APPENDIX A

Air Quality and Greenhouse Gas Calculations

Van Norman Complex Ongoing Maintenance Program - Initial Year

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1,000.00	User Defined Unit	1,340.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on Initial Study.

Construction Phase - Site preparation only. Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

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Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Trips and VMT - Based on data needs.

On-road Fugitive Dust - Based on unpaved road travel onsite.

Demolition - No demolition.

Grading - Based on data needs.

Architectural Coating - No architectural coatings.

Vehicle Trips - Construction only.

Construction Off-road Equipment Mitigation - In accordance with SCAQMD Rule 403, water 2 times daily and posted speed limit is 15 miles per hour.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	6,000.00	10.00

tblConstructionPhase	NumDays	6,000.00	7.00
tblConstructionPhase	NumDays	6,000.00	6.00
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tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	7.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	14.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	5.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	1.00
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tblConstructionPhase	NumDays	6,000.00	1.00
tblGrading	MaterialExported	0.00	2,294.00
tblGrading	MaterialExported	0.00	112.00
tblGrading	MaterialExported	0.00	1,265.00
tblGrading	MaterialExported	0.00	8,285.00
tblGrading	MaterialExported	0.00	439.00
tblGrading	MaterialExported	0.00	634.00
tblLandUse	LotAcreage	0.00	1,340.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

Van Norman Complex Ongoing Maintenance Program - Initial Year - South Coast AQMD Air District, Annual

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
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tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00

Van Norman Complex Ongoing Maintenance Program - Initial Year - South Coast AQMD Air District, Annual

tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
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tblOnRoadDust	HaulingPercentPave	100.00	74.00
tblOnRoadDust	HaulingPercentPave	100.00	87.00
tblOnRoadDust	HaulingPercentPave	100.00	90.00
tblOnRoadDust	HaulingPercentPave	100.00	93.00
tblOnRoadDust	HaulingPercentPave	100.00	78.70
tblOnRoadDust	HaulingPercentPave	100.00	95.00
tblOnRoadDust	HaulingPercentPave	100.00	79.50
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tblOnRoadDust	HaulingPercentPave	100.00	78.10
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tblOnRoadDust	HaulingPercentPave	100.00	76.50
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tblOnRoadDust	WorkerPercentPave	100.00	93.20
tblOnRoadDust	WorkerPercentPave	100.00	95.20
tblOnRoadDust	WorkerPercentPave	100.00	85.50
tblOnRoadDust	WorkerPercentPave	100.00	96.60

Van Norman Complex Ongoing Maintenance Program - Initial Year - South Coast AQMD Air District, Annual

tblOnRoadDust	WorkerPercentPave	100.00	86.00
tblOnRoadDust	WorkerPercentPave	100.00	86.00
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tblTripsAndVMT	HaulingTripLength	20.00	10.00
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tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	158.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	1,036.00	8.00

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tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00

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
Year	tons/yr										MT/yr					
2019	0.0197	0.2094	0.1558	3.3000e-004	0.6832	9.2900e-003	0.6924	0.0686	8.5400e-003	0.0772	0.0000	29.9063	29.9063	8.5400e-003	0.0000	30.1198
Maximum	**0.0197**	**0.2094**	**0.1558**	**3.3000e-004**	**0.6832**	**9.2900e-003**	**0.6924**	**0.0686**	**8.5400e-003**	**0.0772**	**0.0000**	**29.9063**	**29.9063**	**8.5400e-003**	**0.0000**	**30.1198**

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					
2019	0.0197	0.2094	0.1558	3.3000e-004	0.4191	9.2900e-003	0.4284	0.0422	8.5400e-003	0.0508	0.0000	29.9063	29.9063	8.5400e-003	0.0000	30.1197
Maximum	**0.0197**	**0.2094**	**0.1558**	**3.3000e-004**	**0.4191**	**9.2900e-003**	**0.4284**	**0.0422**	**8.5400e-003**	**0.0508**	**0.0000**	**29.9063**	**29.9063**	**8.5400e-003**	**0.0000**	**30.1197**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**38.65**	**0.00**	**38.13**	**38.50**	**0.00**	**34.24**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Van Norman Complex Ongoing Maintenance Program - Initial Year - South Coast AQMD Air District, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
5	7-23-2019	9-30-2019	0.0884	0.0884
		Highest	0.0884	0.0884

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	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2100e-003**	**1.2000e-004**	**0.0128**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2100e-003**	**1.2000e-004**	**0.0128**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

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

Van Norman Complex Ongoing Maintenance Program - Initial Year - South Coast AQMD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Upper Debris Basin	Site Preparation	9/1/2019	9/13/2019	5	10	
2	Middle Debris Basin	Site Preparation	9/14/2019	10/3/2019	5	14	
3	Bee Drainage Channel	Site Preparation	10/4/2019	10/7/2019	5	2	
4	San Fernando Gate Drainage Feature	Site Preparation	10/8/2019	10/9/2019	5	2	
5	Upper San Fernando Drain Line	Site Preparation	10/10/2019	10/16/2019	5	5	
6	Upper San Fernando Drain Line Feature 1	Site Preparation	10/17/2019	10/21/2019	5	3	
7	Upper San Fernando Drain Line Feature 2	Site Preparation	10/22/2019	10/22/2019	5	1	
8	Yarnell Debris Basin	Site Preparation	10/23/2019	10/23/2019	5	1	
9	LAR UV Plant Drainage and V-Ditch	Site Preparation	10/24/2019	10/24/2019	5	1	
10	San Fernando Creek	Site Preparation	10/25/2019	11/4/2019	5	7	
11	Lower San Fernando Detention Basin	Site Preparation	11/5/2019	11/12/2019	5	6	
12	Bull Creek Extension (Sediment Basin)	Site Preparation	11/13/2019	11/14/2019	5	2	
13	Upper Northeast Drainage	Site Preparation	11/15/2019	11/15/2019	5	1	
14	LAR North Dike Stormwater Basin	Site Preparation	11/16/2019	11/26/2019	5	7	
15	East Channel	Site Preparation	11/27/2019	11/29/2019	5	3	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Van Norman Complex Ongoing Maintenance Program - Initial Year - South Coast AQMD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Upper Debris Basin	Excavators	1	6.00	158	0.38
Upper Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Upper Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Upper Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Middle Debris Basin	Excavators	1	6.00	158	0.38
Middle Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Middle Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Middle Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Bee Drainage Channel	Rubber Tired Dozers	0	8.00	247	0.40
Bee Drainage Channel	Rubber Tired Loaders	1	6.00	203	0.36
Bee Drainage Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Gate Drainage Feature	Excavators	1	6.00	158	0.38
San Fernando Gate Drainage Feature	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Gate Drainage Feature	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Gate Drainage Feature	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line	Excavators	1	6.00	158	0.38
Upper San Fernando Drain Line	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line	Rubber Tired Loaders	1	6.00	203	0.36
Upper San Fernando Drain Line	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line Feature 1	Excavators	1	6.00	158	0.38
Upper San Fernando Drain Line Feature 1	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line Feature 1	Rubber Tired Loaders	1	6.00	203	0.36
Upper San Fernando Drain Line Feature 1	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Upper San Fernando Drain Line Feature 2	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line Feature 2	Tractors/Loaders/Backhoes	1	6.00	97	0.37

Yarnell Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Yarnell Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
LAR UV Plant Drainage and V-Ditch	Rubber Tired Dozers	0	8.00	247	0.40
LAR UV Plant Drainage and V-Ditch	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Creek	Excavators	1	6.00	158	0.38
San Fernando Creek	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Creek	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Creek	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Lower San Fernando Detention Basin	Rubber Tired Dozers	0	8.00	247	0.40
Lower San Fernando Detention Basin	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Bull Creek Extension (Sediment Basin)	Cranes	1	6.00	231	0.29
Bull Creek Extension (Sediment Basin)	Rubber Tired Dozers	0	8.00	247	0.40
Bull Creek Extension (Sediment Basin)	Rubber Tired Loaders	1	6.00	203	0.36
Bull Creek Extension (Sediment Basin)	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper Northeast Drainage	Rubber Tired Dozers	0	8.00	247	0.40
Upper Northeast Drainage	Rubber Tired Loaders	1	6.00	203	0.36
Upper Northeast Drainage	Tractors/Loaders/Backhoes	0	8.00	97	0.37
LAR North Dike Stormwater Basin	Excavators	1	6.00	158	0.38
LAR North Dike Stormwater Basin	Rubber Tired Dozers	0	8.00	247	0.40
LAR North Dike Stormwater Basin	Rubber Tired Loaders	1	6.00	203	0.36
LAR North Dike Stormwater Basin	Tractors/Loaders/Backhoes	0	8.00	97	0.37
East Channel	Rubber Tired Dozers	0	8.00	247	0.40
East Channel	Rubber Tired Loaders	1	6.00	203	0.36
East Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37

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
Upper Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Middle Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Bee Drainage Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
San Fernando Gate Drainage Feature	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 1	4	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 2	1	4.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Yarnell Debris Basin	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
LAR UV Plant Drainage and V-Ditch	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
San Fernando Creek	3	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Lower San Fernando Detention Basin	2	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bull Creek Extension (Sediment Basin)	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper Northeast Drainage	1	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
LAR North Dike Stormwater Basin	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
East Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Upper Debris Basin - 2019

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					1.3000e-004	0.0000	1.3000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3500e-003	0.0369	0.0272	5.0000e-005		1.6800e-003	1.6800e-003		1.5400e-003	1.5400e-003	0.0000	4.8902	4.8902	1.5500e-003	0.0000	4.9289
Total	**3.3500e-003**	**0.0369**	**0.0272**	**5.0000e-005**	**1.3000e-004**	**1.6800e-003**	**1.8100e-003**	**2.0000e-005**	**1.5400e-003**	**1.5600e-003**	**0.0000**	**4.8902**	**4.8902**	**1.5500e-003**	**0.0000**	**4.9289**

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	2.0000e-005	8.0000e-004	1.4000e-004	0.0000	0.0140	0.0000	0.0140	1.4100e-003	0.0000	1.4100e-003	0.0000	0.1731	0.1731	1.0000e-005	0.0000	0.1735
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	1.9000e-004	1.5000e-004	1.6700e-003	0.0000	0.1405	0.0000	0.1405	0.0141	0.0000	0.0141	0.0000	0.4077	0.4077	1.0000e-005	0.0000	0.4080
Total	**2.1000e-004**	**9.5000e-004**	**1.8100e-003**	**0.0000**	**0.1546**	**0.0000**	**0.1546**	**0.0155**	**0.0000**	**0.0155**	**0.0000**	**0.5809**	**0.5809**	**2.0000e-005**	**0.0000**	**0.5816**

3.2 Upper Debris Basin - 2019

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					6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3500e-003	0.0369	0.0272	5.0000e-005		1.6800e-003	1.6800e-003		1.5400e-003	1.5400e-003	0.0000	4.8902	4.8902	1.5500e-003	0.0000	4.9289
Total	**3.3500e-003**	**0.0369**	**0.0272**	**5.0000e-005**	**6.0000e-005**	**1.6800e-003**	**1.7400e-003**	**1.0000e-005**	**1.5400e-003**	**1.5500e-003**	**0.0000**	**4.8902**	**4.8902**	**1.5500e-003**	**0.0000**	**4.9289**

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	2.0000e-005	8.0000e-004	1.4000e-004	0.0000	8.6000e-003	0.0000	8.6000e-003	8.6000e-004	0.0000	8.6000e-004	0.0000	0.1731	0.1731	1.0000e-005	0.0000	0.1735
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	1.9000e-004	1.5000e-004	1.6700e-003	0.0000	0.0862	0.0000	0.0862	8.6500e-003	0.0000	8.6500e-003	0.0000	0.4077	0.4077	1.0000e-005	0.0000	0.4080
Total	**2.1000e-004**	**9.5000e-004**	**1.8100e-003**	**0.0000**	**0.0948**	**0.0000**	**0.0948**	**9.5100e-003**	**0.0000**	**9.5100e-003**	**0.0000**	**0.5809**	**0.5809**	**2.0000e-005**	**0.0000**	**0.5816**

3.3 Middle Debris Basin - 2019

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					4.7000e-004	0.0000	4.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6800e-003	0.0517	0.0380	8.0000e-005		2.3500e-003	2.3500e-003		2.1600e-003	2.1600e-003	0.0000	6.8463	6.8463	2.1700e-003	0.0000	6.9004
Total	**4.6800e-003**	**0.0517**	**0.0380**	**8.0000e-005**	**4.7000e-004**	**2.3500e-003**	**2.8200e-003**	**7.0000e-005**	**2.1600e-003**	**2.2300e-003**	**0.0000**	**6.8463**	**6.8463**	**2.1700e-003**	**0.0000**	**6.9004**

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	2.0000e-005	8.0000e-004	1.4000e-004	0.0000	0.0111	0.0000	0.0111	1.1100e-003	0.0000	1.1100e-003	0.0000	0.1731	0.1731	1.0000e-005	0.0000	0.1735
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	2.7000e-004	2.1000e-004	2.3300e-003	1.0000e-005	0.1557	0.0000	0.1558	0.0156	0.0000	0.0156	0.0000	0.5708	0.5708	2.0000e-005	0.0000	0.5713
Total	**2.9000e-004**	**1.0100e-003**	**2.4700e-003**	**1.0000e-005**	**0.1668**	**0.0000**	**0.1668**	**0.0167**	**0.0000**	**0.0168**	**0.0000**	**0.7439**	**0.7439**	**3.0000e-005**	**0.0000**	**0.7448**

3.3 Middle Debris Basin - 2019

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					2.1000e-004	0.0000	2.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6800e-003	0.0517	0.0380	8.0000e-005		2.3500e-003	2.3500e-003		2.1600e-003	2.1600e-003	0.0000	6.8463	6.8463	2.1700e-003	0.0000	6.9004
Total	**4.6800e-003**	**0.0517**	**0.0380**	**8.0000e-005**	**2.1000e-004**	**2.3500e-003**	**2.5600e-003**	**3.0000e-005**	**2.1600e-003**	**2.1900e-003**	**0.0000**	**6.8463**	**6.8463**	**2.1700e-003**	**0.0000**	**6.9004**

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	2.0000e-005	8.0000e-004	1.4000e-004	0.0000	6.7900e-003	0.0000	6.7900e-003	6.8000e-004	0.0000	6.8000e-004	0.0000	0.1731	0.1731	1.0000e-005	0.0000	0.1735
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	2.7000e-004	2.1000e-004	2.3300e-003	1.0000e-005	0.0956	0.0000	0.0956	9.6100e-003	0.0000	9.6200e-003	0.0000	0.5708	0.5708	2.0000e-005	0.0000	0.5713
Total	**2.9000e-004**	**1.0100e-003**	**2.4700e-003**	**1.0000e-005**	**0.1024**	**0.0000**	**0.1024**	**0.0103**	**0.0000**	**0.0103**	**0.0000**	**0.7439**	**0.7439**	**3.0000e-005**	**0.0000**	**0.7448**

3.4 Bee Drainage Channel - 2019

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					2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7000e-004	5.3700e-003	2.9900e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.2000e-004	2.2000e-004	0.0000	0.6303	0.6303	2.0000e-004	0.0000	0.6353
Total	**4.7000e-004**	**5.3700e-003**	**2.9900e-003**	**1.0000e-005**	**2.0000e-005**	**2.4000e-004**	**2.6000e-004**	**0.0000**	**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.6303**	**0.6303**	**2.0000e-004**	**0.0000**	**0.6353**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	2.7700e-003	0.0000	2.7700e-003	2.8000e-004	0.0000	2.8000e-004	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.3000e-004	0.0000	0.0223	0.0000	0.0223	2.2300e-003	0.0000	2.2300e-003	0.0000	0.0815	0.0815	0.0000	0.0000	0.0816
Total	**5.0000e-005**	**2.3000e-004**	**3.7000e-004**	**0.0000**	**0.0250**	**0.0000**	**0.0250**	**2.5100e-003**	**0.0000**	**2.5100e-003**	**0.0000**	**0.1248**	**0.1248**	**0.0000**	**0.0000**	**0.1250**

3.4 Bee Drainage Channel - 2019

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					1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7000e-004	5.3700e-003	2.9900e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.2000e-004	2.2000e-004	0.0000	0.6303	0.6303	2.0000e-004	0.0000	0.6353
Total	**4.7000e-004**	**5.3700e-003**	**2.9900e-003**	**1.0000e-005**	**1.0000e-005**	**2.4000e-004**	**2.5000e-004**	**0.0000**	**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.6303**	**0.6303**	**2.0000e-004**	**0.0000**	**0.6353**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	1.7000e-003	0.0000	1.7000e-003	1.7000e-004	0.0000	1.7000e-004	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.3000e-004	0.0000	0.0137	0.0000	0.0137	1.3700e-003	0.0000	1.3700e-003	0.0000	0.0815	0.0815	0.0000	0.0000	0.0816
Total	**5.0000e-005**	**2.3000e-004**	**3.7000e-004**	**0.0000**	**0.0154**	**0.0000**	**0.0154**	**1.5400e-003**	**0.0000**	**1.5400e-003**	**0.0000**	**0.1248**	**0.1248**	**0.0000**	**0.0000**	**0.1250**

3.5 San Fernando Gate Drainage Feature - 2019

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					4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9000e-004	5.6300e-003	3.7100e-003	1.0000e-005		2.2000e-004	2.2000e-004		2.0000e-004	2.0000e-004	0.0000	0.7688	0.7688	2.4000e-004	0.0000	0.7749
Total	**4.9000e-004**	**5.6300e-003**	**3.7100e-003**	**1.0000e-005**	**4.0000e-005**	**2.2000e-004**	**2.6000e-004**	**1.0000e-005**	**2.0000e-004**	**2.1000e-004**	**0.0000**	**0.7688**	**0.7688**	**2.4000e-004**	**0.0000**	**0.7749**

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	1.0000e-005	4.0000e-004	7.0000e-005	0.0000	7.7400e-003	0.0000	7.7400e-003	7.8000e-004	0.0000	7.8000e-004	0.0000	0.0866	0.0866	1.0000e-005	0.0000	0.0868
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.3000e-004	0.0000	0.0310	0.0000	0.0310	3.1000e-003	0.0000	3.1000e-003	0.0000	0.0815	0.0815	0.0000	0.0000	0.0816
Total	**5.0000e-005**	**4.3000e-004**	**4.0000e-004**	**0.0000**	**0.0387**	**0.0000**	**0.0387**	**3.8800e-003**	**0.0000**	**3.8800e-003**	**0.0000**	**0.1681**	**0.1681**	**1.0000e-005**	**0.0000**	**0.1684**

3.5 San Fernando Gate Drainage Feature - 2019

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					2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9000e-004	5.6300e-003	3.7100e-003	1.0000e-005		2.2000e-004	2.2000e-004		2.0000e-004	2.0000e-004	0.0000	0.7688	0.7688	2.4000e-004	0.0000	0.7749
Total	**4.9000e-004**	**5.6300e-003**	**3.7100e-003**	**1.0000e-005**	**2.0000e-005**	**2.2000e-004**	**2.4000e-004**	**0.0000**	**2.0000e-004**	**2.0000e-004**	**0.0000**	**0.7688**	**0.7688**	**2.4000e-004**	**0.0000**	**0.7749**

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	1.0000e-005	4.0000e-004	7.0000e-005	0.0000	4.7500e-003	0.0000	4.7500e-003	4.8000e-004	0.0000	4.8000e-004	0.0000	0.0866	0.0866	1.0000e-005	0.0000	0.0868
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.3000e-004	0.0000	0.0190	0.0000	0.0190	1.9000e-003	0.0000	1.9000e-003	0.0000	0.0815	0.0815	0.0000	0.0000	0.0816
Total	**5.0000e-005**	**4.3000e-004**	**4.0000e-004**	**0.0000**	**0.0237**	**0.0000**	**0.0237**	**2.3800e-003**	**0.0000**	**2.3800e-003**	**0.0000**	**0.1681**	**0.1681**	**1.0000e-005**	**0.0000**	**0.1684**

3.6 Upper San Fernando Drain Line - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2400e-003	0.0141	9.2700e-003	2.0000e-005		5.5000e-004	5.5000e-004		5.0000e-004	5.0000e-004	0.0000	1.9220	1.9220	6.1000e-004	0.0000	1.9372
Total	**1.2400e-003**	**0.0141**	**9.2700e-003**	**2.0000e-005**	**0.0000**	**5.5000e-004**	**5.5000e-004**	**0.0000**	**5.0000e-004**	**5.0000e-004**	**0.0000**	**1.9220**	**1.9220**	**6.1000e-004**	**0.0000**	**1.9372**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	2.9600e-003	0.0000	2.9600e-003	3.0000e-004	0.0000	3.0000e-004	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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	1.0000e-004	8.0000e-005	8.3000e-004	0.0000	0.0592	0.0000	0.0592	5.9400e-003	0.0000	5.9400e-003	0.0000	0.2039	0.2039	1.0000e-005	0.0000	0.2040
Total	**1.1000e-004**	**2.8000e-004**	**8.7000e-004**	**0.0000**	**0.0621**	**0.0000**	**0.0622**	**6.2400e-003**	**0.0000**	**6.2400e-003**	**0.0000**	**0.2472**	**0.2472**	**1.0000e-005**	**0.0000**	**0.2474**

3.6 Upper San Fernando Drain Line - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2400e-003	0.0141	9.2700e-003	2.0000e-005		5.5000e-004	5.5000e-004		5.0000e-004	5.0000e-004	0.0000	1.9220	1.9220	6.1000e-004	0.0000	1.9372
Total	**1.2400e-003**	**0.0141**	**9.2700e-003**	**2.0000e-005**	**0.0000**	**5.5000e-004**	**5.5000e-004**	**0.0000**	**5.0000e-004**	**5.0000e-004**	**0.0000**	**1.9220**	**1.9220**	**6.1000e-004**	**0.0000**	**1.9372**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	1.8100e-003	0.0000	1.8100e-003	1.8000e-004	0.0000	1.8000e-004	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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	1.0000e-004	8.0000e-005	8.3000e-004	0.0000	0.0363	0.0000	0.0363	3.6500e-003	0.0000	3.6500e-003	0.0000	0.2039	0.2039	1.0000e-005	0.0000	0.2040
Total	**1.1000e-004**	**2.8000e-004**	**8.7000e-004**	**0.0000**	**0.0381**	**0.0000**	**0.0381**	**3.8300e-003**	**0.0000**	**3.8300e-003**	**0.0000**	**0.2472**	**0.2472**	**1.0000e-005**	**0.0000**	**0.2474**

3.7 Upper San Fernando Drain Line Feature 1 - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2700e-003	0.0137	0.0107	2.0000e-005		6.8000e-004	6.8000e-004		6.2000e-004	6.2000e-004	0.0000	1.7809	1.7809	5.6000e-004	0.0000	1.7950
Total	**1.2700e-003**	**0.0137**	**0.0107**	**2.0000e-005**	**0.0000**	**6.8000e-004**	**6.8000e-004**	**0.0000**	**6.2000e-004**	**6.2000e-004**	**0.0000**	**1.7809**	**1.7809**	**5.6000e-004**	**0.0000**	**1.7950**

