2001, 1997, 1995, 1992, 1991, 1980, 1975, 1971, 1970, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920
2211 PAVILLION DR	2013, 2008, 2003, 2001, 1997, 1995, 1992, 1991, 1986, 1980, 1971, 1970, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920
2222 PAVILLION DR	2013, 2008, 2003, 2001, 1997, 1995, 1992, 1971, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920
2300 WILLARD AVE	2013, 2008, 2003, 2001, 1997, 1995, 1992, 1991, 1986, 1980, 1975, 1971, 1970, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920
2308 WILLARD AVE	2013, 2008, 2003, 2001, 1997, 1995, 1992, 1991, 1986, 1980, 1975, 1971, 1970, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920
2316 WILLARD AVE	2013, 2008, 2003, 2001, 1997, 1995, 1992, 1991, 1986, 1980, 1975, 1971, 1970, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920
2364 WILLARD AVE	2013, 2008, 2003, 2001, 1997, 1995, 1992, 1991, 1986, 1980, 1975, 1971, 1970, 1966, 1965, 1961, 1960, 1956, 1955, 1952, 1950, 1946, 1945, 1941, 1936, 1930, 1926, 1925, 1922, 1921, 1920

Appendix G

Preliminary Priority Project Water Quality Management Plan

County of Orange/Santa Ana Region
Preliminary Priority Project
Water Quality Management Plan
(WQMP)

TRACT NO. 18119

11782 SIMON RANCH ROAD, TUSTIN, CA

POR. BLK 42 OF IRVINE'S SUBDIVISION, MM 1/88

APN: 104-321-01

Prepared for:

Ranch Hill Partners LP.

2454 Alton Pkwy.

Irvine, California 92606

(949) 230-5426

Prepared by:

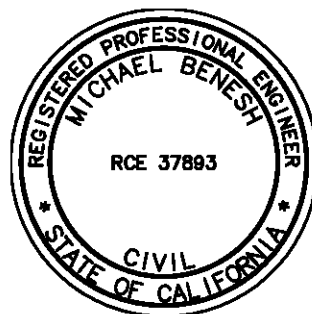
Robin B. Hamers & Associates, Inc.

234 E. 17th Street, Suite 205

Costa Mesa, CA 92627

Telephone: (949) 548-1192

Email: mlbenesh@robhamers.com



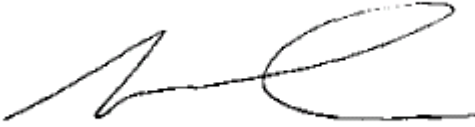

Final WQMP date: April 15, 2020

Project Owner's Certification			
Planning Application No. (If applicable)	PA180034, Tentative Tract No. 18119	Grading Permit No.	
Tract/Parcel Map and Lot(s) No.	POR. BLK 42 OF IRVINE'S SUBDIVISION, MM 1/88	Building Permit No.	
Address of Project Site and APN (If no address, specify Tract/Parcel Map and Lot Numbers)			11782 SIMON RANCH ROAD, TUSTIN, CA APN: 104-321-01

This Preliminary Water Quality Management Plan (WQMP) has been prepared for RANCH HILL PARTNERS LP. by Robin B. Hamers & Associates, Inc. The WQMP is intended to comply with the requirements of the County of Orange NPDES Stormwater Program requiring the preparation of the plan.

The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan, including the ongoing operation and maintenance of all best management practices (BMPs), and will ensure that this plan is amended as appropriate to reflect up-to-date conditions on the site consistent with the current Orange County Drainage Area Management Plan (DAMP) and the intent of the non-point source NPDES Permit for Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and the incorporated Cities of Orange County within the Santa Ana Region. Once the undersigned transfers its interest in the property, its successors-in-interest shall bear the aforementioned responsibility to implement and amend the WQMP. An appropriate number of approved and signed copies of this document shall be available on the subject site in perpetuity.

Owner:			
Title			
Company	RANCH HILL PARTNERS LP.		
Address	2454 ALTON PKWY. , IRVINE, CALIFORNIA 92606		
Email			
Telephone #	(949) 230-5426		
I understand my responsibility to implement the provisions of this WQMP including the ongoing operation and maintenance of the best management practices (BMPs) described herein.			
Owner Signature		Date	

Preparer (Engineer):			
Title	Michael Benesh	PE Registration #	RCE 37893
Company	ROBIN B. HAMERS & ASSOCIATES, INC.		
Address	234 E. 17th Street, Suite 205, COSTA MESA, CA 92627		
Email	Email: mlbenesh@robhamers.com		
Telephone #	Telephone: (949) 548-1192		
I hereby certify that this Water Quality Management Plan is in compliance with, and meets the requirements set forth in, Order No. R8-2009-0030/NPDES No. CAS618030, of the Santa Ana Regional Water Quality Control Board.			
Preparer Signature			Date 4/15/20
Place Stamp Here			

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Attachments

Attachment A	OPERATION & MAINTENANCE PLAN
Attachment B	CONDITIONS OF APPROVAL
Attachment C	INFILTRATION TEST
Attachment D	HYDROMODIFICATION CALCULATIONS
Attachment E	EDUCATIONAL MATERIALS

Section I Discretionary Permit(s) and Water Quality Conditions

Provide discretionary or grading/building permit information and water quality conditions of approval, or permit issuance, applied to the project. If conditions are unknown, please request applicable conditions from staff. Refer to Section 2.1 in the Technical Guidance Document (TGD) available on the OC Planning website (ocplanning.net).

Project Information	
Permit/Application No. (If applicable)	PA180034, Tentative Tract No. 18119
Grading or Building Permit No. (If applicable)	
Address of Project Site (or Tract Map and Lot Number if no address) and APN	11782 SIMON RANCH ROAD, TUSTIN, CA APN: 104-321-01
Water Quality Conditions	
Water Quality Conditions of Approval or Issuance applied to this project. (Please list verbatim.)	N/A – Preliminary WQMP
Watershed-Based Plan Conditions	
Provide applicable conditions from watershed - based plans including WIHMPs and TMDLS.	None

	<p>The new impervious surfaces will include approximately 72,810 sf of building footprints, 3700 s.f. of private patios/walkways, 10,700 s.f. of private driveways, 51,700 s.f. of common driveway/street, 8,500 sf of sidewalk, and 5,560 sf of rec. area. There will be approximately 103,247 sf of typical residential landscaping. There will be some minor trenching constructed in the adjoining streets to extend the utilities to the site.</p>			
	Pervious		Impervious	
	Area (acres or sq ft)	Percentage	Area (acres or sq ft)	Percentage
Pre-Project Conditions	83,417 SF	32.6%	172,800 SF	67.4%
Post-Project Conditions	103,247 SF	40.3%	152,970 SF	59.7%
Drainage Patterns/Connections	<p><u>Prior to Development</u></p>			
	<p>The site is graded and developed as a tennis club. The surface of the land slopes generally down to the southeast. The lowest point on the site, around elevation 226, is near the most southerly corner where stormwater runoff leaves the site in a concrete drainage ditch. The highpoint on the site is near the most westerly corner of the site around elevation 279. The site is currently terraced for the construction of the tennis courts and clubhouse. The average slope of the site is approximately 7.5 percent, dropping 40 feet in 540 feet of length. The storm runoff from the site currently drains by surface flows along a concrete drainage ditch southerly approximately 200 feet to a city storm drain system, eventually draining to the San Diego Creek and the Upper Newport Bay, 8.5 miles southwest of the project site.</p> <p><u>After Development</u></p> <p>After construction, the storm runoff from the site will be collected in the on-site common driveway/street and be directed to an inlet at the end of the common driveway in the southwest portion of the site. A private on-site storm drain system will convey the flows to the southerly corner of the site from where the runoff will flow as it does now, along a concrete drainage ditch southerly approximately 200 feet to a city storm drain system, eventually draining to the San Diego Creek and the Upper Newport Bay, 8.5 miles southwest of the project site. An underground infiltration trench will be incorporated into the drainage system to treat the runoff.</p>			

II.2 Potential Stormwater Pollutants

Determine and list expected stormwater pollutants based on land uses and site activities. *Refer to Section 2.2.2 and Table 2.1 in the Technical Guidance Document (TGD) for guidance.*

Pollutants of Concern			
Pollutant	Check One for each: E=Expected to be of concern N=Not Expected to be of concern		Additional Information and Comments
	E <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
Suspended-Solid/ Sediment	E <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
Nutrients	E <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
Heavy Metals	E <input type="checkbox"/>	N <input checked="" type="checkbox"/>	
Pathogens (Bacteria/Virus)	E <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
Pesticides	E <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
Oil and Grease	E <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
Toxic Organic Compounds	E <input type="checkbox"/>	N <input checked="" type="checkbox"/>	
Trash and Debris	E <input checked="" type="checkbox"/>	N <input type="checkbox"/>	

II.3 Hydrologic Conditions of Concern

Determine if streams located downstream from the project area are potentially susceptible to hydromodification impacts. Refer to Section 2.2.3.1 in the Technical Guidance Document (TGD) for North Orange County or Section 2.2.3.2 for South Orange County.

No – Show map

The project site is located in an area designated as “Potential Areas of Erosion, Habitat, & Physical Structure Susceptibility”.

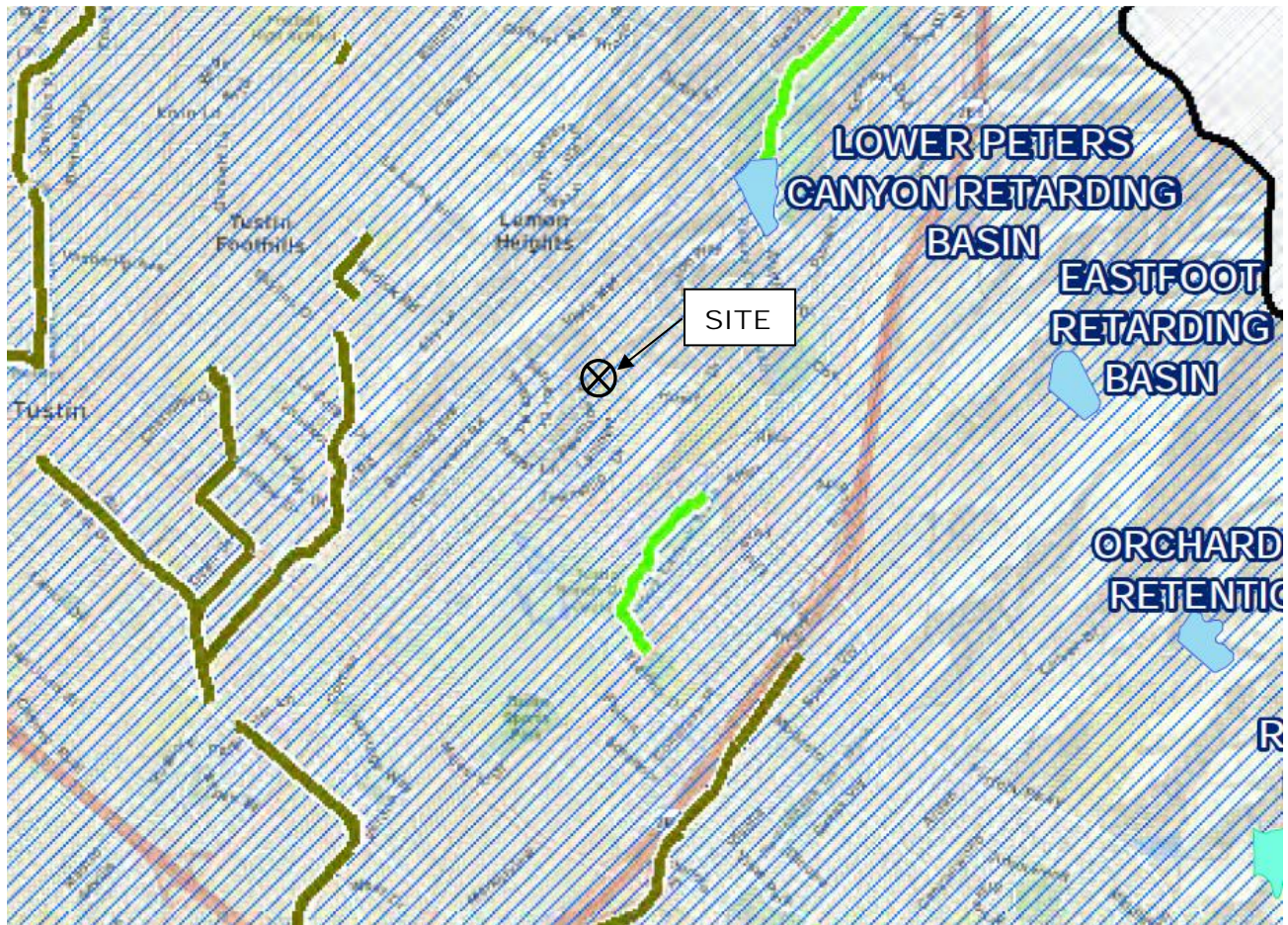


Figure 1: Portion Susceptibility Analysis Newport Bay – Newport Coastal Streams.

Yes – Describe applicable hydrologic conditions of concern below. Refer to Section 2.2.3 in the Technical Guidance Document (TGD).

Portions of San Diego Creek downstream of the project site are not hardened and susceptible to erosion.

II.4 Post Development Drainage Characteristics

Describe post development drainage characteristics. *Refer to Section 2.2.4 in the Technical Guidance Document (TGD).*

After construction, the storm runoff from the site will be collected in the on-site common driveway/street and be directed to an inlet at the end of the common driveway in the southwest portion of the site. A private on-site storm drain system will convey the flows to the southerly corner of the site from where the runoff will flow as it does now, along a concrete drainage ditch southerly approximately 200 feet to a city storm drain system, eventually draining to the San Diego Creek and the Upper Newport Bay, 8.5 miles southwest of the project site. An underground infiltration trench will be incorporated into the drainage system to treat the runoff.

II.5 Property Ownership/Management

Describe property ownership/management. *Refer to Section 2.2.5 in the Technical Guidance Document (TGD).*

The property is currently owned by Ranch Hill Partners LP. . After development, the ownership of the drainage improvements and BMPs will be transferred to the HOA. The drainage improvements and Treatment BMPs will be maintained by the HOA.

There are no off-site infrastructure improvements planned as part of the project other than the extension of utilities to the project site.

Section III Site Description

III.1 Physical Setting

Fill out table with relevant information. *Refer to Section 2.3.1 in the Technical Guidance Document (TGD).*

Name of Planned Community/Planning Area (if applicable)	N/A
Location/Address	The site address is: 11782 SIMON RANCH ROAD, TUSTIN, CA
	Located at the easterly end of Simon Ranch Road near the intersection with Pavilion Drive, in the Unincorporated Territory of the County of Orange, CA.
General Plan Land Use Designation	
Zoning	
Acreage of Project Site	5.882 acres
Predominant Soil Type	Per the Hydrologic Classification of Soils Map, Plate B, of the Orange County Hydrology Manual and Figure XVI.2 NRCS Hydrologic Soils Group Exhibit of the TGD, the site is located in an area designated as Hydrologic Soil Group C.

III.2 Site Characteristics

Fill out table with relevant information and include information regarding BMP sizing, suitability, and feasibility, as applicable. Refer to Section 2.3.2 in the Technical Guidance Document (TGD).

Site Characteristics	
Precipitation Zone	Per Figure XVI.1 of the TGD, the site is in the 0.75” Design Capture Storm Depth Rainfall Zone.
Topography	The surface of the land slopes generally down to the southeast. The lowest point on the site, around elevation 226, is near the most southerly corner where stormwater runoff leaves the site in a concrete drainage ditch. The highpoint on the site is near the most westerly corner of the site around elevation 279. The site is currently terraced for the construction of the tennis courts and clubhouse. The average slope of the site is approximately 7.5 percent, dropping 40 feet in 540 feet of length.
Drainage Patterns/Connections	<p><u>Prior to Development</u></p> <p>The storm runoff from the site currently drains by surface flows along a concrete drainage ditch southerly approximately 200 feet to a city storm drain system, eventually draining to the San Diego Creek and the Upper Newport Bay, 8.5 miles southwest of the project site.</p> <p><u>After Development</u></p> <p>After construction, the storm runoff from the site will be collected in the on-site common driveway/street and be directed to an inlet at the end of the common driveway in the southwest portion of the site. A private on-site storm drain system will convey the flows to the southerly corner of the site from where the runoff will flow as it does now, along a concrete drainage ditch southerly approximately 200 feet to a city storm drain system, eventually draining to the San Diego Creek and the Upper Newport Bay, 8.5 miles southwest of the project site. An underground infiltration trench will be incorporated into the drainage system to treat the runoff.</p>
Soil Type, Geology, and Infiltration Properties	Per the Hydrologic Classification of Soils Map, Plate B, of the Orange County Hydrology Manual and Figure XVI.2 NRCS Hydrologic Soils Group Exhibit of the TGD, the site is located in an area designated as Hydrologic Soil Group C. A subsurface infiltration test performed by the soils engineer in the southerly portion of the site indicate an infiltration rate of 1.2 in/hr.

<p>Hydro-geologic (Groundwater) Conditions</p>	<p>Figure XVI.2d North Orange County Mapped Depth to First Groundwater Exhibit of the TGD does not indicate the depth to groundwater. The soils report for the project indicates that no groundwater was encountered below the site for a depth of 33 feet below the surface.</p> <p>Per Figure XVI.2f North Orange County Groundwater Protection Areas Exhibit of the TGD, the site is not located in a groundwater protection area. The South Basin Groundwater Protection Project and the Approximate Selenium Contamination Area, El Toro Marine Base and Tustin Marine Air Base are all located more than 2 miles southwest of the project.</p>
<p>Geotechnical Conditions (relevant to infiltration)</p>	<p>Per Figure XVI.2c Orange County Mapped Potential Landslide Areas Exhibit of the TGD, the site is not located in a potential landslide area.</p>
<p>Off-Site Drainage</p>	<p>Portions of Lots 69 through 72 of Tract No. 3883, located southeasterly of Outlook Lane, drain onto the project site. The area included is about 1.7 acres.</p>
<p>Utility and Infrastructure Information</p>	<p>There is a public water main crossing the project site and private utility services that serve the existing buildings. The sewer, electric, telephone and cable utilities are all located within the ROW for Simon Ranch Road and Pavillion Drive. Services for the proposed residences will be brought into the site from the utilities in the street.</p>

III.3 Watershed Description

Fill out table with relevant information and include information regarding BMP sizing, suitability, and feasibility, as applicable. *Refer to Section 2.3.3 in the Technical Guidance Document (TGD).*

Receiving Waters	Upper Newport Bay
303(d) Listed Impairments	Sediment, Nutrients, Heavy Metals, Pesticides, Pathogens, Toxicity, Other Organics
Applicable TMDLs	None
Pollutants of Concern for the Project	<p>The Primary Pollutants of Concern for the project as identified in Table 2.1 of the TGD are:</p> <p>Sediment, Nutrients, Pesticides, Pathogens, Toxicity, Other Organics</p> <p>The other pollutants of concern for the project, as identified in Table 2.1 of the TGD are:</p> <ul style="list-style-type: none"> • Oil & Grease, Trash & Debris
Environmentally Sensitive and Special Biological Significant Areas	The project is not within, adjacent to, nor discharges directly to an ESA.

III.4 Proposed Project

Description of Proposed Project				
Project Area (ft ²): 256,217	Number of Dwelling Units: <u>37</u>		SIC Code: <u>NONE</u>	
Narrative Project Description: (Use as much space as necessary.)	<p>Located at the easterly end of Simon Ranch Road near the intersection with Pavilion Drive, in the Unincorporated Territory of the County of Orange, CA. The project is a one lot residential condominium subdivision that includes construction of 37 single family condominium units. There will be 17 duplex buildings and 3 single unit buildings with a combined footprint of approximately 72,810 s.f.</p> <p>The work will include demolition of the existing tennis club, including parking lots, clubhouse, tennis courts and appurtenances; grading of the site for building pads and private streets; and construction of on-site utilities, storm drains, private streets and residences.</p> <p>There will be some minor improvements constructed in Simon Ranch Road and Pavillion Drive to extend the utilities into the site.</p> <p>The new impervious surfaces will include approximately 72,810 sf of building footprints, 3700 s.f. of private patios/walkways, 10,700 s.f. of private driveways, 51,700 s.f. of common driveway/street, 8,500 sf of sidewalk, and 5,560 sf of rec. area. There will be approximately 103,247 sf of typical residential landscaping. There will be some minor trenching constructed in the adjoining streets to extend the utilities to the site.</p>			
	Pervious		Impervious	
	Area (acres or sq ft)	Percentage	Area (acres or sq ft)	Percentage
	Pre-Project Conditions	83,417 SF 32.6%	172,800 SF 67.4%	
Post-Project Conditions	103,247 SF 40.3%	152,970 SF 59.7%		

Section IV Best Management Practices (BMPs)

IV. 1 Project Performance Criteria

Describe project performance criteria. Several steps must be followed to determine what performance criteria will apply to a project. These steps include:

- If the project has an approved WIHMP or equivalent, then any watershed specific criteria must be used and the project can evaluate participation in the approved regional or sub-regional opportunities. (Please ask your assigned planner or plan checker regarding whether your project is part of an approved WIHMP or equivalent.)
- Determine applicable hydromodification control performance criteria. *Refer to Section 7.II-2.4.2.2 of the Model WQMP.*
- Determine applicable LID performance criteria. *Refer to Section 7.II-2.4.3 of the Model WQMP.*
- Determine applicable treatment control BMP performance criteria. *Refer to Section 7.II-3.2.2 of the Model WQMP.*
- Calculate the LID design storm capture volume for the project. *Refer to Section 7.II-2.4.3 of the Model WQMP.*

(NOC Permit Area only) Is there an approved WIHMP or equivalent for the project area that includes more stringent LID feasibility criteria or if there are opportunities identified for implementing LID on regional or sub-regional basis?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
If yes, describe WIHMP feasibility criteria or regional/sub-regional LID opportunities.		

Project Performance Criteria	
<p>If HCOC exists, list applicable hydromodification control performance criteria (Section 7.II-2.4.2.2 in MWQMP)</p>	<p>If a hydrologic condition of concern (HCOC) exists, priority projects shall implement onsite or regional hydromodification controls such that:</p> <ul style="list-style-type: none"> • Post-development runoff volume for the two-year frequency storm does not exceed that of the predevelopment condition by more than five percent, and • Time of concentration of post-development runoff for the two-year storm event is not less than that for the predevelopment condition by more than five percent.
<p>List applicable LID performance criteria (Section 7.II-2.4.3 from MWQMP)</p>	<p>LID BMPs must be designed to retain, on-site, (infiltrate, harvest and use, or evapotranspire) stormwater runoff up to 80 percent average annual capture efficiency.</p> <p>LID BMPs must be designed to:</p> <ul style="list-style-type: none"> • Retain, on-site, (infiltrate, harvest and use, or evapotranspire) stormwater runoff as feasible up to the Design Capture Volume, and to Recover (i.e., draw down) the storage volume as soon as possible after a storm event (see criteria for maximizing drawdown rate in the TGD Appendix XI), and, if necessary • Bio-treat, on-site, additional runoff, as feasible, up to 80 percent average annual capture efficiency (cumulative, retention plus bio-treatment), and, if necessary • NOC Permit Area only – retain or bio-treat, in a regional facility, the remaining runoff up to 80 percent average annual capture efficiency (cumulative, retention plus bio-treatment, on-site plus off-site), and, if necessary • Fulfill alternative compliance obligations for runoff volume not retained or bio-treated up to 80 percent average annual capture efficiency using treatment controls or other alternative approaches as described in Section 7.II-3.
<p>List applicable treatment control BMP performance criteria (Section 7.II-3.2.2 from MWQMP)</p>	<p>If it is not feasible to meet LID performance criteria through retention and/or bio-treatment provided on-site or at a sub-regional/regional scale, then treatment control BMPs shall be provided on-site or offsite prior to discharge to waters of the US. Sizing of treatment control BMP(s) shall be based on either the unmet volume after claiming applicable water quality credits, if appropriate (See Section 7.II-3.1 Water Quality Credits) and as calculated in TGD Appendix VI. If treatment control BMPs can treat all of the remaining unmet volume and have a medium to high effectiveness for reducing the primary POCs, the project is considered to be in compliance; a waiver application and participation in an alternative program is not required.</p>
<p>Calculate LID design storm capture volume for Project.</p>	<p>Site Area = 256,217 sf Impervious Area = 152,970 sf % imp.= 59.7% $C = 0.75(0.597) + 0.15 = 0.60$ $d = 0.75''$ $DCV = C \times d \times A \times 1/12 \text{ in/ft} = 9573 \text{ cf}$</p>

IV.2. Site Design and Drainage

Describe site design and drainage including

- A narrative of site design practices utilized or rationale for not using practices;
- A narrative of how site is designed to allow BMPs to be incorporated to the MEP
- A table of DMA characteristics and list of LID BMPs proposed in each DMA.
- Reference to the WQMP “BMP Exhibit.”
- Calculation of Design Capture Volume (DCV) for each drainage area.
- A listing of GIS coordinates for LID and Treatment Control BMPs (unless not required by local jurisdiction).

Refer to Section 2.4.2 in the Technical Guidance Document (TGD).

The site design practices utilized on the project include the following:

Minimize Impervious Area:

Impervious areas are minimized by the use of multi-story residences and minimum street widths, including limiting sidewalk widths and locations to one side of the street in most places.

Maximize Natural Infiltration Capacity:

The project will reduce the amount of impervious surface on the site from 67.4% to 59.7%. Over 10% reduction in impervious surface area allowing more opportunity for surface infiltration.

Disconnect Impervious Areas:

Stormwater runoff from the roofs of the proposed residences will be directed to landscaped areas where feasible.

Protect existing vegetation or sensitive areas:

The site has been previously graded and developed. There are no areas of significant existing native vegetation or sensitive areas on site.

Re-vegetate Disturbed Areas:

The disturbed areas will be planted with ground cover and a combination of native or drought tolerant plants and trees with a water efficient irrigation system.

IV.2.1 Individual DMA DCV Calculations:

Drainage Area	Area (SF) (a)	Imperv. Area (SF) (b)	Imperv. Fraction ¹ (c)	C ² (d)	d (in.)	DCV ³ (CF) (e)
DMA-1	256,217	152,970	59.7%	0.60	0.75	9,573

¹Imperv. Fraction = (b)/(a)

²C= 0.75(c)+0.15

³DCV= (d) × d × (a) × 1/12 in/ft

IV.3 LID BMP Selection and Project Conformance Analysis

Each sub-section below documents that the proposed design features conform to the applicable project performance criteria via check boxes, tables, calculations, narratives, and/or references to worksheets. Refer to Section 2.4.2.3 in the Technical Guidance Document (TGD) for selecting LID BMPs and Section 2.4.3 in the Technical Guidance Document (TGD) for conducting conformance analysis with project performance criteria.

IV.3.1 Hydrologic Source Controls (HSCs)

If required HSCs are included, fill out applicable check box forms. If the retention criteria are otherwise met with other LID BMPs, include a statement indicating HSCs not required.

Name	Included?
Localized on-lot infiltration	<input checked="" type="checkbox"/>
Impervious area dispersion (e.g. roof top disconnection)	<input type="checkbox"/>
Street trees (canopy interception)	<input checked="" type="checkbox"/>
Residential rain barrels (not actively managed)	<input type="checkbox"/>
Green roofs/Brown roofs	<input type="checkbox"/>
Blue roofs	<input type="checkbox"/>
Impervious area reduction (e.g. permeable pavers, site design)	<input type="checkbox"/>
Other:	<input type="checkbox"/>

Table 6.7: Fraction of Average Long Term Runoff Reduced (Capture Efficiency) by HSCs

Cumulative HSC Adjustment to Design Capture Storm Depth (d_{hsc})	Capture Efficiency Achieved Lowland Regions (<1,000 ft)	Capture Efficiency Achieved Mountainous Regions (>1,000 ft)
<0.05	0	0%
0.05"	8%	7%
0.1"	20%	16%
0.2"	37%	31%
0.3"	48%	42%
0.4"	57%	50%
0.5"	64%	57%
0.6"	70%	63%
0.7"	75%	68%
0.8"	80%	72%
0.9"	80%	76%
1.0"	80%	80%

IV.3.2 Infiltration BMPs

Identify infiltration BMPs to be used in project. If design volume cannot be met, state why.

Name	Included?
Bioretention without underdrains	<input type="checkbox"/>
Rain gardens	<input type="checkbox"/>
Porous landscaping	<input type="checkbox"/>
Infiltration planters	<input type="checkbox"/>
Retention swales	<input type="checkbox"/>
Infiltration trenches	<input checked="" type="checkbox"/>
Infiltration basins	<input type="checkbox"/>
Drywells	<input type="checkbox"/>
Subsurface infiltration galleries	<input type="checkbox"/>
French drains	<input type="checkbox"/>
Permeable asphalt	<input type="checkbox"/>
Permeable concrete	<input type="checkbox"/>
Permeable concrete pavers	<input type="checkbox"/>
Other:	<input type="checkbox"/>
Other:	<input type="checkbox"/>

Show calculations below to demonstrate if the LID Design Storm Capture Volume can be met with infiltration BMPs. If not, document how much can be met with infiltration and document why it is not feasible to meet the full volume with infiltration BMPs.

See following pages.

Worksheet H: Factor of Safety and Design Infiltration Rate and Worksheet

Factor Category		Factor Description	Assigned Weight (w)	Factor Value (v)	Product (p) $p = w \times v$
A	Suitability Assessment	Soil assessment methods	0.25	1	0.25
		Predominant soil texture	0.25	1	0.25
		Site soil variability	0.25	1	0.25
		Depth to groundwater / impervious layer	0.25	1	0.25
		Suitability Assessment Safety Factor, $S_A = \Sigma p$			
B	Design	Tributary area size	0.25	2	0.50
		Level of pretreatment/ expected sediment loads	0.25	1	0.25
		Redundancy	0.25	3	0.75
		Compaction during construction	0.25	2	0.50
		Design Safety Factor, $S_B = \Sigma p$			
Combined Safety Factor, $S_{TOT} = S_A \times S_B$				2.0	
Measured Infiltration Rate, inch/hr, K_M (corrected for test-specific bias)				1.2	
Design Infiltration Rate, in/hr, $K_{DESIGN} = K_M / S_{TOT}$				0.6	
Supporting Data					
<p>Briefly describe infiltration test and provide reference to test forms: Infiltration rate is based infiltration tests per the TGD. Measured Soils infiltration rate per Soils Engineer = 1.2 in/hr. Infiltration rate is based on field tests- Low Concern Soils are predominantly sands and silts at infiltration depth - Low Concern Site soil is relatively homogenous based on borings - Low Concern Groundwater was not encountered in any borings. - Low Concern Tributary size is small, <10 acres - Low Concern Good pretreatment by catch basin filter prior to infiltration - Med Concern Treatment train is not redundant - High Concern Infiltration layer is in private street area, there is a probability of unintended/indirect compaction - Medium Concern</p>					

DMA-1

Area drains to BMP-1, an 80 ft x 42 ft infiltration trench.

Worksheet B: Simple Design Capture Volume Sizing Method

Step 1: Determine the design capture storm depth used for calculating volume				
1	Enter design capture storm depth, d (inches)	$d=$	0.75	inches
2	Enter the effect of provided HSCs, d_{HSC} (inches) (Worksheet A)	$d_{HSC}=$	0.121	inches
3	Calculate the remainder of the design capture storm depth, $d_{remainder}$ (inches) (Line 1 - Line 2)	$d_{remainder}=$	0.63	inches
Step 2: Calculate the DCV				
1	Enter Project area tributary to BMP (s), A (acres)	$A=$	5.882	acres
2	Enter Project Imperviousness, imp (unitless)	$imp=$	0.597	
3	Calculate runoff coefficient, $C= (0.75 \times imp) + 0.15$	$C=$	0.598	
4	Calculate runoff volume, $V_{design}= (C \times d_{remainder} \times A \times 43560 \times (1/12))$	$V_{design}=$	8,044	cu-ft
Step 3: Design BMPs to ensure full retention of the DCV				
<i>Step 3a: Determine design infiltration rate</i>				
1	Enter measured infiltration rate, $K_{measured}$ (in/hr)	$K_{measured}=$	1.2	In/hr
2	Enter combined safety factor from Worksheet H , S_{final} (unitless)	$S_{final}=$	2.0	
3	Calculate design infiltration rate, $K_{design} = K_{measured} \times S_{final}$	$K_{design}=$	0.6	In/hr
<i>Step 3b: Determine minimum BMP footprint</i>				
4	Enter drawdown time, T (max 48 hours)	$T=$	48	Hours
5	Calculate max retention depth that can be drawn down within the drawdown time (feet), $D_{max} = K_{design} \times T \times (1/12)$	$D_{max}=$	2.4	feet
6	Calculate minimum area required for BMP (sq-ft), $A_{min} = V_{design} / d_{max}$	$A_{min}=$	3,352	sq-ft

Infiltration Trench is 3360 s.f. with 6' of gravel and 5@74'x24" dia perf. Pipes.

Volume of pipes = $5 \times 3.14 \text{ sf} \times 74' = 1162 \text{ cf}$

Volume of Gravel = $3360 \text{ sf} \times 6' - 1162 \text{ cf} = 18998 \text{ cf}$

Gravel Storage Volume = $18998 \times 0.35 = 6649 \text{ cf}$

Total Storage Volume = $6649 \text{ cf} + 1162 \text{ cf} = 7811 \text{ cf}$

Effective Depth = $7811 \text{ cf} / 3360 \text{ sf} = 2.32' < 2.4' \checkmark \text{OK}$

Treatment Volume = 7811 cf

Check if Unmet Volume can be supplied by Credit for reducing impervious area in Section IV.4.2.

IV.3.3 Evapotranspiration, Rainwater Harvesting BMPs

If the full Design Storm Capture Volume cannot be met with infiltration BMPs, describe any evapotranspiration and/or rainwater harvesting BMPs included.

Name	Included?
All HSCs; <i>See Section IV.3.1</i>	<input type="checkbox"/>
Surface-based infiltration BMPs	<input type="checkbox"/>
Biotreatment BMPs	<input type="checkbox"/>
Above-ground cisterns and basins	<input type="checkbox"/>
Underground detention	<input type="checkbox"/>
Other:	<input type="checkbox"/>

Show calculations below to demonstrate if the LID Design Storm Capture Volume can be met with evapotranspiration and/or rainwater harvesting BMPs in combination with infiltration BMPs. If not, document below how much can be met with either infiltration BMPs, evapotranspiration, rainwater harvesting BMPs, or a combination, and document why it is not feasible to meet the full volume with these BMP categories.

The DCV for the site is being met with infiltration BMPs.

IV.3.4 Biotreatment BMPs

If the full Design Storm Capture Volume cannot be met with infiltration BMPs, and/or evapotranspiration and rainwater harvesting BMPs, describe biotreatment BMPs included. Include sections for selection, suitability, sizing, and infeasibility, as applicable.

Name	Included?
Bioretention with underdrains	<input type="checkbox"/>
Stormwater planter boxes with underdrains	<input type="checkbox"/>
Rain gardens with underdrains	<input type="checkbox"/>
Constructed wetlands	<input type="checkbox"/>
Vegetated swales	<input type="checkbox"/>
Vegetated filter strips	<input type="checkbox"/>
Proprietary vegetated biotreatment systems	<input type="checkbox"/>
Wet extended detention basin	<input type="checkbox"/>
Dry extended detention basins	<input type="checkbox"/>
Other:	<input type="checkbox"/>
Other:	<input type="checkbox"/>

Show calculations below to demonstrate if the LID Design Storm Capture Volume can be met with infiltration, evapotranspiration, rainwater harvesting and/or biotreatment BMPs. If not, document how much can be met with either infiltration BMPs, evapotranspiration, rainwater harvesting BMPs, or a combination, and document why it is not feasible to meet the full volume with these BMP categories.

The DCV for the site is being met with infiltration BMPs.

IV.3.5 Hydromodification Control BMPs

Describe hydromodification control BMPs. *See Section 5 of the Technical Guidance Document (TGD).* Include sections for selection, suitability, sizing, and infeasibility, as applicable. Detail compliance with Prior Conditions of Approval (if applicable).

Even though the channels downstream of the project are susceptible to erosion, the project does not have an HCOB because the after development stormwater runoff volume will be less than the existing condition. This is due in large part to the significant decrease in the amount of impervious area on the site after development. WinTR-55 software was used to determine the peak runoff rate and total runoff volume for a 2-year storm event. The printouts from the program are included in Attachment D. The results are as follows:

DESCRIPTION	Tc (min)	2-year peak flow (cfs)	2-year runoff (cf)	Percent Change in Runoff Volume
A-1: Pre-developed Site	7.92	4.87	24,162 ^A	-
B-1: Post-developed site	10.01	3.87	21,366 ^B	-11.6%

^A(1.132")(5.88 ac)(43560 ft/ac)(1'/12")
^B(1.001")(5.88 ac)(43560 ft/ac)(1'/12")

The runoff volume decreases by over 11 percent, therefore the project does not have an HCOC.

Per Section 7.II-2.4.2.1 of the Model Water Quality Management Plan:
 "A project does not have an HCOC if either of the following conditions is met:

- The volumes and time of concentration of stormwater runoff for the post-development condition do not significantly exceed those of the predevelopment condition for a two-year frequency storm event (a difference of five percent or less is considered insignificant).

IV.3.6 Regional/Sub-Regional LID BMPs

Describe regional/sub-regional LID BMPs in which the project will participate. Refer to Section 7.II-2.4.3.2 of the Model WQMP.

Regional/Sub-Regional LID BMPs
None

IV.3.7 Treatment Control BMPs

Treatment control BMPs can only be considered if the project conformance analysis indicates that it is not feasible to retain the full design capture volume with LID BMPs. Describe treatment control BMPs including sections for selection, sizing, and infeasibility, as applicable.

The DCV for the site is being met with infiltration BMPs.

IV.3.8 Non-structural Source Control BMPs

Fill out non-structural source control check box forms or provide a brief narrative explaining if non-structural source controls were not used.

Non-Structural Source Control BMPs				
Identifier	Name	Check One		If not applicable, state brief reason
		Included	Not Applicable	
N1	Education for Property Owners, Tenants and Occupants	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N2	Activity Restrictions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N3	Common Area Landscape Management	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N4	BMP Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N5	Title 22 CCR Compliance (How development will comply)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Residential development.
N6	Local Industrial Permit Compliance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Residential development
N7	Spill Contingency Plan	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Residential development
N8	Underground Storage Tank Compliance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Residential development
N9	Hazardous Materials Disclosure Compliance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Residential development
N10	Uniform Fire Code Implementation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Residential development
N11	Common Area Litter Control	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N12	Employee Training	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Residential development
N13	Housekeeping of Loading Docks	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No loading docks.
N14	Common Area Catch Basin Inspection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N15	Street Sweeping Private Streets and Parking Lots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N16	Retail Gasoline Outlets	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Residential development

Non-Structural BMP Implementation			
BMP	Reponsible Party(s)	Inspection/ Maintenance Activities Required	Minimum Frequency of Activities
Education for Property Owners	Developer	The developer shall provide a copy of the WQMP and practical information and materials to the first residents on general housekeeping practices that contribute to the protection of stormwater quality.	At the time of sale of the units.

IV.3.9 Structural Source Control BMPs

Fill out structural source control check box forms or provide a brief narrative explaining if structural source controls were not used.

Structural Source Control BMPs				
Identifier	Name	Check One		If not applicable, state brief reason
		Included	Not Applicable	
S1	Provide storm drain system stenciling and signage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
S2	Design and construct outdoor material storage areas to reduce pollution introduction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No outdoor material storage areas.
S3	Design and construct trash and waste storage areas to reduce pollution introduction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Trash storage on individual lots inside garage.
S4	Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
S5	Protect slopes and channels and provide energy dissipation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Incorporate requirements applicable to individual priority project categories (from SDRWQCB NPDES Permit)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	None apply to residential development.
S6	Dock areas	<input type="checkbox"/>	<input type="checkbox"/>	
S7	Maintenance bays	<input type="checkbox"/>	<input type="checkbox"/>	
S8	Vehicle wash areas	<input type="checkbox"/>	<input type="checkbox"/>	
S9	Outdoor processing areas	<input type="checkbox"/>	<input type="checkbox"/>	
S10	Equipment wash areas	<input type="checkbox"/>	<input type="checkbox"/>	
S11	Fueling areas	<input type="checkbox"/>	<input type="checkbox"/>	
S12	Hillside landscaping	<input type="checkbox"/>	<input type="checkbox"/>	
S13	Wash water control for food preparation areas	<input type="checkbox"/>	<input type="checkbox"/>	
S14	Community car wash racks	<input type="checkbox"/>	<input type="checkbox"/>	

IV.4 Alternative Compliance Plan (If Applicable)

Describe an alternative compliance plan (if applicable). Include alternative compliance obligations (i.e., gallons, pounds) and describe proposed alternative compliance measures. Refer to Section 7.II 3.0 in the WQMP.

Not applicable on this project.

IV.4.1 Water Quality Credits

Determine if water quality credits are applicable for the project. Refer to Section 3.1 of the Model WQMP for description of credits and Appendix VI of the Technical Guidance Document (TGD) for calculation methods for applying water quality credits.

Description of Proposed Project				
Project Types that Qualify for Water Quality Credits (Select all that apply):				
<input checked="" type="checkbox"/> Redevelopment projects that reduce the overall impervious footprint of the project site.	<input type="checkbox"/> Brownfield redevelopment, meaning redevelopment, expansion, or reuse of real property which may be complicated by the presence or potential presence of hazardous substances, pollutants or contaminants, and which have the potential to contribute to adverse ground or surface WQ if not redeveloped.	<input type="checkbox"/> Higher density development projects which include two distinct categories (credits can only be taken for one category): those with more than seven units per acre of development (lower credit allowance); vertical density developments, for example, those with a Floor to Area Ratio (FAR) of 2 or those having more than 18 units per acre (greater credit allowance).		
<input type="checkbox"/> Mixed use development, such as a combination of residential, commercial, industrial, office, institutional, or other land uses which incorporate design principles that can demonstrate environmental benefits that would not be realized through single use projects (e.g. reduced vehicle trip traffic with the potential to reduce sources of water or air pollution).		<input type="checkbox"/> Transit-oriented developments, such as a mixed use residential or commercial area designed to maximize access to public transportation; similar to above criterion, but where the development center is within one half mile of a mass transit center (e.g. bus, rail, light rail or commuter train station). Such projects would not be able to take credit for both categories, but may have greater credit assigned		<input type="checkbox"/> Redevelopment projects in an established historic district, historic preservation area, or similar significant city area including core City Center areas (to be defined through mapping).
<input type="checkbox"/> Developments with dedication of undeveloped portions to parks, preservation areas and other pervious uses.	<input type="checkbox"/> Developments in a city center area.	<input type="checkbox"/> Developments in historic districts or historic preservation areas.	<input type="checkbox"/> Live-work developments, a variety of developments designed to support residential and vocational needs together – similar to criteria to mixed use development; would not be able to take credit for both categories.	<input type="checkbox"/> In-fill projects, the conversion of empty lots and other underused spaces into more beneficially used spaces, such as residential or commercial areas.

<p>Calculation of Water Quality Credits (if applicable)</p>	<p><u>Post-Project DCV</u> Site Area = 256,217 sf Impervious Area = 152,970 sf % imp.= 59.7% $C = 0.75(0.597) + 0.15 = 0.578$ $d = 0.75''$ $DCV = C \times d \times A \times 1/12 \text{ in/ft} = 9256 \text{ cf}$</p> <p><u>Pre-Project DCV</u> Site Area = 256,217 sf Impervious Area = 172800 sf % imp.= 67.4% $C = 0.75(0.674) + 0.15 = 0.656$ $d = 0.75''$ $DCV = C \times d \times A \times 1/12 \text{ in/ft} = 10505 \text{ cf.}$</p> <p>Credit = $10505 - 9256 = 1,249 \text{ cf}$</p>
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IV.4.2 Alternative Compliance Plan Information

Describe an alternative compliance plan (if applicable). Include alternative compliance obligations (i.e., gallons, pounds) and describe proposed alternative compliance measures. Refer to Section 7.II 3.0 in the Model WQMP.

Worksheet C: Determining Capture Efficiency of Volume Based, Constant Drawdown BMP based on Design Volume

Step 1: Determine the design capture storm depth used for calculating volume				
1	Enter design capture storm depth from, d (inches)	$d=$	0.75	inches
2	Enter the storage volume provided in the BMP, V (cu-ft)	$V=$	7811	cu-ft
3	Enter Project area tributary to BMP (s), A (acres)	$A=$	5.882	acres
4	Enter Project Imperviousness, imp (unitless)	$imp=$	0.597	
5	Calculate runoff coefficient, $C = (0.75 \times imp) + 0.15$	$C=$	0.598	
6	Calculate the effective design storm depth provided (inches), $d_{provided} = (V \times 12) / (C \times A \times 43560)$	$d_{provided}=$	0.61	inches
7	Calculate the design storm depth as a fraction of the design capture depth, $X_{fraction} = d_{provided} / d$	$X_{fraction}=$	0.82	
Step 2: Calculate the capture efficiency of the BMP system				
1	Determine the drawdown time of the proposed BMP based on equations provided in the applicable BMP Fact Sheet, T (hours)	$T=$	48	hours
2	Enter the effect of provided HSCs upstream, d_{HSC} (inches) Worksheet A	$d_{HSC}=$	0.121	inches
3	Enter capture efficiency corresponding to d_{HSC} from Table 6.7 (regionally based), Y_1 Worksheet A	$Y_1=$	23	%
4	Using the graph, determine the fraction of "design capture storm depth" at which the drawdown time (T) achieves the upstream capture efficiency(Y_1), X_1	$X_1=$	0.13	
5	Determine the fraction of design capture storm depth corresponding to the cumulative capture efficiency, $X_2 = X_1 + X_{fraction}$	$X_2=$	0.95	
6	Using the graph, determine the capture efficiency corresponding to total fraction of design storm depth (X_2) for drawdown time (T), Y_2	$Y_2=$	78	%
Supporting Calculations				

Worksheet C: Determining Capture Efficiency of Volume Based, Constant Drawdown BMP based on Design Volume

Describe system:

The system is an 80 ft x 42 ft infiltration trench. Trench storage volume = 7811 cf.

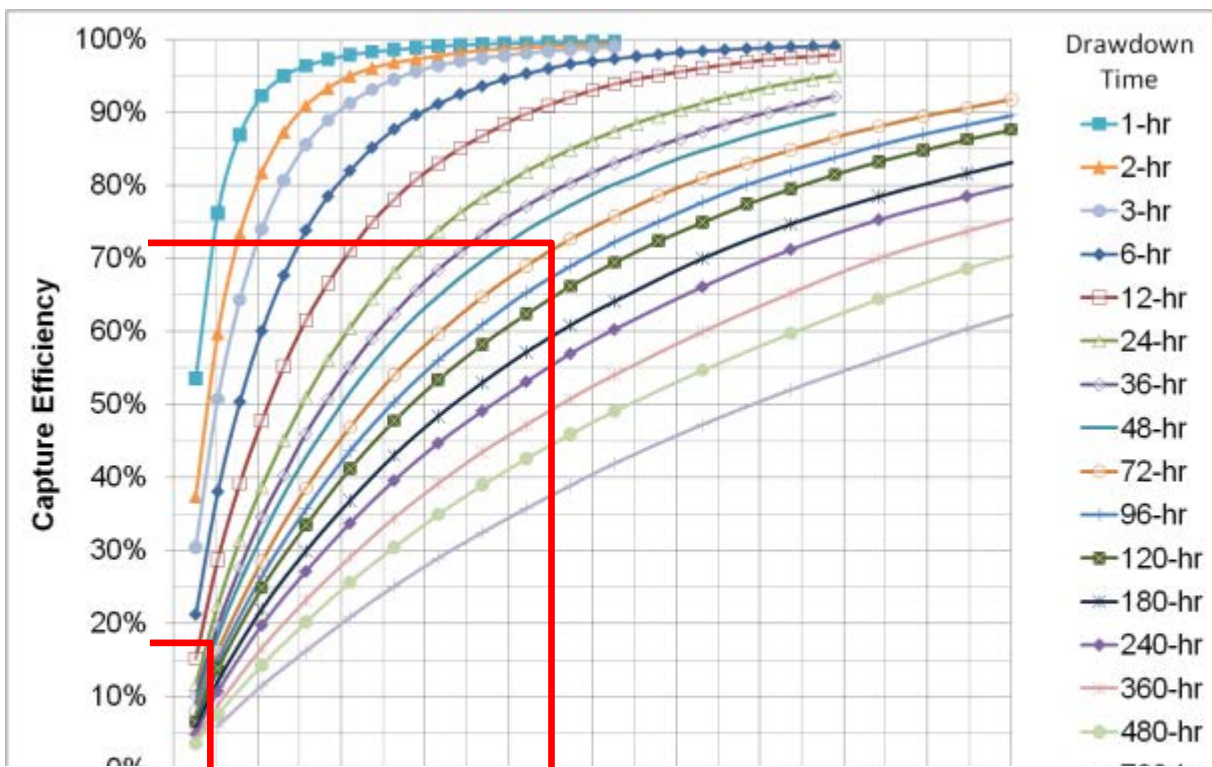
Provide drawdown calculations per equations in applicable BMP Fact Sheet:

The effective depth of BMP-1 is 2.32’.

The design infiltration rate is 0.6 in/hr.

The drawdown time is: $2.32' \times 12''/1' / (0.6''/\text{hr}) = 46 \text{ hrs}$, use 48 hrs

Graphical Operations



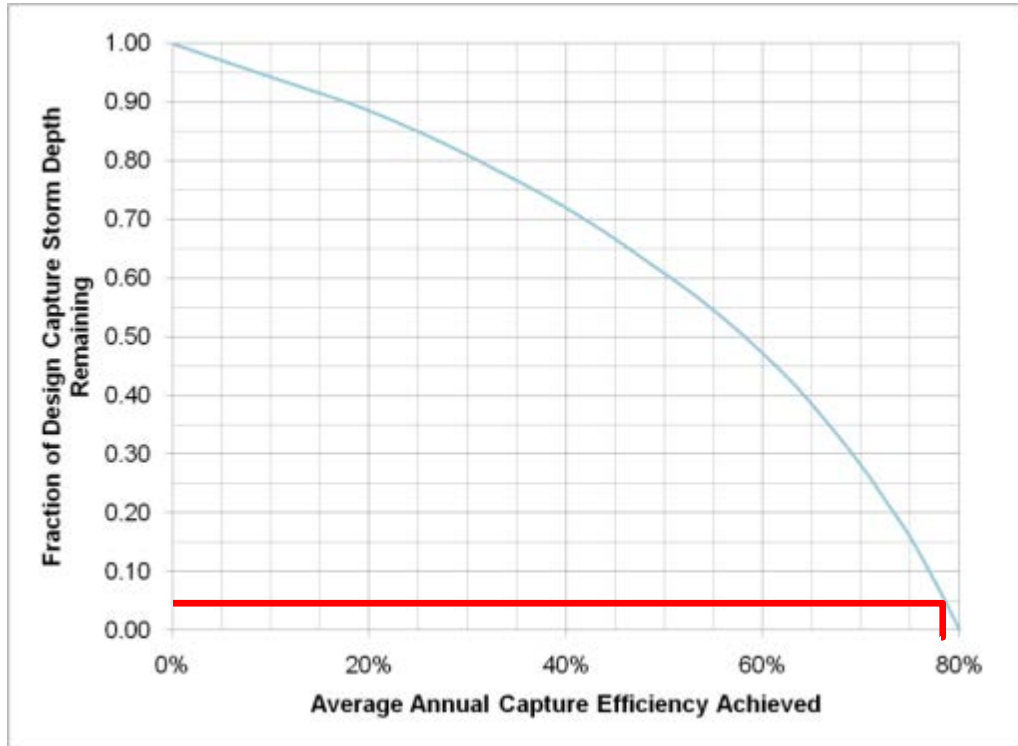
Worksheet D: Alternative Compliance Volume Worksheet

Step 1: Determine the alternative compliance volume without water quality credits				
1	Determine the capture efficiency achieved in upstream BMPs , X_1 (%)	$X_1 =$	78	%
2	Enter design capture storm depth, d (inches)	$d =$	0.75	inches
3	Using figure V1.1, pivot from where X_1 intersects the curve to determine the fraction of design capture storm depth remaining to be met, Y_1	$Y_1 =$	0.05	
4	Calculate the design depth that must be managed in alternative compliance BMPs, $d_{alternative} = Y_1 \times d$	$d_{alternative} =$	0.04	inches
5	Compute the alternative compliance volume corresponding to $d_{alternative}$, ACV (cu-ft)	ACV =	511	cu-ft
Step 2: Determine Credit Volume				
Method 1: Determine Credit Volume based on Reducing Impervious Footprint				
1	Enter design capture storm depth, d (inches)	$d =$	0.75	inches
2	Using d , calculate the DCV using the pre-project imperviousness, DCV_{pre} (cu-ft).	$DCV_{pre} =$	10505	cu-ft
3	Using d , calculate the DCV using the proposed imperviousness and the methods described in Error! Reference source not found. , DCV_{post} (cu-ft).	$DCV_{post} =$	9256	cu-ft
4	Calculate the <i>Credit Volume</i> = $DCV_{pre} - DCV_{post}$ (cu-ft).	Credit Volume =	1249	cu-ft
Method 2: Determine Credit Volume based on Project Type and Density				
1	Determine the sum of the Credit Percentages applicable to the Project, \sum Credit Percentages (%). (See Section 2.4 of the WQMP)	\sum Credit Percentages =	N/A	%
2	Enter design capture storm depth, d (inches)	$d =$		inches
3	Using d , calculate the DCV using the proposed imperviousness without BMPs and the methods described, $DCV_{post\ no\ BMP}$ (cu-ft).	$DCV_{post\ no\ BMP} =$		cu-ft
4	Calculate the <i>Credit Volume</i> = $DCV_{post\ no\ BMP} \times \sum$ Credit Percentages	Credit Volume =		cu-ft
Step 3: Determine the Alternative Compliance Volume after WQ Credits				
1	Enter design capture storm depth from Error! Reference source not found. , d (inches)	$d =$	N/A	inches
2	Using d , calculate the DCV using the proposed imperviousness and the methods described in Error! Reference source not found. , DCV_{post} (cu-ft).	$DCV_{post} =$		cu-ft
3	Calculate the alternative compliance volume,	ACV =		cu-ft

Worksheet D: Alternative Compliance Volume Worksheet

$ACV = DCV_{post} - Credit\ Volume$			
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Figure VI.1: Lookup Graph for Fraction of Design Capture Storm Depth Remaining



Credit Volume = 1249 cf > Alternate Compliance Volume = 511 ✓OK

Section V Inspection/Maintenance Responsibility for BMPs

Fill out information in table below. Prepare and attach an Operation and Maintenance Plan. Identify the funding mechanism through which BMPs will be maintained. Inspection and maintenance records must be kept for a minimum of five years for inspection by the regulatory agencies. *Refer to Section 7.II 4.0 in the Model WQMP.*

The developer shall be responsible for the implementation and initial maintenance of the BMPs.

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After the units are sold, the HOA shall be responsible for ongoing maintenance of the BMPs.

BMP Inspection/Maintenance			
BMP	Responsible Party(s)	Inspection/ Maintenance Activities Required	Minimum Frequency of Activities
BMP-1 Catch Basin Insert (Approx. Lat.:33.750800° Long.: -117.781677°)	HOA	Remove and properly dispose of accumulated sediment and debris. Inspect and repair any structural damage. Replace filter material per manufacturer's recommendations.	Quarterly
BMP-1 – Infiltration Trench (Approx. Lat.:33.750800° Long.: -117.781677°)	HOA	Check for standing water after storm events.	4 days after storm events.

See Operations & Maintenance Plan in Attachment A.

Section VI Site Plan and Drainage Plan

VI.1 BMP Exhibit (Site Plan)

Include a BMP Exhibit (Site Plan), at a size no less than 24” by 36,” which includes the following minimum information:

- Insert in the title block (lower right hand corner) of BMP Exhibit: the WQMP Number (assigned by staff) and the grading/building or Planning Application permit numbers
- Project location (address, tract/lot number(s), etc.)
- Site boundary
- Land uses and land covers, as applicable
- Suitability/feasibility constraints
- Structural BMP locations
- Drainage delineations and flow information
- Delineate the area being treated by each structural BMP
- GIS coordinates for LID and Treatment Control BMPs
- Drainage connections
- BMP details
- Preparer name and stamp

Please do not include any areas outside of the project area or any information not related to drainage or water quality. The approved BMP Exhibit (Site Plan) shall be submitted as a plan sheet on all grading and building plan sets submitted for plan check review and approval. The BMP Exhibit shall be at the same size as the rest of the plan sheets in the submittal and shall have an approval stamp and signature prior to plan check submittal.

See the attached 24”x36” WQMP Site Plan in the folder at the back of this report.

VI.2 Submittal and Recordation of Water Quality Management Plan

Following approval of the Final Project-Specific WQMP, three copies of the approved WQMP (including BMP Exhibit, Operations and Maintenance (O&M) Plan, and Appendices) shall be submitted. In addition, these documents shall be submitted in a PDF format. Each approved WQMP (including BMP Exhibit, Operations and Maintenance (O&M) Plan, and Appendices) shall be recorded in the Orange County Clerk-Recorder’s Office, prior to close-out of grading and/or building permit. Educational Materials are not required to be included.

Section VII Educational Materials

Refer to the Orange County Stormwater Program (ocwatersheds.com) for a library of materials available. Please only attach the educational materials specifically applicable to this project. Other materials specific to the project may be included as well and must be attached.

Education Materials			
Residential Material (http://www.ocwatersheds.com)	Check If Applicable	Business Material (http://www.ocwatersheds.com)	Check If Applicable
The Ocean Begins at Your Front Door	<input checked="" type="checkbox"/>	Tips for the Automotive Industry	<input type="checkbox"/>
Tips for Car Wash Fund-raisers	<input type="checkbox"/>	Tips for Using Concrete and Mortar	<input checked="" type="checkbox"/>
Tips for the Home Mechanic	<input checked="" type="checkbox"/>	Tips for the Food Service Industry	<input type="checkbox"/>
Homeowners Guide for Sustainable Water Use	<input checked="" type="checkbox"/>	Proper Maintenance Practices for Your Business	<input type="checkbox"/>
Household Tips	<input checked="" type="checkbox"/>	Other Material	Check If Attached
Proper Disposal of Household Hazardous Waste	<input checked="" type="checkbox"/>		
Recycle at Your Local Used Oil Collection Center (North County)	<input checked="" type="checkbox"/>	CASQA SD-10 Site Design & Landscape Planning	<input checked="" type="checkbox"/>
Recycle at Your Local Used Oil Collection Center (Central County)	<input type="checkbox"/>	CASQA SD-11 Roof Runoff Controls	<input checked="" type="checkbox"/>
Recycle at Your Local Used Oil Collection Center (South County)	<input type="checkbox"/>	CASQA SD-12 Efficient Irrigation	<input checked="" type="checkbox"/>
Tips for Maintaining a Septic Tank System	<input type="checkbox"/>	CASQA TC-32 Bioretention	<input checked="" type="checkbox"/>
Responsible Pest Control	<input checked="" type="checkbox"/>		<input type="checkbox"/>
Sewer Spill	<input type="checkbox"/>		<input type="checkbox"/>
Tips for the Home Improvement Projects	<input checked="" type="checkbox"/>		<input type="checkbox"/>
Tips for Horse Care	<input type="checkbox"/>		<input type="checkbox"/>
Tips for Landscaping and Gardening	<input checked="" type="checkbox"/>		<input type="checkbox"/>
Tips for Pet Care	<input checked="" type="checkbox"/>		<input type="checkbox"/>
Tips for Pool Maintenance	<input checked="" type="checkbox"/>		<input type="checkbox"/>
Tips for Residential Pool, Landscape and Hardscape Drains	<input checked="" type="checkbox"/>		<input type="checkbox"/>
Tips for Projects Using Paint	<input checked="" type="checkbox"/>		<input type="checkbox"/>

See Educational Materials in Attachment D.

Attachment A

OPERATION & MAINTENANCE PLAN

I. Inspection, Maintenance Log and Self-Verification Forms

Bio-infiltration are BMPs that have minimal maintenance responsibilities, and are typical for residential land uses. The proposed BMPs inherently "take care of themselves", or property owners can naturally be expected to do so as an incident of taking care of their property.)

The property owners/HOA will be responsible for maintenance of the BMPs and will provide annual documentation to the City verifying that the BMPs are maintained and functioning properly. The property owner is to use the "Private Treatment Control BMP Operation and Maintenance Verification Form" included at the back of this Attachment.

II. Updates, Revisions and Errata

This maintenance plan is a "living document" and must be kept up-to-date.

As such, this plan must be updated whenever changes or revisions are made in the parties responsible for operation and maintenance of the BMPs and/or it is determined that additional maintenance procedures are needed.

Any updates or revisions to the maintenance plan must accompany the annual inspection report when it is transmitted to the county.

III. Introduction

A. Narrative overview describing the site; drainage areas, routing, and discharge points; and treatment facilities.

The project site is approximately 0.75 acres located between Walnut Place and Esther Street approximately 90 feet southeasterly of Tustin Avenue, in the City of Costa Mesa, County of Orange, CA. The project is a residential subdivision that includes construction of 4 residences on 4 parcels.

The project includes three LID BMP's.

BMP 1:

An 80'x42' underground infiltration trench and inlet with catch basin inlet located at the downstream end of the on-site common driveway.

IV. Responsibility for Maintenance

A. General

(1) Name and contact information for responsible individual(s).

The HOA for the planned condominium units will be responsible for the maintenance of the Infiltration trench and inlet treating the flows from the proposed development. The HOA will be responsible for maintaining records, filing annual reports and ensuring that the required maintenance is performed.

The developer of the project will be responsible for the initial implementation of the BMP and the maintenance, until the HOA is formed. The developer contact party is:

Ranch Hill Partners LP.
2454 Alton Pkwy.
Irvine, California 92606
(949) 230-5426

(2) Maintenance Funding.

The funding for the annual maintenance of the BMP's will be provided by the condominium owners through the HOA dues.

B. Records

All records for the maintenance and operation of the BMPs will be kept by the HOA.

V. Summary of Drainage Areas and Stormwater Facilities

A. Drainage Areas

The WQMP Site Plan Exhibit from the WQMP shows the location of the BMPs. The exhibit also indicates the pervious and impervious areas which are draining into the BMPs.

VI. Facility Documentation

A. "As-built" drawings of the BMPs will be kept with the Maintenance Plan after the project is constructed.

VII. Maintenance Schedule or Matrix

Infiltration Trench Inspection and Maintenance Matrix	
Frequency	Maintenance Actions
After a rain event.	Check for standing water in the infiltration more than 3 days after the rain event.
Catch Basin Insert Inspection and Maintenance Matrix	
Frequency	Maintenance Actions
Quarterly.	Remove and properly dispose of accumulated sediment and debris. Inspect and repair any structural damage. Inspect and replace any damaged or dead vegetation.

**PRIVATE TREATMENT CONTROL BMP
OPERATION AND MAINTENANCE VERIFICATION FORM
Underground Infiltration**

Very little routine maintenance is needed for infiltration trenches. Fine sediment can collect in the bottom of the trench and eventually cause the water to stop infiltrating properly if the sediment filter in the catch basin is not properly maintained. Preventing erosion of soils upstream of the trench can greatly extend the life of the basin.

Bioretention BMPs Inspection and Maintenance Checklist	
Typical Maintenance Indicators	Typical Maintenance Actions
Standing water in the infiltration trench longer than 72 hours after a rainfall event has ended.	Trench gravel and filter blanket may have to be removed and replaced. Contact an engineer for solution to the issue.

Attachment B: Conditions of Approval

The conditions of approval for the approved Tentative Parcel Map will be included on the following pages when they become available.

Attachment C: Infiltration Test

Geocon West, Inc. prepared a soils report for the project and performed an infiltration test on the site. The report dated May 16, 2017 is included on the following pages.

GEOTECHNICAL INVESTIGATION

**PROPERTY TRANSACTION AND
PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA**



GEOCON
WEST, INC.

GEOTECHNICAL
ENVIRONMENTAL
MATERIALS

PREPARED FOR

**RANCH HILL PARTERS, LP
NEWPORT BEACH, CALIFORNIA**

**MAY 16, 2017
PROJECT NO. A9568-88-02**



Project No. A9568-88-02
May 16, 2017

Ranch Hill Partners, LP
124 Tustin Avenue, Suite 200
Newport Beach, California 92663

Attention: Mr. Peter Zehnder

Subject: GEOTECHNICAL INVESTIGATION
PROPERTY TRANSACTION AND
PROPOSED SINGLE-FAMILY RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

Dear Mr. Zehnder:

In accordance with your authorization, we have prepared this geotechnical investigation report for the pending property transaction and the proposed single-family residential tract development for the parcel designated as 11782 Simon Ranch Road within the City of Santa Ana, California. The accompanying report presents the findings of our study and our conclusions and recommendations pertaining to the geotechnical aspects of proposed design and construction. Based on the results of our investigation, it is our opinion that the site can be developed as proposed provided the recommendations of this report are followed and implemented during design and construction.

Geocon West Inc. is the Geotechnical Consultant of Record and will be providing the necessary geotechnical consultation, plan review, design recommendations, inspections, and testing services for this project.

If you have any questions regarding this report, or if we may be of further service, please contact the undersigned.

Very truly yours,

GEOCON WEST, INC.



Arnold Gastelum
PE 81553



Jelisa Thomas Adams
GE 3092



Susan F. Kirkgard
CEG 1754

(EMAIL) Addressee

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LIMITATIONS AND UNIFORMITY OF CONDITIONS

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- Figure 3, Regional Fault Map
- Figure 4, Regional Seismicity Map
- Figure 5, Fill Slope Detail
- Figures 6 and 7, Retaining Wall Drainage
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FIELD INVESTIGATION

Figures A1 through A5, Boring Logs

APPENDIX B

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GEOTECHNICAL INVESTIGATION

1. PURPOSE AND SCOPE

This report presents the results of a geotechnical investigation for the pending property transaction and proposed single-family residential tract development for the parcel designated as 11782 Simon Ranch Road within the City of Santa Ana, California (see Vicinity Map, Figure 1). The purpose of the investigation was to evaluate subsurface soil and geologic conditions underlying the site and, based on conditions encountered, to provide conclusions and recommendations pertaining to the geotechnical aspects of design and construction.

The scope of this investigation included a site reconnaissance, field exploration, laboratory testing, engineering analysis, and the preparation of this report. The site was explored on April 13, 2017, by excavating five 8-inch diameter borings to depths of approximately 18½ to 33½ feet below the existing ground surface utilizing a truck-mounted hollow-stem auger drilling machine. The approximate locations of the exploratory borings are depicted on the Site Plan (see Figure 2). A detailed discussion of the field investigation, including boring logs, is presented in Appendix A.

Laboratory tests were performed on selected soil samples obtained during the investigation to determine pertinent physical and chemical soil properties. Appendix B presents a summary of the laboratory test results.

The recommendations presented herein are based on analysis of the data obtained during the investigation and our experience with similar soil and geologic conditions. References reviewed to prepare this report are provided in the *List of References* section.

If project details vary significantly from those described herein, Geocon should be contacted to determine the necessity for review and possible revision of this report.

2. SITE AND PROJECT DESCRIPTION

The subject site is located at 11782 Simon Ranch Road within the City of Santa Ana, in the County of Orange, California. The site is an irregularly-shaped parcel and is currently occupied by three pads that step down from northwest to southeast. Existing site improvements include a paved parking lot, single-story clubhouse, swimming pool, twelve tennis courts, and lawn/patio/hardscape areas. The site is bounded by single-family residences to the northeast, northwest, southeast, and southwest. Current topographic relief is gently southeasterly sloping, accommodating a total elevation change of roughly 48 vertical feet (Elevation 227 to Elevation 275 feet above mean sea level [MSL]). Changes in elevation between pads are accommodated by retaining walls and 2:1 (H:V) slopes. Surface water drainage at the site appears to be by sheet flow along the existing ground contours to the city streets. Vegetation onsite consists of grass and trees, which are located in the lawn and planter areas.

Based on the information provided by the Client, it is our understanding that the proposed development will consist of 37 dwelling units comprised of 17 duplex buildings and 3 single unit buildings with internal streets and an openspace lot. We anticipate construction will consist of two-story wood-framed structures with conventional spread footings and slab-on-grade floors. The proposed slopes around the perimeter of the site and between the individual pads will be up to 15 feet in height and will be constructed at a gradient of 2:1 (horizontal to vertical). Due to the preliminary nature of the project, formal plans depicting the proposed development are not available for inclusion in this report. The existing site conditions are depicted on the Site Plan – Existing (see Figure 2A).

Based on the preliminary nature of the design at this time, wall and column loads were not available. It is anticipated that column loads for the proposed residential buildings will be up to 75 kips, and wall loads will be up to 2 kips per linear foot.

Once the design phase and foundation loading configuration proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Any changes in the design, location or elevation of any structure, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

3. GEOLOGIC SETTING

The site is located on a bedrock high along the eastern portion of the Coastal Plain of Orange County. The site is situated on the western flank of the foothills at the base of the Santa Ana Mountains north and west of Peters Canyon Wash. Published geologic maps indicate a northeasterly trending contact transects the site, separating early Miocene to late Eocene age bedrock on the northwest from alluvial deposits on the southeast. Based on a review of aerial photography the original grading of the site likely resulted in a wedge of artificial fill that thickens to the southeast overlying a former drainage channel.

4. SOIL AND GEOLOGIC CONDITIONS

Based on our field investigation and published geologic maps of the area, the site is underlain by artificial fill and Holocene age alluvial deposits underlain by early Miocene to late Eocene age sedimentary bedrock of the undifferentiated Vaqueros and Sespe Formations (Morton, 1999). Detailed stratigraphic profiles of the materials encountered at the site are provided on the boring logs in Appendix A.

4.1 Artificial Fill

Artificial fill was encountered in our field explorations to a maximum depth of 8 feet below existing ground surface. The artificial fill generally consists of dark brown to dark yellowish brown sandy silt. The artificial fill is characterized as slightly moist and soft to firm. The fill is likely the result of past grading or construction activities at the site. Deeper fill may exist between excavations and in other portions of the site that were not directly explored.

4.2 Alluvium

Holocene age alluvium was encountered beneath the fill in borings B2, B3, and B5. The fill consists primarily of sandy silt, clayey silt, silty sand and silt with sand. The soil is primarily yellowish brown to dark yellowish brown, slightly moist and medium dense to dense or stiff to hard.

4.3 Undifferentiated Vaqueros and Sespe Formations

The artificial fill and alluvium is underlain by sedimentary bedrock of the early Miocene age to late Eocene age undifferentiated Vaqueros and Sespe Formations (Morton, 1999). The bedrock was encountered in the borings at depths ranging from 5 to 23 feet beneath the existing ground surface and generally consist of yellowish brown, olive brown, and gray interbedded sandstone and siltstone. The bedrock is slightly moist and soft to moderately hard, unfractured to intensely fractured, and fresh to moderately weathered.

5. GROUNDWATER

The site is elevated above the local alluviated groundwater basin and is underlain by sedimentary bedrock units that are not considered water-bearing. Review of the Seismic Hazard Zone Report for the Orange Quadrangle (California Division of Mines and Geology [CDMG], 2001) indicates there is no available historic or current groundwater data for the site or the immediately surrounding area.

At the time of our field investigation, no evidence of near surface water, such as seeps, springs, or phreatophytes were observed at the site. Groundwater was not encountered in our field explorations, drilled to a maximum depth of 33½ feet below the existing ground surface. Based on the lack of groundwater in our borings and depth of proposed construction, groundwater is neither expected to be encountered during construction or impact foundation excavations or grading operations. However, it is not uncommon for groundwater levels to vary seasonally or for groundwater seepage conditions to develop where none previously existed, especially in impermeable fine-grained soils which are heavily irrigated or after seasonal rainfall. In addition, recent requirements for stormwater infiltration could result in shallower seepage conditions in the immediate site vicinity. Proper surface drainage of irrigation and precipitation will be critical for future performance of the project. Recommendations for drainage are provided in the *Surface Drainage* section of this report (see Section 7.17).

6. GEOLOGIC HAZARDS

6.1 Surface Fault Rupture

The numerous faults in Southern California include active, potentially active, and inactive faults. The criteria for these major groups are based on criteria developed by the California Geological Survey (CGS, formerly known as CDMG) for the Alquist-Priolo Earthquake Fault Zone Program (Bryant and Hart, 2007). By definition, an active fault is one that has had surface displacement within Holocene time (about the last 11,000 years). A potentially active fault has demonstrated surface displacement during Quaternary time (approximately the last 1.6 million years), but has had no known Holocene movement. Faults that have not moved in the last 1.6 million years are considered inactive.

The site is not within a state-designated Alquist-Priolo Earthquake Fault Zone (CGS, 2017) for surface fault rupture hazards. No active or potentially active faults with the potential for surface fault rupture are known to pass directly beneath the site. Therefore, the potential for surface rupture due to faulting occurring beneath the site during the design life of the proposed development is considered low. However, the site is located in the seismically active Southern California region, and could be subjected to moderate to strong ground shaking in the event of an earthquake on one of the many active Southern California faults. The faults in the vicinity of the site are shown in Figure 3, Regional Fault Map.

The closest surface trace of an active fault to the site is the Whittier Fault located approximately 10.5 miles to the northeast (Ziony and Jones, 1989). Other nearby active faults include the Elsinore Fault, the Newport-Inglewood Fault Zone, the Chino Fault, and the Central Avenue Fault located approximately 11.5 miles northeast, 12.0 miles southwest, 13.0 miles northeast, and 15.5 miles north-northeast of the site, respectively (Ziony and Jones, 1989). The active San Andreas Fault Zone is located approximately 39 miles northeast of the site.

The closest potentially active fault to the site is the Peralta Hills Fault located approximately 5.0 miles to the northwest (Ziony and Jones, 1989). Other nearby potentially active faults are the Pelican Hill Fault, the Norwalk Fault, and the Los Alamitos Fault located approximately 10.0 miles southwest, 13.5 miles northwest, and 17.5 miles northwest of the site, respectively (Ziony and Jones, 1989).

Several buried thrust faults, commonly referred to as blind thrusts, underlie the Los Angeles Basin (including the Orange County Coastal Plain) at depth. These faults are not exposed at the ground surface and are typically identified at depths greater than 3.0 kilometers. The October 1, 1987 M_w 5.9 Whittier Narrows earthquake and the January 17, 1994 M_w 6.7 Northridge earthquake were a result of movement on the Puente Hills Blind Thrust and the Northridge Thrust, respectively. These thrust faults and others in the greater Los Angeles area are not exposed at the surface and do not present a potential surface fault rupture hazard at the site; however, these deep thrust faults are considered active features capable of generating future earthquakes that could result in moderate to significant ground shaking at the site.

6.2 Seismicity

As with all of Southern California, the site has experienced historic earthquakes from various regional faults. The seismicity of the region surrounding the site was formulated based on research of an electronic database of earthquake data. The epicenters of recorded earthquakes with magnitudes equal to or greater than 5.0 in the site vicinity are depicted on Figure 4, Regional Seismicity Map. A partial list of moderate to major magnitude earthquakes that have occurred in the Southern California area within the last 100 years is included in the following table.

LIST OF HISTORIC EARTHQUAKES

Earthquake (Oldest to Youngest)	Date of Earthquake	Magnitude	Distance to Epicenter (Miles)	Direction to Epicenter
San Jacinto-Hemet area	April 21, 1918	6.8	45	E
Near Redlands	July 23, 1923	6.3	35	ENE
Long Beach	March 10, 1933	6.4	14	SW
Tehachapi	July 21, 1952	7.5	58	NW
San Fernando	February 9, 1971	6.6	27	NW
Whittier Narrows	October 1, 1987	5.9	37	NNW
Sierra Madre	June 28, 1991	5.8	83	ENE
Landers	June 28, 1992	7.3	63	ENE
Big Bear	June 28, 1992	6.4	54	NW
Northridge	January 17, 1994	6.7	104	ENE
Hector Mine	October 16, 1999	7.1	45	E

The site could be subjected to strong ground shaking in the event of an earthquake. However, this hazard is common in Southern California and the effects of ground shaking can be mitigated if the proposed structures are designed and constructed in conformance with current building codes and engineering practices.

6.3 Seismic Design Criteria

The following table summarizes site-specific design criteria obtained from the 2016 California Building Code (CBC; Based on the 2015 International Building Code [IBC] and ASCE 7-10), Chapter 16 Structural Design, Section 1613 Earthquake Loads. The data was calculated using the computer program *U.S. Seismic Design Maps*, provided by the USGS. The short spectral response uses a period of 0.2 second. We evaluated the Site Class based on the discussion in Section 1613.3.2 of the 2016 CBC and Table 20.3-1 of ASCE 7-10. The values presented below are for the risk-targeted maximum considered earthquake (MCE_R).

2016 CBC SEISMIC DESIGN PARAMETERS

Parameter	Value	2016 CBC Reference
Site Class	C	Section 1613.3.2
MCE_R Ground Motion Spectral Response Acceleration – Class B (short), S_S	1.504g	Figure 1613.3.1(1)
MCE_R Ground Motion Spectral Response Acceleration – Class B (1 sec), S_1	0.551g	Figure 1613.3.1(2)
Site Coefficient, F_A	1.0	Table 1613.3.3(1)
Site Coefficient, F_V	1.3	Table 1613.3.3(2)
Site Class Modified MCE_R Spectral Response Acceleration (short), S_{MS}	1.504g	Section 1613.3.3 (Eqn 16-37)
Site Class Modified MCE_R Spectral Response Acceleration – (1 sec), S_{M1}	0.716g	Section 1613.3.3 (Eqn 16-38)
5% Damped Design Spectral Response Acceleration (short), S_{DS}	1.003g	Section 1613.3.4 (Eqn 16-39)
5% Damped Design Spectral Response Acceleration (1 sec), S_{D1}	0.477g	Section 1613.3.4 (Eqn 16-40)

The table below presents the mapped maximum considered geometric mean (MCE_G) seismic design parameters for projects located in Seismic Design Categories of D through F in accordance with ASCE 7-10.

ASCE 7-10 PEAK GROUND ACCELERATION

Parameter	Value	ASCE 7-10 Reference
Mapped MCE_G Peak Ground Acceleration, PGA	0.537g	Figure 22-7
Site Coefficient, F_{PGA}	1.0	Table 11.8-1
Site Class Modified MCE_G Peak Ground Acceleration, PGA_M	0.537g	Section 11.8.3 (Eqn 11.8-1)

The Maximum Considered Earthquake Ground Motion (MCE) is the level of ground motion that has a 2 percent chance of exceedance in 50 years, with a statistical return period of 2,475 years. According to the 2016 California Building Code and ASCE 7-10, the MCE is to be utilized for the evaluation of liquefaction, lateral spreading, seismic settlements, and it is our understanding that the intent of the Building code is to maintain “Life Safety” during a MCE event. The Design Earthquake Ground Motion (DE) is the level of ground motion that has a 10 percent chance of exceedance in 50 years, with a statistical return period of 475 years.

Deaggregation of the MCE peak ground acceleration was performed using the USGS online BETA Unified Hazard Tool, 2008 Conterminous U.S. Dynamic edition. The result of the deaggregation analysis indicates that the predominant earthquake contributing to the MCE peak ground acceleration is characterized as a 6.56 magnitude event occurring at a hypocentral distance of 13.0 kilometers from the site.

Deaggregation was also performed for the Design Earthquake (DE) peak ground acceleration, and the result of the analysis indicates that the predominant earthquake contributing to the DE peak ground acceleration is characterized as a 6.61 magnitude occurring at a hypocentral distance of 18.78 kilometers from the site.

Conformance to the criteria in the above tables for seismic design does not constitute any kind of guarantee or assurance that significant structural damage or ground failure will not occur if a large earthquake occurs. The primary goal of seismic design is to protect life, not to avoid all damage, since such design may be economically prohibitive.

6.4 Liquefaction Potential

Liquefaction is a phenomenon in which loose, saturated, relatively cohesionless soil deposits lose shear strength during strong ground motions. Primary factors controlling liquefaction include intensity and duration of ground motion, gradation characteristics of the subsurface soils, in-situ stress conditions, and the depth to groundwater. Liquefaction is typified by a loss of shear strength in the liquefied layers due to rapid increases in pore water pressure generated by earthquake accelerations.

The current standard of practice, as outlined in the “Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction in California” and “Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazards in California” requires liquefaction analysis to a depth of 50 feet below the lowest portion of the proposed structure. Liquefaction typically occurs in areas where the soils below the water table are composed of poorly consolidated, fine to medium-grained, primarily sandy soil. In addition to the requisite soil conditions, the ground acceleration and duration of the earthquake must also be of a sufficient level to induce liquefaction.

The State of California Seismic Hazard Zone Map for the Orange Quadrangle (1998) indicates that the site is not located in an area designated as “liquefiable.” In addition, the Orange County General Plan (2004) indicates that the site is not located within an area identified as having a potential for liquefaction. As previously discussed, consolidated early Miocene to late Eocene age sedimentary bedrock that is not prone to liquefaction underlies the site at depths ranging from 5 to 23 feet beneath the existing ground surface. Based on these considerations, it is our opinion that the potential for liquefaction and associated ground deformations beneath the site is very low.

6.5 Slope Stability

The topography at the site is sloping gently southeast accommodating a total elevation change of roughly 48 vertical feet from Elevation 275 MSL to Elevation 227 (above mean sea level [MSL]). Changes in elevations between pads are accommodated by retaining walls and 2:1 (H:V) graded slopes. According to the Orange County General Plan (2004), the site is not within an area identified as having a potential for slope instability. Additionally, the site is not within an area identified as having a potential for seismic slope instability (CDMG, 1998). There are no known landslides near the site, nor is the site in the path of any known or potential landslides. Therefore, the potential for slope stability hazards to adversely affect the proposed development is considered low.

Based on published geologic maps, the geologic structure of the bedrock in the area is oriented favorably with respect to the existing on-site slopes. However, the orientation of the bedrock will require further assessment during the future design phases of the project and prior to grading.

6.6 Earthquake-Induced Flooding

Earthquake-induced flooding is inundation caused by failure of dams or other water-retaining structures due to earthquakes. Based on a review of the Orange County General Plan (2004), the site is not located within a potential inundation area for an earthquake-induced dam failure. The probability of earthquake-induced flooding is considered very low.

6.7 Tsunamis, Seiches, and Flooding

The site is not located within a coastal area. Therefore, tsunamis, seismic sea waves, are not considered a significant hazard at the site.

Seiches are large waves generated in enclosed bodies of water in response to ground shaking. No major water-retaining structures are located immediately up gradient from the project site. Therefore, flooding resulting from a seismically-induced seiche is considered unlikely.

The site is within an area of minimal flooding (Zone X) as defined by the Federal Emergency Management Agency (FEMA, 2017).

6.8 Oil Fields & Methane Potential

Based on a review of the California Division of Oil, Gas and Geothermal Resources (DOGGR) Oil and Gas Well Location Map W1-6, the site is not located within the limits of an oilfield and oil or gas wells are not located in the immediate site vicinity. However, due to the voluntary nature of record reporting by the oil well drilling companies, wells may be improperly located or not shown on the location map and undocumented wells could be encountered during construction. Any wells encountered during construction will need to be properly abandoned in accordance with the current requirements of the DOGGR.

Since the site is not located within the boundaries of a known oil field, the potential for the presence of methane or other volatile gases at the site is considered low. However, should it be determined that a methane study is required for the proposed development it is recommended that a qualified methane consultant be retained to perform the study and provide mitigation measures as necessary.

6.9 Subsidence

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Soils that are particularly subject to subsidence include those with high silt or clay content. The site is not located within an area of known ground subsidence. No large-scale extraction of groundwater, gas, oil, or geothermal energy is occurring or planned at the site or in the general site vicinity. There appears to be little or no potential for ground subsidence due to withdrawal of fluids or gases at the site.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 General

- 7.1.1 It is our opinion that neither soil nor geologic conditions were encountered during the investigation that would preclude the construction of the proposed development provided the recommendations presented herein are followed and implemented during design and construction.
- 7.1.2 Up to 8 feet of existing artificial fill was encountered during the site investigation. The existing fill encountered is believed to be the result of past grading and construction activities at the site. Deeper fill may exist in other areas of the site that were not directly explored. Future demolition of the existing structures which occupy the site will likely disturb the upper few feet of soil. It is our opinion that the existing fill, in its present condition, is not suitable for direct support of proposed foundations or slabs. The existing fill and site soils are suitable for re-use as engineered fill provided the recommendations in the Grading section of this report are followed (see Section 7.4). If bedrock is to be utilized as engineered fill, it may be blocky and may have to be crushed, moisture conditioned, and blended prior to utilization.
- 7.1.3 Based on these considerations, at a minimum it is recommended that the upper 5 feet of existing earth materials within the building footprint areas be excavated and properly compacted for foundation and slab support. Deeper excavations should be conducted as needed to remove any encountered fill or soft soils as necessary at the direction of the Geotechnical Engineer (a representative of Geocon). Removals of 8 feet or more should be expected, especially over the former drainage channel in the southeastern portion of the site. The excavation should extend laterally a minimum distance of 3 feet beyond the building footprint areas, including building appurtenances, or a distance equal to the depth of fill below the foundation, whichever is greater. Proposed building foundations should be underlain by a minimum of 3 feet of newly placed engineered fill. The limits of existing fill and/or soft soil removal will be verified by the Geocon representative during site grading activities. Recommendations for earthwork are provided in the *Grading* section of this report (see Section 7.4).
- 7.1.4 Subsequent to the recommended grading, the proposed residential buildings may be supported on conventional shallow spread foundation systems deriving support in newly placed engineered fill.
- 7.1.5 All excavations must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon). Prior to placing any fill, the upper 12 inches of the excavation bottom must be scarified, moistened, and proof-rolled with heavy equipment in the presence of the Geotechnical Engineer (a representative of Geocon West, Inc.).