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	1.0000e-005	4.0000e-004	7.0000e-005	0.0000	6.4800e-003	0.0000	6.4800e-003	6.5000e-004	0.0000	6.5000e-004	0.0000	0.0866	0.0866	1.0000e-005	0.0000	0.0868
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	6.0000e-005	5.0000e-005	5.0000e-004	0.0000	0.0388	0.0000	0.0388	3.8900e-003	0.0000	3.9000e-003	0.0000	0.1223	0.1223	0.0000	0.0000	0.1224
Total	**7.0000e-005**	**4.5000e-004**	**5.7000e-004**	**0.0000**	**0.0453**	**0.0000**	**0.0453**	**4.5400e-003**	**0.0000**	**4.5500e-003**	**0.0000**	**0.2089**	**0.2089**	**1.0000e-005**	**0.0000**	**0.2092**

3.7 Upper San Fernando Drain Line Feature 1 - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2700e-003	0.0137	0.0107	2.0000e-005		6.8000e-004	6.8000e-004		6.2000e-004	6.2000e-004	0.0000	1.7809	1.7809	5.6000e-004	0.0000	1.7950
Total	**1.2700e-003**	**0.0137**	**0.0107**	**2.0000e-005**	**0.0000**	**6.8000e-004**	**6.8000e-004**	**0.0000**	**6.2000e-004**	**6.2000e-004**	**0.0000**	**1.7809**	**1.7809**	**5.6000e-004**	**0.0000**	**1.7950**

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	1.0000e-005	4.0000e-004	7.0000e-005	0.0000	3.9700e-003	0.0000	3.9700e-003	4.0000e-004	0.0000	4.0000e-004	0.0000	0.0866	0.0866	1.0000e-005	0.0000	0.0868
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	6.0000e-005	5.0000e-005	5.0000e-004	0.0000	0.0238	0.0000	0.0238	2.3900e-003	0.0000	2.3900e-003	0.0000	0.1223	0.1223	0.0000	0.0000	0.1224
Total	**7.0000e-005**	**4.5000e-004**	**5.7000e-004**	**0.0000**	**0.0278**	**0.0000**	**0.0278**	**2.7900e-003**	**0.0000**	**2.7900e-003**	**0.0000**	**0.2089**	**0.2089**	**1.0000e-005**	**0.0000**	**0.2092**

3.8 Upper San Fernando Drain Line Feature 2 - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-005	8.8000e-004	8.6000e-004	0.0000		6.0000e-005	6.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1046	0.1046	3.0000e-005	0.0000	0.1055
Total	**9.0000e-005**	**8.8000e-004**	**8.6000e-004**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1046**	**0.1046**	**3.0000e-005**	**0.0000**	**0.1055**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	3.1700e-003	0.0000	3.1700e-003	3.2000e-004	0.0000	3.2000e-004	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	6.3500e-003	0.0000	6.3500e-003	6.4000e-004	0.0000	6.4000e-004	0.0000	0.0204	0.0204	0.0000	0.0000	0.0204
Total	**2.0000e-005**	**2.1000e-004**	**1.2000e-004**	**0.0000**	**9.5200e-003**	**0.0000**	**9.5200e-003**	**9.6000e-004**	**0.0000**	**9.6000e-004**	**0.0000**	**0.0637**	**0.0637**	**0.0000**	**0.0000**	**0.0638**

3.8 Upper San Fernando Drain Line Feature 2 - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-005	8.8000e-004	8.6000e-004	0.0000		6.0000e-005	6.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1046	0.1046	3.0000e-005	0.0000	0.1055
Total	**9.0000e-005**	**8.8000e-004**	**8.6000e-004**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1046**	**0.1046**	**3.0000e-005**	**0.0000**	**0.1055**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	1.9400e-003	0.0000	1.9500e-003	2.0000e-004	0.0000	2.0000e-004	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	3.9000e-003	0.0000	3.9000e-003	3.9000e-004	0.0000	3.9000e-004	0.0000	0.0204	0.0204	0.0000	0.0000	0.0204
Total	**2.0000e-005**	**2.1000e-004**	**1.2000e-004**	**0.0000**	**5.8400e-003**	**0.0000**	**5.8500e-003**	**5.9000e-004**	**0.0000**	**5.9000e-004**	**0.0000**	**0.0637**	**0.0637**	**0.0000**	**0.0000**	**0.0638**

3.9 Yarnell Debris Basin - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-005	8.8000e-004	8.6000e-004	0.0000		6.0000e-005	6.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1046	0.1046	3.0000e-005	0.0000	0.1055
Total	**9.0000e-005**	**8.8000e-004**	**8.6000e-004**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1046**	**0.1046**	**3.0000e-005**	**0.0000**	**0.1055**

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	6.7100e-003	0.0000	6.7100e-003	6.7000e-004	0.0000	6.7000e-004	0.0000	0.0204	0.0204	0.0000	0.0000	0.0204
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**6.7100e-003**	**0.0000**	**6.7100e-003**	**6.7000e-004**	**0.0000**	**6.7000e-004**	**0.0000**	**0.0204**	**0.0204**	**0.0000**	**0.0000**	**0.0204**

3.9 Yarnell Debris Basin - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-005	8.8000e-004	8.6000e-004	0.0000		6.0000e-005	6.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1046	0.1046	3.0000e-005	0.0000	0.1055
Total	**9.0000e-005**	**8.8000e-004**	**8.6000e-004**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1046**	**0.1046**	**3.0000e-005**	**0.0000**	**0.1055**

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	4.1200e-003	0.0000	4.1200e-003	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0204	0.0204	0.0000	0.0000	0.0204
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**4.1200e-003**	**0.0000**	**4.1200e-003**	**4.1000e-004**	**0.0000**	**4.1000e-004**	**0.0000**	**0.0204**	**0.0204**	**0.0000**	**0.0000**	**0.0204**

3.10 LAR UV Plant Drainage and V-Ditch - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-005	8.8000e-004	8.6000e-004	0.0000		6.0000e-005	6.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1046	0.1046	3.0000e-005	0.0000	0.1055
Total	**9.0000e-005**	**8.8000e-004**	**8.6000e-004**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1046**	**0.1046**	**3.0000e-005**	**0.0000**	**0.1055**

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	8.1000e-004	0.0000	8.1000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.0204	0.0204	0.0000	0.0000	0.0204
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**8.1000e-004**	**0.0000**	**8.1000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.0204**	**0.0204**	**0.0000**	**0.0000**	**0.0204**

3.10 LAR UV Plant Drainage and V-Ditch - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-005	8.8000e-004	8.6000e-004	0.0000		6.0000e-005	6.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1046	0.1046	3.0000e-005	0.0000	0.1055
Total	**9.0000e-005**	**8.8000e-004**	**8.6000e-004**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1046**	**0.1046**	**3.0000e-005**	**0.0000**	**0.1055**

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	5.1000e-004	0.0000	5.1000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0204	0.0204	0.0000	0.0000	0.0204
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**5.1000e-004**	**0.0000**	**5.1000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.0204**	**0.0204**	**0.0000**	**0.0000**	**0.0204**

3.11 San Fernando Creek - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3400e-003	0.0258	0.0190	4.0000e-005		1.1700e-003	1.1700e-003		1.0800e-003	1.0800e-003	0.0000	3.4231	3.4231	1.0800e-003	0.0000	3.4502
Total	**2.3400e-003**	**0.0258**	**0.0190**	**4.0000e-005**	**0.0000**	**1.1700e-003**	**1.1700e-003**	**0.0000**	**1.0800e-003**	**1.0800e-003**	**0.0000**	**3.4231**	**3.4231**	**1.0800e-003**	**0.0000**	**3.4502**

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	1.0000e-005	4.0000e-004	7.0000e-005	0.0000	3.5200e-003	0.0000	3.5200e-003	3.5000e-004	0.0000	3.5000e-004	0.0000	0.0866	0.0866	1.0000e-005	0.0000	0.0868
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	1.4000e-004	1.1000e-004	1.1700e-003	0.0000	0.0491	0.0000	0.0491	4.9400e-003	0.0000	4.9500e-003	0.0000	0.2854	0.2854	1.0000e-005	0.0000	0.2856
Total	**1.5000e-004**	**5.1000e-004**	**1.2400e-003**	**0.0000**	**0.0526**	**0.0000**	**0.0526**	**5.2900e-003**	**0.0000**	**5.3000e-003**	**0.0000**	**0.3720**	**0.3720**	**2.0000e-005**	**0.0000**	**0.3724**

3.11 San Fernando Creek - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3400e-003	0.0258	0.0190	4.0000e-005		1.1700e-003	1.1700e-003		1.0800e-003	1.0800e-003	0.0000	3.4231	3.4231	1.0800e-003	0.0000	3.4502
Total	**2.3400e-003**	**0.0258**	**0.0190**	**4.0000e-005**	**0.0000**	**1.1700e-003**	**1.1700e-003**	**0.0000**	**1.0800e-003**	**1.0800e-003**	**0.0000**	**3.4231**	**3.4231**	**1.0800e-003**	**0.0000**	**3.4502**

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	1.0000e-005	4.0000e-004	7.0000e-005	0.0000	2.1600e-003	0.0000	2.1600e-003	2.2000e-004	0.0000	2.2000e-004	0.0000	0.0866	0.0866	1.0000e-005	0.0000	0.0868
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	1.4000e-004	1.1000e-004	1.1700e-003	0.0000	0.0302	0.0000	0.0302	3.0500e-003	0.0000	3.0500e-003	0.0000	0.2854	0.2854	1.0000e-005	0.0000	0.2856
Total	**1.5000e-004**	**5.1000e-004**	**1.2400e-003**	**0.0000**	**0.0323**	**0.0000**	**0.0323**	**3.2700e-003**	**0.0000**	**3.2700e-003**	**0.0000**	**0.3720**	**0.3720**	**2.0000e-005**	**0.0000**	**0.3724**

3.12 Lower San Fernando Detention Basin - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0500e-003	0.0105	0.0104	1.0000e-005		7.0000e-004	7.0000e-004		6.5000e-004	6.5000e-004	0.0000	1.2555	1.2555	4.0000e-004	0.0000	1.2654
Total	**1.0500e-003**	**0.0105**	**0.0104**	**1.0000e-005**	**0.0000**	**7.0000e-004**	**7.0000e-004**	**0.0000**	**6.5000e-004**	**6.5000e-004**	**0.0000**	**1.2555**	**1.2555**	**4.0000e-004**	**0.0000**	**1.2654**

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	6.0000e-005	5.0000e-005	5.0000e-004	0.0000	0.0163	0.0000	0.0163	1.6500e-003	0.0000	1.6500e-003	0.0000	0.1223	0.1223	0.0000	0.0000	0.1224
Total	**6.0000e-005**	**5.0000e-005**	**5.0000e-004**	**0.0000**	**0.0163**	**0.0000**	**0.0163**	**1.6500e-003**	**0.0000**	**1.6500e-003**	**0.0000**	**0.1223**	**0.1223**	**0.0000**	**0.0000**	**0.1224**

3.12 Lower San Fernando Detention Basin - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0500e-003	0.0105	0.0104	1.0000e-005		7.0000e-004	7.0000e-004		6.5000e-004	6.5000e-004	0.0000	1.2555	1.2555	4.0000e-004	0.0000	1.2654
Total	**1.0500e-003**	**0.0105**	**0.0104**	**1.0000e-005**	**0.0000**	**7.0000e-004**	**7.0000e-004**	**0.0000**	**6.5000e-004**	**6.5000e-004**	**0.0000**	**1.2555**	**1.2555**	**4.0000e-004**	**0.0000**	**1.2654**

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	6.0000e-005	5.0000e-005	5.0000e-004	0.0000	0.0100	0.0000	0.0100	1.0200e-003	0.0000	1.0200e-003	0.0000	0.1223	0.1223	0.0000	0.0000	0.1224
Total	**6.0000e-005**	**5.0000e-005**	**5.0000e-004**	**0.0000**	**0.0100**	**0.0000**	**0.0100**	**1.0200e-003**	**0.0000**	**1.0200e-003**	**0.0000**	**0.1223**	**0.1223**	**0.0000**	**0.0000**	**0.1224**

3.13 Bull Creek Extension (Sediment Basin) - 2019

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					1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.8000e-004	8.1300e-003	2.9800e-003	1.0000e-005		3.1000e-004	3.1000e-004		2.9000e-004	2.9000e-004	0.0000	0.8097	0.8097	2.6000e-004	0.0000	0.8161
Total	**6.8000e-004**	**8.1300e-003**	**2.9800e-003**	**1.0000e-005**	**1.0000e-005**	**3.1000e-004**	**3.2000e-004**	**0.0000**	**2.9000e-004**	**2.9000e-004**	**0.0000**	**0.8097**	**0.8097**	**2.6000e-004**	**0.0000**	**0.8161**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	9.5000e-004	0.0000	9.5000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.3000e-004	0.0000	7.6900e-003	0.0000	7.6900e-003	7.8000e-004	0.0000	7.8000e-004	0.0000	0.0815	0.0815	0.0000	0.0000	0.0816
Total	**5.0000e-005**	**2.3000e-004**	**3.7000e-004**	**0.0000**	**8.6400e-003**	**0.0000**	**8.6400e-003**	**8.8000e-004**	**0.0000**	**8.8000e-004**	**0.0000**	**0.1248**	**0.1248**	**0.0000**	**0.0000**	**0.1250**

3.13 Bull Creek Extension (Sediment Basin) - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.8000e-004	8.1200e-003	2.9800e-003	1.0000e-005		3.1000e-004	3.1000e-004		2.9000e-004	2.9000e-004	0.0000	0.8097	0.8097	2.6000e-004	0.0000	0.8161
Total	**6.8000e-004**	**8.1200e-003**	**2.9800e-003**	**1.0000e-005**	**0.0000**	**3.1000e-004**	**3.1000e-004**	**0.0000**	**2.9000e-004**	**2.9000e-004**	**0.0000**	**0.8097**	**0.8097**	**2.6000e-004**	**0.0000**	**0.8161**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	5.9000e-004	0.0000	5.9000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.3000e-004	0.0000	4.7400e-003	0.0000	4.7400e-003	4.9000e-004	0.0000	4.9000e-004	0.0000	0.0815	0.0815	0.0000	0.0000	0.0816
Total	**5.0000e-005**	**2.3000e-004**	**3.7000e-004**	**0.0000**	**5.3300e-003**	**0.0000**	**5.3300e-003**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**0.0000**	**0.1248**	**0.1248**	**0.0000**	**0.0000**	**0.1250**

3.14 Upper Northeast Drainage - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5000e-004	1.8100e-003	6.3000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.2105	0.2105	7.0000e-005	0.0000	0.2122
Total	**1.5000e-004**	**1.8100e-003**	**6.3000e-004**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.2105**	**0.2105**	**7.0000e-005**	**0.0000**	**0.2122**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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	2.0000e-005	2.0000e-005	1.7000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0408	0.0408	0.0000	0.0000	0.0408
Total	**3.0000e-005**	**2.2000e-004**	**2.1000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0841**	**0.0841**	**0.0000**	**0.0000**	**0.0842**

3.14 Upper Northeast Drainage - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5000e-004	1.8100e-003	6.3000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.2105	0.2105	7.0000e-005	0.0000	0.2122
Total	**1.5000e-004**	**1.8100e-003**	**6.3000e-004**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.2105**	**0.2105**	**7.0000e-005**	**0.0000**	**0.2122**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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	2.0000e-005	2.0000e-005	1.7000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0408	0.0408	0.0000	0.0000	0.0408
Total	**3.0000e-005**	**2.2000e-004**	**2.1000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0841**	**0.0841**	**0.0000**	**0.0000**	**0.0842**

3.15 LAR North Dike Stormwater Basin - 2019

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					7.0000e-005	0.0000	7.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7300e-003	0.0197	0.0130	3.0000e-005		7.6000e-004	7.6000e-004		7.0000e-004	7.0000e-004	0.0000	2.6908	2.6908	8.5000e-004	0.0000	2.7121
Total	**1.7300e-003**	**0.0197**	**0.0130**	**3.0000e-005**	**7.0000e-005**	**7.6000e-004**	**8.3000e-004**	**1.0000e-005**	**7.0000e-004**	**7.1000e-004**	**0.0000**	**2.6908**	**2.6908**	**8.5000e-004**	**0.0000**	**2.7121**

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	1.0000e-005	4.0000e-004	7.0000e-005	0.0000	5.7500e-003	0.0000	5.7500e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0866	0.0866	1.0000e-005	0.0000	0.0868
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	1.4000e-004	1.1000e-004	1.1700e-003	0.0000	0.0806	0.0000	0.0806	8.0900e-003	0.0000	8.0900e-003	0.0000	0.2854	0.2854	1.0000e-005	0.0000	0.2856
Total	**1.5000e-004**	**5.1000e-004**	**1.2400e-003**	**0.0000**	**0.0864**	**0.0000**	**0.0864**	**8.6700e-003**	**0.0000**	**8.6700e-003**	**0.0000**	**0.3720**	**0.3720**	**2.0000e-005**	**0.0000**	**0.3724**

3.15 LAR North Dike Stormwater Basin - 2019

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					3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7300e-003	0.0197	0.0130	3.0000e-005		7.6000e-004	7.6000e-004		7.0000e-004	7.0000e-004	0.0000	2.6908	2.6908	8.5000e-004	0.0000	2.7121
Total	**1.7300e-003**	**0.0197**	**0.0130**	**3.0000e-005**	**3.0000e-005**	**7.6000e-004**	**7.9000e-004**	**0.0000**	**7.0000e-004**	**7.0000e-004**	**0.0000**	**2.6908**	**2.6908**	**8.5000e-004**	**0.0000**	**2.7121**

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	1.0000e-005	4.0000e-004	7.0000e-005	0.0000	3.5300e-003	0.0000	3.5300e-003	3.5000e-004	0.0000	3.6000e-004	0.0000	0.0866	0.0866	1.0000e-005	0.0000	0.0868
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	1.4000e-004	1.1000e-004	1.1700e-003	0.0000	0.0495	0.0000	0.0495	4.9800e-003	0.0000	4.9800e-003	0.0000	0.2854	0.2854	1.0000e-005	0.0000	0.2856
Total	**1.5000e-004**	**5.1000e-004**	**1.2400e-003**	**0.0000**	**0.0530**	**0.0000**	**0.0530**	**5.3300e-003**	**0.0000**	**5.3400e-003**	**0.0000**	**0.3720**	**0.3720**	**2.0000e-005**	**0.0000**	**0.3724**

3.16 East Channel - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1000e-004	8.0600e-003	4.4800e-003	1.0000e-005		3.6000e-004	3.6000e-004		3.3000e-004	3.3000e-004	0.0000	0.9454	0.9454	3.0000e-004	0.0000	0.9529
Total	**7.1000e-004**	**8.0600e-003**	**4.4800e-003**	**1.0000e-005**	**0.0000**	**3.6000e-004**	**3.6000e-004**	**0.0000**	**3.3000e-004**	**3.3000e-004**	**0.0000**	**0.9454**	**0.9454**	**3.0000e-004**	**0.0000**	**0.9529**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	6.8000e-004	0.0000	6.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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	6.0000e-005	5.0000e-005	5.0000e-004	0.0000	8.2000e-003	0.0000	8.2100e-003	8.4000e-004	0.0000	8.4000e-004	0.0000	0.1223	0.1223	0.0000	0.0000	0.1224
Total	**7.0000e-005**	**2.5000e-004**	**5.4000e-004**	**0.0000**	**8.8800e-003**	**0.0000**	**8.8900e-003**	**9.1000e-004**	**0.0000**	**9.1000e-004**	**0.0000**	**0.1656**	**0.1656**	**0.0000**	**0.0000**	**0.1658**

3.16 East Channel - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1000e-004	8.0600e-003	4.4800e-003	1.0000e-005		3.6000e-004	3.6000e-004		3.3000e-004	3.3000e-004	0.0000	0.9454	0.9454	3.0000e-004	0.0000	0.9529
Total	**7.1000e-004**	**8.0600e-003**	**4.4800e-003**	**1.0000e-005**	**0.0000**	**3.6000e-004**	**3.6000e-004**	**0.0000**	**3.3000e-004**	**3.3000e-004**	**0.0000**	**0.9454**	**0.9454**	**3.0000e-004**	**0.0000**	**0.9529**

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	1.0000e-005	2.0000e-004	4.0000e-005	0.0000	4.2000e-004	0.0000	4.2000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0433	0.0433	0.0000	0.0000	0.0434
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	6.0000e-005	5.0000e-005	5.0000e-004	0.0000	5.0700e-003	0.0000	5.0700e-003	5.3000e-004	0.0000	5.3000e-004	0.0000	0.1223	0.1223	0.0000	0.0000	0.1224
Total	**7.0000e-005**	**2.5000e-004**	**5.4000e-004**	**0.0000**	**5.4900e-003**	**0.0000**	**5.4900e-003**	**5.7000e-004**	**0.0000**	**5.7000e-004**	**0.0000**	**0.1656**	**0.1656**	**0.0000**	**0.0000**	**0.1658**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	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
User Defined Industrial	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas 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
NaturalGas 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

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					
User Defined Industrial	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
User Defined Industrial	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Unmitigated	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Total	**1.2100e-003**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Total	**1.2100e-003**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Van Norman Complex Ongoing Maintenance Program - Initial Year

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1,000.00	User Defined Unit	1,340.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on Initial Study.

Construction Phase - Site preparation only. Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Trips and VMT - Based on data needs.

On-road Fugitive Dust - Based on unpaved road travel onsite.

Demolition - No demolition.

Grading - Based on data needs.

Architectural Coating - No architectural coatings.

Vehicle Trips - Construction only.

Construction Off-road Equipment Mitigation - In accordance with SCAQMD Rule 403, water 2 times daily and posted speed limit is 15 miles per hour.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	6,000.00	10.00

tblConstructionPhase	NumDays	6,000.00	7.00
tblConstructionPhase	NumDays	6,000.00	6.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	7.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	14.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	5.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblGrading	MaterialExported	0.00	2,294.00
tblGrading	MaterialExported	0.00	112.00
tblGrading	MaterialExported	0.00	1,265.00
tblGrading	MaterialExported	0.00	8,285.00
tblGrading	MaterialExported	0.00	439.00
tblGrading	MaterialExported	0.00	634.00
tblLandUse	LotAcreage	0.00	1,340.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00

tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOnRoadDust	HaulingPercentPave	100.00	74.00
tblOnRoadDust	HaulingPercentPave	100.00	87.00
tblOnRoadDust	HaulingPercentPave	100.00	90.00
tblOnRoadDust	HaulingPercentPave	100.00	93.00
tblOnRoadDust	HaulingPercentPave	100.00	78.70
tblOnRoadDust	HaulingPercentPave	100.00	95.00
tblOnRoadDust	HaulingPercentPave	100.00	79.50
tblOnRoadDust	HaulingPercentPave	100.00	79.50
tblOnRoadDust	HaulingPercentPave	100.00	71.30
tblOnRoadDust	HaulingPercentPave	100.00	78.10
tblOnRoadDust	HaulingPercentPave	100.00	76.00
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tblOnRoadDust	HaulingPercentPave	100.00	75.20
tblOnRoadDust	HaulingPercentPave	100.00	97.00
tblOnRoadDust	WorkerPercentPave	100.00	82.30
tblOnRoadDust	WorkerPercentPave	100.00	91.20
tblOnRoadDust	WorkerPercentPave	100.00	93.20
tblOnRoadDust	WorkerPercentPave	100.00	95.20
tblOnRoadDust	WorkerPercentPave	100.00	85.50
tblOnRoadDust	WorkerPercentPave	100.00	96.60

tblOnRoadDust	WorkerPercentPave	100.00	86.00
tblOnRoadDust	WorkerPercentPave	100.00	86.00
tblOnRoadDust	WorkerPercentPave	100.00	80.50
tblOnRoadDust	WorkerPercentPave	100.00	85.10
tblOnRoadDust	WorkerPercentPave	100.00	83.70
tblOnRoadDust	WorkerPercentPave	100.00	84.00
tblOnRoadDust	WorkerPercentPave	100.00	83.10
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
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tblTripsAndVMT	HaulingTripNumber	287.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	14.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	158.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	1,036.00	8.00

tblTripsAndVMT	HaulingTripNumber	55.00	2.00
tblTripsAndVMT	HaulingTripNumber	79.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	5.00	4.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	10.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00

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
Year	lb/day										lb/day					
2019	0.8898	9.4262	7.5651	0.0148	42.3198	0.4539	42.5400	4.2399	0.4176	4.4426	0.0000	1,467.7197	1,467.7197	0.4222	0.0000	1,478.2756
Maximum	**0.8898**	**9.4262**	**7.5651**	**0.0148**	**42.3198**	**0.4539**	**42.5400**	**4.2399**	**0.4176**	**4.4426**	**0.0000**	**1,467.7197**	**1,467.7197**	**0.4222**	**0.0000**	**1,478.2756**

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					
2019	0.8898	9.4262	7.5651	0.0148	25.9385	0.4539	26.1587	2.6008	0.4176	2.8034	0.0000	1,467.7197	1,467.7197	0.4222	0.0000	1,478.2756
Maximum	**0.8898**	**9.4262**	**7.5651**	**0.0148**	**25.9385**	**0.4539**	**26.1587**	**2.6008**	**0.4176**	**2.8034**	**0.0000**	**1,467.7197**	**1,467.7197**	**0.4222**	**0.0000**	**1,478.2756**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**38.71**	**0.00**	**38.51**	**38.66**	**0.00**	**36.90**	**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
Category	lb/day										lb/day					
Area	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**	**0.0000**	**3.7000e-004**	**3.7000e-004**	**0.0000**	**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**	**0.0000**	**0.2335**

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	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**	**0.0000**	**3.7000e-004**	**3.7000e-004**	**0.0000**	**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**	**0.0000**	**0.2335**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	Upper Debris Basin	Site Preparation	9/1/2019	9/13/2019	5	10	
2	Middle Debris Basin	Site Preparation	9/14/2019	10/3/2019	5	14	
3	Bee Drainage Channel	Site Preparation	10/4/2019	10/7/2019	5	2	
4	San Fernando Gate Drainage Feature	Site Preparation	10/8/2019	10/9/2019	5	2	
5	Upper San Fernando Drain Line	Site Preparation	10/10/2019	10/16/2019	5	5	
6	Upper San Fernando Drain Line Feature 1	Site Preparation	10/17/2019	10/21/2019	5	3	
7	Upper San Fernando Drain Line Feature 2	Site Preparation	10/22/2019	10/22/2019	5	1	
8	Yarnell Debris Basin	Site Preparation	10/23/2019	10/23/2019	5	1	
9	LAR UV Plant Drainage and V-Ditch	Site Preparation	10/24/2019	10/24/2019	5	1	
10	San Fernando Creek	Site Preparation	10/25/2019	11/4/2019	5	7	
11	Lower San Fernando Detention Basin	Site Preparation	11/5/2019	11/12/2019	5	6	
12	Bull Creek Extension (Sediment Basin)	Site Preparation	11/13/2019	11/14/2019	5	2	
13	Upper Northeast Drainage	Site Preparation	11/15/2019	11/15/2019	5	1	
14	LAR North Dike Stormwater Basin	Site Preparation	11/16/2019	11/26/2019	5	7	
15	East Channel	Site Preparation	11/27/2019	11/29/2019	5	3	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Upper Debris Basin	Excavators	1	6.00	158	0.38
Upper Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Upper Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Upper Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Middle Debris Basin	Excavators	1	6.00	158	0.38
Middle Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Middle Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Middle Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Bee Drainage Channel	Rubber Tired Dozers	0	8.00	247	0.40
Bee Drainage Channel	Rubber Tired Loaders	1	6.00	203	0.36
Bee Drainage Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Gate Drainage Feature	Excavators	1	6.00	158	0.38
San Fernando Gate Drainage Feature	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Gate Drainage Feature	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Gate Drainage Feature	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line	Excavators	1	6.00	158	0.38
Upper San Fernando Drain Line	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line	Rubber Tired Loaders	1	6.00	203	0.36
Upper San Fernando Drain Line	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line Feature 1	Excavators	1	6.00	158	0.38
Upper San Fernando Drain Line Feature 1	Rubber Tired Dozers	0	8.00	247	0.40

Upper San Fernando Drain Line Feature 1	Rubber Tired Loaders	1	6.00	203	0.36
Upper San Fernando Drain Line Feature 1	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Upper San Fernando Drain Line Feature 2	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line Feature 2	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Yarnell Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Yarnell Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
LAR UV Plant Drainage and V-Ditch	Rubber Tired Dozers	0	8.00	247	0.40
LAR UV Plant Drainage and V-Ditch	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Creek	Excavators	1	6.00	158	0.38
San Fernando Creek	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Creek	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Creek	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Lower San Fernando Detention Basin	Rubber Tired Dozers	0	8.00	247	0.40
Lower San Fernando Detention Basin	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Bull Creek Extension (Sediment Basin)	Cranes	1	6.00	231	0.29
Bull Creek Extension (Sediment Basin)	Rubber Tired Dozers	0	8.00	247	0.40
Bull Creek Extension (Sediment Basin)	Rubber Tired Loaders	1	6.00	203	0.36
Bull Creek Extension (Sediment Basin)	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper Northeast Drainage	Rubber Tired Dozers	0	8.00	247	0.40
Upper Northeast Drainage	Rubber Tired Loaders	1	6.00	203	0.36
Upper Northeast Drainage	Tractors/Loaders/Backhoes	0	8.00	97	0.37
LAR North Dike Stormwater Basin	Excavators	1	6.00	158	0.38
LAR North Dike Stormwater Basin	Rubber Tired Dozers	0	8.00	247	0.40
LAR North Dike Stormwater Basin	Rubber Tired Loaders	1	6.00	203	0.36
LAR North Dike Stormwater Basin	Tractors/Loaders/Backhoes	0	8.00	97	0.37
East Channel	Rubber Tired Dozers	0	8.00	247	0.40

East Channel	Rubber Tired Loaders	1	6.00	203	0.36
East Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37

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
Upper Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Middle Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Bee Drainage Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
San Fernando Gate Drainage Feature	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 1	4	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 2	1	4.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Yarnell Debris Basin	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
LAR UV Plant Drainage and V-Ditch	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
San Fernando Creek	3	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Lower San Fernando Detention Basin	2	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bull Creek Extension (Sediment Basin)	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper Northeast Drainage	1	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
LAR North Dike Stormwater Basin	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
East Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Upper Debris Basin - 2019

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					0.0259	0.0000	0.0259	3.9300e-003	0.0000	3.9300e-003			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086		1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0259**	**0.3354**	**0.3613**	**3.9300e-003**	**0.3086**	**0.3125**		**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	4.0500e-003	0.1570	0.0271	3.6000e-004	3.0667	4.6000e-004	3.0672	0.3070	4.4000e-004	0.3075		38.6877	38.6877	3.1200e-003		38.7657
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	0.0392	0.0273	0.3595	9.5000e-004	30.7089	7.0000e-004	30.7096	3.0772	6.4000e-004	3.0778		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0432**	**0.1843**	**0.3865**	**1.3100e-003**	**33.7757**	**1.1600e-003**	**33.7768**	**3.3842**	**1.0800e-003**	**3.3853**		**133.1668**	**133.1668**	**6.0700e-003**		**133.3187**

3.2 Upper Debris Basin - 2019

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					0.0117	0.0000	0.0117	1.7700e-003	0.0000	1.7700e-003			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086	0.0000	1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0117**	**0.3354**	**0.3471**	**1.7700e-003**	**0.3086**	**0.3103**	**0.0000**	**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	4.0500e-003	0.1570	0.0271	3.6000e-004	1.8798	4.6000e-004	1.8802	0.1884	4.4000e-004	0.1888		38.6877	38.6877	3.1200e-003		38.7657
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	0.0392	0.0273	0.3595	9.5000e-004	18.8309	7.0000e-004	18.8315	1.8893	6.4000e-004	1.8900		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0432**	**0.1843**	**0.3865**	**1.3100e-003**	**20.7106**	**1.1600e-003**	**20.7118**	**2.0777**	**1.0800e-003**	**2.0788**		**133.1668**	**133.1668**	**6.0700e-003**		**133.3187**

3.3 Middle Debris Basin - 2019

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					0.0669	0.0000	0.0669	0.0101	0.0000	0.0101			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086		1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0669**	**0.3354**	**0.4023**	**0.0101**	**0.3086**	**0.3187**		**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	2.9000e-003	0.1122	0.0193	2.6000e-004	1.7282	3.3000e-004	1.7285	0.1732	3.1000e-004	0.1735		27.6340	27.6340	2.2300e-003		27.6898
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	0.0392	0.0273	0.3595	9.5000e-004	24.3083	7.0000e-004	24.3090	2.4389	6.4000e-004	2.4395		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0421**	**0.1394**	**0.3788**	**1.2100e-003**	**26.0364**	**1.0300e-003**	**26.0375**	**2.6121**	**9.5000e-004**	**2.6130**		**122.1132**	**122.1132**	**5.1800e-003**		**122.2428**

3.3 Middle Debris Basin - 2019

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					0.0301	0.0000	0.0301	4.5600e-003	0.0000	4.5600e-003			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086	0.0000	1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0301**	**0.3354**	**0.3655**	**4.5600e-003**	**0.3086**	**0.3131**	**0.0000**	**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	2.9000e-003	0.1122	0.0193	2.6000e-004	1.0597	3.3000e-004	1.0601	0.1064	3.1000e-004	0.1067		27.6340	27.6340	2.2300e-003		27.6898
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	0.0392	0.0273	0.3595	9.5000e-004	14.9132	7.0000e-004	14.9138	1.4994	6.4000e-004	1.5000		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0421**	**0.1394**	**0.3788**	**1.2100e-003**	**15.9729**	**1.0300e-003**	**15.9739**	**1.6057**	**9.5000e-004**	**1.6067**		**122.1132**	**122.1132**	**5.1800e-003**		**122.2428**

3.4 Bee Drainage Channel - 2019

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					0.0248	0.0000	0.0248	3.7600e-003	0.0000	3.7600e-003			0.0000			0.0000
Off-Road	0.4737	5.3728	2.9861	7.0200e-003		0.2384	0.2384		0.2193	0.2193		694.7606	694.7606	0.2198		700.2559
Total	**0.4737**	**5.3728**	**2.9861**	**7.0200e-003**	**0.0248**	**0.2384**	**0.2632**	**3.7600e-003**	**0.2193**	**0.2231**		**694.7606**	**694.7606**	**0.2198**		**700.2559**

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	5.0700e-003	0.1963	0.0338	4.5000e-004	3.0243	5.7000e-004	3.0249	0.3031	5.5000e-004	0.3037		48.3596	48.3596	3.9000e-003		48.4571
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	0.0392	0.0273	0.3595	9.5000e-004	24.3083	7.0000e-004	24.3090	2.4389	6.4000e-004	2.4395		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0443**	**0.2235**	**0.3933**	**1.4000e-003**	**27.3326**	**1.2700e-003**	**27.3339**	**2.7420**	**1.1900e-003**	**2.7432**		**142.8387**	**142.8387**	**6.8500e-003**		**143.0101**

3.4 Bee Drainage Channel - 2019

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					0.0112	0.0000	0.0112	1.6900e-003	0.0000	1.6900e-003			0.0000			0.0000
Off-Road	0.4737	5.3728	2.9861	7.0200e-003		0.2384	0.2384		0.2193	0.2193	0.0000	694.7606	694.7606	0.2198		700.2559
Total	**0.4737**	**5.3728**	**2.9861**	**7.0200e-003**	**0.0112**	**0.2384**	**0.2496**	**1.6900e-003**	**0.2193**	**0.2210**	**0.0000**	**694.7606**	**694.7606**	**0.2198**		**700.2559**

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	5.0700e-003	0.1963	0.0338	4.5000e-004	1.8545	5.7000e-004	1.8551	0.1861	5.5000e-004	0.1867		48.3596	48.3596	3.9000e-003		48.4571
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	0.0392	0.0273	0.3595	9.5000e-004	14.9132	7.0000e-004	14.9138	1.4994	6.4000e-004	1.5000		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0443**	**0.2235**	**0.3933**	**1.4000e-003**	**16.7677**	**1.2700e-003**	**16.7689**	**1.6855**	**1.1900e-003**	**1.6867**		**142.8387**	**142.8387**	**6.8500e-003**		**143.0101**

3.5 San Fernando Gate Drainage Feature - 2019

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					0.0359	0.0000	0.0359	5.4300e-003	0.0000	5.4300e-003			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009		847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0359**	**0.2184**	**0.2542**	**5.4300e-003**	**0.2009**	**0.2063**		**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	0.0101	0.3925	0.0677	9.0000e-004	8.4611	1.1400e-003	8.4623	0.8468	1.0900e-003	0.8479		96.7191	96.7191	7.8100e-003		96.9143
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	0.0392	0.0273	0.3595	9.5000e-004	33.8228	7.0000e-004	33.8235	3.3877	6.4000e-004	3.3883		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0493**	**0.4198**	**0.4271**	**1.8500e-003**	**42.2839**	**1.8400e-003**	**42.2858**	**4.2345**	**1.7300e-003**	**4.2362**		**191.1982**	**191.1982**	**0.0108**		**191.4673**

3.5 San Fernando Gate Drainage Feature - 2019

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					0.0161	0.0000	0.0161	2.4400e-003	0.0000	2.4400e-003			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009	0.0000	847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0161**	**0.2184**	**0.2345**	**2.4400e-003**	**0.2009**	**0.2033**	**0.0000**	**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	0.0101	0.3925	0.0677	9.0000e-004	5.1856	1.1400e-003	5.1868	0.5193	1.0900e-003	0.5204		96.7191	96.7191	7.8100e-003		96.9143
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	0.0392	0.0273	0.3595	9.5000e-004	20.7368	7.0000e-004	20.7375	2.0791	6.4000e-004	2.0797		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0493**	**0.4198**	**0.4271**	**1.8500e-003**	**25.9224**	**1.8400e-003**	**25.9242**	**2.5983**	**1.7300e-003**	**2.6001**		**191.1982**	**191.1982**	**0.0108**		**191.4673**

3.6 Upper San Fernando Drain Line - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009		847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0000**	**0.2184**	**0.2184**	**0.0000**	**0.2009**	**0.2009**		**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	2.0300e-003	0.0785	0.0135	1.8000e-004	1.2921	2.3000e-004	1.2923	0.1295	2.2000e-004	0.1297		19.3438	19.3438	1.5600e-003		19.3829
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	0.0392	0.0273	0.3595	9.5000e-004	25.8652	7.0000e-004	25.8659	2.5941	6.4000e-004	2.5948		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0412**	**0.1058**	**0.3730**	**1.1300e-003**	**27.1573**	**9.3000e-004**	**27.1582**	**2.7236**	**8.6000e-004**	**2.7244**		**113.8229**	**113.8229**	**4.5100e-003**		**113.9358**

3.6 Upper San Fernando Drain Line - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009	0.0000	847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0000**	**0.2184**	**0.2184**	**0.0000**	**0.2009**	**0.2009**	**0.0000**	**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	2.0300e-003	0.0785	0.0135	1.8000e-004	0.7922	2.3000e-004	0.7925	0.0795	2.2000e-004	0.0797		19.3438	19.3438	1.5600e-003		19.3829
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	0.0392	0.0273	0.3595	9.5000e-004	15.8661	7.0000e-004	15.8668	1.5942	6.4000e-004	1.5949		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0412**	**0.1058**	**0.3730**	**1.1300e-003**	**16.6583**	**9.3000e-004**	**16.6593**	**1.6737**	**8.6000e-004**	**1.6745**		**113.8229**	**113.8229**	**4.5100e-003**		**113.9358**

3.7 Upper San Fernando Drain Line Feature 1 - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.8438	9.1372	7.1605	0.0132		0.4524	0.4524		0.4162	0.4162		1,308.7611	1,308.7611	0.4141		1,319.1131
Total	**0.8438**	**9.1372**	**7.1605**	**0.0132**	**0.0000**	**0.4524**	**0.4524**	**0.0000**	**0.4162**	**0.4162**		**1,308.7611**	**1,308.7611**	**0.4141**		**1,319.1131**

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	6.7600e-003	0.2617	0.0451	6.0000e-004	4.7189	7.6000e-004	4.7197	0.4726	7.3000e-004	0.4733		64.4794	64.4794	5.2000e-003		64.6095
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	0.0392	0.0273	0.3595	9.5000e-004	28.2871	7.0000e-004	28.2878	2.8356	6.4000e-004	2.8363		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0459**	**0.2889**	**0.4046**	**1.5500e-003**	**33.0060**	**1.4600e-003**	**33.0074**	**3.3083**	**1.3700e-003**	**3.3096**		**158.9585**	**158.9585**	**8.1500e-003**		**159.1625**

3.7 Upper San Fernando Drain Line Feature 1 - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.8438	9.1372	7.1605	0.0132		0.4524	0.4524		0.4162	0.4162	0.0000	1,308.7611	1,308.7611	0.4141		1,319.1131
Total	**0.8438**	**9.1372**	**7.1605**	**0.0132**	**0.0000**	**0.4524**	**0.4524**	**0.0000**	**0.4162**	**0.4162**	**0.0000**	**1,308.7611**	**1,308.7611**	**0.4141**		**1,319.1131**

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	6.7600e-003	0.2617	0.0451	6.0000e-004	2.8929	7.6000e-004	2.8936	0.2900	7.3000e-004	0.2907		64.4794	64.4794	5.2000e-003		64.6095
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	0.0392	0.0273	0.3595	9.5000e-004	17.3485	7.0000e-004	17.3492	1.7418	6.4000e-004	1.7424		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0459**	**0.2889**	**0.4046**	**1.5500e-003**	**20.2413**	**1.4600e-003**	**20.2428**	**2.0318**	**1.3700e-003**	**2.0332**		**158.9585**	**158.9585**	**8.1500e-003**		**159.1625**

3.8 Upper San Fernando Drain Line Feature 2 - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077		230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**		**230.6564**	**230.6564**	**0.0730**		**232.4808**

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	0.0101	0.3925	0.0677	9.0000e-004	6.9313	1.1400e-003	6.9324	0.6943	1.0900e-003	0.6954		96.7191	96.7191	7.8100e-003		96.9143
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	0.0196	0.0136	0.1797	4.7000e-004	13.8840	3.5000e-004	13.8844	1.3919	3.2000e-004	1.3923		47.2396	47.2396	1.4800e-003		47.2765
Total	**0.0297**	**0.4062**	**0.2474**	**1.3700e-003**	**20.8153**	**1.4900e-003**	**20.8168**	**2.0862**	**1.4100e-003**	**2.0876**		**143.9587**	**143.9587**	**9.2900e-003**		**144.1908**

3.8 Upper San Fernando Drain Line Feature 2 - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077	0.0000	230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**	**0.0000**	**230.6564**	**230.6564**	**0.0730**		**232.4808**

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	0.0101	0.3925	0.0677	9.0000e-004	4.2492	1.1400e-003	4.2504	0.4261	1.0900e-003	0.4271		96.7191	96.7191	7.8100e-003		96.9143
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	0.0196	0.0136	0.1797	4.7000e-004	8.5154	3.5000e-004	8.5158	0.8551	3.2000e-004	0.8554		47.2396	47.2396	1.4800e-003		47.2765
Total	**0.0297**	**0.4062**	**0.2474**	**1.3700e-003**	**12.7647**	**1.4900e-003**	**12.7662**	**1.2811**	**1.4100e-003**	**1.2825**		**143.9587**	**143.9587**	**9.2900e-003**		**144.1908**

3.9 Yarnell Debris Basin - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077		230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**		**230.6564**	**230.6564**	**0.0730**		**232.4808**

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	0.0196	0.0136	0.1797	4.7000e-004	14.6625	3.5000e-004	14.6629	1.4696	3.2000e-004	1.4699		47.2396	47.2396	1.4800e-003		47.2765
Total	**0.0196**	**0.0136**	**0.1797**	**4.7000e-004**	**14.6625**	**3.5000e-004**	**14.6629**	**1.4696**	**3.2000e-004**	**1.4699**		**47.2396**	**47.2396**	**1.4800e-003**		**47.2765**

3.9 Yarnell Debris Basin - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077	0.0000	230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**	**0.0000**	**230.6564**	**230.6564**	**0.0730**		**232.4808**

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	0.0196	0.0136	0.1797	4.7000e-004	8.9919	3.5000e-004	8.9922	0.9025	3.2000e-004	0.9028		47.2396	47.2396	1.4800e-003		47.2765
Total	**0.0196**	**0.0136**	**0.1797**	**4.7000e-004**	**8.9919**	**3.5000e-004**	**8.9922**	**0.9025**	**3.2000e-004**	**0.9028**		**47.2396**	**47.2396**	**1.4800e-003**		**47.2765**

3.10 LAR UV Plant Drainage and V-Ditch - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077		230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**		**230.6564**	**230.6564**	**0.0730**		**232.4808**

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	0.0196	0.0136	0.1797	4.7000e-004	1.7746	3.5000e-004	1.7750	0.1844	3.2000e-004	0.1847		47.2396	47.2396	1.4800e-003		47.2765
Total	**0.0196**	**0.0136**	**0.1797**	**4.7000e-004**	**1.7746**	**3.5000e-004**	**1.7750**	**0.1844**	**3.2000e-004**	**0.1847**		**47.2396**	**47.2396**	**1.4800e-003**		**47.2765**