- 7.1.6 It is anticipated that stable excavations for the recommended grading associated with the proposed residential buildings can be achieved with sloping measures. However, if excavations in close proximity to an adjacent property line and/or structure are required, special excavation measures may be necessary in order to maintain lateral support of offsite improvements. Excavation recommendations are provided in the *Temporary Excavations* section of this report (Section 7.15).
- 7.1.7 Foundations for small outlying structures, such as block walls less than 6 feet in height, planter walls or trash enclosures, which will not be tied to the proposed residential buildings, may be supported on conventional foundations deriving support on a minimum of 12 inches of newly placed engineered fill which extends laterally at least 12 inches beyond the foundation area. Where excavation and compaction cannot be performed or is undesirable, foundations may derive support directly in the competent undisturbed alluvial soils found at or below a depth of 30 inches, and should be deepened as necessary to maintain a minimum 12-inch embedment into the recommended bearing materials. Based on the variable subsurface conditions across the site, alternative miscellaneous foundation recommendations may be required and can be provided as the project progresses under separate cover. If the soils exposed in the excavation bottom are soft or loose, compaction of the soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative.
- 7.1.8 Where new paving is to be placed, it is recommended that all existing fill and soft alluvial soils be excavated and properly compacted for paving support. The client should be aware that excavation and compaction of all existing fill and soft alluvial soils in the area of new paving is not required; however, paving constructed over existing uncertified fill or unsuitable alluvial soil may experience increased settlement and/or cracking, and may therefore have a shorter design life and increased maintenance costs. As a minimum, the upper 12 inches of subgrade soil should be scarified and properly compacted for paving support. Paving recommendations are provided in *Preliminary Pavement Recommendations* section of this report (see Section 7.12).
- 7.1.9 Based on the results of percolation testing performed at the site, a stormwater infiltration system is considered feasible for this project. Recommendations for infiltration are provided in the *Stormwater Infiltration* section of this report (see Section 7.16).
- 7.1.10 Additional site exploration and laboratory testing should be considered to study the eastern portion of the property, which is currently occupied by tennis courts. The additional site exploration can be conducted as a second phase of geotechnical investigation or immediately following site demolition. Until additional site exploration is conducted, the recommendations provided herein should be considered preliminary with respect to the western portion of the site.

7.1.11 Once the design and foundation loading configuration for the proposed residential buildings proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Based on the final foundation loading configurations, the potential for settlement should be re-evaluated by this office.

7.1.12 Any changes in the design, location or elevation, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

7.2 Soil and Excavation Characteristics

7.2.1 The in-situ soils can be excavated with moderate to heavy effort using conventional excavation equipment. Some caving should be anticipated in unshored excavations, especially where granular soils are encountered.

7.2.2 It is the responsibility of the contractor to ensure that all excavations and trenches are properly shored and maintained in accordance with applicable OSHA rules and regulations to maintain safety and maintain the stability of existing adjacent improvements.

7.2.3 All onsite excavations must be conducted in such a manner that potential surcharges from existing structures, construction equipment, and vehicle loads are resisted. The surcharge area may be defined by a 1:1 projection down and away from the bottom of an existing foundation or vehicle load. Penetrations below this 1:1 projection will require special excavation measures such as sloping or shoring. Excavation recommendations are provided in the *Temporary Excavations* section of this report (see Section 7.15).

7.2.4 The upper 5 feet of existing site soils encountered during this investigation are considered to have a “medium” expansive potential (EI = 66); and are classified as “expansive” based on the 2016 California Building Code (CBC) Section 1803.5.3. Recommendations presented herein assume that the building foundations and slabs will derive support in these materials.

7.3 Minimum Resistivity, pH, and Water-Soluble Sulfate

7.3.1 Potential of Hydrogen (pH) and resistivity testing as well as chloride content testing were performed on representative samples of soil to generally evaluate the corrosion potential to surface utilities. The tests were performed in accordance with California Test Method Nos. 643 and 422 and indicate that the soils are considered “corrosive” with respect to corrosion of buried ferrous metals on site. The results are presented in Appendix B (Figure B6) and should be considered for design of underground structures.

- 7.3.2 Laboratory tests were performed on representative samples of the site materials to measure the percentage of water-soluble sulfate content. Results from the laboratory water-soluble sulfate tests are presented in Appendix B (Figure B6) and indicate that the on-site materials possess “not applicable” sulfate exposure to concrete structures as defined by 2016 CBC Section 1904 and ACI 318-11 Sections 4.2 and 4.3.
- 7.3.3 Geocon West, Inc. does not practice in the field of corrosion engineering and mitigation. If corrosion sensitive improvements are planned, it is recommended that a corrosion engineer be retained to evaluate corrosion test results and incorporate the necessary precautions to avoid premature corrosion of buried metal pipes and concrete structures in direct contact with the soils.

7.4 Grading

- 7.4.1 Earthwork should be observed, and compacted fill tested by representatives of Geocon West, Inc. The existing fill and alluvial soil encountered during exploration is suitable for re-use as engineered fill, provided any encountered oversize material (greater than 6 inches) and any encountered deleterious debris are removed. If bedrock is to be utilized as engineered fill, it may be blocky and may have to be crushed, moisture conditioned, and blended prior to utilization.
- 7.4.2 A preconstruction conference should be held at the site prior to the beginning of grading operations with the owner, contractor, civil engineer, geotechnical engineer, and building official in attendance. Special soil handling requirements can be discussed at that time.
- 7.4.3 Grading should commence with the removal of all existing vegetation and existing improvements from the area to be graded. Deleterious debris such as wood and root structures should be exported from the site and should not be mixed with the fill soils. Asphalt and concrete should not be mixed with the fill soils unless approved by the Geotechnical Engineer. All existing underground improvements planned for removal should be completely excavated and the resulting depressions properly backfilled in accordance with the procedures described herein. Once a clean excavation bottom has been established it must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.).
- 7.4.4 As a minimum, it is recommended that the upper 5 feet of existing earth materials within the proposed building footprint areas be excavated and properly compacted for foundation and slab support. Deeper excavations should be conducted as necessary to remove deeper artificial fill or soft alluvial soil at the direction of the Geotechnical Engineer (a representative of Geocon). Removals of 8 feet or more should be expected in the southern portion of the site. The excavation should extend laterally a minimum distance of 3 feet beyond the building footprint area, including building appurtenances, or a distance equal to the depth of fill below the foundation, whichever is greater. Proposed building foundations should be underlain by a minimum of 3 feet

of newly placed engineered fill. The limits of existing fill and/or soft alluvial soils removal will be verified by the Geocon representative during site grading activities.

- 7.4.5 All excavations must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon). Prior to placing any fill, the upper 12 inches of the excavation bottom must be scarified, moistened, and proof-rolled with heavy equipment in the presence of the Geotechnical Engineer (a representative of Geocon West, Inc.).
- 7.4.6 All fill and backfill soils should be placed in horizontal loose layers approximately 6 to 8 inches thick, moisture conditioned to optimum moisture content, and properly compacted to a minimum 90 percent of the maximum dry density in accordance with ASTM D 1557 (latest edition).
- 7.4.7. Where new paving is to be placed, it is recommended that all existing fill and soft alluvium be excavated and properly compacted for paving support. As a minimum, the upper 12 inches of soil should be scarified, moisture conditioned to optimum moisture content, and compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition). Paving recommendations are provided in *Preliminary Pavement Recommendations* section of this report (see Section 7.12).
- 7.4.8 It is anticipated that stable excavations for the recommended grading can be achieved with sloping measures. However, if excavations in close proximity to an adjacent property line and/or structure are required, special excavation measures may be necessary in order to maintain lateral support of the existing offsite improvements. Excavation recommendations are provided in the *Temporary Excavations* section of this report (Section 7.15).
- 7.4.9 Foundations for small outlying structures, such as block walls less than 6 feet high, planter walls or trash enclosures, which will not be tied to the proposed building, may be supported on conventional foundations deriving support on a minimum of 12 inches of newly placed engineered fill which extends laterally at least 12 inches beyond the foundation area. Where excavation and proper compaction cannot be performed or is undesirable, foundations may derive support directly in the undisturbed alluvial soils found at or below a depth of 30 inches, and should be deepened as necessary to maintain a minimum 12 inch embedment into the recommended bearing materials. Based on the variable subsurface conditions across the site, alternative miscellaneous foundation recommendations may be required and can be provided as the project progresses under separate cover. If the soils exposed in the excavation bottom are soft or loose, compaction of the soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative.

- 7.4.10 Utility trenches should be properly backfilled in accordance with the requirements of the Green Book (latest edition). The pipe should be bedded with clean sands (Sand Equivalent greater than 30) to a depth of at least 1 foot over the pipe, and the bedding material must be inspected and approved in writing by the Geotechnical Engineer (a representative of Geocon). The use of gravel is not acceptable unless used in conjunction with filter fabric to prevent the gravel from having direct contact with soil. The remainder of the trench backfill may be derived from onsite soil or approved import soil, compacted as necessary, until the required compaction is obtained. The use of minimum 2-sack slurry is also acceptable as backfill (see Section 7.4). Prior to placing any bedding materials or pipes, the excavation bottom must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon).
- 7.4.11 All imported fill shall be observed, tested, and approved by Geocon West, Inc. prior to bringing soil to the site. Rocks larger than 6 inches in diameter shall not be used in the fill. If necessary, import soils used as structural fill should have an expansion index less than 50 and corrosivity properties that are equally or less detrimental to that of the existing onsite soils (see Figure B6). Import soils placed in the building area should be placed uniformly across a building pad or in a manner that is approved by the Geotechnical Engineer (a representative of Geocon).
- 7.4.12 All trench and foundation excavation bottoms must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon), prior to placing bedding materials, fill, steel, gravel, or concrete.

7.5 Slope Construction

- 7.5.1 Prior to construction of slopes, it is recommended that all existing artificial fill be excavated within the footprint of the proposed slope. If all artificial fill may not be removed prior to placement of additional fill for construction of proposed slopes, the Client should be aware that placement of additional engineered fill over the existing artificial fill could induce settlement of the existing artificial fill that could adversely affect proposed improvements. If settlement of the existing artificial fill occurs, the overlying improvements may experience distress such as settlement or, in extreme circumstances, slope failure may occur. Recommendations for earthwork are provided in Section 7.4.
- 7.5.2 A keyway is required at the toe of all proposed fill slopes which are not directly underlain by newly placed engineered fill. The keyway should be cut a minimum of 2 feet into competent material and must be observed and approved in writing by the Geotechnical Engineer prior to placement of any fill. A detail is provided on Figure 5.

- 7.5.3 All engineered fill must be placed and compacted on a horizontal surface; benching into the existing ground surface must be performed as necessary such that all fill is placed and compacted on a horizontal surface.
- 7.5.4 Fill slopes comprised of on-site materials should be constructed at a gradient of 2:1 or flatter. Fill slopes should be overbuilt by at least 3 feet measured perpendicular to the slope face and trimmed back to the tight fill core. This procedure is considered preferable to track-walking of slopes, as described in the following paragraph.
- 7.5.5 As an alternative, fill slope faces may be compacted by track-rolling with a loaded sheepsfoot roller at vertical intervals not to exceed 4 feet, and should be track-walked at the completion of each slope such that the fill is compacted to a dry density of at least 90 percent of the laboratory maximum dry density.
- 7.5.6 All slopes should be planted, drained, and property maintained to reduce erosion. It is recommended that finished slopes be planted as soon after completion of grading as possible. Planting on the slope stabilizes the surface and reduces the potential for erosion. It is further suggested that a jute or mesh product be placed on the slope face prior to planting. The planting of the slope should be performed at the direction of a qualified landscaping consultant.

7.6 Shrinkage

- 7.6.1 Shrinkage results when a volume of material removed at one density is compacted to a higher density. A shrinkage factor of up to 8 percent should be anticipated when excavating and compacting the upper 5 feet of existing earth materials on the site to an average relative compaction of 92 percent. Bulking of cut bedrock is likely to occur and anticipated bulking percentages should be evaluated once the project proceeds to a more finalized plan.
- 7.4.2 If import soils will be utilized in the building pads, the soils must be placed uniformly and at equal thickness at the direction of the Geotechnical Engineer (a representative of Geocon West, Inc.). Soils can be borrowed from non-building pad areas and later replaced with imported soils.

7.7 Foundation Design

- 7.7.1 Subsequent to the recommended grading, a conventional shallow spread foundation system may be utilized for support of the proposed residential buildings provided foundations derive support in newly placed engineered fill. Foundations should be underlain by a minimum of 3 feet of newly placed engineered fill.
- 7.7.2 Continuous footings may be designed for an allowable bearing capacity of 2,400 pounds per square foot (psf), and should be a minimum of 12 inches in width, 24 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing material.

- 7.7.3 Isolated spread foundations may be designed for an allowable bearing capacity of 3,000 psf, and should be a minimum of 24 inches in width, 24 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing material.
- 7.7.4 The allowable soil bearing pressure above may be increased by 160 psf and 500 psf for each additional foot of foundation width and depth, respectively, up to a maximum allowable soil bearing pressure of 3,500 psf.
- 7.7.5 The allowable bearing pressures may be increased by one-third for transient loads due to wind or seismic forces.
- 7.7.6 If depth increases are utilized for the perimeter foundations, this office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary. Additional grading should be conducted as-needed in order to maintain the required 3-foot thick blanket of engineered fill below proposed foundations.
- 7.7.7 Continuous footings should be reinforced with four No. 4 steel reinforcing bars, two placed near the top of the footing and two near the bottom. Reinforcement for spread footings should be designed by the project structural engineer.
- 7.7.8 The above foundation dimensions and minimum reinforcement recommendations are based on soil conditions and building code requirements only, and are not intended to be used in lieu of those required for structural purposes.
- 7.7.9 Due to the expansive potential of the subgrade soils, the moisture content in the slab and foundation subgrade should be maintained at 2 percent above optimum moisture content prior to and at the time of concrete placement.
- 7.7.10 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to the placement of reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated. If unanticipated soil conditions are encountered, foundation modifications may be required.
- 7.7.11 This office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary.

7.8 Foundation Settlement

- 7.8.1 The maximum expected static settlement for a residential building supported on a conventional foundation system deriving support in the recommended bearing materials and designed with a maximum bearing pressure of 3,500 psf is estimated to be less than ½ inch and occur below the heaviest loaded structural element. Settlement of the foundation system is expected to occur on initial application of loading. Differential settlement is not expected to exceed ¼ inch over a distance of 20 feet.
- 7.8.2 Once the design and foundation loading configurations for the proposed residential buildings proceeds to a more finalized plan, the estimated settlements presented in this report should be reviewed and revised, if necessary. If the final foundation loading configurations are greater than the assumed loading conditions, the potential for settlement should be reevaluated by this office.

7.9 Miscellaneous Foundations

- 7.9.1 Foundations for small outlying structures, such as block walls less than 6 feet in height, planter walls or trash enclosures which will not be tied to a proposed residential building may be supported on conventional foundations bearing on a minimum of 12 inches of newly placed engineered fill which extends laterally at least 12 inches beyond the foundation area. Where excavation and compaction cannot be performed or is undesirable, such as adjacent to property lines, foundations may derive support in the undisturbed alluvial soils found at or below a depth of 30 inches, and should be deepened as necessary to maintain a minimum 12 inch embedment into the recommended bearing materials. Based on the variable subsurface conditions across the site, alternative miscellaneous foundation recommendations may be required and can be provided as the project progresses under separate cover
- 7.9.2 If the soils exposed in the excavation bottom are soft, compaction of the soft soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative. Miscellaneous foundations may be designed for a bearing value of 1,500 psf, and should be a minimum of 12 inches in width, 24 inches in depth below the lowest adjacent grade and 12 inches into the recommended bearing material. The allowable bearing pressure may be increased by up to one-third for transient loads due to wind or seismic forces.
- 7.9.3 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to the placement of reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated.

7.10 Lateral Design

- 7.10.1 Resistance to lateral loading may be provided by friction acting at the base of foundations, slabs and by passive earth pressure. An allowable coefficient of friction of 0.3 may be used with the dead load forces in properly compacted engineered fill or competent alluvial soils.
- 7.10.2 Passive earth pressure for the sides of foundations and slabs poured against properly compacted engineered fill or competent alluvial soils may be computed as an equivalent fluid having a density of 200 pcf with a maximum earth pressure of 2,000 psf. When combining passive and friction for lateral resistance, the passive component should be reduced by one-third.

7.11 Concrete Slabs-on-Grade

- 7.11.1 Concrete slabs-on-grade subject to vehicle loading should be designed in accordance with the recommendations in the *Preliminary Pavement Recommendations* section of this report (Section 7.12).
- 7.11.2 Subsequent to the recommended grading, concrete slabs-on-grade for structures, not subject to vehicle loading, should be a minimum of 4 inches thick and minimum slab reinforcement should consist of No. 4 steel reinforcing bars placed 16 inches on center in both horizontal directions. Steel reinforcing should be positioned vertically near the slab midpoint.
- 7.11.3 Slabs-on-grade at the ground surface that may receive moisture-sensitive floor coverings or may be used to store moisture-sensitive materials should be underlain by a vapor retarder placed directly beneath the slab. The vapor retarder and acceptable permeance should be specified by the project architect or developer based on the type of floor covering that will be installed. The vapor retarder design should be consistent with the guidelines presented in Section 9.3 of the American Concrete Institute's (ACI) Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials (ACI 302.2R-06) and should be installed in general conformance with ASTM E 1643 (latest edition) and the manufacturer's recommendations. A minimum thickness of 15 mils extruded polyolefin plastic is recommended; vapor retarders which contain recycled content or woven materials are not recommended. The vapor retarder should have a permeance of less than 0.01 perms demonstrated by testing before and after mandatory conditioning. The vapor retarder should be installed in direct contact with the concrete slab with proper perimeter seal. If the California Green Building Code requirements apply to this project, the vapor retarder should be underlain by 4 inches of clean aggregate. It is important that the vapor retarder be puncture resistant since it will be in direct contact with angular gravel. As an alternative to the clean aggregate suggested in the Green Building Code, it is our opinion that the concrete slab-on-grade may be underlain by a vapor retarder over 4 inches of clean sand (sand equivalent greater than 30), since the sand will serve a capillary break and will minimize the potential for punctures and damage to the vapor barrier.

- 7.11.4 For seismic design purposes, a coefficient of friction of 0.3 may be utilized between concrete slabs and subgrade soils without a moisture barrier, and 0.15 for slabs underlain by a moisture barrier.
- 7.11.5 Exterior slabs for walkways or flatwork, not subject to traffic loads, should be at least 4 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions, positioned near the slab midpoint. Prior to construction of slabs, the upper 12 inches of subgrade should be moistened to optimum moisture content and properly compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition). Crack control joints should be spaced at intervals not greater than 10 feet and should be constructed using saw-cuts or other methods as soon as practical following concrete placement. Crack control joints should extend a minimum depth of one-fourth the slab thickness. The project structural engineer should design construction joints as necessary.
- 7.11.6 The recommendations of this report are intended to reduce the potential for cracking of slabs due to settlement. However, even with the incorporation of the recommendations presented herein, foundations, stucco walls, and slabs-on-grade may exhibit some cracking due to minor soil movement and/or concrete shrinkage. The occurrence of concrete shrinkage cracks is independent of the supporting soil characteristics. Their occurrence may be reduced and/or controlled by limiting the slump of the concrete, proper concrete placement and curing, and by the placement of crack control joints at periodic intervals, in particular, where re-entrant slab corners occur.

7.12 Preliminary Pavement Recommendations

- 7.12.1 Where new paving is to be placed, it is recommended that all existing fill and soft or unsuitable alluvial materials be excavated and properly recompact for paving support. The client should be aware that excavation and compaction of all existing artificial fill and soft alluvium in the area of new paving is not required; however, paving constructed over existing unsuitable material may experience increased settlement and/or cracking, and may therefore have a shorter design life and increased maintenance costs. As a minimum, the upper 12 inches of paving subgrade should be scarified, moisture conditioned to optimum moisture content, and properly compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition).
- 7.12.2 The following pavement sections are based on R-Value laboratory test result of 13. Once site grading activities are complete another R-Value should be obtained for laboratory testing to confirm the properties of the soils serving as paving subgrade, prior to placing pavement.

7.12.3 The Traffic Indices listed below are estimates. Geocon does not practice in the field of traffic engineering. The actual Traffic Index for each area should be determined by the project civil engineer. If pavement sections for Traffic Indices other than those listed below are required, Geocon should be contacted to provide additional recommendations. Pavement thicknesses were determined following procedures outlined in the *California Highway Design Manual* (Caltrans). It is anticipated that the majority of traffic will consist of automobile and large truck traffic.

PRELIMINARY PAVEMENT DESIGN SECTIONS

Location	Estimated Traffic Index (TI)	Asphalt Concrete (inches)	Class 2 Aggregate Base (inches)
Automobile Parking And Driveways	4.0	3.0	5.0
Trash Truck & Fire Lanes	7.0	4.0	13.5

7.12.4 Asphalt concrete should conform to Section 203-6 of the “*Standard Specifications for Public Works Construction*” (Green Book). Class 2 aggregate base materials should conform to Section 26-1.02A of the “*Standard Specifications of the State of California, Department of Transportation*” (Caltrans). The use of Crushed Miscellaneous Base in lieu of Class 2 aggregate base is acceptable. Crushed Miscellaneous Base should conform to Section 200 2.4 of the “*Standard Specifications for Public Works Construction*” (Green Book).

7.12.5 Unless specifically designed and evaluated by the project structural engineer, where exterior concrete paving will be utilized for support of vehicles, it is recommended that the concrete be a minimum of 6 inches of concrete reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions. Concrete paving supporting vehicular traffic should be underlain by a minimum of 4 inches of aggregate base and a properly compacted subgrade. The subgrade and base material should be compacted to 95 percent relative compactions as determined by ASTM Test Method D 1557 (latest edition).

7.12.6 The performance of pavements is highly dependent upon providing positive surface drainage away from the edge of pavements. Ponding of water on or adjacent to the pavement will likely result in saturation of the subgrade materials and subsequent cracking, subsidence and pavement distress. If planters are planned adjacent to paving, it is recommended that the perimeter curb be extended at least 12 inches below the bottom of the aggregate base to minimize the introduction of water beneath the paving.

7.13 Retaining Walls Design

- 7.13.1 The recommendations presented below are generally applicable to the design of rigid concrete or masonry retaining walls having a maximum height of 6 feet. In the event that walls significantly higher than 6 feet are planned, Geocon should be contacted for additional recommendations.
- 7.13.2 Retaining wall foundations may be designed in accordance with the recommendations provided in the *Foundation Design* sections of this report (see Section 7.7).
- 7.13.3 Retaining walls with a level backfill surface that are not restrained at the top should be designed utilizing a triangular distribution of pressure (active pressure) of 30 pcf.
- 7.13.4 Restrained walls are those that are not allowed to rotate more than $0.001H$ (where H equals the height of the retaining portion of the wall in feet) at the top of the wall. Where walls are restrained from movement at the top, walls may be designed utilizing a triangular distribution of pressure (at-rest pressure) of 50 pcf.
- 7.13.5 The wall pressures provided above assume that the proposed retaining walls will support relatively undisturbed alluvial soils or engineered fill derived from onsite soils. If import material is placed behind proposed walls, revised earth pressures may be required. This should be evaluated once the use of import material is established and the geotechnical characteristics of the import soils can be further evaluated.
- 7.13.6 The wall pressures provided above assume that the retaining wall will be properly drained preventing the buildup of hydrostatic pressure. If retaining wall drainage is not implemented, the equivalent fluid pressure to be used in design of undrained walls is 90 pcf. The value includes hydrostatic pressures plus buoyant lateral earth pressures.
- 7.13.7 Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent structures and should be designed for each condition as the project progresses. Once the design becomes more finalized, an addendum letter can be prepared revising recommendations and addressing specific surcharge conditions throughout the project, if necessary.

7.14 Retaining Wall Drainage

- 7.14.1 Retaining walls should be provided with a drainage system extended at least two-thirds the height of the wall. At the base of the drain system, a subdrain covered with a minimum of 12 inches of gravel should be installed, and a compacted fill blanket or other seal placed at the surface (see Figure 6). The clean bottom and subdrain pipe, behind a retaining wall, should be observed by the Geotechnical Engineer (a representative of Geocon), prior to placement of gravel or compacting backfill.

- 7.14.2 As an alternative, a plastic drainage composite such as Miradrain or equivalent may be installed in continuous, 4-foot wide columns along the entire back face of the wall, at 8 feet on center. The top of these drainage composite columns should terminate approximately 18 inches below the ground surface, where either hardscape or a minimum of 18 inches of relatively cohesive material should be placed as a cap (see Figure 7). These vertical columns of drainage material would then be connected at the bottom of the wall to a collection panel or a 1-cubic-foot rock pocket drained by a 4-inch subdrain pipe.
- 7.14.3 Subdrainage pipes at the base of the retaining wall drainage system should outlet to an acceptable location via controlled drainage structures. Drainage should not be allowed to flow uncontrolled over descending slopes.
- 7.14.4 Moisture affecting below grade walls is one of the most common post-construction complaints. Poorly applied or omitted waterproofing can lead to efflorescence or standing water. Particular care should be taken in the design and installation of waterproofing to avoid moisture problems, or actual water seepage into the structure through any normal shrinkage cracks which may develop in the concrete walls, floor slab, foundations and/or construction joints. The design and inspection of the waterproofing is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend a product or method, which would provide protection to subterranean walls, floor slabs and foundations.

7.15 Temporary Excavations

- 7.15.1 Excavations on the order of 8 feet in height may be required during grading operations. The excavations are expected to expose artificial fill, alluvial soils, and bedrock which are suitable for vertical excavations up to 5 feet in height where loose soils or caving sands are not present, and where not surcharged by adjacent traffic or structures.
- 7.15.2 Vertical excavations greater than 5 feet or where surcharged by existing structures will require sloping or shoring measures in order to provide a stable excavation. Where sufficient space is available, temporary unsurcharged embankments could be sloped back at a uniform 1:1 slope gradient or flatter up to maximum height of 10 feet. A uniform slope does not have a vertical portion.
- 7.15.3 If excavations in close proximity to an adjacent property line and/or structure are required, special excavation measures such as slot-cutting or shoring may be necessary in order to maintain lateral support of offsite improvements. Recommendations for special temporary excavation measures can be provided under separate cover once the proposed building layout is established.

7.15.4 Where sloped embankments are utilized, the top of the slope should be barricaded to prevent vehicles and storage loads at the top of the slope within a horizontal distance equal to the height of the slope. If the temporary construction embankments are to be maintained during the rainy season, berms are suggested along the tops of the slopes where necessary to prevent runoff water from entering the excavation and eroding the slope faces. Geocon personnel should inspect the soils exposed in the cut slopes during excavation so that modifications of the slopes can be made if variations in the soil conditions occur. All excavations should be stabilized within 30 days of initial excavation.

7.16 Stormwater Infiltration

7.16.1 During the April 13, 2017, site exploration, boring B3 was utilized to perform percolation testing. The percolation testing was performed at the depths listed in the table below. Slotted casing was placed in the boring, and the annular space between the casing and excavation was filled with gravel. The boring was then filled with water to pre-saturate the soils. On April 14, 2017, the casing was refilled with water and percolation test readings were performed after repeated flooding of the cased excavation. Based on the test results, the average infiltration rate (adjusted percolation rate), for the earth materials encountered, is provided in the following table. The field-measured percolation rate has been adjusted to infiltration rates in accordance with the County of Orange Technical Guidance Document for the Preparation of Conceptual/Preliminary and/or Project Water Quality Management Plans (December 2013). Additional correction factors may be required and should be applied by the engineer in responsible charge of the design of the stormwater infiltration system and based on applicable guidelines. Percolation test data is provided as Figure 8.

Boring	Infiltration Depth (ft.)	Average Infiltration Rate (in / hour)
B3	20-22	1.9

7.16.2 The results of the percolation testing indicate that the soils at depths in the above table are conducive to infiltration. It is our opinion that the soil zone encountered at the depth and location as listed in the table above are suitable for infiltration of stormwater and will not induce excessive hydro-consolidation, will not affect soil structure interaction of existing or proposed foundations due to expansive soils, will not saturate soils supported by existing or proposed retaining walls, and will not increase the potential for liquefaction. Resulting settlements are anticipated to be less than ¼ inch, if any. Additional studies may be required to confirm that stormwater infiltration will not create a perched groundwater condition that would adversely affect the subject site or surrounding properties.

- 7.16.3 Where infiltration systems will be utilized, it is recommended that a minimum 10-foot horizontal and vertical setback be maintained from existing or proposed foundations. Additional setbacks may be required by the governing jurisdiction and should be incorporated into the stormwater infiltration system design as necessary.
- 7.16.4 Subsequent to the placement of the infiltration system, it is acceptable to backfill the resulting void space between the excavation sidewalls and the infiltration system with minimum two-sack slurry provided the slurry is not placed in the infiltration zone. It is recommended that pea gravel be utilized adjacent to the infiltration zone so communication of water to the soil is not hindered.
- 7.16.5 Due to the preliminary nature of the project at this time, the type of stormwater infiltration system and location of the stormwater infiltration systems has not yet been determined. The design drawings should be reviewed and approved by the Geotechnical Engineer. The installation of the stormwater infiltration system should be observed and approved by the Geotechnical Engineer (a representative of Geocon).

7.17 Surface Drainage

- 7.17.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.
- 7.17.2 All site drainage should be collected and controlled in non-erosive drainage devices. Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. The site should be graded and maintained such that surface drainage is directed away from structures in accordance with 2016 CBC 1804.4 or other applicable standards. In addition, drainage should not be allowed to flow uncontrolled over any descending slope. Discharge from downspouts, roof drains and scuppers are not recommended onto unprotected soils within five feet of the building perimeter. Planters which are located adjacent to foundations should be sealed to prevent moisture intrusion into the soils providing foundation support. Landscape irrigation is not recommended within 5 feet of the building perimeter footings except when enclosed in protected planters.
- 7.17.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

7.17.4 Landscaping planters immediately adjacent to paved areas are not recommended due to the potential for surface or irrigation water to infiltrate the pavement's subgrade and base course. Either a subdrain, which collects excess irrigation water and transmits it to drainage structures, or an impervious above-grade planter boxes should be used. In addition, where landscaping is planned adjacent to the pavement, it is recommended that consideration be given to providing a cutoff wall along the edge of the pavement that extends at least 12 inches below the base material.

7.18 Plan Review

7.18.1 Grading and foundation plans should be reviewed by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to finalization to verify that the plans have been prepared in substantial conformance with the recommendations of this report and to provide additional analyses or recommendations.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geocon West, Inc. should be notified so that supplemental recommendations can be given. The evaluation or identification of the potential presence of hazardous or corrosive materials was not part of the scope of services provided by Geocon West, Inc.
2. This report is issued with the understanding that it is the responsibility of the owner, or of his representative, to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.
3. The findings of this report are valid as of the date of this report. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.
4. The firm that performed the geotechnical investigation for the project should be retained to provide testing and observation services during construction to provide continuity of geotechnical interpretation and to check that the recommendations presented for geotechnical aspects of site development are incorporated during site grading, construction of improvements, and excavation of foundations. If another geotechnical firm is selected to perform the testing and observation services during construction operations, that firm should prepare a letter indicating their intent to assume the responsibilities of project geotechnical engineer of record. A copy of the letter should be provided to the regulatory agency for their records. In addition, that firm should provide revised recommendations concerning the geotechnical aspects of the proposed development, or a written acknowledgement of their concurrence with the recommendations presented in our report. They should also perform additional analyses deemed necessary to assume the role of Geotechnical Engineer of Record.

LIST OF REFERENCES

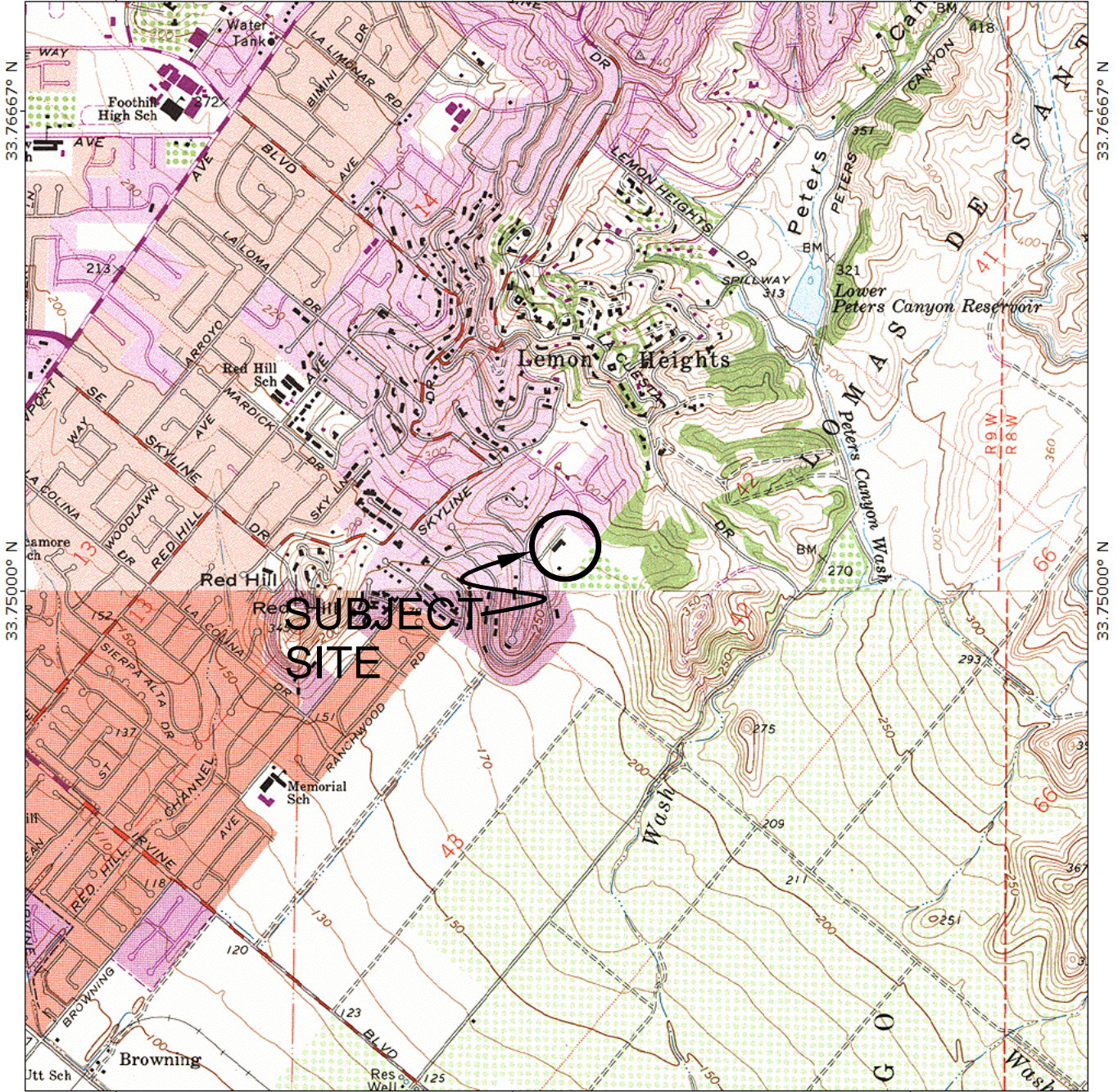
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TOPO! map printed on 05/08/17 from "LA.TPO" and "Untitled.tpg"

117.80000° W

117.78333° W

WGS84 117.76667° W



33.76667° N

33.75000° N

33.76667° N

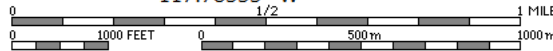
33.75000° N

SUBJECT SITE

117.80000° W

117.78333° W

WGS84 117.76667° W



Printed from TOPO! ©2000 Wildflower Productions (www.topo.com)

REFERENCE: U.S.G.S. TOPOGRAPHIC MAPS, 7.5 MINUTE SERIES, ORANGE, CA QUADRANGLE

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WEST, INC.



ENVIRONMENTAL GEOTECHNICAL MATERIALS
15520 ROCKFIELD BLVD. - SUITE J - IRVINE, CA 92618
PHONE (949) 491-6570

VICINITY MAP

**PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT**
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

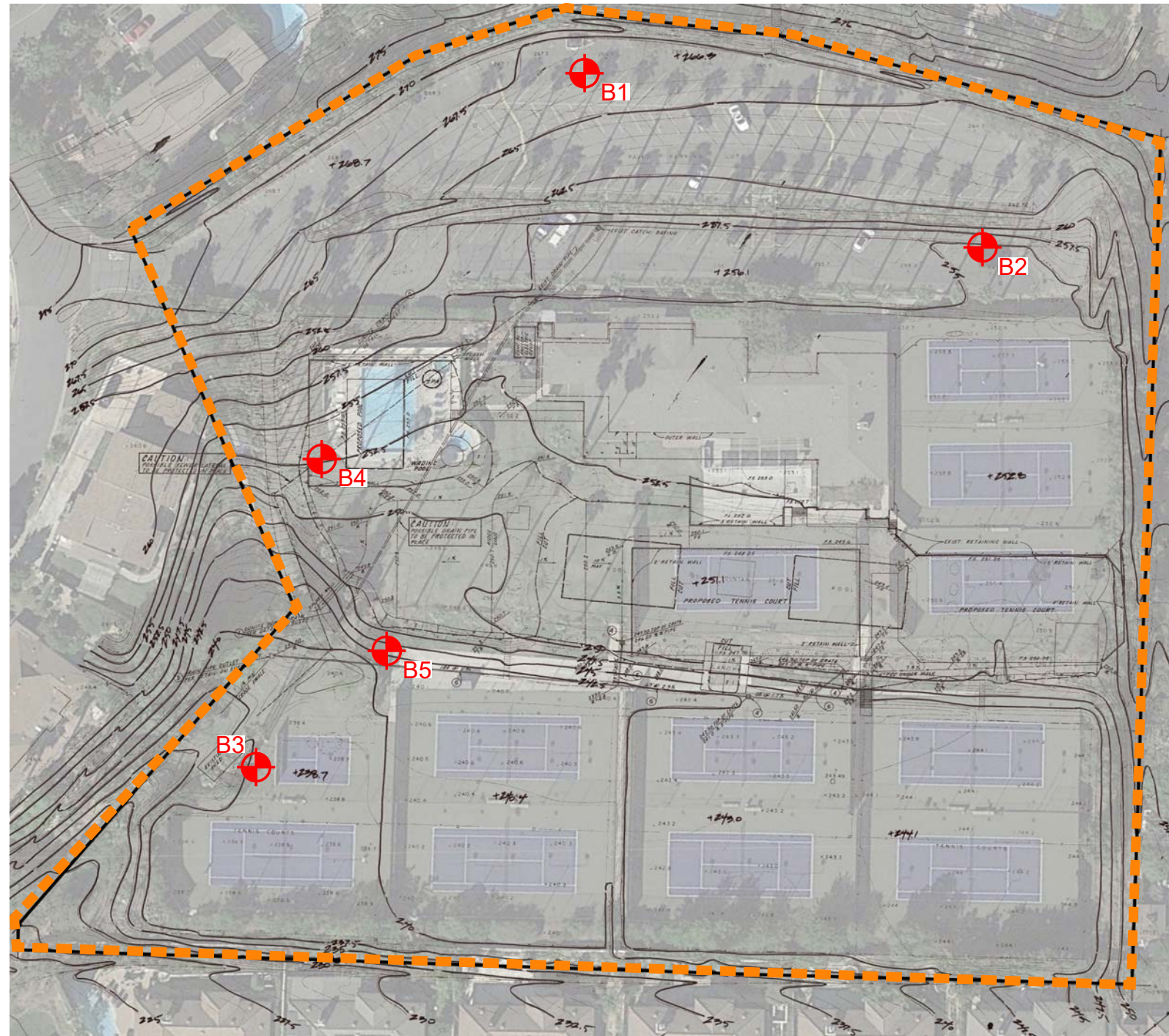
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CHECKED BY: GAK/SFK



MAY 2017

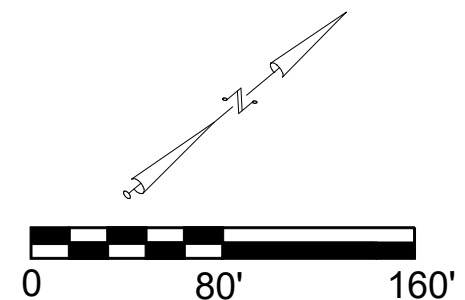
PROJECT NO. A9568-88-02


FIG. 1



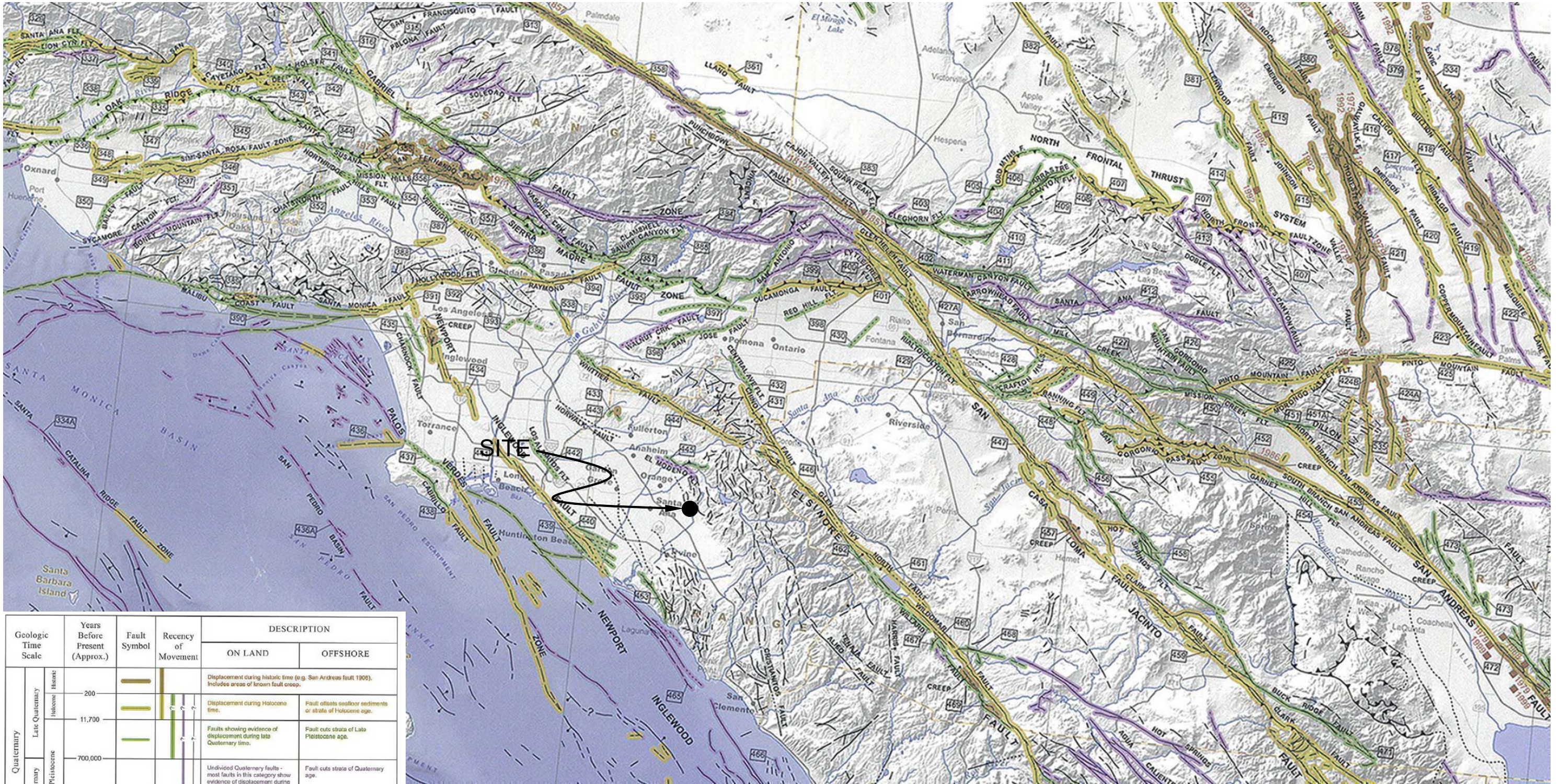
LEGEND

-  B5 Approximate Location of Boring
-  Approximate Location of Property Line



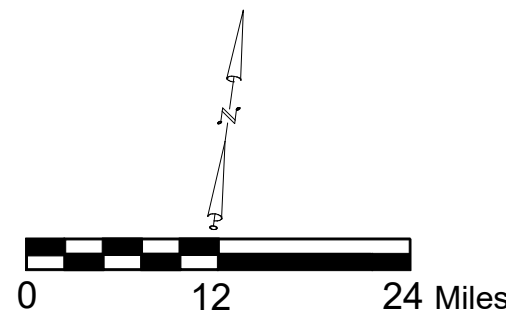
GEOCON WEST, INC.			
ENVIRONMENTAL GEOTECHNICAL MATERIALS 15520 ROCKFIELD BLVD. - SUITE J - IRVINE, CA 92618 PHONE (949) 491-6570			
DRAFTED BY: RMA		CHECKED BY: SFK	
SITE PLAN - EXISTING PROPOSED SINGLE-FAMILY RESIDENTIAL TRACT DEVELOPMENT 11782 SIMON RANCH ROAD SANTA ANA, CALIFORNIA		MAY 2017	PROJECT NO. A9568-88-02
			FIG. 2

Reference: Jennings, C.W. and Bryant, W. A., 2010, Fault Activity Map of California, California Geological Survey Geologic Data Map No. 6.



Geologic Time Scale	Years Before Present (Approx.)	Fault Symbol	Recency of Movement	DESCRIPTION	
				ON LAND	OFFSHORE
Quaternary	Late Quaternary Holocene			Displacement during historic time (e.g. San Andreas fault 1906). Includes areas of known fault creep.	Fault offsets onshore sediments or strata of Holocene age.
	11,700			Faults showing evidence of displacement during late Quaternary time.	Fault cuts strata of Late Pleistocene age.
Pre-Quaternary	700,000			Undivided Quaternary faults - most faults in this category show evidence of displacement during the last 1,800,000 years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age.	Fault cuts strata of Quaternary age.
	1,600,000			Faults without recognized Quaternary displacement or showing evidence of no displacement during Quaternary time. Not necessarily inactive.	Fault cuts strata of Pliocene or older age.
	4.5 billion (Age of Earth)				

* Quaternary now recognized as extending to 2.6 Ma (Walker and Geissman, 2009). Quaternary faults in this map were established using the previous 1.8 Ma criterion.



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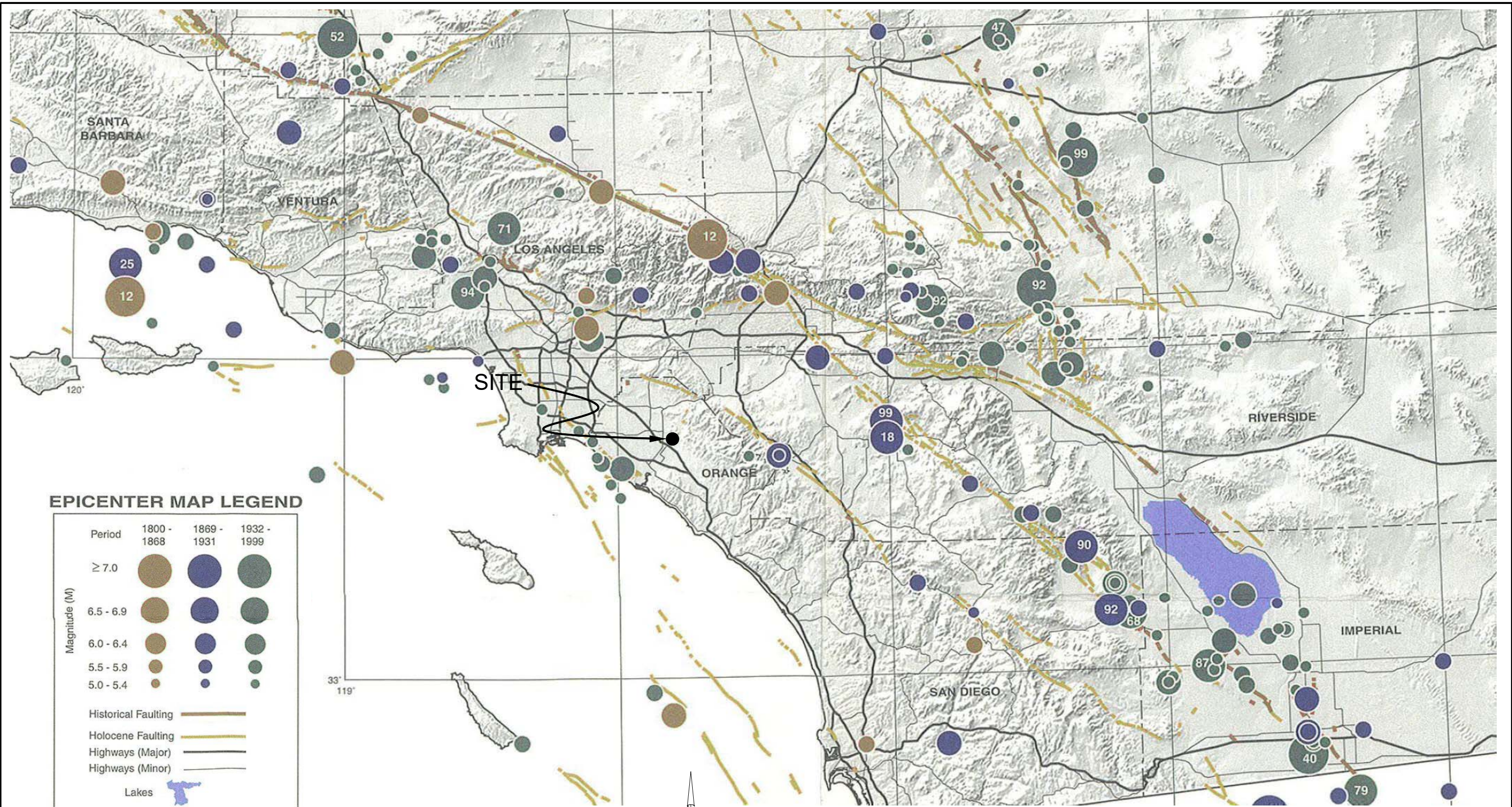
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REGIONAL FAULT MAP

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

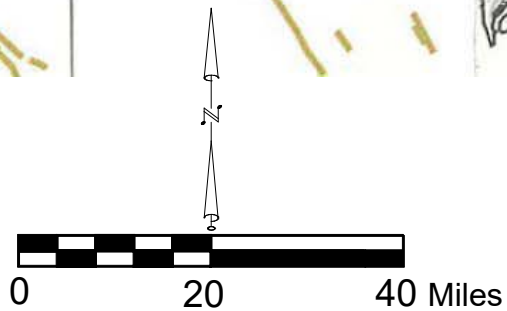
MAY 2017 PROJECT NO. A9568-88-02 FIG. 3



EPICENTER MAP LEGEND

Period	1800 - 1868	1869 - 1931	1932 - 1999
Magnitude (M)			
≥ 7.0			
6.5 - 6.9			
6.0 - 6.4			
5.5 - 5.9			
5.0 - 5.4			
Historical Faulting			
Holocene Faulting			
Highways (Major)			
Highways (Minor)			
Lakes			
65	Last two digits of M ≥ 6.5 earthquake year		

Reference: Topozada, T., Branum, D., Petersen, M., Hallstrom, C., Cramer, C., and Reichle, M., 2000, Epicenters and Areas Damaged by M≥5 California Earthquakes, 1800 - 1999, California Geological Survey, Map Sheet 49.



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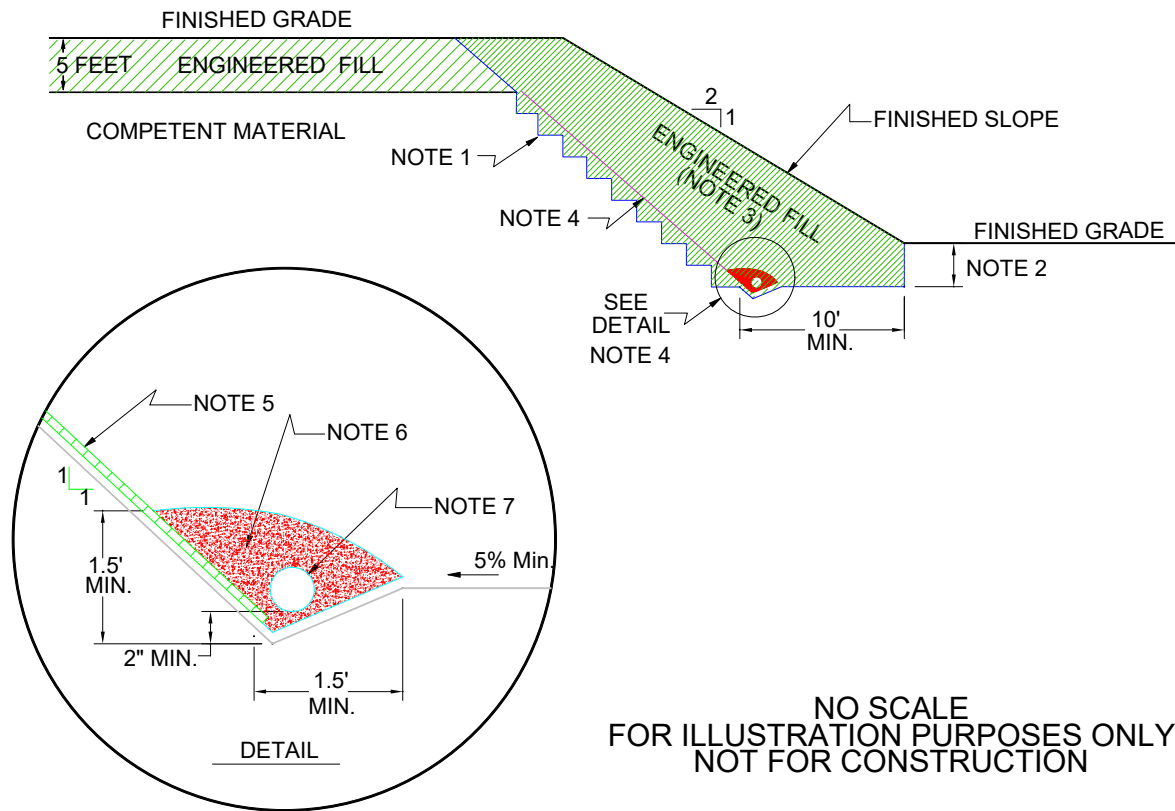
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REGIONAL SEISMICITY MAP

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

MAY 2017 PROJECT NO. A9568-88-02 FIG. 4



NO SCALE
FOR ILLUSTRATION PURPOSES ONLY
NOT FOR CONSTRUCTION

NOTES

- 1 EXCAVATE BENCHED BACKCUT AT 1:1 INCLINATION OR FLATTER
- 2 BASE OF SLOPE KEYWAY TO BE 2 FEET BELOW PAD GRADE SLOPING A MINIMUM 5% INTO SLOPE
- 3 FILL SLOPE TO BE COMPOSED OF PROPERLY COMPACTED ENGINEERED FILL
- 4 KEYWAY DRAIN TO BE INSTALLED WHERE BEDROCK IS EXPOSED WITHIN EXCAVATION FOR FILL SLOPE
- 5 WHERE SEEPAGE IS ENCOUNTERED IN BACKCUT OR SLOPE HEIGHT EXCEEDS 15 FEET, CHIMNEY DRAINS ARE RECOMMENDED, CHIMNEY DRAINS TO BE APPROVED, PREFABRICATED DRAINS ARE CHIMNEY DRAIN PANELS (MIRIDRAIN 5000 OR EQUIVALENT) SPACED APPROXIMATELY 20 FEET CENTER TO CENTER AND 4 FEET WIDE
- 6 FILTER MATERIAL TO BE 1-INCH, OPEN-GRADED CRUSHED ROCK ENCLOSED IN APPROVED FILTER FABRIC
- 7 COLLECTOR PIPE TO BE 4-INCH MINIMUM DIAMETER, PERFORATED, THICK-WALLED PVC SCHEDULE 40 OR EQUIVALENT, AND SLOPED TO DRAIN AT 1 PERCENT MINIMUM TO APPROVED OUTLET

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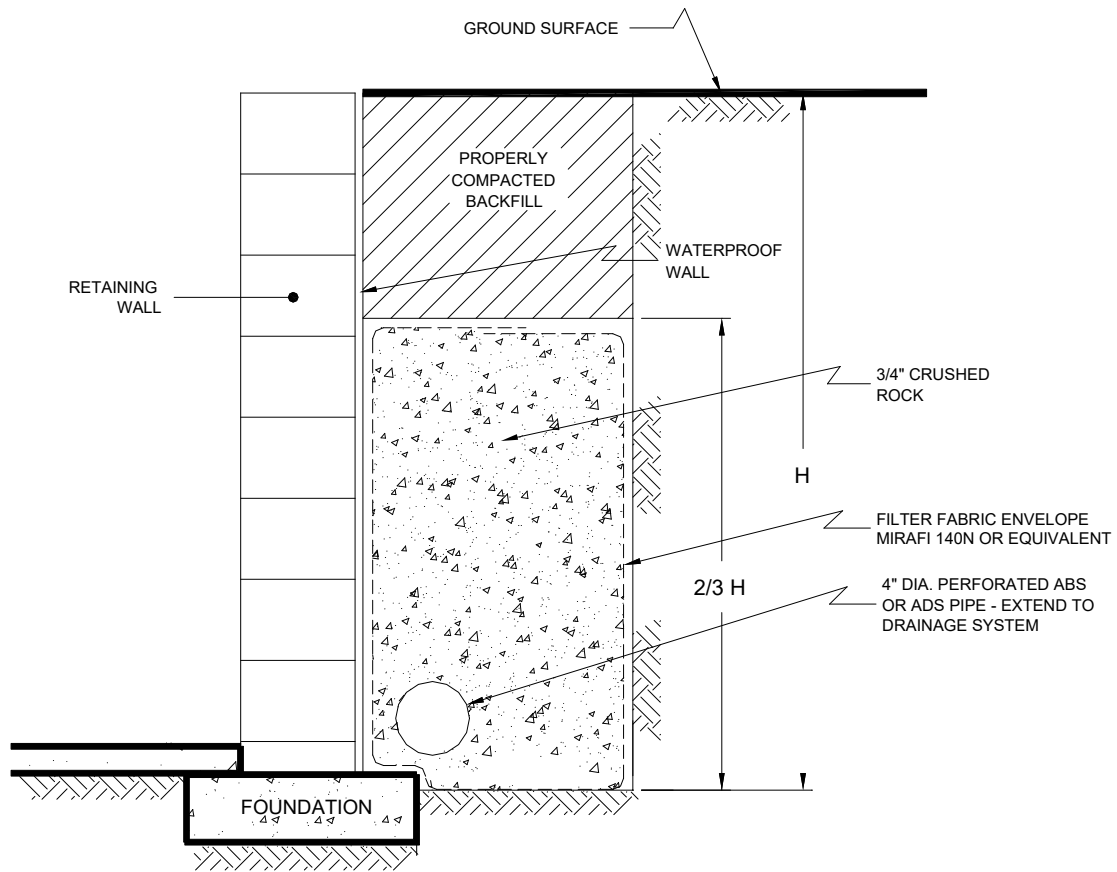
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FILL SLOPE DETAIL

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

MAY 2017 PROJECT NO. A9568-88-02 FIG. 5



NO SCALE

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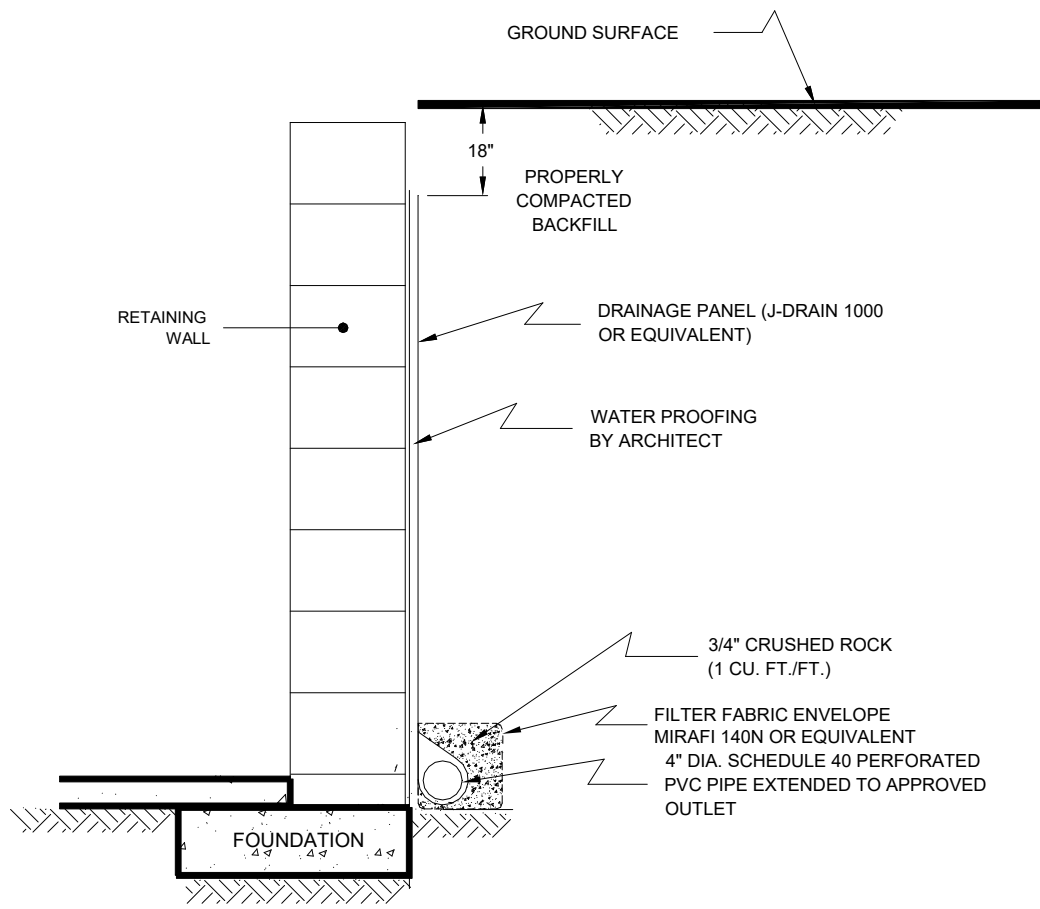
RETAINING WALL DRAIN DETAIL

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

MAY 2017

PROJECT NO. A9568-88-02

FIG. 6



NO SCALE

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DRAFTED BY: AG

CHECKED BY: JTA

RETAINING WALL DRAIN DETAIL

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

MAY 2017

PROJECT NO. A9568-88-02

FIG. 7

PERCOLATION TEST DATA SHEET

Project:	11782 Simon Ranch Rd	Project No:	A9568-88-02	Date:	4/14/2017
Test Hole No:	B3	Tested By:	RA		
Depth of Test Hole, D _T :	22	USCS Soil Classification:			
Test Hole Dimensions (inches)			Length	Width	
Diameter (if round) =	8	Sides (if rectangular) =	---	---	

Sandy Soil Criteria Test*

Trial No.	Start Time	Stop Time	Δt Time Interval (min)	D ₀ Initial Depth to Water (in)	D _f Final Depth to Water (in)	ΔD Change in Water Level (in)	Greater than or Equal to 6"? (y/n)
1	10:14	10:39	25	204.0	225.6	21.6	y
2	10:58	11:23	25	198.0	223.2	25.2	y

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements, taken every 10 minutes. Otherwise, pre-soak (fill) overnight. Obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25".

Trial No.	Start Time	Stop Time	Δt Time Interval (min)	D ₀ Initial Depth to Water (in)	D _f Final Depth to Water (in)	ΔD Change in Water Level (in)	Percolation Rate (min/in)
1	11:32	11:42	10	204.0	213.6	9.6	1500
2	11:57	12:07	10	204.0	213.6	9.6	1500
3	12:10	12:20	10	204.0	214.9	10.9	1319
4	12:26	12:36	10	204.0	213.7	9.7	1481
5	12:38	12:48	10	201.0	210.0	9.0	1600
6	12:51	13:01	10	200.4	209.9	9.5	1519
7							
8							

Infiltration Rate Calculation:

Time Interval, Δt =	10	minutes	Ho =	63.6	inches
Final Depth to Water, D _f =	209.9	inches	H _f =	54.1	inches
Test Hole Radius, r =	4	inches	ΔH =	9.5	inches
Initial Depth to Water, D ₀ =	200.4	inches	H _{avg} =	58.9	inches
Total Depth of Test Hole, D _T =	264.0	inches			

$$I_t = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

Infiltration Rate, I_t = **1.9** inches/hour

Figure 8

APPENDIX

A

APPENDIX A

FIELD INVESTIGATION

The site was explored on April 13, 2017, by excavating five 8-inch diameter borings to depths of approximately 18½ to 33½ feet below the existing ground surface utilizing a truck-mounted hollow-stem auger drilling machine. Representative and relatively undisturbed samples were obtained by driving a 3-inch, O. D., California Modified Sampler into the “undisturbed” soil mass with blows from a 140-pound auto-hammer falling 30 inches. The California Modified Sampler was equipped with 1-inch high by 2³/₈-inch diameter brass sampler rings to facilitate soil removal and testing. Bulk samples were also obtained.

The soil conditions encountered in the borings were visually examined, classified and logged in general accordance with the Unified Soil Classification System (USCS). Logs of the borings are presented on Figures A1 through A5. The logs depict the soil and geologic conditions encountered and the depth at which samples were obtained. The location of the borings are shown on Figure 2.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING 1		PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>266.0</u>	DATE COMPLETED <u>4/13/17</u>			
					EQUIPMENT <u>HOLLOW STEM AUGER</u>		BY: <u>RMA</u>		
MATERIAL DESCRIPTION									
0	BULK 0-5'				AC: 5" BASE: NONE ARTIFICIAL FILL Sandy Silt, firm, slightly moist, yellowish brown, fine-grained, trace clay.				
2									
4									
6	B1@5'				UNDIFFERENTIATED VAQUEROS-SESPE FORMATION Sandy Siltstone, soft, slightly moist, light yellowish brown, thinly bedded, unfractured to slightly fractured, slightly weathered.		50 (5.5")	109.7	12.1
8					- increase in fine-grained				
10	B1@10'						50 (6")	113.1	11.4
12									
14					Siltstone, olive brown, slightly fractured, thinly bedded, some oxidation staining, moderately weathered.				
16	B1@15'				Clayey Siltstone, soft, thinly bedded, moderately weathered.		70	99.1	23.5
18									
20	B1@20'				- soft to medium hard		50 (3")	97.2	29.4
					Total depth of boring: refusal at 21 feet Fill to 5 feet. No groundwater encountered. Backfilled with soil cuttings and tamped. Asphalt patched.				
					*Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.				

**Figure A1,
Log of Boring 1, Page 1 of 1**

A9568-88-02 BORING LOGS.GPJ

SAMPLE SYMBOLS		... SAMPLING UNSUCCESSFUL		... STANDARD PENETRATION TEST		... DRIVE SAMPLE (UNDISTURBED)
		... DISTURBED OR BAG SAMPLE		... CHUNK SAMPLE		... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING 2		PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>255.0</u>	DATE COMPLETED <u>4/13/17</u>			
					EQUIPMENT <u>HOLLOW STEM AUGER</u>		BY: <u>RMA</u>		
MATERIAL DESCRIPTION									
0	BULK 0-5'					AC: 5.5" BASE: NONE ARTIFICIAL FILL Sandy Silt, firm, slightly moist, dark yellowish brown, fine-grained, some asphalt debris & rootlets, trace fine gravel.			
2	B2@3'			SM		ALLUVIUM Silty Sand, medium dense to dense, slightly moist, dark yellowish brown, fine- to medium-grained, trace coarse-grained. - moderately weathered, some oxidation, trace rootlets	56	119.6	12.1
4	B2@6'			SM			41	121.6	13.3
6	B2@9'			ML		Clayey Silt, stiff, slightly moist, dark yellowish brown, trace fine-grained sand.	35	114.8	15.9
8	B2@12'					UNDIFFERENTIATED VAQUEROS-SESPE FORMATION Silty Sandstone, soft, slightly moist, slightly fractured, light yellowish brown, massive, slightly fractured, moderately weathered.	64	122.1	11.5
10	B2@15'					Sandy Siltstone, soft, slightly moist, light yellowish brown, thinly bedded, slightly weathered, slightly fractured.	50 (4")	122.9	11.2
12	B2@18'					Sandstone, moderately hard, slightly moist, light yellowish brown, massive, intensely fractured, slightly weathered.	50 (6")	125.4	7.4
14	B2@21'					Siltstone, moderately hard, slightly moist, olive brown, thinly bedded, slightly fractured, moderately weathered. - highly weathered, dark red mottles	50 (6")	110.0	17.1
16						Total depth of boring: 21.5 feet Fill to 2.5 feet. No groundwater encountered. Backfilled with soil cuttings and tamped. Asphalt patched. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.			

Figure A2,
Log of Boring 2, Page 1 of 1

A9568-88-02 BORING LOGS.GPJ

SAMPLE SYMBOLS		... SAMPLING UNSUCCESSFUL		... STANDARD PENETRATION TEST		... DRIVE SAMPLE (UNDISTURBED)
		... DISTURBED OR BAG SAMPLE		... CHUNK SAMPLE		... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.



DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING 3		PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)	
					ELEV. (MSL.) <u>238.0</u>	DATE COMPLETED <u>4/13/17</u>				
					EQUIPMENT <u>HOLLOW STEM AUGER</u>		BY: <u>RMA</u>			
MATERIAL DESCRIPTION										
0	BULK 0-5'				ARTIFICIAL FILL Sandy Silt, soft, slightly moist, dark brown, fine-grained, some fine gravel (to 3"). - decrease in sand content					
2	B3@3'				11	113.4	14.7			
4	B3@6'				- trace asphalt debris (to 4"), trace rootlets		11	103.5	18.5	
6	B3@9'				ALLUVIUM Sandy Silt, stiff, slightly moist, yellowish brown, fine-grained, trace rootlets.		32	120.1	13.4	
8	B3@12'				ML	- hard, trace clay		49	117.3	14.9
10	B3@15'				Silty Sand, medium dense, slightly moist, yellowish brown, fine- to medium-grained.		39	117.2	14.7	
12	BULK 15-20'			SM	- increase in silt content, trace clay					
14	B3@18'				- increase in sand content, decrease in silt content, trace rootlets		43	110.4	17.4	
16	BULK 20-22'				21	117.1	13.6			
18	B3@21'				UNDIFFERENTIATED VAQUEROS-SESPE FORMATION Sandy Siltstone, very soft, slightly moist, light grayish brown with dark orange mottles, thinly bedded to laminated, fine-grained, slightly fractured, slightly weathered.		19	104.0	19.4	
20	B3@24'				Sandstone, moderately hard, slightly moist, light gray, massive, friable, intensely fractured, fresh to slightly weathered.					
22	B3@27'				50 (6")	120.8	12.1			
24	B3@27'									

Figure A3,
Log of Boring 3, Page 1 of 2

A9568-88-02 BORING LOGS.GPJ


SAMPLE SYMBOLS		... SAMPLING UNSUCCESSFUL		... STANDARD PENETRATION TEST		... DRIVE SAMPLE (UNDISTURBED)
		... DISTURBED OR BAG SAMPLE		... CHUNK SAMPLE		... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING 3			PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>238.0</u>	DATE COMPLETED <u>4/13/17</u>	EQUIPMENT <u>HOLLOW STEM AUGER</u> BY: <u>RMA</u>			
					MATERIAL DESCRIPTION					
30	B3@30'							50 (6")	111.9	10.7
32					- slightly weathered, trace secondary clay					
	B3@33'							50 (3")	110.5	11.7
					Total depth of boring: 33.5 feet Fill to 8 feet. No groundwater encountered. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.					

**Figure A3,
Log of Boring 3, Page 2 of 2**

A9568-88-02 BORING LOGS.GPJ



SAMPLE SYMBOLS	 ... SAMPLING UNSUCCESSFUL	 ... STANDARD PENETRATION TEST	 ... DRIVE SAMPLE (UNDISTURBED)
	 ... DISTURBED OR BAG SAMPLE	 ... CHUNK SAMPLE	 ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING 4		PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>253.0</u>	DATE COMPLETED <u>4/13/17</u>			
					EQUIPMENT <u>HOLLOW STEM AUGER</u> BY: <u>RMA</u>				
MATERIAL DESCRIPTION									
0	BULK 0-5'				ARTIFICIAL FILL Sandy Silt, firm, slightly moist, dark brown, fine- to medium-grained, some coarse-grained, some fine gravel (to 4"), some rootlets, trace clay.				
2									
4									
6	B4@6'				UNDIFFERENTIATED VAQUEROS-SESPE FORMATION Silty Sandstone, gray, thinly bedded, friable, slightly fractured, fresh to slightly weathered. - decrease in silt content - slightly weathered	11	107.8	13.6	
8									
10	B4@9' BULK 9-12'					86	121.4	10.7	
12	B4@12'					50 (6")	116.5	6.8	
14									
16	B4@15'				50 (4")	107.5	9.3		
18	B4@18'				50 (6")	111.8	8.1		
					Total depth of boring: 18.5 feet Fill to 6.5 feet. No groundwater encountered. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.				

Figure A4,
Log of Boring 4, Page 1 of 1

A9568-88-02 BORING LOGS.GPJ







SAMPLE SYMBOLS	 ... SAMPLING UNSUCCESSFUL	 ... STANDARD PENETRATION TEST	 ... DRIVE SAMPLE (UNDISTURBED)
	 ... DISTURBED OR BAG SAMPLE	 ... CHUNK SAMPLE	 ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING 5		PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>292.5</u>	DATE COMPLETED <u>4/13/17</u>			
					EQUIPMENT <u>HOLLOW STEM AUGER</u> BY: <u>RMA</u>				
MATERIAL DESCRIPTION									
0					ARTIFICIAL FILL Sandy Silt, firm, slightly moist, dark brown, fine-grained.				
2									
4	B5@3'				ALLUVIUM Silt with Sand, stiff, slightly moist, dark yellowish brown, fine-grained, trace clay. - hard, reddish brown		24	118.9	13.9
6	B5@6'						52	121.3	13.8
8				ML					
10	B5@9'						50	122.3	13.1
12	B5@12'				- gray mottling				
14									
16	B5@15'			SM	Silty Sand, dense, slightly moist, dark yellowish brown, fine-grained, trace clay.		75	126.4	9.4
18				SP-SM	Sand with Silt, poorly graded, medium dense, slightly moist, brown, fine- to medium-grained.				
20	B5@18'				Sandy Silt, hard, slightly moist, dark yellowish brown, fine-grained.		47	116.4	12.0
22				ML					
24	B5@21'				UNDIFFERENTIATED VAQUEROS-SESPE FORMATION Siltstone, reddish brown, massive, slightly fractured, moderately weathered.		65	117.9	15.3
26					- some clay				
28	B5@24'						50 (6")	116.1	14.3
	B5@27'								
					Sandstone, moderately hard, slightly moist, gray, massive, friable, unfractured, fresh.		50 (4")	120.4	15.1

**Figure A5,
Log of Boring 5, Page 1 of 2**

A9568-88-02 BORING LOGS.GPJ

SAMPLE SYMBOLS	 ... SAMPLING UNSUCCESSFUL	 ... STANDARD PENETRATION TEST	 ... DRIVE SAMPLE (UNDISTURBED)
	 ... DISTURBED OR BAG SAMPLE	 ... CHUNK SAMPLE	 ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING 5		PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)	
					ELEV. (MSL.) <u>292.5</u>	DATE COMPLETED <u>4/13/17</u>				
					EQUIPMENT <u>HOLLOW STEM AUGER</u> BY: <u>RMA</u>					
					MATERIAL DESCRIPTION					
30	B5@30'				Total depth of boring: 30.5 feet Fill to 3 feet. No groundwater encountered. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.		50 (5")	117.0	9.0	

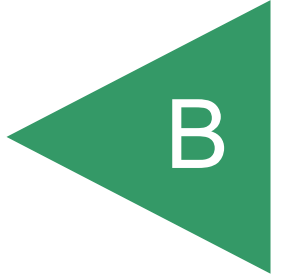
**Figure A5,
Log of Boring 5, Page 2 of 2**

A9568-88-02 BORING LOGS.GPJ

SAMPLE SYMBOLS	<input type="checkbox"/> ... SAMPLING UNSUCCESSFUL	<input type="checkbox"/> ... STANDARD PENETRATION TEST	<input type="checkbox"/> ... DRIVE SAMPLE (UNDISTURBED)
	<input checked="" type="checkbox"/> ... DISTURBED OR BAG SAMPLE	<input checked="" type="checkbox"/> ... CHUNK SAMPLE	<input checked="" type="checkbox"/> ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

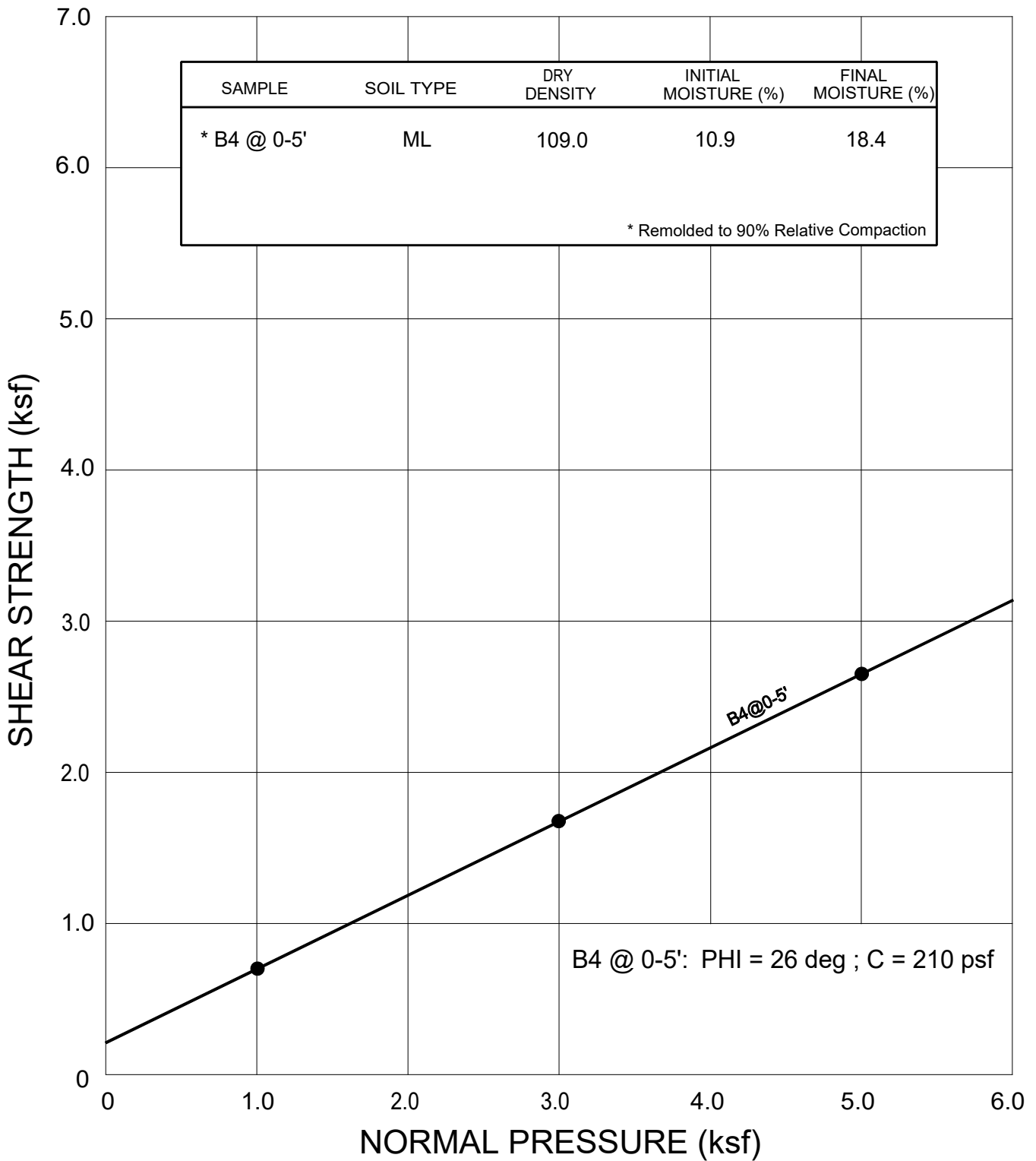
APPENDIX



APPENDIX B

LABORATORY TESTING

Laboratory tests were performed in accordance with generally accepted test methods of the “American Society for Testing and Materials (ASTM)”, or other suggested procedures. Selected samples were tested for direct shear strength, consolidation, gradation, and expansion characteristics, compaction, resistance value (R-value), corrosivity, and in-place dry density and moisture content. The results of the laboratory tests are summarized in Figures B1 through B6. The in-place dry density and moisture content of the samples tested are presented on the boring logs, Appendix A.



● DIRECT SHEAR, SATURATED

GEOCON
WEST, INC.



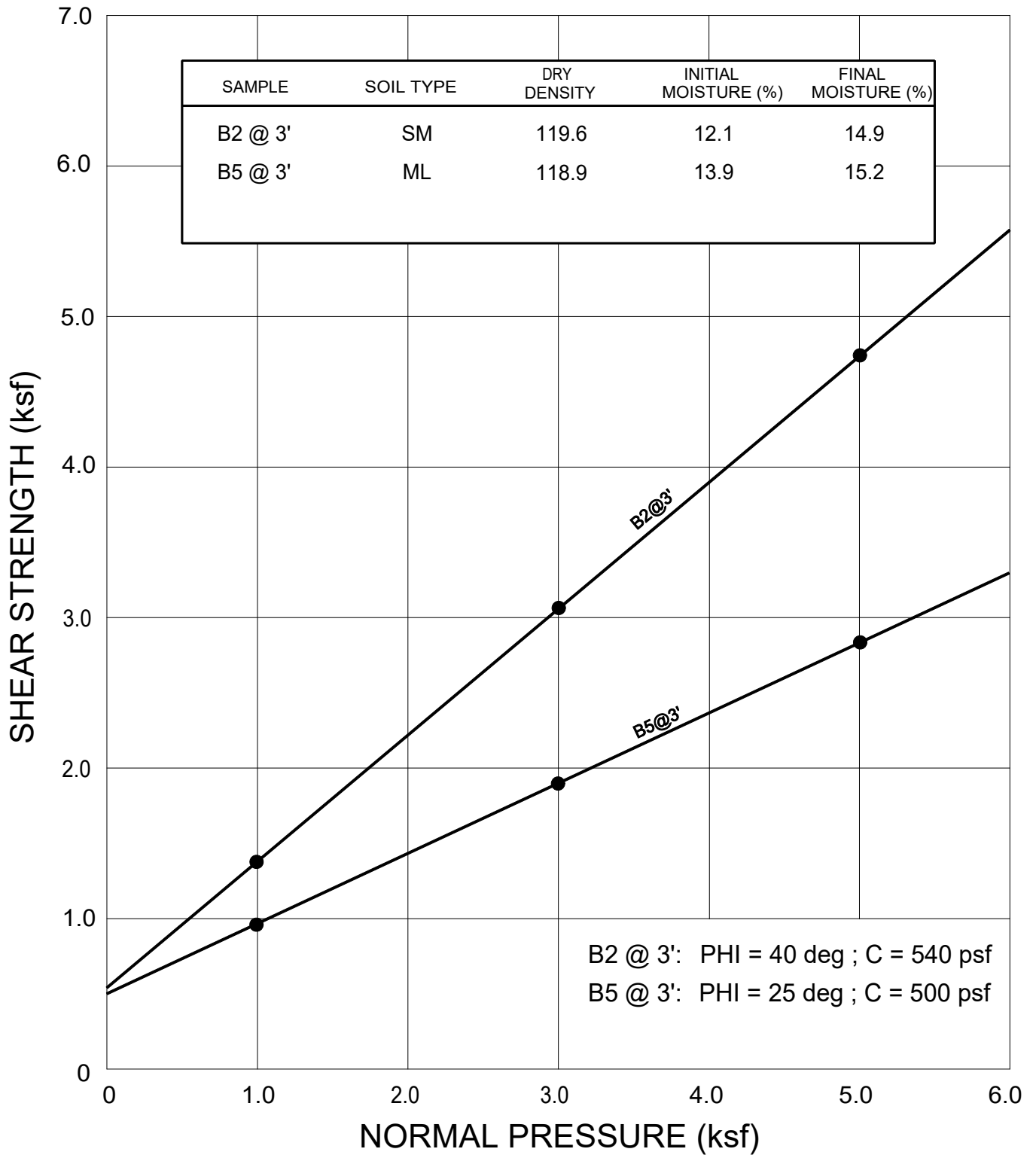
ENVIRONMENTAL GEOTECHNICAL MATERIALS
15520 ROCKFIELD BLVD. - SUITE J - IRVINE, CA 92618
PHONE (949) 491-6570

DRAFTED BY: AG CHECKED BY: JTA

DIRECT SHEAR TEST RESULTS

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

MAY 2017 PROJECT NO. A9568-88-02 FIG. B1



● DIRECT SHEAR, SATURATED

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WEST, INC.