3.10 LAR UV Plant Drainage and V-Ditch - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077	0.0000	230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**	**0.0000**	**230.6564**	**230.6564**	**0.0730**		**232.4808**

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	0.0196	0.0136	0.1797	4.7000e-004	1.1036	3.5000e-004	1.1039	0.1173	3.2000e-004	0.1176		47.2396	47.2396	1.4800e-003		47.2765
Total	**0.0196**	**0.0136**	**0.1797**	**4.7000e-004**	**1.1036**	**3.5000e-004**	**1.1039**	**0.1173**	**3.2000e-004**	**0.1176**		**47.2396**	**47.2396**	**1.4800e-003**		**47.2765**

3.11 San Fernando Creek - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086		1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0000**	**0.3354**	**0.3354**	**0.0000**	**0.3086**	**0.3086**		**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	2.9000e-003	0.1122	0.0193	2.6000e-004	1.0978	3.3000e-004	1.0981	0.1103	3.1000e-004	0.1107		27.6340	27.6340	2.2300e-003		27.6898
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	0.0392	0.0273	0.3595	9.5000e-004	15.3127	7.0000e-004	15.3134	1.5418	6.4000e-004	1.5425		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0421**	**0.1394**	**0.3788**	**1.2100e-003**	**16.4104**	**1.0300e-003**	**16.4115**	**1.6522**	**9.5000e-004**	**1.6531**		**122.1132**	**122.1132**	**5.1800e-003**		**122.2428**

3.11 San Fernando Creek - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086	0.0000	1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0000**	**0.3354**	**0.3354**	**0.0000**	**0.3086**	**0.3086**	**0.0000**	**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	2.9000e-003	0.1122	0.0193	2.6000e-004	0.6739	3.3000e-004	0.6742	0.0680	3.1000e-004	0.0683		27.6340	27.6340	2.2300e-003		27.6898
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	0.0392	0.0273	0.3595	9.5000e-004	9.4072	7.0000e-004	9.4079	0.9513	6.4000e-004	0.9519		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0421**	**0.1394**	**0.3788**	**1.2100e-003**	**10.0810**	**1.0300e-003**	**10.0821**	**1.0192**	**9.5000e-004**	**1.0202**		**122.1132**	**122.1132**	**5.1800e-003**		**122.2428**

3.12 Lower San Fernando Detention Basin - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3492	3.5061	3.4540	4.6600e-003		0.2341	0.2341		0.2153	0.2153		461.3128	461.3128	0.1460		464.9617
Total	**0.3492**	**3.5061**	**3.4540**	**4.6600e-003**	**0.0000**	**0.2341**	**0.2341**	**0.0000**	**0.2153**	**0.2153**		**461.3128**	**461.3128**	**0.1460**		**464.9617**

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	0.0196	0.0136	0.1797	4.7000e-004	5.9264	3.5000e-004	5.9268	0.5984	3.2000e-004	0.5987		47.2396	47.2396	1.4800e-003		47.2765
Total	**0.0196**	**0.0136**	**0.1797**	**4.7000e-004**	**5.9264**	**3.5000e-004**	**5.9268**	**0.5984**	**3.2000e-004**	**0.5987**		**47.2396**	**47.2396**	**1.4800e-003**		**47.2765**

3.12 Lower San Fernando Detention Basin - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3492	3.5061	3.4540	4.6600e-003		0.2341	0.2341		0.2153	0.2153	0.0000	461.3128	461.3128	0.1460		464.9617
Total	**0.3492**	**3.5061**	**3.4540**	**4.6600e-003**	**0.0000**	**0.2341**	**0.2341**	**0.0000**	**0.2153**	**0.2153**	**0.0000**	**461.3128**	**461.3128**	**0.1460**		**464.9617**

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	0.0196	0.0136	0.1797	4.7000e-004	3.6448	3.5000e-004	3.6451	0.3702	3.2000e-004	0.3706		47.2396	47.2396	1.4800e-003		47.2765
Total	**0.0196**	**0.0136**	**0.1797**	**4.7000e-004**	**3.6448**	**3.5000e-004**	**3.6451**	**0.3702**	**3.2000e-004**	**0.3706**		**47.2396**	**47.2396**	**1.4800e-003**		**47.2765**

3.13 Bull Creek Extension (Sediment Basin) - 2019

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					6.3300e-003	0.0000	6.3300e-003	9.6000e-004	0.0000	9.6000e-004			0.0000			0.0000
Off-Road	0.6771	8.1250	2.9789	9.0100e-003		0.3123	0.3123		0.2874	0.2874		892.5121	892.5121	0.2824		899.5716
Total	**0.6771**	**8.1250**	**2.9789**	**9.0100e-003**	**6.3300e-003**	**0.3123**	**0.3187**	**9.6000e-004**	**0.2874**	**0.2883**		**892.5121**	**892.5121**	**0.2824**		**899.5716**

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	5.0700e-003	0.1963	0.0338	4.5000e-004	1.0385	5.7000e-004	1.0390	0.1051	5.5000e-004	0.1056		48.3596	48.3596	3.9000e-003		48.4571
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	0.0392	0.0273	0.3595	9.5000e-004	8.3930	7.0000e-004	8.3937	0.8518	6.4000e-004	0.8524		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0443**	**0.2235**	**0.3933**	**1.4000e-003**	**9.4315**	**1.2700e-003**	**9.4328**	**0.9569**	**1.1900e-003**	**0.9580**		**142.8387**	**142.8387**	**6.8500e-003**		**143.0101**

3.13 Bull Creek Extension (Sediment Basin) - 2019

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					2.8500e-003	0.0000	2.8500e-003	4.3000e-004	0.0000	4.3000e-004			0.0000			0.0000
Off-Road	0.6771	8.1250	2.9789	9.0100e-003		0.3123	0.3123		0.2874	0.2874	0.0000	892.5121	892.5121	0.2824		899.5716
Total	**0.6771**	**8.1250**	**2.9789**	**9.0100e-003**	**2.8500e-003**	**0.3123**	**0.3152**	**4.3000e-004**	**0.2874**	**0.2878**	**0.0000**	**892.5121**	**892.5121**	**0.2824**		**899.5716**

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	5.0700e-003	0.1963	0.0338	4.5000e-004	0.6390	5.7000e-004	0.6396	0.0651	5.5000e-004	0.0657		48.3596	48.3596	3.9000e-003		48.4571
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	0.0392	0.0273	0.3595	9.5000e-004	5.1718	7.0000e-004	5.1725	0.5297	6.4000e-004	0.5303		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0443**	**0.2235**	**0.3933**	**1.4000e-003**	**5.8109**	**1.2700e-003**	**5.8121**	**0.5948**	**1.1900e-003**	**0.5960**		**142.8387**	**142.8387**	**6.8500e-003**		**143.0101**

3.14 Upper Northeast Drainage - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2991	3.6198	1.2591	4.6900e-003		0.1214	0.1214		0.1117	0.1117		464.1042	464.1042	0.1468		467.7751
Total	**0.2991**	**3.6198**	**1.2591**	**4.6900e-003**	**0.0000**	**0.1214**	**0.1214**	**0.0000**	**0.1117**	**0.1117**		**464.1042**	**464.1042**	**0.1468**		**467.7751**

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	0.0101	0.3925	0.0677	9.0000e-004	0.0175	1.1400e-003	0.0186	4.8000e-003	1.0900e-003	5.8900e-003		96.7191	96.7191	7.8100e-003		96.9143
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	0.0392	0.0273	0.3595	9.5000e-004	0.0894	7.0000e-004	0.0901	0.0237	6.4000e-004	0.0244		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0493**	**0.4198**	**0.4271**	**1.8500e-003**	**0.1069**	**1.8400e-003**	**0.1088**	**0.0285**	**1.7300e-003**	**0.0303**		**191.1982**	**191.1982**	**0.0108**		**191.4673**

3.14 Upper Northeast Drainage - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2991	3.6198	1.2591	4.6900e-003		0.1214	0.1214		0.1117	0.1117	0.0000	464.1042	464.1042	0.1468		467.7751
Total	**0.2991**	**3.6198**	**1.2591**	**4.6900e-003**	**0.0000**	**0.1214**	**0.1214**	**0.0000**	**0.1117**	**0.1117**	**0.0000**	**464.1042**	**464.1042**	**0.1468**		**467.7751**

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	0.0101	0.3925	0.0677	9.0000e-004	0.0175	1.1400e-003	0.0186	4.8000e-003	1.0900e-003	5.8900e-003		96.7191	96.7191	7.8100e-003		96.9143
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	0.0392	0.0273	0.3595	9.5000e-004	0.0894	7.0000e-004	0.0901	0.0237	6.4000e-004	0.0244		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0493**	**0.4198**	**0.4271**	**1.8500e-003**	**0.1069**	**1.8400e-003**	**0.1088**	**0.0285**	**1.7300e-003**	**0.0303**		**191.1982**	**191.1982**	**0.0108**		**191.4673**

3.15 LAR North Dike Stormwater Basin - 2019

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					0.0204	0.0000	0.0204	3.0900e-003	0.0000	3.0900e-003			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009		847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0204**	**0.2184**	**0.2388**	**3.0900e-003**	**0.2009**	**0.2040**		**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	2.9000e-003	0.1122	0.0193	2.6000e-004	1.7954	3.3000e-004	1.7958	0.1799	3.1000e-004	0.1802		27.6340	27.6340	2.2300e-003		27.6898
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	0.0392	0.0273	0.3595	9.5000e-004	25.1732	7.0000e-004	25.1739	2.5251	6.4000e-004	2.5258		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0421**	**0.1394**	**0.3788**	**1.2100e-003**	**26.9687**	**1.0300e-003**	**26.9697**	**2.7050**	**9.5000e-004**	**2.7060**		**122.1132**	**122.1132**	**5.1800e-003**		**122.2428**

3.15 LAR North Dike Stormwater Basin - 2019

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					9.2000e-003	0.0000	9.2000e-003	1.3900e-003	0.0000	1.3900e-003			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009	0.0000	847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**9.2000e-003**	**0.2184**	**0.2276**	**1.3900e-003**	**0.2009**	**0.2023**	**0.0000**	**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	2.9000e-003	0.1122	0.0193	2.6000e-004	1.1009	3.3000e-004	1.1012	0.1105	3.1000e-004	0.1108		27.6340	27.6340	2.2300e-003		27.6898
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	0.0392	0.0273	0.3595	9.5000e-004	15.4426	7.0000e-004	15.4433	1.5521	6.4000e-004	1.5527		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0421**	**0.1394**	**0.3788**	**1.2100e-003**	**16.5435**	**1.0300e-003**	**16.5445**	**1.6625**	**9.5000e-004**	**1.6635**		**122.1132**	**122.1132**	**5.1800e-003**		**122.2428**

3.16 East Channel - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4737	5.3728	2.9861	7.0200e-003		0.2384	0.2384		0.2193	0.2193		694.7606	694.7606	0.2198		700.2559
Total	**0.4737**	**5.3728**	**2.9861**	**7.0200e-003**	**0.0000**	**0.2384**	**0.2384**	**0.0000**	**0.2193**	**0.2193**		**694.7606**	**694.7606**	**0.2198**		**700.2559**

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	3.3800e-003	0.1308	0.0226	3.0000e-004	0.4962	3.8000e-004	0.4966	0.0505	3.6000e-004	0.0509		32.2397	32.2397	2.6000e-003		32.3048
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	0.0392	0.0273	0.3595	9.5000e-004	5.9711	7.0000e-004	5.9718	0.6103	6.4000e-004	0.6109		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0426**	**0.1581**	**0.3820**	**1.2500e-003**	**6.4673**	**1.0800e-003**	**6.4684**	**0.6608**	**1.0000e-003**	**0.6618**		**126.7188**	**126.7188**	**5.5500e-003**		**126.8578**

3.16 East Channel - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4737	5.3728	2.9861	7.0200e-003		0.2384	0.2384		0.2193	0.2193	0.0000	694.7606	694.7606	0.2198		700.2559
Total	**0.4737**	**5.3728**	**2.9861**	**7.0200e-003**	**0.0000**	**0.2384**	**0.2384**	**0.0000**	**0.2193**	**0.2193**	**0.0000**	**694.7606**	**694.7606**	**0.2198**		**700.2559**

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	3.3800e-003	0.1308	0.0226	3.0000e-004	0.3060	3.8000e-004	0.3063	0.0315	3.6000e-004	0.0318		32.2397	32.2397	2.6000e-003		32.3048
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	0.0392	0.0273	0.3595	9.5000e-004	3.6895	7.0000e-004	3.6902	0.3821	6.4000e-004	0.3827		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0426**	**0.1581**	**0.3820**	**1.2500e-003**	**3.9954**	**1.0800e-003**	**3.9965**	**0.4136**	**1.0000e-003**	**0.4146**		**126.7188**	**126.7188**	**5.5500e-003**		**126.8578**

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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	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
User Defined Industrial	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas 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

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					
User Defined Industrial	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Unmitigated	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**		**0.2335**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**		**0.2335**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Van Norman Complex Ongoing Maintenance Program - Initial Year

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1,000.00	User Defined Unit	1,340.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on Initial Study.

Construction Phase - Site preparation only. Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Trips and VMT - Based on data needs.

On-road Fugitive Dust - Based on unpaved road travel onsite.

Demolition - No demolition.

Grading - Based on data needs.

Architectural Coating - No architectural coatings.

Vehicle Trips - Construction only.

Construction Off-road Equipment Mitigation - In accordance with SCAQMD Rule 403, water 2 times daily and posted speed limit is 15 miles per hour.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	6,000.00	10.00

tblConstructionPhase	NumDays	6,000.00	7.00
tblConstructionPhase	NumDays	6,000.00	6.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	7.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	14.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	5.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblGrading	MaterialExported	0.00	2,294.00
tblGrading	MaterialExported	0.00	112.00
tblGrading	MaterialExported	0.00	1,265.00
tblGrading	MaterialExported	0.00	8,285.00
tblGrading	MaterialExported	0.00	439.00
tblGrading	MaterialExported	0.00	634.00
tblLandUse	LotAcreage	0.00	1,340.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00

Van Norman Complex Ongoing Maintenance Program - Initial Year - South Coast AQMD Air District, Winter

tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOnRoadDust	HaulingPercentPave	100.00	74.00
tblOnRoadDust	HaulingPercentPave	100.00	87.00
tblOnRoadDust	HaulingPercentPave	100.00	90.00
tblOnRoadDust	HaulingPercentPave	100.00	93.00
tblOnRoadDust	HaulingPercentPave	100.00	78.70
tblOnRoadDust	HaulingPercentPave	100.00	95.00
tblOnRoadDust	HaulingPercentPave	100.00	79.50
tblOnRoadDust	HaulingPercentPave	100.00	79.50
tblOnRoadDust	HaulingPercentPave	100.00	71.30
tblOnRoadDust	HaulingPercentPave	100.00	78.10
tblOnRoadDust	HaulingPercentPave	100.00	76.00
tblOnRoadDust	HaulingPercentPave	100.00	76.50
tblOnRoadDust	HaulingPercentPave	100.00	75.20
tblOnRoadDust	HaulingPercentPave	100.00	97.00
tblOnRoadDust	WorkerPercentPave	100.00	82.30
tblOnRoadDust	WorkerPercentPave	100.00	91.20
tblOnRoadDust	WorkerPercentPave	100.00	93.20
tblOnRoadDust	WorkerPercentPave	100.00	95.20
tblOnRoadDust	WorkerPercentPave	100.00	85.50
tblOnRoadDust	WorkerPercentPave	100.00	96.60

tblOnRoadDust	WorkerPercentPave	100.00	86.00
tblOnRoadDust	WorkerPercentPave	100.00	86.00
tblOnRoadDust	WorkerPercentPave	100.00	80.50
tblOnRoadDust	WorkerPercentPave	100.00	85.10
tblOnRoadDust	WorkerPercentPave	100.00	83.70
tblOnRoadDust	WorkerPercentPave	100.00	84.00
tblOnRoadDust	WorkerPercentPave	100.00	83.10
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripNumber	287.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	14.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	158.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	1,036.00	8.00

tblTripsAndVMT	HaulingTripNumber	55.00	2.00
tblTripsAndVMT	HaulingTripNumber	79.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	5.00	4.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	10.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00

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
Year	lb/day										lb/day					
2019	0.8936	9.4286	7.5362	0.0147	42.3198	0.4539	42.5400	4.2399	0.4176	4.4426	0.0000	1,459.5641	1,459.5641	0.4224	0.0000	1,470.1239
Maximum	**0.8936**	**9.4286**	**7.5362**	**0.0147**	**42.3198**	**0.4539**	**42.5400**	**4.2399**	**0.4176**	**4.4426**	**0.0000**	**1,459.5641**	**1,459.5641**	**0.4224**	**0.0000**	**1,470.1239**

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					
2019	0.8936	9.4286	7.5362	0.0147	25.9385	0.4539	26.1588	2.6008	0.4176	2.8034	0.0000	1,459.5641	1,459.5641	0.4224	0.0000	1,470.1239
Maximum	**0.8936**	**9.4286**	**7.5362**	**0.0147**	**25.9385**	**0.4539**	**26.1588**	**2.6008**	**0.4176**	**2.8034**	**0.0000**	**1,459.5641**	**1,459.5641**	**0.4224**	**0.0000**	**1,470.1239**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**38.71**	**0.00**	**38.51**	**38.66**	**0.00**	**36.90**	**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
Category	lb/day										lb/day					
Area	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**	**0.0000**	**3.7000e-004**	**3.7000e-004**	**0.0000**	**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**	**0.0000**	**0.2335**

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	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**	**0.0000**	**3.7000e-004**	**3.7000e-004**	**0.0000**	**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**	**0.0000**	**0.2335**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	Upper Debris Basin	Site Preparation	9/1/2019	9/13/2019	5	10	
2	Middle Debris Basin	Site Preparation	9/14/2019	10/3/2019	5	14	
3	Bee Drainage Channel	Site Preparation	10/4/2019	10/7/2019	5	2	
4	San Fernando Gate Drainage Feature	Site Preparation	10/8/2019	10/9/2019	5	2	
5	Upper San Fernando Drain Line	Site Preparation	10/10/2019	10/16/2019	5	5	
6	Upper San Fernando Drain Line Feature 1	Site Preparation	10/17/2019	10/21/2019	5	3	
7	Upper San Fernando Drain Line Feature 2	Site Preparation	10/22/2019	10/22/2019	5	1	
8	Yarnell Debris Basin	Site Preparation	10/23/2019	10/23/2019	5	1	
9	LAR UV Plant Drainage and V-Ditch	Site Preparation	10/24/2019	10/24/2019	5	1	
10	San Fernando Creek	Site Preparation	10/25/2019	11/4/2019	5	7	
11	Lower San Fernando Detention Basin	Site Preparation	11/5/2019	11/12/2019	5	6	
12	Bull Creek Extension (Sediment Basin)	Site Preparation	11/13/2019	11/14/2019	5	2	
13	Upper Northeast Drainage	Site Preparation	11/15/2019	11/15/2019	5	1	
14	LAR North Dike Stormwater Basin	Site Preparation	11/16/2019	11/26/2019	5	7	
15	East Channel	Site Preparation	11/27/2019	11/29/2019	5	3	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Upper Debris Basin	Excavators	1	6.00	158	0.38
Upper Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Upper Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Upper Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Middle Debris Basin	Excavators	1	6.00	158	0.38
Middle Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Middle Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Middle Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Bee Drainage Channel	Rubber Tired Dozers	0	8.00	247	0.40
Bee Drainage Channel	Rubber Tired Loaders	1	6.00	203	0.36
Bee Drainage Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Gate Drainage Feature	Excavators	1	6.00	158	0.38
San Fernando Gate Drainage Feature	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Gate Drainage Feature	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Gate Drainage Feature	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line	Excavators	1	6.00	158	0.38
Upper San Fernando Drain Line	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line	Rubber Tired Loaders	1	6.00	203	0.36
Upper San Fernando Drain Line	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line Feature 1	Excavators	1	6.00	158	0.38
Upper San Fernando Drain Line Feature 1	Rubber Tired Dozers	0	8.00	247	0.40

Upper San Fernando Drain Line Feature 1	Rubber Tired Loaders	1	6.00	203	0.36
Upper San Fernando Drain Line Feature 1	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Upper San Fernando Drain Line Feature 2	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line Feature 2	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Yarnell Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Yarnell Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
LAR UV Plant Drainage and V-Ditch	Rubber Tired Dozers	0	8.00	247	0.40
LAR UV Plant Drainage and V-Ditch	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Creek	Excavators	1	6.00	158	0.38
San Fernando Creek	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Creek	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Creek	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Lower San Fernando Detention Basin	Rubber Tired Dozers	0	8.00	247	0.40
Lower San Fernando Detention Basin	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Bull Creek Extension (Sediment Basin)	Cranes	1	6.00	231	0.29
Bull Creek Extension (Sediment Basin)	Rubber Tired Dozers	0	8.00	247	0.40
Bull Creek Extension (Sediment Basin)	Rubber Tired Loaders	1	6.00	203	0.36
Bull Creek Extension (Sediment Basin)	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper Northeast Drainage	Rubber Tired Dozers	0	8.00	247	0.40
Upper Northeast Drainage	Rubber Tired Loaders	1	6.00	203	0.36
Upper Northeast Drainage	Tractors/Loaders/Backhoes	0	8.00	97	0.37
LAR North Dike Stormwater Basin	Excavators	1	6.00	158	0.38
LAR North Dike Stormwater Basin	Rubber Tired Dozers	0	8.00	247	0.40
LAR North Dike Stormwater Basin	Rubber Tired Loaders	1	6.00	203	0.36
LAR North Dike Stormwater Basin	Tractors/Loaders/Backhoes	0	8.00	97	0.37
East Channel	Rubber Tired Dozers	0	8.00	247	0.40

East Channel	Rubber Tired Loaders	1	6.00	203	0.36
East Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37

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
Upper Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Middle Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Bee Drainage Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
San Fernando Gate Drainage Feature	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 1	4	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 2	1	4.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Yarnell Debris Basin	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
LAR UV Plant Drainage and V-Ditch	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
San Fernando Creek	3	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Lower San Fernando Detention Basin	2	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bull Creek Extension (Sediment Basin)	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper Northeast Drainage	1	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
LAR North Dike Stormwater Basin	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
East Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Upper Debris Basin - 2019

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					0.0259	0.0000	0.0259	3.9300e-003	0.0000	3.9300e-003			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086		1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0259**	**0.3354**	**0.3613**	**3.9300e-003**	**0.3086**	**0.3125**		**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	4.2500e-003	0.1569	0.0308	3.5000e-004	3.0667	4.7000e-004	3.0672	0.3070	4.5000e-004	0.3075		37.4583	37.4583	3.3300e-003		37.5416
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	0.0427	0.0299	0.3243	8.9000e-004	30.7089	7.0000e-004	30.7096	3.0772	6.4000e-004	3.0778		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0469**	**0.1868**	**0.3551**	**1.2400e-003**	**33.7757**	**1.1700e-003**	**33.7768**	**3.3842**	**1.0900e-003**	**3.3853**		**125.8307**	**125.8307**	**6.0900e-003**		**125.9831**

3.2 Upper Debris Basin - 2019

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					0.0117	0.0000	0.0117	1.7700e-003	0.0000	1.7700e-003			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086	0.0000	1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0117**	**0.3354**	**0.3471**	**1.7700e-003**	**0.3086**	**0.3103**	**0.0000**	**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	4.2500e-003	0.1569	0.0308	3.5000e-004	1.8798	4.7000e-004	1.8803	0.1884	4.5000e-004	0.1888		37.4583	37.4583	3.3300e-003		37.5416
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	0.0427	0.0299	0.3243	8.9000e-004	18.8309	7.0000e-004	18.8315	1.8893	6.4000e-004	1.8900		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0469**	**0.1868**	**0.3551**	**1.2400e-003**	**20.7106**	**1.1700e-003**	**20.7118**	**2.0777**	**1.0900e-003**	**2.0788**		**125.8307**	**125.8307**	**6.0900e-003**		**125.9831**

3.3 Middle Debris Basin - 2019

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					0.0669	0.0000	0.0669	0.0101	0.0000	0.0101			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086		1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0669**	**0.3354**	**0.4023**	**0.0101**	**0.3086**	**0.3187**		**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	3.0300e-003	0.1121	0.0220	2.5000e-004	1.7282	3.4000e-004	1.7285	0.1732	3.2000e-004	0.1735		26.7559	26.7559	2.3800e-003		26.8154
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	0.0427	0.0299	0.3243	8.9000e-004	24.3083	7.0000e-004	24.3090	2.4389	6.4000e-004	2.4395		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0457**	**0.1420**	**0.3463**	**1.1400e-003**	**26.0364**	**1.0400e-003**	**26.0375**	**2.6121**	**9.6000e-004**	**2.6130**		**115.1284**	**115.1284**	**5.1400e-003**		**115.2569**

3.3 Middle Debris Basin - 2019

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					0.0301	0.0000	0.0301	4.5600e-003	0.0000	4.5600e-003			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086	0.0000	1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0301**	**0.3354**	**0.3655**	**4.5600e-003**	**0.3086**	**0.3131**	**0.0000**	**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	3.0300e-003	0.1121	0.0220	2.5000e-004	1.0597	3.4000e-004	1.0601	0.1064	3.2000e-004	0.1067		26.7559	26.7559	2.3800e-003		26.8154
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	0.0427	0.0299	0.3243	8.9000e-004	14.9132	7.0000e-004	14.9138	1.4994	6.4000e-004	1.5000		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0457**	**0.1420**	**0.3463**	**1.1400e-003**	**15.9729**	**1.0400e-003**	**15.9739**	**1.6057**	**9.6000e-004**	**1.6067**		**115.1284**	**115.1284**	**5.1400e-003**		**115.2569**

3.4 Bee Drainage Channel - 2019

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					0.0248	0.0000	0.0248	3.7600e-003	0.0000	3.7600e-003			0.0000			0.0000
Off-Road	0.4737	5.3728	2.9861	7.0200e-003		0.2384	0.2384		0.2193	0.2193		694.7606	694.7606	0.2198		700.2559
Total	**0.4737**	**5.3728**	**2.9861**	**7.0200e-003**	**0.0248**	**0.2384**	**0.2632**	**3.7600e-003**	**0.2193**	**0.2231**		**694.7606**	**694.7606**	**0.2198**		**700.2559**

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	5.3100e-003	0.1962	0.0385	4.3000e-004	3.0243	5.9000e-004	3.0249	0.3031	5.7000e-004	0.3037		46.8228	46.8228	4.1700e-003		46.9270
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	0.0427	0.0299	0.3243	8.9000e-004	24.3083	7.0000e-004	24.3090	2.4389	6.4000e-004	2.4395		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0480**	**0.2260**	**0.3628**	**1.3200e-003**	**27.3326**	**1.2900e-003**	**27.3339**	**2.7420**	**1.2100e-003**	**2.7432**		**135.1953**	**135.1953**	**6.9300e-003**		**135.3685**

3.4 Bee Drainage Channel - 2019

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					0.0112	0.0000	0.0112	1.6900e-003	0.0000	1.6900e-003			0.0000			0.0000
Off-Road	0.4737	5.3728	2.9861	7.0200e-003		0.2384	0.2384		0.2193	0.2193	0.0000	694.7606	694.7606	0.2198		700.2559
Total	**0.4737**	**5.3728**	**2.9861**	**7.0200e-003**	**0.0112**	**0.2384**	**0.2496**	**1.6900e-003**	**0.2193**	**0.2210**	**0.0000**	**694.7606**	**694.7606**	**0.2198**		**700.2559**

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	5.3100e-003	0.1962	0.0385	4.3000e-004	1.8545	5.9000e-004	1.8551	0.1861	5.7000e-004	0.1867		46.8228	46.8228	4.1700e-003		46.9270
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	0.0427	0.0299	0.3243	8.9000e-004	14.9132	7.0000e-004	14.9138	1.4994	6.4000e-004	1.5000		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0480**	**0.2260**	**0.3628**	**1.3200e-003**	**16.7677**	**1.2900e-003**	**16.7689**	**1.6855**	**1.2100e-003**	**1.6867**		**135.1953**	**135.1953**	**6.9300e-003**		**135.3685**

3.5 San Fernando Gate Drainage Feature - 2019

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					0.0359	0.0000	0.0359	5.4300e-003	0.0000	5.4300e-003			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009		847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0359**	**0.2184**	**0.2542**	**5.4300e-003**	**0.2009**	**0.2063**		**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	0.0106	0.3924	0.0771	8.7000e-004	8.4611	1.1800e-003	8.4623	0.8468	1.1300e-003	0.8479		93.6457	93.6457	8.3300e-003		93.8540
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	0.0427	0.0299	0.3243	8.9000e-004	33.8228	7.0000e-004	33.8235	3.3877	6.4000e-004	3.3883		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0533**	**0.4222**	**0.4014**	**1.7600e-003**	**42.2839**	**1.8800e-003**	**42.2858**	**4.2345**	**1.7700e-003**	**4.2363**		**182.0181**	**182.0181**	**0.0111**		**182.2954**

3.5 San Fernando Gate Drainage Feature - 2019

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					0.0161	0.0000	0.0161	2.4400e-003	0.0000	2.4400e-003			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009	0.0000	847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0161**	**0.2184**	**0.2345**	**2.4400e-003**	**0.2009**	**0.2033**	**0.0000**	**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	0.0106	0.3924	0.0771	8.7000e-004	5.1856	1.1800e-003	5.1868	0.5193	1.1300e-003	0.5204		93.6457	93.6457	8.3300e-003		93.8540
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	0.0427	0.0299	0.3243	8.9000e-004	20.7368	7.0000e-004	20.7375	2.0791	6.4000e-004	2.0797		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0533**	**0.4222**	**0.4014**	**1.7600e-003**	**25.9224**	**1.8800e-003**	**25.9243**	**2.5983**	**1.7700e-003**	**2.6001**		**182.0181**	**182.0181**	**0.0111**		**182.2954**

3.6 Upper San Fernando Drain Line - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009		847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0000**	**0.2184**	**0.2184**	**0.0000**	**0.2009**	**0.2009**		**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	2.1200e-003	0.0785	0.0154	1.7000e-004	1.2921	2.4000e-004	1.2924	0.1295	2.3000e-004	0.1297		18.7291	18.7291	1.6700e-003		18.7708
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	0.0427	0.0299	0.3243	8.9000e-004	25.8652	7.0000e-004	25.8659	2.5941	6.4000e-004	2.5948		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0448**	**0.1083**	**0.3397**	**1.0600e-003**	**27.1573**	**9.4000e-004**	**27.1582**	**2.7236**	**8.7000e-004**	**2.7245**		**107.1016**	**107.1016**	**4.4300e-003**		**107.2123**

3.6 Upper San Fernando Drain Line - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009	0.0000	847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0000**	**0.2184**	**0.2184**	**0.0000**	**0.2009**	**0.2009**	**0.0000**	**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	2.1200e-003	0.0785	0.0154	1.7000e-004	0.7922	2.4000e-004	0.7925	0.0795	2.3000e-004	0.0797		18.7291	18.7291	1.6700e-003		18.7708
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	0.0427	0.0299	0.3243	8.9000e-004	15.8661	7.0000e-004	15.8668	1.5942	6.4000e-004	1.5949		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0448**	**0.1083**	**0.3397**	**1.0600e-003**	**16.6583**	**9.4000e-004**	**16.6593**	**1.6737**	**8.7000e-004**	**1.6746**		**107.1016**	**107.1016**	**4.4300e-003**		**107.2123**

3.7 Upper San Fernando Drain Line Feature 1 - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.8438	9.1372	7.1605	0.0132		0.4524	0.4524		0.4162	0.4162		1,308.7611	1,308.7611	0.4141		1,319.1131
Total	**0.8438**	**9.1372**	**7.1605**	**0.0132**	**0.0000**	**0.4524**	**0.4524**	**0.0000**	**0.4162**	**0.4162**		**1,308.7611**	**1,308.7611**	**0.4141**		**1,319.1131**

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	7.0800e-003	0.2616	0.0514	5.8000e-004	4.7189	7.9000e-004	4.7197	0.4726	7.5000e-004	0.4734		62.4305	62.4305	5.5500e-003		62.5693
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	0.0427	0.0299	0.3243	8.9000e-004	28.2871	7.0000e-004	28.2878	2.8356	6.4000e-004	2.8363		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0497**	**0.2914**	**0.3757**	**1.4700e-003**	**33.0060**	**1.4900e-003**	**33.0075**	**3.3083**	**1.3900e-003**	**3.3097**		**150.8029**	**150.8029**	**8.3100e-003**		**151.0108**

3.7 Upper San Fernando Drain Line Feature 1 - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.8438	9.1372	7.1605	0.0132		0.4524	0.4524		0.4162	0.4162	0.0000	1,308.7611	1,308.7611	0.4141		1,319.1131
Total	**0.8438**	**9.1372**	**7.1605**	**0.0132**	**0.0000**	**0.4524**	**0.4524**	**0.0000**	**0.4162**	**0.4162**	**0.0000**	**1,308.7611**	**1,308.7611**	**0.4141**		**1,319.1131**

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	7.0800e-003	0.2616	0.0514	5.8000e-004	2.8929	7.9000e-004	2.8936	0.2900	7.5000e-004	0.2908		62.4305	62.4305	5.5500e-003		62.5693
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	0.0427	0.0299	0.3243	8.9000e-004	17.3485	7.0000e-004	17.3492	1.7418	6.4000e-004	1.7424		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0497**	**0.2914**	**0.3757**	**1.4700e-003**	**20.2413**	**1.4900e-003**	**20.2428**	**2.0318**	**1.3900e-003**	**2.0332**		**150.8029**	**150.8029**	**8.3100e-003**		**151.0108**

3.8 Upper San Fernando Drain Line Feature 2 - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077		230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**		**230.6564**	**230.6564**	**0.0730**		**232.4808**

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	0.0106	0.3924	0.0771	8.7000e-004	6.9313	1.1800e-003	6.9325	0.6943	1.1300e-003	0.6954		93.6457	93.6457	8.3300e-003		93.8540
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	0.0213	0.0149	0.1622	4.4000e-004	13.8840	3.5000e-004	13.8844	1.3919	3.2000e-004	1.3923		44.1862	44.1862	1.3800e-003		44.2207
Total	**0.0320**	**0.4073**	**0.2392**	**1.3100e-003**	**20.8153**	**1.5300e-003**	**20.8169**	**2.0862**	**1.4500e-003**	**2.0876**		**137.8319**	**137.8319**	**9.7100e-003**		**138.0747**

3.8 Upper San Fernando Drain Line Feature 2 - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077	0.0000	230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**	**0.0000**	**230.6564**	**230.6564**	**0.0730**		**232.4808**

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	0.0106	0.3924	0.0771	8.7000e-004	4.2492	1.1800e-003	4.2504	0.4261	1.1300e-003	0.4272		93.6457	93.6457	8.3300e-003		93.8540
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	0.0213	0.0149	0.1622	4.4000e-004	8.5154	3.5000e-004	8.5158	0.8551	3.2000e-004	0.8554		44.1862	44.1862	1.3800e-003		44.2207
Total	**0.0320**	**0.4073**	**0.2392**	**1.3100e-003**	**12.7647**	**1.5300e-003**	**12.7662**	**1.2811**	**1.4500e-003**	**1.2826**		**137.8319**	**137.8319**	**9.7100e-003**		**138.0747**

3.9 Yarnell Debris Basin - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077		230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**		**230.6564**	**230.6564**	**0.0730**		**232.4808**

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	0.0213	0.0149	0.1622	4.4000e-004	14.6625	3.5000e-004	14.6629	1.4696	3.2000e-004	1.4699		44.1862	44.1862	1.3800e-003		44.2207
Total	**0.0213**	**0.0149**	**0.1622**	**4.4000e-004**	**14.6625**	**3.5000e-004**	**14.6629**	**1.4696**	**3.2000e-004**	**1.4699**		**44.1862**	**44.1862**	**1.3800e-003**		**44.2207**

3.9 Yarnell Debris Basin - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077	0.0000	230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**	**0.0000**	**230.6564**	**230.6564**	**0.0730**		**232.4808**

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	0.0213	0.0149	0.1622	4.4000e-004	8.9919	3.5000e-004	8.9922	0.9025	3.2000e-004	0.9028		44.1862	44.1862	1.3800e-003		44.2207
Total	**0.0213**	**0.0149**	**0.1622**	**4.4000e-004**	**8.9919**	**3.5000e-004**	**8.9922**	**0.9025**	**3.2000e-004**	**0.9028**		**44.1862**	**44.1862**	**1.3800e-003**		**44.2207**

3.10 LAR UV Plant Drainage and V-Ditch - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077		230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**		**230.6564**	**230.6564**	**0.0730**		**232.4808**

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	0.0213	0.0149	0.1622	4.4000e-004	1.7746	3.5000e-004	1.7750	0.1844	3.2000e-004	0.1847		44.1862	44.1862	1.3800e-003		44.2207
Total	**0.0213**	**0.0149**	**0.1622**	**4.4000e-004**	**1.7746**	**3.5000e-004**	**1.7750**	**0.1844**	**3.2000e-004**	**0.1847**		**44.1862**	**44.1862**	**1.3800e-003**		**44.2207**

3.10 LAR UV Plant Drainage and V-Ditch - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1746	1.7530	1.7270	2.3300e-003		0.1170	0.1170		0.1077	0.1077	0.0000	230.6564	230.6564	0.0730		232.4808
Total	**0.1746**	**1.7530**	**1.7270**	**2.3300e-003**	**0.0000**	**0.1170**	**0.1170**	**0.0000**	**0.1077**	**0.1077**	**0.0000**	**230.6564**	**230.6564**	**0.0730**		**232.4808**

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	0.0213	0.0149	0.1622	4.4000e-004	1.1036	3.5000e-004	1.1039	0.1173	3.2000e-004	0.1176		44.1862	44.1862	1.3800e-003		44.2207
Total	**0.0213**	**0.0149**	**0.1622**	**4.4000e-004**	**1.1036**	**3.5000e-004**	**1.1039**	**0.1173**	**3.2000e-004**	**0.1176**		**44.1862**	**44.1862**	**1.3800e-003**		**44.2207**

3.11 San Fernando Creek - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086		1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0000**	**0.3354**	**0.3354**	**0.0000**	**0.3086**	**0.3086**		**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	3.0300e-003	0.1121	0.0220	2.5000e-004	1.0978	3.4000e-004	1.0981	0.1103	3.2000e-004	0.1107		26.7559	26.7559	2.3800e-003		26.8154
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	0.0427	0.0299	0.3243	8.9000e-004	15.3127	7.0000e-004	15.3134	1.5418	6.4000e-004	1.5425		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0457**	**0.1420**	**0.3463**	**1.1400e-003**	**16.4104**	**1.0400e-003**	**16.4115**	**1.6522**	**9.6000e-004**	**1.6531**		**115.1284**	**115.1284**	**5.1400e-003**		**115.2569**

3.11 San Fernando Creek - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6692	7.3842	5.4335	0.0109		0.3354	0.3354		0.3086	0.3086	0.0000	1,078.1048	1,078.1048	0.3411		1,086.6323
Total	**0.6692**	**7.3842**	**5.4335**	**0.0109**	**0.0000**	**0.3354**	**0.3354**	**0.0000**	**0.3086**	**0.3086**	**0.0000**	**1,078.1048**	**1,078.1048**	**0.3411**		**1,086.6323**

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	3.0300e-003	0.1121	0.0220	2.5000e-004	0.6739	3.4000e-004	0.6742	0.0680	3.2000e-004	0.0683		26.7559	26.7559	2.3800e-003		26.8154
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	0.0427	0.0299	0.3243	8.9000e-004	9.4072	7.0000e-004	9.4079	0.9513	6.4000e-004	0.9519		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0457**	**0.1420**	**0.3463**	**1.1400e-003**	**10.0810**	**1.0400e-003**	**10.0821**	**1.0192**	**9.6000e-004**	**1.0202**		**115.1284**	**115.1284**	**5.1400e-003**		**115.2569**

3.12 Lower San Fernando Detention Basin - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3492	3.5061	3.4540	4.6600e-003		0.2341	0.2341		0.2153	0.2153		461.3128	461.3128	0.1460		464.9617
Total	**0.3492**	**3.5061**	**3.4540**	**4.6600e-003**	**0.0000**	**0.2341**	**0.2341**	**0.0000**	**0.2153**	**0.2153**		**461.3128**	**461.3128**	**0.1460**		**464.9617**

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	0.0213	0.0149	0.1622	4.4000e-004	5.9264	3.5000e-004	5.9268	0.5984	3.2000e-004	0.5987		44.1862	44.1862	1.3800e-003		44.2207
Total	**0.0213**	**0.0149**	**0.1622**	**4.4000e-004**	**5.9264**	**3.5000e-004**	**5.9268**	**0.5984**	**3.2000e-004**	**0.5987**		**44.1862**	**44.1862**	**1.3800e-003**		**44.2207**

3.12 Lower San Fernando Detention Basin - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3492	3.5061	3.4540	4.6600e-003		0.2341	0.2341		0.2153	0.2153	0.0000	461.3128	461.3128	0.1460		464.9617
Total	**0.3492**	**3.5061**	**3.4540**	**4.6600e-003**	**0.0000**	**0.2341**	**0.2341**	**0.0000**	**0.2153**	**0.2153**	**0.0000**	**461.3128**	**461.3128**	**0.1460**		**464.9617**

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	0.0213	0.0149	0.1622	4.4000e-004	3.6448	3.5000e-004	3.6451	0.3702	3.2000e-004	0.3706		44.1862	44.1862	1.3800e-003		44.2207
Total	**0.0213**	**0.0149**	**0.1622**	**4.4000e-004**	**3.6448**	**3.5000e-004**	**3.6451**	**0.3702**	**3.2000e-004**	**0.3706**		**44.1862**	**44.1862**	**1.3800e-003**		**44.2207**

3.13 Bull Creek Extension (Sediment Basin) - 2019

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					6.3300e-003	0.0000	6.3300e-003	9.6000e-004	0.0000	9.6000e-004			0.0000			0.0000
Off-Road	0.6771	8.1250	2.9789	9.0100e-003		0.3123	0.3123		0.2874	0.2874		892.5121	892.5121	0.2824		899.5716
Total	**0.6771**	**8.1250**	**2.9789**	**9.0100e-003**	**6.3300e-003**	**0.3123**	**0.3187**	**9.6000e-004**	**0.2874**	**0.2883**		**892.5121**	**892.5121**	**0.2824**		**899.5716**

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	5.3100e-003	0.1962	0.0385	4.3000e-004	1.0385	5.9000e-004	1.0391	0.1051	5.7000e-004	0.1057		46.8228	46.8228	4.1700e-003		46.9270
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	0.0427	0.0299	0.3243	8.9000e-004	8.3930	7.0000e-004	8.3937	0.8518	6.4000e-004	0.8524		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0480**	**0.2260**	**0.3628**	**1.3200e-003**	**9.4315**	**1.2900e-003**	**9.4328**	**0.9569**	**1.2100e-003**	**0.9581**		**135.1953**	**135.1953**	**6.9300e-003**		**135.3685**

3.13 Bull Creek Extension (Sediment Basin) - 2019

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					2.8500e-003	0.0000	2.8500e-003	4.3000e-004	0.0000	4.3000e-004			0.0000			0.0000
Off-Road	0.6771	8.1250	2.9789	9.0100e-003		0.3123	0.3123		0.2874	0.2874	0.0000	892.5121	892.5121	0.2824		899.5716
Total	**0.6771**	**8.1250**	**2.9789**	**9.0100e-003**	**2.8500e-003**	**0.3123**	**0.3152**	**4.3000e-004**	**0.2874**	**0.2878**	**0.0000**	**892.5121**	**892.5121**	**0.2824**		**899.5716**

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	5.3100e-003	0.1962	0.0385	4.3000e-004	0.6390	5.9000e-004	0.6396	0.0651	5.7000e-004	0.0657		46.8228	46.8228	4.1700e-003		46.9270
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	0.0427	0.0299	0.3243	8.9000e-004	5.1718	7.0000e-004	5.1725	0.5297	6.4000e-004	0.5303		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0480**	**0.2260**	**0.3628**	**1.3200e-003**	**5.8109**	**1.2900e-003**	**5.8121**	**0.5948**	**1.2100e-003**	**0.5960**		**135.1953**	**135.1953**	**6.9300e-003**		**135.3685**

3.14 Upper Northeast Drainage - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2991	3.6198	1.2591	4.6900e-003		0.1214	0.1214		0.1117	0.1117		464.1042	464.1042	0.1468		467.7751
Total	**0.2991**	**3.6198**	**1.2591**	**4.6900e-003**	**0.0000**	**0.1214**	**0.1214**	**0.0000**	**0.1117**	**0.1117**		**464.1042**	**464.1042**	**0.1468**		**467.7751**

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	0.0106	0.3924	0.0771	8.7000e-004	0.0175	1.1800e-003	0.0187	4.8000e-003	1.1300e-003	5.9300e-003		93.6457	93.6457	8.3300e-003		93.8540
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	0.0427	0.0299	0.3243	8.9000e-004	0.0894	7.0000e-004	0.0901	0.0237	6.4000e-004	0.0244		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0533**	**0.4222**	**0.4014**	**1.7600e-003**	**0.1069**	**1.8800e-003**	**0.1088**	**0.0285**	**1.7700e-003**	**0.0303**		**182.0181**	**182.0181**	**0.0111**		**182.2954**