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PHONE (949) 491-6570

DRAFTED BY: AG

CHECKED BY: JTA

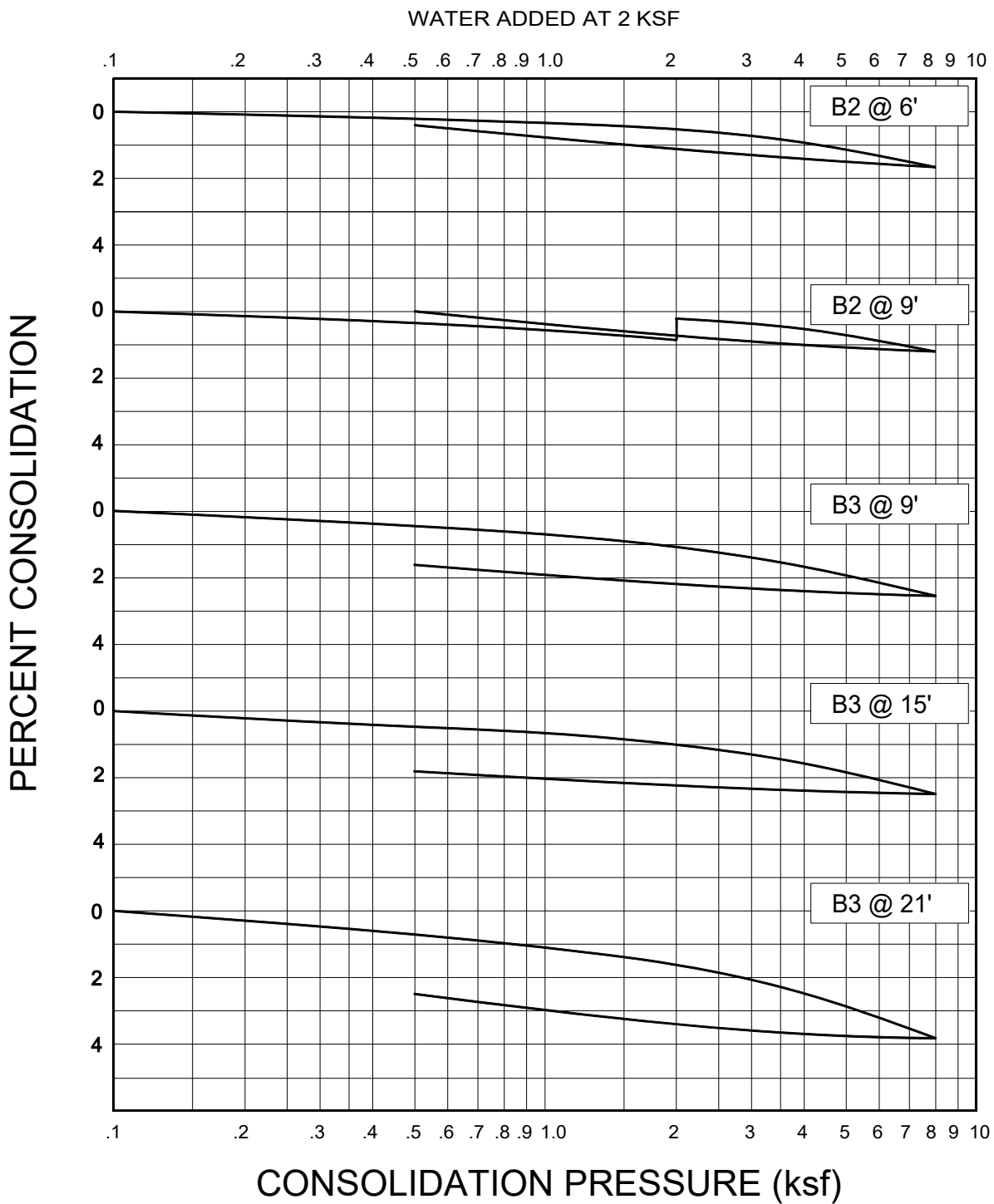
DIRECT SHEAR TEST RESULTS

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

MAY 2017

PROJECT NO. A9568-88-02

FIG. B2



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15520 ROCKFIELD BLVD. - SUITE J - IRVINE, CA 92618
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DRAFTED BY: AG

CHECKED BY: JTA

CONSOLIDATION TEST RESULTS

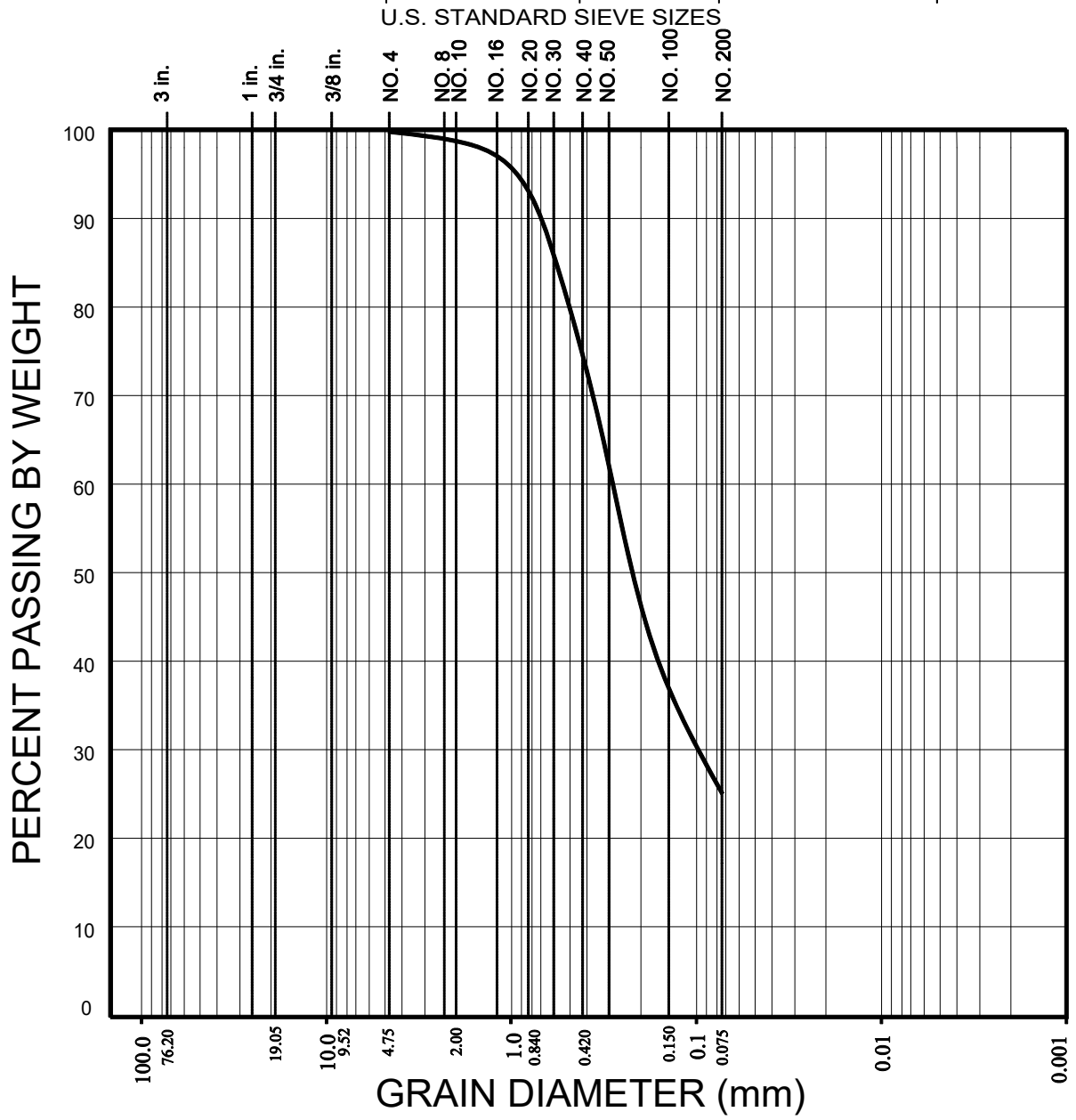
PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

MAY 2017

PROJECT NO. A9568-88-02

FIG. B3

GRAVEL	SAND		SILT	CLAY
	MEDIUM TO COARSE	FINE		



SAMPLE	UNIFIED SOIL CLASSIFICATION
— B3 @ 20-22'	SM

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----------------	-----------------

GRAIN SIZE DISTRIBUTION

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

MAY 2017	PROJECT NO. A9568-88-02	FIG. B4
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**SUMMARY OF LABORATORY EXPANSION INDEX TEST RESULTS
ASTM D 4829-11**

SAMPLE NO.	MOISTURE CONTENT(%)		DRY DENSITY (PCF)	EXPANSION INDEX	*UBC CLASSIFICATION	**CBC CLASSIFICATION
	BEFORE	AFTER				
B4 @ 0-5'	10.0	20.5	110.4	66	Medium	Expansive

* Reference: 1997 Uniform Building Code, Table 18-I-B.

** Reference: 2016 California Building Code, Section 1803.5.3

**SUMMARY OF LABORATORY MAXIMUM DENSITY AND
AND OPTIMUM MOISTURE CONTENT TEST RESULTS
ASTM D 1557-12**

SAMPLE NO.	SOIL DESCRIPTION	MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)
B4 @0-5'	Dark Brown Sandy Silt	122.7	9.6

**SUMMARY OF LABORATORY RESISTANCE VALUE
(R-VALUE) TEST RESULTS
ASTM D 2844**

SAMPLE NO.	RESISTANCE VALUE (R-VALUE)
B1 @0-5'	13

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CHECKED BY: JTA

LABORATORY TEST RESULTS

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

MAY 2017

PROJECT NO. A9568-88-02

FIG. B5

**SUMMARY OF LABORATORY POTENTIAL OF
HYDROGEN (pH) AND RESISTIVITY TEST RESULTS
CALIFORNIA TEST NO. 643**

SAMPLE NO.	pH	RESISTIVITY (OHM CENTIMETERS)
B4 @ 0-5'	8.4	1011 (Corrosive)

**SUMMARY OF LABORATORY CHLORIDE CONTENT TEST RESULTS
EPA NO. 325.3**

SAMPLE NO.	CHLORIDE ION CONTENT (%)
B4 @ 0-5'	0.030

**SUMMARY OF LABORATORY WATER SOLUBLE SULFATE TEST RESULTS
CALIFORNIA TEST NO. 417**

SAMPLE NO.	WATER SOLUBLE SULFATE (% SO ₄)	SULFATE EXPOSURE *
B4 @ 0-5'	0.002	Not Applicable (S0)

* Reference: 2016 California Building Code, Section 1904.3 and ACI 318-11 Section 4.3.

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15520 ROCKFIELD BLVD. - SUITE J - IRVINE, CA 92618
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DRAFTED BY: AG

CHECKED BY: JTA

CORROSIVITY TEST RESULTS

PROPOSED SINGLE-FAMILY
RESIDENTIAL TRACT DEVELOPMENT
11782 SIMON RANCH ROAD
SANTA ANA, CALIFORNIA

MAY 2017

PROJECT NO. A9568-88-02

FIG. B6

Attachment D: Hydromodification Calculations

WinTR-55 software was used to determine the peak runoff rate and total runoff volume for a 2-year storm event. The printouts from the program are on the following pages. The results are as follows:

DESCRIPTION	Tc (min)	2-year peak flow (cfs)	2-year runoff (cf)	Percent Change in Runoff Volume
A-1: Pre-developed Site	7.92	4.87	24,162 ^A	-
B-1: Post-developed site	10.01	3.87	21,366 ^B	-11.6%

^A(1.132") (5.88 ac) (43560 ft/ac) (1'/12")

^B(1.001") (5.88 ac) (43560 ft/ac) (1'/12")

The runoff volume decreases by over 11 percent, therefore the project does not have an HCOC.

Per Section 7.II-2.4.2.1 of the Model Water Quality Management Plan:

"A project does not have an HCOC if either of the following conditions is met:

- The volumes and time of concentration of stormwater runoff for the post-development condition do not significantly exceed those of the predevelopment condition for a two-year frequency storm event (a difference of five percent or less is considered insignificant).

WinTR-20 Printed Page File Beginning of Input Data List
 TR20.inp

WinTR-20: Version 1.10 0 0 0.05
 Tustin Racquet Club
 Existing Condition

SUB-AREA:
 A-1 Outlet .00919 90. .132

STREAM REACH:

STORM ANALYSIS:
 2-Yr 2.05 Type I 2

STRUCTURE RATING:

GLOBAL OUTPUT:
 2 0.05 YYYYN YYYYNN

WinTR-20 Printed Page File End of Input Data List

Tustin Racquet Club
 Existing Condition

Name of printed page file:
 TR20.out

STORM 2-Yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
A-1	0.009		1.132		9.95	4.87	529.71

Line Start Time (hr)	Flow (cfs)	Values @ time (cfs)	increment (cfs)	of 0.008 hr (cfs)	----- (cfs)	----- (cfs)
6.801	0.05	0.05	0.05	0.05	0.05	0.05
6.860	0.05	0.05	0.05	0.05	0.06	0.06
6.918	0.06	0.06	0.06	0.06	0.06	0.06
6.976	0.06	0.06	0.06	0.06	0.06	0.06
7.035	0.06	0.06	0.07	0.07	0.07	0.07
7.093	0.07	0.07	0.07	0.07	0.07	0.07
7.151	0.07	0.07	0.07	0.07	0.07	0.07
7.210	0.07	0.07	0.07	0.08	0.08	0.08
7.268	0.08	0.08	0.08	0.08	0.08	0.08
7.326	0.08	0.08	0.08	0.08	0.08	0.08
7.385	0.08	0.08	0.08	0.08	0.09	0.09
7.443	0.09	0.09	0.09	0.09	0.09	0.09
7.501	0.09	0.09	0.09	0.09	0.09	0.09
7.560	0.09	0.09	0.09	0.09	0.09	0.10
7.618	0.10	0.10	0.10	0.10	0.10	0.10
7.677	0.10	0.10	0.10	0.10	0.10	0.10
7.735	0.10	0.10	0.10	0.10	0.10	0.10
7.793	0.11	0.11	0.11	0.11	0.11	0.11
7.852	0.11	0.11	0.11	0.11	0.11	0.11
7.910	0.11	0.11	0.11	0.11	0.11	0.11
7.968	0.12	0.12	0.12	0.12	0.12	0.12
8.027	0.12	0.12	0.12	0.12	0.12	0.12
8.085	0.12	0.12	0.13	0.13	0.13	0.13
8.143	0.13	0.13	0.13	0.14	0.14	0.14
8.202	0.14	0.14	0.14	0.15	0.15	0.15
8.260	0.15	0.15	0.16	0.16	0.16	0.16
8.318	0.16	0.16	0.17	0.17	0.17	0.17
8.377	0.18	0.18	0.18	0.18	0.18	0.19
8.435	0.19	0.19	0.19	0.19	0.20	0.20
8.494	0.20	0.20	0.21	0.21	0.21	0.21
8.552	0.21	0.22	0.22	0.22	0.22	0.23
8.610	0.23	0.23	0.23	0.24	0.24	0.24
8.669	0.24	0.25	0.25	0.25	0.25	0.26
8.727	0.26	0.26	0.26	0.26	0.27	0.27
8.785	0.27	0.28	0.28	0.28	0.28	0.29

8.844	0.29	0.29	0.29	0.30	0.30	0.30	0.30
8.902	0.31	0.31	0.31	0.31	0.32	0.32	0.32
8.960	0.32	0.33	0.33	0.33	0.33	0.34	0.34
9.019	0.34	0.34	0.35	0.35	0.35	0.35	0.36
9.077	0.36	0.37	0.37	0.37	0.37	0.38	0.38

Tustin Racquet Club
Existing Condition

Line Start Time (hr)	----- (cfs)	Flow (cfs)	Values @ time (cfs)	increment of (cfs)	of 0.008 hr (cfs)	----- (cfs)	----- (cfs)
9.135	0.38	0.39	0.39	0.40	0.40	0.40	0.41
9.194	0.41	0.42	0.42	0.42	0.43	0.43	0.44
9.252	0.44	0.45	0.45	0.46	0.46	0.47	0.47
9.311	0.47	0.48	0.48	0.49	0.49	0.50	0.50
9.369	0.51	0.51	0.52	0.52	0.53	0.53	0.54
9.427	0.54	0.54	0.55	0.55	0.56	0.57	0.57
9.486	0.58	0.58	0.59	0.59	0.60	0.61	0.62
9.544	0.63	0.65	0.67	0.70	0.72	0.75	0.77
9.602	0.80	0.82	0.84	0.87	0.90	0.94	0.98
9.661	1.03	1.08	1.13	1.18	1.23	1.28	1.33
9.719	1.38	1.43	1.49	1.56	1.64	1.73	1.83
9.777	1.93	2.03	2.13	2.22	2.32	2.42	2.53
9.836	2.65	2.80	2.97	3.17	3.38	3.60	3.82
9.894	4.03	4.23	4.42	4.58	4.71	4.80	4.85
9.952	4.87	4.85	4.81	4.76	4.69	4.63	4.56
10.011	4.49	4.41	4.32	4.21	4.07	3.90	3.71
10.069	3.49	3.27	3.06	2.84	2.65	2.47	2.30
10.128	2.16	2.05	1.95	1.86	1.78	1.71	1.65
10.186	1.60	1.56	1.52	1.48	1.45	1.42	1.40
10.244	1.38	1.35	1.33	1.31	1.29	1.27	1.26
10.303	1.24	1.23	1.21	1.20	1.19	1.18	1.16
10.361	1.15	1.14	1.12	1.11	1.09	1.08	1.07
10.419	1.06	1.05	1.04	1.03	1.02	1.00	0.99
10.478	0.98	0.96	0.95	0.94	0.93	0.92	0.91
10.536	0.90	0.89	0.88	0.87	0.86	0.85	0.84
10.594	0.83	0.82	0.82	0.81	0.80	0.80	0.79
10.653	0.79	0.78	0.78	0.77	0.77	0.77	0.76
10.711	0.76	0.76	0.75	0.75	0.75	0.74	0.74
10.769	0.74	0.73	0.73	0.73	0.72	0.72	0.72
10.828	0.72	0.71	0.71	0.71	0.71	0.70	0.70
10.886	0.70	0.69	0.69	0.69	0.68	0.68	0.68
10.945	0.68	0.67	0.67	0.67	0.66	0.66	0.66
11.003	0.65	0.65	0.65	0.65	0.64	0.64	0.64
11.061	0.64	0.63	0.63	0.63	0.63	0.62	0.62
11.120	0.62	0.62	0.62	0.62	0.62	0.61	0.61
11.178	0.61	0.61	0.61	0.61	0.61	0.61	0.60
11.236	0.60	0.60	0.60	0.60	0.60	0.60	0.60
11.295	0.60	0.59	0.59	0.59	0.59	0.59	0.59
11.353	0.59	0.59	0.59	0.59	0.58	0.58	0.58
11.411	0.58	0.58	0.58	0.58	0.58	0.58	0.58
11.470	0.57	0.57	0.57	0.57	0.57	0.57	0.57
11.528	0.57	0.57	0.57	0.56	0.56	0.56	0.56
11.587	0.56	0.56	0.56	0.56	0.56	0.55	0.55
11.645	0.55	0.55	0.55	0.55	0.55	0.55	0.55
11.703	0.54	0.54	0.54	0.54	0.54	0.54	0.54
11.762	0.54	0.54	0.54	0.53	0.53	0.53	0.53
11.820	0.53	0.53	0.53	0.53	0.53	0.52	0.52
11.878	0.52	0.52	0.52	0.52	0.52	0.52	0.52
11.937	0.52	0.51	0.51	0.51	0.51	0.51	0.51
11.995	0.51	0.51	0.50	0.50	0.50	0.50	0.50
12.053	0.50	0.50	0.50	0.50	0.50	0.50	0.49

WinTR-20: Version 1.10
n Racquet Club
Existing Condition

0 0 0.05

(continued)

SUB-AREA:

STORM 2-Yr

A-1 Outlet .00919 90. .132

STREAM REACH:

15.496	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
15.555	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
15.613	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
15.672	0.30	0.29	0.29	0.29	0.29	0.29	0.29	0.29
15.730	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
15.788	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
15.847	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
15.905	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
15.963	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
16.022	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
16.080	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
16.138	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
16.197	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
16.255	0.29	0.29	0.29	0.28	0.28	0.28	0.28	0.28
16.313	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
16.372	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
16.430	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
16.489	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
16.547	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
16.605	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
16.664	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
16.722	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
16.780	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
16.839	0.28	0.28	0.28	0.27	0.27	0.27	0.27	0.27
16.897	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
16.955	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
17.014	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
17.072	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
17.131	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
17.189	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
17.247	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
17.306	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
17.364	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
17.422	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
17.481	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
17.539	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
17.597	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
17.656	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26

WinTR-20: Version 1.10
n Racquet Club
Existing Condition

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

A-1 Outlet .00919 90. .132

STREAM REACH:

21.040	0.20	0.20	0.20	0.20	0.20	0.20	0.20
21.099	0.20	0.20	0.20	0.20	0.20	0.19	0.19
21.157	0.19	0.19	0.19	0.19	0.19	0.19	0.19
21.216	0.19	0.19	0.19	0.19	0.19	0.19	0.19
21.274	0.19	0.19	0.19	0.19	0.19	0.19	0.19
21.332	0.19	0.19	0.19	0.19	0.19	0.19	0.19
21.391	0.19	0.19	0.19	0.19	0.19	0.19	0.19
21.449	0.19	0.19	0.19	0.19	0.19	0.19	0.19
21.507	0.19	0.19	0.19	0.19	0.19	0.19	0.19
21.566	0.19	0.19	0.19	0.19	0.19	0.19	0.19
21.624	0.19	0.19	0.19	0.18	0.18	0.18	0.18
21.682	0.18	0.18	0.18	0.18	0.18	0.18	0.18
21.741	0.18	0.18	0.18	0.18	0.18	0.18	0.18
21.799	0.18	0.18	0.18	0.18	0.18	0.18	0.18
21.857	0.18	0.18	0.18	0.18	0.18	0.18	0.18
21.916	0.18	0.18	0.18	0.18	0.18	0.18	0.18
21.974	0.18	0.18	0.18	0.18	0.18	0.18	0.18
22.033	0.18	0.18	0.18	0.18	0.18	0.18	0.18
22.091	0.18	0.18	0.18	0.18	0.18	0.18	0.18
22.149	0.17	0.17	0.17	0.17	0.17	0.17	0.17
22.208	0.17	0.17	0.17	0.17	0.17	0.17	0.17
22.266	0.17	0.17	0.17	0.17	0.17	0.17	0.17
22.324	0.17	0.17	0.17	0.17	0.17	0.17	0.17
22.383	0.17	0.17	0.17	0.17	0.17	0.17	0.17
22.441	0.17	0.17	0.17	0.17	0.17	0.17	0.17
22.499	0.17	0.17	0.17	0.17	0.17	0.17	0.17
22.558	0.17	0.17	0.17	0.17	0.17	0.17	0.17
22.616	0.17	0.17	0.17	0.17	0.16	0.16	0.16
22.675	0.16	0.16	0.16	0.16	0.16	0.16	0.16
22.733	0.16	0.16	0.16	0.16	0.16	0.16	0.16
22.791	0.16	0.16	0.16	0.16	0.16	0.16	0.16
22.850	0.16	0.16	0.16	0.16	0.16	0.16	0.16
22.908	0.16	0.16	0.16	0.16	0.16	0.16	0.16
22.966	0.16	0.16	0.16	0.16	0.16	0.16	0.16
23.025	0.16	0.16	0.16	0.16	0.16	0.16	0.16
23.083	0.16	0.16	0.16	0.16	0.16	0.16	0.16
23.141	0.16	0.15	0.15	0.15	0.15	0.15	0.15

WinTR-20: Version 1.10
 n Racquet Club
 Existing Condition

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

A-1 Outlet .00919 90. .132

STREAM REACH:

6.860	0.05	0.05	0.05	0.05	0.06	0.06	0.06
6.918	0.06	0.06	0.06	0.06	0.06	0.06	0.06
6.976	0.06	0.06	0.06	0.06	0.06	0.06	0.06
7.035	0.06	0.06	0.07	0.07	0.07	0.07	0.07
7.093	0.07	0.07	0.07	0.07	0.07	0.07	0.07
7.151	0.07	0.07	0.07	0.07	0.07	0.07	0.07
7.210	0.07	0.07	0.07	0.08	0.08	0.08	0.08
7.268	0.08	0.08	0.08	0.08	0.08	0.08	0.08
7.326	0.08	0.08	0.08	0.08	0.08	0.08	0.08
7.385	0.08	0.08	0.08	0.08	0.09	0.09	0.09
7.443	0.09	0.09	0.09	0.09	0.09	0.09	0.09
7.501	0.09	0.09	0.09	0.09	0.09	0.09	0.09
7.560	0.09	0.09	0.09	0.09	0.09	0.10	0.10
7.618	0.10	0.10	0.10	0.10	0.10	0.10	0.10
7.677	0.10	0.10	0.10	0.10	0.10	0.10	0.10
7.735	0.10	0.10	0.10	0.10	0.10	0.10	0.10
7.793	0.11	0.11	0.11	0.11	0.11	0.11	0.11
7.852	0.11	0.11	0.11	0.11	0.11	0.11	0.11
7.910	0.11	0.11	0.11	0.11	0.11	0.11	0.11
7.968	0.12	0.12	0.12	0.12	0.12	0.12	0.12
8.027	0.12	0.12	0.12	0.12	0.12	0.12	0.12
8.085	0.12	0.12	0.13	0.13	0.13	0.13	0.13
8.143	0.13	0.13	0.13	0.14	0.14	0.14	0.14
8.202	0.14	0.14	0.14	0.15	0.15	0.15	0.15
8.260	0.15	0.15	0.16	0.16	0.16	0.16	0.16
8.318	0.16	0.16	0.17	0.17	0.17	0.17	0.17
8.377	0.18	0.18	0.18	0.18	0.18	0.18	0.19
8.435	0.19	0.19	0.19	0.19	0.20	0.20	0.20
8.494	0.20	0.20	0.21	0.21	0.21	0.21	0.21
8.552	0.21	0.22	0.22	0.22	0.22	0.23	0.23
8.610	0.23	0.23	0.23	0.24	0.24	0.24	0.24
8.669	0.24	0.25	0.25	0.25	0.25	0.25	0.26
8.727	0.26	0.26	0.26	0.26	0.27	0.27	0.27
8.785	0.27	0.28	0.28	0.28	0.28	0.29	0.29
8.844	0.29	0.29	0.29	0.30	0.30	0.30	0.30
8.902	0.31	0.31	0.31	0.31	0.32	0.32	0.32
8.960	0.32	0.33	0.33	0.33	0.33	0.34	0.34

WinTR-20: Version 1.10
 n Racquet Club
 Existing Condition

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

A-1 Outlet .00919 90. .132

STREAM REACH:

10.711	0.76	0.76	0.75	0.75	0.75	0.74	0.74
10.769	0.74	0.73	0.73	0.73	0.72	0.72	0.72
10.828	0.72	0.71	0.71	0.71	0.71	0.70	0.70
10.886	0.70	0.69	0.69	0.69	0.68	0.68	0.68
10.945	0.68	0.67	0.67	0.67	0.66	0.66	0.66
11.003	0.65	0.65	0.65	0.65	0.64	0.64	0.64
11.061	0.64	0.63	0.63	0.63	0.63	0.62	0.62
11.120	0.62	0.62	0.62	0.62	0.62	0.61	0.61
11.178	0.61	0.61	0.61	0.61	0.61	0.61	0.60
11.236	0.60	0.60	0.60	0.60	0.60	0.60	0.60
11.295	0.60	0.59	0.59	0.59	0.59	0.59	0.59
11.353	0.59	0.59	0.59	0.59	0.58	0.58	0.58
11.411	0.58	0.58	0.58	0.58	0.58	0.58	0.58
11.470	0.57	0.57	0.57	0.57	0.57	0.57	0.57
11.528	0.57	0.57	0.57	0.56	0.56	0.56	0.56
11.587	0.56	0.56	0.56	0.56	0.56	0.55	0.55
11.645	0.55	0.55	0.55	0.55	0.55	0.55	0.55
11.703	0.54	0.54	0.54	0.54	0.54	0.54	0.54
11.762	0.54	0.54	0.54	0.53	0.53	0.53	0.53
11.820	0.53	0.53	0.53	0.53	0.53	0.52	0.52
11.878	0.52	0.52	0.52	0.52	0.52	0.52	0.52
11.937	0.52	0.51	0.51	0.51	0.51	0.51	0.51

Tustin Racquet Club
 Existing Condition

Line	Flow Values @ time increment of 0.008 hr						
Start Time (hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.995	0.51	0.51	0.50	0.50	0.50	0.50	0.50
12.053	0.50	0.50	0.50	0.50	0.50	0.50	0.49
12.112	0.49	0.49	0.49	0.49	0.49	0.49	0.49
12.170	0.49	0.49	0.49	0.49	0.48	0.48	0.48
12.228	0.48	0.48	0.48	0.48	0.48	0.48	0.48
12.287	0.48	0.48	0.48	0.48	0.48	0.47	0.47

WinTR-20: Version 1.10
n Racquet Club
Existing Condition

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

A-1 Outlet .00919 90. .132

STREAM REACH:

12.345	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
12.404	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.46
12.462	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
12.520	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
12.579	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
12.637	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
12.695	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
12.754	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
12.812	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
12.870	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
12.929	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
12.987	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
13.045	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
13.104	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
13.162	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
13.221	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
13.279	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
13.337	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.38
13.396	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
13.454	0.38	0.38	0.38	0.38	0.38	0.38	0.37	0.37
13.512	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
13.571	0.37	0.37	0.37	0.37	0.37	0.37	0.36	0.36
13.629	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
13.687	0.36	0.36	0.36	0.36	0.36	0.35	0.35	0.35
13.746	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
13.804	0.35	0.35	0.35	0.35	0.35	0.34	0.34	0.34
13.862	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
13.921	0.34	0.34	0.34	0.34	0.33	0.33	0.33	0.33
13.979	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
14.038	0.33	0.33	0.33	0.33	0.32	0.32	0.32	0.32
14.096	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
14.154	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
14.213	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
14.271	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
14.329	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
14.388	0.32	0.32	0.32	0.32	0.32	0.32	0.31	0.31
14.446	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
14.504	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31

WinTR-20: Version 1.10
n Racquet Club
Existing Condition

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

A-1 Outlet .00919 90. .132

STREAM REACH:

(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
17.948	0.26	0.26	0.26	0.26	0.25	0.25	0.25
18.006	0.25	0.25	0.25	0.25	0.25	0.25	0.25
18.064	0.25	0.25	0.25	0.25	0.25	0.25	0.25
18.123	0.25	0.25	0.25	0.25	0.25	0.25	0.25
18.181	0.25	0.25	0.25	0.25	0.25	0.25	0.25
18.239	0.25	0.25	0.25	0.25	0.25	0.25	0.25
18.298	0.25	0.25	0.25	0.25	0.25	0.25	0.25
18.356	0.25	0.25	0.25	0.25	0.25	0.25	0.25
18.414	0.25	0.25	0.25	0.25	0.25	0.25	0.25
18.473	0.25	0.25	0.25	0.25	0.25	0.25	0.24
18.531	0.24	0.24	0.24	0.24	0.24	0.24	0.24
18.589	0.24	0.24	0.24	0.24	0.24	0.24	0.24
18.648	0.24	0.24	0.24	0.24	0.24	0.24	0.24
18.706	0.24	0.24	0.24	0.24	0.24	0.24	0.24
18.765	0.24	0.24	0.24	0.24	0.24	0.24	0.24
18.823	0.24	0.24	0.24	0.24	0.24	0.24	0.24
18.881	0.24	0.24	0.24	0.24	0.24	0.24	0.24
18.940	0.24	0.24	0.24	0.24	0.24	0.24	0.24
18.998	0.24	0.24	0.24	0.24	0.24	0.24	0.24
19.056	0.24	0.23	0.23	0.23	0.23	0.23	0.23
19.115	0.23	0.23	0.23	0.23	0.23	0.23	0.23
19.173	0.23	0.23	0.23	0.23	0.23	0.23	0.23
19.231	0.23	0.23	0.23	0.23	0.23	0.23	0.23
19.290	0.23	0.23	0.23	0.23	0.23	0.23	0.23
19.348	0.23	0.23	0.23	0.23	0.23	0.23	0.23
19.406	0.23	0.23	0.23	0.23	0.23	0.23	0.23
19.465	0.23	0.23	0.23	0.23	0.23	0.23	0.23
19.523	0.23	0.23	0.23	0.23	0.23	0.23	0.23
19.582	0.23	0.22	0.22	0.22	0.22	0.22	0.22
19.640	0.22	0.22	0.22	0.22	0.22	0.22	0.22
19.698	0.22	0.22	0.22	0.22	0.22	0.22	0.22
19.757	0.22	0.22	0.22	0.22	0.22	0.22	0.22
19.815	0.22	0.22	0.22	0.22	0.22	0.22	0.22
19.873	0.22	0.22	0.22	0.22	0.22	0.22	0.22
19.932	0.22	0.22	0.22	0.22	0.22	0.22	0.22
19.990	0.22	0.22	0.22	0.22	0.22	0.22	0.22

WinTR-20: Version 1.10
n Racquet Club
Existing Condition

0 0 0.05

(continued)

SUB-AREA: STORM 2-Yr
A-1 Outlet .00919 90. .132

STREAM REACH:

21.682	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
21.741	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
21.799	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
21.857	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
21.916	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
21.974	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
22.033	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
22.091	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
22.149	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
22.208	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
22.266	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
22.324	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
22.383	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
22.441	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
22.499	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
22.558	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
22.616	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16
22.675	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
22.733	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
22.791	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
22.850	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
22.908	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
22.966	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
23.025	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
23.083	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
23.141	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.15
23.200	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
23.258	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
23.316	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
23.375	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
23.433	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
23.492	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
23.550	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
23.608	0.15	0.15	0.15	0.15	0.15	0.14	0.14	0.14
23.667	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
23.725	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
23.783	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
23.842	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14

WinTR-20 Printed Page File
TR20.inp

Beginning of Input Data List

WinTR-20: Version 1.10
n Racquet Club
Existing Condition

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

A-1 Outlet .00919 90. .132

STREAM REACH:

WinTR-20 Version 1.10

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Tustin Racquet Club
Existing Condition

Line	Start Time	Flow	Values @ time	increment	of	0.008 hr	
	(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
	23.900	0.14	0.14	0.14	0.14	0.14	0.14
	23.958	0.14	0.14	0.14	0.14	0.14	0.14
	24.017	0.14	0.13	0.13	0.13	0.12	0.11
	24.075	0.09	0.08	0.07	0.06	0.05	0.10

WinTR-20 Printed Page File
TR20.inp

Beginning of Input Data List

WinTR-20: Version 1.10
n Racquet Club
Existing Condition

0 0 0.05

(continued)

SUB-AREA:
A-1 Outlet .00919 90. .132

STORM 2-Yr

STREAM REACH:

WinTR-20 Version 1.10

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04/25/2017 10:42

Tustin Racquet Club
Existing Condition

Area or Reach Identifier	Drainage Area (sq mi)	Alternate	----- Peak Flow by Storm -----				
			2-Yr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)
A-1	0.009		4.87				
OUTLET	0.009		4.87				

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WinTR-20 Printed Page File
TR20.inp

Beginning of Input Data List

WinTR-20: Version 1.10
n Racquet Club
Existing Condition

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

A-1 Outlet

.00919 90. .132

STREAM REACH:

WinTR-20 Printed Page File
TR20.inp

Beginning of Input Data List

WinTR-20: Version 1.10
n Racquet Club
Existing Condition

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

A-1 Outlet

.00919 90. .132

STREAM REACH:

WinTR-20 Version 1.10

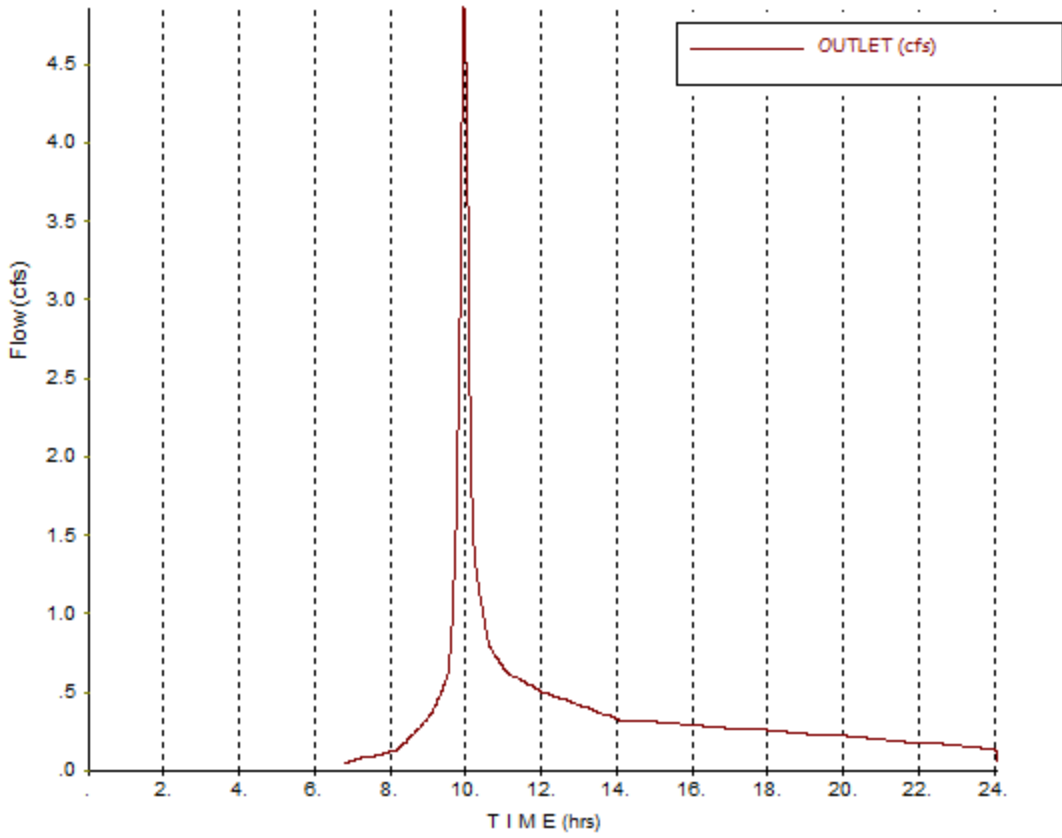
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WinTR-20 Printed Page File Beginning of Input Data List
 TR20.inp

WinTR-20: Version 1.10 0 0 0.05
 Tustin Racquet Club
 Developed Condition

SUB-AREA:
 B-1 Outlet .00919 88. .191

STREAM REACH:

STORM ANALYSIS:
 2-Yr 2.05 Type I 2

STRUCTURE RATING:

GLOBAL OUTPUT:
 2 0.05 YYYYN YYYYNN

WinTR-20 Printed Page File End of Input Data List

Tustin Racquet Club
 Developed Condition

Name of printed page file:
 TR20.out

STORM 2-Yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
B-1	0.009		1.001		10.01	3.87	420.73

Line Start Time (hr)	Flow (cfs)	Values @ time (cfs)	increment (cfs)	of 0.012 hr (cfs)	----- (cfs)	----- (cfs)
7.598	0.05	0.05	0.05	0.05	0.05	0.05
7.683	0.05	0.05	0.06	0.06	0.06	0.06
7.767	0.06	0.06	0.06	0.06	0.06	0.06
7.851	0.06	0.06	0.06	0.06	0.07	0.07
7.936	0.07	0.07	0.07	0.07	0.07	0.07
8.020	0.07	0.07	0.07	0.07	0.07	0.08
8.105	0.08	0.08	0.08	0.08	0.08	0.08
8.189	0.08	0.09	0.09	0.09	0.09	0.09
8.274	0.09	0.10	0.10	0.10	0.10	0.11
8.358	0.11	0.11	0.11	0.11	0.11	0.12
8.443	0.12	0.12	0.12	0.13	0.13	0.13
8.527	0.14	0.14	0.14	0.14	0.14	0.15
8.611	0.15	0.15	0.16	0.16	0.16	0.17
8.696	0.17	0.17	0.17	0.18	0.18	0.18
8.780	0.19	0.19	0.19	0.19	0.20	0.20
8.865	0.20	0.21	0.21	0.21	0.22	0.22
8.949	0.22	0.23	0.23	0.23	0.24	0.24
9.034	0.24	0.25	0.25	0.25	0.26	0.27
9.118	0.27	0.27	0.28	0.28	0.29	0.29
9.203	0.30	0.30	0.31	0.31	0.32	0.33
9.287	0.33	0.34	0.34	0.35	0.36	0.37
9.371	0.37	0.38	0.38	0.39	0.40	0.41
9.456	0.41	0.42	0.43	0.43	0.44	0.45
9.540	0.46	0.48	0.49	0.51	0.53	0.57
9.625	0.60	0.63	0.66	0.70	0.74	0.83
9.709	0.88	0.94	1.00	1.06	1.13	1.30
9.794	1.40	1.50	1.60	1.72	1.85	2.16
9.878	2.35	2.56	2.77	2.99	3.19	3.54
9.963	3.68	3.77	3.83	3.86	3.87	3.79
10.047	3.72	3.62	3.48	3.31	3.13	2.76
10.131	2.57	2.39	2.23	2.07	1.94	1.73
10.216	1.64	1.57	1.51	1.45	1.40	1.31
10.300	1.28	1.24	1.21	1.19	1.16	1.11
10.385	1.09	1.07	1.05	1.03	1.01	0.97
10.469	0.96	0.94	0.92	0.90	0.89	0.86

10.554	0.84	0.83	0.82	0.80	0.79	0.78	0.77
10.638	0.76	0.75	0.74	0.73	0.72	0.72	0.71
10.723	0.70	0.70	0.69	0.69	0.68	0.68	0.68
10.807	0.67	0.67	0.66	0.66	0.65	0.65	0.65
10.891	0.64	0.64	0.63	0.63	0.63	0.62	0.62

Tustin Racquet Club
Developed Condition

Line Start Time (hr)	----- (cfs)	Flow (cfs)	Values @ time (cfs)	increment of (cfs)	0.012 hr (cfs)	----- (cfs)	----- (cfs)
10.976	0.62	0.61	0.61	0.60	0.60	0.60	0.59
11.060	0.59	0.59	0.58	0.58	0.58	0.57	0.57
11.145	0.57	0.57	0.56	0.56	0.56	0.56	0.56
11.229	0.56	0.55	0.55	0.55	0.55	0.55	0.55
11.314	0.55	0.54	0.54	0.54	0.54	0.54	0.54
11.398	0.54	0.53	0.53	0.53	0.53	0.53	0.53
11.482	0.53	0.53	0.52	0.52	0.52	0.52	0.52
11.567	0.52	0.52	0.52	0.51	0.51	0.51	0.51
11.651	0.51	0.51	0.51	0.50	0.50	0.50	0.50
11.736	0.50	0.50	0.50	0.50	0.49	0.49	0.49
11.820	0.49	0.49	0.49	0.49	0.48	0.48	0.48
11.905	0.48	0.48	0.48	0.48	0.47	0.47	0.47
11.989	0.47	0.47	0.47	0.47	0.46	0.46	0.46
12.074	0.46	0.46	0.46	0.46	0.46	0.45	0.45
12.158	0.45	0.45	0.45	0.45	0.45	0.45	0.45
12.242	0.45	0.44	0.44	0.44	0.44	0.44	0.44
12.327	0.44	0.44	0.44	0.44	0.44	0.44	0.43
12.411	0.43	0.43	0.43	0.43	0.43	0.43	0.43
12.496	0.43	0.43	0.43	0.42	0.42	0.42	0.42
12.580	0.42	0.42	0.42	0.42	0.42	0.42	0.42
12.665	0.41	0.41	0.41	0.41	0.41	0.41	0.41
12.749	0.41	0.41	0.41	0.41	0.40	0.40	0.40
12.834	0.40	0.40	0.40	0.40	0.40	0.40	0.40
12.918	0.40	0.39	0.39	0.39	0.39	0.39	0.39
13.002	0.39	0.39	0.39	0.39	0.39	0.38	0.38
13.087	0.38	0.38	0.38	0.38	0.38	0.38	0.38
13.171	0.38	0.38	0.37	0.37	0.37	0.37	0.37
13.256	0.37	0.37	0.37	0.37	0.37	0.36	0.36
13.340	0.36	0.36	0.36	0.36	0.36	0.36	0.36
13.425	0.36	0.36	0.35	0.35	0.35	0.35	0.35
13.509	0.35	0.35	0.35	0.35	0.35	0.34	0.34
13.594	0.34	0.34	0.34	0.34	0.34	0.34	0.34
13.678	0.34	0.33	0.33	0.33	0.33	0.33	0.33
13.762	0.33	0.33	0.33	0.33	0.32	0.32	0.32
13.847	0.32	0.32	0.32	0.32	0.32	0.32	0.32
13.931	0.31	0.31	0.31	0.31	0.31	0.31	0.31
14.016	0.31	0.31	0.31	0.30	0.30	0.30	0.30
14.100	0.30	0.30	0.30	0.30	0.30	0.30	0.30
14.185	0.30	0.30	0.30	0.30	0.30	0.30	0.30
14.269	0.30	0.30	0.29	0.29	0.29	0.29	0.29
14.354	0.29	0.29	0.29	0.29	0.29	0.29	0.29
14.438	0.29	0.29	0.29	0.29	0.29	0.29	0.29
14.522	0.29	0.29	0.29	0.29	0.29	0.29	0.29
14.607	0.29	0.29	0.29	0.29	0.29	0.29	0.29
14.691	0.29	0.29	0.29	0.29	0.29	0.29	0.29
14.776	0.29	0.29	0.29	0.29	0.29	0.29	0.29
14.860	0.29	0.29	0.29	0.29	0.29	0.29	0.29
14.945	0.29	0.29	0.29	0.29	0.29	0.29	0.29
15.029	0.28	0.28	0.28	0.28	0.28	0.28	0.28
15.113	0.28	0.28	0.28	0.28	0.28	0.28	0.28
15.198	0.28	0.28	0.28	0.28	0.28	0.28	0.28

WinTR-20: Version 1.10
n Racquet Club
Developed Condition

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

B-1 Outlet .00919 88. .191

STREAM REACH:

20.180	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
20.264	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
20.349	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
20.433	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
20.518	0.20	0.20	0.20	0.20	0.20	0.20	0.19	0.19
20.602	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
20.687	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
20.771	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
20.856	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
20.940	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
21.024	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
21.109	0.19	0.19	0.18	0.18	0.18	0.18	0.18	0.18
21.193	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
21.278	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
21.362	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
21.447	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
21.531	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
21.616	0.18	0.18	0.18	0.18	0.18	0.18	0.17	0.17
21.700	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
21.784	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
21.869	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
21.953	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
22.038	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
22.122	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
22.207	0.17	0.16	0.16	0.16	0.16	0.16	0.16	0.16
22.291	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
22.376	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
22.460	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
22.544	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
22.629	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
22.713	0.16	0.16	0.16	0.15	0.15	0.15	0.15	0.15
22.798	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
22.882	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
22.967	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
23.051	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
23.135	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
23.220	0.15	0.15	0.15	0.15	0.15	0.15	0.14	0.14
23.304	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14

WinTR-20: Version 1.10
n Racquet Club
Developed Condition

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

B-1 Outlet .00919 88. .191

STREAM REACH:

10.638	0.76	0.75	0.74	0.73	0.72	0.72	0.71
10.723	0.70	0.70	0.69	0.69	0.68	0.68	0.68
10.807	0.67	0.67	0.66	0.66	0.65	0.65	0.65
10.891	0.64	0.64	0.63	0.63	0.63	0.62	0.62
10.976	0.62	0.61	0.61	0.60	0.60	0.60	0.59
11.060	0.59	0.59	0.58	0.58	0.58	0.57	0.57
11.145	0.57	0.57	0.56	0.56	0.56	0.56	0.56
11.229	0.56	0.55	0.55	0.55	0.55	0.55	0.55
11.314	0.55	0.54	0.54	0.54	0.54	0.54	0.54
11.398	0.54	0.53	0.53	0.53	0.53	0.53	0.53
11.482	0.53	0.53	0.52	0.52	0.52	0.52	0.52
11.567	0.52	0.52	0.52	0.51	0.51	0.51	0.51
11.651	0.51	0.51	0.51	0.50	0.50	0.50	0.50
11.736	0.50	0.50	0.50	0.50	0.49	0.49	0.49
11.820	0.49	0.49	0.49	0.49	0.48	0.48	0.48
11.905	0.48	0.48	0.48	0.48	0.47	0.47	0.47
11.989	0.47	0.47	0.47	0.47	0.46	0.46	0.46
12.074	0.46	0.46	0.46	0.46	0.46	0.45	0.45
12.158	0.45	0.45	0.45	0.45	0.45	0.45	0.45
12.242	0.45	0.44	0.44	0.44	0.44	0.44	0.44
12.327	0.44	0.44	0.44	0.44	0.44	0.44	0.43
12.411	0.43	0.43	0.43	0.43	0.43	0.43	0.43
12.496	0.43	0.43	0.43	0.42	0.42	0.42	0.42
12.580	0.42	0.42	0.42	0.42	0.42	0.42	0.42
12.665	0.41	0.41	0.41	0.41	0.41	0.41	0.41
12.749	0.41	0.41	0.41	0.41	0.40	0.40	0.40
12.834	0.40	0.40	0.40	0.40	0.40	0.40	0.40
12.918	0.40	0.39	0.39	0.39	0.39	0.39	0.39
13.002	0.39	0.39	0.39	0.39	0.39	0.38	0.38
13.087	0.38	0.38	0.38	0.38	0.38	0.38	0.38
13.171	0.38	0.38	0.37	0.37	0.37	0.37	0.37
13.256	0.37	0.37	0.37	0.37	0.37	0.36	0.36
13.340	0.36	0.36	0.36	0.36	0.36	0.36	0.36
13.425	0.36	0.36	0.35	0.35	0.35	0.35	0.35
13.509	0.35	0.35	0.35	0.35	0.35	0.34	0.34
13.594	0.34	0.34	0.34	0.34	0.34	0.34	0.34
13.678	0.34	0.33	0.33	0.33	0.33	0.33	0.33

WinTR-20: Version 1.10
n Racquet Club
Developed Condition

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

B-1 Outlet .00919 88. .191

STREAM REACH:

16.127	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
16.211	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
16.296	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
16.380	0.27	0.27	0.26	0.26	0.26	0.26	0.26	0.26
16.465	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
16.549	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
16.633	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
16.718	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
16.802	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
16.887	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
16.971	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.25
17.056	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
17.140	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
17.225	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
17.309	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
17.393	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
17.478	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
17.562	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
17.647	0.25	0.25	0.24	0.24	0.24	0.24	0.24	0.24
17.731	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
17.816	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
17.900	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
17.985	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
18.069	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
18.153	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
18.238	0.24	0.24	0.24	0.24	0.23	0.23	0.23	0.23
18.322	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
18.407	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
18.491	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
18.576	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
18.660	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
18.745	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
18.829	0.23	0.23	0.23	0.23	0.22	0.22	0.22	0.22
18.913	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
18.998	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
19.082	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
19.167	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22

WinTR-20 Printed Page File
TR20.inp

Beginning of Input Data List

WinTR-20: Version 1.10
n Racquet Club
Developed Condition

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

B-1 Outlet .00919 88. .191

STREAM REACH:

24.064 0.12 0.11 0.10 0.09 0.08 0.07 0.06
24.149 0.05

WinTR-20 Printed Page File
TR20.inp

Beginning of Input Data List

WinTR-20: Version 1.10
n Racquet Club
Developed Condition

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

B-1 Outlet

.00919 88. .191

STREAM REACH:

Attachment E: Educational Materials

For developments with less than fifty (50) dwelling units, practical information materials will be provided to the first residents/occupants/tenants on general housekeeping practices that contribute to the protection of stormwater quality. These materials will be initially developed and provided to first residents/ occupants/ tenants by the developer. Thereafter such materials will be available through the Permittees education program. Refer to the Orange County Stormwater Program (ocwatersheds.com) for a library of materials available.

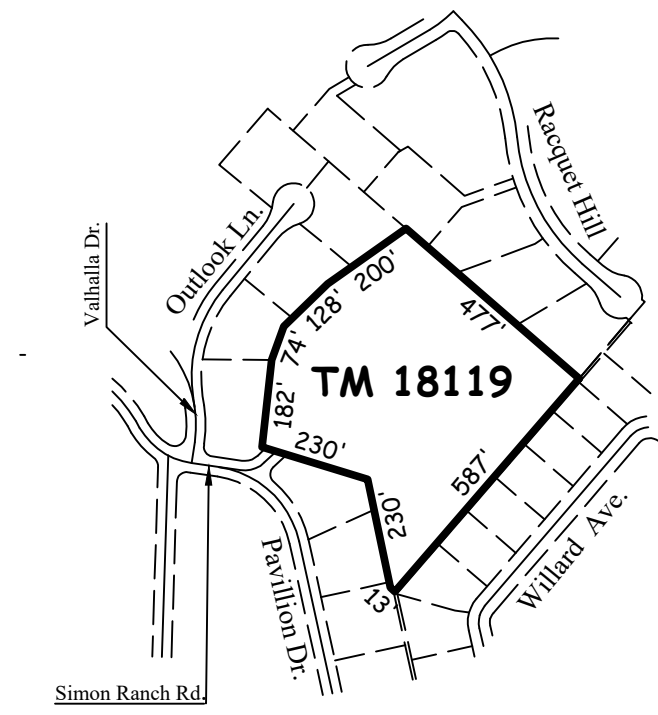
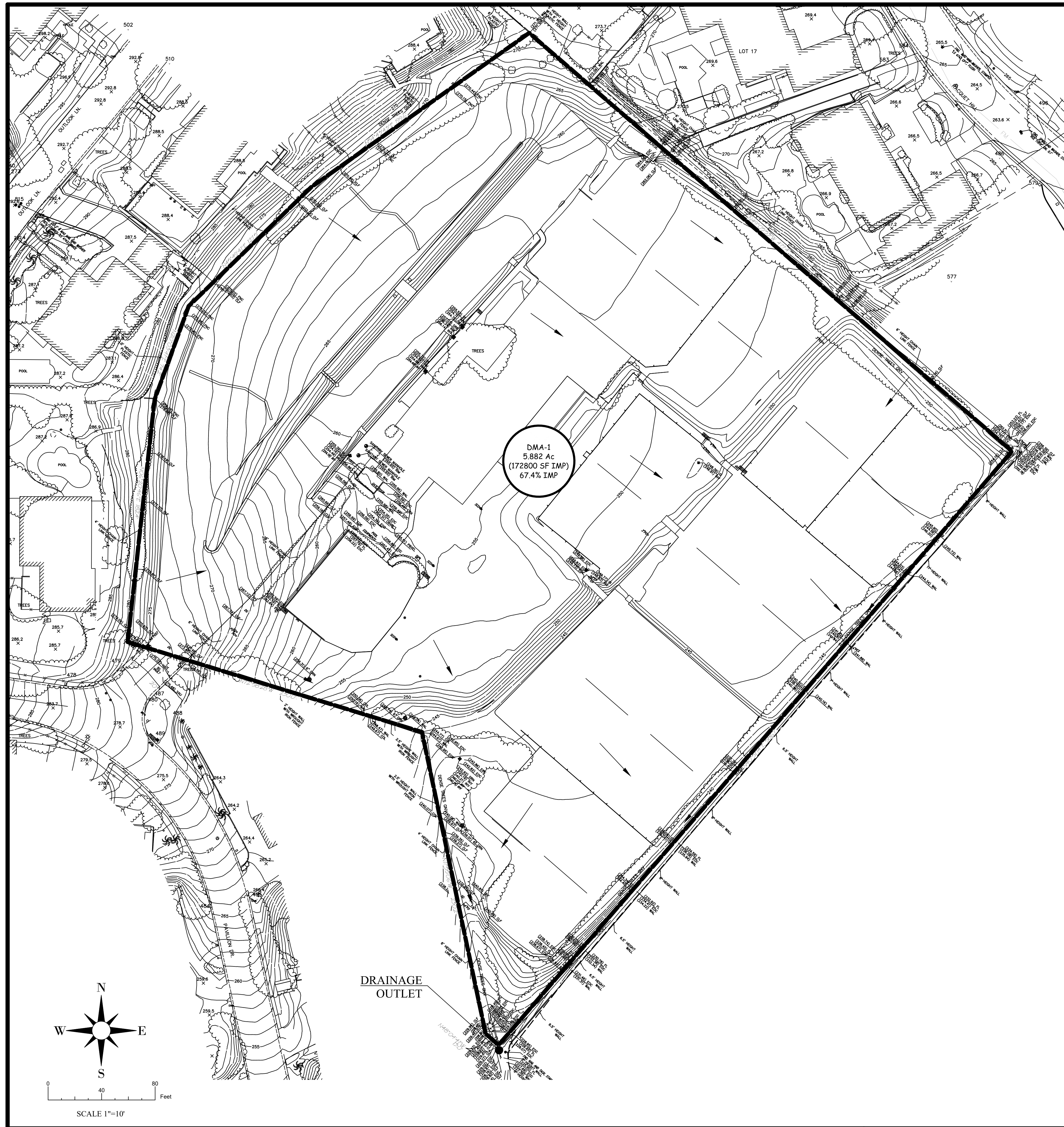
The following materials from the Orange County Stormwater Program are included herein:

- The Ocean Begins at Your Front Door
- Tips for the Home Mechanic
- Household Tips
- Proper Disposal of Household Hazardous Waste
- Recycle at Your Local Used Oil Collection Center (North County)
- Responsible Pest Control
- Tips for the Home Improvement Projects
- Tips for Landscaping and Gardening
- Tips for Pet Care
- Tips for Pool Maintenance
- Tips for Residential Pool, Landscape and Hardscape Drains
- Tips for Projects Using Paint
- Tips for Using Concrete and Mortar

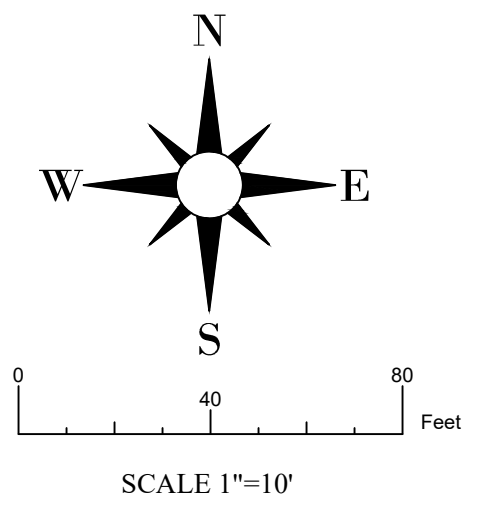
The following CASQA BMP fact sheets are included herein:




- SD-12 Efficient Irrigation
- TC-32 Bioretention

The educational materials will be included in the Final WQMP.



VICINITY MAP
Scale: 1"=400'

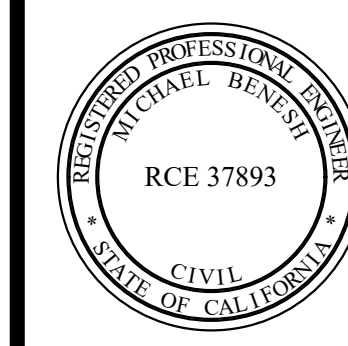


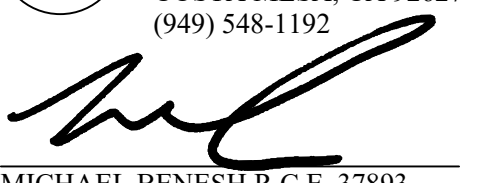
- LEGEND:**
-  DRAINED AREA NO. 0.1 AC 62.5% IMPERVIOUS COVERAGE
 -  DMA BOUNDARY
 -  DIRECTION OF FLOW

NO.	DATE	DESCRIPTION

OWNER/DEVELOPER:

Prepared By:
ROBIN B. HAMERS & ASSOC., INC.
CIVIL ENGINEERS
234 E. 17TH STREET, SUITE 205
COSTA MESA, CA 92627
(949) 548-1192




MICHAEL BENESH R.C.E. 37893

Tract No. 18119
Preliminary WQMP Site Plan
Existing Condition
11782 SIMON RANCH ROAD, TUSTIN, CA

SHEET
2
OF 2

Appendix H

Project Noise Calculations

Construction Generated Noise

Building Type	Domestic Housing	Distance (ft)
Construction Noise at 50 Feet (dBA Leq)		50
Construction Phase	All Applicable Equipment in Use¹	
Ground Clearing/Demolition	83	
Excavation	88	
Foundation Construction	81	
Building Construction	81	
Finishing and Site Cleanup	88	

Residences to the North

Maximum Construction Noise (dBA Leq)		22
Construction Phase	All Applicable Equipment in Use¹	
Ground Clearing/Demolition	90	
Excavation	95	
Foundation Construction	88	
Building Construction	88	
Finishing and Site Cleanup	95	

Average Construction Noise (dBA Leq)		330
Construction Phase	All Applicable Equipment in Use¹	
Ground Clearing/Demolition	67	
Excavation	72	
Foundation Construction	65	
Building Construction	65	
Finishing and Site Cleanup	72	

Residences to the West

Maximum Construction Noise (dBA Leq)		17
Construction Phase	All Applicable Equipment in Use¹	
Ground Clearing/Demolition	92	
Excavation	97	
Foundation Construction	90	
Building Construction	90	
Finishing and Site Cleanup	97	

Average Construction Noise (dBA Leq)		315
Construction Phase	All Applicable Equipment in Use¹	
Ground Clearing/Demolition	67	
Excavation	72	
Foundation Construction	65	
Building Construction	65	
Finishing and Site Cleanup	72	

Residences to the South

Maximum Construction Noise (dBA Leq)		12
Construction Phase	All Applicable Equipment in Use¹	
Ground Clearing/Demolition	95	
Excavation	100	
Foundation Construction	93	
Building Construction	93	
Finishing and Site Cleanup	100	

Average Construction Noise (dBA Leq)		375
Construction Phase	All Applicable Equipment in Use¹	
Ground Clearing/Demolition	65	
Excavation	70	
Foundation Construction	63	
Building Construction	63	
Finishing and Site Cleanup	70	

Residences to the East

Maximum Construction Noise (dBA Leq)		20
Construction Phase	All Applicable Equipment in Use¹	
Ground Clearing/Demolition	91	
Excavation	96	
Foundation Construction	89	
Building Construction	89	
Finishing and Site Cleanup	96	

Average Construction Noise (dBA Leq)		241
Construction Phase	All Applicable Equipment in Use¹	
Ground Clearing/Demolition	69	
Excavation	74	
Foundation Construction	67	
Building Construction	67	
Finishing and Site Cleanup	74	

Source: Bolt, Beranek and Newman, "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances," prepared for the USEPA, December 31, 1971. Based on analysis for Office Building, Hotel, Hospital, School, and Public Works.

Domestic HousingAll

	Domestic Housing Domestic HousingAll	Office, Hotel, Hospital, School, Public Works	Industrial, Parking Garage, Religious, Amusement & Retail	Roads, Sewers, Trenches	Minimum Domestic Housing
Ground Clearing	83	84	84	83	84
Excavation	88	89	79	89	71
Foundations	81	78	78	77	77
Erection	81	87	75	84	72
Finishing	88	89	75	89	74

TABLE I-a. TYPICAL RANGES OF NOISE LEVELS AT CONSTRUCTION SITES WITH A 50 dB(A) AMBIENT TYPICAL OF SUBURBAN RESIDENTIAL AREAS

	Domestic Housing		Office Building, Hospital, School, Public Works		Industrial Parking Garage, Religious, Amusement & Recreations, Store, Service Station		Public Works Roads & Highways, Sewers, and Trenches		Energy Average dB(A) Standard Deviation NPL
	I	II	I	II	I	II	I	II	
	Ground Clearing	83 8 103	83 15 122	84 7 101	84 16 123	84 9 106	83 16 124	84 8 103	
Excavation	88 8 109	75 14 111	89 6 105	79 2 85	89 6 105	71 2 77	88 7 106	78 3 86	
Foundations	81 10 107	81 17 124	78 3 84	78 3 86	77 4 87	77 5 90	88 8 108	88 8 108	
Erection	81 10 107	65 9 87	87 6 99	75 2 79	84 9 107	72 7 91	79 9 103	78 11 108	
Finishing	88 7 106	72 12 104	89 7 107	75 8 97	89 7 105	74 10 100	84 7 101	84 8 104	

I - All pertinent equipment present at site.
 II - Minimum required equipment present at site.

Construction Generated Vibration

Vibration Annoyance Criteria

Residences to the North		Closest Distance (feet):		72
	Approximate RMS a		Approximate RMS	
	Velocity at 25 ft,		Velocity Level,	
	inch/second		inch/second	
Equipment				
Large bulldozer	0.089		0.018	
Small bulldozer	0.003		0.001	
Jackhammer	0.035		0.007	
Loaded trucks	0.076		0.016	
	Criteria		0.900	
Residences to the West		Closest Distance (feet):		44
	Approximate RMS a		Approximate RMS	
	Velocity at 25 ft,		Velocity Level,	
	inch/second		inch/second	
Equipment				
Large bulldozer	0.089		0.038	
Small bulldozer	0.003		0.001	
Jackhammer	0.035		0.015	
Loaded trucks	0.076		0.033	
	Criteria		0.900	
Residences to the South		Closest Distance (feet):		47
	Approximate RMS a		Approximate RMS	
	Velocity at 25 ft,		Velocity Level,	
	inch/second		inch/second	
Equipment				
Large bulldozer	0.089		0.035	
Small bulldozer	0.003		0.001	
Jackhammer	0.035		0.014	
Loaded trucks	0.076		0.029	
	Criteria		0.900	
Residences to the East		Closest Distance (feet):		38
	Approximate RMS a		Approximate RMS	
	Velocity at 25 ft,		Velocity Level,	
	inch/second		inch/second	
Equipment				
Large bulldozer	0.089		0.047	
Small bulldozer	0.003		0.002	
Jackhammer	0.035		0.019	
Loaded trucks	0.076		0.041	
	Criteria		0.900	

Construction Generated Vibration

Structural Damage Criteria

Residences to the North		Closest Distance (feet):	72
Equipment	Approximate RMS a Velocity at 25 ft, inch/second	Approximate RMS Velocity Level, inch/second	
Large bulldozer	0.089	0.018	
Small bulldozer	0.003	0.001	
Jackhammer	0.035	0.007	
Loaded trucks	0.076	0.016	
	Criteria	0.300	
Residences to the West		Closest Distance (feet):	44
Equipment	Approximate RMS a Velocity at 25 ft, inch/second	Approximate RMS Velocity Level, inch/second	
Large bulldozer	0.089	0.038	
Small bulldozer	0.003	0.001	
Jackhammer	0.035	0.015	
Loaded trucks	0.076	0.033	
	Criteria	0.500	
Residences to the South		Closest Distance (feet):	47
Equipment	Approximate RMS a Velocity at 25 ft, inch/second	Approximate RMS Velocity Level, inch/second	
Large bulldozer	0.089	0.035	
Small bulldozer	0.003	0.001	
Jackhammer	0.035	0.014	
Loaded trucks	0.076	0.029	
	Criteria	0.300	
Residences to the East		Closest Distance (feet):	38
Equipment	Approximate RMS a Velocity at 25 ft, inch/second	Approximate RMS Velocity Level, inch/second	
Large bulldozer	0.089	0.047	
Small bulldozer	0.003	0.002	
Jackhammer	0.035	0.019	
Loaded trucks	0.076	0.041	
	Criteria	0.300	

Based on distance to nearest structure

¹. Determined based on use of jackhammers or pneumatic hammers that may be used for pavement demolition at a distance of 25 feet

Notes: RMS velocity calculated from vibration level (VdB) using the reference of one microinch/second.

Source: Based on methodology from the United States Department of Transportation Federal Transit Administration, *Transit Noise and Vibration Impact Assessment* (2006).

Appendix I

Traffic Analysis

Appendix I-1

Trip Generation Analysis

February 24, 2020

Mr. Peter Zehnder
COLLECTIVE HOUSING SUPPLY COMPANY
124 Tustin Avenue, Suite 200
Newport Beach, CA 92663

Subject: 11782 Simon Ranch Road Trip Generation Analysis, County of Orange

Dear Mr. Zehnder:

Introduction

RK ENGINEERING GROUP, INC. (RK) is pleased to provide this trip generation analysis for the proposed residential development project located at 11782 Simon Ranch Road in unincorporated County of Orange. The project site is currently occupied by the Tustin Hills Racquet Club which has a total of 11 tennis courts and a banquet / special events facility that can accommodate events for up to approximately 330 persons.

The proposed project would consist of 37 residential "age-targeted" dwelling units located within 17 duplex buildings and 3 detached buildings. A location map is provided in Exhibit A.

The purpose of this trip generation analysis is to compare the proposed residential project's estimated trip generation to the existing tennis club and determine whether the proposed project would result in additional significant traffic impacts.

Trip Generation

Trip generation represents the amount of trips that are produced and attracted by a development. Trip generation for the existing tennis courts and proposed residential project are based on trip generation rates developed by the Institute of Transportation Engineers (ITE).

Existing Land Use Trip Generation Rates

The project site currently consists of 11 full-sized and one half sized (practice) tennis courts, swimming pool with two small spas, a lawn/outdoor event area, and two single-story buildings with banquet / special events / meeting facility that can accommodate events for up to approximately 330 persons.

The tennis courts and banquet facility trip generation may vary considerably depending on the day to day schedule of activities, lessons times, operations/maintenance and other site specific factors, such as weather conditions and variation in seasonal demand for banquets and special events. The estimates provided in this report are based on the latest available nationwide published data and represent an established and valid baseline for evaluation purposes.

Trip generation for the existing tennis courts are based on ITE Trip Generation Recreational Category Land Use 490-Tennis Courts.

Trip generation for the existing banquet facility has been estimated based on an average vehicle occupancy of 3.0 persons per vehicle. The Federal Highway Administration (FHWA) Average Vehicle Occupancy Factors for Computing Travel Time Reliability Measures and Total Peak Hour Excessive Delay Metrics (April 2018) recommends an average vehicle occupancy for all vehicles to be 1.7 persons per vehicle.

Additionally, in the FHWA Handbook for Managing Travel for Planned Special Events, Final Report (September 2003), it is recommended that vehicle occupancy range from 2.2 to 2.8 persons per vehicle for consideration of special event generated traffic. Therefore, the use of 3.0 persons per vehicle is conservative and would result in less trips being generated by the existing use than what is recommended in other published sources.

Proposed Project Trip Generation Rates

Trip generation for the proposed project is based on ITE Trip Generation Land Use 210-Single Family Homes.

Utilization of the ITE Single Family Homes trip rate is considered conservative, as the trip generation associated with the development is expected to more closely reflect that of senior adult housing or multifamily housing, rather than single family homes.

However, since the proposed project is not proposed to be “age-restricted”, but rather “age-targeted”, this report uses the highest residential trip generation rate that is published by ITE to estimate future traffic impacts for a worst case scenario.

Table 1 shows the trip generation rates for the existing and proposed land uses

Traffic Impact Analysis

Table 2 shows the net change in trips from the existing land use as a result of the proposed project.

As shown in Table 2, the proposed 37 residential dwellings are forecast to generate up to 28 trips in the AM peak hour and up to 37 trips in the PM peak hour. The proposed project is forecast to generate less daily trips than the existing land uses, based on published data and estimates.

The Orange County Growth Management Plan Transportation Implementation Manual deems projects that generate fewer than 200 net daily trips with significant public benefit to have little traffic impact. Therefore, since the proposed project will not add more than 200 new trips to the existing roadway network, the potential impact is exempt from the requirements of the Growth Management Element.

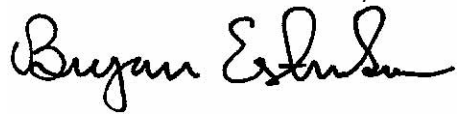
Additionally, the Orange County Congestion Management Program (CMP) Traffic Impact Analysis Requirements specify that only projects that generate more than 2,400 daily trips should perform a CMP traffic impact analysis. The proposed project is only forecast to generate a maximum of 349 daily trips (without adjusting for baseline conditions). Therefore, the proposed project is well below the threshold of requiring a CMP traffic analysis.

Conclusions

Based upon this analysis, the proposed project would not result in an increase in traffic that is considered significant when compared to the existing land uses at the site. A full traffic impact study is not required to make a reasonable determination that no off-site traffic impacts would occur as a result of this project.

RK Engineering Group, Inc. appreciates this opportunity to work with Collective Housing Supply Company on this project. If you have any questions regarding this study, please do not hesitate to call us at (949) 474-0809.

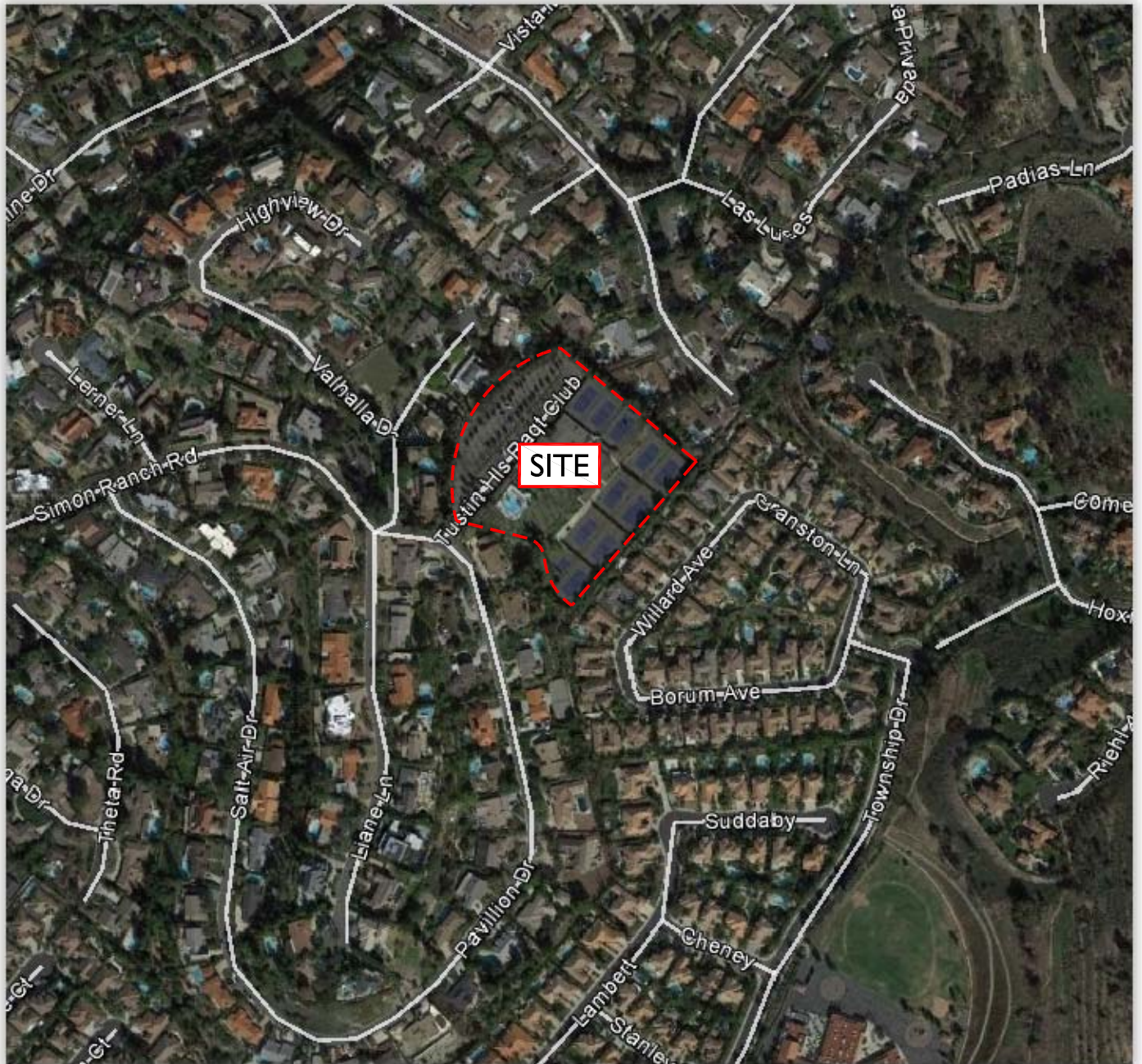
Sincerely,
RK ENGINEERING GROUP, INC.

A handwritten signature in black ink that reads "Bryan Estrada". The signature is fluid and cursive, with the first name "Bryan" being larger and more prominent than the last name "Estrada".

Bryan Estrada, AICP
Senior Associate

Exhibits

Exhibit A
Location Map





Tables

**TABLE 1
Trip Generation Rates**

Scenario	Land Use	ITE Code ¹	Units ²	AM ³			PM ³			Daily
				In	Out	Total	In	Out	Total	
Existing Conditions	Tennis Courts ⁴	490	Courts	1.201	0.618	1.819	1.979	2.231	4.210	30.32
	Banquet Facility / Special Events ⁵	n/a	Max Occupancy	0.026	0.014	0.040	0.041	0.046	0.087	0.667
Proposed Project	Single Family Homes	210	DU	0.185	0.555	0.740	0.624	0.366	0.990	9.44

¹ Based on the ITE Trip Generation Manual, 10th Edition

² DU = Dwelling Unit
Courts = Tennis Courts

³ AM peak hour of traffic is 7AM to 9AM. PM Peak hour of traffic is 4PM to 6PM.

⁴ The ITE Trip Generation Manual does not have published data on the trips rates during the AM peak hour or PM peak hour (splits) for Tennis Court (ITE Code 490) land uses. Therefore, AM peak hour traffic and in/out splits and PM peak hour in/out splits estimated based on ITE 495 - Recreational Community as a percent of daily traffic.

⁵ The ITE Trip Generation Manual does not have published data on Banquet/Special Event uses. Therefore, the daily trip rate is based on an average vehicle occupancy of 3.0 persons per vehicle. AM and PM peak hour traffic and in/out splits are commensurate to the rates used for the tennis courts.

**Table 2
Trip Generation Comparison**

Scenario	Land Use ¹	Quantity	Units ²	Peak Hour						Daily
				AM ³			PM ³			
				In	Out	Total	In	Out	Total	
Existing Conditions	Tennis Courts ⁴	11	Courts	13	7	20	21	25	46	334
	Banquet Facility ⁵	330	Max Occupancy	9	5	14	14	15	29	220
	Subtotal Existing Uses			22	12	34	35	40	75	554
Proposed Project Conditions	Single Family Homes	37	DU	7	21	28	23	14	37	349
Net Decrease in Trips from Project				-15	9	-6	-12	-26	-38	-205

¹ Based on the ITE Trip Generation Manual, 10th Edition

² DU = Dwelling Unit
Courts = Tennis Courts

³ AM peak hour of traffic is 7AM to 9AM. PM Peak hour of traffic is 4PM to 6PM.

⁴ The ITE Trip Generation Manual does not have published data on the trips rates during the AM peak hour or PM peak hour (splits) for Tennis Court (ITE Code 490) land uses. Therefore, AM peak hour traffic and in/out splits and PM peak hour in/out splits estimated based on ITE 495 - Recreational Community as a percent of daily traffic.

⁵ The ITE Trip Generation Manual does not have published data on Banquet/Special Event uses. Therefore, the daily trip rate is based on an average vehicle occupancy of 3.0 persons per vehicle. AM and PM peak hour traffic and in/out splits are commensurate to the rates used for the tennis courts.

Appendix I-2

Construction Traffic Analysis

Technical Memorandum

To: Kevin Shannon, CGBP
From: Darlene Danehy, TE, PTOE, RSP₁
Date: October 31, 2019
Re: **Tustin Hills Racquet Club**
Construction Traffic Impact Analysis

Executive Summary

This memorandum provides a summary of the operational analyses for five intersections along the anticipated haul routes for the construction of a 37-unit residential development at the Tustin Hills Racquet Club. The construction is expected to occur in three phases, and projected construction volumes were estimated based on data collected at similar construction sites as well as CalEEMod trip generation. The CalEEMod estimates were higher and were therefore used in the analysis to be conservative. The construction is expected to generate 64 peak hour trips and 154 trips during an 8-hour period of the busiest period of construction.

Although the construction activities will likely fall below the 200 trip-per-day threshold to require a traffic impact analysis per the *County of Orange Growth Management Transportation Implementation Manual*, this memorandum provides a Level of Service (LOS) evaluation for each of the five study intersections. The LOS was found using the Intersection Capacity Utilization (ICU) methodology. It was found that all five intersections are currently operating at LOS D or better, and will continue to do so during construction. Therefore, the construction is not expected to have a significant impact on traffic operations, and no mitigation is needed.

Objectives

The objectives of this Technical Memorandum are to:

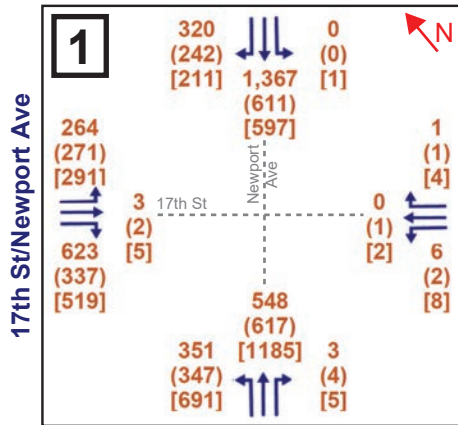
- Calculate the expected number of construction-generated trips for the project, and distribute those trips to the five study intersections, which include:
 - 17th Street/Newport Avenue
 - La Colina Drive/Newport Avenue
 - La Colina Drive/Red Hill Avenue
 - La Colina Drive/Browning Avenue
 - La Colina Drive/Tustin Ranch Road
- Evaluate traffic operations at the five study intersections and determine if the projected construction traffic will have a significant impact at any of the five locations
- Provide recommended mitigation measures, if needed

Existing Traffic Volumes

Existing traffic volumes were collected on Wednesday, December 13, 2017, at each of the five study intersections. Volumes were collected in the AM (7:00 – 9:00 AM), Midday (11:30 AM – 1:30 PM), and PM (4:00 – 6:00 PM) peak periods. Overall, the peak hours were found to be from 7:45 to 8:45 AM, 12:30 to 1:30 PM, and 5:00 to 6:00 PM, with the AM peak hour serving the highest overall volumes. However, to be conservative, the highest peak hour volumes at each individual intersection were used in the analysis. The existing traffic volumes are shown in Figure 1, and the data is included as an attachment to this memorandum.

Trip Generation

To determine the trip generation for the construction site, traffic volumes were collected at two similar residential construction sites in Costa Mesa on Wednesday, December 20, 2017, from 5:00 AM to 5:00 PM. Both sites include 11 residential homes, but are at different stages of construction. A summary of the sites and associated construction traffic volumes is shown in Table 1. Note that the peak hour traffic volumes shown occur within the peak periods for which data was collected at the study intersections (see previous section). This method will provide a conservative analysis because the observed peak hours may not coincide with the peak hours of the study intersections.



LEGEND

- xx AM Peak Hour Traffic Volume (veh/hr)
- (xx) Midday Peak Hour Traffic Volume (veh/hr)
- [xx] PM Peak Hour Traffic Volume (veh/hr)
- X** Study Intersection

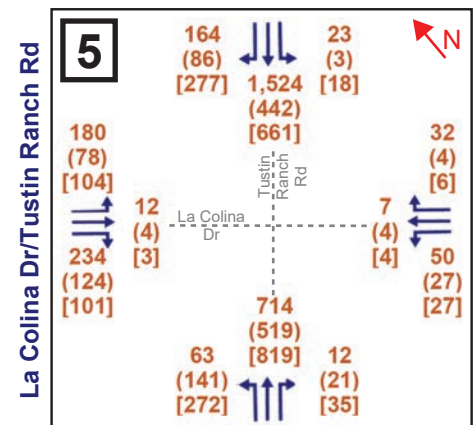
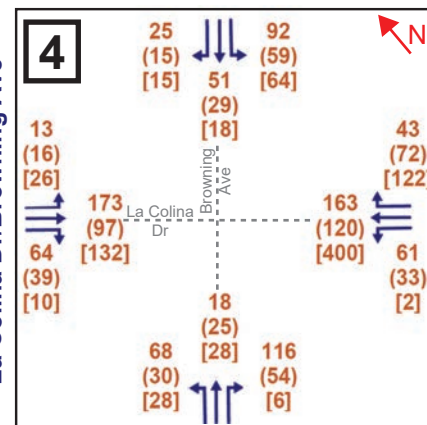
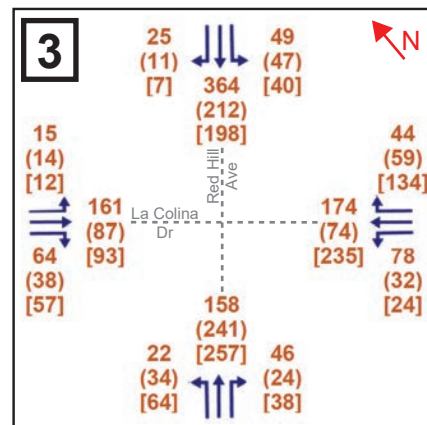
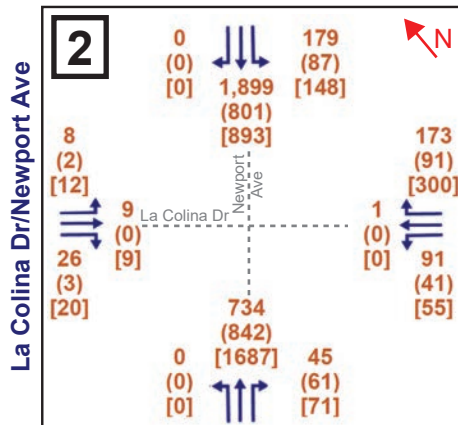


Table 1. Construction Traffic Volumes at Comparable Sites

Site	AM Peak Trips			Midday Peak Trips			PM Peak Trips			Total (12 hrs)
	Total	In	Out	Total	In	Out	Total	In	Out	
2850 Mesa Verde Drive East	4	3	1	2	1	1	0	0	0	8
301 Costa Bella	14	11	3	9	3	6	5	1	4	88

Because this project will include the construction of approximately 12 units per phase, the collected traffic volumes were increased by 10% to develop projected construction traffic volumes for this Tustin Hills project. Those volumes are shown in Table 2. The table also includes the projected volumes in passenger car equivalents (PCEs); truck trips have a 2:1 equivalence when compared operationally to a passenger car. Truck volumes were taken directly from the Costa Bella counts, which did not show any truck trips in the Midday or PM peak hours. Therefore, the AM peak hour is the only period (other than daily) for which the PCE volumes differ from the total volumes.

Table 2. Estimated Construction Traffic Volumes for Tustin Hills – Field Data

Site	AM Peak Trips			Midday Peak Trips			PM Peak Trips			Total (12 hrs)
	Total	In	Out	Total	In	Out	Total	In	Out	
Tustin Hills (Projected)	15	12	3	10	3	7	6	1	4	97
Tustin Hills (Projected PCEs)*	21	15	6	10	3	7	6	1	4	112

*PCEs were calculated assuming a factor of 2.0 per truck, and were calculated separately for each period.

In addition to the field data, trip generation estimates were generated using CalEEMod, software which aids in environmental analysis. The trip generation estimates for the highest phase of development based on CalEEMod are shown in Table 3. The estimates do not indicate any truck trips during the busiest phase of construction, so the volumes are assumed to be PCEs. When comparing the results in Tables 2 and 3, it was found that the trip generation estimates from CalEEMod are higher than those calculated based on the field data. Therefore, to be conservative, the higher traffic volumes were used to estimate the projected construction traffic for this project.