3.14 Upper Northeast Drainage - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2991	3.6198	1.2591	4.6900e-003		0.1214	0.1214		0.1117	0.1117	0.0000	464.1042	464.1042	0.1468		467.7751
Total	**0.2991**	**3.6198**	**1.2591**	**4.6900e-003**	**0.0000**	**0.1214**	**0.1214**	**0.0000**	**0.1117**	**0.1117**	**0.0000**	**464.1042**	**464.1042**	**0.1468**		**467.7751**

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	0.0106	0.3924	0.0771	8.7000e-004	0.0175	1.1800e-003	0.0187	4.8000e-003	1.1300e-003	5.9300e-003		93.6457	93.6457	8.3300e-003		93.8540
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	0.0427	0.0299	0.3243	8.9000e-004	0.0894	7.0000e-004	0.0901	0.0237	6.4000e-004	0.0244		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0533**	**0.4222**	**0.4014**	**1.7600e-003**	**0.1069**	**1.8800e-003**	**0.1088**	**0.0285**	**1.7700e-003**	**0.0303**		**182.0181**	**182.0181**	**0.0111**		**182.2954**

3.15 LAR North Dike Stormwater Basin - 2019

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					0.0204	0.0000	0.0204	3.0900e-003	0.0000	3.0900e-003			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009		847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**0.0204**	**0.2184**	**0.2388**	**3.0900e-003**	**0.2009**	**0.2040**		**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	3.0300e-003	0.1121	0.0220	2.5000e-004	1.7954	3.4000e-004	1.7958	0.1799	3.2000e-004	0.1802		26.7559	26.7559	2.3800e-003		26.8154
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	0.0427	0.0299	0.3243	8.9000e-004	25.1732	7.0000e-004	25.1739	2.5251	6.4000e-004	2.5258		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0457**	**0.1420**	**0.3463**	**1.1400e-003**	**26.9687**	**1.0400e-003**	**26.9697**	**2.7050**	**9.6000e-004**	**2.7060**		**115.1284**	**115.1284**	**5.1400e-003**		**115.2569**

3.15 LAR North Dike Stormwater Basin - 2019

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					9.2000e-003	0.0000	9.2000e-003	1.3900e-003	0.0000	1.3900e-003			0.0000			0.0000
Off-Road	0.4946	5.6312	3.7065	8.5600e-003		0.2184	0.2184		0.2009	0.2009	0.0000	847.4484	847.4484	0.2681		854.1514
Total	**0.4946**	**5.6312**	**3.7065**	**8.5600e-003**	**9.2000e-003**	**0.2184**	**0.2276**	**1.3900e-003**	**0.2009**	**0.2023**	**0.0000**	**847.4484**	**847.4484**	**0.2681**		**854.1514**

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	3.0300e-003	0.1121	0.0220	2.5000e-004	1.1009	3.4000e-004	1.1012	0.1105	3.2000e-004	0.1108		26.7559	26.7559	2.3800e-003		26.8154
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	0.0427	0.0299	0.3243	8.9000e-004	15.4426	7.0000e-004	15.4433	1.5521	6.4000e-004	1.5527		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0457**	**0.1420**	**0.3463**	**1.1400e-003**	**16.5435**	**1.0400e-003**	**16.5445**	**1.6625**	**9.6000e-004**	**1.6635**		**115.1284**	**115.1284**	**5.1400e-003**		**115.2569**

3.16 East Channel - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4737	5.3728	2.9861	7.0200e-003		0.2384	0.2384		0.2193	0.2193		694.7606	694.7606	0.2198		700.2559
Total	**0.4737**	**5.3728**	**2.9861**	**7.0200e-003**	**0.0000**	**0.2384**	**0.2384**	**0.0000**	**0.2193**	**0.2193**		**694.7606**	**694.7606**	**0.2198**		**700.2559**

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	3.5400e-003	0.1308	0.0257	2.9000e-004	0.4962	3.9000e-004	0.4966	0.0505	3.8000e-004	0.0509		31.2152	31.2152	2.7800e-003		31.2847
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	0.0427	0.0299	0.3243	8.9000e-004	5.9711	7.0000e-004	5.9718	0.6103	6.4000e-004	0.6109		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0462**	**0.1606**	**0.3500**	**1.1800e-003**	**6.4673**	**1.0900e-003**	**6.4684**	**0.6608**	**1.0200e-003**	**0.6618**		**119.5877**	**119.5877**	**5.5400e-003**		**119.7261**

3.16 East Channel - 2019

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4737	5.3728	2.9861	7.0200e-003		0.2384	0.2384		0.2193	0.2193	0.0000	694.7606	694.7606	0.2198		700.2559
Total	**0.4737**	**5.3728**	**2.9861**	**7.0200e-003**	**0.0000**	**0.2384**	**0.2384**	**0.0000**	**0.2193**	**0.2193**	**0.0000**	**694.7606**	**694.7606**	**0.2198**		**700.2559**

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	3.5400e-003	0.1308	0.0257	2.9000e-004	0.3060	3.9000e-004	0.3064	0.0315	3.8000e-004	0.0319		31.2152	31.2152	2.7800e-003		31.2847
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	0.0427	0.0299	0.3243	8.9000e-004	3.6895	7.0000e-004	3.6902	0.3821	6.4000e-004	0.3827		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0462**	**0.1606**	**0.3500**	**1.1800e-003**	**3.9954**	**1.0900e-003**	**3.9965**	**0.4136**	**1.0200e-003**	**0.4146**		**119.5877**	**119.5877**	**5.5400e-003**		**119.7261**

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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	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
User Defined Industrial	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas 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

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					
User Defined Industrial	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Unmitigated	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**		**0.2335**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**		**0.2335**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Van Norman Complex Ongoing Maintenance Program - Subsequent Years

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1,000.00	User Defined Unit	1,340.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on Initial Study.

Construction Phase - Site preparation only. Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

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Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Trips and VMT - Based on data needs.

On-road Fugitive Dust - Based on off-road distance travelled onsite.

Demolition - No demolition.

Grading - Based on data needs.

Architectural Coating - No architectural coatings.

Vehicle Trips - Operation modeled as construction phase.

Construction Off-road Equipment Mitigation - In accordance with SCAQMD Rule 403, watering twice per day and speed limit of 15 mph.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	6,000.00	5.00
tblConstructionPhase	NumDays	6,000.00	2.00

tblConstructionPhase	NumDays	6,000.00	6.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	5.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	9.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	3.00
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tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblGrading	MaterialExported	0.00	2,294.00
tblGrading	MaterialExported	0.00	112.00
tblGrading	MaterialExported	0.00	1,265.00
tblGrading	MaterialExported	0.00	8,285.00
tblGrading	MaterialExported	0.00	439.00
tblGrading	MaterialExported	0.00	634.00
tblLandUse	LotAcreage	0.00	1,340.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
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tblOffRoadEquipment	UsageHours	8.00	6.00

tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
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tblOnRoadDust	WorkerPercentPave	100.00	86.00

tblOnRoadDust	WorkerPercentPave	100.00	86.00
tblOnRoadDust	WorkerPercentPave	100.00	80.50
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tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripNumber	287.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	14.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	158.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	1,036.00	8.00
tblTripsAndVMT	HaulingTripNumber	55.00	2.00

tblTripsAndVMT	HaulingTripNumber	79.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
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tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00

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
Year	tons/yr										MT/yr					
2020	0.0112	0.1171	0.0926	2.0000e-004	0.4414	5.0400e-003	0.4464	0.0444	4.6400e-003	0.0490	0.0000	17.9649	17.9649	5.1500e-003	0.0000	18.0937
Maximum	**0.0112**	**0.1171**	**0.0926**	**2.0000e-004**	**0.4414**	**5.0400e-003**	**0.4464**	**0.0444**	**4.6400e-003**	**0.0490**	**0.0000**	**17.9649**	**17.9649**	**5.1500e-003**	**0.0000**	**18.0937**

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	0.0112	0.1171	0.0926	2.0000e-004	0.2708	5.0400e-003	0.2758	0.0273	4.6400e-003	0.0319	0.0000	17.9649	17.9649	5.1500e-003	0.0000	18.0937
Maximum	**0.0112**	**0.1171**	**0.0926**	**2.0000e-004**	**0.2708**	**5.0400e-003**	**0.2758**	**0.0273**	**4.6400e-003**	**0.0319**	**0.0000**	**17.9649**	**17.9649**	**5.1500e-003**	**0.0000**	**18.0937**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**38.65**	**0.00**	**38.22**	**38.49**	**0.00**	**34.87**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Van Norman Complex Ongoing Maintenance Program - Subsequent Years - South Coast AQMD Air District, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
9	7-23-2020	9-30-2020	0.0791	0.0791
		Highest	0.0791	0.0791

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	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2100e-003**	**1.2000e-004**	**0.0128**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2100e-003**	**1.2000e-004**	**0.0128**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

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

Van Norman Complex Ongoing Maintenance Program - Subsequent Years - South Coast AQMD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Upper Debris Basin	Site Preparation	9/1/2020	9/7/2020	5	5	
2	Middle Debris Basin	Site Preparation	9/8/2020	9/18/2020	5	9	
3	Bee Drainage Channel	Site Preparation	9/19/2020	9/22/2020	5	2	
4	San Fernando Gate Drainage Feature	Site Preparation	9/23/2020	9/24/2020	5	2	
5	Upper San Fernando Drain Line	Site Preparation	9/25/2020	9/29/2020	5	3	
6	Upper San Fernando Drain Line Feature 1	Site Preparation	9/30/2020	9/30/2020	5	1	
7	Upper San Fernando Drain Line Feature 2	Site Preparation	10/1/2020	10/1/2020	5	1	
8	Yarnell Debris Basin	Site Preparation	10/2/2020	10/2/2020	5	1	
9	LAR UV Plant Drainage and V-Ditch	Site Preparation	10/3/2020	10/5/2020	5	1	
10	San Fernando Creek	Site Preparation	10/6/2020	10/7/2020	5	2	
11	Lower San Fernando Detention Basin	Site Preparation	10/8/2020	10/15/2020	5	6	
12	Bull Creek Extension (Sediment Basin)	Site Preparation	10/16/2020	10/19/2020	5	2	
13	Upper Northeast Drainage	Site Preparation	10/20/2020	10/20/2020	5	1	
14	LAR North Dike Stormwater Basin	Site Preparation	10/21/2020	10/27/2020	5	5	
15	East Channel	Site Preparation	10/28/2020	10/30/2020	5	3	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Van Norman Complex Ongoing Maintenance Program - Subsequent Years - South Coast AQMD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Upper Debris Basin	Excavators	1	6.00	158	0.38
Upper Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Upper Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Upper Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Middle Debris Basin	Excavators	1	6.00	158	0.38
Middle Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Middle Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Middle Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Bee Drainage Channel	Rubber Tired Dozers	0	8.00	247	0.40
Bee Drainage Channel	Rubber Tired Loaders	1	6.00	203	0.36
Bee Drainage Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Gate Drainage Feature	Excavators	1	6.00	158	0.38
San Fernando Gate Drainage Feature	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Gate Drainage Feature	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Gate Drainage Feature	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line	Excavators	1	6.00	158	0.38
Upper San Fernando Drain Line	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line	Rubber Tired Loaders	1	6.00	203	0.36
Upper San Fernando Drain Line	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line Feature 1	Excavators	0	6.00	158	0.38
Upper San Fernando Drain Line Feature 1	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line Feature 1	Rubber Tired Loaders	0	6.00	203	0.36
Upper San Fernando Drain Line Feature 1	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Upper San Fernando Drain Line Feature 2	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line Feature 2	Tractors/Loaders/Backhoes	1	6.00	97	0.37

Yarnell Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Yarnell Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
LAR UV Plant Drainage and V-Ditch	Rubber Tired Dozers	0	8.00	247	0.40
LAR UV Plant Drainage and V-Ditch	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Creek	Excavators	1	6.00	158	0.38
San Fernando Creek	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Creek	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Creek	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Lower San Fernando Detention Basin	Rubber Tired Dozers	0	8.00	247	0.40
Lower San Fernando Detention Basin	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Bull Creek Extension (Sediment Basin)	Cranes	1	6.00	231	0.29
Bull Creek Extension (Sediment Basin)	Rubber Tired Dozers	0	8.00	247	0.40
Bull Creek Extension (Sediment Basin)	Rubber Tired Loaders	1	6.00	203	0.36
Bull Creek Extension (Sediment Basin)	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper Northeast Drainage	Rubber Tired Dozers	0	8.00	247	0.40
Upper Northeast Drainage	Rubber Tired Loaders	1	6.00	203	0.36
Upper Northeast Drainage	Tractors/Loaders/Backhoes	0	8.00	97	0.37
LAR North Dike Stormwater Basin	Excavators	1	6.00	158	0.38
LAR North Dike Stormwater Basin	Rubber Tired Dozers	0	8.00	247	0.40
LAR North Dike Stormwater Basin	Rubber Tired Loaders	1	6.00	203	0.36
LAR North Dike Stormwater Basin	Tractors/Loaders/Backhoes	0	8.00	97	0.37
East Channel	Rubber Tired Dozers	0	8.00	247	0.40
East Channel	Rubber Tired Loaders	1	6.00	203	0.36
East Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37

Trips and VMT

Van Norman Complex Ongoing Maintenance Program - Subsequent Years - South Coast AQMD Air District, Annual

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
Upper Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Middle Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Bee Drainage Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
San Fernando Gate Drainage Feature	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 1	1	8.00	0.00	0.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 2	1	4.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Yarnell Debris Basin	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
LAR UV Plant Drainage and V-Ditch	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
San Fernando Creek	3	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Lower San Fernando Detention Basin	2	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bull Creek Extension (Sediment Basin)	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper Northeast Drainage	1	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
LAR North Dike Stormwater Basin	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
East Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Upper Debris Basin - 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					1.3000e-004	0.0000	1.3000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5500e-003	0.0167	0.0135	3.0000e-005		7.4000e-004	7.4000e-004		6.8000e-004	6.8000e-004	0.0000	2.3917	2.3917	7.7000e-004	0.0000	2.4110
Total	**1.5500e-003**	**0.0167**	**0.0135**	**3.0000e-005**	**1.3000e-004**	**7.4000e-004**	**8.7000e-004**	**2.0000e-005**	**6.8000e-004**	**7.0000e-004**	**0.0000**	**2.3917**	**2.3917**	**7.7000e-004**	**0.0000**	**2.4110**

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	2.0000e-005	7.5000e-004	1.4000e-004	0.0000	0.0140	0.0000	0.0140	1.4100e-003	0.0000	1.4100e-003	0.0000	0.1716	0.1716	1.0000e-005	0.0000	0.1720
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	9.0000e-005	7.0000e-005	7.6000e-004	0.0000	0.0703	0.0000	0.0703	7.0400e-003	0.0000	7.0400e-003	0.0000	0.1975	0.1975	1.0000e-005	0.0000	0.1977
Total	**1.1000e-004**	**8.2000e-004**	**9.0000e-004**	**0.0000**	**0.0843**	**0.0000**	**0.0843**	**8.4500e-003**	**0.0000**	**8.4500e-003**	**0.0000**	**0.3691**	**0.3691**	**2.0000e-005**	**0.0000**	**0.3696**

3.2 Upper Debris Basin - 2020

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					6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5500e-003	0.0167	0.0135	3.0000e-005		7.4000e-004	7.4000e-004		6.8000e-004	6.8000e-004	0.0000	2.3916	2.3916	7.7000e-004	0.0000	2.4110
Total	**1.5500e-003**	**0.0167**	**0.0135**	**3.0000e-005**	**6.0000e-005**	**7.4000e-004**	**8.0000e-004**	**1.0000e-005**	**6.8000e-004**	**6.9000e-004**	**0.0000**	**2.3916**	**2.3916**	**7.7000e-004**	**0.0000**	**2.4110**

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	2.0000e-005	7.5000e-004	1.4000e-004	0.0000	8.6000e-003	0.0000	8.6000e-003	8.6000e-004	0.0000	8.6000e-004	0.0000	0.1716	0.1716	1.0000e-005	0.0000	0.1720
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	9.0000e-005	7.0000e-005	7.6000e-004	0.0000	0.0431	0.0000	0.0431	4.3300e-003	0.0000	4.3300e-003	0.0000	0.1975	0.1975	1.0000e-005	0.0000	0.1977
Total	**1.1000e-004**	**8.2000e-004**	**9.0000e-004**	**0.0000**	**0.0517**	**0.0000**	**0.0517**	**5.1900e-003**	**0.0000**	**5.1900e-003**	**0.0000**	**0.3691**	**0.3691**	**2.0000e-005**	**0.0000**	**0.3696**

3.3 Middle Debris Basin - 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					4.7000e-004	0.0000	4.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8000e-003	0.0301	0.0242	5.0000e-005		1.3400e-003	1.3400e-003		1.2300e-003	1.2300e-003	0.0000	4.3050	4.3050	1.3900e-003	0.0000	4.3398
Total	**2.8000e-003**	**0.0301**	**0.0242**	**5.0000e-005**	**4.7000e-004**	**1.3400e-003**	**1.8100e-003**	**7.0000e-005**	**1.2300e-003**	**1.3000e-003**	**0.0000**	**4.3050**	**4.3050**	**1.3900e-003**	**0.0000**	**4.3398**

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	2.0000e-005	7.5000e-004	1.4000e-004	0.0000	0.0111	0.0000	0.0111	1.1100e-003	0.0000	1.1100e-003	0.0000	0.1716	0.1716	1.0000e-005	0.0000	0.1720
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	1.6000e-004	1.2000e-004	1.3600e-003	0.0000	0.1001	0.0000	0.1001	0.0101	0.0000	0.0101	0.0000	0.3556	0.3556	1.0000e-005	0.0000	0.3558
Total	**1.8000e-004**	**8.7000e-004**	**1.5000e-003**	**0.0000**	**0.1112**	**0.0000**	**0.1112**	**0.0112**	**0.0000**	**0.0112**	**0.0000**	**0.5272**	**0.5272**	**2.0000e-005**	**0.0000**	**0.5278**

3.3 Middle Debris Basin - 2020

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					2.1000e-004	0.0000	2.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8000e-003	0.0301	0.0242	5.0000e-005		1.3400e-003	1.3400e-003		1.2300e-003	1.2300e-003	0.0000	4.3050	4.3050	1.3900e-003	0.0000	4.3398
Total	**2.8000e-003**	**0.0301**	**0.0242**	**5.0000e-005**	**2.1000e-004**	**1.3400e-003**	**1.5500e-003**	**3.0000e-005**	**1.2300e-003**	**1.2600e-003**	**0.0000**	**4.3050**	**4.3050**	**1.3900e-003**	**0.0000**	**4.3398**

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	2.0000e-005	7.5000e-004	1.4000e-004	0.0000	6.7900e-003	0.0000	6.7900e-003	6.8000e-004	0.0000	6.8000e-004	0.0000	0.1716	0.1716	1.0000e-005	0.0000	0.1720
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	1.6000e-004	1.2000e-004	1.3600e-003	0.0000	0.0614	0.0000	0.0614	6.1800e-003	0.0000	6.1800e-003	0.0000	0.3556	0.3556	1.0000e-005	0.0000	0.3558
Total	**1.8000e-004**	**8.7000e-004**	**1.5000e-003**	**0.0000**	**0.0682**	**0.0000**	**0.0682**	**6.8600e-003**	**0.0000**	**6.8600e-003**	**0.0000**	**0.5272**	**0.5272**	**2.0000e-005**	**0.0000**	**0.5278**

3.4 Bee Drainage Channel - 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					2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4000e-004	4.8900e-003	2.9400e-003	1.0000e-005		2.1000e-004	2.1000e-004		1.9000e-004	1.9000e-004	0.0000	0.6164	0.6164	2.0000e-004	0.0000	0.6214
Total	**4.4000e-004**	**4.8900e-003**	**2.9400e-003**	**1.0000e-005**	**2.0000e-005**	**2.1000e-004**	**2.3000e-004**	**0.0000**	**1.9000e-004**	**1.9000e-004**	**0.0000**	**0.6164**	**0.6164**	**2.0000e-004**	**0.0000**	**0.6214**

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	1.9000e-004	3.0000e-005	0.0000	2.7700e-003	0.0000	2.7700e-003	2.8000e-004	0.0000	2.8000e-004	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	0.0223	0.0000	0.0223	2.2300e-003	0.0000	2.2300e-003	0.0000	0.0790	0.0790	0.0000	0.0000	0.0791
Total	**4.0000e-005**	**2.2000e-004**	**3.3000e-004**	**0.0000**	**0.0250**	**0.0000**	**0.0250**	**2.5100e-003**	**0.0000**	**2.5100e-003**	**0.0000**	**0.1219**	**0.1219**	**0.0000**	**0.0000**	**0.1221**

3.4 Bee Drainage Channel - 2020

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					1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4000e-004	4.8900e-003	2.9400e-003	1.0000e-005		2.1000e-004	2.1000e-004		1.9000e-004	1.9000e-004	0.0000	0.6164	0.6164	2.0000e-004	0.0000	0.6214
Total	**4.4000e-004**	**4.8900e-003**	**2.9400e-003**	**1.0000e-005**	**1.0000e-005**	**2.1000e-004**	**2.2000e-004**	**0.0000**	**1.9000e-004**	**1.9000e-004**	**0.0000**	**0.6164**	**0.6164**	**2.0000e-004**	**0.0000**	**0.6214**

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	1.9000e-004	3.0000e-005	0.0000	1.7000e-003	0.0000	1.7000e-003	1.7000e-004	0.0000	1.7000e-004	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	0.0137	0.0000	0.0137	1.3700e-003	0.0000	1.3700e-003	0.0000	0.0790	0.0790	0.0000	0.0000	0.0791
Total	**4.0000e-005**	**2.2000e-004**	**3.3000e-004**	**0.0000**	**0.0154**	**0.0000**	**0.0154**	**1.5400e-003**	**0.0000**	**1.5400e-003**	**0.0000**	**0.1219**	**0.1219**	**0.0000**	**0.0000**	**0.1221**

3.5 San Fernando Gate Drainage Feature - 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					4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6000e-004	5.1200e-003	3.6800e-003	1.0000e-005		2.0000e-004	2.0000e-004		1.8000e-004	1.8000e-004	0.0000	0.7520	0.7520	2.4000e-004	0.0000	0.7581
Total	**4.6000e-004**	**5.1200e-003**	**3.6800e-003**	**1.0000e-005**	**4.0000e-005**	**2.0000e-004**	**2.4000e-004**	**1.0000e-005**	**1.8000e-004**	**1.9000e-004**	**0.0000**	**0.7520**	**0.7520**	**2.4000e-004**	**0.0000**	**0.7581**

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	1.0000e-005	3.8000e-004	7.0000e-005	0.0000	7.7400e-003	0.0000	7.7400e-003	7.8000e-004	0.0000	7.8000e-004	0.0000	0.0858	0.0858	1.0000e-005	0.0000	0.0860
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	0.0310	0.0000	0.0310	3.1000e-003	0.0000	3.1000e-003	0.0000	0.0790	0.0790	0.0000	0.0000	0.0791
Total	**5.0000e-005**	**4.1000e-004**	**3.7000e-004**	**0.0000**	**0.0387**	**0.0000**	**0.0387**	**3.8800e-003**	**0.0000**	**3.8800e-003**	**0.0000**	**0.1648**	**0.1648**	**1.0000e-005**	**0.0000**	**0.1651**

3.5 San Fernando Gate Drainage Feature - 2020

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					2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6000e-004	5.1200e-003	3.6800e-003	1.0000e-005		2.0000e-004	2.0000e-004		1.8000e-004	1.8000e-004	0.0000	0.7520	0.7520	2.4000e-004	0.0000	0.7581
Total	**4.6000e-004**	**5.1200e-003**	**3.6800e-003**	**1.0000e-005**	**2.0000e-005**	**2.0000e-004**	**2.2000e-004**	**0.0000**	**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.7520**	**0.7520**	**2.4000e-004**	**0.0000**	**0.7581**

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	1.0000e-005	3.8000e-004	7.0000e-005	0.0000	4.7500e-003	0.0000	4.7500e-003	4.8000e-004	0.0000	4.8000e-004	0.0000	0.0858	0.0858	1.0000e-005	0.0000	0.0860
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	0.0190	0.0000	0.0190	1.9000e-003	0.0000	1.9000e-003	0.0000	0.0790	0.0790	0.0000	0.0000	0.0791
Total	**5.0000e-005**	**4.1000e-004**	**3.7000e-004**	**0.0000**	**0.0237**	**0.0000**	**0.0237**	**2.3800e-003**	**0.0000**	**2.3800e-003**	**0.0000**	**0.1648**	**0.1648**	**1.0000e-005**	**0.0000**	**0.1651**

3.6 Upper San Fernando Drain Line - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.0000e-004	7.6700e-003	5.5200e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.7000e-004	2.7000e-004	0.0000	1.1280	1.1280	3.6000e-004	0.0000	1.1372
Total	**7.0000e-004**	**7.6700e-003**	**5.5200e-003**	**1.0000e-005**	**0.0000**	**3.0000e-004**	**3.0000e-004**	**0.0000**	**2.7000e-004**	**2.7000e-004**	**0.0000**	**1.1280**	**1.1280**	**3.6000e-004**	**0.0000**	**1.1372**

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	1.9000e-004	3.0000e-005	0.0000	2.9600e-003	0.0000	2.9600e-003	3.0000e-004	0.0000	3.0000e-004	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
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	5.0000e-005	4.0000e-005	4.5000e-004	0.0000	0.0355	0.0000	0.0355	3.5600e-003	0.0000	3.5600e-003	0.0000	0.1185	0.1185	0.0000	0.0000	0.1186
Total	**5.0000e-005**	**2.3000e-004**	**4.8000e-004**	**0.0000**	**0.0385**	**0.0000**	**0.0385**	**3.8600e-003**	**0.0000**	**3.8600e-003**	**0.0000**	**0.1614**	**0.1614**	**0.0000**	**0.0000**	**0.1616**

3.6 Upper San Fernando Drain Line - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.0000e-004	7.6700e-003	5.5200e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.7000e-004	2.7000e-004	0.0000	1.1280	1.1280	3.6000e-004	0.0000	1.1372
Total	**7.0000e-004**	**7.6700e-003**	**5.5200e-003**	**1.0000e-005**	**0.0000**	**3.0000e-004**	**3.0000e-004**	**0.0000**	**2.7000e-004**	**2.7000e-004**	**0.0000**	**1.1280**	**1.1280**	**3.6000e-004**	**0.0000**	**1.1372**

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	1.9000e-004	3.0000e-005	0.0000	1.8100e-003	0.0000	1.8100e-003	1.8000e-004	0.0000	1.8000e-004	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
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	5.0000e-005	4.0000e-005	4.5000e-004	0.0000	0.0218	0.0000	0.0218	2.1900e-003	0.0000	2.1900e-003	0.0000	0.1185	0.1185	0.0000	0.0000	0.1186
Total	**5.0000e-005**	**2.3000e-004**	**4.8000e-004**	**0.0000**	**0.0236**	**0.0000**	**0.0236**	**2.3700e-003**	**0.0000**	**2.3700e-003**	**0.0000**	**0.1614**	**0.1614**	**0.0000**	**0.0000**	**0.1616**

3.7 Upper San Fernando Drain Line Feature 1 - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-005	7.9000e-004	8.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1023	0.1023	3.0000e-005	0.0000	0.1032
Total	**8.0000e-005**	**7.9000e-004**	**8.5000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1023**	**0.1023**	**3.0000e-005**	**0.0000**	**0.1032**

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	2.0000e-005	1.0000e-005	1.5000e-004	0.0000	0.0129	0.0000	0.0130	1.3000e-003	0.0000	1.3000e-003	0.0000	0.0395	0.0395	0.0000	0.0000	0.0395
Total	**2.0000e-005**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**0.0129**	**0.0000**	**0.0130**	**1.3000e-003**	**0.0000**	**1.3000e-003**	**0.0000**	**0.0395**	**0.0395**	**0.0000**	**0.0000**	**0.0395**

3.7 Upper San Fernando Drain Line Feature 1 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-005	7.9000e-004	8.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1023	0.1023	3.0000e-005	0.0000	0.1032
Total	**8.0000e-005**	**7.9000e-004**	**8.5000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1023**	**0.1023**	**3.0000e-005**	**0.0000**	**0.1032**

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	2.0000e-005	1.0000e-005	1.5000e-004	0.0000	7.9400e-003	0.0000	7.9400e-003	8.0000e-004	0.0000	8.0000e-004	0.0000	0.0395	0.0395	0.0000	0.0000	0.0395
Total	**2.0000e-005**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**7.9400e-003**	**0.0000**	**7.9400e-003**	**8.0000e-004**	**0.0000**	**8.0000e-004**	**0.0000**	**0.0395**	**0.0395**	**0.0000**	**0.0000**	**0.0395**

3.8 Upper San Fernando Drain Line Feature 2 - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-005	7.9000e-004	8.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1023	0.1023	3.0000e-005	0.0000	0.1032
Total	**8.0000e-005**	**7.9000e-004**	**8.5000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1023**	**0.1023**	**3.0000e-005**	**0.0000**	**0.1032**

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	1.9000e-004	3.0000e-005	0.0000	3.1700e-003	0.0000	3.1700e-003	3.2000e-004	0.0000	3.2000e-004	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	6.3500e-003	0.0000	6.3500e-003	6.4000e-004	0.0000	6.4000e-004	0.0000	0.0198	0.0198	0.0000	0.0000	0.0198
Total	**1.0000e-005**	**2.0000e-004**	**1.1000e-004**	**0.0000**	**9.5200e-003**	**0.0000**	**9.5200e-003**	**9.6000e-004**	**0.0000**	**9.6000e-004**	**0.0000**	**0.0627**	**0.0627**	**0.0000**	**0.0000**	**0.0628**

3.8 Upper San Fernando Drain Line Feature 2 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-005	7.9000e-004	8.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1023	0.1023	3.0000e-005	0.0000	0.1032
Total	**8.0000e-005**	**7.9000e-004**	**8.5000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1023**	**0.1023**	**3.0000e-005**	**0.0000**	**0.1032**

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	1.9000e-004	3.0000e-005	0.0000	1.9400e-003	0.0000	1.9500e-003	2.0000e-004	0.0000	2.0000e-004	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	3.9000e-003	0.0000	3.9000e-003	3.9000e-004	0.0000	3.9000e-004	0.0000	0.0198	0.0198	0.0000	0.0000	0.0198
Total	**1.0000e-005**	**2.0000e-004**	**1.1000e-004**	**0.0000**	**5.8400e-003**	**0.0000**	**5.8500e-003**	**5.9000e-004**	**0.0000**	**5.9000e-004**	**0.0000**	**0.0627**	**0.0627**	**0.0000**	**0.0000**	**0.0628**

3.9 Yarnell Debris Basin - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-005	7.9000e-004	8.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1023	0.1023	3.0000e-005	0.0000	0.1032
Total	**8.0000e-005**	**7.9000e-004**	**8.5000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1023**	**0.1023**	**3.0000e-005**	**0.0000**	**0.1032**

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	6.7100e-003	0.0000	6.7100e-003	6.7000e-004	0.0000	6.7000e-004	0.0000	0.0198	0.0198	0.0000	0.0000	0.0198
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**6.7100e-003**	**0.0000**	**6.7100e-003**	**6.7000e-004**	**0.0000**	**6.7000e-004**	**0.0000**	**0.0198**	**0.0198**	**0.0000**	**0.0000**	**0.0198**

3.9 Yarnell Debris Basin - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-005	7.9000e-004	8.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1023	0.1023	3.0000e-005	0.0000	0.1032
Total	**8.0000e-005**	**7.9000e-004**	**8.5000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1023**	**0.1023**	**3.0000e-005**	**0.0000**	**0.1032**

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	4.1200e-003	0.0000	4.1200e-003	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0198	0.0198	0.0000	0.0000	0.0198
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**4.1200e-003**	**0.0000**	**4.1200e-003**	**4.1000e-004**	**0.0000**	**4.1000e-004**	**0.0000**	**0.0198**	**0.0198**	**0.0000**	**0.0000**	**0.0198**

3.10 LAR UV Plant Drainage and V-Ditch - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-005	7.9000e-004	8.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1023	0.1023	3.0000e-005	0.0000	0.1032
Total	**8.0000e-005**	**7.9000e-004**	**8.5000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1023**	**0.1023**	**3.0000e-005**	**0.0000**	**0.1032**

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	8.1000e-004	0.0000	8.1000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.0198	0.0198	0.0000	0.0000	0.0198
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**8.1000e-004**	**0.0000**	**8.1000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.0198**	**0.0198**	**0.0000**	**0.0000**	**0.0198**

3.10 LAR UV Plant Drainage and V-Ditch - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-005	7.9000e-004	8.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1023	0.1023	3.0000e-005	0.0000	0.1032
Total	**8.0000e-005**	**7.9000e-004**	**8.5000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1023**	**0.1023**	**3.0000e-005**	**0.0000**	**0.1032**

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	5.1000e-004	0.0000	5.1000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0198	0.0198	0.0000	0.0000	0.0198
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**5.1000e-004**	**0.0000**	**5.1000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.0198**	**0.0198**	**0.0000**	**0.0000**	**0.0198**

3.11 San Fernando Creek - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2000e-004	6.7000e-003	5.3900e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.7000e-004	2.7000e-004	0.0000	0.9567	0.9567	3.1000e-004	0.0000	0.9644
Total	**6.2000e-004**	**6.7000e-003**	**5.3900e-003**	**1.0000e-005**	**0.0000**	**3.0000e-004**	**3.0000e-004**	**0.0000**	**2.7000e-004**	**2.7000e-004**	**0.0000**	**0.9567**	**0.9567**	**3.1000e-004**	**0.0000**	**0.9644**

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	1.9000e-004	3.0000e-005	0.0000	1.7600e-003	0.0000	1.7600e-003	1.8000e-004	0.0000	1.8000e-004	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	0.0140	0.0000	0.0140	1.4100e-003	0.0000	1.4100e-003	0.0000	0.0790	0.0790	0.0000	0.0000	0.0791
Total	**4.0000e-005**	**2.2000e-004**	**3.3000e-004**	**0.0000**	**0.0158**	**0.0000**	**0.0158**	**1.5900e-003**	**0.0000**	**1.5900e-003**	**0.0000**	**0.1219**	**0.1219**	**0.0000**	**0.0000**	**0.1221**

3.11 San Fernando Creek - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2000e-004	6.7000e-003	5.3900e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.7000e-004	2.7000e-004	0.0000	0.9567	0.9567	3.1000e-004	0.0000	0.9644
Total	**6.2000e-004**	**6.7000e-003**	**5.3900e-003**	**1.0000e-005**	**0.0000**	**3.0000e-004**	**3.0000e-004**	**0.0000**	**2.7000e-004**	**2.7000e-004**	**0.0000**	**0.9567**	**0.9567**	**3.1000e-004**	**0.0000**	**0.9644**

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	1.9000e-004	3.0000e-005	0.0000	1.0800e-003	0.0000	1.0800e-003	1.1000e-004	0.0000	1.1000e-004	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	8.6100e-003	0.0000	8.6100e-003	8.7000e-004	0.0000	8.7000e-004	0.0000	0.0790	0.0790	0.0000	0.0000	0.0791
Total	**4.0000e-005**	**2.2000e-004**	**3.3000e-004**	**0.0000**	**9.6900e-003**	**0.0000**	**9.6900e-003**	**9.8000e-004**	**0.0000**	**9.8000e-004**	**0.0000**	**0.1219**	**0.1219**	**0.0000**	**0.0000**	**0.1221**

3.12 Lower San Fernando Detention Basin - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.4000e-004	9.4700e-003	0.0103	1.0000e-005		6.0000e-004	6.0000e-004		5.5000e-004	5.5000e-004	0.0000	1.2278	1.2278	4.0000e-004	0.0000	1.2378
Total	**9.4000e-004**	**9.4700e-003**	**0.0103**	**1.0000e-005**	**0.0000**	**6.0000e-004**	**6.0000e-004**	**0.0000**	**5.5000e-004**	**5.5000e-004**	**0.0000**	**1.2278**	**1.2278**	**4.0000e-004**	**0.0000**	**1.2378**

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	5.0000e-005	4.0000e-005	4.5000e-004	0.0000	0.0163	0.0000	0.0163	1.6500e-003	0.0000	1.6500e-003	0.0000	0.1185	0.1185	0.0000	0.0000	0.1186
Total	**5.0000e-005**	**4.0000e-005**	**4.5000e-004**	**0.0000**	**0.0163**	**0.0000**	**0.0163**	**1.6500e-003**	**0.0000**	**1.6500e-003**	**0.0000**	**0.1185**	**0.1185**	**0.0000**	**0.0000**	**0.1186**

3.12 Lower San Fernando Detention Basin - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.4000e-004	9.4700e-003	0.0103	1.0000e-005		6.0000e-004	6.0000e-004		5.5000e-004	5.5000e-004	0.0000	1.2278	1.2278	4.0000e-004	0.0000	1.2378
Total	**9.4000e-004**	**9.4700e-003**	**0.0103**	**1.0000e-005**	**0.0000**	**6.0000e-004**	**6.0000e-004**	**0.0000**	**5.5000e-004**	**5.5000e-004**	**0.0000**	**1.2278**	**1.2278**	**4.0000e-004**	**0.0000**	**1.2378**

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	5.0000e-005	4.0000e-005	4.5000e-004	0.0000	0.0100	0.0000	0.0100	1.0200e-003	0.0000	1.0200e-003	0.0000	0.1185	0.1185	0.0000	0.0000	0.1186
Total	**5.0000e-005**	**4.0000e-005**	**4.5000e-004**	**0.0000**	**0.0100**	**0.0000**	**0.0100**	**1.0200e-003**	**0.0000**	**1.0200e-003**	**0.0000**	**0.1185**	**0.1185**	**0.0000**	**0.0000**	**0.1186**

3.13 Bull Creek Extension (Sediment Basin) - 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					1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2000e-004	7.3500e-003	2.8100e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.5000e-004	2.5000e-004	0.0000	0.7919	0.7919	2.6000e-004	0.0000	0.7983
Total	**6.2000e-004**	**7.3500e-003**	**2.8100e-003**	**1.0000e-005**	**1.0000e-005**	**2.8000e-004**	**2.9000e-004**	**0.0000**	**2.5000e-004**	**2.5000e-004**	**0.0000**	**0.7919**	**0.7919**	**2.6000e-004**	**0.0000**	**0.7983**

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	1.9000e-004	3.0000e-005	0.0000	9.5000e-004	0.0000	9.5000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	7.6900e-003	0.0000	7.6900e-003	7.8000e-004	0.0000	7.8000e-004	0.0000	0.0790	0.0790	0.0000	0.0000	0.0791
Total	**4.0000e-005**	**2.2000e-004**	**3.3000e-004**	**0.0000**	**8.6400e-003**	**0.0000**	**8.6400e-003**	**8.8000e-004**	**0.0000**	**8.8000e-004**	**0.0000**	**0.1219**	**0.1219**	**0.0000**	**0.0000**	**0.1221**

3.13 Bull Creek Extension (Sediment Basin) - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2000e-004	7.3500e-003	2.8100e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.5000e-004	2.5000e-004	0.0000	0.7919	0.7919	2.6000e-004	0.0000	0.7983
Total	**6.2000e-004**	**7.3500e-003**	**2.8100e-003**	**1.0000e-005**	**0.0000**	**2.8000e-004**	**2.8000e-004**	**0.0000**	**2.5000e-004**	**2.5000e-004**	**0.0000**	**0.7919**	**0.7919**	**2.6000e-004**	**0.0000**	**0.7983**

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	1.9000e-004	3.0000e-005	0.0000	5.9000e-004	0.0000	5.9000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	4.7400e-003	0.0000	4.7400e-003	4.9000e-004	0.0000	4.9000e-004	0.0000	0.0790	0.0790	0.0000	0.0000	0.0791
Total	**4.0000e-005**	**2.2000e-004**	**3.3000e-004**	**0.0000**	**5.3300e-003**	**0.0000**	**5.3300e-003**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**0.0000**	**0.1219**	**0.1219**	**0.0000**	**0.0000**	**0.1221**

3.14 Upper Northeast Drainage - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4000e-004	1.6500e-003	6.1000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.2059	0.2059	7.0000e-005	0.0000	0.2075
Total	**1.4000e-004**	**1.6500e-003**	**6.1000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.2059**	**0.2059**	**7.0000e-005**	**0.0000**	**0.2075**

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	1.9000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
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	2.0000e-005	1.0000e-005	1.5000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0395	0.0395	0.0000	0.0000	0.0395
Total	**2.0000e-005**	**2.0000e-004**	**1.8000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0824**	**0.0824**	**0.0000**	**0.0000**	**0.0825**

3.14 Upper Northeast Drainage - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4000e-004	1.6500e-003	6.1000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.2059	0.2059	7.0000e-005	0.0000	0.2075
Total	**1.4000e-004**	**1.6500e-003**	**6.1000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.2059**	**0.2059**	**7.0000e-005**	**0.0000**	**0.2075**

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	1.9000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
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	2.0000e-005	1.0000e-005	1.5000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0395	0.0395	0.0000	0.0000	0.0395
Total	**2.0000e-005**	**2.0000e-004**	**1.8000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0824**	**0.0824**	**0.0000**	**0.0000**	**0.0825**

3.15 LAR North Dike Stormwater Basin - 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					7.0000e-005	0.0000	7.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1600e-003	0.0128	9.1900e-003	2.0000e-005		4.9000e-004	4.9000e-004		4.5000e-004	4.5000e-004	0.0000	1.8801	1.8801	6.1000e-004	0.0000	1.8953
Total	**1.1600e-003**	**0.0128**	**9.1900e-003**	**2.0000e-005**	**7.0000e-005**	**4.9000e-004**	**5.6000e-004**	**1.0000e-005**	**4.5000e-004**	**4.6000e-004**	**0.0000**	**1.8801**	**1.8801**	**6.1000e-004**	**0.0000**	**1.8953**

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	1.0000e-005	3.8000e-004	7.0000e-005	0.0000	5.7500e-003	0.0000	5.7500e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0858	0.0858	1.0000e-005	0.0000	0.0860
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	9.0000e-005	7.0000e-005	7.6000e-004	0.0000	0.0576	0.0000	0.0576	5.7800e-003	0.0000	5.7800e-003	0.0000	0.1975	0.1975	1.0000e-005	0.0000	0.1977
Total	**1.0000e-004**	**4.5000e-004**	**8.3000e-004**	**0.0000**	**0.0634**	**0.0000**	**0.0634**	**6.3600e-003**	**0.0000**	**6.3600e-003**	**0.0000**	**0.2833**	**0.2833**	**2.0000e-005**	**0.0000**	**0.2837**

3.15 LAR North Dike Stormwater Basin - 2020

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					3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1600e-003	0.0128	9.1900e-003	2.0000e-005		4.9000e-004	4.9000e-004		4.5000e-004	4.5000e-004	0.0000	1.8800	1.8800	6.1000e-004	0.0000	1.8953
Total	**1.1600e-003**	**0.0128**	**9.1900e-003**	**2.0000e-005**	**3.0000e-005**	**4.9000e-004**	**5.2000e-004**	**0.0000**	**4.5000e-004**	**4.5000e-004**	**0.0000**	**1.8800**	**1.8800**	**6.1000e-004**	**0.0000**	**1.8953**

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	1.0000e-005	3.8000e-004	7.0000e-005	0.0000	3.5300e-003	0.0000	3.5300e-003	3.5000e-004	0.0000	3.5000e-004	0.0000	0.0858	0.0858	1.0000e-005	0.0000	0.0860
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	9.0000e-005	7.0000e-005	7.6000e-004	0.0000	0.0353	0.0000	0.0353	3.5500e-003	0.0000	3.5600e-003	0.0000	0.1975	0.1975	1.0000e-005	0.0000	0.1977
Total	**1.0000e-004**	**4.5000e-004**	**8.3000e-004**	**0.0000**	**0.0389**	**0.0000**	**0.0389**	**3.9000e-003**	**0.0000**	**3.9100e-003**	**0.0000**	**0.2833**	**0.2833**	**2.0000e-005**	**0.0000**	**0.2837**

3.16 East Channel - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6000e-004	7.3300e-003	4.4000e-003	1.0000e-005		3.1000e-004	3.1000e-004		2.9000e-004	2.9000e-004	0.0000	0.9246	0.9246	3.0000e-004	0.0000	0.9321
Total	**6.6000e-004**	**7.3300e-003**	**4.4000e-003**	**1.0000e-005**	**0.0000**	**3.1000e-004**	**3.1000e-004**	**0.0000**	**2.9000e-004**	**2.9000e-004**	**0.0000**	**0.9246**	**0.9246**	**3.0000e-004**	**0.0000**	**0.9321**

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	1.9000e-004	3.0000e-005	0.0000	6.8000e-004	0.0000	6.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
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	5.0000e-005	4.0000e-005	4.5000e-004	0.0000	8.2000e-003	0.0000	8.2100e-003	8.4000e-004	0.0000	8.4000e-004	0.0000	0.1185	0.1185	0.0000	0.0000	0.1186
Total	**5.0000e-005**	**2.3000e-004**	**4.8000e-004**	**0.0000**	**8.8800e-003**	**0.0000**	**8.8900e-003**	**9.1000e-004**	**0.0000**	**9.1000e-004**	**0.0000**	**0.1614**	**0.1614**	**0.0000**	**0.0000**	**0.1616**

3.16 East Channel - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6000e-004	7.3300e-003	4.4000e-003	1.0000e-005		3.1000e-004	3.1000e-004		2.9000e-004	2.9000e-004	0.0000	0.9246	0.9246	3.0000e-004	0.0000	0.9321
Total	**6.6000e-004**	**7.3300e-003**	**4.4000e-003**	**1.0000e-005**	**0.0000**	**3.1000e-004**	**3.1000e-004**	**0.0000**	**2.9000e-004**	**2.9000e-004**	**0.0000**	**0.9246**	**0.9246**	**3.0000e-004**	**0.0000**	**0.9321**

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	1.9000e-004	3.0000e-005	0.0000	4.2000e-004	0.0000	4.2000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0429	0.0429	0.0000	0.0000	0.0430
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	5.0000e-005	4.0000e-005	4.5000e-004	0.0000	5.0700e-003	0.0000	5.0700e-003	5.3000e-004	0.0000	5.3000e-004	0.0000	0.1185	0.1185	0.0000	0.0000	0.1186
Total	**5.0000e-005**	**2.3000e-004**	**4.8000e-004**	**0.0000**	**5.4900e-003**	**0.0000**	**5.4900e-003**	**5.7000e-004**	**0.0000**	**5.7000e-004**	**0.0000**	**0.1614**	**0.1614**	**0.0000**	**0.0000**	**0.1616**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	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
User Defined Industrial	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas 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
NaturalGas 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

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					
User Defined Industrial	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
User Defined Industrial	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Unmitigated	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Total	**1.2100e-003**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Total	**1.2100e-003**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Van Norman Complex Ongoing Maintenance Program - Subsequent Years

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1,000.00	User Defined Unit	1,340.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on Initial Study.