Table 3. Estimated Construction Traffic Volumes for Tustin Hills – CalEEMod

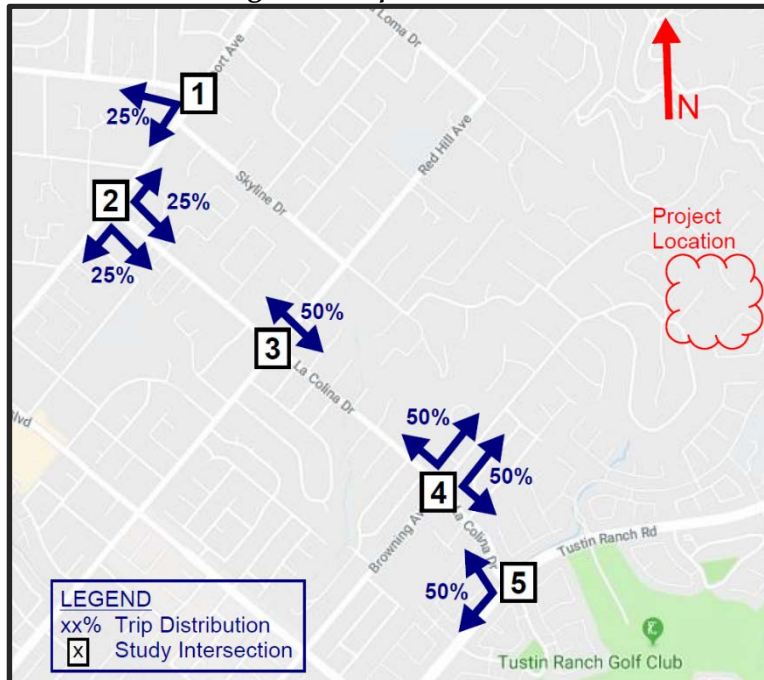
Site	AM Peak Trips			Midday Peak Trips			PM Peak Trips			Total (8 hrs)
	Total	In	Out	Total	In	Out	Total	In	Out	
Tustin Hills (Projected)*	64	48	16	4	1	3	64	13	51	154

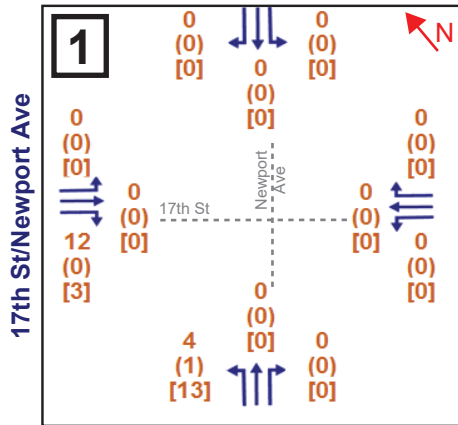
*Peak hour trips were calculated assuming workers enter in the AM peak and exit in the PM peak; all other trips are split evenly throughout the day.

Trip Distribution and Assignment

It was assumed that 50% of the construction traffic would access the site via I-5, while the other 50% would access the site via SR-55. Figure 2 shows the assumed trip distribution for construction traffic at the five study intersections, which was approved by the County traffic group. Figure 3 shows the projected construction traffic volumes at each of the study intersections, and Figure 4 shows the Existing Plus Construction traffic volumes.

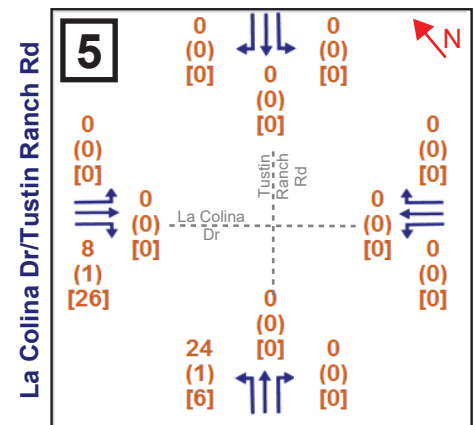
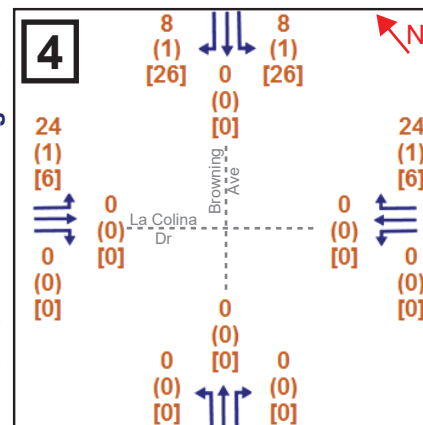
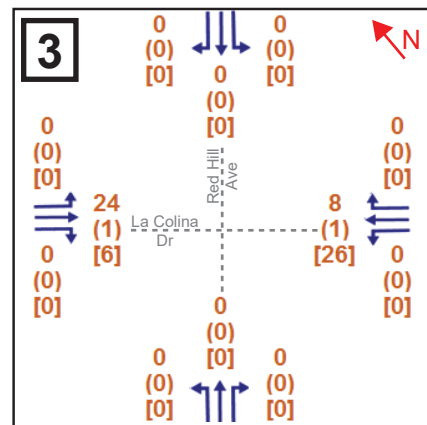
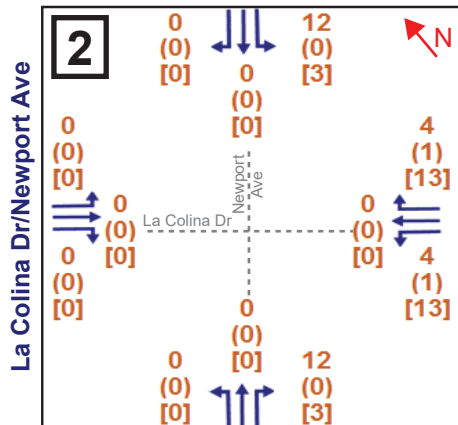
Figure 2. Trip Distribution

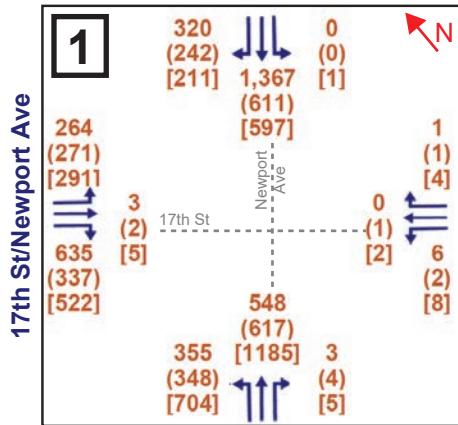




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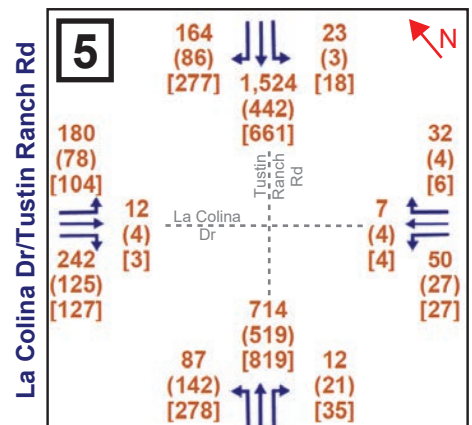
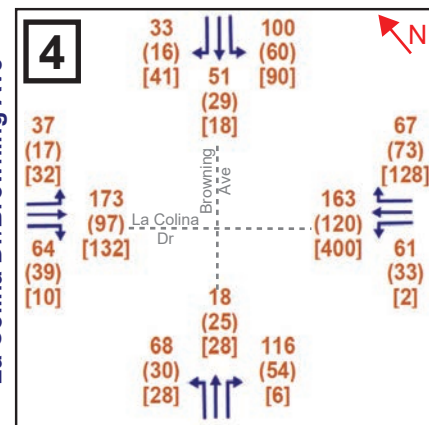
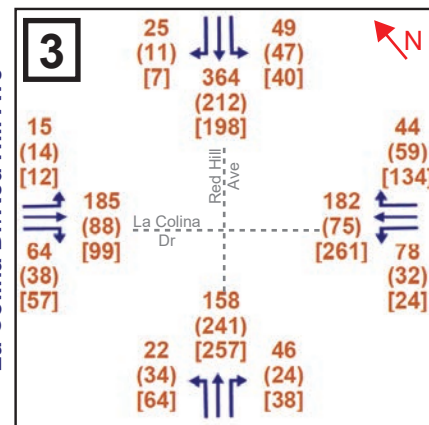
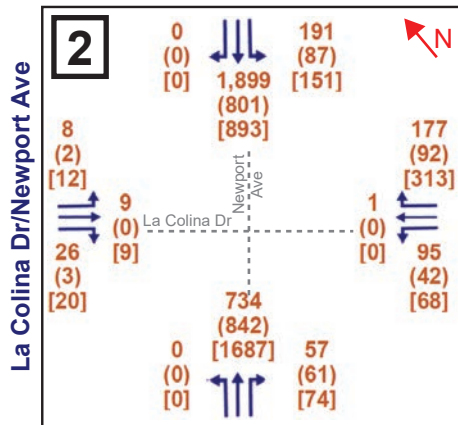
- xx AM Peak Hour Traffic Volume (veh/hr)
- (xx) Midday Peak Hour Traffic Volume (veh/hr)
- [xx] PM Peak Hour Traffic Volume (veh/hr)
- x Study Intersection





LEGEND

- xx AM Peak Hour Traffic Volume (veh/hr)
- (xx) Midday Peak Hour Traffic Volume (veh/hr)
- [xx] PM Peak Hour Traffic Volume (veh/hr)
- [x] Study Intersection



Level of Service (LOS) Analysis

Per the *County of Orange Growth Management Transportation Implementation Manual*, the Level of Service (LOS) for signalized intersections was determined using the Intersection Capacity Utilization (ICU) methodology and the guidelines included in the manual. LOS for unsignalized intersections was also evaluated using the ICU methodology, which was calculated using Synchro. The ICU calculation sheets and Synchro reports are included as attachments to this memorandum.

Based on the County Manual, significant adverse impact is noted when intersections degrade to a LOS worse than “D.” Table 3 shows the LOS for Existing and Existing Plus Construction conditions. As seen in the table, all study intersections currently operate at LOS D or better, and are expected to continue to do so during construction. Therefore, the construction is not expected to have any significant adverse impacts on the study intersections.

Table 3. LOS for Existing and Existing Plus Construction Conditions

Signalized Intersection	Existing						Existing Plus Construction					
	AM Peak Hour		Midday Peak		PM Peak Hour		AM Peak Hour		Midday Peak		PM Peak Hour	
	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS
17th St/ Newport Ave	0.878	D	0.506	A	0.703	C	0.885	D	0.507	A	0.708	C
La Colina Dr/ Newport Ave	0.736	C	0.405	A	0.834	D	0.738	C	0.406	A	0.843	D
La Colina Dr/ Tustin Ranch Rd	0.560	A	0.311	A	0.450	A	0.579	A	0.312	A	0.469	A

Unsignalized Intersection	Existing						Existing Plus Construction					
	AM Peak Hour		Midday Peak		PM Peak Hour		AM Peak Hour		Midday Peak		PM Peak Hour	
	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS
La Colina Dr/ Red Hill Ave	0.717	C	0.549	A	0.687	B	0.734	C	0.550	A	0.700	B
La Colina Dr/ Browning Ave	0.510	A	0.327	A	0.447	A	0.538	A	0.330	A	0.526	A

Findings and Recommendations

As discussed in the preceding sections, all five study intersections currently operate at LOS D or better, and are expected to continue to operate at LOS D or better during construction. Therefore, with no significant adverse impact, no mitigation is needed related to construction activities for this project.

Attachments:

Traffic Volume Data

ICU Calculation Sheets (Signalized Intersections)

Synchro Reports (Unsignalized Intersections)

Attachments

Traffic Volume Data

ICU Calculation Sheets (Signalized Intersections)

Synchro Reports (Unsignalized Intersections)

Traffic Volumes

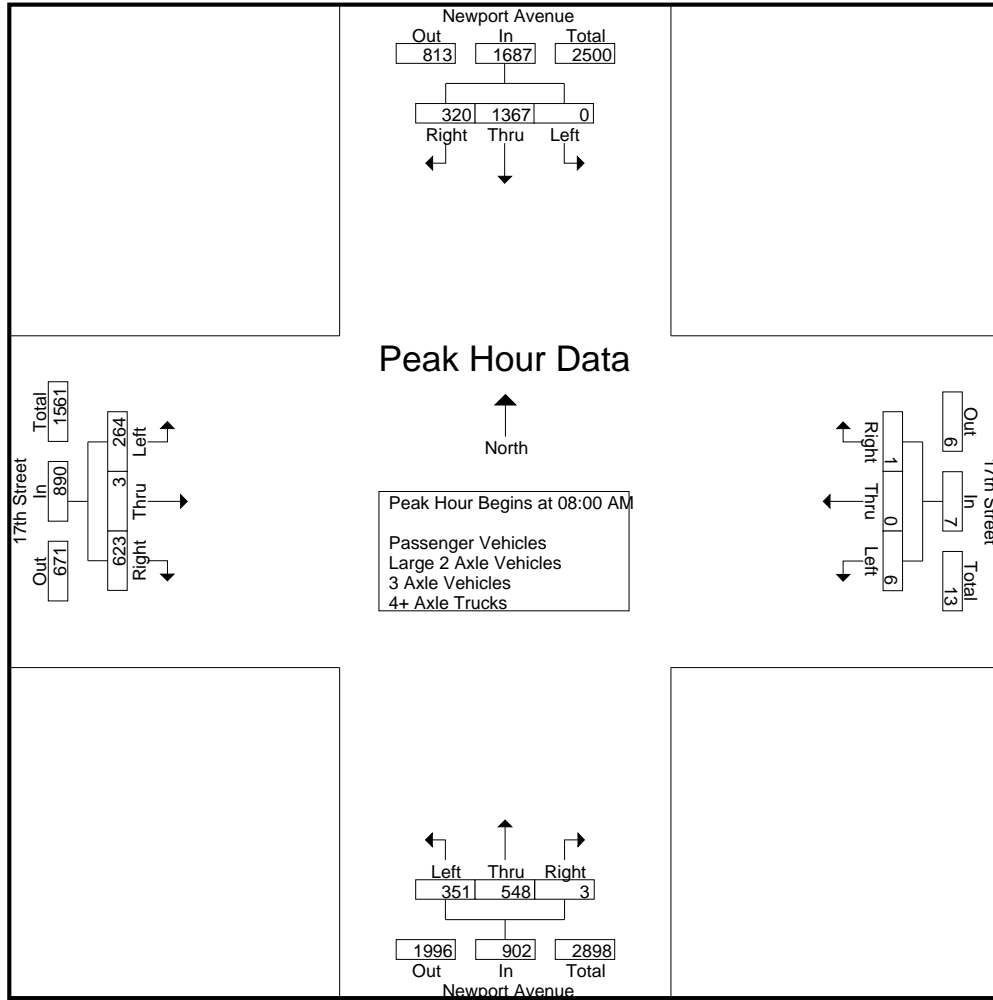
County of Orange
 N/S: Newport Avenue
 E/W: 17th Street
 Weather: Clear

File Name : 04_ORCNE17AM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	213	53	266	0	0	0	0	39	78	0	117	44	0	87	131	514
07:15 AM	0	298	69	367	0	0	0	0	60	66	0	126	42	1	145	188	681
07:30 AM	0	291	55	346	1	0	2	3	73	78	1	152	51	0	133	184	685
07:45 AM	0	300	72	372	2	1	1	4	98	124	1	223	81	2	176	259	858
Total	0	1102	249	1351	3	1	3	7	270	346	2	618	218	3	541	762	2738
08:00 AM	0	321	91	412	2	0	0	2	107	109	1	217	71	0	156	227	858
08:15 AM	0	407	80	487	0	0	0	0	97	119	0	216	55	0	160	215	918
08:30 AM	0	262	79	341	3	0	0	3	77	168	2	247	76	2	163	241	832
08:45 AM	0	377	70	447	1	0	1	2	70	152	0	222	62	1	144	207	878
Total	0	1367	320	1687	6	0	1	7	351	548	3	902	264	3	623	890	3486
Grand Total	0	2469	569	3038	9	1	4	14	621	894	5	1520	482	6	1164	1652	6224
Apprch %	0	81.3	18.7		64.3	7.1	28.6		40.9	58.8	0.3		29.2	0.4	70.5		
Total %	0	39.7	9.1	48.8	0.1	0	0.1	0.2	10	14.4	0.1	24.4	7.7	0.1	18.7	26.5	
Passenger Vehicles	0	2440	560	3000	8	1	4	13	602	867	4	1473	461	5	1116	1582	6068
% Passenger Vehicles	0	98.8	98.4	98.7	88.9	100	100	92.9	96.9	97	80	96.9	95.6	83.3	95.9	95.8	97.5
Large 2 Axle Vehicles	0	26	7	33	0	0	0	0	16	24	0	40	16	1	38	55	128
% Large 2 Axle Vehicles	0	1.1	1.2	1.1	0	0	0	0	2.6	2.7	0	2.6	3.3	16.7	3.3	3.3	2.1
3 Axle Vehicles	0	3	2	5	1	0	0	1	3	3	1	7	4	0	8	12	25
% 3 Axle Vehicles	0	0.1	0.4	0.2	11.1	0	0	7.1	0.5	0.3	20	0.5	0.8	0	0.7	0.7	0.4
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3	3
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0.2	0.2	0

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	321	91	412	2	0	0	2	107	109	1	217	71	0	156	227	858
08:15 AM	0	407	80	487	0	0	0	0	97	119	0	216	55	0	160	215	918
08:30 AM	0	262	79	341	3	0	0	3	77	168	2	247	76	2	163	241	832
08:45 AM	0	377	70	447	1	0	1	2	70	152	0	222	62	1	144	207	878
Total Volume	0	1367	320	1687	6	0	1	7	351	548	3	902	264	3	623	890	3486
% App. Total	0	81	19		85.7	0	14.3		38.9	60.8	0.3		29.7	0.3	70		
PHF	.000	.840	.879	.866	.500	.000	.250	.583	.820	.815	.375	.913	.868	.375	.956	.923	.949



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				07:15 AM				07:45 AM				07:45 AM			
+0 mins.	0	321	91	412	0	0	0	0	98	124	1	223	81	2	176	259
+15 mins.	0	407	80	487	1	0	2	3	107	109	1	217	71	0	156	227
+30 mins.	0	262	79	341	2	1	1	4	97	119	0	216	55	0	160	215
+45 mins.	0	377	70	447	2	0	0	2	77	168	2	247	76	2	163	241
Total Volume	0	1367	320	1687	5	1	3	9	379	520	4	903	283	4	655	942
% App. Total	0	81	19		55.6	11.1	33.3		42	57.6	0.4		30	0.4	69.5	
PHF	.000	.840	.879	.866	.625	.250	.375	.563	.886	.774	.500	.914	.873	.500	.930	.909

County of Orange
 N/S: Newport Avenue
 E/W: 17th Street
 Weather: Clear

File Name : 04_ORCNE17AM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

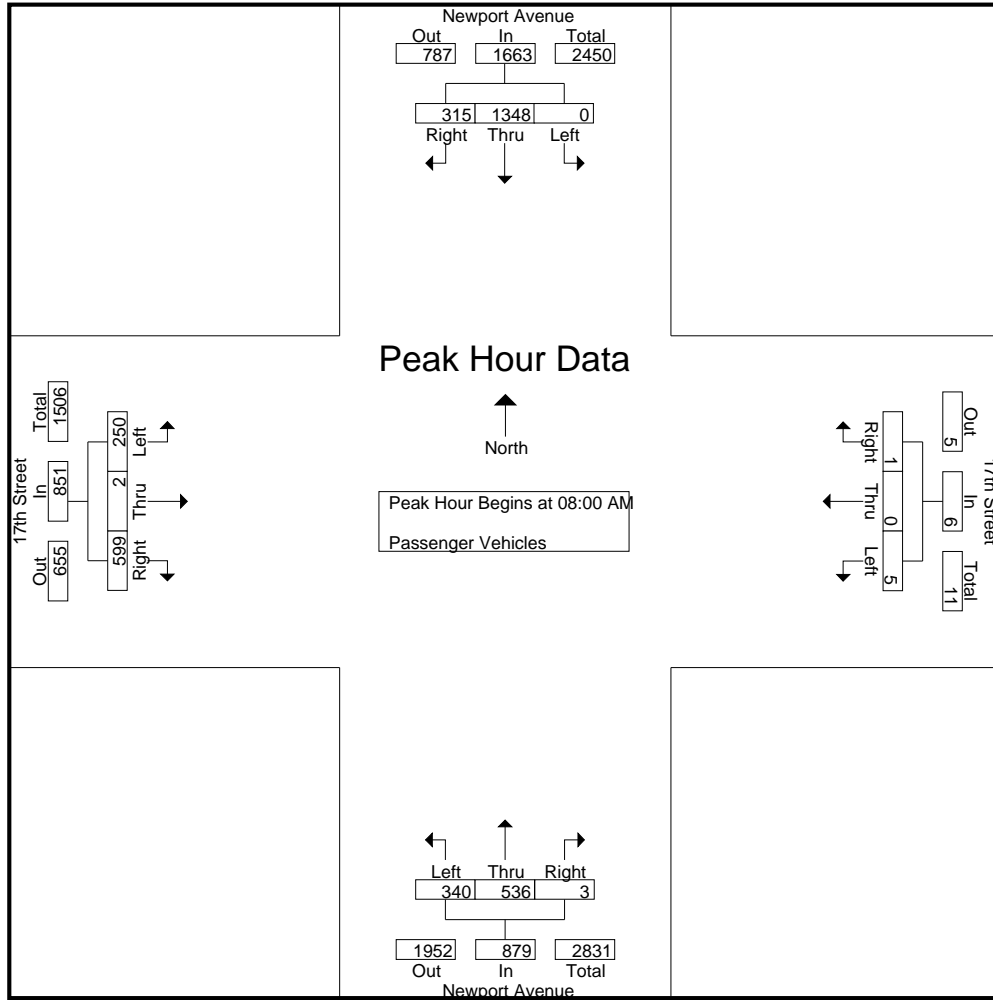
Groups Printed- Passenger Vehicles

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	212	52	264	0	0	0	0	37	70	0	107	42	0	83	125	496
07:15 AM	0	294	69	363	0	0	0	0	59	63	0	122	38	1	138	177	662
07:30 AM	0	287	55	342	1	0	2	3	72	76	1	149	50	0	125	175	669
07:45 AM	0	299	69	368	2	1	1	4	94	122	0	216	81	2	171	254	842
Total	0	1092	245	1337	3	1	3	7	262	331	1	594	211	3	517	731	2669
08:00 AM	0	317	90	407	1	0	0	1	103	103	1	207	67	0	149	216	831
08:15 AM	0	400	80	480	0	0	0	0	96	118	0	214	50	0	158	208	902
08:30 AM	0	257	78	335	3	0	0	3	74	165	2	241	74	2	151	227	806
08:45 AM	0	374	67	441	1	0	1	2	67	150	0	217	59	0	141	200	860
Total	0	1348	315	1663	5	0	1	6	340	536	3	879	250	2	599	851	3399
Grand Total	0	2440	560	3000	8	1	4	13	602	867	4	1473	461	5	1116	1582	6068
Apprch %	0	81.3	18.7		61.5	7.7	30.8		40.9	58.9	0.3		29.1	0.3	70.5		
Total %	0	40.2	9.2	49.4	0.1	0	0.1	0.2	9.9	14.3	0.1	24.3	7.6	0.1	18.4	26.1	

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	0	317	90	407	1	0	0	1	103	103	1	207	67	0	149	216	831
08:15 AM	0	400	80	480	0	0	0	0	96	118	0	214	50	0	158	208	902
08:30 AM	0	257	78	335	3	0	0	3	74	165	2	241	74	2	151	227	806
08:45 AM	0	374	67	441	1	0	1	2	67	150	0	217	59	0	141	200	860
Total Volume	0	1348	315	1663	5	0	1	6	340	536	3	879	250	2	599	851	3399
% App. Total	0	81.1	18.9		83.3	0	16.7		38.7	61	0.3		29.4	0.2	70.4		
PHF	.000	.843	.875	.866	.417	.000	.250	.500	.825	.812	.375	.912	.845	.250	.948	.937	.942

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 08:00 AM



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM							
+0 mins.	0	317	90	407	1	0	0	1	103	103	1	207	67	0	149	216
+15 mins.	0	400	80	480	0	0	0	0	96	118	0	214	50	0	158	208
+30 mins.	0	257	78	335	3	0	0	3	74	165	2	241	74	2	151	227
+45 mins.	0	374	67	441	1	0	1	2	67	150	0	217	59	0	141	200
Total Volume	0	1348	315	1663	5	0	1	6	340	536	3	879	250	2	599	851
% App. Total	0	81.1	18.9		83.3	0	16.7		38.7	61	0.3		29.4	0.2	70.4	
PHF	.000	.843	.875	.866	.417	.000	.250	.500	.825	.812	.375	.912	.845	.250	.948	.937

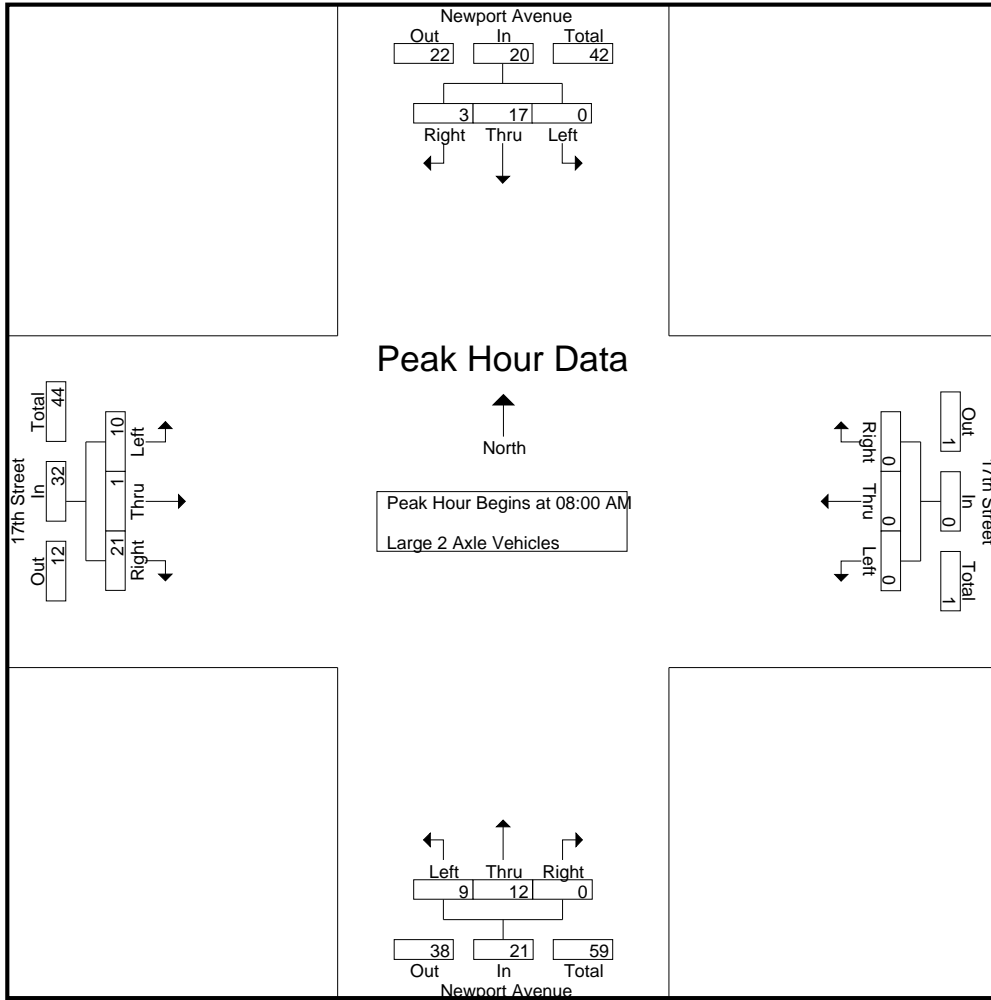
County of Orange
 N/S: Newport Avenue
 E/W: 17th Street
 Weather: Clear

File Name : 04_ORCNE17AM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	1	1	2	0	0	0	0	2	6	0	8	2	0	2	4	14
07:15 AM	0	4	0	4	0	0	0	0	1	3	0	4	3	0	5	8	16
07:30 AM	0	4	0	4	0	0	0	0	0	1	0	1	1	0	6	7	12
07:45 AM	0	0	3	3	0	0	0	0	4	2	0	6	0	0	4	4	13
Total	0	9	4	13	0	0	0	0	7	12	0	19	6	0	17	23	55
08:00 AM	0	4	1	5	0	0	0	0	4	6	0	10	3	0	7	10	25
08:15 AM	0	7	0	7	0	0	0	0	1	1	0	2	3	0	0	3	12
08:30 AM	0	3	0	3	0	0	0	0	1	3	0	4	2	0	12	14	21
08:45 AM	0	3	2	5	0	0	0	0	3	2	0	5	2	1	2	5	15
Total	0	17	3	20	0	0	0	0	9	12	0	21	10	1	21	32	73
Grand Total	0	26	7	33	0	0	0	0	16	24	0	40	16	1	38	55	128
Apprch %	0	78.8	21.2		0	0	0		40	60	0		29.1	1.8	69.1		
Total %	0	20.3	5.5	25.8	0	0	0	0	12.5	18.8	0	31.2	12.5	0.8	29.7	43	

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	4	1	5	0	0	0	0	4	6	0	10	3	0	7	10	25
08:15 AM	0	7	0	7	0	0	0	0	1	1	0	2	3	0	0	3	12
08:30 AM	0	3	0	3	0	0	0	0	1	3	0	4	2	0	12	14	21
08:45 AM	0	3	2	5	0	0	0	0	3	2	0	5	2	1	2	5	15
Total Volume	0	17	3	20	0	0	0	0	9	12	0	21	10	1	21	32	73
% App. Total	0	85	15		0	0	0		42.9	57.1	0		31.2	3.1	65.6		
PHF	.000	.607	.375	.714	.000	.000	.000	.000	.563	.500	.000	.525	.833	.250	.438	.571	.730



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM							
+0 mins.	0	4	1	5	0	0	0	0	4	6	0	10	3	0	7	10
+15 mins.	0	7	0	7	0	0	0	0	1	1	0	2	3	0	0	3
+30 mins.	0	3	0	3	0	0	0	0	1	3	0	4	2	0	12	14
+45 mins.	0	3	2	5	0	0	0	0	3	2	0	5	2	1	2	5
Total Volume	0	17	3	20	0	0	0	0	9	12	0	21	10	1	21	32
% App. Total	0	85	15		0	0	0		42.9	57.1	0		31.2	3.1	65.6	
PHF	.000	.607	.375	.714	.000	.000	.000	.000	.563	.500	.000	.525	.833	.250	.438	.571

County of Orange
 N/S: Newport Avenue
 E/W: 17th Street
 Weather: Clear

File Name : 04_ORCNE17AM
 Site Code : 21717852
 Start Date : 12/13/2017
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Groups Printed- 3 Axle Vehicles

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	2	2	4
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3	3
07:30 AM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	1	1	3
07:45 AM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
Total	0	1	0	1	0	0	0	0	1	3	1	5	1	0	5	6	12
08:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3	3
08:30 AM	0	2	1	3	0	0	0	0	2	0	0	2	0	0	0	0	5
08:45 AM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	1	2	3
Total	0	2	2	4	1	0	0	1	2	0	0	2	3	0	3	6	13
Grand Total	0	3	2	5	1	0	0	1	3	3	1	7	4	0	8	12	25
Apprch %	0	60	40		100	0	0		42.9	42.9	14.3		33.3	0	66.7		
Total %	0	12	8	20	4	0	0	4	12	12	4	28	16	0	32	48	

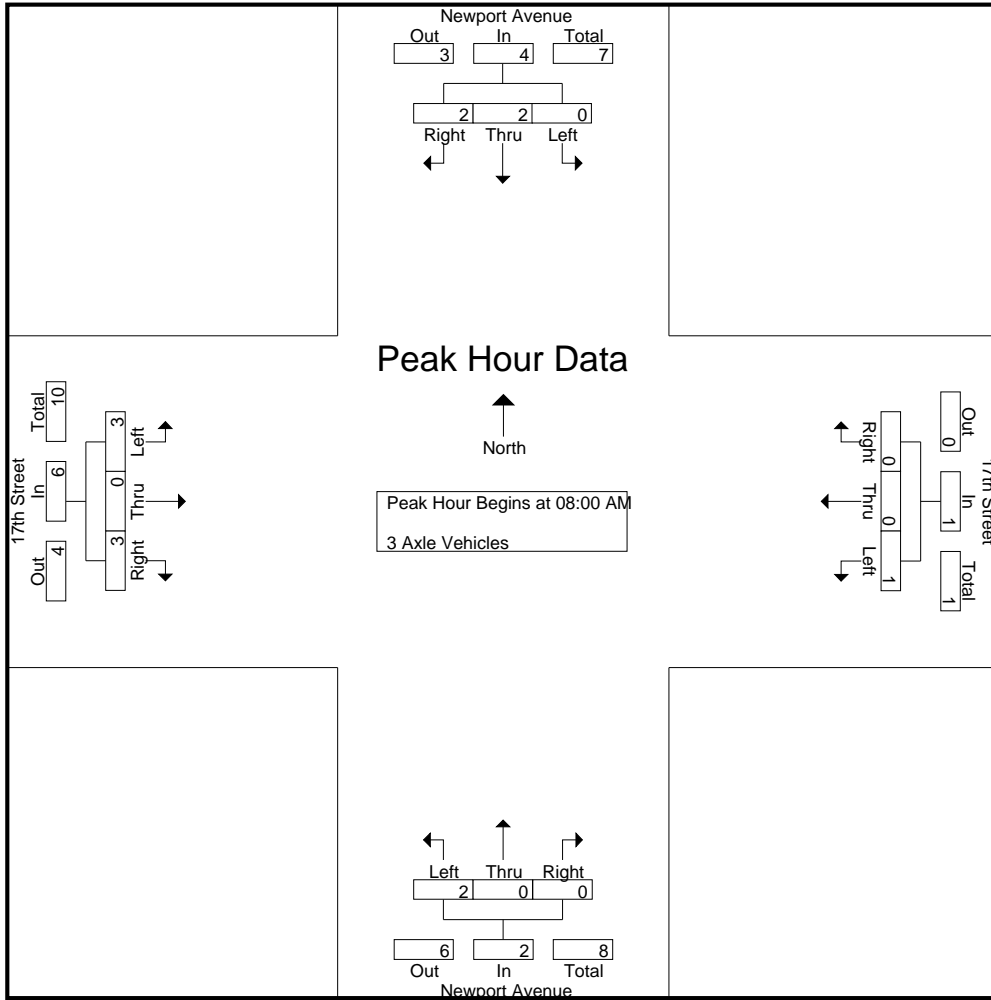
Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3	3
08:30 AM	0	2	1	3	0	0	0	0	2	0	0	2	0	0	0	0	5
08:45 AM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	1	2	3
Total Volume	0	2	2	4	1	0	0	1	2	0	0	2	3	0	3	6	13
% App. Total	0	50	50		100	0	0		100	0	0		50	0	50		
PHF	.000	.250	.500	.333	.250	.000	.000	.250	.250	.000	.000	.250	.750	.000	.375	.500	.650

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 08:00 AM

County of Orange
 N/S: Newport Avenue
 E/W: 17th Street
 Weather: Clear

File Name : 04_ORCNE17AM
 Site Code : 21717852
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Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3
+30 mins.	0	2	1	3	0	0	0	0	2	0	0	2	0	0	0	0
+45 mins.	0	0	1	1	0	0	0	0	0	0	0	0	1	0	1	2
Total Volume	0	2	2	4	1	0	0	1	2	0	0	2	3	0	3	6
% App. Total	0	50	50		100	0	0		100	0	0		50	0	50	
PHF	.000	.250	.500	.333	.250	.000	.000	.250	.250	.000	.000	.250	.750	.000	.375	.500

County of Orange
 N/S: Newport Avenue
 E/W: 17th Street
 Weather: Clear

File Name : 04_ORCNE17AM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3	3
Apprch %	0	0	0		0	0	0		0	0	0		33.3	0	66.7		
Total %	0	0	0		0	0	0		0	0	0		33.3	0	66.7	100	

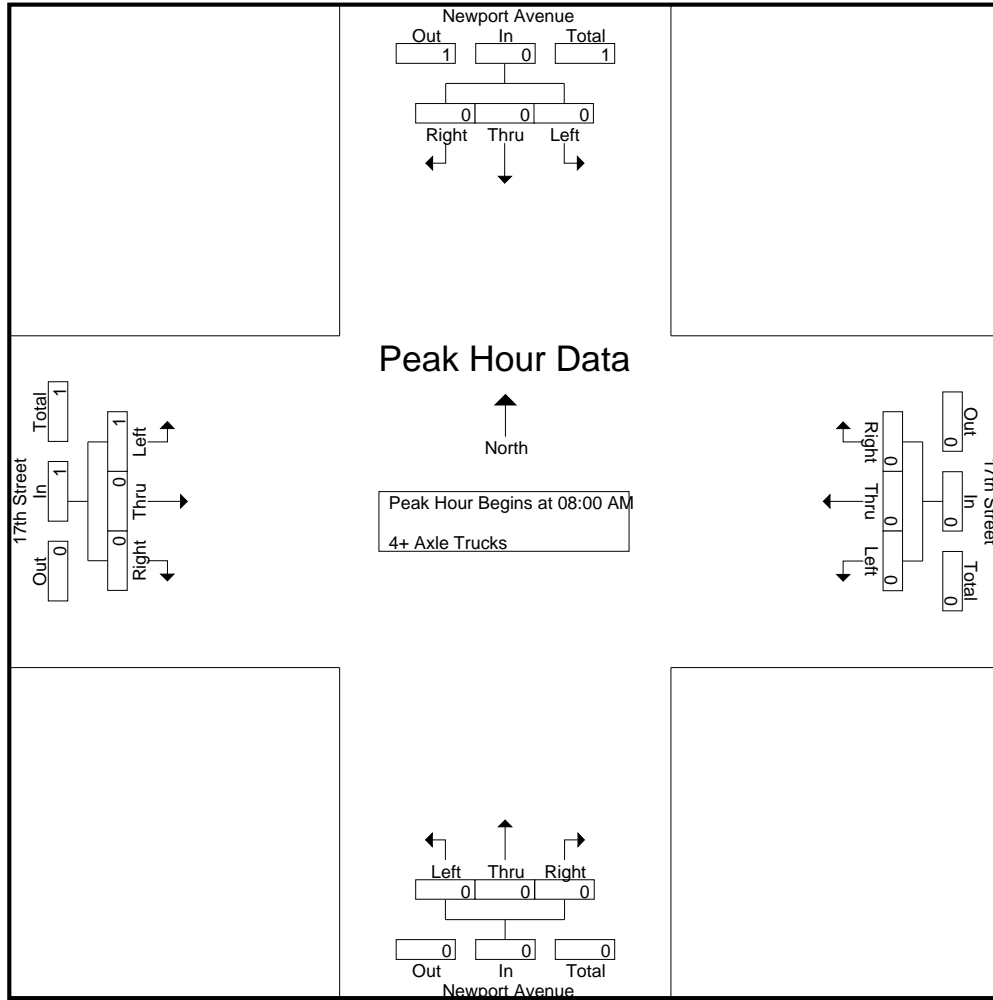
Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% App. Total	0	0	0		0	0	0		0	0	0		100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 08:00 AM

County of Orange
 N/S: Newport Avenue
 E/W: 17th Street
 Weather: Clear

File Name : 04_ORCNE17AM
 Site Code : 21717852
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Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250

County of Orange
 N/S: Newport Avenue
 E/W: 17th Street
 Weather: Clear

File Name : 04_ORCNE17MD
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

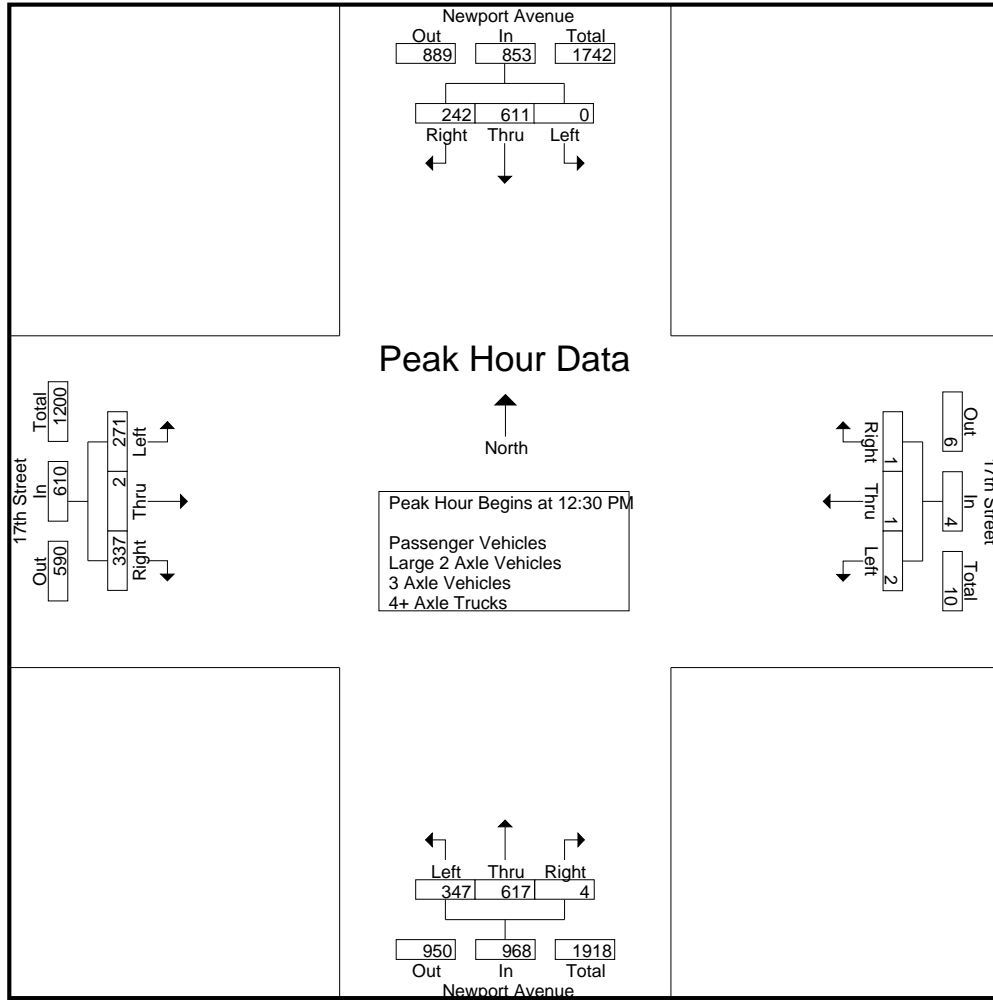
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	0	149	49	198	0	1	0	1	92	137	1	230	55	0	74	129	558
11:45 AM	0	154	55	209	2	1	0	3	73	131	2	206	51	0	74	125	543
Total	0	303	104	407	2	2	0	4	165	268	3	436	106	0	148	254	1101
12:00 PM	0	146	46	192	0	0	1	1	69	136	2	207	60	1	66	127	527
12:15 PM	0	118	53	171	1	3	0	4	95	140	2	237	65	1	60	126	538
12:30 PM	0	166	63	229	0	0	0	0	67	122	0	189	57	0	83	140	558
12:45 PM	0	154	58	212	2	1	0	3	85	130	2	217	68	2	74	144	576
Total	0	584	220	804	3	4	1	8	316	528	6	850	250	4	283	537	2199
01:00 PM	0	121	50	171	0	0	1	1	77	188	1	266	64	0	90	154	592
01:15 PM	0	170	71	241	0	0	0	0	118	177	1	296	82	0	90	172	709
Grand Total	0	1178	445	1623	5	6	2	13	676	1161	11	1848	502	4	611	1117	4601
Apprch %	0	72.6	27.4		38.5	46.2	15.4		36.6	62.8	0.6		44.9	0.4	54.7		
Total %	0	25.6	9.7	35.3	0.1	0.1	0	0.3	14.7	25.2	0.2	40.2	10.9	0.1	13.3	24.3	
Passenger Vehicles	0	1156	435	1591	5	6	2	13	663	1146	11	1820	490	4	594	1088	4512
% Passenger Vehicles	0	98.1	97.8	98	100	100	100	100	98.1	98.7	100	98.5	97.6	100	97.2	97.4	98.1
Large 2 Axle Vehicles	0	19	6	25	0	0	0	0	13	15	0	28	7	0	16	23	76
% Large 2 Axle Vehicles	0	1.6	1.3	1.5	0	0	0	0	1.9	1.3	0	1.5	1.4	0	2.6	2.1	1.7
3 Axle Vehicles	0	1	3	4	0	0	0	0	0	0	0	0	4	0	1	5	9
% 3 Axle Vehicles	0	0.1	0.7	0.2	0	0	0	0	0	0	0	0	0.8	0	0.2	0.4	0.2
4+ Axle Trucks	0	2	1	3	0	0	0	0	0	0	0	0	1	0	0	1	4
% 4+ Axle Trucks	0	0.2	0.2	0.2	0	0	0	0	0	0	0	0	0.2	0	0	0.1	0.1

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:30 AM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	0	166	63	229	0	0	0	0	67	122	0	189	57	0	83	140	558
12:45 PM	0	154	58	212	2	1	0	3	85	130	2	217	68	2	74	144	576
01:00 PM	0	121	50	171	0	0	1	1	77	188	1	266	64	0	90	154	592
01:15 PM	0	170	71	241	0	0	0	0	118	177	1	296	82	0	90	172	709
Total Volume	0	611	242	853	2	1	1	4	347	617	4	968	271	2	337	610	2435
% App. Total	0	71.6	28.4		50	25	25		35.8	63.7	0.4		44.4	0.3	55.2		
PHF	.000	.899	.852	.885	.250	.250	.250	.333	.735	.820	.500	.818	.826	.250	.936	.887	.859

County of Orange
 N/S: Newport Avenue
 E/W: 17th Street
 Weather: Clear

File Name : 04_ORCNE17MD
 Site Code : 21717852
 Start Date : 12/13/2017
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Peak Hour Analysis From 11:30 AM to 01:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:30 PM				11:30 AM				12:30 PM				12:30 PM			
+0 mins.	0	166	63	229	0	1	0	1	67	122	0	189	57	0	83	140
+15 mins.	0	154	58	212	2	1	0	3	85	130	2	217	68	2	74	144
+30 mins.	0	121	50	171	0	0	1	1	77	188	1	266	64	0	90	154
+45 mins.	0	170	71	241	1	3	0	4	118	177	1	296	82	0	90	172
Total Volume	0	611	242	853	3	5	1	9	347	617	4	968	271	2	337	610
% App. Total	0	71.6	28.4		33.3	55.6	11.1		35.8	63.7	0.4		44.4	0.3	55.2	
PHF	.000	.899	.852	.885	.375	.417	.250	.563	.735	.820	.500	.818	.826	.250	.936	.887

County of Orange
 N/S: Newport Avenue
 E/W: 17th Street
 Weather: Clear

File Name : 04_ORCNE17MD
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

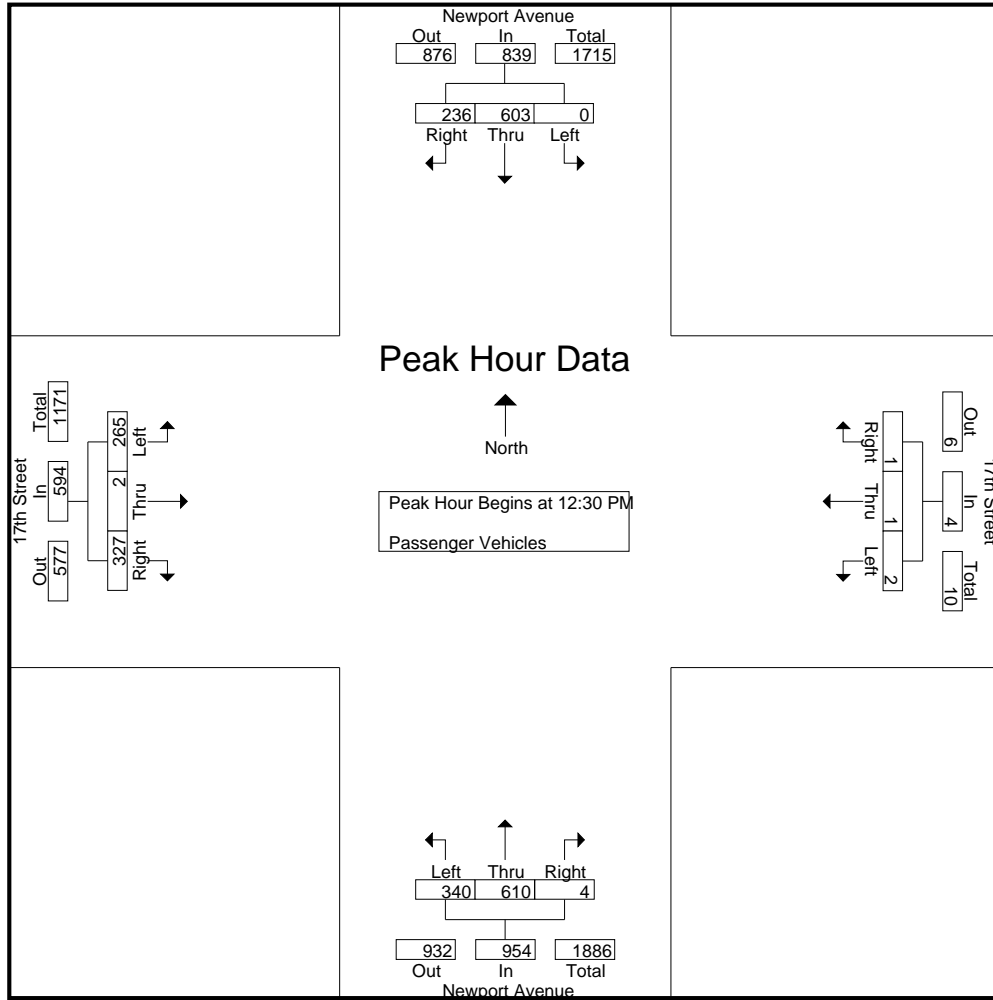
Groups Printed- Passenger Vehicles

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	0	146	47	193	0	1	0	1	91	137	1	229	52	0	71	123	546
11:45 AM	0	151	54	205	2	1	0	3	72	129	2	203	50	0	70	120	531
Total	0	297	101	398	2	2	0	4	163	266	3	432	102	0	141	243	1077
12:00 PM	0	141	46	187	0	0	1	1	66	132	2	200	59	1	66	126	514
12:15 PM	0	115	52	167	1	3	0	4	94	138	2	234	64	1	60	125	530
12:30 PM	0	163	61	224	0	0	0	0	66	121	0	187	56	0	79	135	546
12:45 PM	0	152	56	208	2	1	0	3	83	130	2	215	65	2	72	139	565
Total	0	571	215	786	3	4	1	8	309	521	6	836	244	4	277	525	2155
01:00 PM	0	119	49	168	0	0	1	1	76	185	1	262	64	0	88	152	583
01:15 PM	0	169	70	239	0	0	0	0	115	174	1	290	80	0	88	168	697
Grand Total	0	1156	435	1591	5	6	2	13	663	1146	11	1820	490	4	594	1088	4512
Apprch %	0	72.7	27.3		38.5	46.2	15.4		36.4	63	0.6		45	0.4	54.6		
Total %	0	25.6	9.6	35.3	0.1	0.1	0	0.3	14.7	25.4	0.2	40.3	10.9	0.1	13.2	24.1	

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	0	163	61	224	0	0	0	0	66	121	0	187	56	0	79	135	546
12:45 PM	0	152	56	208	2	1	0	3	83	130	2	215	65	2	72	139	565
01:00 PM	0	119	49	168	0	0	1	1	76	185	1	262	64	0	88	152	583
01:15 PM	0	169	70	239	0	0	0	0	115	174	1	290	80	0	88	168	697
Total Volume	0	603	236	839	2	1	1	4	340	610	4	954	265	2	327	594	2391
% App. Total	0	71.9	28.1		50	25	25		35.6	63.9	0.4		44.6	0.3	55.1		
PHF	.000	.892	.843	.878	.250	.250	.250	.333	.739	.824	.500	.822	.828	.250	.929	.884	.858

County of Orange
 N/S: Newport Avenue
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 Weather: Clear

File Name : 04_ORCNE17MD
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Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM							
+0 mins.	0	163	61	224	0	0	0	0	66	121	0	187	56	0	79	135
+15 mins.	0	152	56	208	2	1	0	3	83	130	2	215	65	2	72	139
+30 mins.	0	119	49	168	0	0	1	1	76	185	1	262	64	0	88	152
+45 mins.	0	169	70	239	0	0	0	0	115	174	1	290	80	0	88	168
Total Volume	0	603	236	839	2	1	1	4	340	610	4	954	265	2	327	594
% App. Total	0	71.9	28.1		50	25	25		35.6	63.9	0.4		44.6	0.3	55.1	
PHF	.000	.892	.843	.878	.250	.250	.250	.333	.739	.824	.500	.822	.828	.250	.929	.884

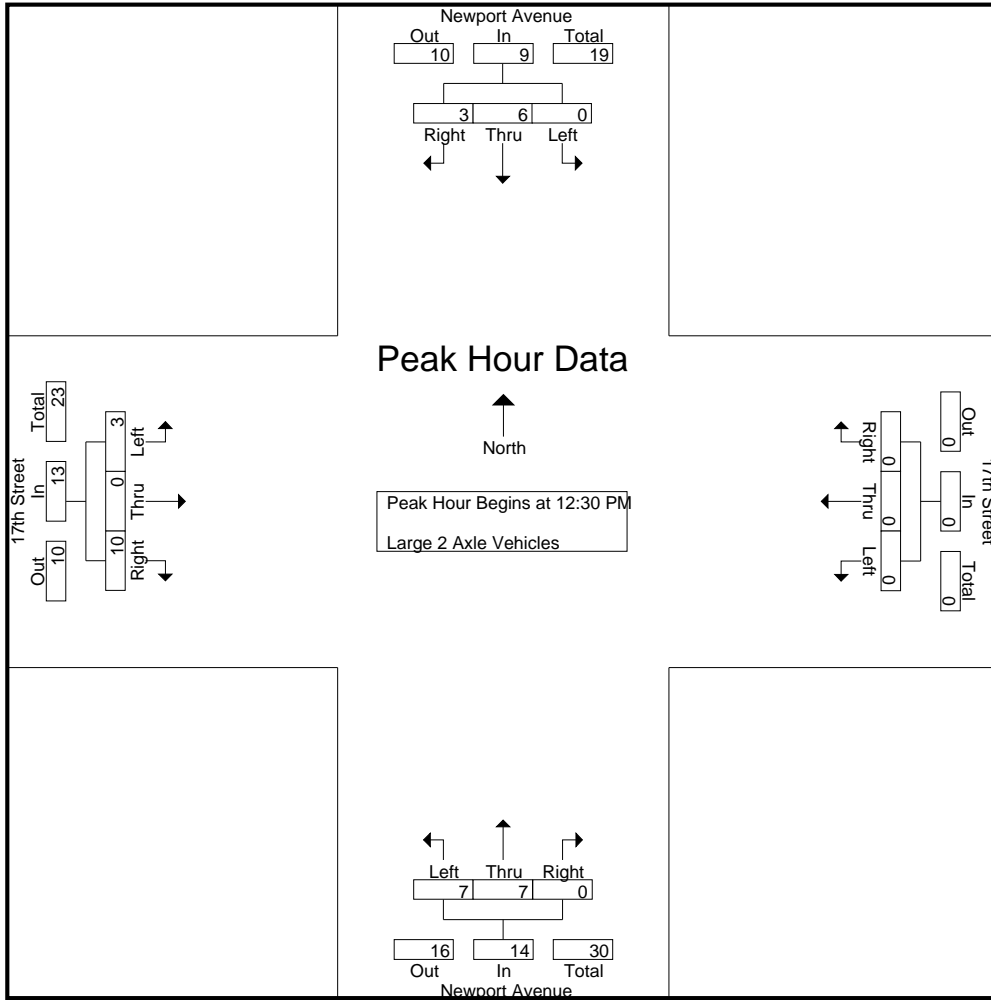
County of Orange
 N/S: Newport Avenue
 E/W: 17th Street
 Weather: Clear

File Name : 04_ORCNE17MD
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	0	3	1	4	0	0	0	0	1	0	0	1	3	0	3	6	11
11:45 AM	0	3	1	4	0	0	0	0	1	2	0	3	1	0	3	4	11
Total	0	6	2	8	0	0	0	0	2	2	0	4	4	0	6	10	22
12:00 PM	0	4	0	4	0	0	0	0	3	4	0	7	0	0	0	0	11
12:15 PM	0	3	1	4	0	0	0	0	1	2	0	3	0	0	0	0	7
12:30 PM	0	3	0	3	0	0	0	0	1	1	0	2	1	0	4	5	10
12:45 PM	0	1	1	2	0	0	0	0	2	0	0	2	1	0	2	3	7
Total	0	11	2	13	0	0	0	0	7	7	0	14	2	0	6	8	35
01:00 PM	0	1	1	2	0	0	0	0	1	3	0	4	0	0	2	2	8
01:15 PM	0	1	1	2	0	0	0	0	3	3	0	6	1	0	2	3	11
Grand Total	0	19	6	25	0	0	0	0	13	15	0	28	7	0	16	23	76
Apprch %	0	76	24		0	0	0		46.4	53.6	0		30.4	0	69.6		
Total %	0	25	7.9	32.9	0	0	0	0	17.1	19.7	0	36.8	9.2	0	21.1	30.3	

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	0	3	0	3	0	0	0	0	1	1	0	2	1	0	4	5	10
12:45 PM	0	1	1	2	0	0	0	0	2	0	0	2	1	0	2	3	7
01:00 PM	0	1	1	2	0	0	0	0	1	3	0	4	0	0	2	2	8
01:15 PM	0	1	1	2	0	0	0	0	3	3	0	6	1	0	2	3	11
Total Volume	0	6	3	9	0	0	0	0	7	7	0	14	3	0	10	13	36
% App. Total	0	66.7	33.3		0	0	0		50	50	0		23.1	0	76.9		
PHF	.000	.500	.750	.750	.000	.000	.000	.000	.583	.583	.000	.583	.750	.000	.625	.650	.818



Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM							
+0 mins.	0	3	0	3	0	0	0	0	1	1	0	2	1	0	4	5
+15 mins.	0	1	1	2	0	0	0	0	2	0	0	2	1	0	2	3
+30 mins.	0	1	1	2	0	0	0	0	1	3	0	4	0	0	2	2
+45 mins.	0	1	1	2	0	0	0	0	3	3	0	6	1	0	2	3
Total Volume	0	6	3	9	0	0	0	0	7	7	0	14	3	0	10	13
% App. Total	0	66.7	33.3		0	0	0		50	50	0		23.1	0	76.9	
PHF	.000	.500	.750	.750	.000	.000	.000	.000	.583	.583	.000	.583	.750	.000	.625	.650

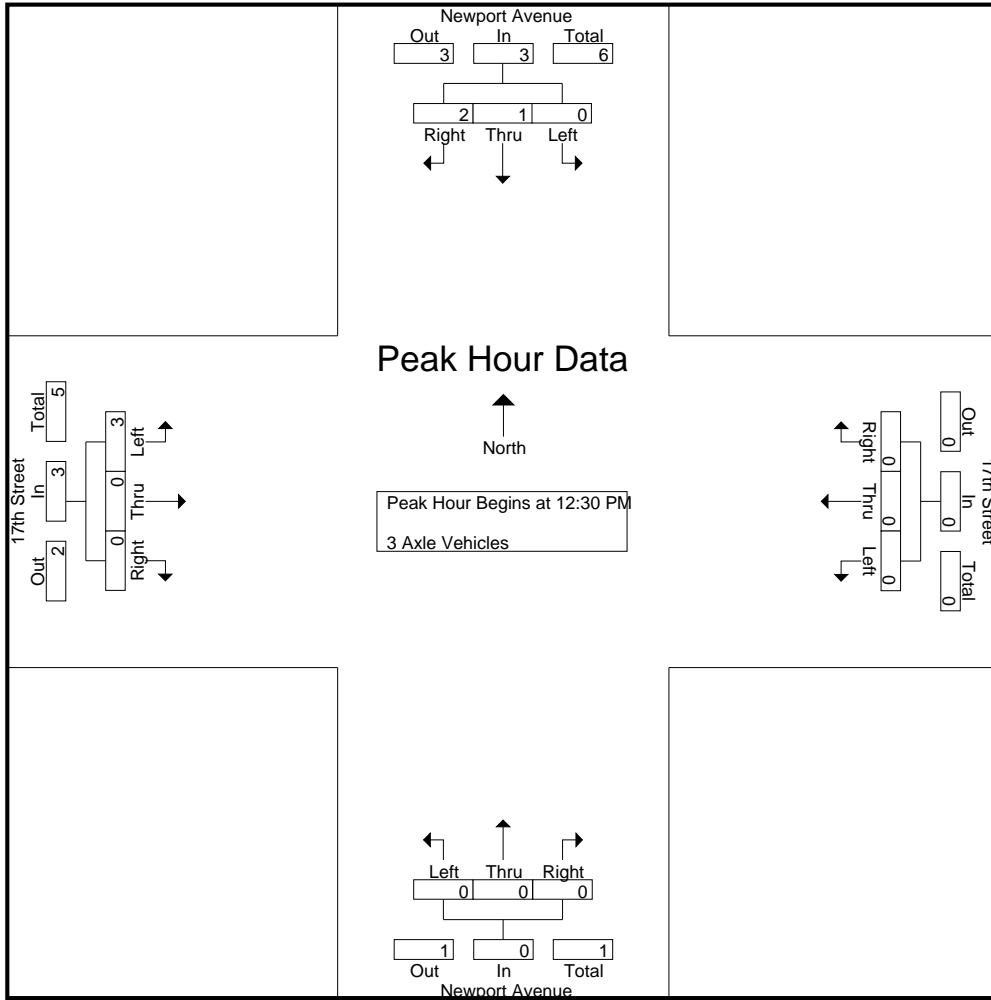
County of Orange
 N/S: Newport Avenue
 E/W: 17th Street
 Weather: Clear

File Name : 04_ORCNE17MD
 Site Code : 21717852
 Start Date : 12/13/2017
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Groups Printed- 3 Axle Vehicles

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
11:30 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
Total	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1
12:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	1	1	2	0	0	0	0	0	0	0	0	2	0	0	2	2	4
Total	0	1	2	3	0	0	0	0	0	0	0	0	3	0	0	3	3	6
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1
Grand Total	0	1	3	4	0	0	0	0	0	0	0	0	4	0	1	5	5	9
Apprch %	0	25	75		0	0	0		0	0	0		80	0	20			
Total %	0	11.1	33.3	44.4	0	0	0	0	0	0	0	0	44.4	0	11.1	55.6		

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 12:30 PM																		
12:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	1	1	2	0	0	0	0	0	0	0	0	2	0	0	2	2	4
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1
Total Volume	0	1	2	3	0	0	0	0	0	0	0	0	3	0	0	3	3	6
% App. Total	0	33.3	66.7		0	0	0		0	0	0		100	0	0			
PHF	.000	.250	.500	.375	.000	.000	.000	.000	.000	.000	.000	.000	.375	.000	.000	.375	.375	.375



Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM							
+0 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	1	2	0	0	0	0	0	0	0	0	2	0	0	2
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Total Volume	0	1	2	3	0	0	0	0	0	0	0	0	3	0	0	3
% App. Total	0	33.3	66.7		0	0	0		0	0	0		100	0	0	
PHF	.000	.250	.500	.375	.000	.000	.000	.000	.000	.000	.000	.000	.375	.000	.000	.375

County of Orange
 N/S: Newport Avenue
 E/W: 17th Street
 Weather: Clear

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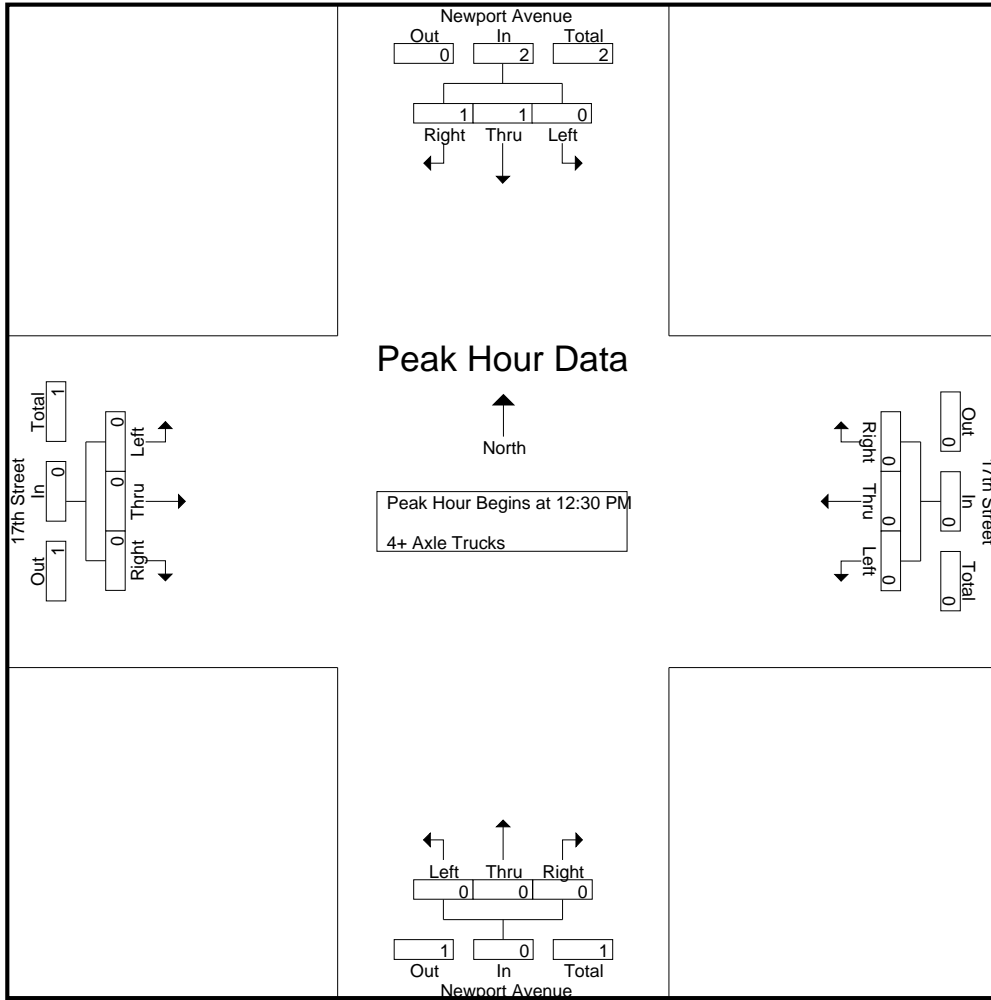
Groups Printed- 4+ Axle Trucks

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	2	0	0	0	0	0	0	0	0	1	0	0	1	3
01:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	2	1	3	0	0	0	0	0	0	0	0	1	0	0	1	4
Apprch %	0	66.7	33.3		0	0	0		0	0	0		100	0	0		
Total %	0	50	25	75	0	0	0		0	0	0		25	0	0	25	

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2
% App. Total	0	50	50		0	0	0		0	0	0		0	0	0		
PHF	.000	.250	.250	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500

County of Orange
 N/S: Newport Avenue
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 Weather: Clear

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Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM							
+0 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	50	50		0	0	0		0	0	0		0	0	0	
PHF	.000	.250	.250	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

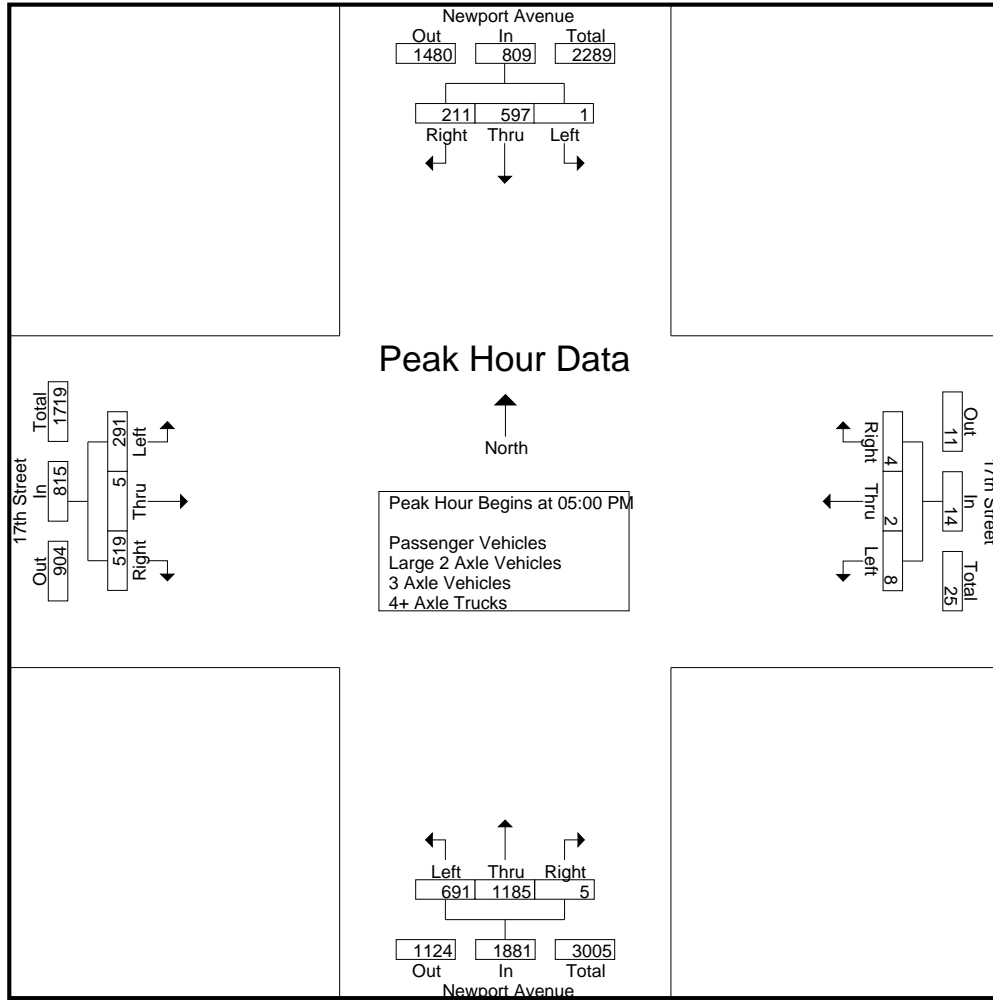
County of Orange
 N/S: Newport Avenue
 E/W: 17th Street
 Weather: Clear

File Name : 04_ORCNE17PM
 Site Code : 21717852
 Start Date : 12/13/2017
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	166	53	219	0	3	0	3	130	264	2	396	60	0	100	160	778
04:15 PM	0	144	58	202	1	0	0	1	175	254	2	431	80	0	108	188	822
04:30 PM	1	156	53	210	2	1	0	3	171	284	2	457	38	0	73	111	781
04:45 PM	1	136	68	205	1	2	1	4	195	293	3	491	61	1	89	151	851
Total	2	602	232	836	4	6	1	11	671	1095	9	1775	239	1	370	610	3232
05:00 PM	1	163	46	210	2	1	2	5	163	321	1	485	64	0	108	172	872
05:15 PM	0	135	53	188	1	0	2	3	174	267	2	443	101	4	118	223	857
05:30 PM	0	140	49	189	3	1	0	4	162	292	1	455	46	0	121	167	815
05:45 PM	0	159	63	222	2	0	0	2	192	305	1	498	80	1	172	253	975
Total	1	597	211	809	8	2	4	14	691	1185	5	1881	291	5	519	815	3519
Grand Total	3	1199	443	1645	12	8	5	25	1362	2280	14	3656	530	6	889	1425	6751
Apprch %	0.2	72.9	26.9		48	32	20		37.3	62.4	0.4		37.2	0.4	62.4		
Total %	0	17.8	6.6	24.4	0.2	0.1	0.1	0.4	20.2	33.8	0.2	54.2	7.9	0.1	13.2	21.1	
Passenger Vehicles	3	1175	431	1609	11	8	4	23	1321	2253	13	3587	528	5	872	1405	6624
% Passenger Vehicles	100	98	97.3	97.8	91.7	100	80	92	97	98.8	92.9	98.1	99.6	83.3	98.1	98.6	98.1
Large 2 Axle Vehicles	0	22	10	32	1	0	1	2	36	25	1	62	2	1	16	19	115
% Large 2 Axle Vehicles	0	1.8	2.3	1.9	8.3	0	20	8	2.6	1.1	7.1	1.7	0.4	16.7	1.8	1.3	1.7
3 Axle Vehicles	0	1	0	1	0	0	0	0	4	2	0	6	0	0	0	0	7
% 3 Axle Vehicles	0	0.1	0	0.1	0	0	0	0	0.3	0.1	0	0.2	0	0	0	0	0.1
4+ Axle Trucks	0	1	2	3	0	0	0	0	1	0	0	1	0	0	1	1	5
% 4+ Axle Trucks	0	0.1	0.5	0.2	0	0	0	0	0.1	0	0	0	0	0	0.1	0.1	0.1

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	1	163	46	210	2	1	2	5	163	321	1	485	64	0	108	172	872
05:15 PM	0	135	53	188	1	0	2	3	174	267	2	443	101	4	118	223	857
05:30 PM	0	140	49	189	3	1	0	4	162	292	1	455	46	0	121	167	815
05:45 PM	0	159	63	222	2	0	0	2	192	305	1	498	80	1	172	253	975
Total Volume	1	597	211	809	8	2	4	14	691	1185	5	1881	291	5	519	815	3519
% App. Total	0.1	73.8	26.1		57.1	14.3	28.6		36.7	63	0.3		35.7	0.6	63.7		
PHF	.250	.916	.837	.911	.667	.500	.500	.700	.900	.923	.625	.944	.720	.313	.754	.805	.902



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				04:45 PM				05:00 PM				05:00 PM			
+0 mins.	0	166	53	219	1	2	1	4	163	321	1	485	64	0	108	172
+15 mins.	0	144	58	202	2	1	2	5	174	267	2	443	101	4	118	223
+30 mins.	1	156	53	210	1	0	2	3	162	292	1	455	46	0	121	167
+45 mins.	1	136	68	205	3	1	0	4	192	305	1	498	80	1	172	253
Total Volume	2	602	232	836	7	4	5	16	691	1185	5	1881	291	5	519	815
% App. Total	0.2	72	27.8		43.8	25	31.2		36.7	63	0.3		35.7	0.6	63.7	
PHF	.500	.907	.853	.954	.583	.500	.625	.800	.900	.923	.625	.944	.720	.313	.754	.805

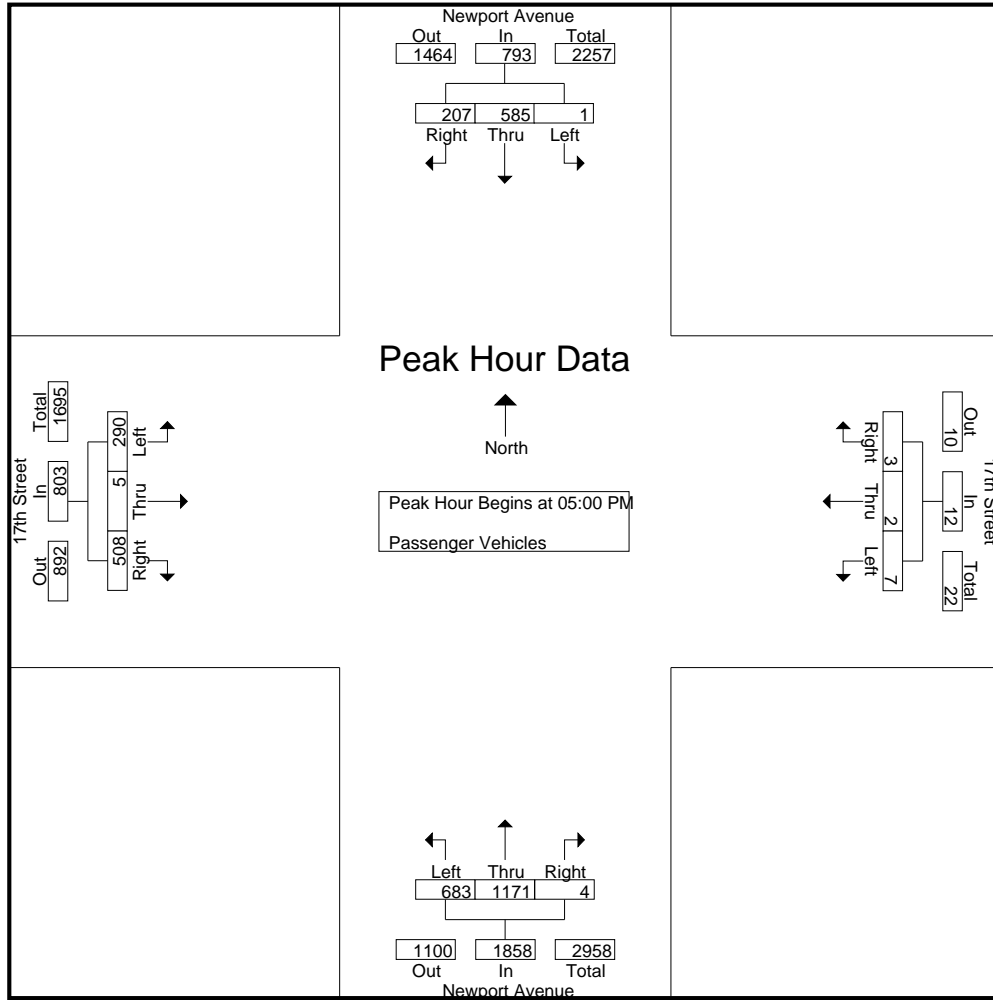
County of Orange
 N/S: Newport Avenue
 E/W: 17th Street
 Weather: Clear

File Name : 04_ORCNE17PM
 Site Code : 21717852
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Groups Printed- Passenger Vehicles

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	163	50	213	0	3	0	3	119	261	2	382	60	0	100	160	758
04:15 PM	0	142	57	199	1	0	0	1	165	250	2	417	79	0	105	184	801
04:30 PM	1	152	51	204	2	1	0	3	165	280	2	447	38	0	72	110	764
04:45 PM	1	133	66	200	1	2	1	4	189	291	3	483	61	0	87	148	835
Total	2	590	224	816	4	6	1	11	638	1082	9	1729	238	0	364	602	3158
05:00 PM	1	158	45	204	1	1	1	3	161	316	0	477	64	0	106	170	854
05:15 PM	0	132	53	185	1	0	2	3	170	263	2	435	100	4	115	219	842
05:30 PM	0	138	47	185	3	1	0	4	161	289	1	451	46	0	119	165	805
05:45 PM	0	157	62	219	2	0	0	2	191	303	1	495	80	1	168	249	965
Total	1	585	207	793	7	2	3	12	683	1171	4	1858	290	5	508	803	3466
Grand Total	3	1175	431	1609	11	8	4	23	1321	2253	13	3587	528	5	872	1405	6624
Apprch %	0.2	73	26.8		47.8	34.8	17.4		36.8	62.8	0.4		37.6	0.4	62.1		
Total %	0	17.7	6.5	24.3	0.2	0.1	0.1	0.3	19.9	34	0.2	54.2	8	0.1	13.2	21.2	

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	1	158	45	204	1	1	1	3	161	316	0	477	64	0	106	170	854
05:15 PM	0	132	53	185	1	0	2	3	170	263	2	435	100	4	115	219	842
05:30 PM	0	138	47	185	3	1	0	4	161	289	1	451	46	0	119	165	805
05:45 PM	0	157	62	219	2	0	0	2	191	303	1	495	80	1	168	249	965
Total Volume	1	585	207	793	7	2	3	12	683	1171	4	1858	290	5	508	803	3466
% App. Total	0.1	73.8	26.1		58.3	16.7	25		36.8	63	0.2		36.1	0.6	63.3		
PHF	.250	.926	.835	.905	.583	.500	.375	.750	.894	.926	.500	.938	.725	.313	.756	.806	.898



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM							
+0 mins.	1	158	45	204	1	1	3	3	161	316	0	477	64	0	106	170
+15 mins.	0	132	53	185	1	0	2	3	170	263	2	435	100	4	115	219
+30 mins.	0	138	47	185	3	1	0	4	161	289	1	451	46	0	119	165
+45 mins.	0	157	62	219	2	0	0	2	191	303	1	495	80	1	168	249
Total Volume	1	585	207	793	7	2	3	12	683	1171	4	1858	290	5	508	803
% App. Total	0.1	73.8	26.1		58.3	16.7	25		36.8	63	0.2		36.1	0.6	63.3	
PHF	.250	.926	.835	.905	.583	.500	.375	.750	.894	.926	.500	.938	.725	.313	.756	.806

County of Orange
 N/S: Newport Avenue
 E/W: 17th Street
 Weather: Clear

File Name : 04_ORCNE17PM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

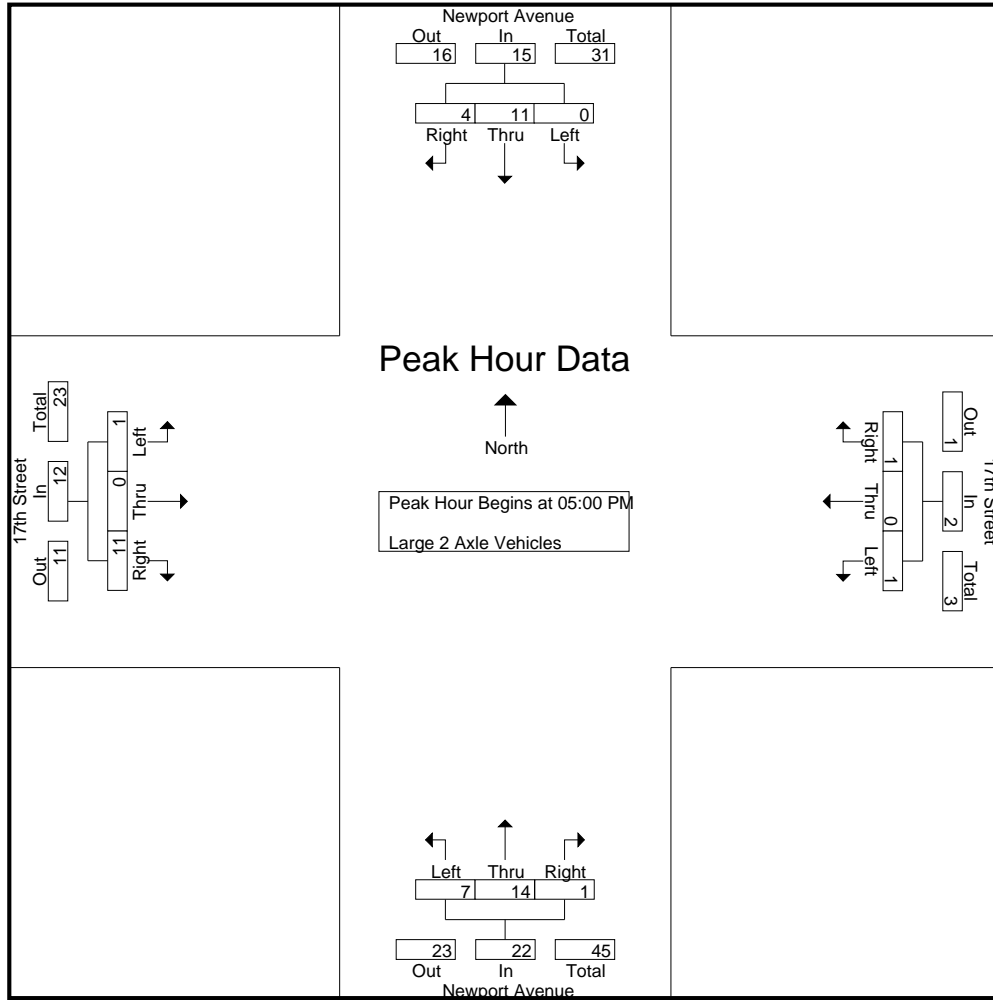
Groups Printed- Large 2 Axle Vehicles

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	3	2	5	0	0	0	0	10	3	0	13	0	0	0	0	18
04:15 PM	0	2	1	3	0	0	0	0	10	3	0	13	1	0	2	3	19
04:30 PM	0	4	1	5	0	0	0	0	5	4	0	9	0	0	1	1	15
04:45 PM	0	2	2	4	0	0	0	0	4	1	0	5	0	1	2	3	12
Total	0	11	6	17	0	0	0	0	29	11	0	40	1	1	5	7	64
05:00 PM	0	4	1	5	1	0	1	2	2	5	1	8	0	0	2	2	17
05:15 PM	0	3	0	3	0	0	0	0	3	4	0	7	1	0	3	4	14
05:30 PM	0	2	2	4	0	0	0	0	1	3	0	4	0	0	2	2	10
05:45 PM	0	2	1	3	0	0	0	0	1	2	0	3	0	0	4	4	10
Total	0	11	4	15	1	0	1	2	7	14	1	22	1	0	11	12	51
Grand Total	0	22	10	32	1	0	1	2	36	25	1	62	2	1	16	19	115
Apprch %	0	68.8	31.2		50	0	50		58.1	40.3	1.6		10.5	5.3	84.2		
Total %	0	19.1	8.7	27.8	0.9	0	0.9	1.7	31.3	21.7	0.9	53.9	1.7	0.9	13.9	16.5	

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	4	1	5	1	0	1	2	2	5	1	8	0	0	2	2	17
05:15 PM	0	3	0	3	0	0	0	0	3	4	0	7	1	0	3	4	14
05:30 PM	0	2	2	4	0	0	0	0	1	3	0	4	0	0	2	2	10
05:45 PM	0	2	1	3	0	0	0	0	1	2	0	3	0	0	4	4	10
Total Volume	0	11	4	15	1	0	1	2	7	14	1	22	1	0	11	12	51
% App. Total	0	73.3	26.7		50	0	50		31.8	63.6	4.5		8.3	0	91.7		
PHF	.000	.688	.500	.750	.250	.000	.250	.250	.583	.700	.250	.688	.250	.000	.688	.750	.750

County of Orange
 N/S: Newport Avenue
 E/W: 17th Street
 Weather: Clear

File Name : 04_ORCNE17PM
 Site Code : 21717852
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Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	4	1	5	1	0	1	2	2	5	1	8	0	0	2	2
+15 mins.	0	3	0	3	0	0	0	0	3	4	0	7	1	0	3	4
+30 mins.	0	2	2	4	0	0	0	0	1	3	0	4	0	0	2	2
+45 mins.	0	2	1	3	0	0	0	0	1	2	0	3	0	0	4	4
Total Volume	0	11	4	15	1	0	1	2	7	14	1	22	1	0	11	12
% App. Total	0	73.3	26.7		50	0	50		31.8	63.6	4.5		8.3	0	91.7	
PHF	.000	.688	.500	.750	.250	.000	.250	.250	.583	.700	.250	.688	.250	.000	.688	.750

County of Orange
 N/S: Newport Avenue
 E/W: 17th Street
 Weather: Clear

File Name : 04_ORCNE17PM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

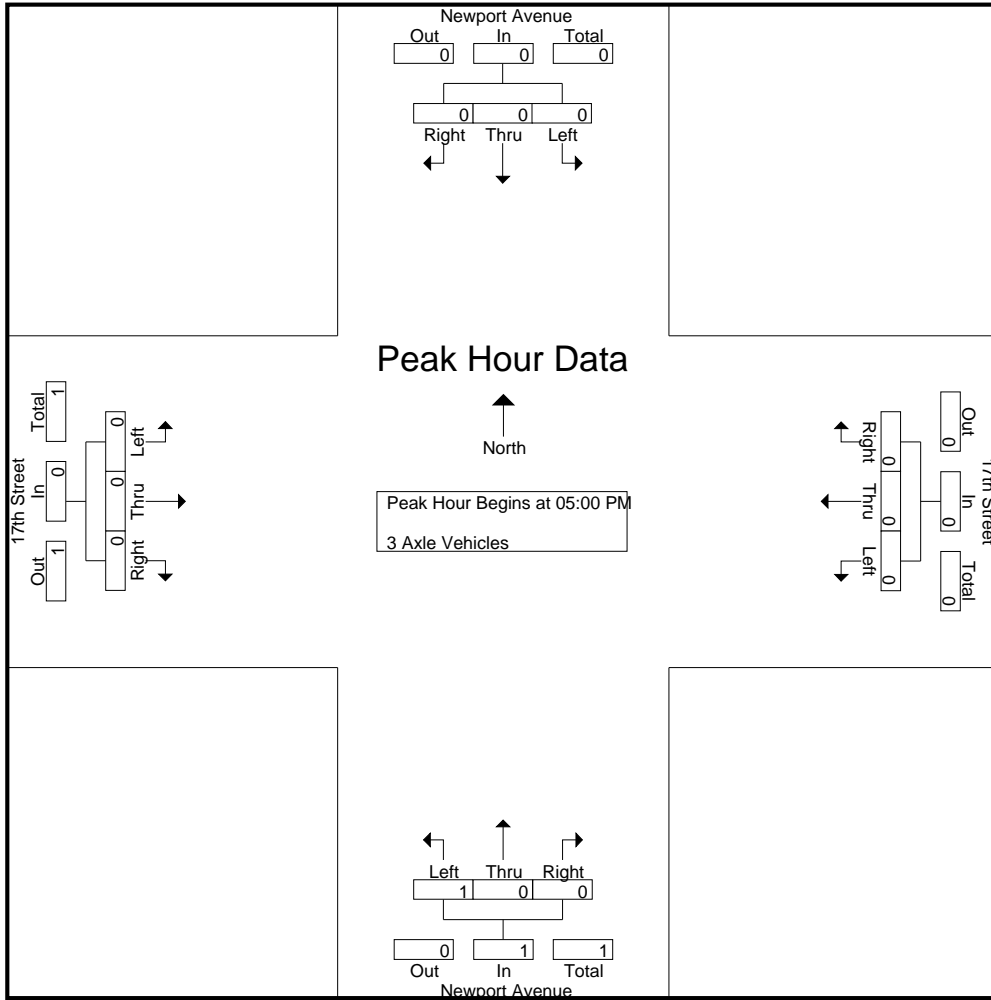
Groups Printed- 3 Axle Vehicles

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
04:45 PM	0	1	0	1	0	0	0	0	2	1	0	3	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	3	2	0	5	0	0	0	0	6
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Grand Total	0	1	0	1	0	0	0	0	4	2	0	6	0	0	0	0	7
Apprch %	0	100	0		0	0	0		66.7	33.3	0		0	0	0		
Total %	0	14.3	0	14.3	0	0	0	0	57.1	28.6	0	85.7	0	0	0	0	

Start Time	Newport Avenue Southbound				17th Street Westbound				Newport Avenue Northbound				17th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		100	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.250

County of Orange
 N/S: Newport Avenue
 E/W: 17th Street
 Weather: Clear

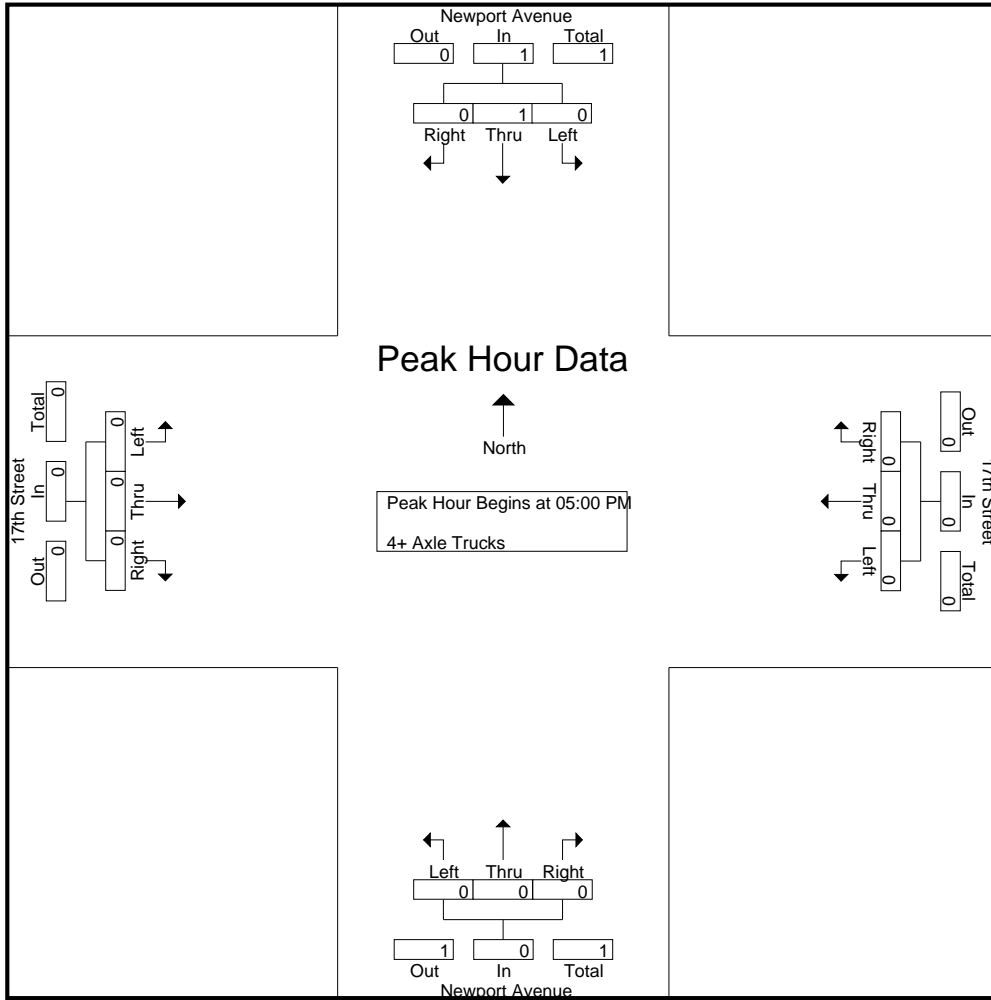
File Name : 04_ORCNE17PM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

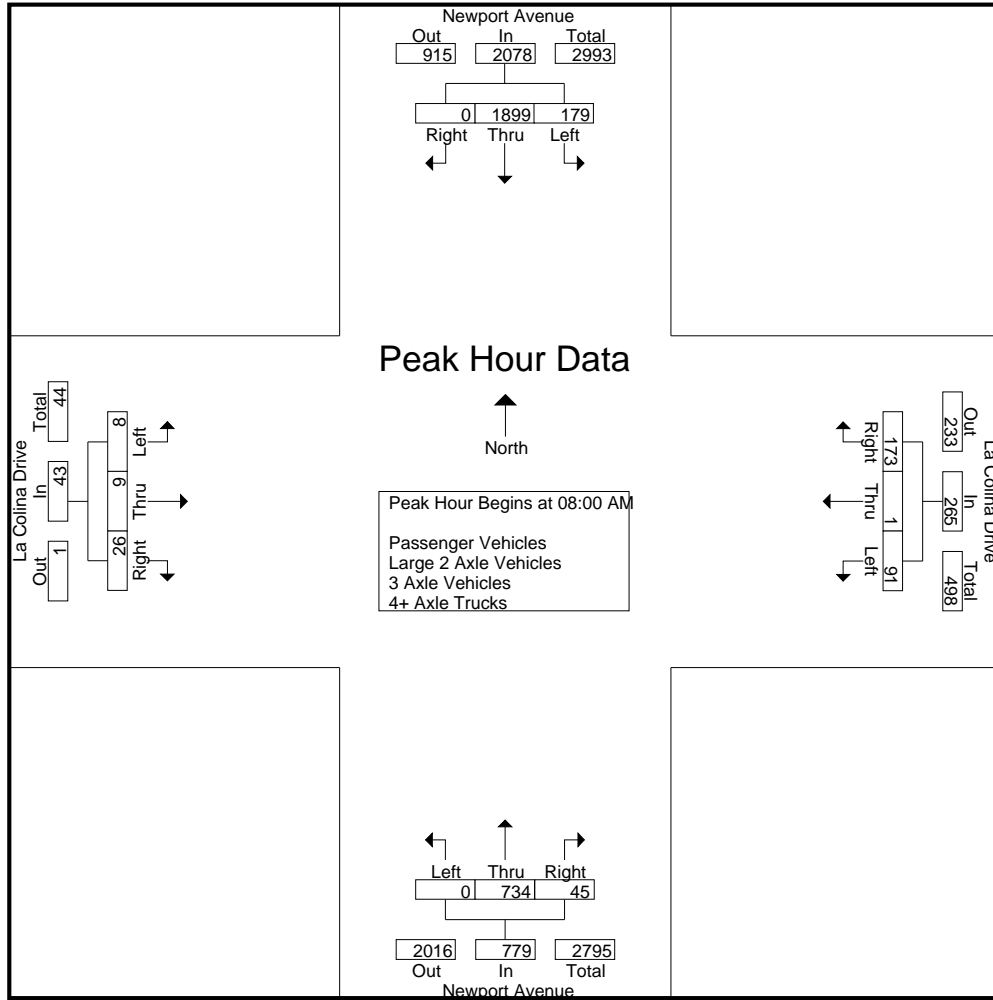
County of Orange
 N/S: Newport Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 03_ORCNELCAM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	17	250	0	267	8	0	10	18	0	98	9	107	5	0	3	8	400
07:15 AM	29	397	0	426	9	0	20	29	0	94	11	105	2	0	2	4	564
07:30 AM	23	398	0	421	19	1	22	42	0	141	6	147	1	2	8	11	621
07:45 AM	53	412	0	465	33	1	42	76	0	178	6	184	5	1	14	20	745
Total	122	1457	0	1579	69	2	94	165	0	511	32	543	13	3	27	43	2330
08:00 AM	59	453	0	512	37	0	43	80	0	174	16	190	5	4	12	21	803
08:15 AM	34	519	0	553	26	1	53	80	0	160	12	172	2	2	6	10	815
08:30 AM	45	427	0	472	10	0	43	53	0	211	8	219	1	3	5	9	753
08:45 AM	41	500	0	541	18	0	34	52	0	189	9	198	0	0	3	3	794
Total	179	1899	0	2078	91	1	173	265	0	734	45	779	8	9	26	43	3165
Grand Total	301	3356	0	3657	160	3	267	430	0	1245	77	1322	21	12	53	86	5495
Apprch %	8.2	91.8	0		37.2	0.7	62.1		0	94.2	5.8		24.4	14	61.6		
Total %	5.5	61.1	0	66.6	2.9	0.1	4.9	7.8	0	22.7	1.4	24.1	0.4	0.2	1	1.6	
Passenger Vehicles	298	3318	0	3616	160	3	265	428	0	1217	75	1292	21	12	52	85	5421
% Passenger Vehicles	99	98.9	0	98.9	100	100	99.3	99.5	0	97.8	97.4	97.7	100	100	98.1	98.8	98.7
Large 2 Axle Vehicles	3	32	0	35	0	0	1	1	0	22	1	23	0	0	1	1	60
% Large 2 Axle Vehicles	1	1	0	1	0	0	0.4	0.2	0	1.8	1.3	1.7	0	0	1.9	1.2	1.1
3 Axle Vehicles	0	5	0	5	0	0	1	1	0	5	1	6	0	0	0	0	12
% 3 Axle Vehicles	0	0.1	0	0.1	0	0	0.4	0.2	0	0.4	1.3	0.5	0	0	0	0	0.2
4+ Axle Trucks	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0.1	0	0.1	0	0	0	0	0

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	59	453	0	512	37	0	43	80	0	174	16	190	5	4	12	21	803
08:15 AM	34	519	0	553	26	1	53	80	0	160	12	172	2	2	6	10	815
08:30 AM	45	427	0	472	10	0	43	53	0	211	8	219	1	3	5	9	753
08:45 AM	41	500	0	541	18	0	34	52	0	189	9	198	0	0	3	3	794
Total Volume	179	1899	0	2078	91	1	173	265	0	734	45	779	8	9	26	43	3165
% App. Total	8.6	91.4	0		34.3	0.4	65.3		0	94.2	5.8		18.6	20.9	60.5		
PHF	.758	.915	.000	.939	.615	.250	.816	.828	.000	.870	.703	.889	.400	.563	.542	.512	.971



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				08:00 AM				07:30 AM			
+0 mins.	59	453	0	512	33	1	42	76	0	174	16	190	1	2	8	11
+15 mins.	34	519	0	553	37	0	43	80	0	160	12	172	5	1	14	20
+30 mins.	45	427	0	472	26	1	53	80	0	211	8	219	5	4	12	21
+45 mins.	41	500	0	541	10	0	43	53	0	189	9	198	2	2	6	10
Total Volume	179	1899	0	2078	106	2	181	289	0	734	45	779	13	9	40	62
% App. Total	8.6	91.4	0		36.7	0.7	62.6		0	94.2	5.8		21	14.5	64.5	
PHF	.758	.915	.000	.939	.716	.500	.854	.903	.000	.870	.703	.889	.650	.563	.714	.738

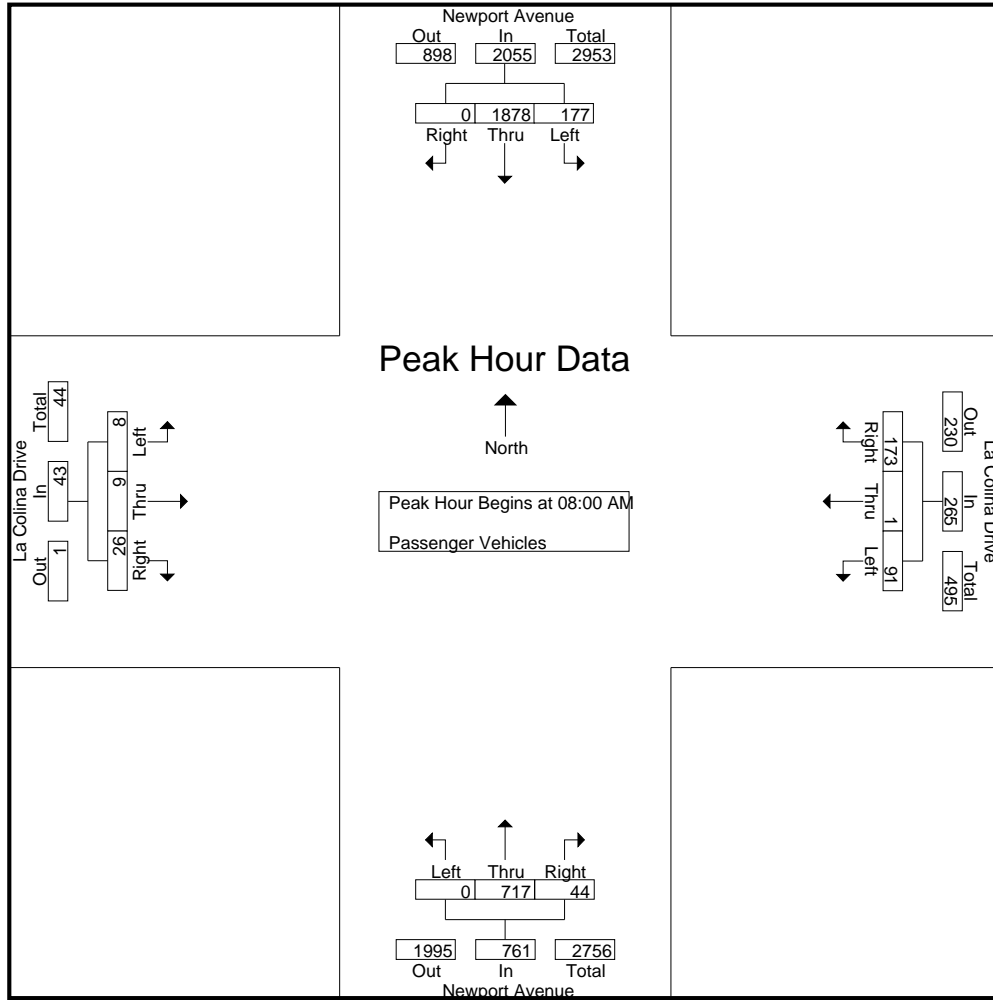
County of Orange
 N/S: Newport Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 03_ORCNELCAM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	17	249	0	266	8	0	8	16	0	93	9	102	5	0	2	7	391
07:15 AM	28	393	0	421	9	0	20	29	0	92	10	102	2	0	2	4	556
07:30 AM	23	392	0	415	19	1	22	42	0	140	6	146	1	2	8	11	614
07:45 AM	53	406	0	459	33	1	42	76	0	175	6	181	5	1	14	20	736
Total	121	1440	0	1561	69	2	92	163	0	500	31	531	13	3	26	42	2297
08:00 AM	58	448	0	506	37	0	43	80	0	166	16	182	5	4	12	21	789
08:15 AM	34	517	0	551	26	1	53	80	0	159	12	171	2	2	6	10	812
08:30 AM	44	417	0	461	10	0	43	53	0	207	8	215	1	3	5	9	738
08:45 AM	41	496	0	537	18	0	34	52	0	185	8	193	0	0	3	3	785
Total	177	1878	0	2055	91	1	173	265	0	717	44	761	8	9	26	43	3124
Grand Total	298	3318	0	3616	160	3	265	428	0	1217	75	1292	21	12	52	85	5421
Apprch %	8.2	91.8	0		37.4	0.7	61.9		0	94.2	5.8		24.7	14.1	61.2		
Total %	5.5	61.2	0	66.7	3	0.1	4.9	7.9	0	22.4	1.4	23.8	0.4	0.2	1	1.6	

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	58	448	0	506	37	0	43	80	0	166	16	182	5	4	12	21	789
08:15 AM	34	517	0	551	26	1	53	80	0	159	12	171	2	2	6	10	812
08:30 AM	44	417	0	461	10	0	43	53	0	207	8	215	1	3	5	9	738
08:45 AM	41	496	0	537	18	0	34	52	0	185	8	193	0	0	3	3	785
Total Volume	177	1878	0	2055	91	1	173	265	0	717	44	761	8	9	26	43	3124
% App. Total	8.6	91.4	0		34.3	0.4	65.3		0	94.2	5.8		18.6	20.9	60.5		
PHF	.763	.908	.000	.932	.615	.250	.816	.828	.000	.866	.688	.885	.400	.563	.542	.512	.962



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM							
+0 mins.	58	448	0	506	37	0	43	80	0	166	16	182	5	4	12	21
+15 mins.	34	517	0	551	26	1	53	80	0	159	12	171	2	2	6	10
+30 mins.	44	417	0	461	10	0	43	53	0	207	8	215	1	3	5	9
+45 mins.	41	496	0	537	18	0	34	52	0	185	8	193	0	0	3	3
Total Volume	177	1878	0	2055	91	1	173	265	0	717	44	761	8	9	26	43
% App. Total	8.6	91.4	0		34.3	0.4	65.3		0	94.2	5.8		18.6	20.9	60.5	
PHF	.763	.908	.000	.932	.615	.250	.816	.828	.000	.866	.688	.885	.400	.563	.542	.512

County of Orange
 N/S: Newport Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 03_ORCNELCAM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

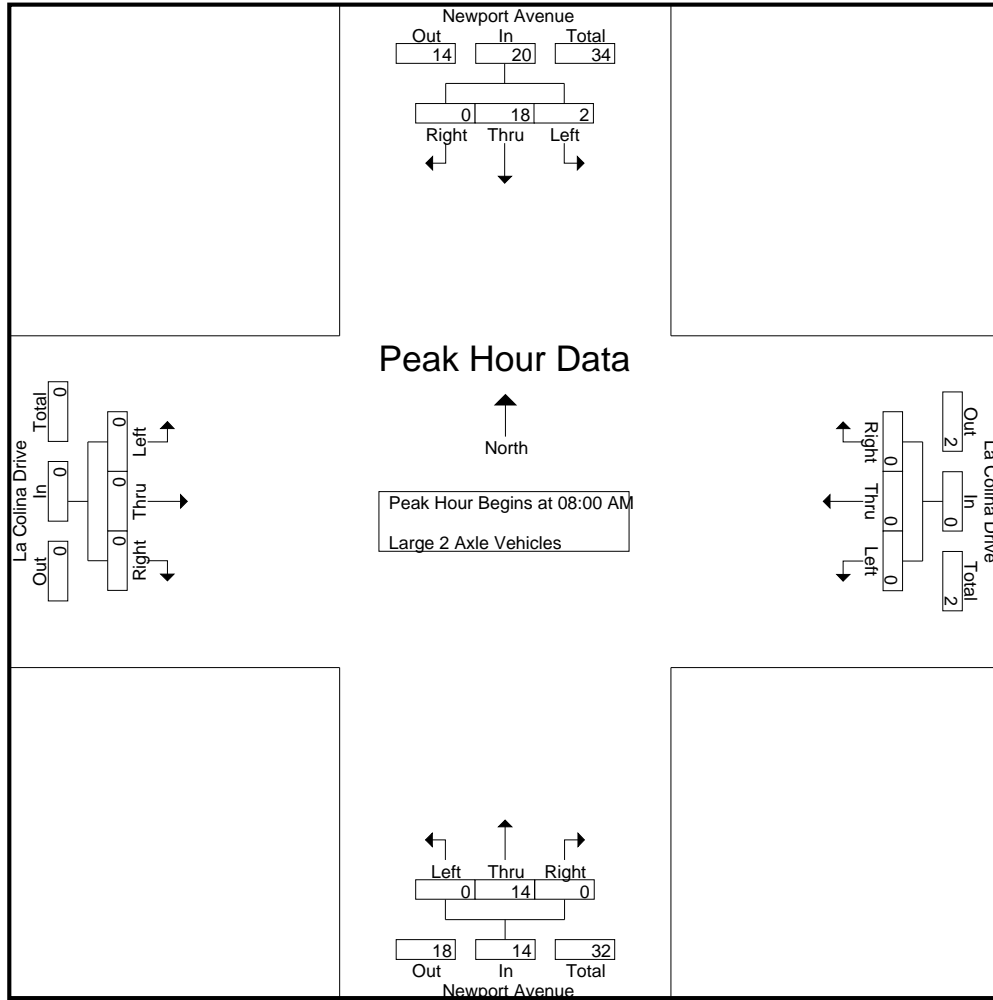
Groups Printed- Large 2 Axle Vehicles

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	1	1	0	3	0	3	0	0	1	1	5
07:15 AM	1	4	0	5	0	0	0	0	0	2	1	3	0	0	0	0	8
07:30 AM	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
07:45 AM	0	5	0	5	0	0	0	0	0	3	0	3	0	0	0	0	8
Total	1	14	0	15	0	0	1	1	0	8	1	9	0	0	1	1	26
08:00 AM	1	5	0	6	0	0	0	0	0	8	0	8	0	0	0	0	14
08:15 AM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
08:30 AM	1	8	0	9	0	0	0	0	0	1	0	1	0	0	0	0	10
08:45 AM	0	3	0	3	0	0	0	0	0	4	0	4	0	0	0	0	7
Total	2	18	0	20	0	0	0	0	0	14	0	14	0	0	0	0	34
Grand Total	3	32	0	35	0	0	1	1	0	22	1	23	0	0	1	1	60
Apprch %	8.6	91.4	0		0	0	100		0	95.7	4.3		0	0	100		
Total %	5	53.3	0	58.3	0	0	1.7	1.7	0	36.7	1.7	38.3	0	0	1.7	1.7	

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	1	5	0	6	0	0	0	0	0	8	0	8	0	0	0	0	14
08:15 AM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
08:30 AM	1	8	0	9	0	0	0	0	0	1	0	1	0	0	0	0	10
08:45 AM	0	3	0	3	0	0	0	0	0	4	0	4	0	0	0	0	7
Total Volume	2	18	0	20	0	0	0	0	0	14	0	14	0	0	0	0	34
% App. Total	10	90	0		0	0	0		0	100	0		0	0	0		
PHF	.500	.563	.000	.556	.000	.000	.000	.000	.000	.438	.000	.438	.000	.000	.000	.000	.607

County of Orange
 N/S: Newport Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 03_ORCNELCAM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM							
+0 mins.	1	5	0	6	0	0	0	0	0	8	0	8	0	0	0	0
+15 mins.	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	1	8	0	9	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	3	0	3	0	0	0	0	0	4	0	4	0	0	0	0
Total Volume	2	18	0	20	0	0	0	0	0	14	0	14	0	0	0	0
% App. Total	10	90	0		0	0	0	0	0	100	0		0	0	0	
PHF	.500	.563	.000	.556	.000	.000	.000	.000	.000	.438	.000	.438	.000	.000	.000	.000

County of Orange
 N/S: Newport Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 03_ORCNELCAM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	1	0	1	0	0	1	1	0	2	0	2	0	0	0	0	4
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	2	0	0	1	1	0	3	0	3	0	0	0	0	6
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
08:45 AM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
Total	0	3	0	3	0	0	0	0	0	2	1	3	0	0	0	0	6
Grand Total	0	5	0	5	0	0	1	1	0	5	1	6	0	0	0	0	12
Apprch %	0	100	0		0	0	100		0	83.3	16.7		0	0	0		
Total %	0	41.7	0	41.7	0	0	8.3	8.3	0	41.7	8.3	50	0	0	0	0	

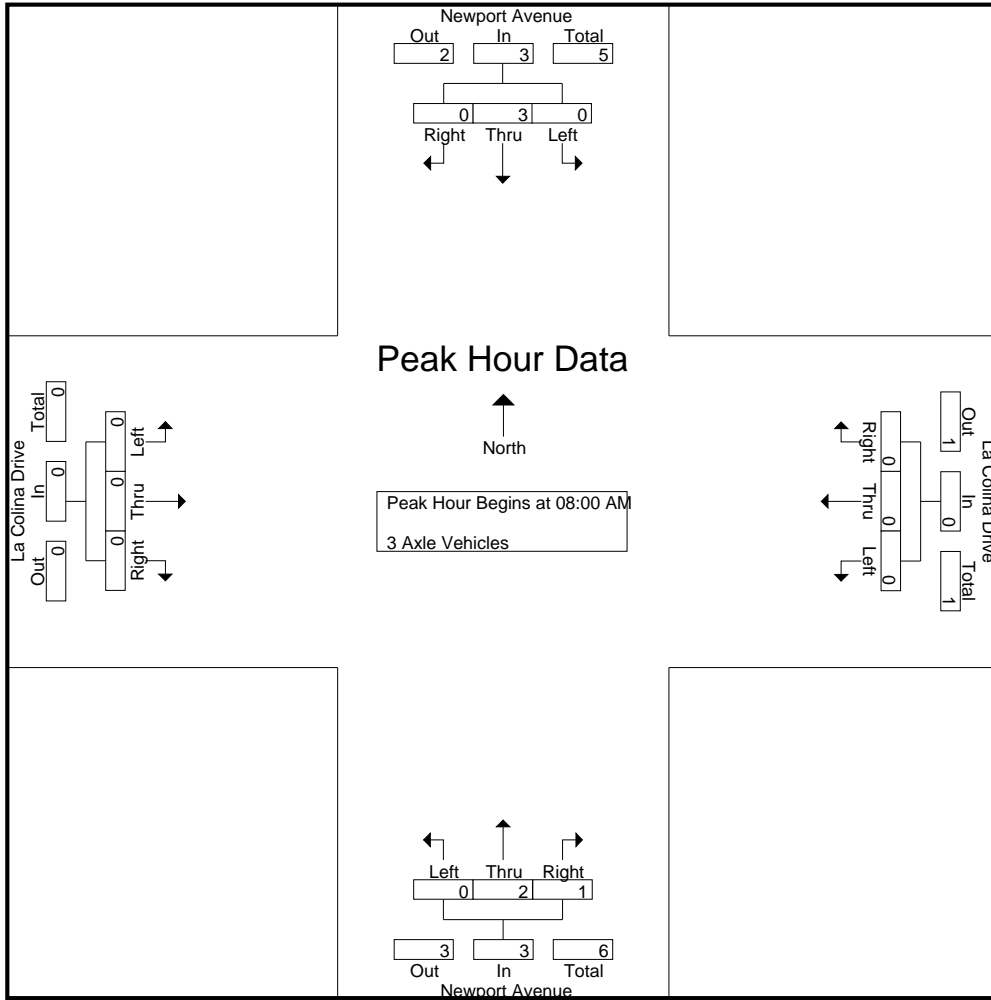
Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
08:45 AM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
Total Volume	0	3	0	3	0	0	0	0	0	2	1	3	0	0	0	0	6
% App. Total	0	100	0		0	0	0		0	66.7	33.3		0	0	0		
PHF	.000	.375	.000	.375	.000	.000	.000	.000	.000	.250	.250	.375	.000	.000	.000	.000	.375

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 08:00 AM

County of Orange
 N/S: Newport Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 03_ORCNELCAM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0
+45 mins.	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0
Total Volume	0	3	0	3	0	0	0	0	0	2	1	3	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	66.7	33.3	0	0	0	0	0
PHF	.000	.375	.000	.375	.000	.000	.000	.000	.000	.250	.250	.375	.000	.000	.000	.000

County of Orange
 N/S: Newport Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 03_ORCNELCAM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Grand Total	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	50	0	50	0	0	0	0	0	50	0	50	0	0	0	0	

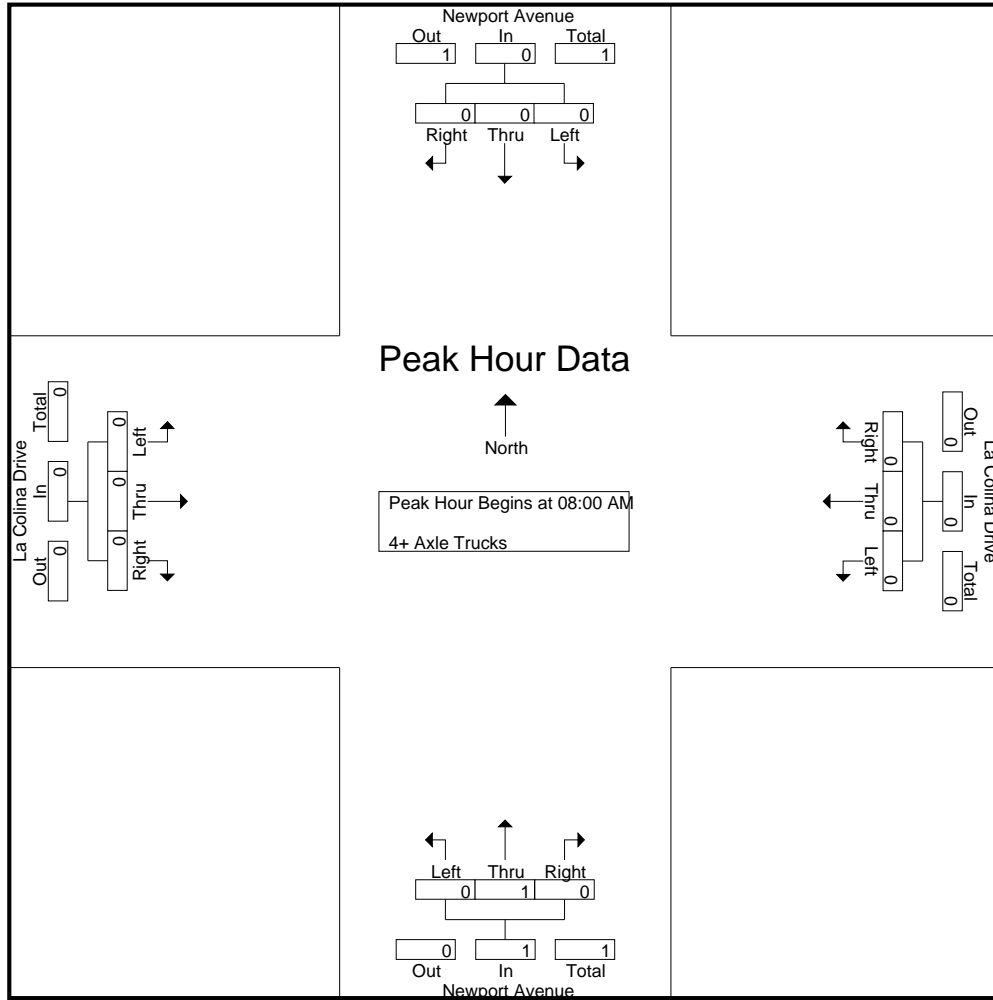
Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 08:00 AM

County of Orange
 N/S: Newport Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 03_ORCNELCAM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

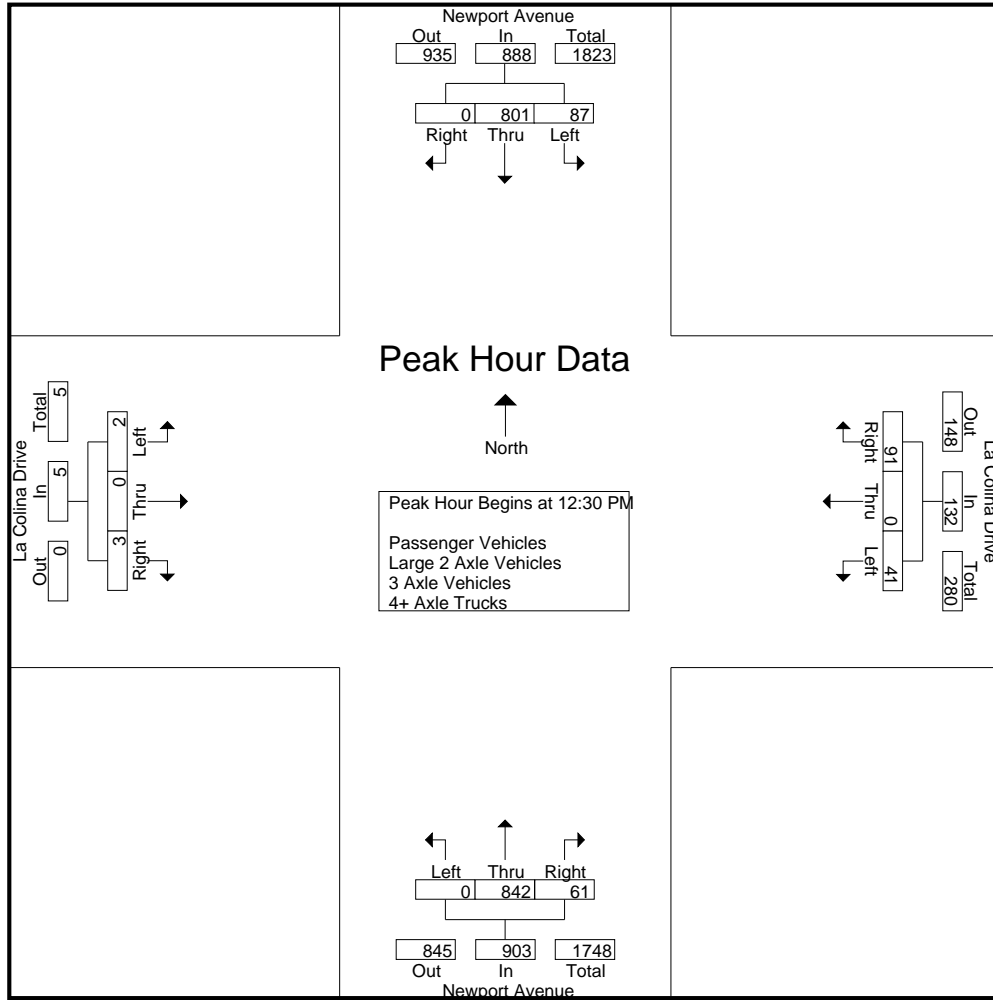
County of Orange
 N/S: Newport Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 03_ORCNELCMD
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	13	212	0	225	13	0	16	29	0	190	13	203	0	0	0	0	457
11:45 AM	16	207	0	223	9	0	20	29	0	190	14	204	0	0	0	0	456
Total	29	419	0	448	22	0	36	58	0	380	27	407	0	0	0	0	913
12:00 PM	11	206	0	217	8	0	19	27	0	190	16	206	1	0	0	1	451
12:15 PM	12	166	0	178	9	0	22	31	0	194	10	204	0	1	1	2	415
12:30 PM	15	205	0	220	9	0	21	30	0	171	10	181	0	0	1	1	432
12:45 PM	23	200	0	223	7	0	21	28	0	183	12	195	1	0	1	2	448
Total	61	777	0	838	33	0	83	116	0	738	48	786	2	1	3	6	1746
01:00 PM	25	177	0	202	11	0	22	33	0	261	14	275	1	0	0	1	511
01:15 PM	24	219	0	243	14	0	27	41	0	227	25	252	0	0	1	1	537
Grand Total	139	1592	0	1731	80	0	168	248	0	1606	114	1720	3	1	4	8	3707
Apprch %	8	92	0		32.3	0	67.7		0	93.4	6.6		37.5	12.5	50		
Total %	3.7	42.9	0	46.7	2.2	0	4.5	6.7	0	43.3	3.1	46.4	0.1	0	0.1	0.2	
Passenger Vehicles	139	1564	0	1703	80	0	164	244	0	1581	111	1692	3	1	3	7	3646
% Passenger Vehicles	100	98.2	0	98.4	100	0	97.6	98.4	0	98.4	97.4	98.4	100	100	75	87.5	98.4
Large 2 Axle Vehicles	0	26	0	26	0	0	4	4	0	25	3	28	0	0	1	1	59
% Large 2 Axle Vehicles	0	1.6	0	1.5	0	0	2.4	1.6	0	1.6	2.6	1.6	0	0	25	12.5	1.6
3 Axle Vehicles	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% 3 Axle Vehicles	0	0.1	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% 4+ Axle Trucks	0	0.1	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:30 AM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	15	205	0	220	9	0	21	30	0	171	10	181	0	0	1	1	432
12:45 PM	23	200	0	223	7	0	21	28	0	183	12	195	1	0	1	2	448
01:00 PM	25	177	0	202	11	0	22	33	0	261	14	275	1	0	0	1	511
01:15 PM	24	219	0	243	14	0	27	41	0	227	25	252	0	0	1	1	537
Total Volume	87	801	0	888	41	0	91	132	0	842	61	903	2	0	3	5	1928
% App. Total	9.8	90.2	0		31.1	0	68.9		0	93.2	6.8		40	0	60		
PHF	.870	.914	.000	.914	.732	.000	.843	.805	.000	.807	.610	.821	.500	.000	.750	.625	.898



Peak Hour Analysis From 11:30 AM to 01:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:00 PM							
+0 mins.	15	205	0	220	9	0	21	30	0	171	10	181	1	0	0	1
+15 mins.	23	200	0	223	7	0	21	28	0	183	12	195	0	1	1	2
+30 mins.	25	177	0	202	11	0	22	33	0	261	14	275	0	0	1	1
+45 mins.	24	219	0	243	14	0	27	41	0	227	25	252	1	0	1	2
Total Volume	87	801	0	888	41	0	91	132	0	842	61	903	2	1	3	6
% App. Total	9.8	90.2	0		31.1	0	68.9		0	93.2	6.8		33.3	16.7	50	
PHF	.870	.914	.000	.914	.732	.000	.843	.805	.000	.807	.610	.821	.500	.250	.750	.750

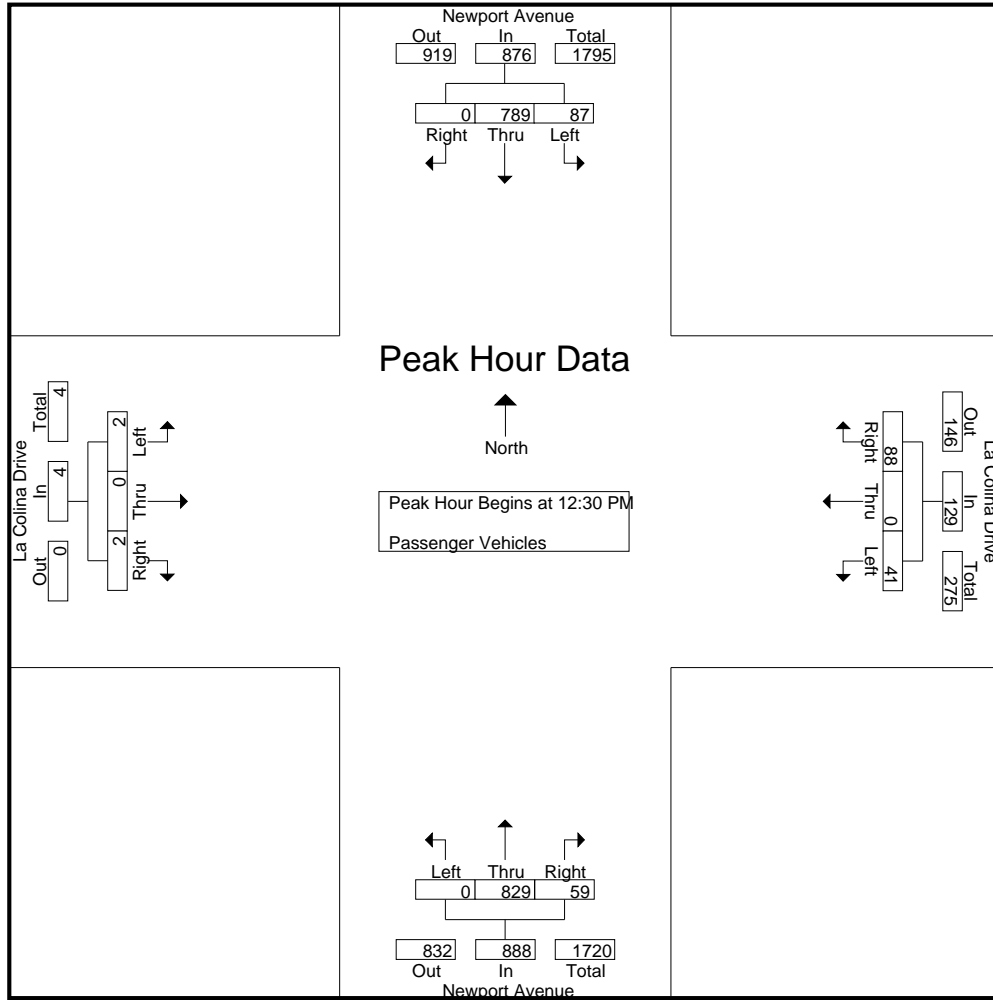
County of Orange
 N/S: Newport Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 03_ORCNELCMD
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	13	209	0	222	13	0	16	29	0	189	13	202	0	0	0	0	453
11:45 AM	16	202	0	218	9	0	20	29	0	188	13	201	0	0	0	0	448
Total	29	411	0	440	22	0	36	58	0	377	26	403	0	0	0	0	901
12:00 PM	11	201	0	212	8	0	18	26	0	184	16	200	1	0	0	1	439
12:15 PM	12	163	0	175	9	0	22	31	0	191	10	201	0	1	1	2	409
12:30 PM	15	202	0	217	9	0	21	30	0	169	10	179	0	0	1	1	427
12:45 PM	23	198	0	221	7	0	20	27	0	182	12	194	1	0	1	2	444
Total	61	764	0	825	33	0	81	114	0	726	48	774	2	1	3	6	1719
01:00 PM	25	172	0	197	11	0	22	33	0	256	13	269	1	0	0	1	500
01:15 PM	24	217	0	241	14	0	25	39	0	222	24	246	0	0	0	0	526
Grand Total	139	1564	0	1703	80	0	164	244	0	1581	111	1692	3	1	3	7	3646
Apprch %	8.2	91.8	0		32.8	0	67.2		0	93.4	6.6		42.9	14.3	42.9		
Total %	3.8	42.9	0	46.7	2.2	0	4.5	6.7	0	43.4	3	46.4	0.1	0	0.1	0.2	

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	15	202	0	217	9	0	21	30	0	169	10	179	0	0	1	1	427
12:45 PM	23	198	0	221	7	0	20	27	0	182	12	194	1	0	1	2	444
01:00 PM	25	172	0	197	11	0	22	33	0	256	13	269	1	0	0	1	500
01:15 PM	24	217	0	241	14	0	25	39	0	222	24	246	0	0	0	0	526
Total Volume	87	789	0	876	41	0	88	129	0	829	59	888	2	0	2	4	1897
% App. Total	9.9	90.1	0		31.8	0	68.2		0	93.4	6.6		50	0	50		
PHF	.870	.909	.000	.909	.732	.000	.880	.827	.000	.810	.615	.825	.500	.000	.500	.500	.902



Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM							
+0 mins.	15	202	0	217	9	0	21	30	0	169	10	179	0	0	1	1
+15 mins.	23	198	0	221	7	0	20	27	0	182	12	194	1	0	1	2
+30 mins.	25	172	0	197	11	0	22	33	0	256	13	269	1	0	0	1
+45 mins.	24	217	0	241	14	0	25	39	0	222	24	246	0	0	0	0
Total Volume	87	789	0	876	41	0	88	129	0	829	59	888	2	0	2	4
% App. Total	9.9	90.1	0		31.8	0	68.2		0	93.4	6.6		50	0	50	
PHF	.870	.909	.000	.909	.732	.000	.880	.827	.000	.810	.615	.825	.500	.000	.500	.500

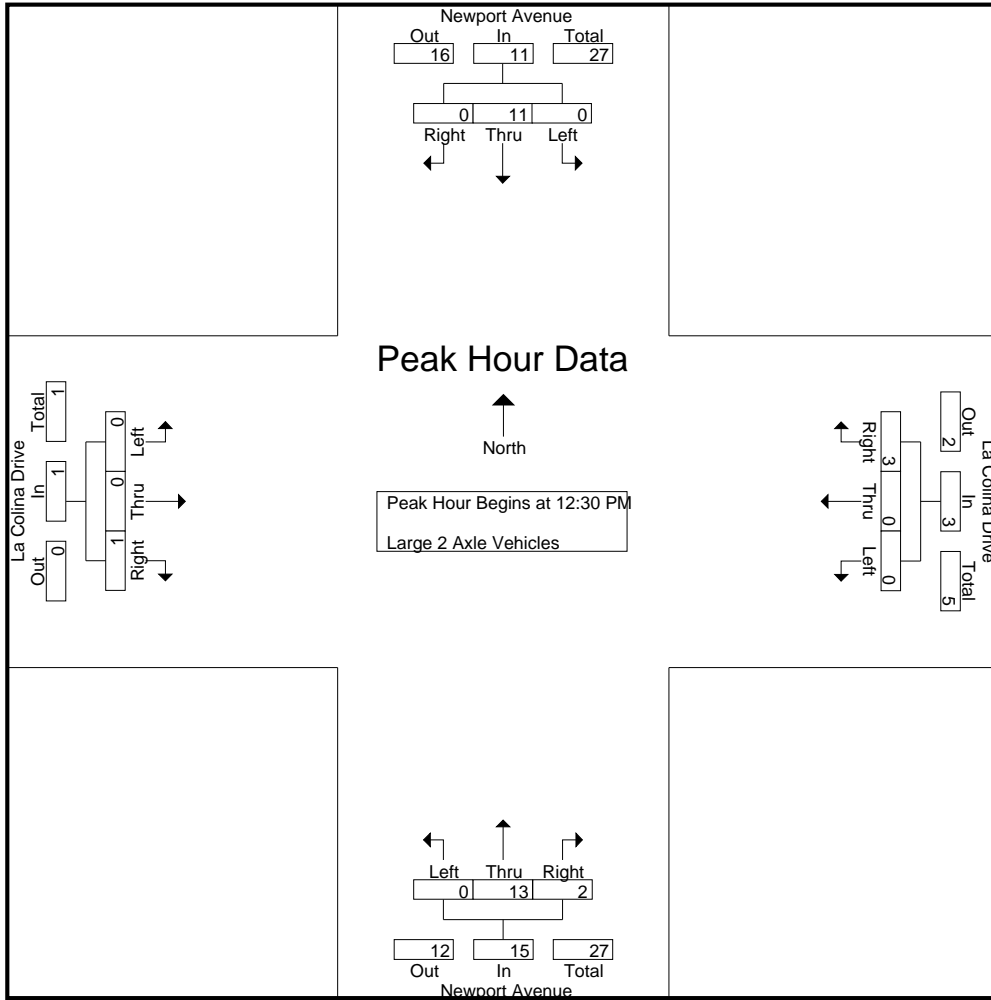
County of Orange
 N/S: Newport Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 03_ORCNELCMD
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	0	3	0	3	0	0	0	0	0	1	0	1	0	0	0	0	4
11:45 AM	0	5	0	5	0	0	0	0	0	2	1	3	0	0	0	0	8
Total	0	8	0	8	0	0	0	0	0	3	1	4	0	0	0	0	12
12:00 PM	0	4	0	4	0	0	1	1	0	6	0	6	0	0	0	0	11
12:15 PM	0	3	0	3	0	0	0	0	0	3	0	3	0	0	0	0	6
12:30 PM	0	3	0	3	0	0	0	0	0	2	0	2	0	0	0	0	5
12:45 PM	0	1	0	1	0	0	1	1	0	1	0	1	0	0	0	0	3
Total	0	11	0	11	0	0	2	2	0	12	0	12	0	0	0	0	25
01:00 PM	0	5	0	5	0	0	0	0	0	5	1	6	0	0	0	0	11
01:15 PM	0	2	0	2	0	0	2	2	0	5	1	6	0	0	1	1	11
Grand Total	0	26	0	26	0	0	4	4	0	25	3	28	0	0	1	1	59
Apprch %	0	100	0		0	0	100		0	89.3	10.7		0	0	100		
Total %	0	44.1	0	44.1	0	0	6.8	6.8	0	42.4	5.1	47.5	0	0	1.7	1.7	

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	0	3	0	3	0	0	0	0	0	2	0	2	0	0	0	0	5
12:45 PM	0	1	0	1	0	0	1	1	0	1	0	1	0	0	0	0	3
01:00 PM	0	5	0	5	0	0	0	0	0	5	1	6	0	0	0	0	11
01:15 PM	0	2	0	2	0	0	2	2	0	5	1	6	0	0	1	1	11
Total Volume	0	11	0	11	0	0	3	3	0	13	2	15	0	0	1	1	30
% App. Total	0	100	0		0	0	100		0	86.7	13.3		0	0	100		
PHF	.000	.550	.000	.550	.000	.000	.375	.375	.000	.650	.500	.625	.000	.000	.250	.250	.682



Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM							
+0 mins.	0	3	0	3	0	0	0	0	0	2	0	2	0	0	0	0
+15 mins.	0	1	0	1	0	0	1	1	0	1	0	1	0	0	0	0
+30 mins.	0	5	0	5	0	0	0	0	0	5	1	6	0	0	0	0
+45 mins.	0	2	0	2	0	0	2	2	0	5	1	6	0	0	1	1
Total Volume	0	11	0	11	0	0	3	3	0	13	2	15	0	0	1	1
% App. Total	0	100	0		0	0	100		0	86.7	13.3		0	0	100	
PHF	.000	.550	.000	.550	.000	.000	.375	.375	.000	.650	.500	.625	.000	.000	.250	.250

County of Orange
 N/S: Newport Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 03_ORCNELCMD
 Site Code : 21717852
 Start Date : 12/13/2017
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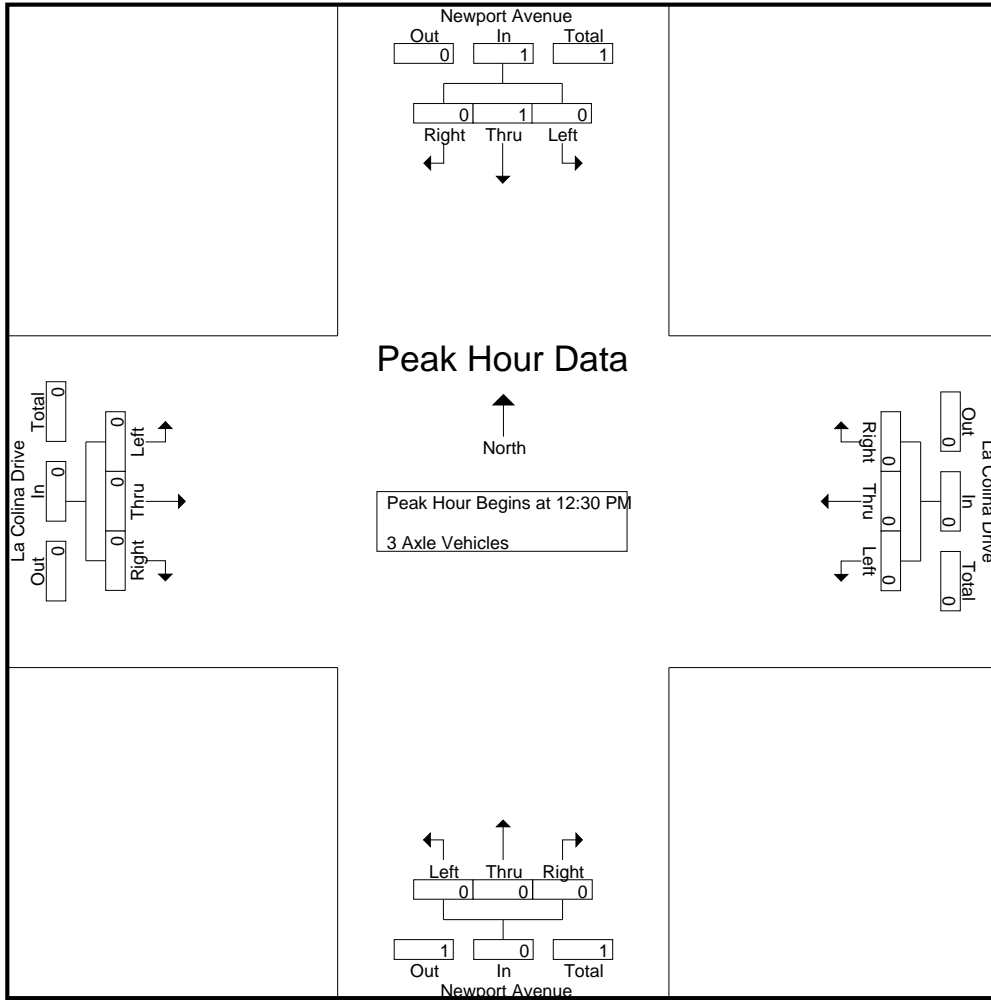
Groups Printed- 3 Axle Vehicles

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Apprch %	0	100	0		0	0	0		0	0	0		0	0	0		
Total %	0	100	0	100	0	0	0		0	0	0		0	0	0		

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

County of Orange
 N/S: Newport Avenue
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 Weather: Clear

File Name : 03_ORCNELCMD
 Site Code : 21717852
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Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM				12:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of Orange
 N/S: Newport Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 03_ORCNELCMD
 Site Code : 21717852
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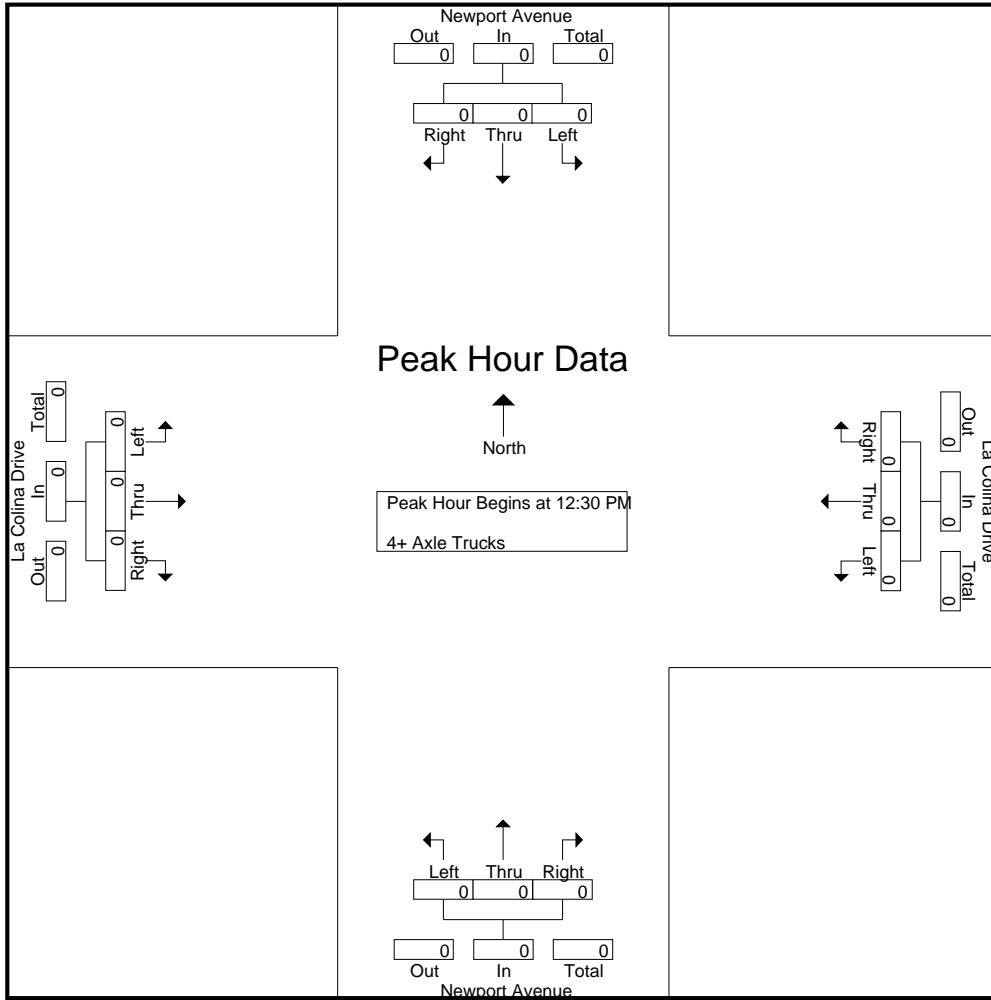
Groups Printed- 4+ Axle Trucks

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Apprch %	0	100	0		0	0	0		0	0	0		0	0	0		
Total %	0	100	0	100	0	0	0		0	0	0		0	0	0		

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of Orange
 N/S: Newport Avenue
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 Weather: Clear

File Name : 03_ORCNELCMD
 Site Code : 21717852
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Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM				12:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of Orange
 N/S: Newport Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 03_ORCNELCPM
 Site Code : 21717852
 Start Date : 12/13/2017
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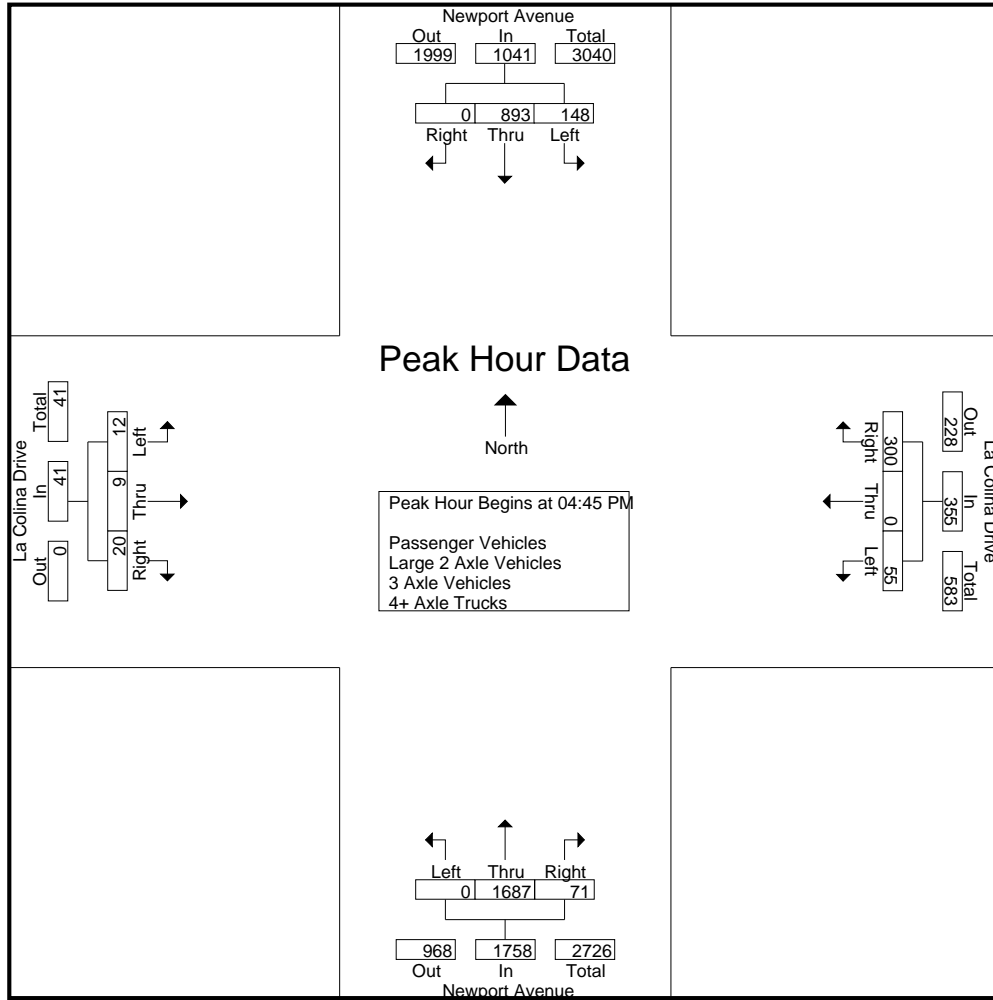
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	27	228	0	255	10	1	53	64	0	388	18	406	4	5	9	18	743
04:15 PM	43	215	0	258	19	0	69	88	0	365	17	382	6	3	6	15	743
04:30 PM	21	209	0	230	12	0	72	84	0	400	24	424	3	2	7	12	750
04:45 PM	35	195	0	230	18	0	84	102	0	404	20	424	5	3	10	18	774
Total	126	847	0	973	59	1	278	338	0	1557	79	1636	18	13	32	63	3010
05:00 PM	32	226	0	258	11	0	63	74	0	443	22	465	4	3	7	14	811
05:15 PM	47	224	0	271	19	0	90	109	0	411	17	428	1	2	3	6	814
05:30 PM	34	248	0	282	7	0	63	70	0	429	12	441	2	1	0	3	796
05:45 PM	45	233	0	278	14	0	68	82	0	386	19	405	1	0	1	2	767
Total	158	931	0	1089	51	0	284	335	0	1669	70	1739	8	6	11	25	3188
Grand Total	284	1778	0	2062	110	1	562	673	0	3226	149	3375	26	19	43	88	6198
Apprch %	13.8	86.2	0		16.3	0.1	83.5		0	95.6	4.4		29.5	21.6	48.9		
Total %	4.6	28.7	0	33.3	1.8	0	9.1	10.9	0	52	2.4	54.5	0.4	0.3	0.7	1.4	
Passenger Vehicles	279	1752	0	2031	109	1	558	668	0	3193	147	3340	25	19	43	87	6126
% Passenger Vehicles	98.2	98.5	0	98.5	99.1	100	99.3	99.3	0	99	98.7	99	96.2	100	100	98.9	98.8
Large 2 Axle Vehicles	4	24	0	28	1	0	4	5	0	28	2	30	1	0	0	1	64
% Large 2 Axle Vehicles	1.4	1.3	0	1.4	0.9	0	0.7	0.7	0	0.9	1.3	0.9	3.8	0	0	1.1	1
3 Axle Vehicles	1	0	0	1	0	0	0	0	0	5	0	5	0	0	0	0	6
% 3 Axle Vehicles	0.4	0	0	0	0	0	0	0	0	0.2	0	0.1	0	0	0	0	0.1
4+ Axle Trucks	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
% 4+ Axle Trucks	0	0.1	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:45 PM	35	195	0	230	18	0	84	102	0	404	20	424	5	3	10	18	774
05:00 PM	32	226	0	258	11	0	63	74	0	443	22	465	4	3	7	14	811
05:15 PM	47	224	0	271	19	0	90	109	0	411	17	428	1	2	3	6	814
05:30 PM	34	248	0	282	7	0	63	70	0	429	12	441	2	1	0	3	796
Total Volume	148	893	0	1041	55	0	300	355	0	1687	71	1758	12	9	20	41	3195
% App. Total	14.2	85.8	0		15.5	0	84.5		0	96	4		29.3	22	48.8		
PHF	.787	.900	.000	.923	.724	.000	.833	.814	.000	.952	.807	.945	.600	.750	.500	.569	.981

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				04:45 PM				04:00 PM			
+0 mins.	32	226	0	258	12	0	72	84	0	404	20	424	4	5	9	18
+15 mins.	47	224	0	271	18	0	84	102	0	443	22	465	6	3	6	15
+30 mins.	34	248	0	282	11	0	63	74	0	411	17	428	3	2	7	12
+45 mins.	45	233	0	278	19	0	90	109	0	429	12	441	5	3	10	18
Total Volume	158	931	0	1089	60	0	309	369	0	1687	71	1758	18	13	32	63
% App. Total	14.5	85.5	0		16.3	0	83.7		0	96	4		28.6	20.6	50.8	
PHF	.840	.939	.000	.965	.789	.000	.858	.846	.000	.952	.807	.945	.750	.650	.800	.875

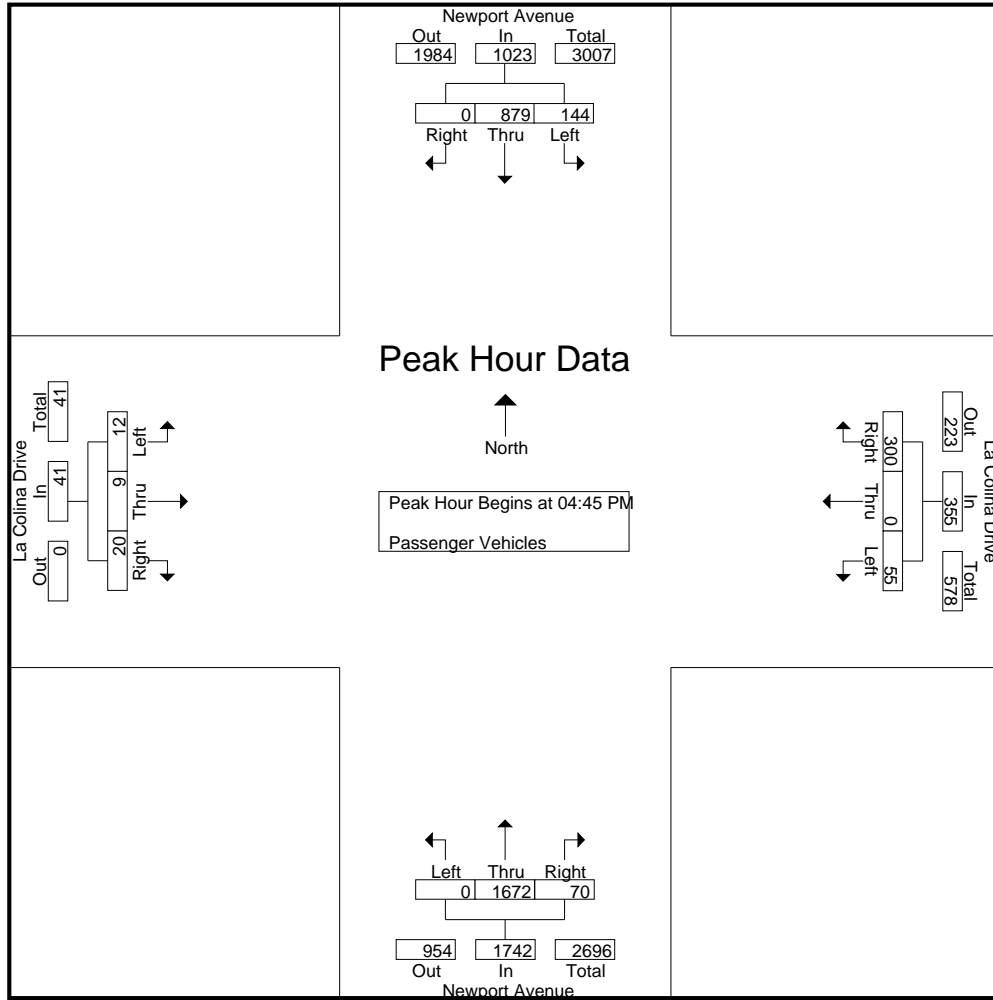
County of Orange
 N/S: Newport Avenue
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 Weather: Clear

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 Site Code : 21717852
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Groups Printed- Passenger Vehicles

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	27	228	0	255	9	1	52	62	0	381	17	398	3	5	9	17	732
04:15 PM	43	212	0	255	19	0	68	87	0	360	17	377	6	3	6	15	734
04:30 PM	20	204	0	224	12	0	70	82	0	395	24	419	3	2	7	12	737
04:45 PM	35	191	0	226	18	0	84	102	0	400	19	419	5	3	10	18	765
Total	125	835	0	960	58	1	274	333	0	1536	77	1613	17	13	32	62	2968
05:00 PM	29	223	0	252	11	0	63	74	0	441	22	463	4	3	7	14	803
05:15 PM	46	222	0	268	19	0	90	109	0	405	17	422	1	2	3	6	805
05:30 PM	34	243	0	277	7	0	63	70	0	426	12	438	2	1	0	3	788
05:45 PM	45	229	0	274	14	0	68	82	0	385	19	404	1	0	1	2	762
Total	154	917	0	1071	51	0	284	335	0	1657	70	1727	8	6	11	25	3158
Grand Total	279	1752	0	2031	109	1	558	668	0	3193	147	3340	25	19	43	87	6126
Apprch %	13.7	86.3	0		16.3	0.1	83.5		0	95.6	4.4		28.7	21.8	49.4		
Total %	4.6	28.6	0	33.2	1.8	0	9.1	10.9	0	52.1	2.4	54.5	0.4	0.3	0.7	1.4	

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	35	191	0	226	18	0	84	102	0	400	19	419	5	3	10	18	765
05:00 PM	29	223	0	252	11	0	63	74	0	441	22	463	4	3	7	14	803
05:15 PM	46	222	0	268	19	0	90	109	0	405	17	422	1	2	3	6	805
05:30 PM	34	243	0	277	7	0	63	70	0	426	12	438	2	1	0	3	788
Total Volume	144	879	0	1023	55	0	300	355	0	1672	70	1742	12	9	20	41	3161
% App. Total	14.1	85.9	0		15.5	0	84.5		0	96	4		29.3	22	48.8		
PHF	.783	.904	.000	.923	.724	.000	.833	.814	.000	.948	.795	.941	.600	.750	.500	.569	.982



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	35	191	0	226	18	0	84	102	0	400	19	419	5	3	10	18
+15 mins.	29	223	0	252	11	0	63	74	0	441	22	463	4	3	7	14
+30 mins.	46	222	0	268	19	0	90	109	0	405	17	422	1	2	3	6
+45 mins.	34	243	0	277	7	0	63	70	0	426	12	438	2	1	0	3
Total Volume	144	879	0	1023	55	0	300	355	0	1672	70	1742	12	9	20	41
% App. Total	14.1	85.9	0		15.5	0	84.5		0	96	4		29.3	22	48.8	
PHF	.783	.904	.000	.923	.724	.000	.833	.814	.000	.948	.795	.941	.600	.750	.500	.569

County of Orange
 N/S: Newport Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 03_ORCNELCPM
 Site Code : 21717852
 Start Date : 12/13/2017
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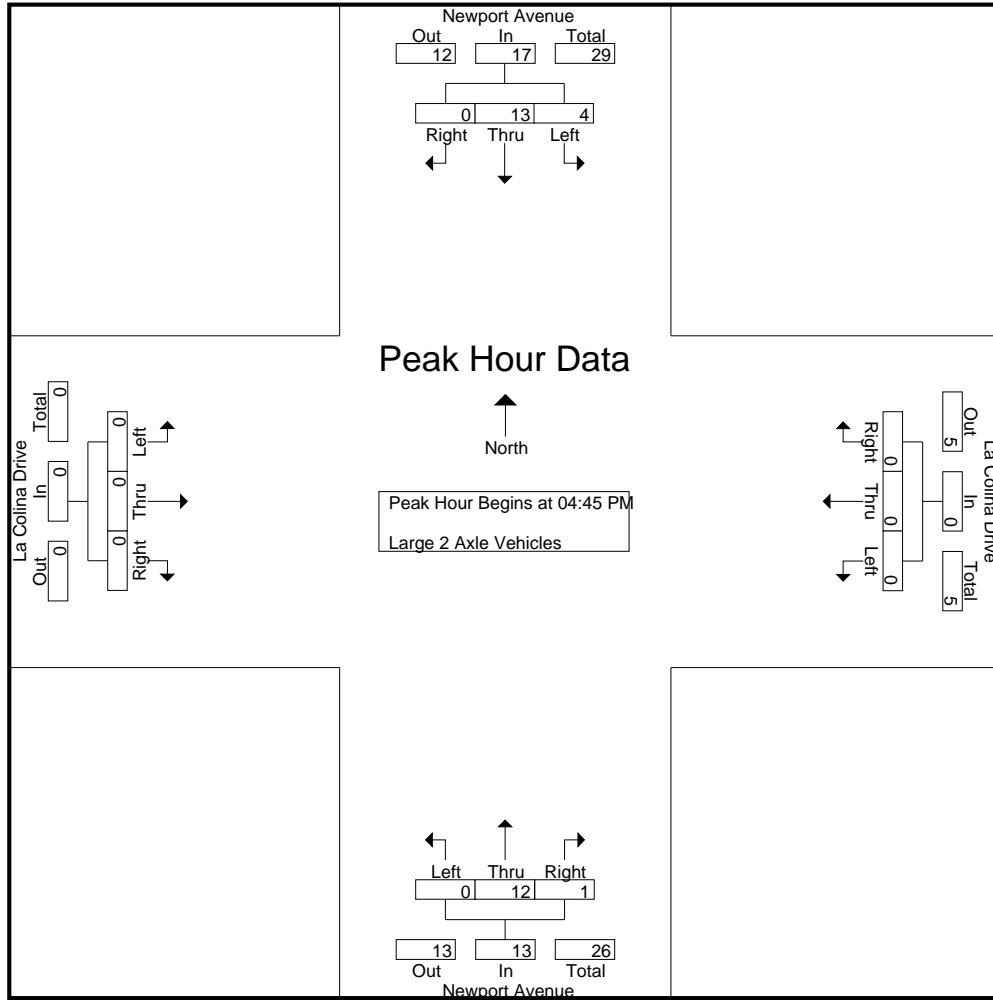
Groups Printed- Large 2 Axle Vehicles

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	1	0	1	2	0	7	1	8	1	0	0	1	11
04:15 PM	0	2	0	2	0	0	1	1	0	4	0	4	0	0	0	0	7
04:30 PM	0	5	0	5	0	0	2	2	0	4	0	4	0	0	0	0	11
04:45 PM	0	4	0	4	0	0	0	0	0	2	1	3	0	0	0	0	7
Total	0	11	0	11	1	0	4	5	0	17	2	19	1	0	0	1	36
05:00 PM	3	3	0	6	0	0	0	0	0	2	0	2	0	0	0	0	8
05:15 PM	1	2	0	3	0	0	0	0	0	5	0	5	0	0	0	0	8
05:30 PM	0	4	0	4	0	0	0	0	0	3	0	3	0	0	0	0	7
05:45 PM	0	4	0	4	0	0	0	0	0	1	0	1	0	0	0	0	5
Total	4	13	0	17	0	0	0	0	0	11	0	11	0	0	0	0	28
Grand Total	4	24	0	28	1	0	4	5	0	28	2	30	1	0	0	1	64
Apprch %	14.3	85.7	0		20	0	80		0	93.3	6.7		100	0	0		
Total %	6.2	37.5	0	43.8	1.6	0	6.2	7.8	0	43.8	3.1	46.9	1.6	0	0	1.6	

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	4	0	4	0	0	0	0	0	2	1	3	0	0	0	0	7
05:00 PM	3	3	0	6	0	0	0	0	0	2	0	2	0	0	0	0	8
05:15 PM	1	2	0	3	0	0	0	0	0	5	0	5	0	0	0	0	8
05:30 PM	0	4	0	4	0	0	0	0	0	3	0	3	0	0	0	0	7
Total Volume	4	13	0	17	0	0	0	0	0	12	1	13	0	0	0	0	30
% App. Total	23.5	76.5	0		0	0	0		0	92.3	7.7		0	0	0		
PHF	.333	.813	.000	.708	.000	.000	.000	.000	.000	.600	.250	.650	.000	.000	.000	.000	.938

County of Orange
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 E/W: La Colina Drive
 Weather: Clear

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Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	0	4	0	4	0	0	0	0	0	2	1	3	0	0	0	0
+15 mins.	3	3	0	6	0	0	0	0	0	2	0	2	0	0	0	0
+30 mins.	1	2	0	3	0	0	0	0	0	5	0	5	0	0	0	0
+45 mins.	0	4	0	4	0	0	0	0	0	3	0	3	0	0	0	0
Total Volume	4	13	0	17	0	0	0	0	0	12	1	13	0	0	0	0
% App. Total	23.5	76.5	0		0	0	0	0	0	92.3	7.7		0	0	0	0
PHF	.333	.813	.000	.708	.000	.000	.000	.000	.000	.600	.250	.650	.000	.000	.000	.000

County of Orange
 N/S: Newport Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 03_ORCNELCPM
 Site Code : 21717852
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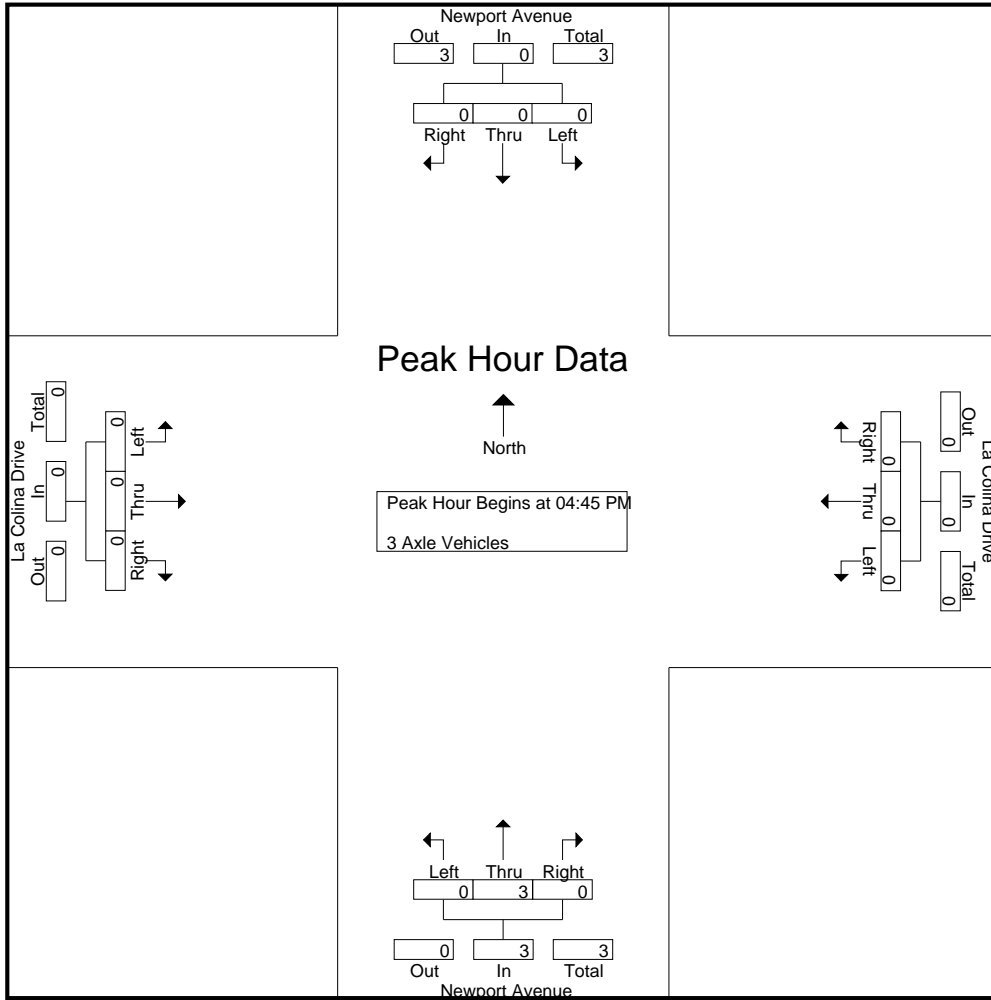
Groups Printed- 3 Axle Vehicles

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
04:30 PM	1	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	0	4	0	4	0	0	0	0	5
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Grand Total	1	0	0	1	0	0	0	0	0	5	0	5	0	0	0	0	6
Apprch %	100	0	0		0	0	0		0	100	0		0	0	0		
Total %	16.7	0	0	16.7	0	0	0	0	0	83.3	0	83.3	0	0	0	0	

Start Time	Newport Avenue Southbound				La Colina Drive Westbound				Newport Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.375	.000	.375	.000	.000	.000	.000	.375

County of Orange
 N/S: Newport Avenue
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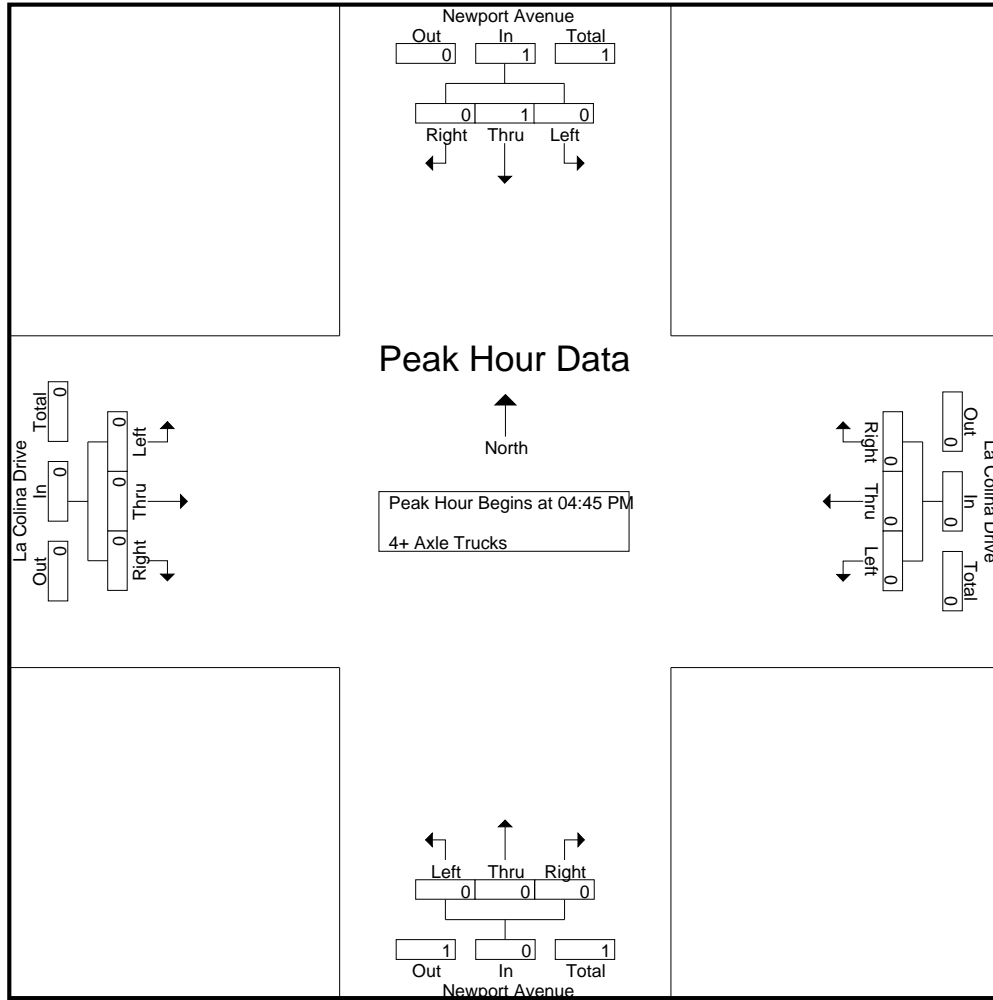
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM							
+0 mins.	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.375	.000	.375	.000	.000	.000	.000

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Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCAM
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	16	43	0	59	8	7	4	19	3	16	6	25	0	19	9	28	131
07:15 AM	17	66	0	83	6	14	12	32	1	25	7	33	4	23	14	41	189
07:30 AM	15	77	0	92	7	29	12	48	4	48	7	59	6	25	18	49	248
07:45 AM	12	87	7	106	18	45	15	78	6	62	11	79	7	49	9	65	328
Total	60	273	7	340	39	95	43	177	14	151	31	196	17	116	50	183	896
08:00 AM	10	105	14	129	23	55	2	80	9	21	14	44	0	62	20	82	335
08:15 AM	12	95	4	111	30	45	15	90	3	27	14	44	2	25	17	44	289
08:30 AM	12	66	0	78	8	25	9	42	8	26	8	42	3	35	20	58	220
08:45 AM	16	76	2	94	18	22	12	52	9	30	6	45	1	31	16	48	239
Total	50	342	20	412	79	147	38	264	29	104	42	175	6	153	73	232	1083
Grand Total	110	615	27	752	118	242	81	441	43	255	73	371	23	269	123	415	1979
Apprch %	14.6	81.8	3.6		26.8	54.9	18.4		11.6	68.7	19.7		5.5	64.8	29.6		
Total %	5.6	31.1	1.4	38	6	12.2	4.1	22.3	2.2	12.9	3.7	18.7	1.2	13.6	6.2	21	
Passenger Vehicles	108	611	27	746	118	241	81	440	43	251	73	367	23	266	122	411	1964
% Passenger Vehicles	98.2	99.3	100	99.2	100	99.6	100	99.8	100	98.4	100	98.9	100	98.9	99.2	99	99.2
Large 2 Axle Vehicles	2	4	0	6	0	1	0	1	0	4	0	4	0	1	1	2	13
% Large 2 Axle Vehicles	1.8	0.7	0	0.8	0	0.4	0	0.2	0	1.6	0	1.1	0	0.4	0.8	0.5	0.7
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	0	0.5	0.1
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

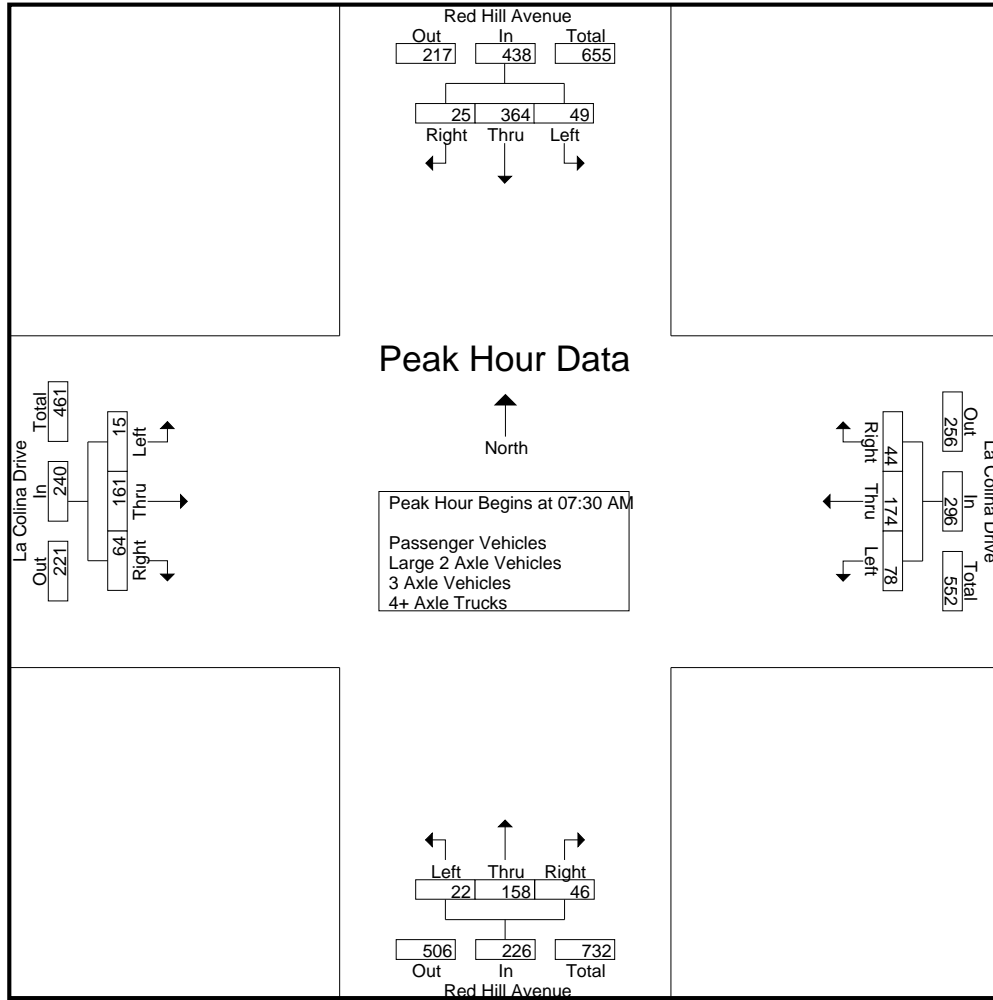
Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:30 AM	15	77	0	92	7	29	12	48	4	48	7	59	6	25	18	49	248
07:45 AM	12	87	7	106	18	45	15	78	6	62	11	79	7	49	9	65	328
08:00 AM	10	105	14	129	23	55	2	80	9	21	14	44	0	62	20	82	335
08:15 AM	12	95	4	111	30	45	15	90	3	27	14	44	2	25	17	44	289
Total Volume	49	364	25	438	78	174	44	296	22	158	46	226	15	161	64	240	1200
% App. Total	11.2	83.1	5.7		26.4	58.8	14.9		9.7	69.9	20.4		6.2	67.1	26.7		
PHF	.817	.867	.446	.849	.650	.791	.733	.822	.611	.637	.821	.715	.536	.649	.800	.732	.896

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

County of Orange
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 Weather: Clear

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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				07:30 AM				07:30 AM				07:45 AM			
+0 mins.	15	77	0	92	7	29	12	48	4	48	7	59	7	49	9	65
+15 mins.	12	87	7	106	18	45	15	78	6	62	11	79	0	62	20	82
+30 mins.	10	105	14	129	23	55	2	80	9	21	14	44	2	25	17	44
+45 mins.	12	95	4	111	30	45	15	90	3	27	14	44	3	35	20	58
Total Volume	49	364	25	438	78	174	44	296	22	158	46	226	12	171	66	249
% App. Total	11.2	83.1	5.7		26.4	58.8	14.9		9.7	69.9	20.4		4.8	68.7	26.5	
PHF	.817	.867	.446	.849	.650	.791	.733	.822	.611	.637	.821	.715	.429	.690	.825	.759

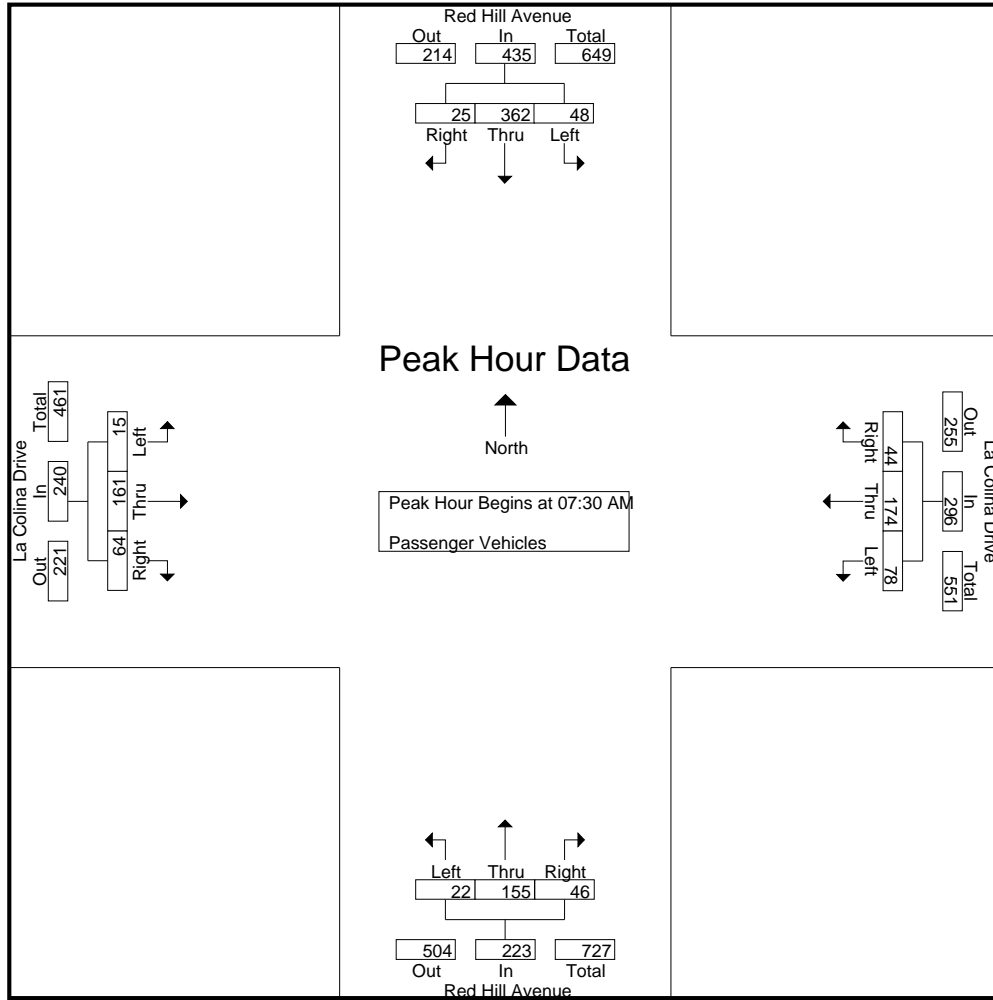
County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCAM
 Site Code : 21717852
 Start Date : 12/13/2017
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Groups Printed- Passenger Vehicles

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	16	43	0	59	8	6	4	18	3	15	6	24	0	19	9	28	129
07:15 AM	17	65	0	82	6	14	12	32	1	25	7	33	4	23	13	40	187
07:30 AM	15	77	0	92	7	29	12	48	4	48	7	59	6	25	18	49	248
07:45 AM	12	87	7	106	18	45	15	78	6	60	11	77	7	49	9	65	326
Total	60	272	7	339	39	94	43	176	14	148	31	193	17	116	49	182	890
08:00 AM	9	104	14	127	23	55	2	80	9	20	14	43	0	62	20	82	332
08:15 AM	12	94	4	110	30	45	15	90	3	27	14	44	2	25	17	44	288
08:30 AM	11	66	0	77	8	25	9	42	8	26	8	42	3	35	20	58	219
08:45 AM	16	75	2	93	18	22	12	52	9	30	6	45	1	28	16	45	235
Total	48	339	20	407	79	147	38	264	29	103	42	174	6	150	73	229	1074
Grand Total	108	611	27	746	118	241	81	440	43	251	73	367	23	266	122	411	1964
Apprch %	14.5	81.9	3.6		26.8	54.8	18.4		11.7	68.4	19.9		5.6	64.7	29.7		
Total %	5.5	31.1	1.4	38	6	12.3	4.1	22.4	2.2	12.8	3.7	18.7	1.2	13.5	6.2	20.9	

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	15	77	0	92	7	29	12	48	4	48	7	59	6	25	18	49	248
07:45 AM	12	87	7	106	18	45	15	78	6	60	11	77	7	49	9	65	326
08:00 AM	9	104	14	127	23	55	2	80	9	20	14	43	0	62	20	82	332
08:15 AM	12	94	4	110	30	45	15	90	3	27	14	44	2	25	17	44	288
Total Volume	48	362	25	435	78	174	44	296	22	155	46	223	15	161	64	240	1194
% App. Total	11	83.2	5.7		26.4	58.8	14.9		9.9	69.5	20.6		6.2	67.1	26.7		
PHF	.800	.870	.446	.856	.650	.791	.733	.822	.611	.646	.821	.724	.536	.649	.800	.732	.899



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM							
+0 mins.	15	77	0	92	7	29	12	48	4	48	7	59	6	25	18	49
+15 mins.	12	87	7	106	18	45	15	78	6	60	11	77	7	49	9	65
+30 mins.	9	104	14	127	23	55	2	80	9	20	14	43	0	62	20	82
+45 mins.	12	94	4	110	30	45	15	90	3	27	14	44	2	25	17	44
Total Volume	48	362	25	435	78	174	44	296	22	155	46	223	15	161	64	240
% App. Total	11	83.2	5.7		26.4	58.8	14.9		9.9	69.5	20.6		6.2	67.1	26.7	
PHF	.800	.870	.446	.856	.650	.791	.733	.822	.611	.646	.821	.724	.536	.649	.800	.732

County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCAM
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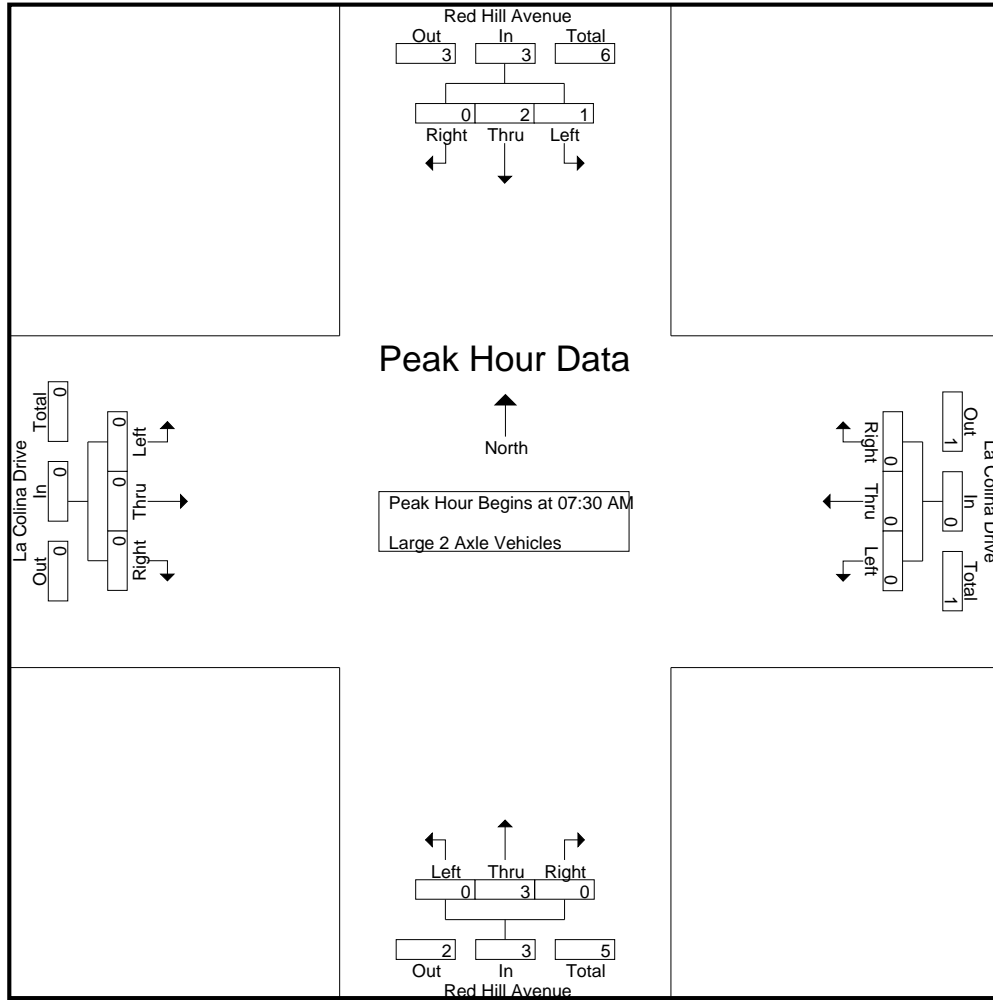
Groups Printed- Large 2 Axle Vehicles

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	1	0	1	0	1	0	1	0	0	0	0	2
07:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
Total	0	1	0	1	0	1	0	1	0	3	0	3	0	0	1	1	6
08:00 AM	1	1	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
08:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2
Total	2	3	0	5	0	0	0	0	0	1	0	1	0	1	0	1	7
Grand Total	2	4	0	6	0	1	0	1	0	4	0	4	0	1	1	2	13
Apprch %	33.3	66.7	0		0	100	0		0	100	0		0	50	50		
Total %	15.4	30.8	0	46.2	0	7.7	0	7.7	0	30.8	0	30.8	0	7.7	7.7	15.4	

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:00 AM	1	1	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
08:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	1	2	0	3	0	0	0	0	0	3	0	3	0	0	0	0	6
% App. Total	33.3	66.7	0		0	0	0		0	100	0		0	0	0		
PHF	.250	.500	.000	.375	.000	.000	.000	.000	.000	.375	.000	.375	.000	.000	.000	.000	.500

County of Orange
 N/S: Red Hill Avenue
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 Weather: Clear

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Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
+30 mins.	1	1	0	2	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	2	0	3	0	0	0	0	0	3	0	3	0	0	0	0
% App. Total	33.3	66.7	0		0	0	0		0	100	0		0	0	0	
PHF	.250	.500	.000	.375	.000	.000	.000	.000	.000	.375	.000	.375	.000	.000	.000	.000

County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCAM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Apprch %	0	0	0		0	0	0		0	0	0		0	100	0		
Total %	0	0	0		0	0	0		0	0	0		0	100	0	100	

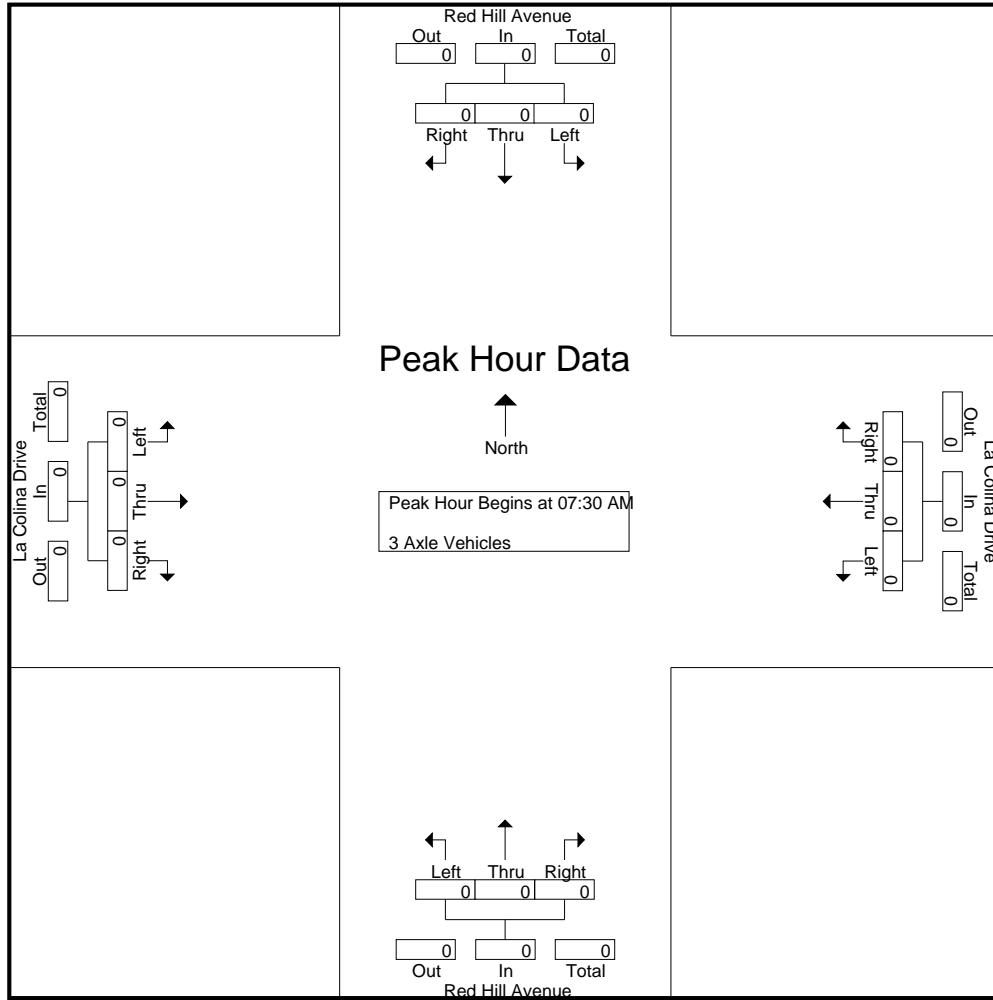
Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:30 AM

County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCAM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

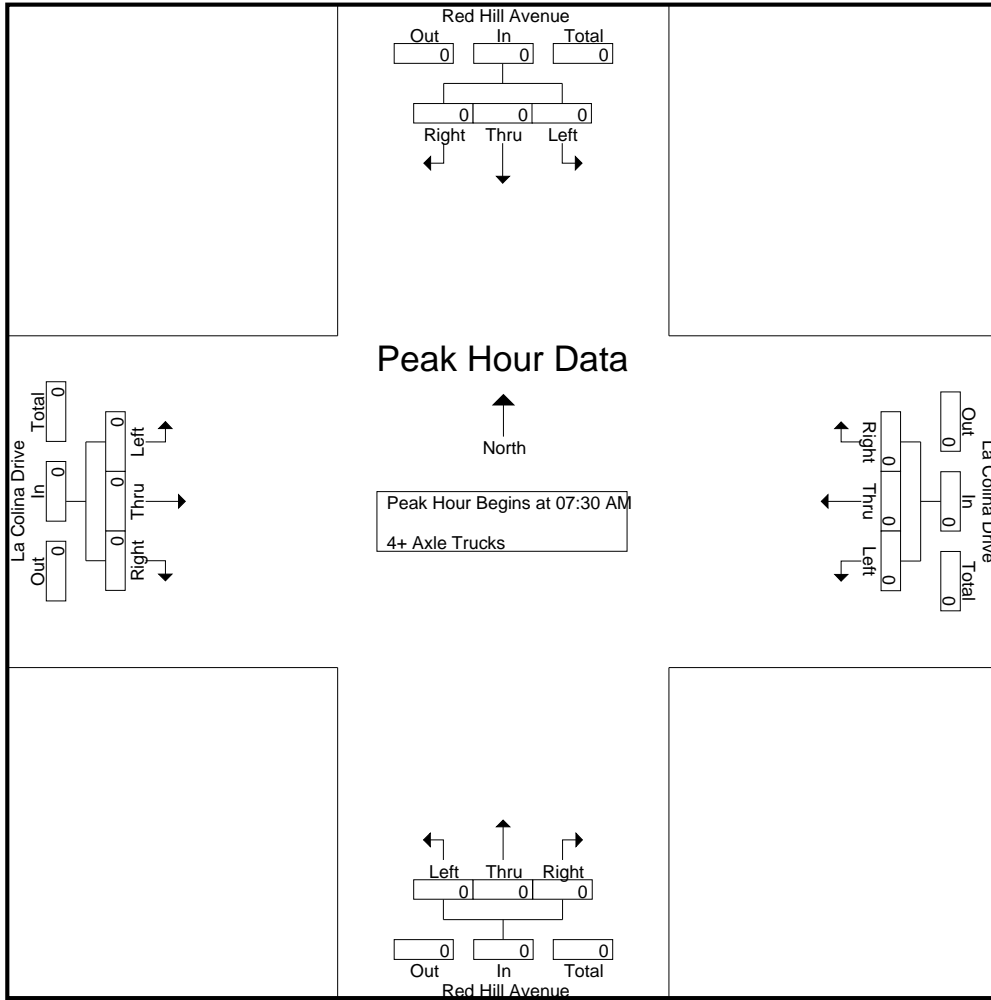
County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCAM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

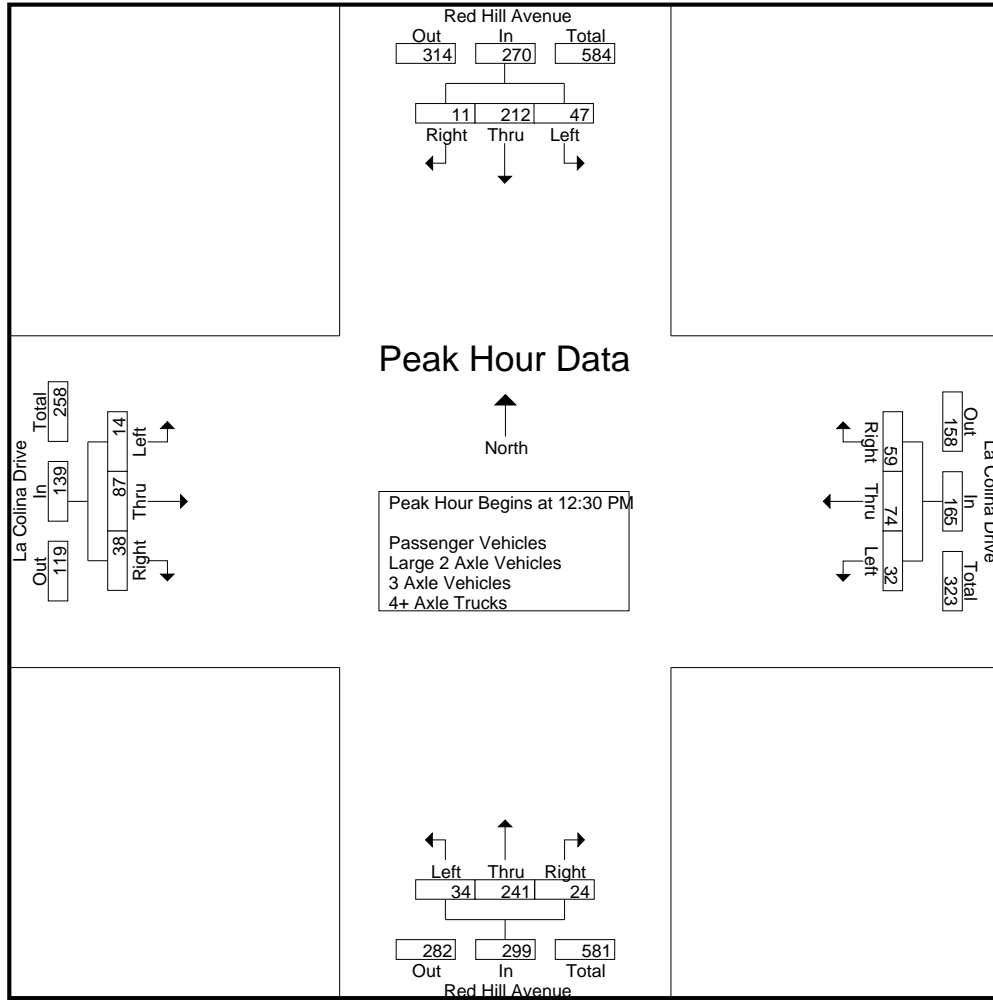
County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCMD
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	6	80	2	88	6	12	4	22	10	36	4	50	1	12	10	23	183
11:45 AM	8	38	0	46	5	17	7	29	5	42	3	50	5	9	5	19	144
Total	14	118	2	134	11	29	11	51	15	78	7	100	6	21	15	42	327
12:00 PM	15	47	2	64	4	13	6	23	7	40	9	56	2	11	6	19	162
12:15 PM	3	45	1	49	5	14	11	30	7	39	5	51	1	10	7	18	148
12:30 PM	11	50	2	63	3	14	6	23	9	40	5	54	1	12	8	21	161
12:45 PM	11	26	3	40	7	16	9	32	9	63	7	79	2	21	7	30	181
Total	40	168	8	216	19	57	32	108	32	182	26	240	6	54	28	88	652
01:00 PM	13	38	1	52	6	15	21	42	9	78	7	94	9	25	10	44	232
01:15 PM	12	98	5	115	16	29	23	68	7	60	5	72	2	29	13	44	299
Grand Total	79	422	16	517	52	130	87	269	63	398	45	506	23	129	66	218	1510
Apprch %	15.3	81.6	3.1		19.3	48.3	32.3		12.5	78.7	8.9		10.6	59.2	30.3		
Total %	5.2	27.9	1.1	34.2	3.4	8.6	5.8	17.8	4.2	26.4	3	33.5	1.5	8.5	4.4	14.4	
Passenger Vehicles	77	411	15	503	52	128	83	263	60	390	44	494	23	128	64	215	1475
% Passenger Vehicles	97.5	97.4	93.8	97.3	100	98.5	95.4	97.8	95.2	98	97.8	97.6	100	99.2	97	98.6	97.7
Large 2 Axle Vehicles	1	5	1	7	0	2	0	2	3	7	1	11	0	1	2	3	23
% Large 2 Axle Vehicles	1.3	1.2	6.2	1.4	0	1.5	0	0.7	4.8	1.8	2.2	2.2	0	0.8	3	1.4	1.5
3 Axle Vehicles	1	5	0	6	0	0	4	4	0	1	0	1	0	0	0	0	11
% 3 Axle Vehicles	1.3	1.2	0	1.2	0	0	4.6	1.5	0	0.3	0	0.2	0	0	0	0	0.7
4+ Axle Trucks	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% 4+ Axle Trucks	0	0.2	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0.1

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:30 AM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	11	50	2	63	3	14	6	23	9	40	5	54	1	12	8	21	161
12:45 PM	11	26	3	40	7	16	9	32	9	63	7	79	2	21	7	30	181
01:00 PM	13	38	1	52	6	15	21	42	9	78	7	94	9	25	10	44	232
01:15 PM	12	98	5	115	16	29	23	68	7	60	5	72	2	29	13	44	299
Total Volume	47	212	11	270	32	74	59	165	34	241	24	299	14	87	38	139	873
% App. Total	17.4	78.5	4.1		19.4	44.8	35.8		11.4	80.6	8		10.1	62.6	27.3		
PHF	.904	.541	.550	.587	.500	.638	.641	.607	.944	.772	.857	.795	.389	.750	.731	.790	.730



Peak Hour Analysis From 11:30 AM to 01:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM							
+0 mins.	11	50	2	63	3	14	6	23	9	40	5	54	1	12	8	21
+15 mins.	11	26	3	40	7	16	9	32	9	63	7	79	2	21	7	30
+30 mins.	13	38	1	52	6	15	21	42	9	78	7	94	9	25	10	44
+45 mins.	12	98	5	115	16	29	23	68	7	60	5	72	2	29	13	44
Total Volume	47	212	11	270	32	74	59	165	34	241	24	299	14	87	38	139
% App. Total	17.4	78.5	4.1		19.4	44.8	35.8		11.4	80.6	8		10.1	62.6	27.3	
PHF	.904	.541	.550	.587	.500	.638	.641	.607	.944	.772	.857	.795	.389	.750	.731	.790

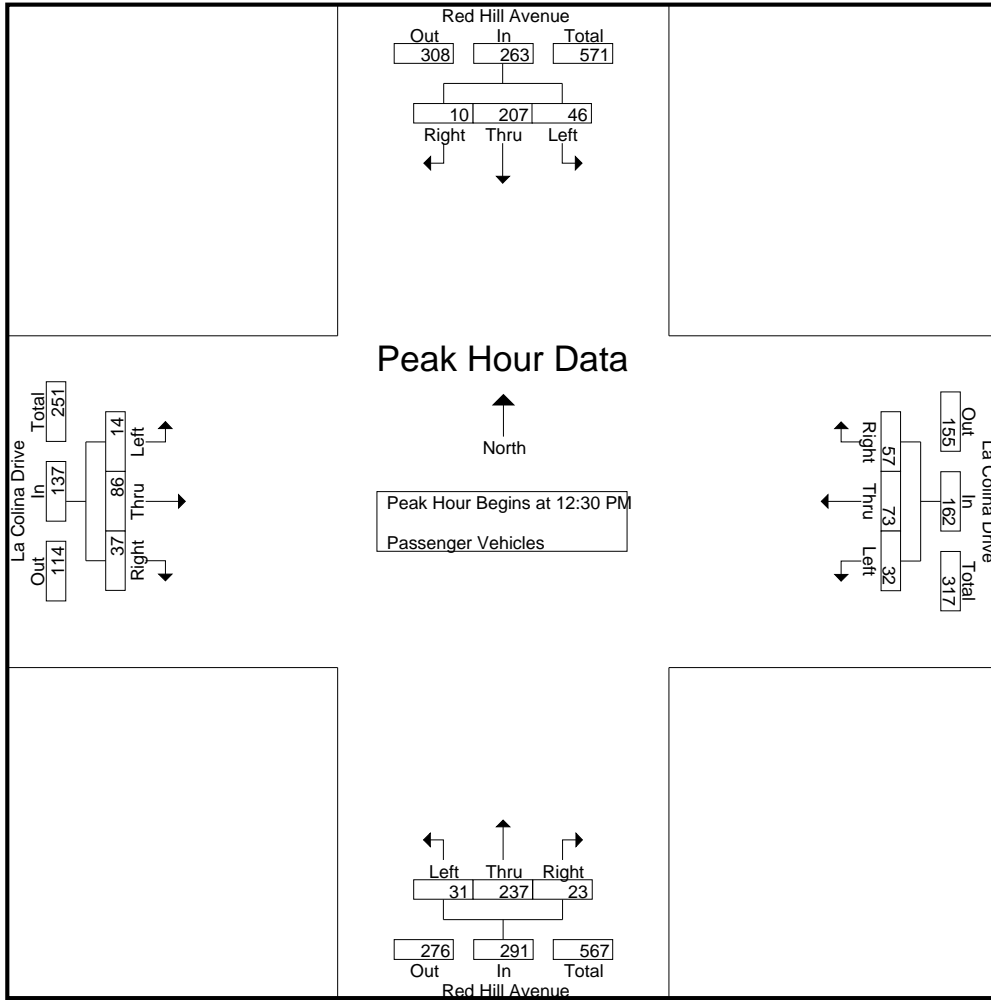
County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCMD
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	5	78	2	85	6	12	4	22	10	35	4	49	1	12	10	23	179
11:45 AM	8	37	0	45	5	17	6	28	5	40	3	48	5	9	4	18	139
Total	13	115	2	130	11	29	10	50	15	75	7	97	6	21	14	41	318
12:00 PM	15	46	2	63	4	12	6	22	7	40	9	56	2	11	6	19	160
12:15 PM	3	43	1	47	5	14	10	29	7	38	5	50	1	10	7	18	144
12:30 PM	11	49	2	62	3	14	5	22	9	38	5	52	1	12	8	21	157
12:45 PM	11	26	3	40	7	15	9	31	8	61	7	76	2	21	7	30	177
Total	40	164	8	212	19	55	30	104	31	177	26	234	6	54	28	88	638
01:00 PM	13	37	1	51	6	15	21	42	9	78	6	93	9	25	9	43	229
01:15 PM	11	95	4	110	16	29	22	67	5	60	5	70	2	28	13	43	290
Grand Total	77	411	15	503	52	128	83	263	60	390	44	494	23	128	64	215	1475
Apprch %	15.3	81.7	3		19.8	48.7	31.6		12.1	78.9	8.9		10.7	59.5	29.8		
Total %	5.2	27.9	1	34.1	3.5	8.7	5.6	17.8	4.1	26.4	3	33.5	1.6	8.7	4.3	14.6	

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	11	49	2	62	3	14	5	22	9	38	5	52	1	12	8	21	157
12:45 PM	11	26	3	40	7	15	9	31	8	61	7	76	2	21	7	30	177
01:00 PM	13	37	1	51	6	15	21	42	9	78	6	93	9	25	9	43	229
01:15 PM	11	95	4	110	16	29	22	67	5	60	5	70	2	28	13	43	290
Total Volume	46	207	10	263	32	73	57	162	31	237	23	291	14	86	37	137	853
% App. Total	17.5	78.7	3.8		19.8	45.1	35.2		10.7	81.4	7.9		10.2	62.8	27		
PHF	.885	.545	.625	.598	.500	.629	.648	.604	.861	.760	.821	.782	.389	.768	.712	.797	.735



Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM				12:30 PM			
+0 mins.	11	49	2	62	3	14	5	22	9	38	5	52	1	12	8	21
+15 mins.	11	26	3	40	7	15	9	31	8	61	7	76	2	21	7	30
+30 mins.	13	37	1	51	6	15	21	42	9	78	6	93	9	25	9	43
+45 mins.	11	95	4	110	16	29	22	67	5	60	5	70	2	28	13	43
Total Volume	46	207	10	263	32	73	57	162	31	237	23	291	14	86	37	137
% App. Total	17.5	78.7	3.8		19.8	45.1	35.2		10.7	81.4	7.9		10.2	62.8	27	
PHF	.885	.545	.625	.598	.500	.629	.648	.604	.861	.760	.821	.782	.389	.768	.712	.797

County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCMD
 Site Code : 21717852
 Start Date : 12/13/2017
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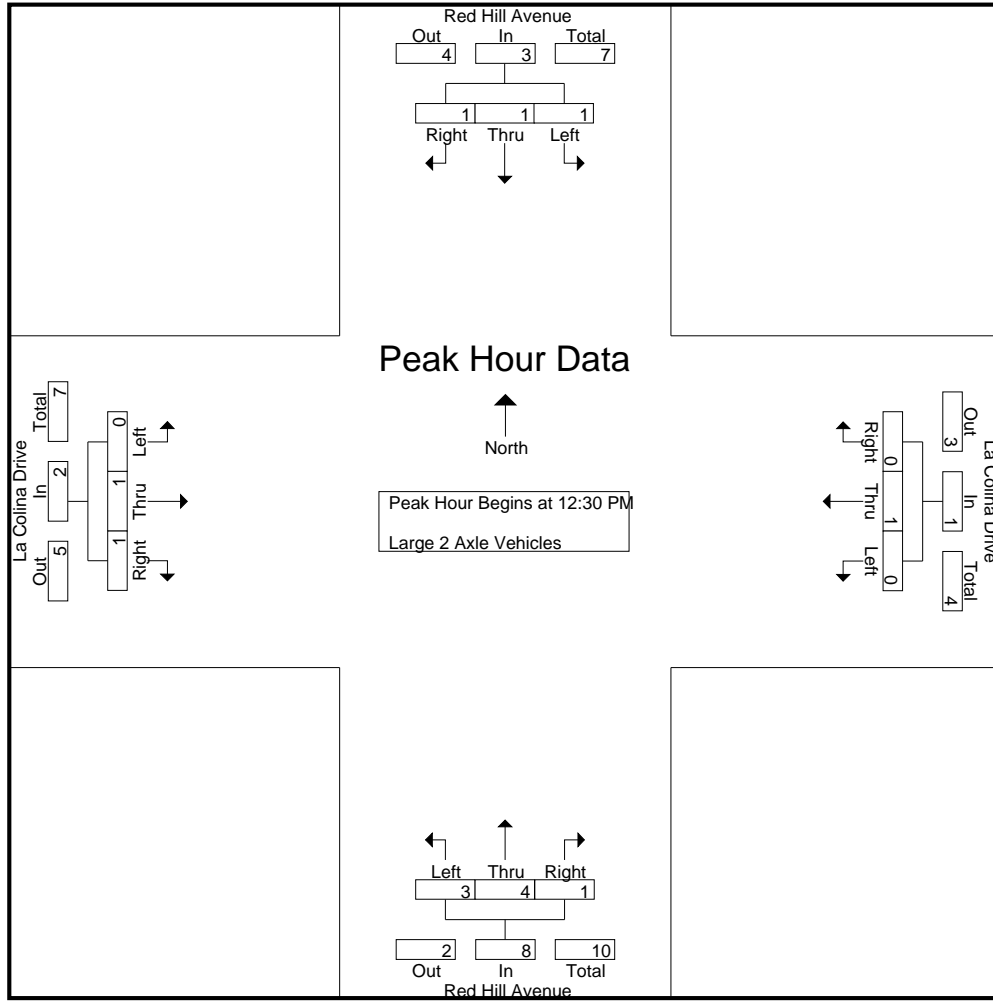
Groups Printed- Large 2 Axle Vehicles

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
11:45 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	1	1	3
Total	0	2	0	2	0	0	0	0	0	2	0	2	0	0	1	1	5
12:00 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
12:15 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
12:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
12:45 PM	0	0	0	0	0	1	0	1	1	2	0	3	0	0	0	0	4
Total	0	2	0	2	0	2	0	2	1	5	0	6	0	0	0	0	10
01:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	2
01:15 PM	1	1	1	3	0	0	0	0	2	0	0	2	0	1	0	1	6
Grand Total	1	5	1	7	0	2	0	2	3	7	1	11	0	1	2	3	23
Apprch %	14.3	71.4	14.3		0	100	0		27.3	63.6	9.1		0	33.3	66.7		
Total %	4.3	21.7	4.3	30.4	0	8.7	0	8.7	13	30.4	4.3	47.8	0	4.3	8.7	13	

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
12:45 PM	0	0	0	0	0	1	0	1	1	2	0	3	0	0	0	0	4
01:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	2
01:15 PM	1	1	1	3	0	0	0	0	2	0	0	2	0	1	0	1	6
Total Volume	1	1	1	3	0	1	0	1	3	4	1	8	0	1	1	2	14
% App. Total	33.3	33.3	33.3		0	100	0		37.5	50	12.5		0	50	50		
PHF	.250	.250	.250	.250	.000	.250	.000	.250	.375	.500	.250	.667	.000	.250	.250	.500	.583

County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCMD
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 2

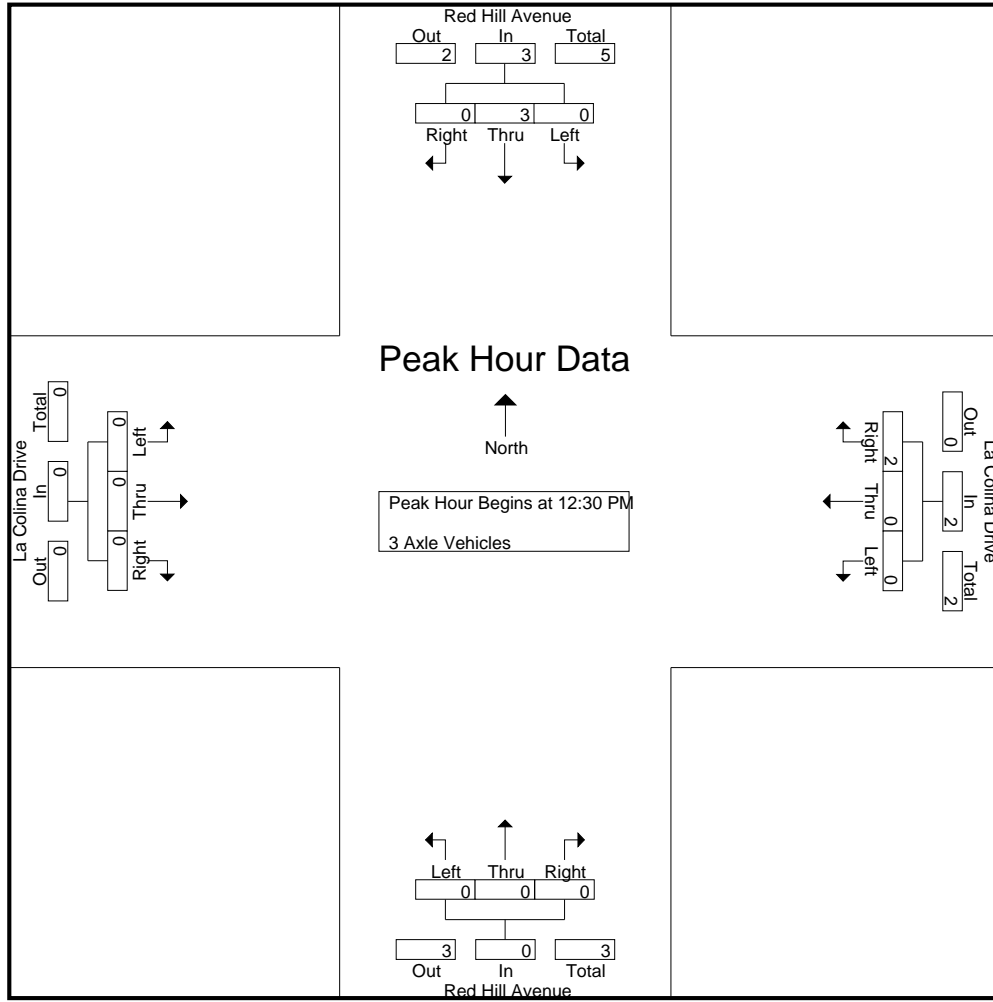


Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM							
+0 mins.	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
+15 mins.	0	0	0	0	0	1	0	1	1	2	0	3	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
+45 mins.	1	1	1	3	0	0	0	0	2	0	0	2	0	1	0	1
Total Volume	1	1	1	3	0	1	0	1	3	4	1	8	0	1	1	2
% App. Total	33.3	33.3	33.3		0	100	0		37.5	50	12.5		0	50	50	
PHF	.250	.250	.250	.250	.000	.250	.000	.250	.375	.500	.250	.667	.000	.250	.250	.500

County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCMD
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Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM				12:30 PM			
+0 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	2	0	2	0	0	1	1	0	0	0	0	0	0	0	0
Total Volume	0	3	0	3	0	0	2	2	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	0	0	100	0	0	0	0	0	0	0	0	0
PHF	.000	.375	.000	.375	.000	.000	.500	.500	.000	.000	.000	.000	.000	.000	.000	.000

County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCMD
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

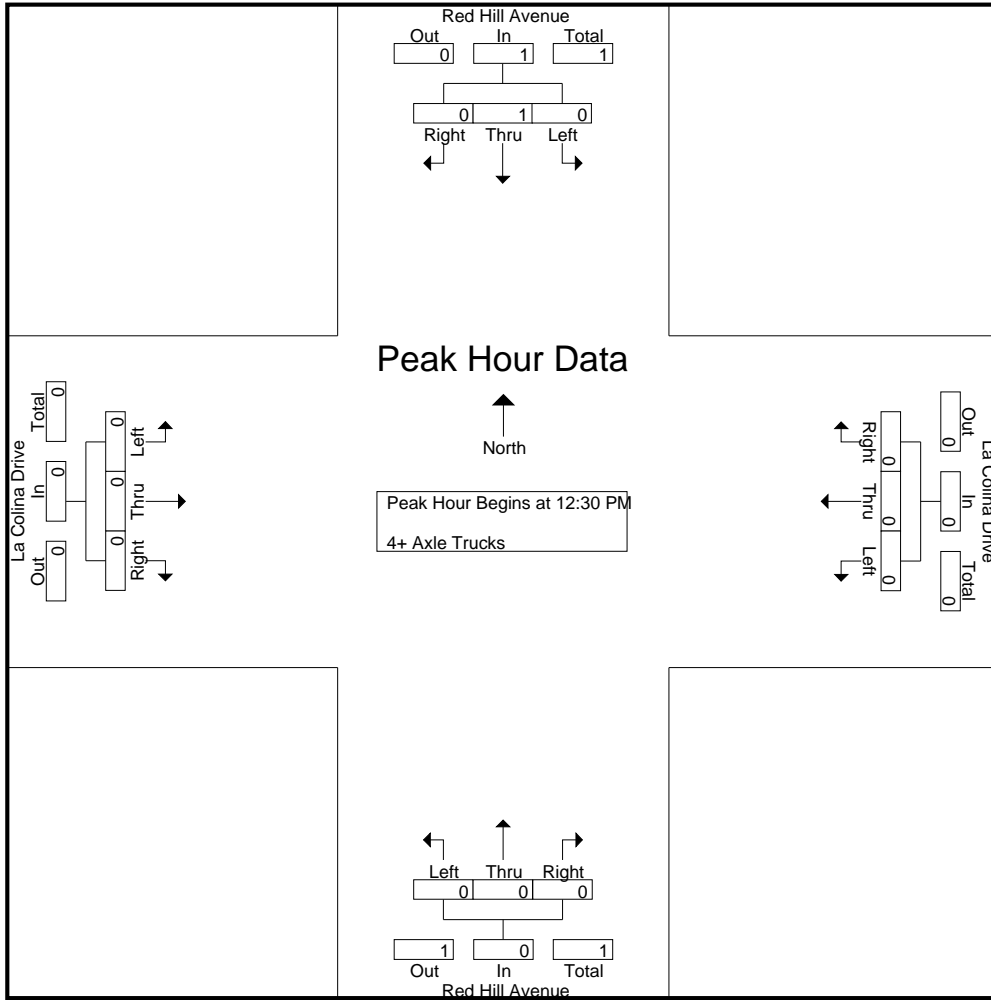
Groups Printed- 4+ Axle Trucks

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Apprch %	0	100	0		0	0	0		0	0	0		0	0	0		
Total %	0	100	0	100	0	0	0		0	0	0		0	0	0		

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCMD
 Site Code : 21717852
 Start Date : 12/13/2017
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Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM				12:30 PM			
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCPM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

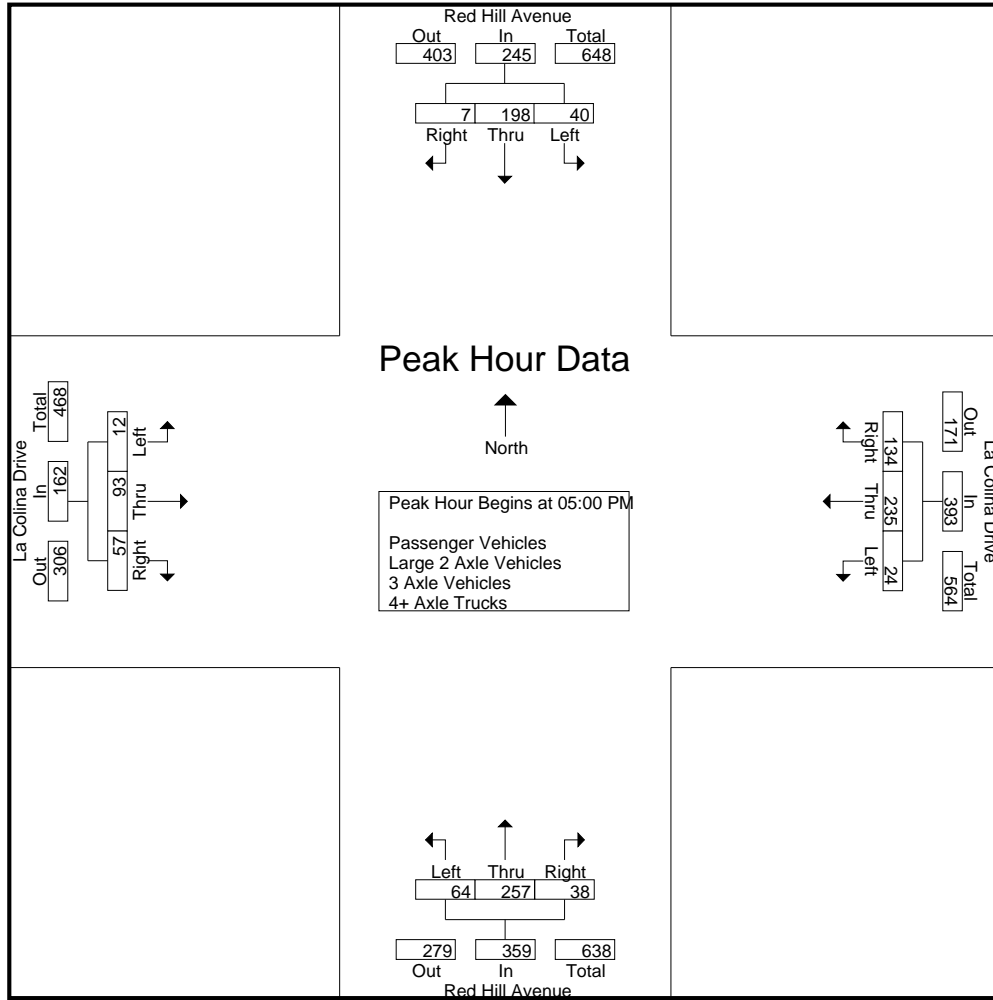
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	10	40	2	52	5	45	23	73	15	57	5	77	1	27	13	41	243
04:15 PM	10	50	5	65	5	64	16	85	18	69	8	95	2	27	15	44	289
04:30 PM	7	37	3	47	6	87	23	116	16	73	10	99	2	22	13	37	299
04:45 PM	9	46	1	56	6	55	32	93	18	66	9	93	4	29	9	42	284
Total	36	173	11	220	22	251	94	367	67	265	32	364	9	105	50	164	1115
05:00 PM	9	46	0	55	7	61	25	93	15	70	10	95	1	26	14	41	284
05:15 PM	9	53	3	65	7	55	32	94	18	49	13	80	5	20	14	39	278
05:30 PM	11	49	0	60	6	54	42	102	15	75	8	98	4	21	15	40	300
05:45 PM	11	50	4	65	4	65	35	104	16	63	7	86	2	26	14	42	297
Total	40	198	7	245	24	235	134	393	64	257	38	359	12	93	57	162	1159
Grand Total	76	371	18	465	46	486	228	760	131	522	70	723	21	198	107	326	2274
Apprch %	16.3	79.8	3.9		6.1	63.9	30		18.1	72.2	9.7		6.4	60.7	32.8		
Total %	3.3	16.3	0.8	20.4	2	21.4	10	33.4	5.8	23	3.1	31.8	0.9	8.7	4.7	14.3	
Passenger Vehicles	76	368	18	462	46	483	228	757	131	521	70	722	21	195	106	322	2263
% Passenger Vehicles	100	99.2	100	99.4	100	99.4	100	99.6	100	99.8	100	99.9	100	98.5	99.1	98.8	99.5
Large 2 Axle Vehicles	0	2	0	2	0	3	0	3	0	0	0	0	0	1	1	2	7
% Large 2 Axle Vehicles	0	0.5	0	0.4	0	0.6	0	0.4	0	0	0	0	0	0.5	0.9	0.6	0.3
3 Axle Vehicles	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	2	3
% 3 Axle Vehicles	0	0.3	0	0.2	0	0	0	0	0	0	0	0	0	1	0	0.6	0.1
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0.2	0	0.1	0	0	0	0	0

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
05:00 PM	9	46	0	55	7	61	25	93	15	70	10	95	1	26	14	41	284
05:15 PM	9	53	3	65	7	55	32	94	18	49	13	80	5	20	14	39	278
05:30 PM	11	49	0	60	6	54	42	102	15	75	8	98	4	21	15	40	300
05:45 PM	11	50	4	65	4	65	35	104	16	63	7	86	2	26	14	42	297
Total Volume	40	198	7	245	24	235	134	393	64	257	38	359	12	93	57	162	1159
% App. Total	16.3	80.8	2.9		6.1	59.8	34.1		17.8	71.6	10.6		7.4	57.4	35.2		
PHF	.909	.934	.438	.942	.857	.904	.798	.945	.889	.857	.731	.916	.600	.894	.950	.964	.966

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 PM



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				04:15 PM				04:00 PM			
+0 mins.	9	46	0	55	6	87	23	116	18	69	8	95	1	27	13	41
+15 mins.	9	53	3	65	6	55	32	93	16	73	10	99	2	27	15	44
+30 mins.	11	49	0	60	7	61	25	93	18	66	9	93	2	22	13	37
+45 mins.	11	50	4	65	7	55	32	94	15	70	10	95	4	29	9	42
Total Volume	40	198	7	245	26	258	112	396	67	278	37	382	9	105	50	164
% App. Total	16.3	80.8	2.9		6.6	65.2	28.3		17.5	72.8	9.7		5.5	64	30.5	
PHF	.909	.934	.438	.942	.929	.741	.875	.853	.931	.952	.925	.965	.563	.905	.833	.932

County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCPM
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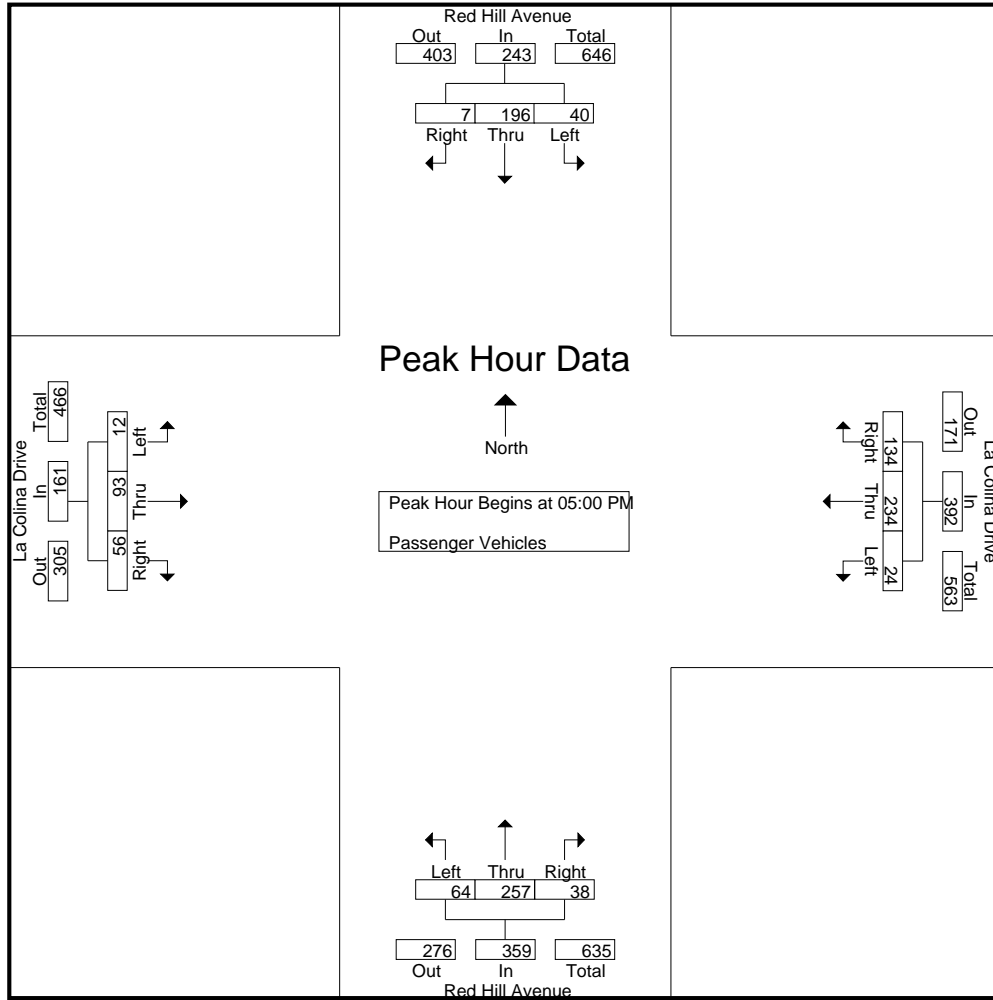
Groups Printed- Passenger Vehicles

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	10	40	2	52	5	45	23	73	15	56	5	76	1	26	13	40	241
04:15 PM	10	50	5	65	5	63	16	84	18	69	8	95	2	27	15	44	288
04:30 PM	7	36	3	46	6	86	23	115	16	73	10	99	2	21	13	36	296
04:45 PM	9	46	1	56	6	55	32	93	18	66	9	93	4	28	9	41	283
Total	36	172	11	219	22	249	94	365	67	264	32	363	9	102	50	161	1108
05:00 PM	9	44	0	53	7	61	25	93	15	70	10	95	1	26	14	41	282
05:15 PM	9	53	3	65	7	55	32	94	18	49	13	80	5	20	13	38	277
05:30 PM	11	49	0	60	6	54	42	102	15	75	8	98	4	21	15	40	300
05:45 PM	11	50	4	65	4	64	35	103	16	63	7	86	2	26	14	42	296
Total	40	196	7	243	24	234	134	392	64	257	38	359	12	93	56	161	1155
Grand Total	76	368	18	462	46	483	228	757	131	521	70	722	21	195	106	322	2263
Apprch %	16.5	79.7	3.9		6.1	63.8	30.1		18.1	72.2	9.7		6.5	60.6	32.9		
Total %	3.4	16.3	0.8	20.4	2	21.3	10.1	33.5	5.8	23	3.1	31.9	0.9	8.6	4.7	14.2	

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	9	44	0	53	7	61	25	93	15	70	10	95	1	26	14	41	282
05:15 PM	9	53	3	65	7	55	32	94	18	49	13	80	5	20	13	38	277
05:30 PM	11	49	0	60	6	54	42	102	15	75	8	98	4	21	15	40	300
05:45 PM	11	50	4	65	4	64	35	103	16	63	7	86	2	26	14	42	296
Total Volume	40	196	7	243	24	234	134	392	64	257	38	359	12	93	56	161	1155
% App. Total	16.5	80.7	2.9		6.1	59.7	34.2		17.8	71.6	10.6		7.5	57.8	34.8		
PHF	.909	.925	.438	.935	.857	.914	.798	.951	.889	.857	.731	.916	.600	.894	.933	.958	.963

County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCPM
 Site Code : 21717852
 Start Date : 12/13/2017
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Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM							
+0 mins.	9	44	0	53	7	61	25	93	15	70	10	95	1	26	14	41
+15 mins.	9	53	3	65	7	55	32	94	18	49	13	80	5	20	13	38
+30 mins.	11	49	0	60	6	54	42	102	15	75	8	98	4	21	15	40
+45 mins.	11	50	4	65	4	64	35	103	16	63	7	86	2	26	14	42
Total Volume	40	196	7	243	24	234	134	392	64	257	38	359	12	93	56	161
% App. Total	16.5	80.7	2.9		6.1	59.7	34.2		17.8	71.6	10.6		7.5	57.8	34.8	
PHF	.909	.925	.438	.935	.857	.914	.798	.951	.889	.857	.731	.916	.600	.894	.933	.958

County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCPM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:30 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	2	0	2	0	0	0	0	0	1	0	1	4
05:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	1	0	1	0	1	0	1	0	0	0	0	0	0	1	1	3
Grand Total	0	2	0	2	0	3	0	3	0	0	0	0	0	1	1	2	7
Apprch %	0	100	0		0	100	0		0	0	0		0	50	50		
Total %	0	28.6	0	28.6	0	42.9	0	42.9	0	0	0	0	0	14.3	14.3	28.6	

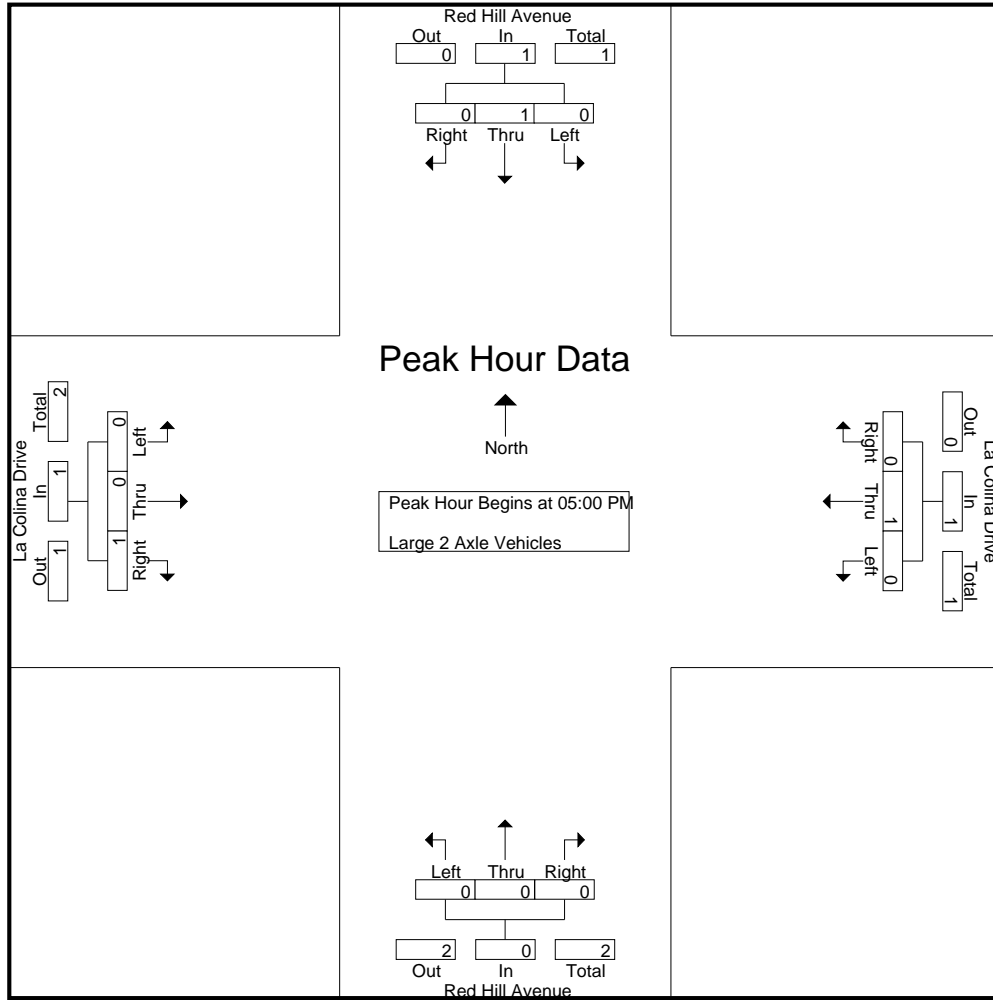
Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
05:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	1	0	1	0	1	0	0	0	0	0	0	1	1	3
% App. Total	0	100	0		0	100	0		0	0	0		0	0	100		
PHF	.000	.250	.000	.250	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.250	.250	.750

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 PM

County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCPM
 Site Code : 21717852
 Start Date : 12/13/2017
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Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	1	0	1	0	0	0	0	0	0	1	1
% App. Total	0	100	0	0	0	100	0	0	0	0	0	0	0	0	100	0
PHF	.000	.250	.000	.250	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.250	.250

County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCPM
 Site Code : 21717852
 Start Date : 12/13/2017
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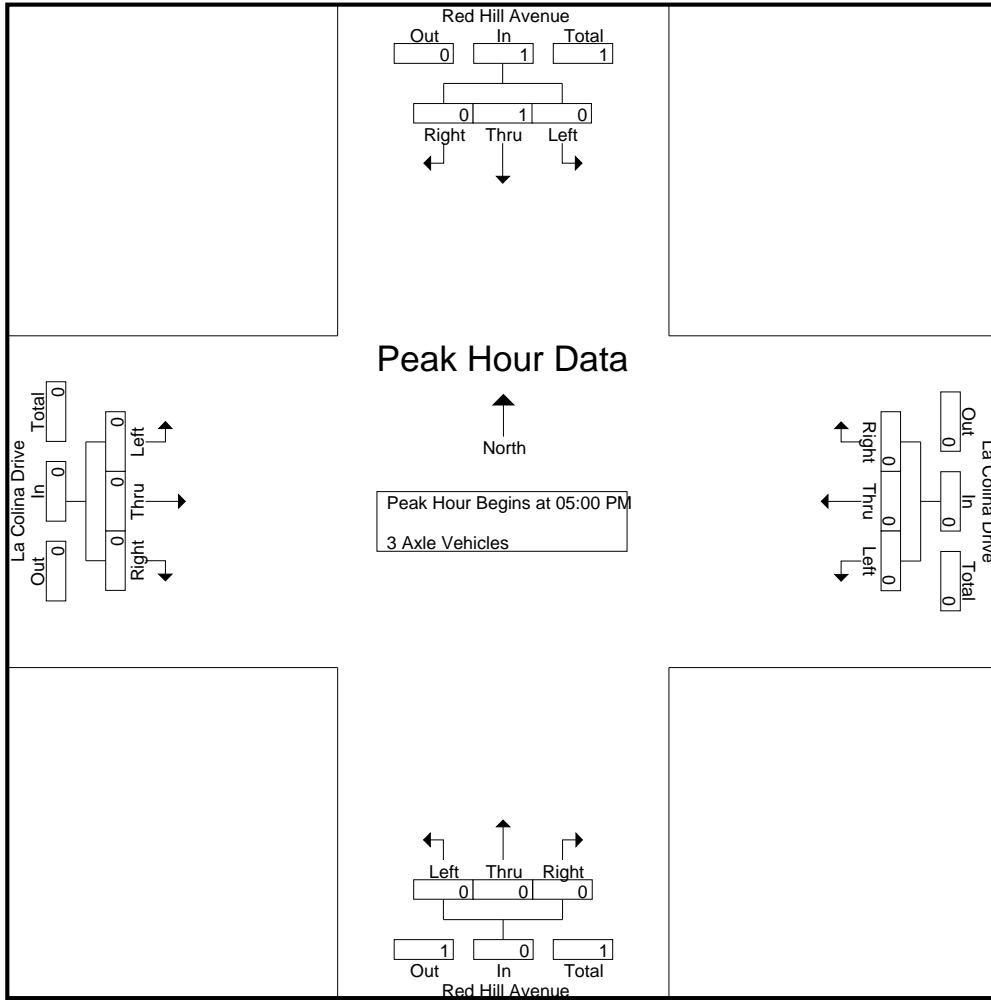
Groups Printed- 3 Axle Vehicles

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
05:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	2	3
Apprch %	0	100	0		0	0	0		0	0	0		0	100	0		
Total %	0	33.3	0	33.3	0	0	0		0	0	0		0	66.7	0	66.7	

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

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Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCPM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

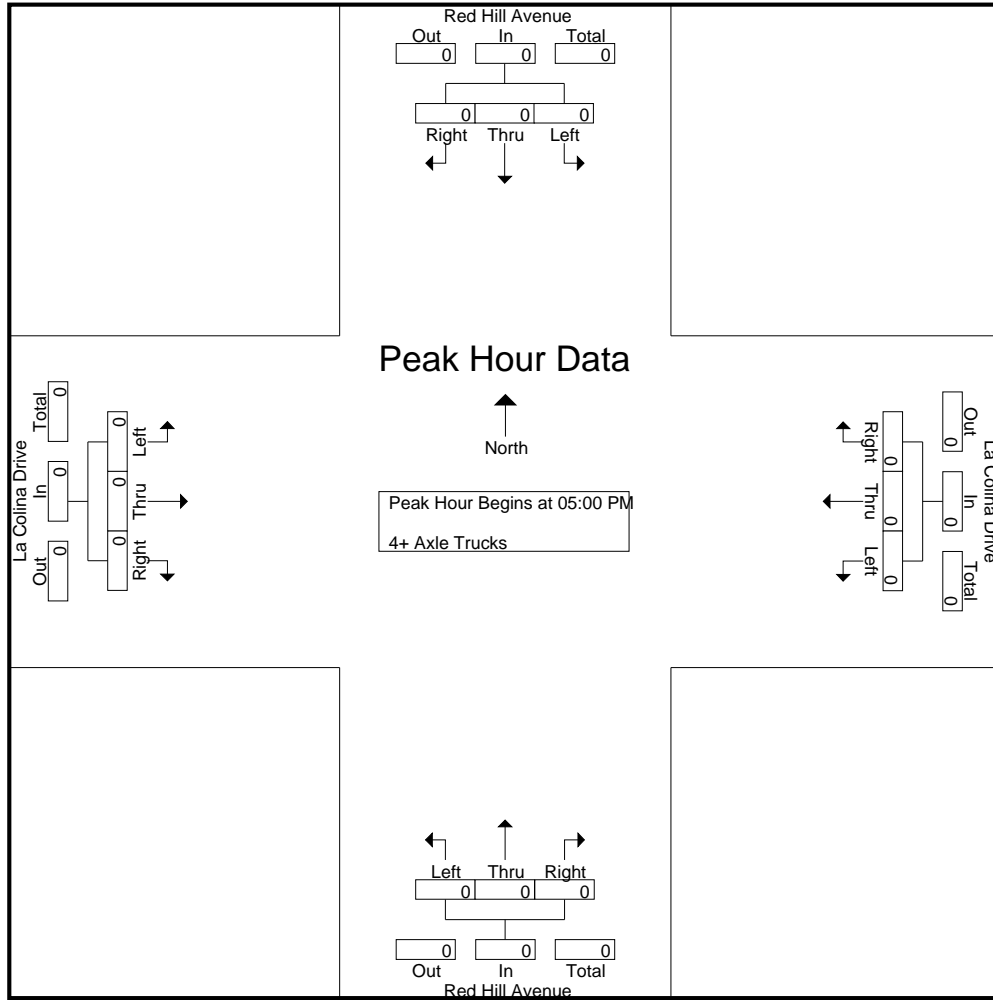
Groups Printed- 4+ Axle Trucks

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Apprch %	0	0	0		0	0	0		0	100	0		0	0	0		
Total %	0	0	0		0	0	0		0	100	0	100	0	0	0		

Start Time	Red Hill Avenue Southbound				La Colina Drive Westbound				Red Hill Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of Orange
 N/S: Red Hill Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 02_ORCRHLCPM
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Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of Orange
 N/S: Browning Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 01_ORCBRLCAM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

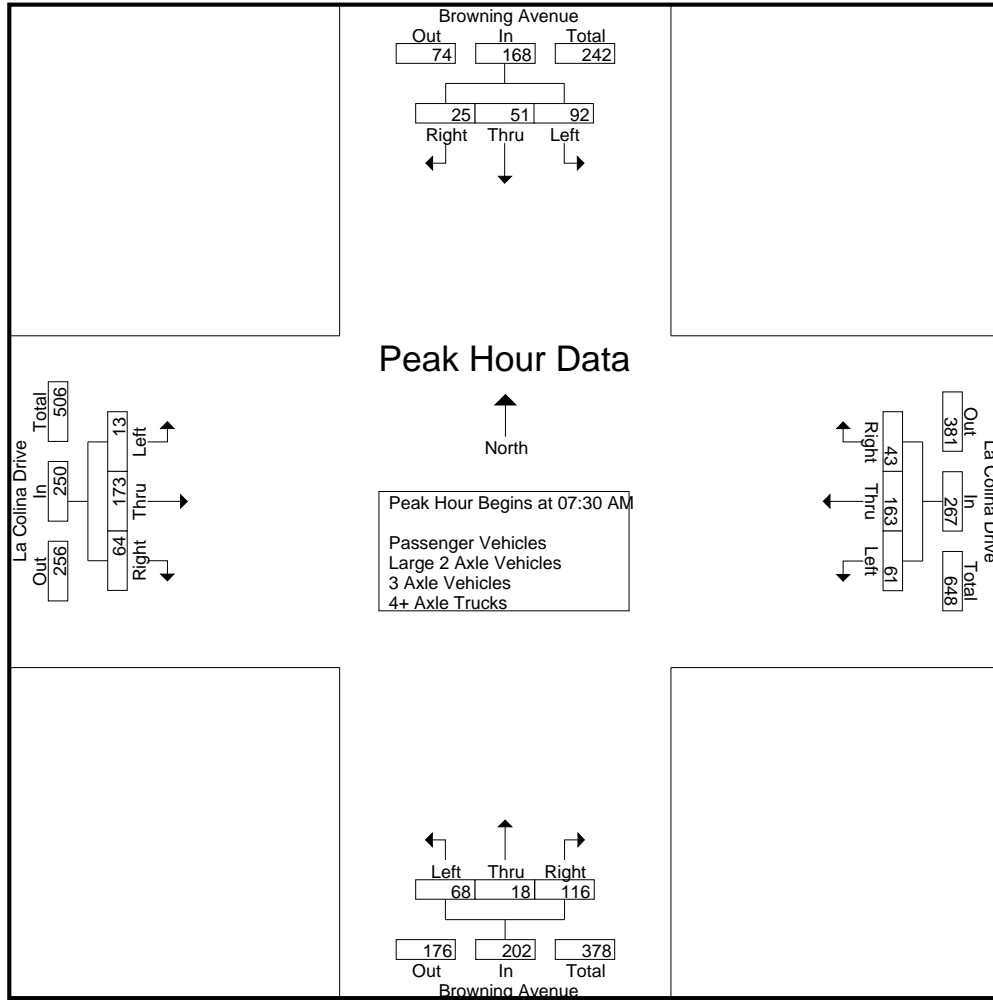
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	18	7	1	26	2	9	3	14	1	2	1	4	0	36	5	41	85
07:15 AM	18	10	3	31	1	21	7	29	2	1	5	8	3	42	3	48	116
07:30 AM	18	6	4	28	6	40	6	52	0	5	0	5	4	40	7	51	136
07:45 AM	17	13	11	41	17	39	14	70	16	4	16	36	6	38	25	69	216
Total	71	36	19	126	26	109	30	165	19	12	22	53	13	156	40	209	553
08:00 AM	32	18	6	56	36	39	14	89	30	7	75	112	1	49	29	79	336
08:15 AM	25	14	4	43	2	45	9	56	22	2	25	49	2	46	3	51	199
08:30 AM	28	6	3	37	1	27	14	42	0	0	4	4	8	38	2	48	131
08:45 AM	17	7	4	28	1	25	15	41	4	6	4	14	3	42	7	52	135
Total	102	45	17	164	40	136	52	228	56	15	108	179	14	175	41	230	801
Grand Total	173	81	36	290	66	245	82	393	75	27	130	232	27	331	81	439	1354
Apprch %	59.7	27.9	12.4		16.8	62.3	20.9		32.3	11.6	56		6.2	75.4	18.5		
Total %	12.8	6	2.7	21.4	4.9	18.1	6.1	29	5.5	2	9.6	17.1	2	24.4	6	32.4	
Passenger Vehicles	173	79	36	288	66	245	76	387	75	26	129	230	26	327	79	432	1337
% Passenger Vehicles	100	97.5	100	99.3	100	100	92.7	98.5	100	96.3	99.2	99.1	96.3	98.8	97.5	98.4	98.7
Large 2 Axle Vehicles	0	1	0	1	0	0	6	6	0	0	1	1	1	4	0	5	13
% Large 2 Axle Vehicles	0	1.2	0	0.3	0	0	7.3	1.5	0	0	0.8	0.4	3.7	1.2	0	1.1	1
3 Axle Vehicles	0	1	0	1	0	0	0	0	0	1	0	1	0	0	2	2	4
% 3 Axle Vehicles	0	1.2	0	0.3	0	0	0	0	0	3.7	0	0.4	0	0	2.5	0.5	0.3
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:30 AM	18	6	4	28	6	40	6	52	0	5	0	5	4	40	7	51	136
07:45 AM	17	13	11	41	17	39	14	70	16	4	16	36	6	38	25	69	216
08:00 AM	32	18	6	56	36	39	14	89	30	7	75	112	1	49	29	79	336
08:15 AM	25	14	4	43	2	45	9	56	22	2	25	49	2	46	3	51	199
Total Volume	92	51	25	168	61	163	43	267	68	18	116	202	13	173	64	250	887
% App. Total	54.8	30.4	14.9		22.8	61	16.1		33.7	8.9	57.4		5.2	69.2	25.6		
PHF	.719	.708	.568	.750	.424	.906	.768	.750	.567	.643	.387	.451	.542	.883	.552	.791	.660

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



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				07:30 AM				07:30 AM			
+0 mins.	17	13	11	41	6	40	6	52	0	5	0	5	4	40	7	51
+15 mins.	32	18	6	56	17	39	14	70	16	4	16	36	6	38	25	69
+30 mins.	25	14	4	43	36	39	14	89	30	7	75	112	1	49	29	79
+45 mins.	28	6	3	37	2	45	9	56	22	2	25	49	2	46	3	51
Total Volume	102	51	24	177	61	163	43	267	68	18	116	202	13	173	64	250
% App. Total	57.6	28.8	13.6		22.8	61	16.1		33.7	8.9	57.4		5.2	69.2	25.6	
PHF	.797	.708	.545	.790	.424	.906	.768	.750	.567	.643	.387	.451	.542	.883	.552	.791

County of Orange
 N/S: Browning Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 01_ORCBRLCAM
 Site Code : 21717852
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Groups Printed- Passenger Vehicles

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	18	7	1	26	2	9	3	14	1	1	1	3	0	35	5	40	83
07:15 AM	18	10	3	31	1	21	6	28	2	1	4	7	2	42	3	47	113
07:30 AM	18	6	4	28	6	40	6	52	0	5	0	5	4	40	6	50	135
07:45 AM	17	13	11	41	17	39	14	70	16	4	16	36	6	38	25	69	216
Total	71	36	19	126	26	109	29	164	19	11	21	51	12	155	39	206	547
08:00 AM	32	18	6	56	36	39	14	89	30	7	75	112	1	48	29	78	335
08:15 AM	25	13	4	42	2	45	8	55	22	2	25	49	2	46	3	51	197
08:30 AM	28	6	3	37	1	27	11	39	0	0	4	4	8	37	2	47	127
08:45 AM	17	6	4	27	1	25	14	40	4	6	4	14	3	41	6	50	131
Total	102	43	17	162	40	136	47	223	56	15	108	179	14	172	40	226	790
Grand Total	173	79	36	288	66	245	76	387	75	26	129	230	26	327	79	432	1337
Apprch %	60.1	27.4	12.5		17.1	63.3	19.6		32.6	11.3	56.1		6	75.7	18.3		
Total %	12.9	5.9	2.7	21.5	4.9	18.3	5.7	28.9	5.6	1.9	9.6	17.2	1.9	24.5	5.9	32.3	

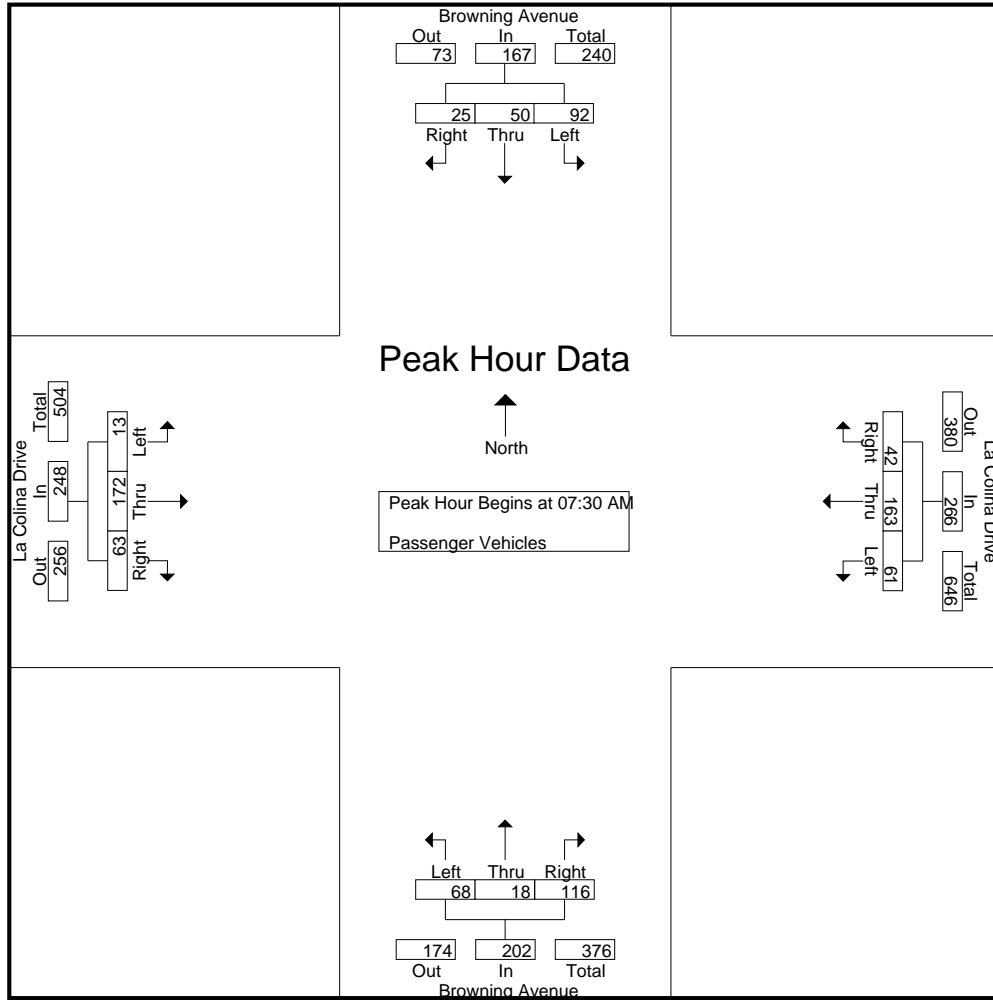
Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:30 AM	18	6	4	28	6	40	6	52	0	5	0	5	4	40	6	50	135
07:45 AM	17	13	11	41	17	39	14	70	16	4	16	36	6	38	25	69	216
08:00 AM	32	18	6	56	36	39	14	89	30	7	75	112	1	48	29	78	335
08:15 AM	25	13	4	42	2	45	8	55	22	2	25	49	2	46	3	51	197
Total Volume	92	50	25	167	61	163	42	266	68	18	116	202	13	172	63	248	883
% App. Total	55.1	29.9	15		22.9	61.3	15.8		33.7	8.9	57.4		5.2	69.4	25.4		
PHF	.719	.694	.568	.746	.424	.906	.750	.747	.567	.643	.387	.451	.542	.896	.543	.795	.659

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:30 AM

County of Orange
 N/S: Browning Avenue
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 Weather: Clear

File Name : 01_ORCBRLCAM
 Site Code : 21717852
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Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	18	6	4	28	6	40	6	52	0	5	0	5	4	40	6	50
+15 mins.	17	13	11	41	17	39	14	70	16	4	16	36	6	38	25	69
+30 mins.	32	18	6	56	36	39	14	89	30	7	75	112	1	48	29	78
+45 mins.	25	13	4	42	2	45	8	55	22	2	25	49	2	46	3	51
Total Volume	92	50	25	167	61	163	42	266	68	18	116	202	13	172	63	248
% App. Total	55.1	29.9	15		22.9	61.3	15.8		33.7	8.9	57.4		5.2	69.4	25.4	
PHF	.719	.694	.568	.746	.424	.906	.750	.747	.567	.643	.387	.451	.542	.896	.543	.795

County of Orange
 N/S: Browning Avenue
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 Weather: Clear

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 Site Code : 21717852
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Groups Printed- Large 2 Axle Vehicles

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
07:15 AM	0	0	0	0	0	0	1	1	0	0	1	1	1	0	0	1	3
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	1	0	0	1	1	1	1	0	2	4
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:15 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	3	3	0	0	0	0	0	1	0	1	4
08:45 AM	0	1	0	1	0	0	1	1	0	0	0	0	0	1	0	1	3
Total	0	1	0	1	0	0	5	5	0	0	0	0	0	3	0	3	9
Grand Total	0	1	0	1	0	0	6	6	0	0	1	1	1	4	0	5	13
Apprch %	0	100	0		0	0	100		0	0	100		20	80	0		
Total %	0	7.7	0	7.7	0	0	46.2	46.2	0	0	7.7	7.7	7.7	30.8	0	38.5	

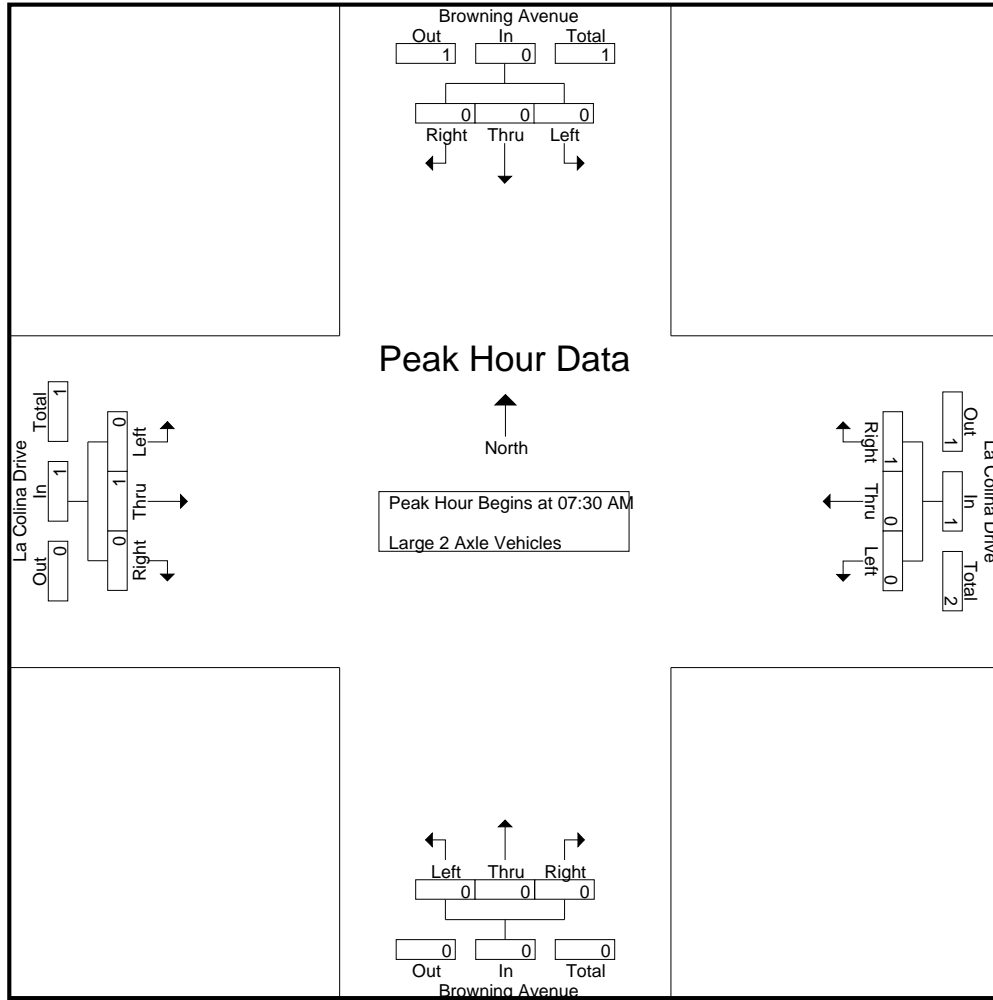
Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:15 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	2
% App. Total	0	0	0		0	0	100		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000	.000	.250	.000	.250	.500

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:30 AM

County of Orange
 N/S: Browning Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 01_ORCBRLCAM
 Site Code : 21717852
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Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1
% App. Total	0	0	0	0	0	0	100		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000	.000	.250	.000	.250

County of Orange
 N/S: Browning Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 01_ORCBRLCAM
 Site Code : 21717852
 Start Date : 12/13/2017
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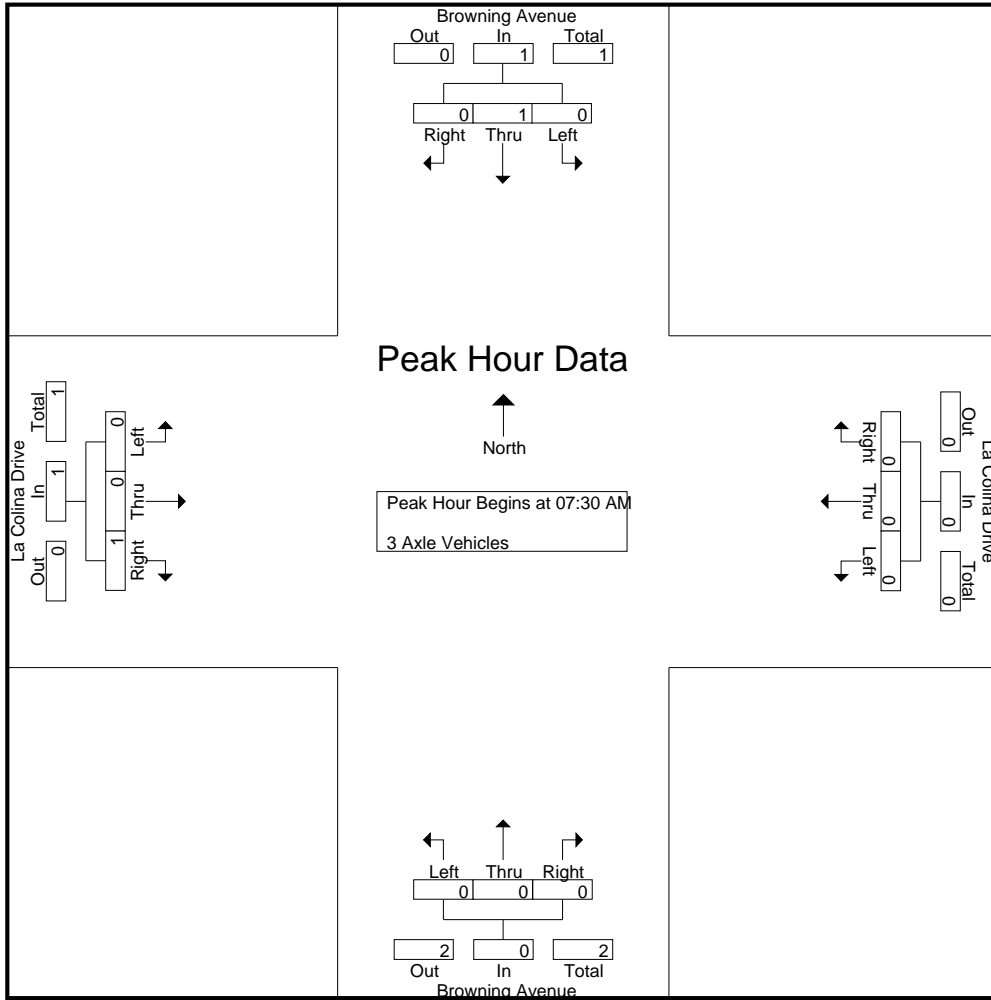
Groups Printed- 3 Axle Vehicles

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
Grand Total	0	1	0	1	0	0	0	0	0	1	0	1	0	0	2	2	4
Apprch %	0	100	0		0	0	0		0	100	0		0	0	100		
Total %	0	25	0	25	0	0	0	0	0	25	0	25	0	0	50	50	

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
% App. Total	0	100	0		0	0	0		0	0	0		0	0	100		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.500

County of Orange
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Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1
% App. Total	0	100	0	0	0	0	0	0	0	0	0	0	0	0	100	0
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250

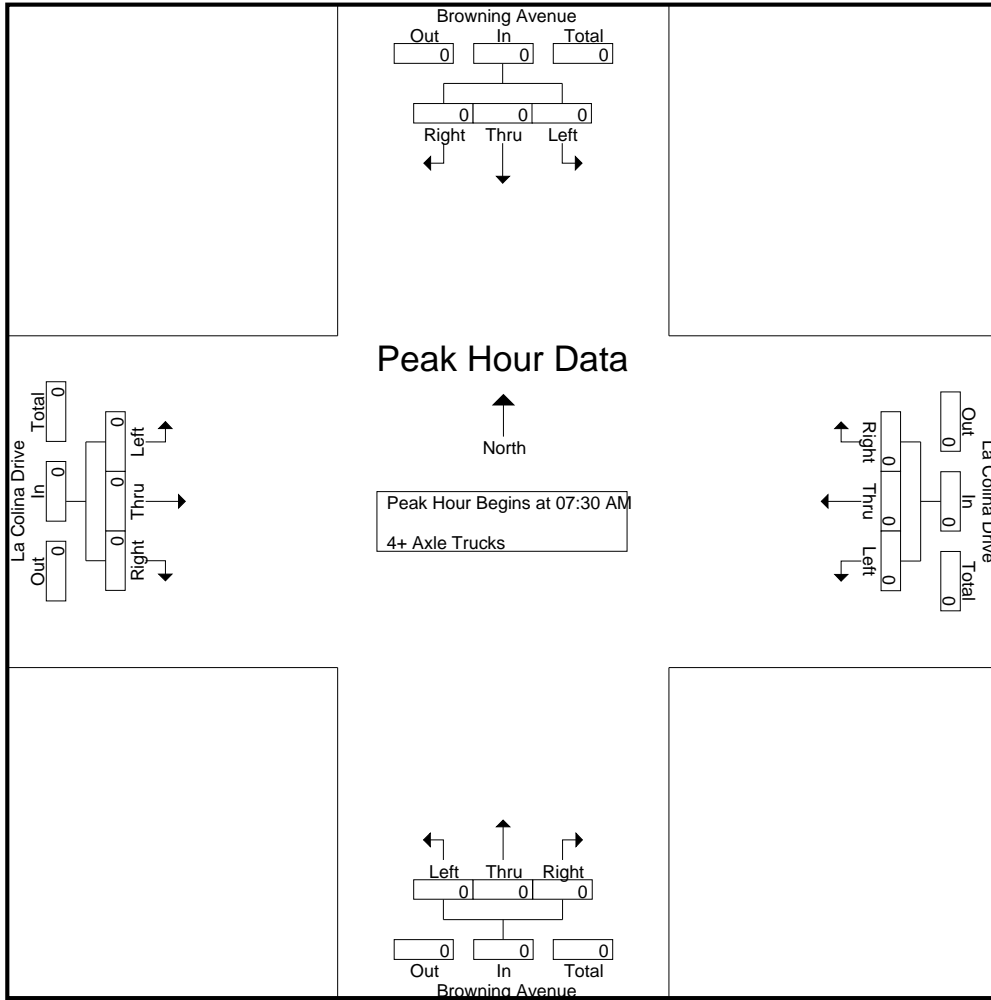
County of Orange
 N/S: Browning Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 01_ORCBRLCAM
 Site Code : 21717852
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Groups Printed- 4+ Axle Trucks

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

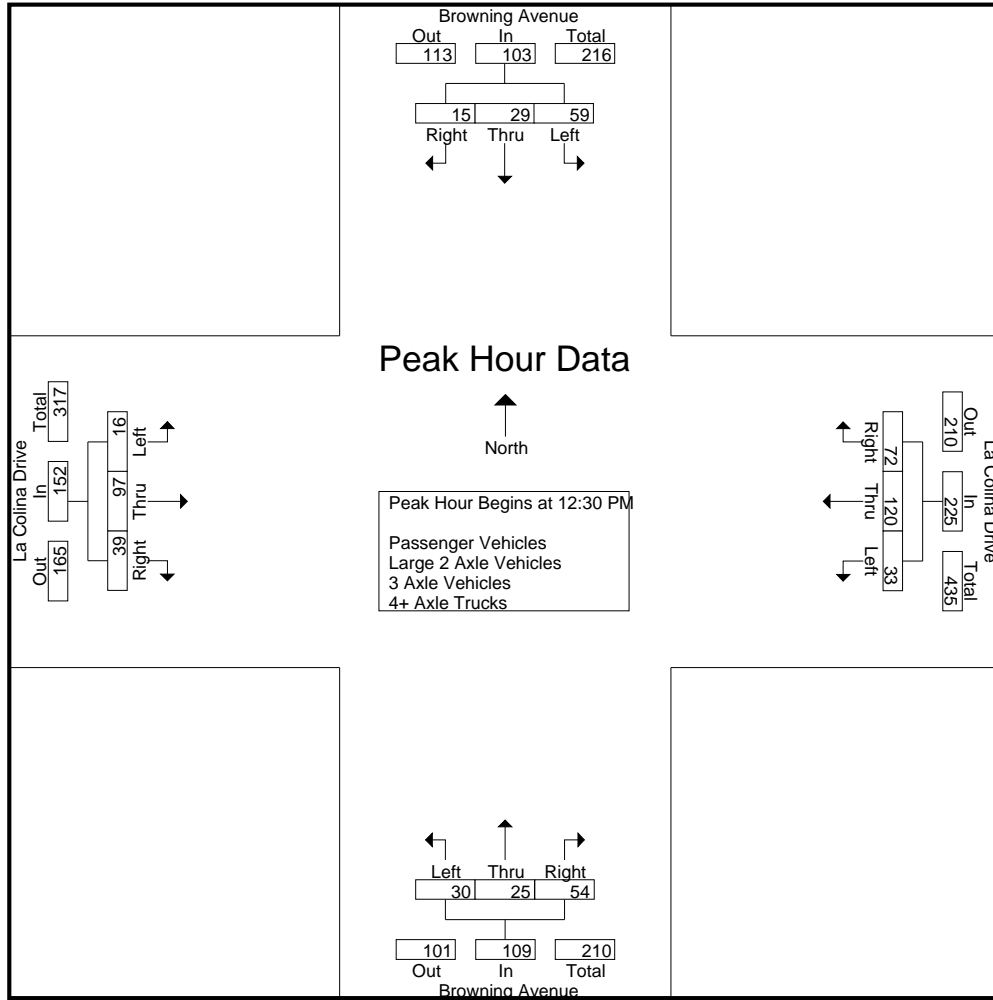
County of Orange
 N/S: Browning Avenue
 E/W: La Colina Drive
 Weather: Clear

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	14	8	0	22	2	13	10	25	3	14	3	20	2	20	2	24	91
11:45 AM	15	13	0	28	1	22	14	37	1	5	4	10	3	15	1	19	94
Total	29	21	0	50	3	35	24	62	4	19	7	30	5	35	3	43	185
12:00 PM	16	6	2	24	0	22	11	33	0	4	2	6	5	17	3	25	88
12:15 PM	17	9	0	26	6	21	10	37	3	3	3	9	4	20	3	27	99
12:30 PM	12	10	1	23	2	16	22	40	2	3	0	5	2	16	6	24	92
12:45 PM	13	6	6	25	6	29	17	52	4	8	7	19	2	21	13	36	132
Total	58	31	9	98	14	88	60	162	9	18	12	39	13	74	25	112	411
01:00 PM	15	8	5	28	14	36	16	66	3	6	9	18	4	25	9	38	150
01:15 PM	19	5	3	27	11	39	17	67	21	8	38	67	8	35	11	54	215
Grand Total	121	65	17	203	42	198	117	357	37	51	66	154	30	169	48	247	961
Apprch %	59.6	32	8.4		11.8	55.5	32.8		24	33.1	42.9		12.1	68.4	19.4		
Total %	12.6	6.8	1.8	21.1	4.4	20.6	12.2	37.1	3.9	5.3	6.9	16	3.1	17.6	5	25.7	
Passenger Vehicles	116	61	17	194	42	191	113	346	36	49	64	149	29	164	48	241	930
% Passenger Vehicles	95.9	93.8	100	95.6	100	96.5	96.6	96.9	97.3	96.1	97	96.8	96.7	97	100	97.6	96.8
Large 2 Axle Vehicles	5	3	0	8	0	3	4	7	1	1	2	4	1	2	0	3	22
% Large 2 Axle Vehicles	4.1	4.6	0	3.9	0	1.5	3.4	2	2.7	2	3	2.6	3.3	1.2	0	1.2	2.3
3 Axle Vehicles	0	1	0	1	0	3	0	3	0	1	0	1	0	2	0	2	7
% 3 Axle Vehicles	0	1.5	0	0.5	0	1.5	0	0.8	0	2	0	0.6	0	1.2	0	0.8	0.7
4+ Axle Trucks	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
% 4+ Axle Trucks	0	0	0	0	0	0.5	0	0.3	0	0	0	0	0	0.6	0	0.4	0.2

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:30 AM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	12	10	1	23	2	16	22	40	2	3	0	5	2	16	6	24	92
12:45 PM	13	6	6	25	6	29	17	52	4	8	7	19	2	21	13	36	132
01:00 PM	15	8	5	28	14	36	16	66	3	6	9	18	4	25	9	38	150
01:15 PM	19	5	3	27	11	39	17	67	21	8	38	67	8	35	11	54	215
Total Volume	59	29	15	103	33	120	72	225	30	25	54	109	16	97	39	152	589
% App. Total	57.3	28.2	14.6		14.7	53.3	32		27.5	22.9	49.5		10.5	63.8	25.7		
PHF	.776	.725	.625	.920	.589	.769	.818	.840	.357	.781	.355	.407	.500	.693	.750	.704	.685



Peak Hour Analysis From 11:30 AM to 01:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM							
+0 mins.	12	10	1	23	2	16	22	40	2	3	0	5	2	16	6	24
+15 mins.	13	6	6	25	6	29	17	52	4	8	7	19	2	21	13	36
+30 mins.	15	8	5	28	14	36	16	66	3	6	9	18	4	25	9	38
+45 mins.	19	5	3	27	11	39	17	67	21	8	38	67	8	35	11	54
Total Volume	59	29	15	103	33	120	72	225	30	25	54	109	16	97	39	152
% App. Total	57.3	28.2	14.6		14.7	53.3	32		27.5	22.9	49.5		10.5	63.8	25.7	
PHF	.776	.725	.625	.920	.589	.769	.818	.840	.357	.781	.355	.407	.500	.693	.750	.704

County of Orange
 N/S: Browning Avenue
 E/W: La Colina Drive
 Weather: Clear

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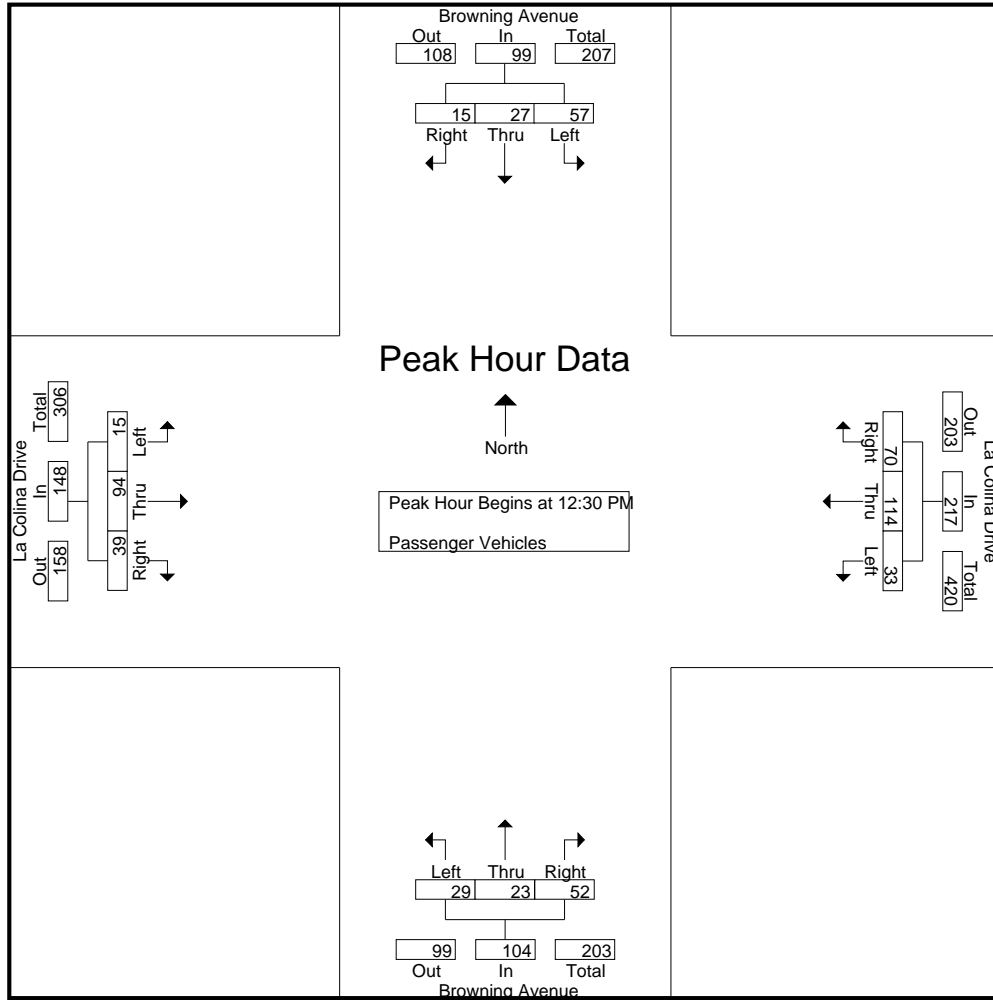
Groups Printed- Passenger Vehicles

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	14	8	0	22	2	13	9	24	3	14	3	20	2	18	2	22	88
11:45 AM	15	11	0	26	1	22	13	36	1	5	4	10	3	15	1	19	91
Total	29	19	0	48	3	35	22	60	4	19	7	30	5	33	3	41	179
12:00 PM	15	6	2	23	0	22	11	33	0	4	2	6	5	17	3	25	87
12:15 PM	15	9	0	24	6	20	10	36	3	3	3	9	4	20	3	27	96
12:30 PM	11	10	1	22	2	15	20	37	1	3	0	4	2	16	6	24	87
12:45 PM	12	5	6	23	6	25	17	48	4	7	7	18	2	21	13	36	125
Total	53	30	9	92	14	82	58	154	8	17	12	37	13	74	25	112	395
01:00 PM	15	8	5	28	14	36	16	66	3	6	9	18	3	24	9	36	148
01:15 PM	19	4	3	26	11	38	17	66	21	7	36	64	8	33	11	52	208
Grand Total	116	61	17	194	42	191	113	346	36	49	64	149	29	164	48	241	930
Apprch %	59.8	31.4	8.8		12.1	55.2	32.7		24.2	32.9	43		12	68	19.9		
Total %	12.5	6.6	1.8	20.9	4.5	20.5	12.2	37.2	3.9	5.3	6.9	16	3.1	17.6	5.2	25.9	

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	11	10	1	22	2	15	20	37	1	3	0	4	2	16	6	24	87
12:45 PM	12	5	6	23	6	25	17	48	4	7	7	18	2	21	13	36	125
01:00 PM	15	8	5	28	14	36	16	66	3	6	9	18	3	24	9	36	148
01:15 PM	19	4	3	26	11	38	17	66	21	7	36	64	8	33	11	52	208
Total Volume	57	27	15	99	33	114	70	217	29	23	52	104	15	94	39	148	568
% App. Total	57.6	27.3	15.2		15.2	52.5	32.3		27.9	22.1	50		10.1	63.5	26.4		
PHF	.750	.675	.625	.884	.589	.750	.875	.822	.345	.821	.361	.406	.469	.712	.750	.712	.683

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Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM				12:30 PM			
+0 mins.	11	10	1	22	2	15	20	37	1	3	0	4	2	16	6	24
+15 mins.	12	5	6	23	6	25	17	48	4	7	7	18	2	21	13	36
+30 mins.	15	8	5	28	14	36	16	66	3	6	9	18	3	24	9	36
+45 mins.	19	4	3	26	11	38	17	66	21	7	36	64	8	33	11	52
Total Volume	57	27	15	99	33	114	70	217	29	23	52	104	15	94	39	148
% App. Total	57.6	27.3	15.2		15.2	52.5	32.3		27.9	22.1	50		10.1	63.5	26.4	
PHF	.750	.675	.625	.884	.589	.750	.875	.822	.345	.821	.361	.406	.469	.712	.750	.712

County of Orange
 N/S: Browning Avenue
 E/W: La Colina Drive
 Weather: Clear

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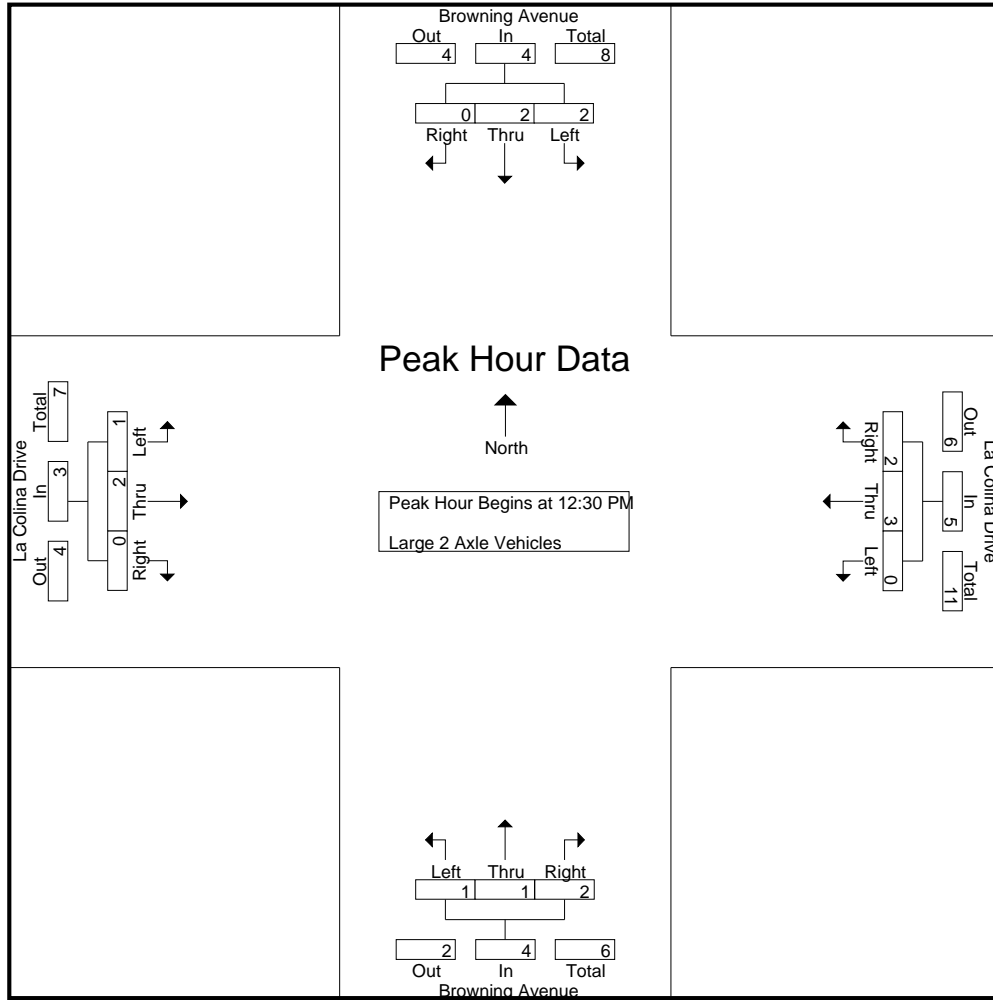
Groups Printed- Large 2 Axle Vehicles

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
11:45 AM	0	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	2
Total	0	1	0	1	0	0	2	2	0	0	0	0	0	0	0	0	3
12:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
12:15 PM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	1	0	0	1	0	0	2	2	1	0	0	1	0	0	0	0	4
12:45 PM	1	1	0	2	0	3	0	3	0	0	0	0	0	0	0	0	5
Total	5	1	0	6	0	3	2	5	1	0	0	1	0	0	0	0	12
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
01:15 PM	0	1	0	1	0	0	0	0	0	1	2	3	0	2	0	2	6
Grand Total	5	3	0	8	0	3	4	7	1	1	2	4	1	2	0	3	22
Apprch %	62.5	37.5	0		0	42.9	57.1		25	25	50		33.3	66.7	0		
Total %	22.7	13.6	0	36.4	0	13.6	18.2	31.8	4.5	4.5	9.1	18.2	4.5	9.1	0	13.6	

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
12:30 PM	1	0	0	1	0	0	2	2	1	0	0	1	0	0	0	0	4
12:45 PM	1	1	0	2	0	3	0	3	0	0	0	0	0	0	0	0	5
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
01:15 PM	0	1	0	1	0	0	0	0	0	1	2	3	0	2	0	2	6
Total Volume	2	2	0	4	0	3	2	5	1	1	2	4	1	2	0	3	16
% App. Total	50	50	0		0	60	40		25	25	50		33.3	66.7	0		
PHF	.500	.500	.000	.500	.000	.250	.250	.417	.250	.250	.250	.333	.250	.250	.000	.375	.667

Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 12:30 PM



Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM				12:30 PM			
+0 mins.	1	0	0	1	0	0	2	2	1	0	0	1	0	0	0	0
+15 mins.	1	1	0	2	0	3	0	3	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
+45 mins.	0	1	0	1	0	0	0	0	0	1	2	3	0	2	0	2
Total Volume	2	2	0	4	0	3	2	5	1	1	2	4	1	2	0	3
% App. Total	50	50	0		0	60	40		25	25	50		33.3	66.7	0	
PHF	.500	.500	.000	.500	.000	.250	.250	.417	.250	.250	.250	.333	.250	.250	.000	.375

County of Orange
 N/S: Browning Avenue
 E/W: La Colina Drive
 Weather: Clear

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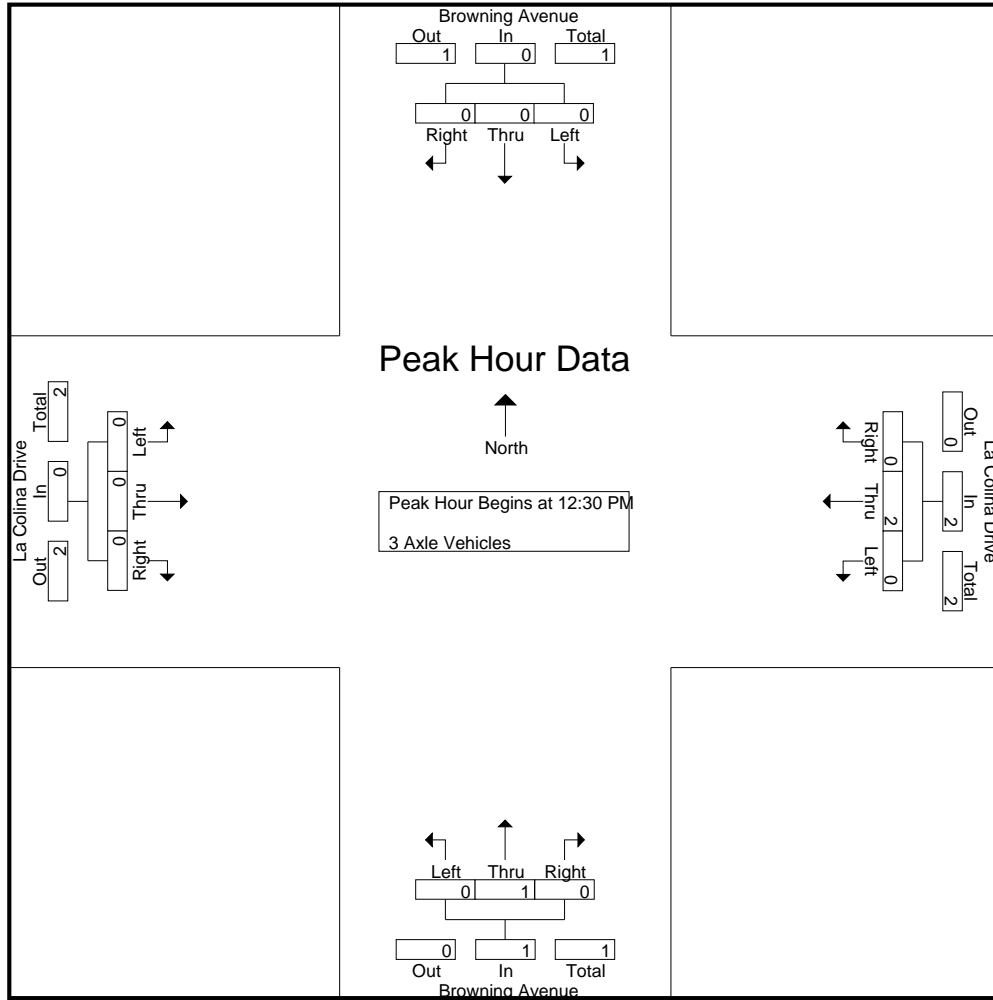
Groups Printed- 3 Axle Vehicles

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
11:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	2	3
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	2	0	2	0	1	0	1	0	0	0	0	3
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Grand Total	0	1	0	1	0	3	0	3	0	1	0	1	0	2	0	2	7
Apprch %	0	100	0		0	100	0		0	100	0		0	100	0		
Total %	0	14.3	0	14.3	0	42.9	0	42.9	0	14.3	0	14.3	0	28.6	0	28.6	

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	2	0	2	0	1	0	1	0	0	0	0	3
% App. Total	0	0	0		0	100	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.250	.000	.250	.000	.000	.000	.000	.750

County of Orange
 N/S: Browning Avenue
 E/W: La Colina Drive
 Weather: Clear

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Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM				12:30 PM			
+0 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	0	2	0	1	0	1	0	0	0	0
% App. Total	0	0	0	0	0	100	0	0	0	100	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.250	.000	.250	.000	.000	.000	.000

County of Orange
 N/S: Browning Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 01_ORCBRLCMD
 Site Code : 21717852
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Groups Printed- 4+ Axle Trucks

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
Apprch %	0	0	0		0	100	0		0	0	0		0	100	0		
Total %	0	0	0		0	50	0	50	0	0	0		0	50	0	50	

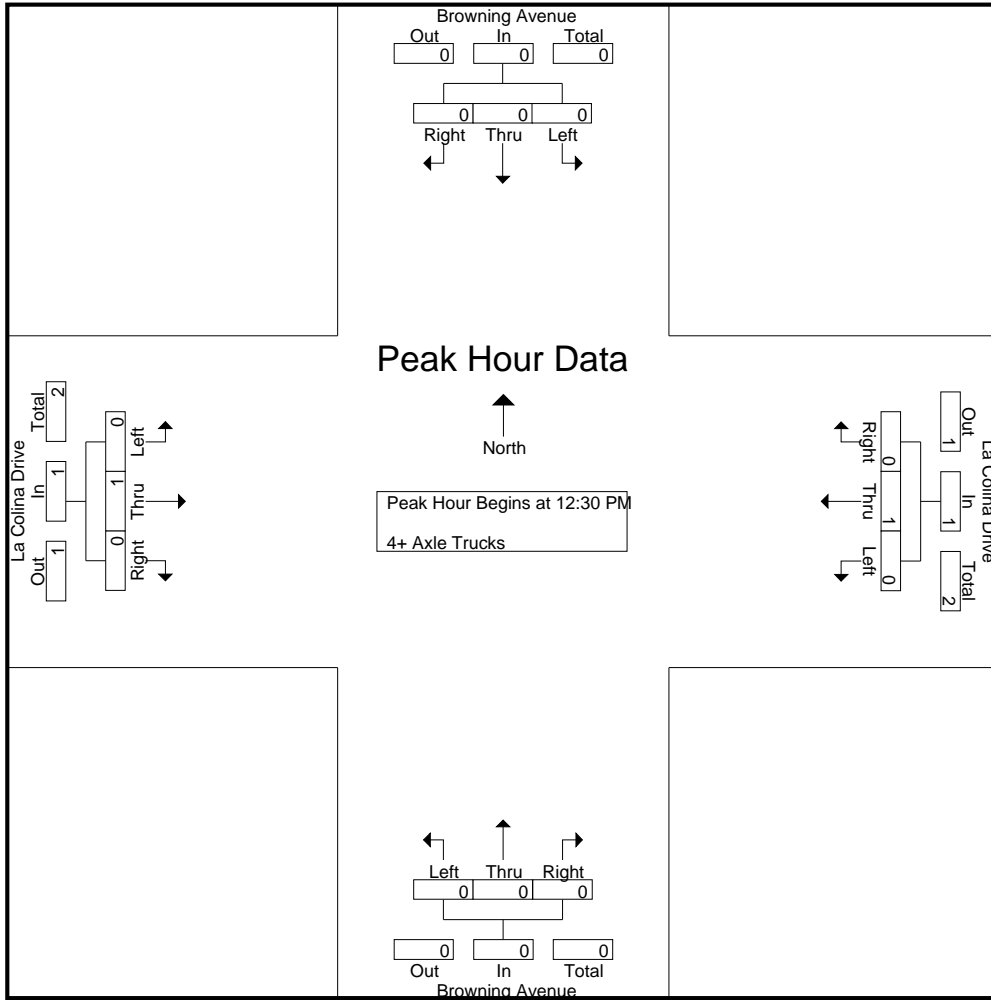
Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.250	.000	.250	.500

Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 12:30 PM

County of Orange
 N/S: Browning Avenue
 E/W: La Colina Drive
 Weather: Clear

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Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM							
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.250	.000	.250

County of Orange
 N/S: Browning Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 01_ORCBRLCPM
 Site Code : 21717852
 Start Date : 12/13/2017
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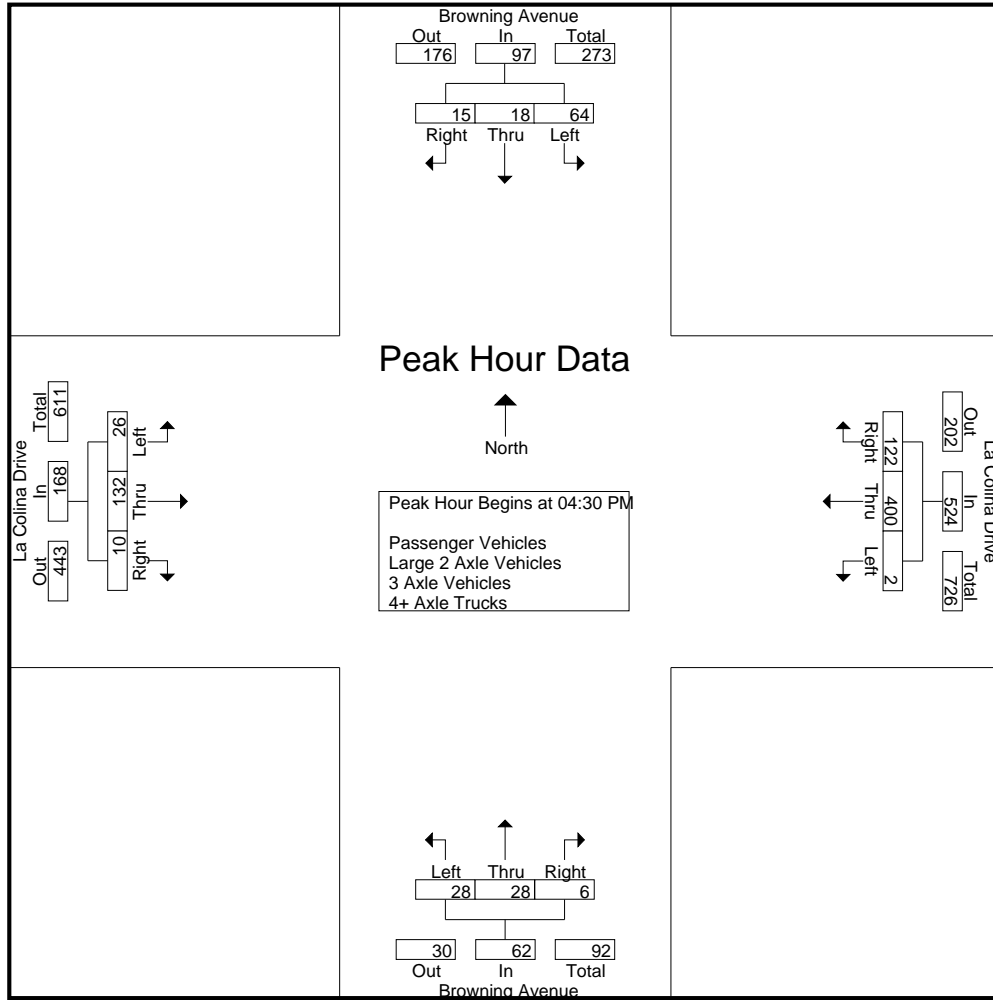
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	24	7	4	35	0	77	20	97	5	7	2	14	1	28	4	33	179
04:15 PM	15	5	4	24	0	80	25	105	5	8	1	14	6	28	2	36	179
04:30 PM	15	6	6	27	0	112	24	136	8	4	3	15	6	31	0	37	215
04:45 PM	15	6	5	26	0	78	30	108	2	7	1	10	6	34	1	41	185
Total	69	24	19	112	0	347	99	446	20	26	7	53	19	121	7	147	758
05:00 PM	15	3	3	21	1	96	24	121	6	6	0	12	5	25	1	31	185
05:15 PM	19	3	1	23	1	114	44	159	12	11	2	25	9	42	8	59	266
05:30 PM	34	9	3	46	1	72	19	92	4	8	1	13	4	24	1	29	180
05:45 PM	13	6	4	23	0	107	27	134	2	4	1	7	4	32	3	39	203
Total	81	21	11	113	3	389	114	506	24	29	4	57	22	123	13	158	834
Grand Total	150	45	30	225	3	736	213	952	44	55	11	110	41	244	20	305	1592
Apprch %	66.7	20	13.3		0.3	77.3	22.4		40	50	10		13.4	80	6.6		
Total %	9.4	2.8	1.9	14.1	0.2	46.2	13.4	59.8	2.8	3.5	0.7	6.9	2.6	15.3	1.3	19.2	
Passenger Vehicles	149	45	30	224	3	732	212	947	44	54	11	109	40	241	20	301	1581
% Passenger Vehicles	99.3	100	100	99.6	100	99.5	99.5	99.5	100	98.2	100	99.1	97.6	98.8	100	98.7	99.3
Large 2 Axle Vehicles	1	0	0	1	0	4	0	4	0	1	0	1	0	2	0	2	8
% Large 2 Axle Vehicles	0.7	0	0	0.4	0	0.5	0	0.4	0	1.8	0	0.9	0	0.8	0	0.7	0.5
3 Axle Vehicles	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	2	3
% 3 Axle Vehicles	0	0	0	0	0	0	0.5	0.1	0	0	0	0	2.4	0.4	0	0.7	0.2
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:30 PM	15	6	6	27	0	112	24	136	8	4	3	15	6	31	0	37	215
04:45 PM	15	6	5	26	0	78	30	108	2	7	1	10	6	34	1	41	185
05:00 PM	15	3	3	21	1	96	24	121	6	6	0	12	5	25	1	31	185
05:15 PM	19	3	1	23	1	114	44	159	12	11	2	25	9	42	8	59	266
Total Volume	64	18	15	97	2	400	122	524	28	28	6	62	26	132	10	168	851
% App. Total	66	18.6	15.5		0.4	76.3	23.3		45.2	45.2	9.7		15.5	78.6	6		
PHF	.842	.750	.625	.898	.500	.877	.693	.824	.583	.636	.500	.620	.722	.786	.313	.712	.800

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:45 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	15	6	5	26	0	112	24	136	8	4	3	15	6	31	0	37
+15 mins.	15	3	3	21	0	78	30	108	2	7	1	10	6	34	1	41
+30 mins.	19	3	1	23	1	96	24	121	6	6	0	12	5	25	1	31
+45 mins.	34	9	3	46	1	114	44	159	12	11	2	25	9	42	8	59
Total Volume	83	21	12	116	2	400	122	524	28	28	6	62	26	132	10	168
% App. Total	71.6	18.1	10.3		0.4	76.3	23.3		45.2	45.2	9.7		15.5	78.6	6	
PHF	.610	.583	.600	.630	.500	.877	.693	.824	.583	.636	.500	.620	.722	.786	.313	.712

County of Orange
 N/S: Browning Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 01_ORCBRLCPM
 Site Code : 21717852
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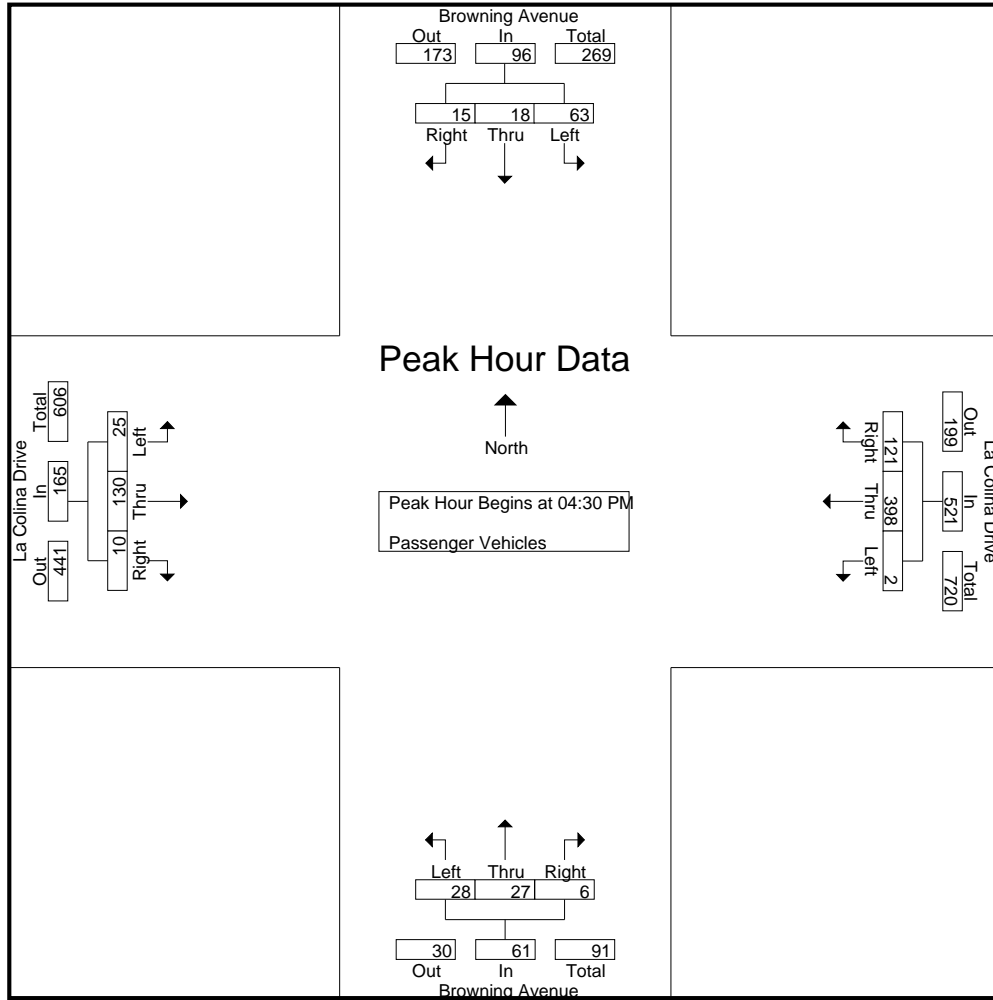
Groups Printed- Passenger Vehicles

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	24	7	4	35	0	77	20	97	5	7	2	14	1	27	4	32	178
04:15 PM	15	5	4	24	0	79	25	104	5	8	1	14	6	28	2	36	178
04:30 PM	15	6	6	27	0	111	24	135	8	4	3	15	6	31	0	37	214
04:45 PM	14	6	5	25	0	77	29	106	2	7	1	10	5	33	1	39	180
Total	68	24	19	111	0	344	98	442	20	26	7	53	18	119	7	144	750
05:00 PM	15	3	3	21	1	96	24	121	6	6	0	12	5	25	1	31	185
05:15 PM	19	3	1	23	1	114	44	159	12	10	2	24	9	41	8	58	264
05:30 PM	34	9	3	46	1	72	19	92	4	8	1	13	4	24	1	29	180
05:45 PM	13	6	4	23	0	106	27	133	2	4	1	7	4	32	3	39	202
Total	81	21	11	113	3	388	114	505	24	28	4	56	22	122	13	157	831
Grand Total	149	45	30	224	3	732	212	947	44	54	11	109	40	241	20	301	1581
Apprch %	66.5	20.1	13.4		0.3	77.3	22.4		40.4	49.5	10.1		13.3	80.1	6.6		
Total %	9.4	2.8	1.9	14.2	0.2	46.3	13.4	59.9	2.8	3.4	0.7	6.9	2.5	15.2	1.3	19	

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	15	6	6	27	0	111	24	135	8	4	3	15	6	31	0	37	214
04:45 PM	14	6	5	25	0	77	29	106	2	7	1	10	5	33	1	39	180
05:00 PM	15	3	3	21	1	96	24	121	6	6	0	12	5	25	1	31	185
05:15 PM	19	3	1	23	1	114	44	159	12	10	2	24	9	41	8	58	264
Total Volume	63	18	15	96	2	398	121	521	28	27	6	61	25	130	10	165	843
% App. Total	65.6	18.8	15.6		0.4	76.4	23.2		45.9	44.3	9.8		15.2	78.8	6.1		
PHF	.829	.750	.625	.889	.500	.873	.688	.819	.583	.675	.500	.635	.694	.793	.313	.711	.798

County of Orange
 N/S: Browning Avenue
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 Weather: Clear

File Name : 01_ORCBRLCPM
 Site Code : 21717852
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM							
+0 mins.	15	6	6	27	0	111	24	135	8	4	3	15	6	31	0	37
+15 mins.	14	6	5	25	0	77	29	106	2	7	1	10	5	33	1	39
+30 mins.	15	3	3	21	1	96	24	121	6	6	0	12	5	25	1	31
+45 mins.	19	3	1	23	1	114	44	159	12	10	2	24	9	41	8	58
Total Volume	63	18	15	96	2	398	121	521	28	27	6	61	25	130	10	165
% App. Total	65.6	18.8	15.6		0.4	76.4	23.2		45.9	44.3	9.8		15.2	78.8	6.1	
PHF	.829	.750	.625	.889	.500	.873	.688	.819	.583	.675	.500	.635	.694	.793	.313	.711

County of Orange
 N/S: Browning Avenue
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 Weather: Clear

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Groups Printed- Large 2 Axle Vehicles

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
04:45 PM	1	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	3	0	3	0	0	0	0	0	1	0	1	5
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	1	0	1	0	1	0	1	3
Grand Total	1	0	0	1	0	4	0	4	0	1	0	1	0	2	0	2	8
Apprch %	100	0	0		0	100	0		0	100	0		0	100	0		
Total %	12.5	0	0	12.5	0	50	0	50	0	12.5	0	12.5	0	25	0	25	

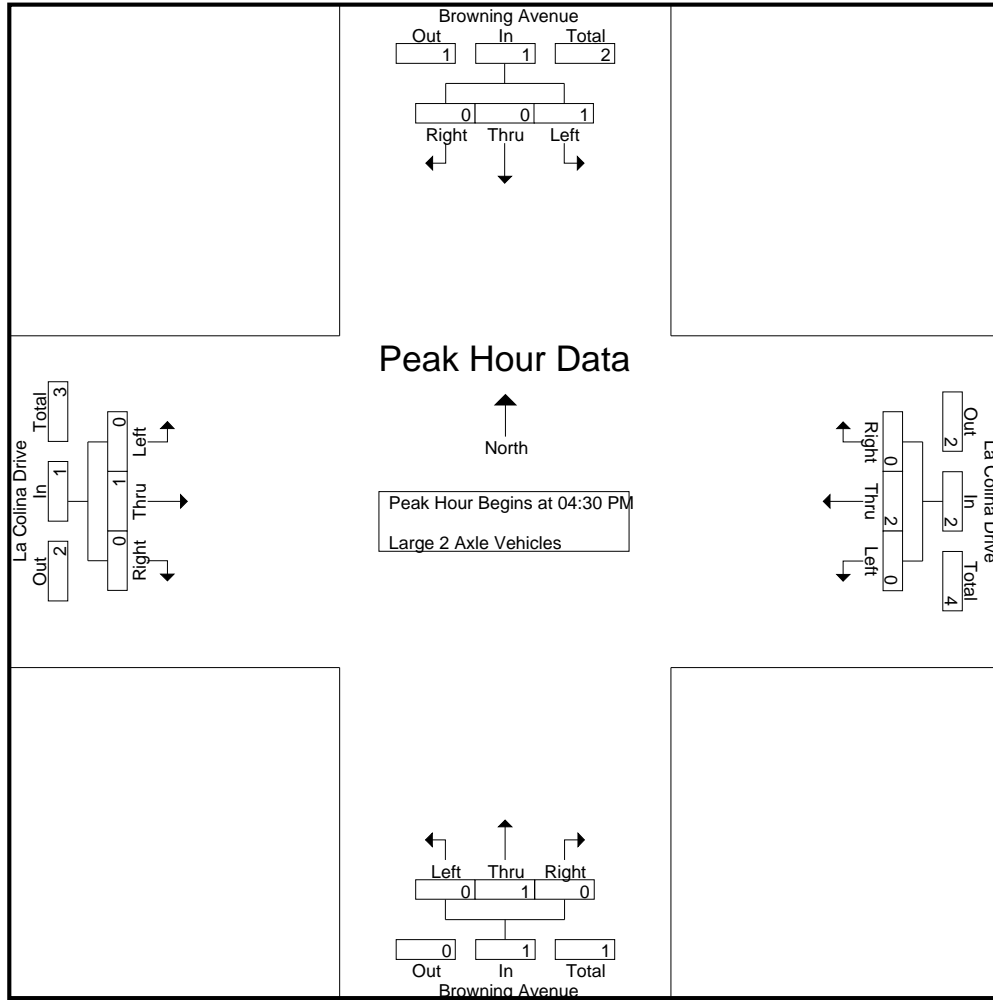
Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:45 PM	1	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
Total Volume	1	0	0	1	0	2	0	2	0	1	0	1	0	1	0	1	5
% App. Total	100	0	0		0	100	0		0	100	0		0	100	0		
PHF	.250	.000	.000	.250	.000	.500	.000	.500	.000	.250	.000	.250	.000	.250	.000	.250	.625

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

County of Orange
 N/S: Browning Avenue
 E/W: La Colina Drive
 Weather: Clear

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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+15 mins.	1	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1
Total Volume	1	0	0	1	0	2	0	2	0	1	0	1	0	1	0	1
% App. Total	100	0	0	0	0	100	0	0	0	100	0	0	0	100	0	0
PHF	.250	.000	.000	.250	.000	.500	.000	.500	.000	.250	.000	.250	.000	.250	.000	.250

County of Orange
 N/S: Browning Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 01_ORCBRLCPM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	2	3
Total	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	2	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	2	3
Apprch %	0	0	0		0	0	100		0	0	0		50	50	0		
Total %	0	0	0		0	0	33.3	33.3	0	0	0		33.3	33.3	0	66.7	

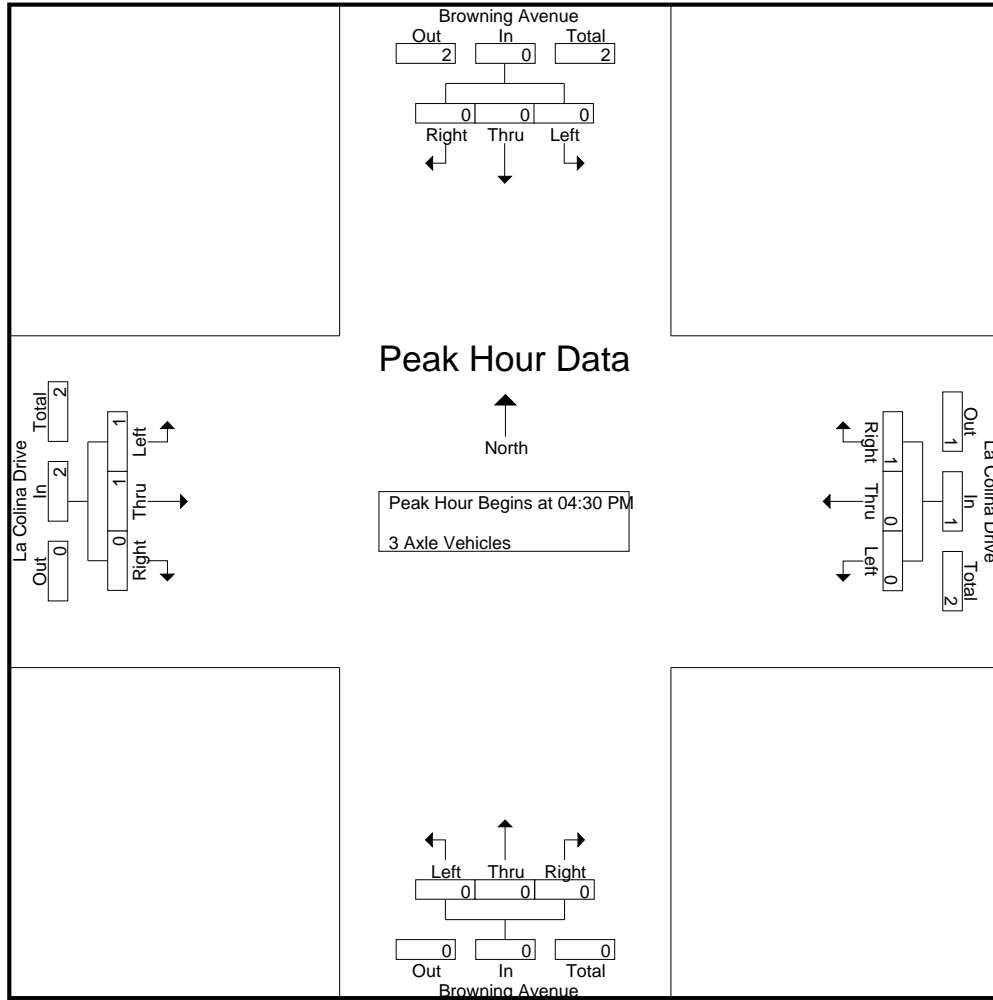
Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	2	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	2	3
% App. Total	0	0	0		0	0	100		0	0	0		50	50	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000	.250	.250	.000	.250	.250

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

County of Orange
 N/S: Browning Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 01_ORCBRLCPM
 Site Code : 21717852
 Start Date : 12/13/2017
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	2
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	2
% App. Total	0	0	0	0	0	0	100	100	0	0	0	0	50	50	0	0
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000	.250	.250	.000	.250

County of Orange
 N/S: Browning Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 01_ORCBRLCPM
 Site Code : 21717852
 Start Date : 12/13/2017
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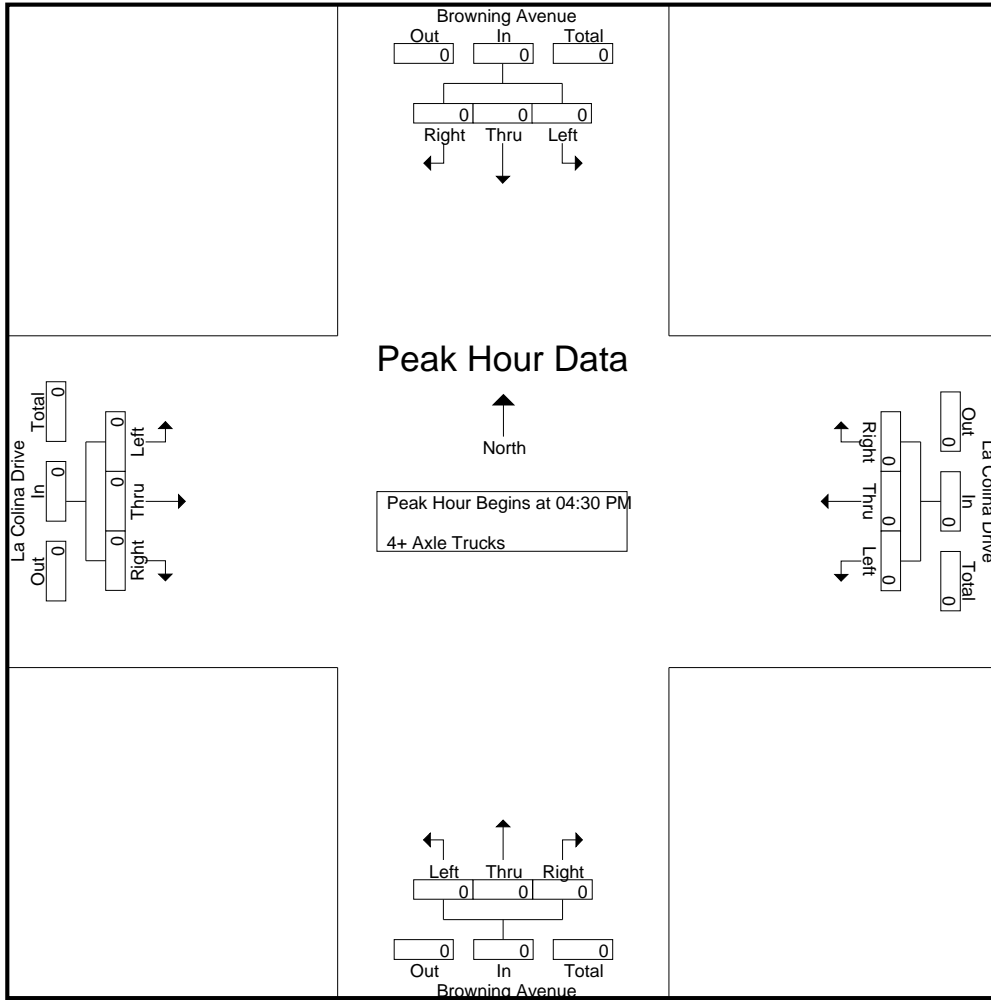
Groups Printed- 4+ Axle Trucks

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

Start Time	Browning Avenue Southbound				La Colina Drive Westbound				Browning Avenue Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of Orange
 N/S: Browning Avenue
 E/W: La Colina Drive
 Weather: Clear

File Name : 01_ORCBRLCPM
 Site Code : 21717852
 Start Date : 12/13/2017
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

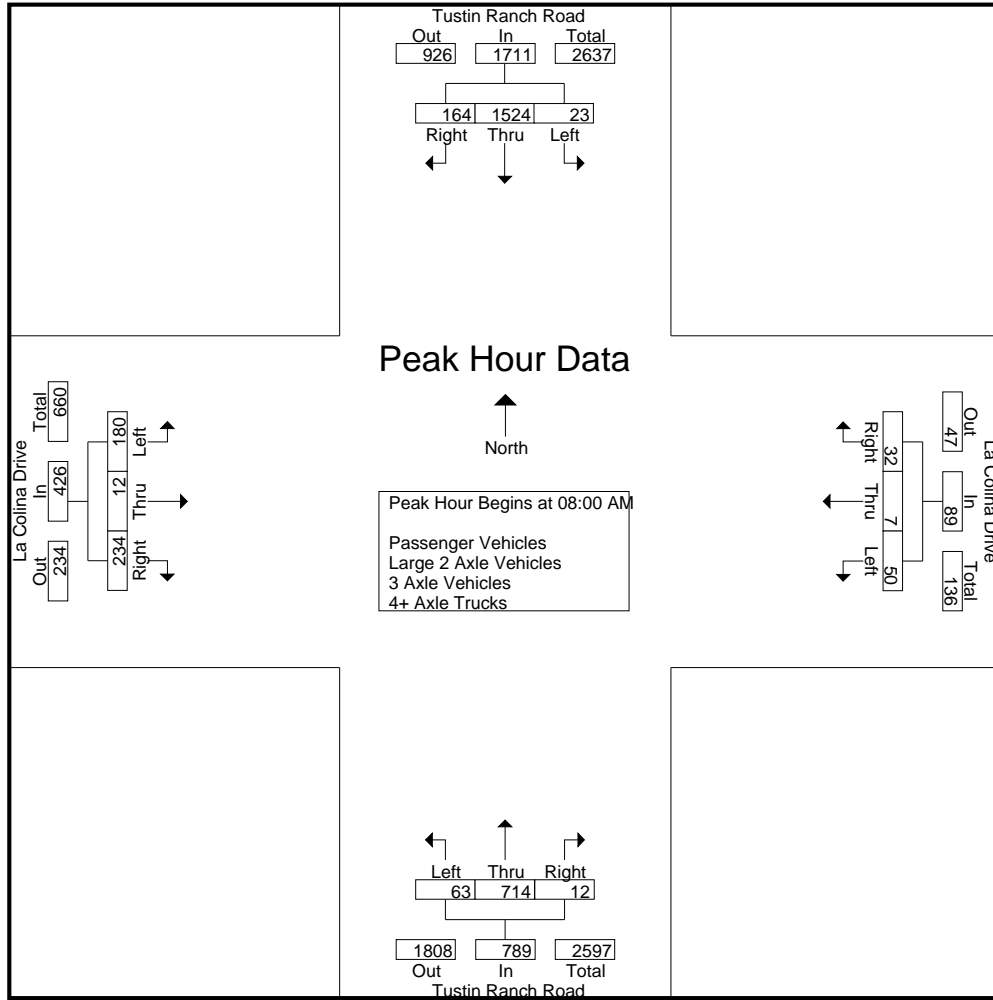
County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCAM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	1	173	9	183	5	0	3	8	6	69	4	79	28	0	30	58	328
07:15 AM	0	215	11	226	5	2	4	11	17	111	2	130	34	1	34	69	436
07:30 AM	1	232	31	264	9	0	6	15	20	116	2	138	37	0	37	74	491
07:45 AM	3	267	45	315	13	4	3	20	20	92	3	115	35	0	40	75	525
Total	5	887	96	988	32	6	16	54	63	388	11	462	134	1	141	276	1780
08:00 AM	6	323	61	390	14	4	9	27	24	175	3	202	61	5	84	150	769
08:15 AM	11	422	44	477	12	1	18	31	8	249	2	259	48	5	71	124	891
08:30 AM	5	438	32	475	11	0	3	14	15	158	4	177	32	2	47	81	747
08:45 AM	1	341	27	369	13	2	2	17	16	132	3	151	39	0	32	71	608
Total	23	1524	164	1711	50	7	32	89	63	714	12	789	180	12	234	426	3015
Grand Total	28	2411	260	2699	82	13	48	143	126	1102	23	1251	314	13	375	702	4795
Apprch %	1	89.3	9.6		57.3	9.1	33.6		10.1	88.1	1.8		44.7	1.9	53.4		
Total %	0.6	50.3	5.4	56.3	1.7	0.3	1	3	2.6	23	0.5	26.1	6.5	0.3	7.8	14.6	
Passenger Vehicles	26	2389	257	2672	81	12	48	141	120	1079	21	1220	310	13	374	697	4730
% Passenger Vehicles	92.9	99.1	98.8	99	98.8	92.3	100	98.6	95.2	97.9	91.3	97.5	98.7	100	99.7	99.3	98.6
Large 2 Axle Vehicles	2	14	3	19	1	0	0	1	5	20	1	26	4	0	1	5	51
% Large 2 Axle Vehicles	7.1	0.6	1.2	0.7	1.2	0	0	0.7	4	1.8	4.3	2.1	1.3	0	0.3	0.7	1.1
3 Axle Vehicles	0	4	0	4	0	1	0	1	1	2	1	4	0	0	0	0	9
% 3 Axle Vehicles	0	0.2	0	0.1	0	7.7	0	0.7	0.8	0.2	4.3	0.3	0	0	0	0	0.2
4+ Axle Trucks	0	4	0	4	0	0	0	0	0	1	0	1	0	0	0	0	5
% 4+ Axle Trucks	0	0.2	0	0.1	0	0	0	0	0	0.1	0	0.1	0	0	0	0	0.1

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	6	323	61	390	14	4	9	27	24	175	3	202	61	5	84	150	769
08:15 AM	11	422	44	477	12	1	18	31	8	249	2	259	48	5	71	124	891
08:30 AM	5	438	32	475	11	0	3	14	15	158	4	177	32	2	47	81	747
08:45 AM	1	341	27	369	13	2	2	17	16	132	3	151	39	0	32	71	608
Total Volume	23	1524	164	1711	50	7	32	89	63	714	12	789	180	12	234	426	3015
% App. Total	1.3	89.1	9.6		56.2	7.9	36		8	90.5	1.5		42.3	2.8	54.9		
PHF	.523	.870	.672	.897	.893	.438	.444	.718	.656	.717	.750	.762	.738	.600	.696	.710	.846



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				08:00 AM				07:45 AM			
+0 mins.	6	323	61	390	9	0	6	15	24	175	3	202	35	0	40	75
+15 mins.	11	422	44	477	13	4	3	20	8	249	2	259	61	5	84	150
+30 mins.	5	438	32	475	14	4	9	27	15	158	4	177	48	5	71	124
+45 mins.	1	341	27	369	12	1	18	31	16	132	3	151	32	2	47	81
Total Volume	23	1524	164	1711	48	9	36	93	63	714	12	789	176	12	242	430
% App. Total	1.3	89.1	9.6		51.6	9.7	38.7		8	90.5	1.5		40.9	2.8	56.3	
PHF	.523	.870	.672	.897	.857	.563	.500	.750	.656	.717	.750	.762	.721	.600	.720	.717

County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCAM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	1	172	9	182	5	0	3	8	6	66	3	75	28	0	30	58	323
07:15 AM	0	213	11	224	5	2	4	11	16	104	2	122	33	1	34	68	425
07:30 AM	1	230	31	262	9	0	6	15	20	116	2	138	36	0	37	73	488
07:45 AM	2	265	45	312	13	3	3	19	20	91	3	114	35	0	40	75	520
Total	4	880	96	980	32	5	16	53	62	377	10	449	132	1	141	274	1756
08:00 AM	6	321	61	388	13	4	9	26	24	171	3	198	60	5	84	149	761
08:15 AM	10	420	44	474	12	1	18	31	6	247	2	255	48	5	71	124	884
08:30 AM	5	433	31	469	11	0	3	14	12	158	4	174	32	2	46	80	737
08:45 AM	1	335	25	361	13	2	2	17	16	126	2	144	38	0	32	70	592
Total	22	1509	161	1692	49	7	32	88	58	702	11	771	178	12	233	423	2974
Grand Total	26	2389	257	2672	81	12	48	141	120	1079	21	1220	310	13	374	697	4730
Apprch %	1	89.4	9.6		57.4	8.5	34		9.8	88.4	1.7		44.5	1.9	53.7		
Total %	0.5	50.5	5.4	56.5	1.7	0.3	1	3	2.5	22.8	0.4	25.8	6.6	0.3	7.9	14.7	

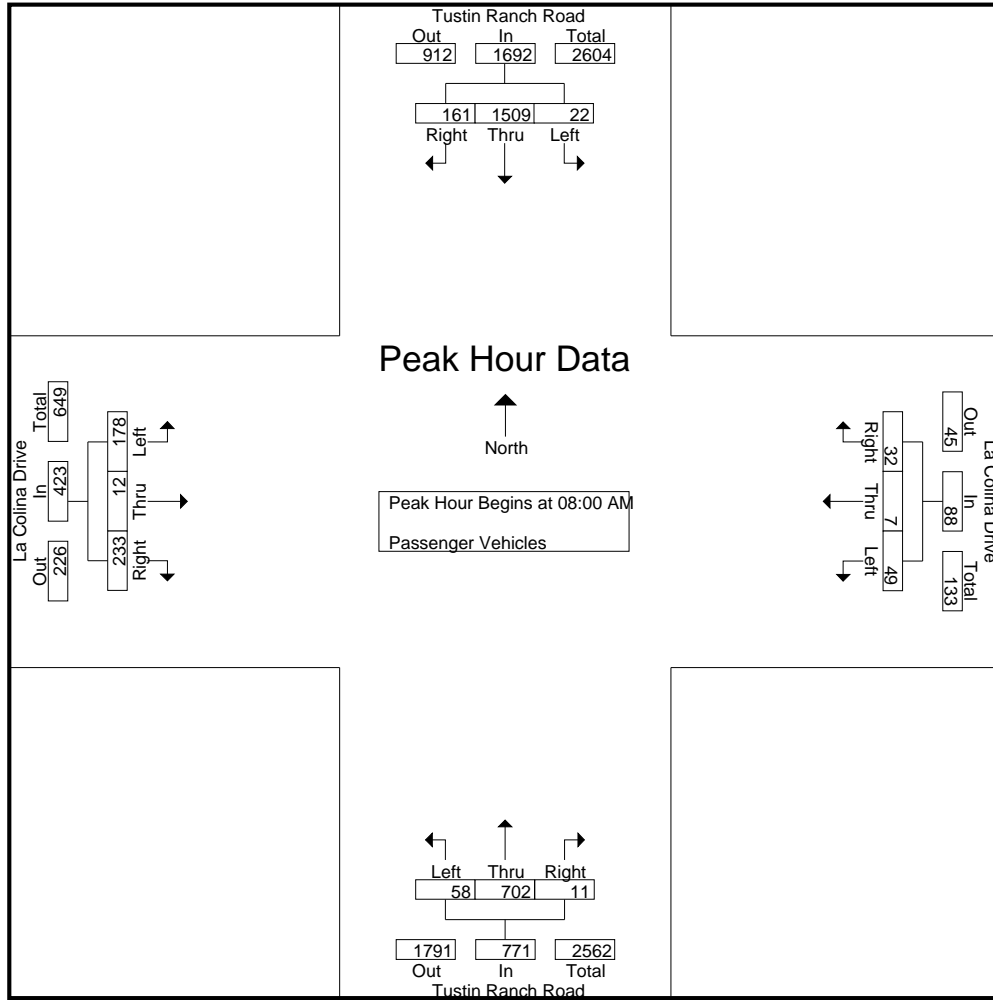
Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	6	321	61	388	13	4	9	26	24	171	3	198	60	5	84	149	761
08:15 AM	10	420	44	474	12	1	18	31	6	247	2	255	48	5	71	124	884
08:30 AM	5	433	31	469	11	0	3	14	12	158	4	174	32	2	46	80	737
08:45 AM	1	335	25	361	13	2	2	17	16	126	2	144	38	0	32	70	592
Total Volume	22	1509	161	1692	49	7	32	88	58	702	11	771	178	12	233	423	2974
% App. Total	1.3	89.2	9.5		55.7	8	36.4		7.5	91.1	1.4		42.1	2.8	55.1		
PHF	.550	.871	.660	.892	.942	.438	.444	.710	.604	.711	.688	.756	.742	.600	.693	.710	.841

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 08:00 AM

County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCAM
 Site Code : 21717852
 Start Date : 12/13/2017
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Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM							
+0 mins.	6	321	61	388	13	4	9	26	24	171	3	198	60	5	84	149
+15 mins.	10	420	44	474	12	1	18	31	6	247	2	255	48	5	71	124
+30 mins.	5	433	31	469	11	0	3	14	12	158	4	174	32	2	46	80
+45 mins.	1	335	25	361	13	2	2	17	16	126	2	144	38	0	32	70
Total Volume	22	1509	161	1692	49	7	32	88	58	702	11	771	178	12	233	423
% App. Total	1.3	89.2	9.5		55.7	8	36.4		7.5	91.1	1.4		42.1	2.8	55.1	
PHF	.550	.871	.660	.892	.942	.438	.444	.710	.604	.711	.688	.756	.742	.600	.693	.710

County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCAM
 Site Code : 21717852
 Start Date : 12/13/2017
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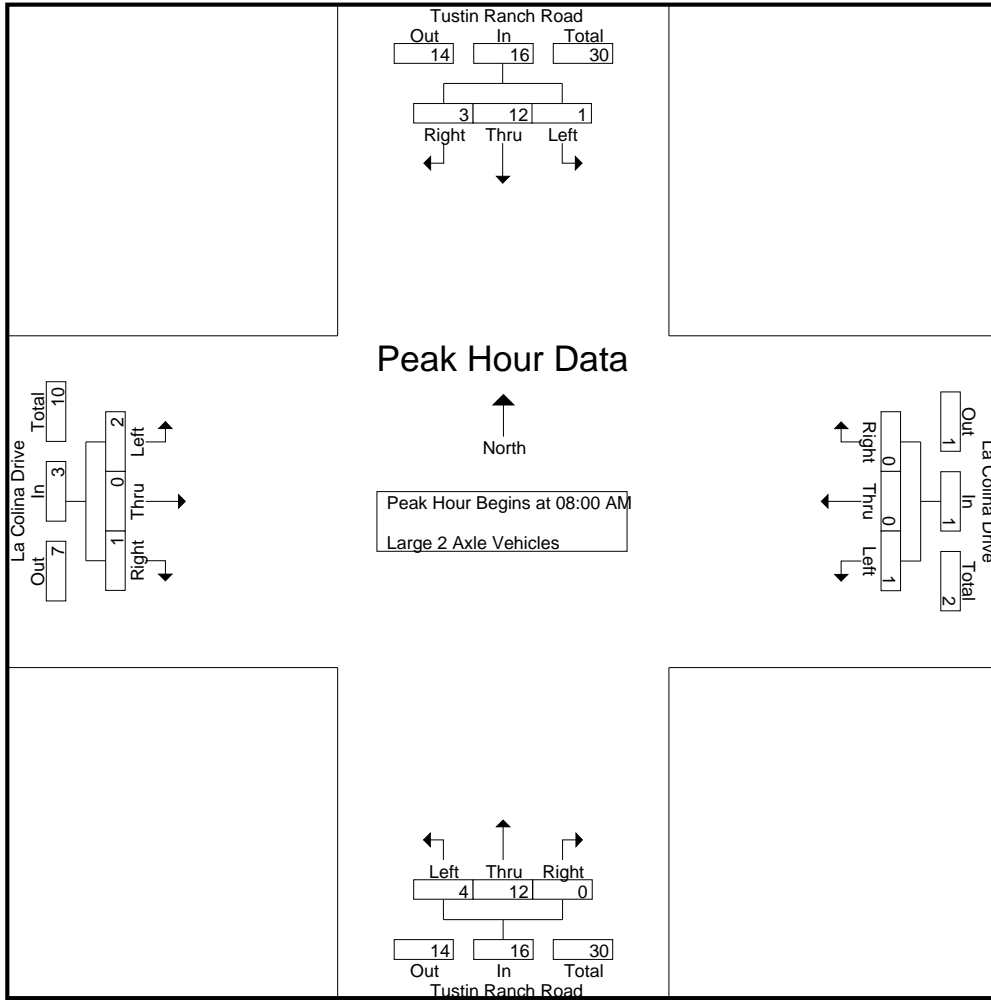
Groups Printed- Large 2 Axle Vehicles

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	1	0	1	0	0	0	0	0	2	1	3	0	0	0	0	4
07:15 AM	0	1	0	1	0	0	0	0	1	5	0	6	1	0	0	1	8
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
07:45 AM	1	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total	1	2	0	3	0	0	0	0	1	8	1	10	2	0	0	2	15
08:00 AM	0	0	0	0	1	0	0	1	0	4	0	4	1	0	0	1	6
08:15 AM	1	2	0	3	0	0	0	0	1	2	0	3	0	0	0	0	6
08:30 AM	0	4	1	5	0	0	0	0	3	0	0	3	0	0	1	1	9
08:45 AM	0	6	2	8	0	0	0	0	0	6	0	6	1	0	0	1	15
Total	1	12	3	16	1	0	0	1	4	12	0	16	2	0	1	3	36
Grand Total	2	14	3	19	1	0	0	1	5	20	1	26	4	0	1	5	51
Apprch %	10.5	73.7	15.8		100	0	0		19.2	76.9	3.8		80	0	20		
Total %	3.9	27.5	5.9	37.3	2	0	0	2	9.8	39.2	2	51	7.8	0	2	9.8	

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	0	0	0	0	1	0	0	1	0	4	0	4	1	0	0	1	6
08:15 AM	1	2	0	3	0	0	0	0	1	2	0	3	0	0	0	0	6
08:30 AM	0	4	1	5	0	0	0	0	3	0	0	3	0	0	1	1	9
08:45 AM	0	6	2	8	0	0	0	0	0	6	0	6	1	0	0	1	15
Total Volume	1	12	3	16	1	0	0	1	4	12	0	16	2	0	1	3	36
% App. Total	6.2	75	18.8		100	0	0		25	75	0		66.7	0	33.3		
PHF	.250	.500	.375	.500	.250	.000	.000	.250	.333	.500	.000	.667	.500	.000	.250	.750	.600

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 08:00 AM



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	1	0	0	1	0	4	0	4	1	0	0	1
+15 mins.	1	2	0	3	0	0	0	0	1	2	0	3	0	0	0	0
+30 mins.	0	4	1	5	0	0	0	0	3	0	0	3	0	0	1	1
+45 mins.	0	6	2	8	0	0	0	0	0	6	0	6	1	0	0	1
Total Volume	1	12	3	16	1	0	0	1	4	12	0	16	2	0	1	3
% App. Total	6.2	75	18.8		100	0	0		25	75	0		66.7	0	33.3	
PHF	.250	.500	.375	.500	.250	.000	.000	.250	.333	.500	.000	.667	.500	.000	.250	.750

County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCAM
 Site Code : 21717852
 Start Date : 12/13/2017
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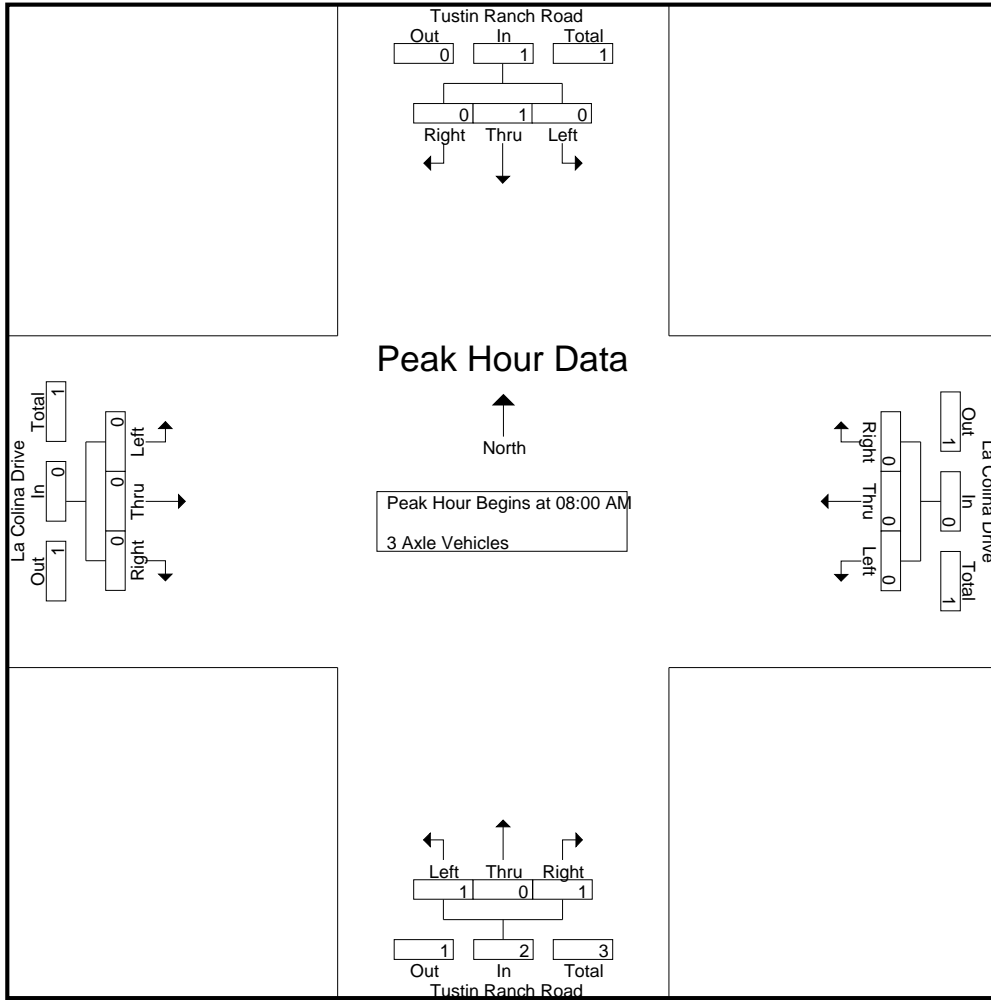
Groups Printed- 3 Axle Vehicles

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:15 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
Total	0	3	0	3	0	1	0	1	0	2	0	2	0	0	0	0	6
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
08:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total	0	1	0	1	0	0	0	0	1	0	1	2	0	0	0	0	3
Grand Total	0	4	0	4	0	1	0	1	1	2	1	4	0	0	0	0	9
Apprch %	0	100	0		0	100	0		25	50	25		0	0	0		
Total %	0	44.4	0	44.4	0	11.1	0	11.1	11.1	22.2	11.1	44.4	0	0	0	0	

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
08:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total Volume	0	1	0	1	0	0	0	0	1	0	1	2	0	0	0	0	3
% App. Total	0	100	0		0	0	0		50	0	50		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.250	.000	.250	.500	.000	.000	.000	.000	.750

County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCAM
 Site Code : 21717852
 Start Date : 12/13/2017
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Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	1	0	1	2	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	50	0	50	100	0	0	0	0
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.250	.000	.250	.500	.000	.000	.000	.000

County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCAM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:30 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
08:00 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Grand Total	0	4	0	4	0	0	0	0	0	1	0	1	0	0	0	0	5
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	80	0	80	0	0	0	0	0	20	0	20	0	0	0	0	

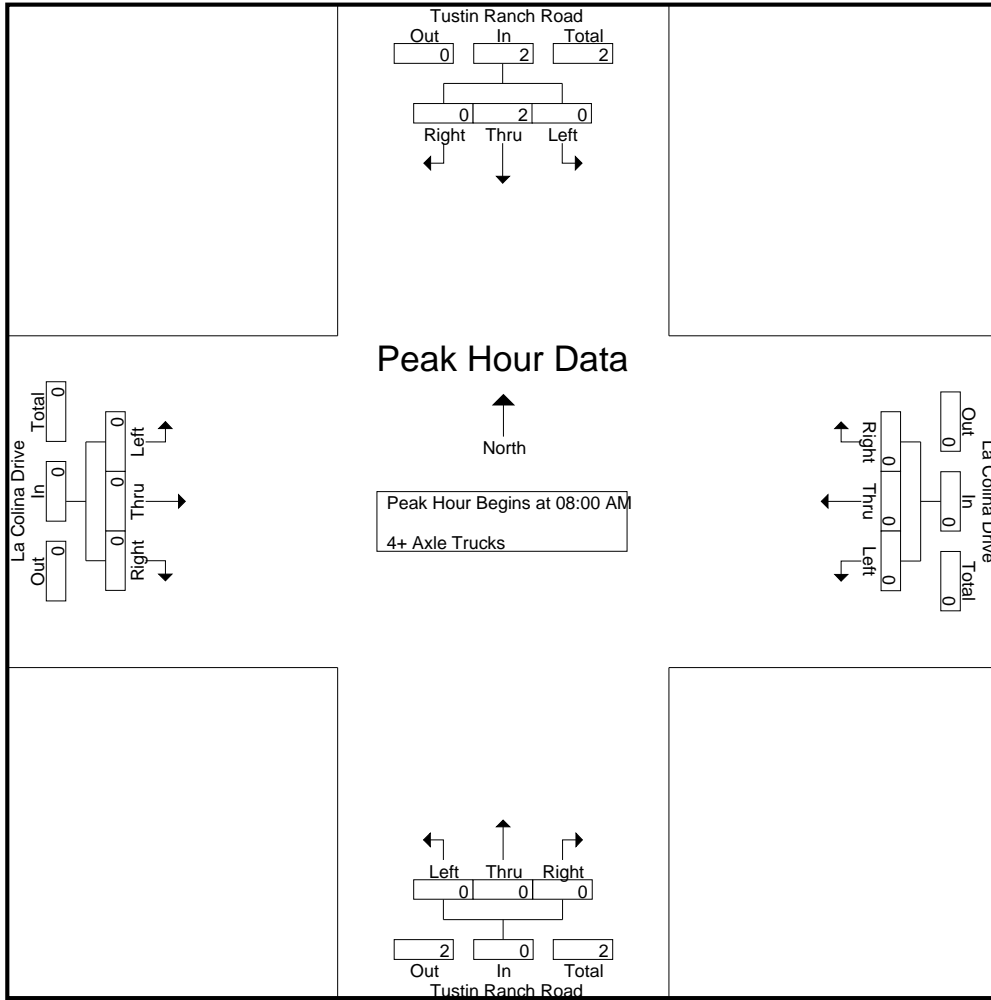
Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 08:00 AM

County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCAM
 Site Code : 21717852
 Start Date : 12/13/2017
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Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

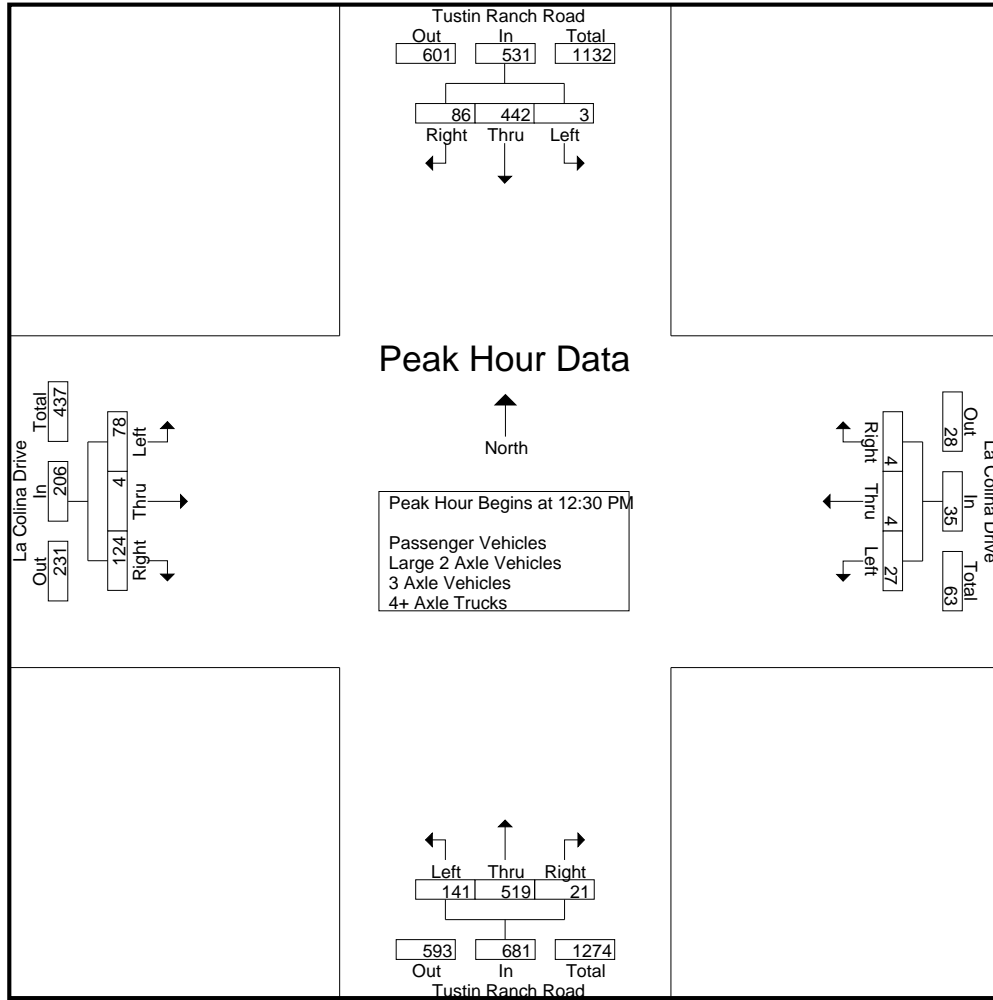
County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCMD
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	0	93	9	102	10	0	3	13	22	104	8	134	15	1	24	40	289
11:45 AM	1	128	15	144	5	2	3	10	24	99	5	128	11	3	23	37	319
Total	1	221	24	246	15	2	6	23	46	203	13	262	26	4	47	77	608
12:00 PM	2	125	13	140	7	0	0	7	27	88	7	122	12	1	26	39	308
12:15 PM	3	116	15	134	2	1	2	5	20	107	7	134	13	3	31	47	320
12:30 PM	0	104	15	119	8	3	1	12	27	99	7	133	8	0	21	29	293
12:45 PM	1	102	20	123	7	0	2	9	35	121	5	161	14	0	27	41	334
Total	6	447	63	516	24	4	5	33	109	415	26	550	47	4	105	156	1255
01:00 PM	1	129	23	153	5	1	1	7	43	132	5	180	15	0	28	43	383
01:15 PM	1	107	28	136	7	0	0	7	36	167	4	207	41	4	48	93	443
Grand Total	9	904	138	1051	51	7	12	70	234	917	48	1199	129	12	228	369	2689
Apprch %	0.9	86	13.1		72.9	10	17.1		19.5	76.5	4		35	3.3	61.8		
Total %	0.3	33.6	5.1	39.1	1.9	0.3	0.4	2.6	8.7	34.1	1.8	44.6	4.8	0.4	8.5	13.7	
Passenger Vehicles	9	886	128	1023	48	7	12	67	231	904	46	1181	125	12	221	358	2629
% Passenger Vehicles	100	98	92.8	97.3	94.1	100	100	95.7	98.7	98.6	95.8	98.5	96.9	100	96.9	97	97.8
Large 2 Axle Vehicles	0	14	5	19	1	0	0	1	3	12	0	15	1	0	7	8	43
% Large 2 Axle Vehicles	0	1.5	3.6	1.8	2	0	0	1.4	1.3	1.3	0	1.3	0.8	0	3.1	2.2	1.6
3 Axle Vehicles	0	1	4	5	2	0	0	2	0	1	2	3	2	0	0	2	12
% 3 Axle Vehicles	0	0.1	2.9	0.5	3.9	0	0	2.9	0	0.1	4.2	0.3	1.6	0	0	0.5	0.4
4+ Axle Trucks	0	3	1	4	0	0	0	0	0	0	0	0	1	0	0	1	5
% 4+ Axle Trucks	0	0.3	0.7	0.4	0	0	0	0	0	0	0	0	0.8	0	0	0.3	0.2

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:30 AM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	0	104	15	119	8	3	1	12	27	99	7	133	8	0	21	29	293
12:45 PM	1	102	20	123	7	0	2	9	35	121	5	161	14	0	27	41	334
01:00 PM	1	129	23	153	5	1	1	7	43	132	5	180	15	0	28	43	383
01:15 PM	1	107	28	136	7	0	0	7	36	167	4	207	41	4	48	93	443
Total Volume	3	442	86	531	27	4	4	35	141	519	21	681	78	4	124	206	1453
% App. Total	0.6	83.2	16.2		77.1	11.4	11.4		20.7	76.2	3.1		37.9	1.9	60.2		
PHF	.750	.857	.768	.868	.844	.333	.500	.729	.820	.777	.750	.822	.476	.250	.646	.554	.820



Peak Hour Analysis From 11:30 AM to 01:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	11:45 AM				11:30 AM				12:30 PM				12:30 PM			
+0 mins.	1	128	15	144	10	0	3	13	27	99	7	133	8	0	21	29
+15 mins.	2	125	13	140	5	2	3	10	35	121	5	161	14	0	27	41
+30 mins.	3	116	15	134	7	0	0	7	43	132	5	180	15	0	28	43
+45 mins.	0	104	15	119	2	1	2	5	36	167	4	207	41	4	48	93
Total Volume	6	473	58	537	24	3	8	35	141	519	21	681	78	4	124	206
% App. Total	1.1	88.1	10.8		68.6	8.6	22.9		20.7	76.2	3.1		37.9	1.9	60.2	
PHF	.500	.924	.967	.932	.600	.375	.667	.673	.820	.777	.750	.822	.476	.250	.646	.554

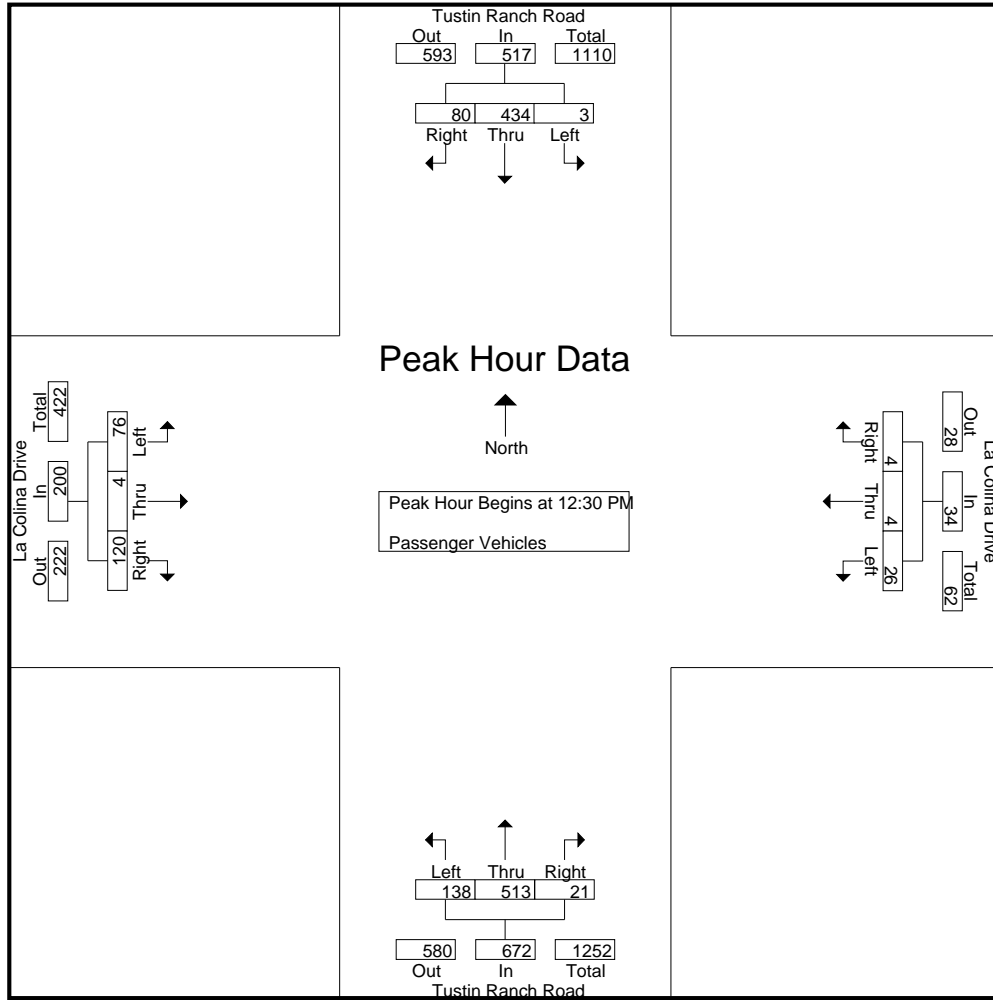
County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCMD
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	0	91	7	98	9	0	3	12	22	102	7	131	13	1	24	38	279
11:45 AM	1	122	14	137	4	2	3	9	24	98	5	127	11	3	23	37	310
Total	1	213	21	235	13	2	6	21	46	200	12	258	24	4	47	75	589
12:00 PM	2	124	13	139	7	0	0	7	27	87	7	121	12	1	25	38	305
12:15 PM	3	115	14	132	2	1	2	5	20	104	6	130	13	3	29	45	312
12:30 PM	0	101	14	115	8	3	1	12	25	96	7	128	8	0	20	28	283
12:45 PM	1	99	16	116	6	0	2	8	35	120	5	160	14	0	26	40	324
Total	6	439	57	502	23	4	5	32	107	407	25	539	47	4	100	151	1224
01:00 PM	1	127	23	151	5	1	1	7	42	130	5	177	14	0	28	42	377
01:15 PM	1	107	27	135	7	0	0	7	36	167	4	207	40	4	46	90	439
Grand Total	9	886	128	1023	48	7	12	67	231	904	46	1181	125	12	221	358	2629
Apprch %	0.9	86.6	12.5		71.6	10.4	17.9		19.6	76.5	3.9		34.9	3.4	61.7		
Total %	0.3	33.7	4.9	38.9	1.8	0.3	0.5	2.5	8.8	34.4	1.7	44.9	4.8	0.5	8.4	13.6	

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	0	101	14	115	8	3	1	12	25	96	7	128	8	0	20	28	283
12:45 PM	1	99	16	116	6	0	2	8	35	120	5	160	14	0	26	40	324
01:00 PM	1	127	23	151	5	1	1	7	42	130	5	177	14	0	28	42	377
01:15 PM	1	107	27	135	7	0	0	7	36	167	4	207	40	4	46	90	439
Total Volume	3	434	80	517	26	4	4	34	138	513	21	672	76	4	120	200	1423
% App. Total	0.6	83.9	15.5		76.5	11.8	11.8		20.5	76.3	3.1		38	2	60		
PHF	.750	.854	.741	.856	.813	.333	.500	.708	.821	.768	.750	.812	.475	.250	.652	.556	.810



Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM							
+0 mins.	0	101	14	115	8	3	1	12	25	96	7	128	8	0	20	28
+15 mins.	1	99	16	116	6	0	2	8	35	120	5	160	14	0	26	40
+30 mins.	1	127	23	151	5	1	1	7	42	130	5	177	14	0	28	42
+45 mins.	1	107	27	135	7	0	0	7	36	167	4	207	40	4	46	90
Total Volume	3	434	80	517	26	4	4	34	138	513	21	672	76	4	120	200
% App. Total	0.6	83.9	15.5		76.5	11.8	11.8		20.5	76.3	3.1		38	2	60	
PHF	.750	.854	.741	.856	.813	.333	.500	.708	.821	.768	.750	.812	.475	.250	.652	.556

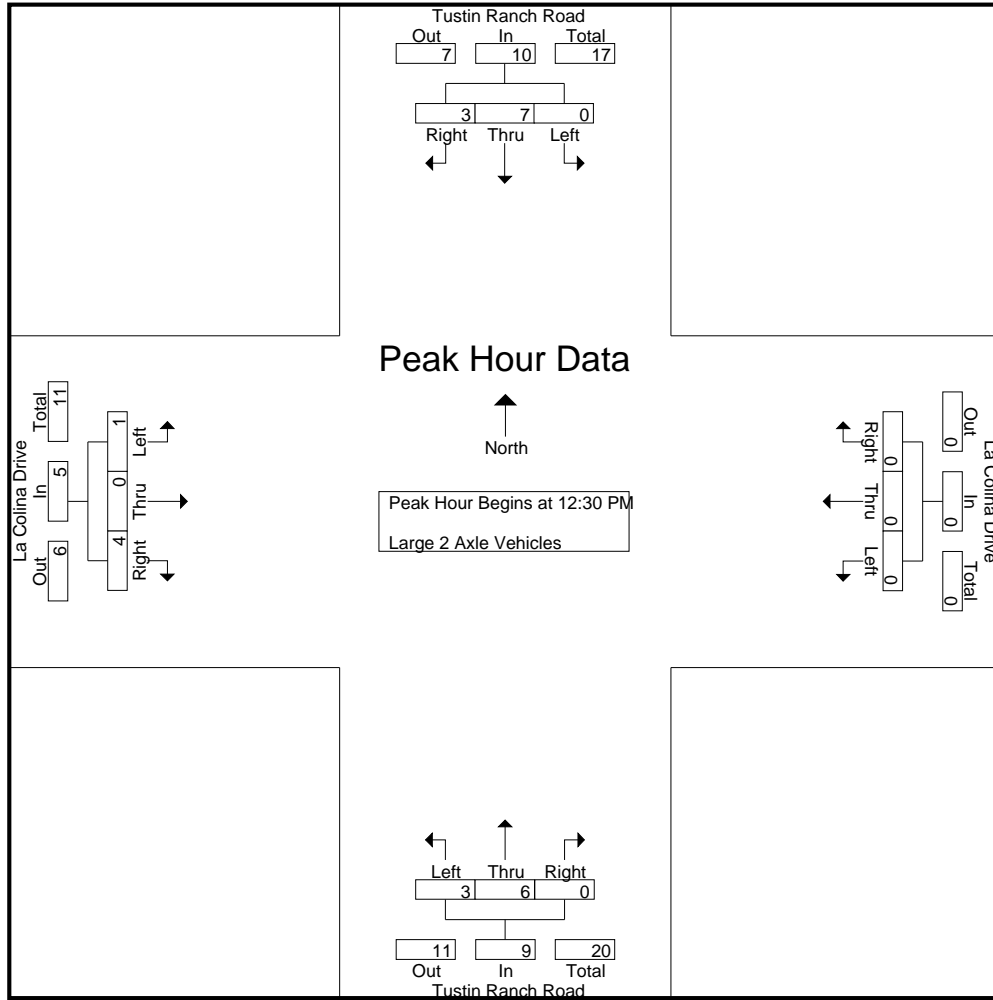
County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCMD
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	0	2	1	3	1	0	0	1	0	1	0	1	0	0	0	0	5
11:45 AM	0	3	1	4	0	0	0	0	0	1	0	1	0	0	0	0	5
Total	0	5	2	7	1	0	0	1	0	2	0	2	0	0	0	0	10
12:00 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	1	1	3
12:15 PM	0	1	0	1	0	0	0	0	0	3	0	3	0	0	2	2	6
12:30 PM	0	2	0	2	0	0	0	0	2	3	0	5	0	0	1	1	8
12:45 PM	0	3	3	6	0	0	0	0	0	1	0	1	0	0	1	1	8
Total	0	7	3	10	0	0	0	0	2	8	0	10	0	0	5	5	25
01:00 PM	0	2	0	2	0	0	0	0	1	2	0	3	0	0	0	0	5
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3	3
Grand Total	0	14	5	19	1	0	0	1	3	12	0	15	1	0	7	8	43
Apprch %	0	73.7	26.3		100	0	0		20	80	0		12.5	0	87.5		
Total %	0	32.6	11.6	44.2	2.3	0	0	2.3	7	27.9	0	34.9	2.3	0	16.3	18.6	

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	0	2	0	2	0	0	0	0	2	3	0	5	0	0	1	1	8
12:45 PM	0	3	3	6	0	0	0	0	0	1	0	1	0	0	1	1	8
01:00 PM	0	2	0	2	0	0	0	0	1	2	0	3	0	0	0	0	5
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3	3
Total Volume	0	7	3	10	0	0	0	0	3	6	0	9	1	0	4	5	24
% App. Total	0	70	30		0	0	0		33.3	66.7	0		20	0	80		
PHF	.000	.583	.250	.417	.000	.000	.000	.000	.375	.500	.000	.450	.250	.000	.500	.417	.750



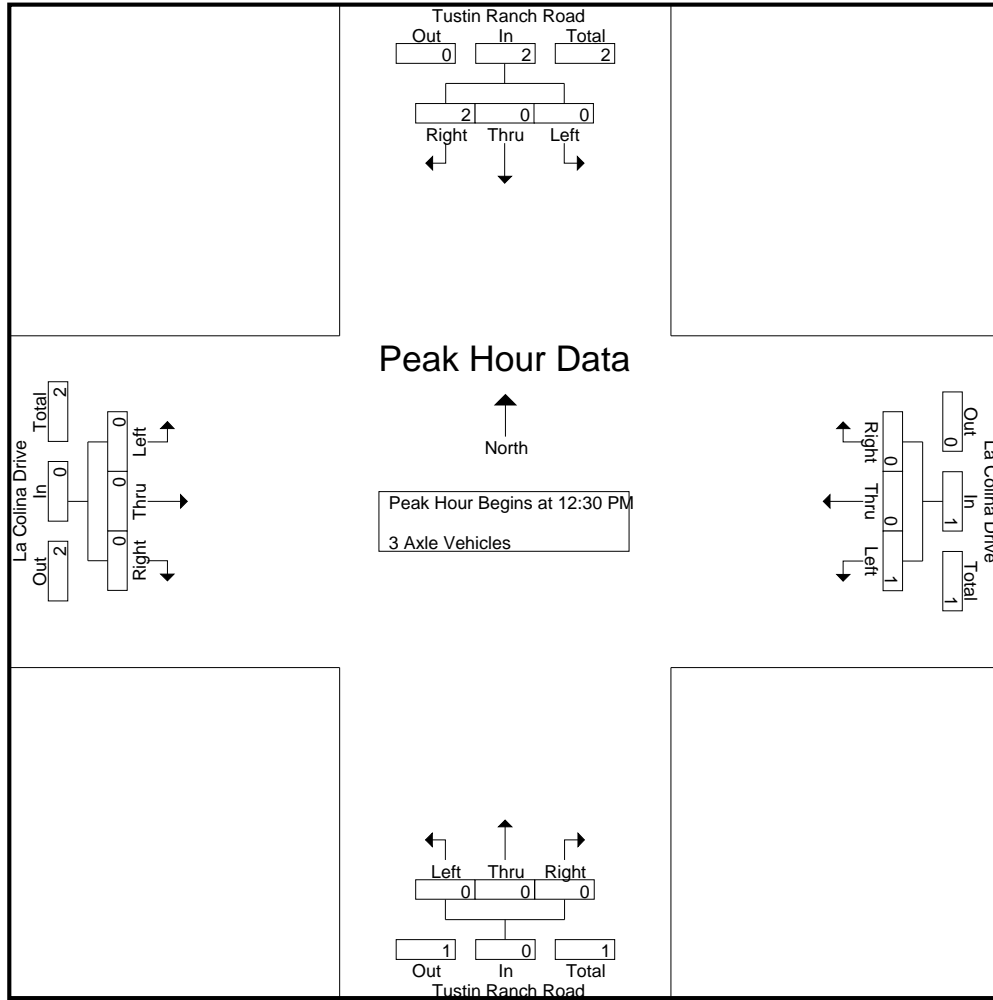
Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM							
+0 mins.	0	2	0	2	0	0	0	0	2	3	0	5	0	0	1	1
+15 mins.	0	3	3	6	0	0	0	0	0	1	0	1	0	0	1	1
+30 mins.	0	2	0	2	0	0	0	0	1	2	0	3	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3
Total Volume	0	7	3	10	0	0	0	0	3	6	0	9	1	0	4	5
% App. Total	0	70	30		0	0	0		33.3	66.7	0		20	0	80	
PHF	.000	.583	.250	.417	.000	.000	.000	.000	.375	.500	.000	.450	.250	.000	.500	.417

County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCMD
 Site Code : 21717852
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Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM				12:30 PM			
+0 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	2	2	1	0	0	1	0	0	0	0	0	0	0	0
% App. Total	0	0	100		100	0	0		0	0	0		0	0	0	
PHF	.000	.000	.500	.500	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

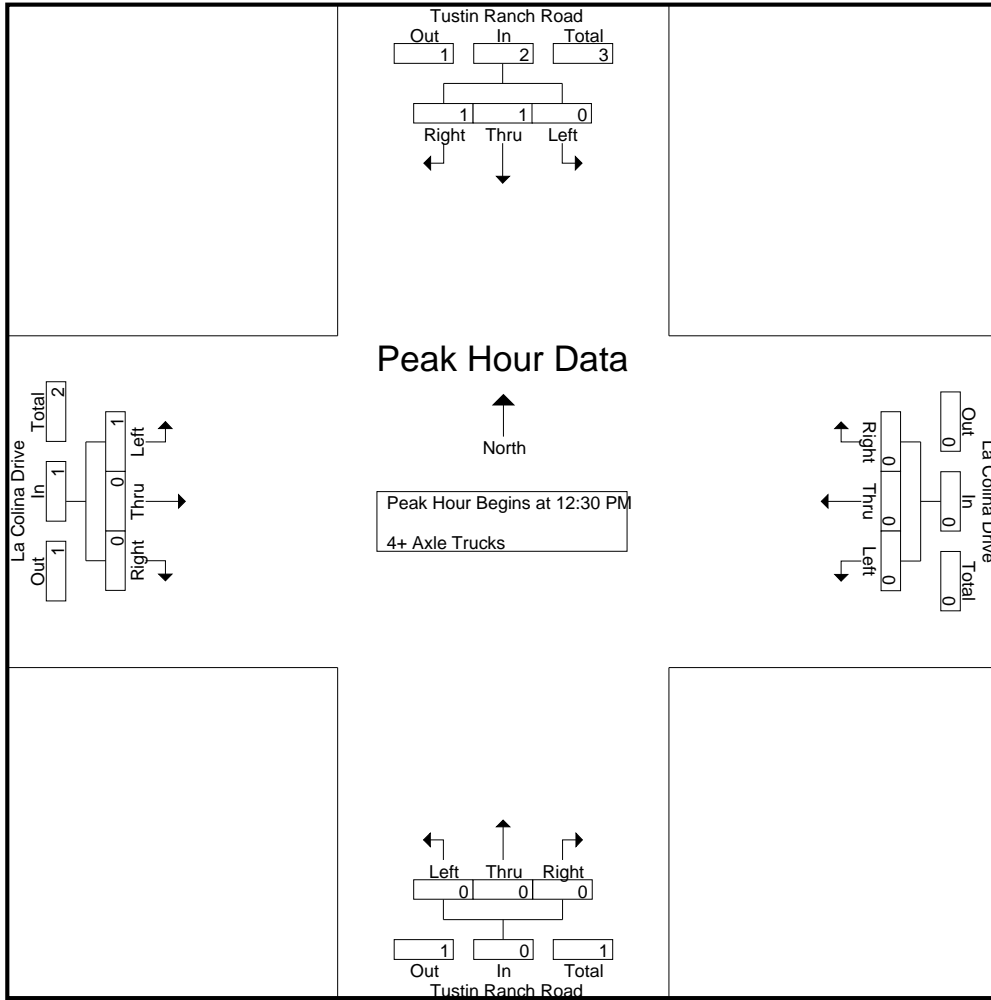
County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCMD
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	3	1	4	0	0	0	0	0	0	0	0	1	0	0	1	5
Apprch %	0	75	25		0	0	0		0	0	0		100	0	0		
Total %	0	60	20	80	0	0	0	0	0	0	0	0	20	0	0	20	

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	2	0	0	0	0	0	0	0	0	1	0	0	1	3
% App. Total	0	50	50		0	0	0		0	0	0		100	0	0		
PHF	.000	.250	.250	.500	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.750



Peak Hour Analysis From 12:30 PM to 01:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	12:30 PM				12:30 PM				12:30 PM							
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	2	0	0	0	0	0	0	0	0	1	0	0	1
% App. Total	0	50	50		0	0	0		0	0	0		100	0	0	
PHF	.000	.250	.250	.500	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250

County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCPM
 Site Code : 21717852
 Start Date : 12/13/2017
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	8	200	49	257	11	4	2	17	56	160	6	222	24	2	28	54	550
04:15 PM	3	205	47	255	5	1	0	6	70	145	7	222	28	0	27	55	538
04:30 PM	3	210	70	283	8	2	0	10	66	155	8	229	19	0	28	47	569
04:45 PM	1	163	55	219	6	0	4	10	57	178	3	238	30	0	26	56	523
Total	15	778	221	1014	30	7	6	43	249	638	24	911	101	2	109	212	2180
05:00 PM	1	161	68	230	6	2	3	11	59	205	11	275	17	0	26	43	559
05:15 PM	7	194	74	275	6	0	1	7	62	216	6	284	26	1	24	51	617
05:30 PM	6	169	66	241	9	1	0	10	79	197	9	285	32	2	31	65	601
05:45 PM	4	137	69	210	6	1	2	9	72	201	9	282	29	0	20	49	550
Total	18	661	277	956	27	4	6	37	272	819	35	1126	104	3	101	208	2327
Grand Total	33	1439	498	1970	57	11	12	80	521	1457	59	2037	205	5	210	420	4507
Apprch %	1.7	73	25.3		71.2	13.8	15		25.6	71.5	2.9		48.8	1.2	50		
Total %	0.7	31.9	11	43.7	1.3	0.2	0.3	1.8	11.6	32.3	1.3	45.2	4.5	0.1	4.7	9.3	
Passenger Vehicles	30	1413	493	1936	56	10	12	78	519	1446	59	2024	201	5	209	415	4453
% Passenger Vehicles	90.9	98.2	99	98.3	98.2	90.9	100	97.5	99.6	99.2	100	99.4	98	100	99.5	98.8	98.8
Large 2 Axle Vehicles	2	10	5	17	1	0	0	1	2	8	0	10	4	0	0	4	32
% Large 2 Axle Vehicles	6.1	0.7	1	0.9	1.8	0	0	1.2	0.4	0.5	0	0.5	2	0	0	1	0.7
3 Axle Vehicles	1	16	0	17	0	1	0	1	0	1	0	1	0	0	1	1	20
% 3 Axle Vehicles	3	1.1	0	0.9	0	9.1	0	1.2	0	0.1	0	0	0	0	0.5	0.2	0.4
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0.1	0	0.1	0	0	0	0	0

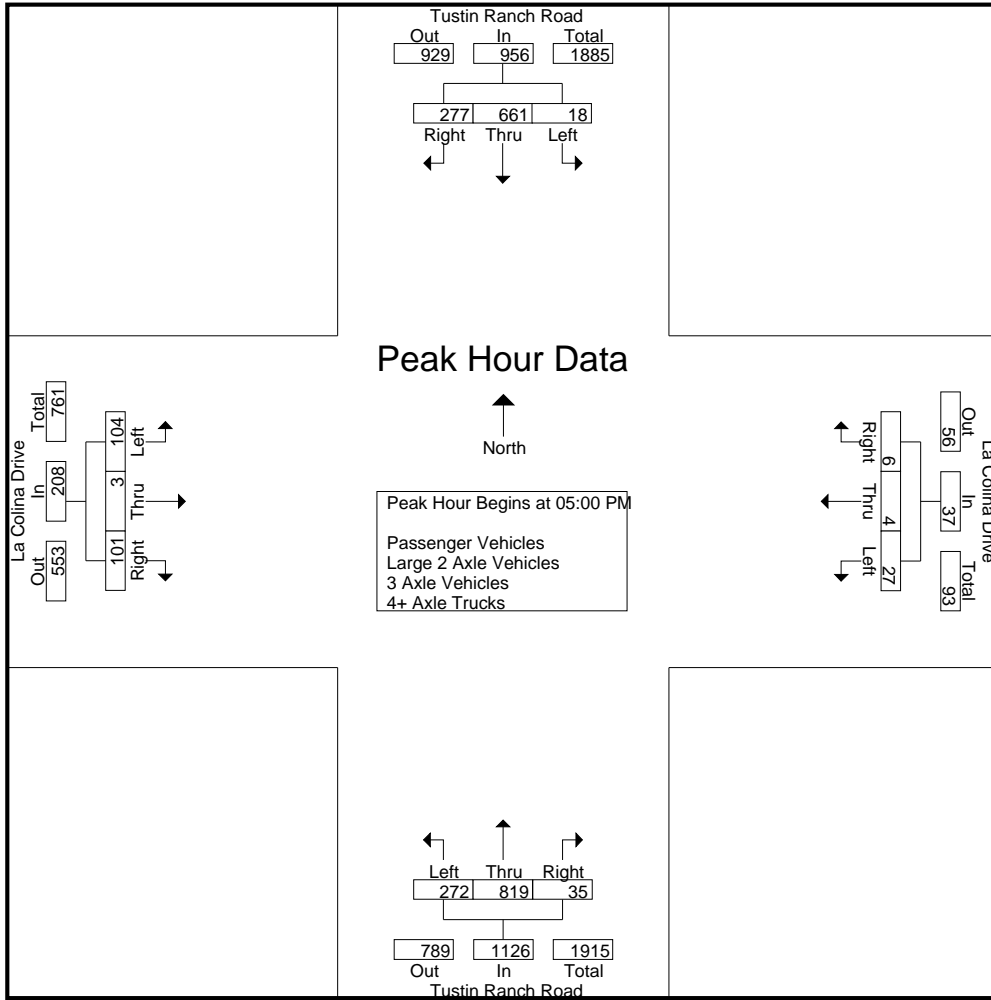
Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
05:00 PM	1	161	68	230	6	2	3	11	59	205	11	275	17	0	26	43	559
05:15 PM	7	194	74	275	6	0	1	7	62	216	6	284	26	1	24	51	617
05:30 PM	6	169	66	241	9	1	0	10	79	197	9	285	32	2	31	65	601
05:45 PM	4	137	69	210	6	1	2	9	72	201	9	282	29	0	20	49	550
Total Volume	18	661	277	956	27	4	6	37	272	819	35	1126	104	3	101	208	2327
% App. Total	1.9	69.1	29		7.3	10.8	16.2		24.2	72.7	3.1		50	1.4	48.6		
PHF	.643	.852	.936	.869	.750	.500	.500	.841	.861	.948	.795	.988	.813	.375	.815	.800	.943

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 PM

County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCPM
 Site Code : 21717852
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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				05:00 PM				04:45 PM			
+0 mins.	8	200	49	257	11	4	2	17	59	205	11	275	30	0	26	56
+15 mins.	3	205	47	255	5	1	0	6	62	216	6	284	17	0	26	43
+30 mins.	3	210	70	283	8	2	0	10	79	197	9	285	26	1	24	51
+45 mins.	1	163	55	219	6	0	4	10	72	201	9	282	32	2	31	65
Total Volume	15	778	221	1014	30	7	6	43	272	819	35	1126	105	3	107	215
% App. Total	1.5	76.7	21.8		69.8	16.3	14		24.2	72.7	3.1		48.8	1.4	49.8	
PHF	.469	.926	.789	.896	.682	.438	.375	.632	.861	.948	.795	.988	.820	.375	.863	.827

County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCPM
 Site Code : 21717852
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 Page No : 1

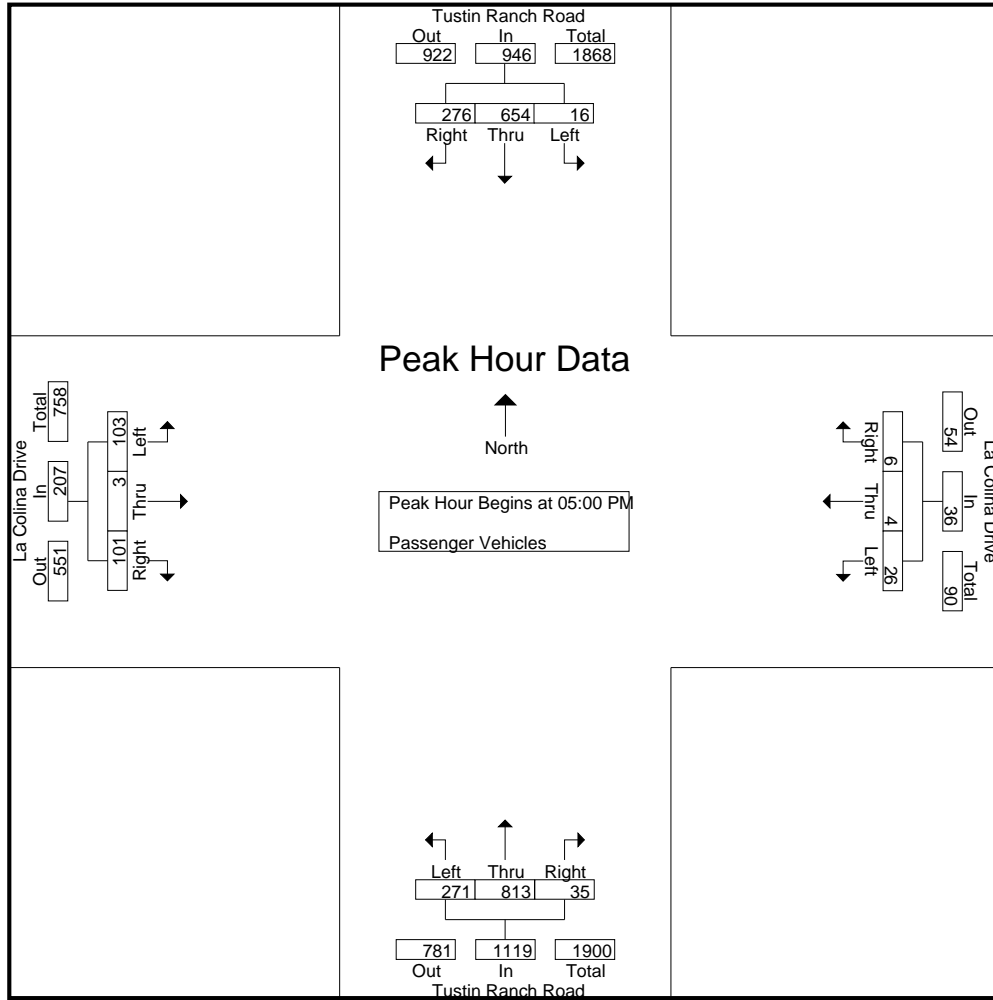
Groups Printed- Passenger Vehicles

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	7	196	48	251	11	3	2	16	56	157	6	219	23	2	28	53	539
04:15 PM	3	196	47	246	5	1	0	6	69	145	7	221	28	0	27	55	528
04:30 PM	3	207	69	279	8	2	0	10	66	154	8	228	19	0	28	47	564
04:45 PM	1	160	53	214	6	0	4	10	57	177	3	237	28	0	25	53	514
Total	14	759	217	990	30	6	6	42	248	633	24	905	98	2	108	208	2145
05:00 PM	1	161	68	230	6	2	3	11	59	205	11	275	17	0	26	43	559
05:15 PM	6	192	74	272	5	0	1	6	61	212	6	279	25	1	24	50	607
05:30 PM	5	167	66	238	9	1	0	10	79	196	9	284	32	2	31	65	597
05:45 PM	4	134	68	206	6	1	2	9	72	200	9	281	29	0	20	49	545
Total	16	654	276	946	26	4	6	36	271	813	35	1119	103	3	101	207	2308
Grand Total	30	1413	493	1936	56	10	12	78	519	1446	59	2024	201	5	209	415	4453
Apprch %	1.5	73	25.5		71.8	12.8	15.4		25.6	71.4	2.9		48.4	1.2	50.4		
Total %	0.7	31.7	11.1	43.5	1.3	0.2	0.3	1.8	11.7	32.5	1.3	45.5	4.5	0.1	4.7	9.3	

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	1	161	68	230	6	2	3	11	59	205	11	275	17	0	26	43	559
05:15 PM	6	192	74	272	5	0	1	6	61	212	6	279	25	1	24	50	607
05:30 PM	5	167	66	238	9	1	0	10	79	196	9	284	32	2	31	65	597
05:45 PM	4	134	68	206	6	1	2	9	72	200	9	281	29	0	20	49	545
Total Volume	16	654	276	946	26	4	6	36	271	813	35	1119	103	3	101	207	2308
% App. Total	1.7	69.1	29.2		72.2	11.1	16.7		24.2	72.7	3.1		49.8	1.4	48.8		
PHF	.667	.852	.932	.869	.722	.500	.500	.818	.858	.959	.795	.985	.805	.375	.815	.796	.951

County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCPM
 Site Code : 21717852
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Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM							
+0 mins.	1	161	68	230	6	2	3	11	59	205	11	275	17	0	26	43
+15 mins.	6	192	74	272	5	0	1	6	61	212	6	279	25	1	24	50
+30 mins.	5	167	66	238	9	1	0	10	79	196	9	284	32	2	31	65
+45 mins.	4	134	68	206	6	1	2	9	72	200	9	281	29	0	20	49
Total Volume	16	654	276	946	26	4	6	36	271	813	35	1119	103	3	101	207
% App. Total	1.7	69.1	29.2		72.2	11.1	16.7		24.2	72.7	3.1		49.8	1.4	48.8	
PHF	.667	.852	.932	.869	.722	.500	.500	.818	.858	.959	.795	.985	.805	.375	.815	.796

County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCPM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

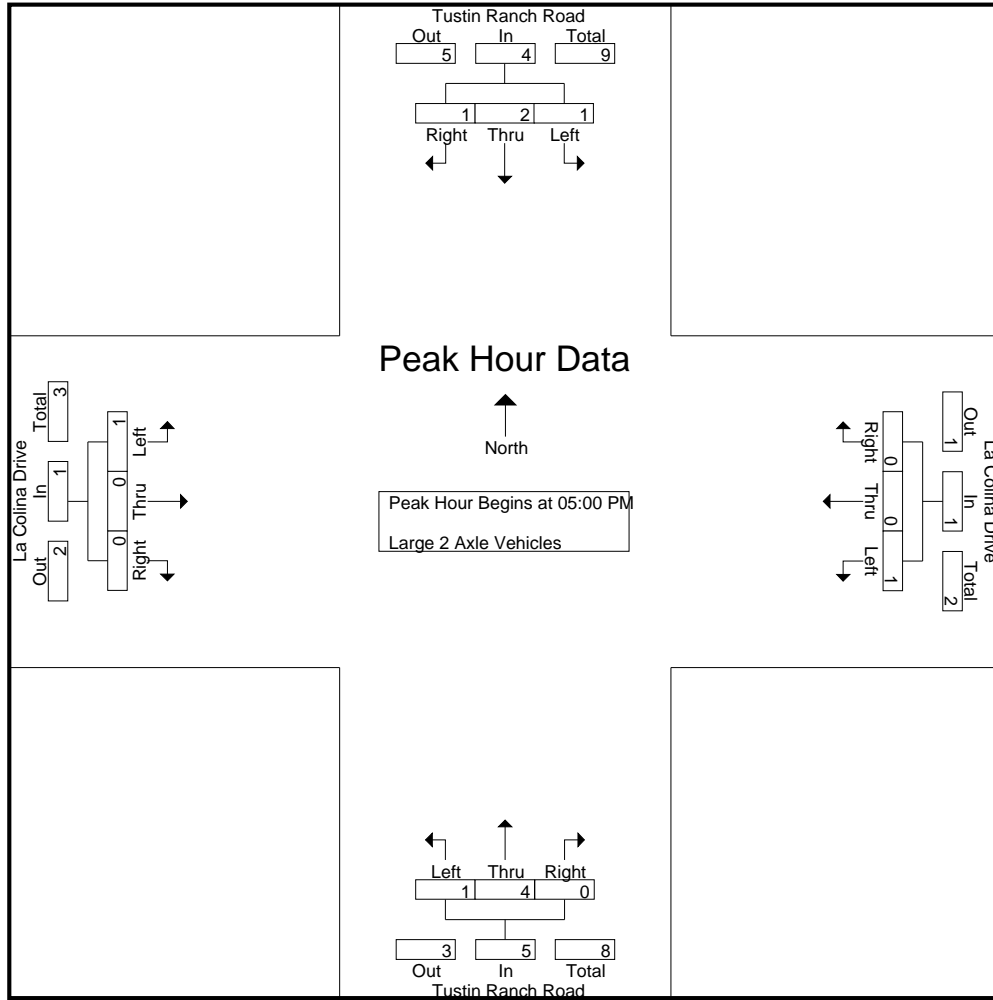
Groups Printed- Large 2 Axle Vehicles

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	1	3	1	5	0	0	0	0	0	2	0	2	1	0	0	1	8
04:15 PM	0	2	0	2	0	0	0	0	1	0	0	1	0	0	0	0	3
04:30 PM	0	2	1	3	0	0	0	0	0	1	0	1	0	0	0	0	4
04:45 PM	0	1	2	3	0	0	0	0	0	1	0	1	2	0	0	2	6
Total	1	8	4	13	0	0	0	0	1	4	0	5	3	0	0	3	21
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	1	1	0	2	1	0	0	1	1	2	0	3	1	0	0	1	7
05:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:45 PM	0	1	1	2	0	0	0	0	0	1	0	1	0	0	0	0	3
Total	1	2	1	4	1	0	0	1	1	4	0	5	1	0	0	1	11
Grand Total	2	10	5	17	1	0	0	1	2	8	0	10	4	0	0	4	32
Apprch %	11.8	58.8	29.4		100	0	0		20	80	0		100	0	0		
Total %	6.2	31.2	15.6	53.1	3.1	0	0	3.1	6.2	25	0	31.2	12.5	0	0	12.5	

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	1	1	0	2	1	0	0	1	1	2	0	3	1	0	0	1	7
05:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:45 PM	0	1	1	2	0	0	0	0	0	1	0	1	0	0	0	0	3
Total Volume	1	2	1	4	1	0	0	1	1	4	0	5	1	0	0	1	11
% App. Total	25	50	25		100	0	0		20	80	0		100	0	0		
PHF	.250	.500	.250	.500	.250	.000	.000	.250	.250	.500	.000	.417	.250	.000	.000	.250	.393

County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRCPM
 Site Code : 21717852
 Start Date : 12/13/2017
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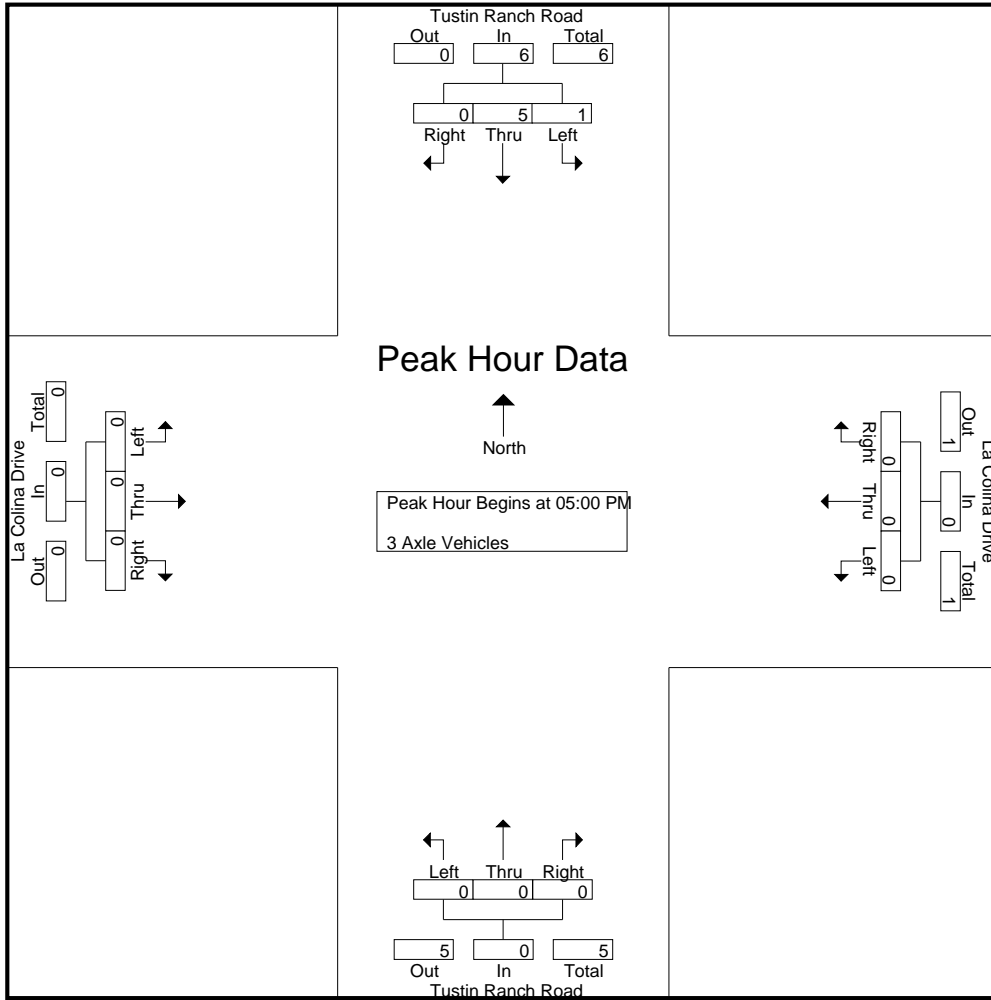


Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM							
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	1	1	0	2	1	0	0	1	1	2	0	3	1	0	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	1	1	2	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	1	2	1	4	1	0	0	1	1	4	0	5	1	0	0	1
% App. Total	25	50	25		100	0	0		20	80	0		100	0	0	
PHF	.250	.500	.250	.500	.250	.000	.000	.250	.250	.500	.000	.417	.250	.000	.000	.250

County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCPM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	5	0	6	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	16.7	83.3	0		0	0	0		0	0	0		0	0	0	
PHF	.250	.625	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCPM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 1

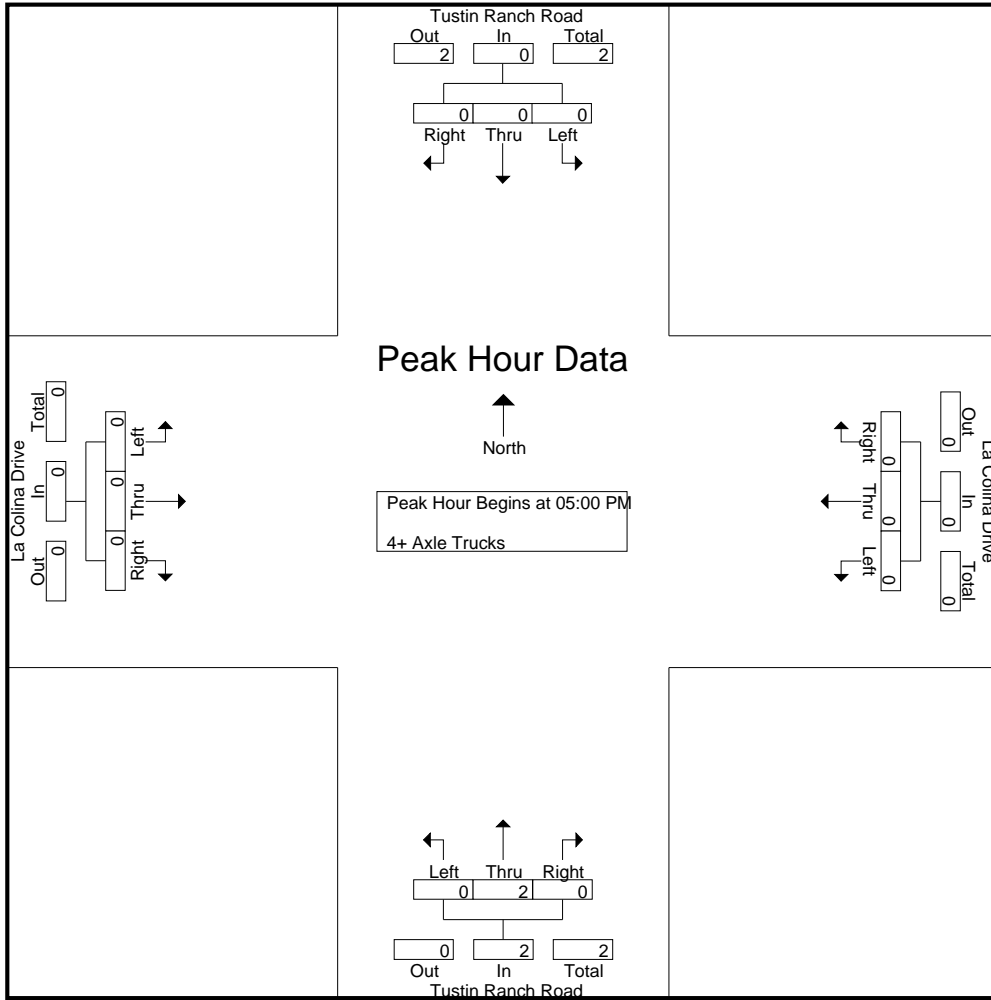
Groups Printed- 4+ Axle Trucks

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
Grand Total	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
Apprch %	0	0	0		0	0	0		0	100	0		0	0	0		
Total %	0	0	0		0	0	0		0	100	0	100	0	0	0		

Start Time	Tustin Ranch Road Southbound				La Colina Drive Westbound				Tustin Ranch Road Northbound				La Colina Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250

County of Orange
 N/S: Tustin Ranch Road
 E/W: La Colina Drive
 Weather: Clear

File Name : 05_TUSTRLCPM
 Site Code : 21717852
 Start Date : 12/13/2017
 Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

ICU Calculation Sheets

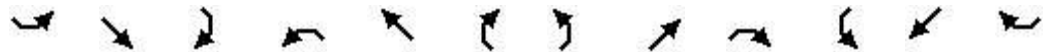
E-W Street: La Colina
 N-S Street: Newport Avenue
 Scenario:
 Lane Capacity: 1700

Movement	AM Existing				Midday Existing				PM Existing				AM Exst+Construction				Midday Exst+Construction				PM Exst+Construction			
	Volume	No. of Lanes	Equivalent Lanes	Movement V/C	Total Volume	No. of Lanes	Equivalent Lanes	Movement V/C	Total Volume	No. of Lanes	Equivalent Lanes	Movement V/C	Total Volume	No. of Lanes	Equivalent Lanes	Movement V/C	Total Volume	No. of Lanes	Equivalent Lanes	Movement V/C	Total Volume	No. of Lanes	Equivalent Lanes	Movement V/C
EB Left	8	0	0.19	0.03	2	0	0.40	0.00	12	0	0.29	0.02	8	0	0.19	0.03	2	0	0.40	0.00	12	0	0.29	0.02
Comb. L-T		0				0				0				0				0				0		
EB Thru	9	0	0.21	0.03	0	0	0.00	0.00	9	0	0.22	0.02	9	0	0.21	0.03	0	0	0.00	0.00	9	0	0.22	0.02
Comb. T-R		0				0				0				0				0				0		
EB Right	26	0	0.60	0.03	3	0	0.60	0.00	20	0	0.49	0.02	26	0	0.60	0.03	3	0	0.60	0.00	20	0	0.49	0.02
Comb. L-T-R		1				1				1				1				1				1		
WB Left	91	1	1.00	0.05	41	1	1.00	0.02	55	1	1.00	0.03	95	1	1.00	0.06	42	1	1.00	0.02	68	1	1.00	0.04
Comb. L-T		0				0				0				0				0				0		
WB Thru	1	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00	1	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
Comb. T-R		0				0				0				0				0				0		
WB Right	173	1	1.00	0.10	91	1	1.00	0.05	300	1	1.00	0.18	177	1	1.00	0.10	92	1	1.00	0.05	313	1	1.00	0.18
Comb. L-T-R		0				0				0				0				0				0		
NB Left																								
Comb. L-T																								
NB Thru	734	2	2.00	0.22	842	2	2.00	0.25	1687	2	2.00	0.50	734	2	2.00	0.22	842	2	2.00	0.25	1687	2	2.00	0.50
Comb. T-R		0				0				0				0				0				0		
NB Right	45	1	1.00	0.03	61	1	1.00	0.04	71	1	1.00	0.04	57	1	1.00	0.03	61	1	1.00	0.04	74	1	1.00	0.04
Comb. L-T-R		0				0				0				0				0				0		
SB Left	179	1	1.00	0.11	87	1	1.00	0.05	148	1	1.00	0.09	191	1	1.00	0.11	87	1	1.00	0.05	151	1	1.00	0.09
Comb. L-T		0				0				0				0				0				0		
SB Thru	1899	2	2.00	0.56	801	2	2.00	0.24	893	2	2.00	0.26	1899	2	2.00	0.56	801	2	2.00	0.24	893	2	2.00	0.26
Comb. T-R		0				0				0				0				0				0		
SB Right																								
Comb. L-T-R																								
Critical Volumes			E-W: 0.13 N-S: 0.56 Total: 0.69				E-W: 0.06 N-S: 0.30 Total: 0.36					E-W: 0.20 N-S: 0.58 Total: 0.78				E-W: 0.13 N-S: 0.56 Total: 0.69				E-W: 0.06 N-S: 0.30 Total: 0.36			E-W: 0.21 N-S: 0.59 Total: 0.79	
Lost Time			0.05				0.05					0.05				0.05				0.05				0.05
ICU			0.736				0.405					0.834				0.738				0.406				0.843
Level of Service			C				A					D				C				A				D

Synchro Reports

Intersection Capacity Utilization
4: Browning Ave & La Colina Dr




















01/09/2018



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕	↕		↕			↕	
Volume (vph)	13	173	64	61	163	43	68	18	116	92	51	25
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	250	0	0	224	43	0	202	0	0	168	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.96	0.85	0.95	0.99	0.85	0.95	0.90	0.85	0.95	0.95	0.85
Saturated Flow (vph)	0	1822	0	0	1874	1615	0	1707	0	0	1807	0
Ped Intf Time (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
Pedestrian Frequency (%)	0.00		0.00				0.00		0.00			
Protected Option Allowed	No			No			No			No		
Reference Time (s)	0.0			3.2			0.0			0.0		
Adj Reference Time (s)	0.0			8.0			0.0			0.0		
Permitted Option												
Adj Saturation A (vph)	0	1041	0		685	0		1579	0		1096	
Reference Time A (s)	0.0	28.8	0.0		39.2	0.0		15.4	0.0		18.4	
Adj Saturation B (vph)	NA	NA	NA		NA	0		0	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	12.5		22.2	NA		NA	
Reference Time (s)	28.8		39.2			15.4			18.4			
Adj Reference Time (s)	32.8		43.2			19.4			22.4			
Split Option												
Ref Time Combined (s)	0.0	16.5	0.0		14.3	0.0		14.2	0.0		11.2	
Ref Time Seperate (s)	0.9	11.4	4.1		10.3	4.5		1.3	6.1		3.4	
Reference Time (s)	16.5	16.5	14.3		14.3	14.2		14.2	11.2		11.2	
Adj Reference Time (s)	20.5	20.5	18.3		18.3	18.2		18.2	15.2		15.2	
Summary	NW SE		NE SW		Combined							
Protected Option (s)	NA		NA									
Permitted Option (s)	43.2		22.4									
Split Option (s)	38.8		33.4									
Minimum (s)	38.8		22.4		61.2							
Right Turns	NWR											
Adj Reference Time (s)	8.0											
Cross Thru Ref Time (s)	18.2											
Oncoming Left Ref Time (s)	18.5											
Combined (s)	46.7											
Intersection Summary												
Intersection Capacity Utilization	51.0%				ICU Level of Service				A			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
6: Red Hill Ave & La Colina Dr

01/09/2018

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	15	161	64	78	174	44	22	158	46	49	364	25
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	176	64	0	296	0	0	180	46	0	438	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	0.96	0.85	0.95	0.99	0.85	0.95	0.99	0.85
Saturated Flow (vph)	0	1892	1615	0	1833	0	0	1888	1615	0	1873	0
Ped Intf Time (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
Pedestrian Frequency (%)	0.00			0.00			0.00			0.00		
Protected Option Allowed	No			No			No			No		
Reference Time (s)	4.8			0.0			3.4			0.0		
Adj Reference Time (s)	8.8			0.0			8.0			0.0		
Permitted Option												
Adj Saturation A (vph)	0	1759		0	363		0	1385		0	705	
Reference Time A (s)	0.0	12.0		0.0	97.9		0.0	15.6		0.0	74.5	
Adj Saturation B (vph)	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time (s)	12.0				97.9				15.6		74.5	
Adj Reference Time (s)	16.0				101.9				19.6		78.5	
Split Option												
Ref Time Combined (s)	0.0	11.2			0.0	19.4			0.0	11.4	0.0	28.1
Ref Time Seperate (s)	1.0	10.2			5.2	11.3			1.5	10.0	3.3	23.2
Reference Time (s)	11.2	11.2			19.4	19.4			11.4	11.4	28.1	28.1
Adj Reference Time (s)	15.2	15.2			23.4	23.4			15.4	15.4	32.1	32.1
Summary	NW SE		NE SW		Combined							
Protected Option (s)	NA		NA									
Permitted Option (s)	101.9		78.5									
Split Option (s)	38.5		47.5									
Minimum (s)	38.5		47.5		86.0							
Right Turns	SER		NER									
Adj Reference Time (s)	8.8		8.0									
Cross Thru Ref Time (s)	32.1		15.2									
Oncoming Left Ref Time (s)	32.1		32.1									
Combined (s)	64.2		55.2									

Intersection Summary

Intersection Capacity Utilization 71.7% ICU Level of Service C
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
4: Browning Ave & La Colina Dr




















01/09/2018



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕	↕		↕			↕	
Volume (vph)	16	97	39	33	120	72	30	25	54	59	29	15
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	152	0	0	153	72	0	109	0	0	103	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.96	0.85	0.95	0.99	0.85	0.95	0.91	0.85	0.95	0.95	0.85
Saturated Flow (vph)	0	1817	0	0	1880	1615	0	1735	0	0	1805	0
Ped Intf Time (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
Pedestrian Frequency (%)	0.00		0.00			0.00			0.00			
Protected Option Allowed	No			No			No			No		
Reference Time (s)	0.0			5.3			0.0			0.0		
Adj Reference Time (s)	0.0			9.3			0.0			0.0		
Permitted Option												
Adj Saturation A (vph)	0	711	0	1069	0	1673	0	935	0	935	0	935
Reference Time A (s)	0.0	25.6	0.0	17.2	0.0	7.8	0.0	13.2	0.0	13.2	0.0	13.2
Adj Saturation B (vph)	0	0	NA	NA	0	0	0	0	0	0	0	0
Reference Time B (s)	9.1	18.0	NA	NA	10.0	15.5	11.9	14.8	11.9	14.8	11.9	14.8
Reference Time (s)	18.0		17.2			7.8			13.2			
Adj Reference Time (s)	22.0		21.2			11.8			17.2			
Split Option												
Ref Time Combined (s)	0.0	10.0	0.0	9.8	0.0	7.5	0.0	6.8	0.0	6.8	0.0	6.8
Ref Time Seperate (s)	1.1	6.4	2.2	7.6	2.0	1.8	3.9	1.9	3.9	1.9	3.9	1.9
Reference Time (s)	10.0	10.0	9.8	9.8	7.5	7.5	6.8	6.8	6.8	6.8	6.8	6.8
Adj Reference Time (s)	14.0	14.0	13.8	13.8	11.5	11.5	10.8	10.8	10.8	10.8	10.8	10.8
Summary	NW SE		NE SW		Combined							
Protected Option (s)	NA		NA									
Permitted Option (s)	22.0		17.2									
Split Option (s)	27.8		22.4									
Minimum (s)	22.0		17.2		39.3							
Right Turns	NWR											
Adj Reference Time (s)	9.3											
Cross Thru Ref Time (s)	11.5											
Oncoming Left Ref Time (s)	11.0											
Combined (s)	34.9											
Intersection Summary												
Intersection Capacity Utilization	32.7%				ICU Level of Service				A			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
6: Red Hill Ave & La Colina Dr

01/09/2018

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	14	87	38	32	74	59	34	241	24	47	212	11
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	101	38	0	165	0	0	275	24	0	270	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.99	0.85	0.95	0.94	0.85	0.95	0.99	0.85	0.95	0.99	0.85
Saturated Flow (vph)	0	1887	1615	0	1781	0	0	1888	1615	0	1872	0
Ped Intf Time (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
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			2.8			0.0			1.8			0.0
Adj Reference Time (s)			8.0			0.0			8.0			0.0
Permitted Option												
Adj Saturation A (vph)	0	1543		0	452		0	1543		0	516	
Reference Time A (s)	0.0	7.9		0.0	43.9		0.0	21.4		0.0	62.8	
Adj Saturation B (vph)	NA	NA		0	0		NA	NA		NA	NA	
Reference Time B (s)	NA	NA		10.1	19.1		NA	NA		NA	NA	
Reference Time (s)		7.9			19.1			21.4			62.8	
Adj Reference Time (s)		11.9			23.1			25.4			66.8	
Split Option												
Ref Time Combined (s)	0.0	6.4		0.0	11.1		0.0	17.5		0.0	17.3	
Ref Time Seperate (s)	0.9	5.5		2.1	5.0		2.3	15.2		3.1	13.5	
Reference Time (s)	6.4	6.4		11.1	11.1		17.5	17.5		17.3	17.3	
Adj Reference Time (s)	10.4	10.4		15.1	15.1		21.5	21.5		21.3	21.3	
Summary		NW SE		NE SW		Combined						
Protected Option (s)		NA		NA								
Permitted Option (s)		23.1		66.8								
Split Option (s)		25.5		42.8								
Minimum (s)		23.1		42.8		65.9						
Right Turns		SER		NER								
Adj Reference Time (s)		8.0		8.0								
Cross Thru Ref Time (s)		21.3		10.4								
Oncoming Left Ref Time (s)		15.1		21.3								
Combined (s)		44.4		39.7								

Intersection Summary

Intersection Capacity Utilization 54.9% ICU Level of Service A
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
4: Browning Ave & La Colina Dr

01/16/2018



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕	↕		↕			↕	
Volume (vph)	26	132	10	2	400	122	28	28	6	64	18	15
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	168	0	0	402	122	0	62	0	0	97	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.98	0.85	0.95	1.00	0.85	0.95	0.96	0.85	0.95	0.94	0.85
Saturated Flow (vph)	0	1868	0	0	1900	1615	0	1830	0	0	1795	0
Ped Intf Time (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
Pedestrian Frequency (%)	0.00		0.00			0.00			0.00			
Protected Option Allowed	No			No			No			No		
Reference Time (s)	0.0			9.1			0.0			0.0		
Adj Reference Time (s)	0.0			13.1			0.0			0.0		
Permitted Option												
Adj Saturation A (vph)	0	562	0	1884	0	1729	0	1190	0	1190	0	1190
Reference Time A (s)	0.0	35.9	0.0	25.6	0.0	4.3	0.0	9.8	0.0	9.8	0.0	9.8
Adj Saturation B (vph)	NA	NA	NA	NA	0	0	0	0	0	0	0	0
Reference Time B (s)	NA	NA	NA	NA	9.9	12.1	12.3	14.5	12.3	14.5	12.3	14.5
Reference Time (s)	35.9			25.6			4.3			9.8		
Adj Reference Time (s)	39.9			29.6			8.3			13.8		
Split Option												
Ref Time Combined (s)	0.0	10.8	0.0	25.4	0.0	4.1	0.0	6.5	0.0	6.5	0.0	6.5
Ref Time Seperate (s)	1.7	8.4	0.1	25.3	1.9	1.8	4.3	1.2	4.3	1.2	4.3	1.2
Reference Time (s)	10.8	10.8	25.4	25.4	4.1	4.1	6.5	6.5	6.5	6.5	6.5	6.5
Adj Reference Time (s)	14.8	14.8	29.4	29.4	8.1	8.1	10.5	10.5	10.5	10.5	10.5	10.5
Summary	NW SE		NE SW		Combined							
Protected Option (s)	NA		NA									
Permitted Option (s)	39.9		13.8									
Split Option (s)	44.2		18.6									
Minimum (s)	39.9		13.8		53.6							
Right Turns	NWR											
Adj Reference Time (s)	13.1											
Cross Thru Ref Time (s)	8.1											
Oncoming Left Ref Time (s)	35.8											
Combined (s)	35.9											
Intersection Summary												
Intersection Capacity Utilization	44.7%				ICU Level of Service				A			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
6: Red Hill Ave & La Colina Dr

01/16/2018



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	12	93	57	24	235	134	64	257	38	40	198	7
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	105	57	0	393	0	0	321	38	0	245	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.99	0.85	0.95	0.95	0.85	0.95	0.99	0.85	0.95	0.99	0.85
Saturated Flow (vph)	0	1889	1615	0	1797	0	0	1881	1615	0	1876	0
Ped Intf Time (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
Pedestrian Frequency (%)	0.00			0.00			0.00			0.00		
Protected Option Allowed	No			No			No			No		
Reference Time (s)	4.2			0.0			2.8			0.0		
Adj Reference Time (s)	8.2			0.0			8.0			0.0		
Permitted Option												
Adj Saturation A (vph)	0	1204		0	954		0	1310		0	543	
Reference Time A (s)	0.0	10.5		0.0	49.5		0.0	29.4		0.0	54.2	
Adj Saturation B (vph)	NA	NA		0	0		NA	NA		NA	NA	
Reference Time B (s)	NA	NA		9.6	34.2		NA	NA		NA	NA	
Reference Time (s)	10.5			34.2			29.4			54.2		
Adj Reference Time (s)	14.5			38.2			33.4			58.2		
Split Option												
Ref Time Combined (s)	0.0	6.7		0.0	26.2		0.0	20.5		0.0	15.7	
Ref Time Seperate (s)	0.8	5.9		1.6	15.7		4.3	16.2		2.7	12.6	
Reference Time (s)	6.7	6.7		26.2	26.2		20.5	20.5		15.7	15.7	
Adj Reference Time (s)	10.7	10.7		30.2	30.2		24.5	24.5		19.7	19.7	
Summary	NW SE		NE SW		Combined							
Protected Option (s)	NA		NA									
Permitted Option (s)	38.2		58.2									
Split Option (s)	40.9		44.1									
Minimum (s)	38.2		44.1		82.4							
Right Turns	SER		NER									
Adj Reference Time (s)	8.2		8.0									
Cross Thru Ref Time (s)	19.7		10.7									
Oncoming Left Ref Time (s)	19.7		19.7									
Combined (s)	58.1		38.3									

Intersection Summary

Intersection Capacity Utilization 68.7% ICU Level of Service C
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
4: Browning Ave & La Colina Dr

10/31/2019



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕	↕		↕			↕	
Volume (vph)	37	173	64	61	163	67	68	18	116	100	51	33
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	274	0	0	224	67	0	202	0	0	184	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.96	0.85	0.95	0.99	0.85	0.95	0.90	0.85	0.95	0.95	0.85
Saturated Flow (vph)	0	1821	0	0	1874	1615	0	1707	0	0	1799	0
Ped Intf Time (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
Pedestrian Frequency (%)	0.00		0.00			0.00			0.00			
Protected Option Allowed	No			No			No			No		
Reference Time (s)	0.0			5.0			0.0			0.0		
Adj Reference Time (s)	0.0			9.0			0.0			0.0		
Permitted Option												
Adj Saturation A (vph)	0	604	0	1044	0	1574	0	1096	0	1096	0	1096
Reference Time A (s)	0.0	54.4	0.0	25.7	0.0	15.4	0.0	20.2	0.0	20.2	0.0	20.2
Adj Saturation B (vph)	NA	NA	NA	NA	0	0	NA	NA	NA	NA	NA	NA
Reference Time B (s)	NA	NA	NA	NA	12.5	22.2	NA	NA	NA	NA	NA	NA
Reference Time (s)	54.4		25.7			15.4			20.2			
Adj Reference Time (s)	58.4		29.7			19.4			24.2			
Split Option												
Ref Time Combined (s)	0.0	18.1	0.0	14.3	0.0	14.2	0.0	14.2	0.0	12.3	0.0	12.3
Ref Time Seperate (s)	2.5	11.4	4.1	10.3	4.5	1.3	6.6	3.4	6.6	3.4	6.6	3.4
Reference Time (s)	18.1	18.1	14.3	14.3	14.2	14.2	12.3	12.3	12.3	12.3	12.3	12.3
Adj Reference Time (s)	22.1	22.1	18.3	18.3	18.2	18.2	16.3	16.3	16.3	16.3	16.3	16.3
Summary	NW SE		NE SW		Combined							
Protected Option (s)	NA		NA									
Permitted Option (s)	58.4		24.2									
Split Option (s)	40.4		34.5									
Minimum (s)	40.4		24.2		64.5							
Right Turns	NWR											
Adj Reference Time (s)	9.0											
Cross Thru Ref Time (s)	18.2											
Oncoming Left Ref Time (s)	22.1											
Combined (s)	49.2											
Intersection Summary												
Intersection Capacity Utilization	53.8%				ICU Level of Service				A			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
6: Red Hill Ave & La Colina Dr

10/31/2019



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕	↕		↕			↕	↕		↕	↕
Volume (vph)	15	185	64	78	182	44	22	158	46	49	364	25
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	200	64	0	304	0	0	180	46	0	438	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	0.97	0.85	0.95	0.99	0.85	0.95	0.99	0.85
Saturated Flow (vph)	0	1893	1615	0	1835	0	0	1888	1615	0	1873	0
Ped Intf Time (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
Pedestrian Frequency (%)	0.00			0.00			0.00			0.00		
Protected Option Allowed	No			No			No			No		
Reference Time (s)	4.8			0.0			3.4			0.0		
Adj Reference Time (s)	8.8			0.0			8.0			0.0		
Permitted Option												
Adj Saturation A (vph)	0	1772		0	371		0	1385		0	705	
Reference Time A (s)	0.0	13.5		0.0	98.3		0.0	15.6		0.0	74.5	
Adj Saturation B (vph)	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time (s)	13.5				98.3				15.6		74.5	
Adj Reference Time (s)	17.5				102.3				19.6		78.5	
Split Option												
Ref Time Combined (s)	0.0	12.7		0.0	19.9		0.0	11.4		0.0	28.1	
Ref Time Seperate (s)	1.0	11.7		5.2	11.8		1.5	10.0		3.3	23.2	
Reference Time (s)	12.7	12.7		19.9	19.9		11.4	11.4		28.1	28.1	
Adj Reference Time (s)	16.7	16.7		23.9	23.9		15.4	15.4		32.1	32.1	
Summary	NW SE		NE SW		Combined							
Protected Option (s)	NA		NA									
Permitted Option (s)	102.3		78.5									
Split Option (s)	40.6		47.5									
Minimum (s)	40.6		47.5		88.1							
Right Turns	SER		NER									
Adj Reference Time (s)	8.8		8.0									
Cross Thru Ref Time (s)	32.1		16.7									
Oncoming Left Ref Time (s)	32.1		32.1									
Combined (s)	64.7		56.7									
Intersection Summary												
Intersection Capacity Utilization	73.4%				ICU Level of Service				D			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
4: Browning Ave & La Colina Dr

10/31/2019























Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕	↕		↕			↕	
Volume (vph)	17	97	39	33	120	73	30	25	54	60	29	16
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	153	0	0	153	73	0	109	0	0	105	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.96	0.85	0.95	0.99	0.85	0.95	0.91	0.85	0.95	0.95	0.85
Saturated Flow (vph)	0	1817	0	0	1880	1615	0	1735	0	0	1804	0
Ped Intf Time (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
Pedestrian Frequency (%)	0.00		0.00			0.00			0.00			
Protected Option Allowed	No			No			No			No		
Reference Time (s)	0.0			5.4			0.0			0.0		
Adj Reference Time (s)	0.0			9.4			0.0			0.0		
Permitted Option												
Adj Saturation A (vph)	0	687	0		1092	0		1672	0		936	
Reference Time A (s)	0.0	26.7	0.0		16.8	0.0		7.8	0.0		13.5	
Adj Saturation B (vph)	0	0	NA		NA	0		0	0		0	
Reference Time B (s)	9.1	18.1	NA		NA	10.0		15.5	12.0		15.0	
Reference Time (s)	18.1		16.8			7.8			13.5			
Adj Reference Time (s)	22.1		20.8			11.8			17.5			
Split Option												
Ref Time Combined (s)	0.0	10.1	0.0		9.8	0.0		7.5	0.0		7.0	
Ref Time Seperate (s)	1.1	6.4	2.2		7.6	2.0		1.8	4.0		1.9	
Reference Time (s)	10.1	10.1	9.8		9.8	7.5		7.5	7.0		7.0	
Adj Reference Time (s)	14.1	14.1	13.8		13.8	11.5		11.5	11.0		11.0	
Summary	NW SE		NE SW		Combined							
Protected Option (s)	NA		NA									
Permitted Option (s)	22.1		17.5									
Split Option (s)	27.9		22.5									
Minimum (s)	22.1		17.5		39.6							
Right Turns	NWR											
Adj Reference Time (s)	9.4											
Cross Thru Ref Time (s)	11.5											
Oncoming Left Ref Time (s)	11.1											
Combined (s)	35.1											

Intersection Summary

Intersection Capacity Utilization 33.0% ICU Level of Service A
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
6: Red Hill Ave & La Colina Dr

10/31/2019

													
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR	
Lane Configurations													
Volume (vph)	14	88	38	32	75	59	34	241	24	47	212	11	
Pedestrians													
Ped Button													
Pedestrian Timing (s)													
Free Right	No			No			No			No			
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120	
Volume Combined (vph)	0	102	38	0	166	0	0	275	24	0	270	0	
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Factor (vph)	0.95	0.99	0.85	0.95	0.94	0.85	0.95	0.99	0.85	0.95	0.99	0.85	
Saturated Flow (vph)	0	1887	1615	0	1781	0	0	1888	1615	0	1872	0	
Ped Intf Time (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	
Pedestrian Frequency (%)	0.00			0.00			0.00			0.00			
Protected Option Allowed	No			No			No			No			
Reference Time (s)	2.8			0.0			1.8			0.0			
Adj Reference Time (s)	8.0			0.0			8.0			0.0			
Permitted Option													
Adj Saturation A (vph)	0	1544		0	454		0	1543		0	516		
Reference Time A (s)	0.0	7.9		0.0	43.9		0.0	21.4		0.0	62.8		
Adj Saturation B (vph)	NA	NA		0	0		NA	NA		NA	NA		
Reference Time B (s)	NA	NA		10.1	19.2		NA	NA		NA	NA		
Reference Time (s)	7.9			19.2			21.4			62.8			
Adj Reference Time (s)	11.9			23.2			25.4			66.8			
Split Option													
Ref Time Combined (s)	0.0	6.5		0.0	11.2		0.0	17.5		0.0	17.3		
Ref Time Seperate (s)	0.9	5.6		2.1	5.1		2.3	15.2		3.1	13.5		
Reference Time (s)	6.5	6.5		11.2	11.2		17.5	17.5		17.3	17.3		
Adj Reference Time (s)	10.5	10.5		15.2	15.2		21.5	21.5		21.3	21.3		
Summary	NW SE		NE SW		Combined								
Protected Option (s)	NA		NA										
Permitted Option (s)	23.2		66.8										
Split Option (s)	25.7		42.8										
Minimum (s)	23.2		42.8		66.0								
Right Turns	SER		NER										
Adj Reference Time (s)	8.0		8.0										
Cross Thru Ref Time (s)	21.3		10.5										
Oncoming Left Ref Time (s)	15.2		21.3										
Combined (s)	44.5		39.8										
Intersection Summary													
Intersection Capacity Utilization	55.0%				ICU Level of Service				A				
Reference Times and Phasing Options do not represent an optimized timing plan.													

Intersection Capacity Utilization
4: Browning Ave & La Colina Dr

10/31/2019



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕	↕		↕			↕	
Volume (vph)	32	132	10	2	400	128	28	28	6	90	18	41
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	174	0	0	402	128	0	62	0	0	149	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.98	0.85	0.95	1.00	0.85	0.95	0.96	0.85	0.95	0.93	0.85
Saturated Flow (vph)	0	1866	0	0	1900	1615	0	1830	0	0	1767	0
Ped Intf Time (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
Pedestrian Frequency (%)	0.00		0.00			0.00			0.00			
Protected Option Allowed	No			No			No			No		
Reference Time (s)	0.0			9.5			0.0			0.0		
Adj Reference Time (s)	0.0			13.5			0.0			0.0		
Permitted Option												
Adj Saturation A (vph)	0	493	0		1887	0		1660	0		1226	
Reference Time A (s)	0.0	42.3	0.0		25.6	0.0		4.5	0.0		14.6	
Adj Saturation B (vph)	NA	NA	NA		NA	0		0	0		0	
Reference Time B (s)	NA	NA	NA		NA	9.9		12.1	14.0		18.1	
Reference Time (s)	42.3		25.6			4.5			14.6			
Adj Reference Time (s)	46.3		29.6			8.5			18.6			
Split Option												
Ref Time Combined (s)	0.0	11.2	0.0		25.4	0.0		4.1	0.0		10.1	
Ref Time Seperate (s)	2.1	8.4	0.1		25.3	1.9		1.8	6.0		1.3	
Reference Time (s)	11.2	11.2	25.4		25.4	4.1		4.1	10.1		10.1	
Adj Reference Time (s)	15.2	15.2	29.4		29.4	8.1		8.1	14.1		14.1	
Summary	NW SE		NE SW		Combined							
Protected Option (s)	NA		NA									
Permitted Option (s)	46.3		18.6									
Split Option (s)	44.6		22.2									
Minimum (s)	44.6		18.6		63.2							
Right Turns	NWR											
Adj Reference Time (s)	13.5											
Cross Thru Ref Time (s)	8.1											
Oncoming Left Ref Time (s)	15.2											
Combined (s)	36.8											
Intersection Summary												
Intersection Capacity Utilization	52.6%				ICU Level of Service				A			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
6: Red Hill Ave & La Colina Dr

10/31/2019



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕	↕		↕			↕	↕		↕	↕
Volume (vph)	12	99	57	24	261	134	64	257	38	40	198	7
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	111	57	0	419	0	0	321	38	0	245	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.99	0.85	0.95	0.95	0.85	0.95	0.99	0.85	0.95	0.99	0.85
Saturated Flow (vph)	0	1890	1615	0	1804	0	0	1881	1615	0	1876	0
Ped Intf Time (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
Pedestrian Frequency (%)	0.00		0.00			0.00			0.00			
Protected Option Allowed	No			No			No			No		
Reference Time (s)	4.2			0.0			2.8			0.0		
Adj Reference Time (s)	8.2			0.0			8.0			0.0		
Permitted Option												
Adj Saturation A (vph)	0	1211		0	987		0	1310		0	543	
Reference Time A (s)	0.0	11.0		0.0	51.0		0.0	29.4		0.0	54.2	
Adj Saturation B (vph)	NA	NA		0	0		NA	NA		NA	NA	
Reference Time B (s)	NA	NA		9.6	35.9		NA	NA		NA	NA	
Reference Time (s)	11.0		35.9			29.4			54.2			
Adj Reference Time (s)	15.0		39.9			33.4			58.2			
Split Option												
Ref Time Combined (s)	0.0	7.0		0.0	27.9		0.0	20.5		0.0	15.7	
Ref Time Seperate (s)	0.8	6.3		1.6	17.4		4.3	16.2		2.7	12.6	
Reference Time (s)	7.0	7.0		27.9	27.9		20.5	20.5		15.7	15.7	
Adj Reference Time (s)	11.0	11.0		31.9	31.9		24.5	24.5		19.7	19.7	
Summary	NW SE		NE SW		Combined							
Protected Option (s)	NA		NA									
Permitted Option (s)	39.9		58.2									
Split Option (s)	42.9		44.1									
Minimum (s)	39.9		44.1		84.0							
Right Turns	SER		NER									
Adj Reference Time (s)	8.2		8.0									
Cross Thru Ref Time (s)	19.7		11.0									
Oncoming Left Ref Time (s)	19.9		19.7									
Combined (s)	59.8		38.7									
Intersection Summary												
Intersection Capacity Utilization	70.0%		ICU Level of Service				C					
Reference Times and Phasing Options do not represent an optimized timing plan.												

Appendix J

Will Serve Letters

Department of Public Works

Douglas S. Stack, P.E.

Director



September 19, 2019

Mr. Peter Zehnder
Ranch Hill Partners, LP
c/o Collective Housing Supply Co.
124 Tustin Avenue, Ste. 200
Newport Beach, CA 92663

SUBJECT: Conditional Will Serve Letter – Tentative Tract No. 18119 - Proposed 37 Unit Condominium Subdivision at 11782 Simon Ranch Road, County of Orange

Dear Mr. Zehnder,

This letter is in response to your inquiry concerning City of Tustin Water Service's (CTWS) ability to serve water to your proposed residential development project located at 11782 Simon Ranch Road in the unincorporated territory of the County of Orange. It is CTWS's understanding that the project will consist of the subdivision of one 5.88 acre parcel into five residential lots for condominium purposes, two common area lots, and three lettered lots for driveway and utility purposes. Construction of thirty-seven residential condominium units is proposed, some detached and some attached as duplex buildings.

Based on the information you have provided, including the Tract No. 18119 Hydraulic Analysis performed by AKM Consulting Engineers, dated July 10, 2019, water service is available from CTWS to your proposed project, subject to the following requirements and Preliminary Conditions of Approval:

1. Proposed water improvements must follow the latest City of Tustin Water Standards and the American Water Works Association (AWWA) guidelines. In case of a conflict, the City of Tustin Water Standards shall prevail.
2. The applicant is responsible for all costs related to the installation, upgrade, alteration, relocation or abandonment of all existing City of Tustin public water facilities affected by the proposed project.
3. Preservation of existing or development of a new looped water system between Simon Ranch Road and Racquet Hill is required. Alignment and size of the proposed water system and layout of any proposed water utility easements are subject to review and approval by City of Tustin Water Service. The minimum easement width required is twenty (20) feet.
4. An individual domestic water service and meter shall be provided for each residential dwelling unit. Plumbing plans and landscape plans shall be submitted to CTWS with accurate fixture unit counts, including irrigation sprinkler heads, for use in determining the required service and meter sizes.

Department of Public Works



5. If common area landscaping is proposed, a separate water service and meter for irrigation will be required. A reduced pressure principal assembly (RPPA) shall be required to prevent cross contamination with the public water system.
6. City of Tustin Water Service, as successor to Tustin Water Works, holder of a 10' wide easement proposed to be abandoned, and as grantee of proposed water utility easements, shall be a signatory on the Final Map.
7. East Orange County Water District (EOCWD) is the City's imported water wholesaler. All applicable connection fees must be paid to EOCWD before City of Tustin Water Service will provide water to your proposed project.
8. The proposed domestic water system plans must conform to all applicable regulations enforced by the Orange County Health Department.

The above listed requirements and Conditions of Approval are preliminary and are subject to revision and addition as the entitlement process progresses. If you should have any questions concerning water service to your proposed project, please contact me at 714.361.4719 or Eric Johnson, Principal Engineer, at 714.573.3320.

Sincerely,

A handwritten signature in blue ink, appearing to read 'M. Grisso', is written over a horizontal line.

Mike Grisso
Water Services Manager

cc: Douglas S. Stack, Director of Public Works / City Engineer
Eric Johnson, Principal Engineer



Service Commitment Letter #19-01

Originally quoted: 01/09/2019 Revised: N/A
185 N. McPherson Rd. Orange, CA 92869
Phone: (714) 538-5815 ~ Fax: (714) 538-0334

Description: Tract Development
Address: 11782 Simon Ranch Road
City: Unincorporated Orange County
APN: 104-321-01
Phone: (949) 230-5426
Email: pete@collectivehousingsupply.com

Zoning: Residential
of Lots: 37
Acreage: 5.88
Tract Map: 18119

Project Proponent: Ranch Hill Partners
(Address)

Attn: Pete Zehnder

Water Fees (Valid from 01/09/2019 through 01/08/2020)

Project is in the District and is eligible for service.

Water capacity fees will be quoted after the Plan Check process is completed; to the extent applicable.

Sewer Fees (Valid from 01/09/2019 through 01/08/2020)

Project is in the District and is eligible for wholesale service.

Construct sewer facilities per District approved plans. Sewer capacity fees will be quoted after the Plan Check process is completed; to the extent applicable.

Additional Connection Fee Information

Connection to water and sewer facilities must occur within one year of permit purchase date or any subsequent fee increases are applicable.

A water and/or sewer service application must accompany the payment of fees. Payment will be received by Customer Service staff located in the lobby of the District offices.

District Standards allow for a 30-calendar day installation period upon payment for retail water meter connection fees. Generally, retail water meters are installed within 14-21 working days. The District requires five working days notification before intention to install the retail water meter in order to coordinate the most efficient placement and/or connection to facilities.

This Letter does not contain an estimate for any engineering deposits or fees related to plan checking or inspection related deposits other than lateral inspection. Please contact the Operations Manager at (714) 538-5815 with any questions that you may have.

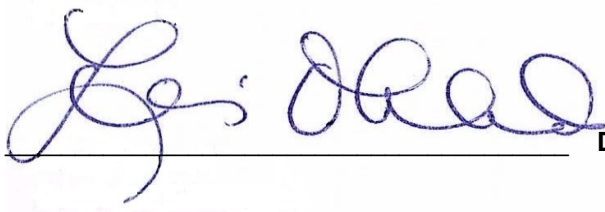
Current water and/or sewer connection fees are subject to change by action of the Board of Directors and fees will be based on the current fee in effect at the time of fee payment. Please note that all applications must include APN numbers.

The developer will grant to the District all water rights including surface and ground water rights over, upon and under all lands within the project.

The District reserves the right at any time to re-evaluate, revise and update the Service Availability Letter. The District considers the conditions to have expired automatically one year from the issuance date of the Letter.

Backflow Requirements

A backflow prevention device must be installed on each purchased commercial domestic and all irrigation meters. The meter will be locked off after installation until the backflow device has been inspected. Please contact the District at (714) 538-5815 to schedule an inspection appointment.

Authorized By:  Date: 01/09/2019