Construction Phase - Site preparation only. Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Trips and VMT - Based on data needs.

On-road Fugitive Dust - Based on off-road distance travelled onsite.

Demolition - No demolition.

Grading - Based on data needs.

Architectural Coating - No architectural coatings.

Vehicle Trips - Operation modeled as construction phase.

Construction Off-road Equipment Mitigation - In accordance with SCAQMD Rule 403, watering twice per day and speed limit of 15 mph.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	6,000.00	5.00
tblConstructionPhase	NumDays	6,000.00	2.00

tblConstructionPhase	NumDays	6,000.00	6.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	5.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	9.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblGrading	MaterialExported	0.00	2,294.00
tblGrading	MaterialExported	0.00	112.00
tblGrading	MaterialExported	0.00	1,265.00
tblGrading	MaterialExported	0.00	8,285.00
tblGrading	MaterialExported	0.00	439.00
tblGrading	MaterialExported	0.00	634.00
tblLandUse	LotAcreage	0.00	1,340.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
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tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00

Van Norman Complex Ongoing Maintenance Program - Subsequent Years - South Coast AQMD Air District, Summer

tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOnRoadDust	HaulingPercentPave	100.00	74.00
tblOnRoadDust	HaulingPercentPave	100.00	87.00
tblOnRoadDust	HaulingPercentPave	100.00	90.00
tblOnRoadDust	HaulingPercentPave	100.00	93.00
tblOnRoadDust	HaulingPercentPave	100.00	78.70
tblOnRoadDust	HaulingPercentPave	100.00	95.00
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tblOnRoadDust	HaulingPercentPave	100.00	76.00
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tblOnRoadDust	WorkerPercentPave	100.00	82.30
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tblOnRoadDust	WorkerPercentPave	100.00	96.60
tblOnRoadDust	WorkerPercentPave	100.00	86.00

tblOnRoadDust	WorkerPercentPave	100.00	86.00
tblOnRoadDust	WorkerPercentPave	100.00	80.50
tblOnRoadDust	WorkerPercentPave	100.00	85.10
tblOnRoadDust	WorkerPercentPave	100.00	83.70
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tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
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tblTripsAndVMT	HaulingTripLength	20.00	10.00
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tblTripsAndVMT	HaulingTripLength	20.00	10.00
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tblTripsAndVMT	HaulingTripNumber	158.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	1,036.00	8.00
tblTripsAndVMT	HaulingTripNumber	55.00	2.00

tblTripsAndVMT	HaulingTripNumber	79.00	4.00
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tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00

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
Year	lb/day										lb/day					
2020	0.6651	7.5602	5.7664	0.0125	42.3198	0.2987	42.5188	4.2399	0.2748	4.4231	0.0000	1,222.7900	1,222.7900	0.3497	0.0000	1,231.5322
Maximum	**0.6651**	**7.5602**	**5.7664**	**0.0125**	**42.3198**	**0.2987**	**42.5188**	**4.2399**	**0.2748**	**4.4231**	**0.0000**	**1,222.7900**	**1,222.7900**	**0.3497**	**0.0000**	**1,231.5322**

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	0.6651	7.5602	5.7664	0.0125	25.9385	0.2987	26.1376	2.6008	0.2748	2.7839	0.0000	1,222.7900	1,222.7900	0.3497	0.0000	1,231.5322
Maximum	**0.6651**	**7.5602**	**5.7664**	**0.0125**	**25.9385**	**0.2987**	**26.1376**	**2.6008**	**0.2748**	**2.7839**	**0.0000**	**1,222.7900**	**1,222.7900**	**0.3497**	**0.0000**	**1,231.5322**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**38.71**	**0.00**	**38.53**	**38.66**	**0.00**	**37.06**	**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
Category	lb/day										lb/day					
Area	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**	**0.0000**	**3.7000e-004**	**3.7000e-004**	**0.0000**	**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**	**0.0000**	**0.2335**

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	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**	**0.0000**	**3.7000e-004**	**3.7000e-004**	**0.0000**	**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**	**0.0000**	**0.2335**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	Upper Debris Basin	Site Preparation	9/1/2020	9/7/2020	5	5	
2	Middle Debris Basin	Site Preparation	9/8/2020	9/18/2020	5	9	
3	Bee Drainage Channel	Site Preparation	9/19/2020	9/22/2020	5	2	
4	San Fernando Gate Drainage Feature	Site Preparation	9/23/2020	9/24/2020	5	2	
5	Upper San Fernando Drain Line	Site Preparation	9/25/2020	9/29/2020	5	3	
6	Upper San Fernando Drain Line Feature 1	Site Preparation	9/30/2020	9/30/2020	5	1	
7	Upper San Fernando Drain Line Feature 2	Site Preparation	10/1/2020	10/1/2020	5	1	
8	Yarnell Debris Basin	Site Preparation	10/2/2020	10/2/2020	5	1	
9	LAR UV Plant Drainage and V-Ditch	Site Preparation	10/3/2020	10/5/2020	5	1	
10	San Fernando Creek	Site Preparation	10/6/2020	10/7/2020	5	2	
11	Lower San Fernando Detention Basin	Site Preparation	10/8/2020	10/15/2020	5	6	
12	Bull Creek Extension (Sediment Basin)	Site Preparation	10/16/2020	10/19/2020	5	2	
13	Upper Northeast Drainage	Site Preparation	10/20/2020	10/20/2020	5	1	
14	LAR North Dike Stormwater Basin	Site Preparation	10/21/2020	10/27/2020	5	5	
15	East Channel	Site Preparation	10/28/2020	10/30/2020	5	3	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Upper Debris Basin	Excavators	1	6.00	158	0.38
Upper Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Upper Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Upper Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Middle Debris Basin	Excavators	1	6.00	158	0.38
Middle Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Middle Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Middle Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Bee Drainage Channel	Rubber Tired Dozers	0	8.00	247	0.40
Bee Drainage Channel	Rubber Tired Loaders	1	6.00	203	0.36
Bee Drainage Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Gate Drainage Feature	Excavators	1	6.00	158	0.38
San Fernando Gate Drainage Feature	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Gate Drainage Feature	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Gate Drainage Feature	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line	Excavators	1	6.00	158	0.38
Upper San Fernando Drain Line	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line	Rubber Tired Loaders	1	6.00	203	0.36
Upper San Fernando Drain Line	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line Feature 1	Excavators	0	6.00	158	0.38
Upper San Fernando Drain Line Feature 1	Rubber Tired Dozers	0	8.00	247	0.40

Upper San Fernando Drain Line Feature 1	Rubber Tired Loaders	0	6.00	203	0.36
Upper San Fernando Drain Line Feature 1	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Upper San Fernando Drain Line Feature 2	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line Feature 2	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Yarnell Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Yarnell Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
LAR UV Plant Drainage and V-Ditch	Rubber Tired Dozers	0	8.00	247	0.40
LAR UV Plant Drainage and V-Ditch	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Creek	Excavators	1	6.00	158	0.38
San Fernando Creek	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Creek	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Creek	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Lower San Fernando Detention Basin	Rubber Tired Dozers	0	8.00	247	0.40
Lower San Fernando Detention Basin	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Bull Creek Extension (Sediment Basin)	Cranes	1	6.00	231	0.29
Bull Creek Extension (Sediment Basin)	Rubber Tired Dozers	0	8.00	247	0.40
Bull Creek Extension (Sediment Basin)	Rubber Tired Loaders	1	6.00	203	0.36
Bull Creek Extension (Sediment Basin)	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper Northeast Drainage	Rubber Tired Dozers	0	8.00	247	0.40
Upper Northeast Drainage	Rubber Tired Loaders	1	6.00	203	0.36
Upper Northeast Drainage	Tractors/Loaders/Backhoes	0	8.00	97	0.37
LAR North Dike Stormwater Basin	Excavators	1	6.00	158	0.38
LAR North Dike Stormwater Basin	Rubber Tired Dozers	0	8.00	247	0.40
LAR North Dike Stormwater Basin	Rubber Tired Loaders	1	6.00	203	0.36
LAR North Dike Stormwater Basin	Tractors/Loaders/Backhoes	0	8.00	97	0.37
East Channel	Rubber Tired Dozers	0	8.00	247	0.40

East Channel	Rubber Tired Loaders	1	6.00	203	0.36
East Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37

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
Upper Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Middle Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Bee Drainage Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
San Fernando Gate Drainage Feature	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 1	1	8.00	0.00	0.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 2	1	4.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Yarnell Debris Basin	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
LAR UV Plant Drainage and V-Ditch	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
San Fernando Creek	3	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Lower San Fernando Detention Basin	2	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bull Creek Extension (Sediment Basin)	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper Northeast Drainage	1	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
LAR North Dike Stormwater Basin	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
East Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Upper Debris Basin - 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					0.0519	0.0000	0.0519	7.8600e-003	0.0000	7.8600e-003			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735		1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0519**	**0.2973**	**0.3492**	**7.8600e-003**	**0.2735**	**0.2814**		**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

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	7.4400e-003	0.2960	0.0522	7.1000e-004	6.1334	7.3000e-004	6.1342	0.6141	7.0000e-004	0.6148		76.7015	76.7015	6.0000e-003		76.8515
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	0.0362	0.0243	0.3271	9.2000e-004	30.7089	6.8000e-004	30.7096	3.0772	6.2000e-004	3.0778		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0436**	**0.3203**	**0.3792**	**1.6300e-003**	**36.8424**	**1.4100e-003**	**36.8438**	**3.6912**	**1.3200e-003**	**3.6926**		**168.2549**	**168.2549**	**8.6300e-003**		**168.4707**

3.2 Upper Debris Basin - 2020

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					0.0234	0.0000	0.0234	3.5400e-003	0.0000	3.5400e-003			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735	0.0000	1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0234**	**0.2973**	**0.3206**	**3.5400e-003**	**0.2735**	**0.2770**	**0.0000**	**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

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	7.4400e-003	0.2960	0.0522	7.1000e-004	3.7595	7.3000e-004	3.7603	0.3767	7.0000e-004	0.3774		76.7015	76.7015	6.0000e-003		76.8515
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	0.0362	0.0243	0.3271	9.2000e-004	18.8309	6.8000e-004	18.8315	1.8893	6.2000e-004	1.8900		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0436**	**0.3203**	**0.3792**	**1.6300e-003**	**22.5904**	**1.4100e-003**	**22.5918**	**2.2660**	**1.3200e-003**	**2.2674**		**168.2549**	**168.2549**	**8.6300e-003**		**168.4707**

3.3 Middle Debris Basin - 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					0.1041	0.0000	0.1041	0.0158	0.0000	0.0158			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735		1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.1041**	**0.2973**	**0.4014**	**0.0158**	**0.2735**	**0.2893**		**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

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	4.1400e-003	0.1645	0.0290	3.9000e-004	2.6883	4.1000e-004	2.6887	0.2694	3.9000e-004	0.2698		42.6119	42.6119	3.3300e-003		42.6953
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	0.0362	0.0243	0.3271	9.2000e-004	24.3083	6.8000e-004	24.3089	2.4389	6.2000e-004	2.4395		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0403**	**0.1888**	**0.3560**	**1.3100e-003**	**26.9966**	**1.0900e-003**	**26.9976**	**2.7083**	**1.0100e-003**	**2.7093**		**134.1653**	**134.1653**	**5.9600e-003**		**134.3145**

3.3 Middle Debris Basin - 2020

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					0.0469	0.0000	0.0469	7.0900e-003	0.0000	7.0900e-003			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735	0.0000	1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0469**	**0.2973**	**0.3441**	**7.0900e-003**	**0.2735**	**0.2806**	**0.0000**	**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

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	4.1400e-003	0.1645	0.0290	3.9000e-004	1.6485	4.1000e-004	1.6489	0.1655	3.9000e-004	0.1658		42.6119	42.6119	3.3300e-003		42.6953
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	0.0362	0.0243	0.3271	9.2000e-004	14.9132	6.8000e-004	14.9138	1.4994	6.2000e-004	1.5000		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0403**	**0.1888**	**0.3560**	**1.3100e-003**	**16.5616**	**1.0900e-003**	**16.5627**	**1.6648**	**1.0100e-003**	**1.6658**		**134.1653**	**134.1653**	**5.9600e-003**		**134.3145**

3.4 Bee Drainage Channel - 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					0.0248	0.0000	0.0248	3.7600e-003	0.0000	3.7600e-003			0.0000			0.0000
Off-Road	0.4377	4.8860	2.9363	7.0200e-003		0.2096	0.2096		0.1929	0.1929		679.4463	679.4463	0.2198		684.9400
Total	**0.4377**	**4.8860**	**2.9363**	**7.0200e-003**	**0.0248**	**0.2096**	**0.2345**	**3.7600e-003**	**0.1929**	**0.1966**		**679.4463**	**679.4463**	**0.2198**		**684.9400**

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	4.6500e-003	0.1850	0.0326	4.4000e-004	3.0243	4.6000e-004	3.0248	0.3031	4.4000e-004	0.3036		47.9384	47.9384	3.7500e-003		48.0322
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	0.0362	0.0243	0.3271	9.2000e-004	24.3083	6.8000e-004	24.3089	2.4389	6.2000e-004	2.4395		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0409**	**0.2093**	**0.3597**	**1.3600e-003**	**27.3326**	**1.1400e-003**	**27.3337**	**2.7420**	**1.0600e-003**	**2.7431**		**139.4918**	**139.4918**	**6.3800e-003**		**139.6514**

3.4 Bee Drainage Channel - 2020

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					0.0112	0.0000	0.0112	1.6900e-003	0.0000	1.6900e-003			0.0000			0.0000
Off-Road	0.4377	4.8860	2.9363	7.0200e-003		0.2096	0.2096		0.1929	0.1929	0.0000	679.4463	679.4463	0.2198		684.9400
Total	**0.4377**	**4.8860**	**2.9363**	**7.0200e-003**	**0.0112**	**0.2096**	**0.2208**	**1.6900e-003**	**0.1929**	**0.1946**	**0.0000**	**679.4463**	**679.4463**	**0.2198**		**684.9400**

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	4.6500e-003	0.1850	0.0326	4.4000e-004	1.8545	4.6000e-004	1.8550	0.1861	4.4000e-004	0.1866		47.9384	47.9384	3.7500e-003		48.0322
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	0.0362	0.0243	0.3271	9.2000e-004	14.9132	6.8000e-004	14.9138	1.4994	6.2000e-004	1.5000		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0409**	**0.2093**	**0.3597**	**1.3600e-003**	**16.7677**	**1.1400e-003**	**16.7688**	**1.6855**	**1.0600e-003**	**1.6866**		**139.4918**	**139.4918**	**6.3800e-003**		**139.6514**

3.5 San Fernando Gate Drainage Feature - 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					0.0359	0.0000	0.0359	5.4300e-003	0.0000	5.4300e-003			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816		828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0359**	**0.1974**	**0.2333**	**5.4300e-003**	**0.1816**	**0.1871**		**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	9.3100e-003	0.3700	0.0652	8.9000e-004	8.4611	9.2000e-004	8.4621	0.8468	8.8000e-004	0.8477		95.8769	95.8769	7.5000e-003		96.0643
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	0.0362	0.0243	0.3271	9.2000e-004	33.8228	6.8000e-004	33.8235	3.3877	6.2000e-004	3.3883		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0455**	**0.3944**	**0.3923**	**1.8100e-003**	**42.2839**	**1.6000e-003**	**42.2855**	**4.2345**	**1.5000e-003**	**4.2360**		**187.4303**	**187.4303**	**0.0101**		**187.6835**

3.5 San Fernando Gate Drainage Feature - 2020

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					0.0161	0.0000	0.0161	2.4400e-003	0.0000	2.4400e-003			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816	0.0000	828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0161**	**0.1974**	**0.2136**	**2.4400e-003**	**0.1816**	**0.1841**	**0.0000**	**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	9.3100e-003	0.3700	0.0652	8.9000e-004	5.1856	9.2000e-004	5.1866	0.5193	8.8000e-004	0.5201		95.8769	95.8769	7.5000e-003		96.0643
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	0.0362	0.0243	0.3271	9.2000e-004	20.7368	6.8000e-004	20.7374	2.0791	6.2000e-004	2.0797		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0455**	**0.3944**	**0.3923**	**1.8100e-003**	**25.9224**	**1.6000e-003**	**25.9240**	**2.5983**	**1.5000e-003**	**2.5998**		**187.4303**	**187.4303**	**0.0101**		**187.6835**

3.6 Upper San Fernando Drain Line - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816		828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0000**	**0.1974**	**0.1974**	**0.0000**	**0.1816**	**0.1816**		**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	3.1000e-003	0.1233	0.0218	3.0000e-004	2.1535	3.1000e-004	2.1538	0.2158	2.9000e-004	0.2161		31.9590	31.9590	2.5000e-003		32.0214
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	0.0362	0.0243	0.3271	9.2000e-004	25.8652	6.8000e-004	25.8659	2.5941	6.2000e-004	2.5948		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0393**	**0.1477**	**0.3488**	**1.2200e-003**	**28.0187**	**9.9000e-004**	**28.0197**	**2.8099**	**9.1000e-004**	**2.8108**		**123.5124**	**123.5124**	**5.1300e-003**		**123.6406**

3.6 Upper San Fernando Drain Line - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816	0.0000	828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0000**	**0.1974**	**0.1974**	**0.0000**	**0.1816**	**0.1816**	**0.0000**	**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	3.1000e-003	0.1233	0.0218	3.0000e-004	1.3204	3.1000e-004	1.3207	0.1325	2.9000e-004	0.1328		31.9590	31.9590	2.5000e-003		32.0214
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	0.0362	0.0243	0.3271	9.2000e-004	15.8661	6.8000e-004	15.8668	1.5942	6.2000e-004	1.5948		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0393**	**0.1477**	**0.3488**	**1.2200e-003**	**17.1865**	**9.9000e-004**	**17.1875**	**1.7267**	**9.1000e-004**	**1.7276**		**123.5124**	**123.5124**	**5.1300e-003**		**123.6406**

3.7 Upper San Fernando Drain Line Feature 1 - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919		225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**		**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	0.0362	0.0243	0.3271	9.2000e-004	28.2871	6.8000e-004	28.2877	2.8356	6.2000e-004	2.8363		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0362**	**0.0243**	**0.3271**	**9.2000e-004**	**28.2871**	**6.8000e-004**	**28.2877**	**2.8356**	**6.2000e-004**	**2.8363**		**91.5534**	**91.5534**	**2.6300e-003**		**91.6192**

3.7 Upper San Fernando Drain Line Feature 1 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919	0.0000	225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**	**0.0000**	**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	0.0362	0.0243	0.3271	9.2000e-004	17.3485	6.8000e-004	17.3492	1.7418	6.2000e-004	1.7424		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0362**	**0.0243**	**0.3271**	**9.2000e-004**	**17.3485**	**6.8000e-004**	**17.3492**	**1.7418**	**6.2000e-004**	**1.7424**		**91.5534**	**91.5534**	**2.6300e-003**		**91.6192**

3.8 Upper San Fernando Drain Line Feature 2 - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919		225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**		**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	9.3100e-003	0.3700	0.0652	8.9000e-004	6.9313	9.2000e-004	6.9322	0.6943	8.8000e-004	0.6951		95.8769	95.8769	7.5000e-003		96.0643
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	0.0181	0.0122	0.1635	4.6000e-004	13.8840	3.4000e-004	13.8844	1.3919	3.1000e-004	1.3923		45.7767	45.7767	1.3200e-003		45.8096
Total	**0.0274**	**0.3822**	**0.2288**	**1.3500e-003**	**20.8153**	**1.2600e-003**	**20.8166**	**2.0862**	**1.1900e-003**	**2.0874**		**141.6536**	**141.6536**	**8.8200e-003**		**141.8739**

3.8 Upper San Fernando Drain Line Feature 2 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919	0.0000	225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**	**0.0000**	**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	9.3100e-003	0.3700	0.0652	8.9000e-004	4.2492	9.2000e-004	4.2502	0.4261	8.8000e-004	0.4269		95.8769	95.8769	7.5000e-003		96.0643
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	0.0181	0.0122	0.1635	4.6000e-004	8.5154	3.4000e-004	8.5158	0.8551	3.1000e-004	0.8554		45.7767	45.7767	1.3200e-003		45.8096
Total	**0.0274**	**0.3822**	**0.2288**	**1.3500e-003**	**12.7647**	**1.2600e-003**	**12.7659**	**1.2811**	**1.1900e-003**	**1.2823**		**141.6536**	**141.6536**	**8.8200e-003**		**141.8739**

3.9 Yarnell Debris Basin - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919		225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**		**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	0.0181	0.0122	0.1635	4.6000e-004	14.6625	3.4000e-004	14.6628	1.4696	3.1000e-004	1.4699		45.7767	45.7767	1.3200e-003		45.8096
Total	**0.0181**	**0.0122**	**0.1635**	**4.6000e-004**	**14.6625**	**3.4000e-004**	**14.6628**	**1.4696**	**3.1000e-004**	**1.4699**		**45.7767**	**45.7767**	**1.3200e-003**		**45.8096**

3.9 Yarnell Debris Basin - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919	0.0000	225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**	**0.0000**	**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	0.0181	0.0122	0.1635	4.6000e-004	8.9919	3.4000e-004	8.9922	0.9025	3.1000e-004	0.9028		45.7767	45.7767	1.3200e-003		45.8096
Total	**0.0181**	**0.0122**	**0.1635**	**4.6000e-004**	**8.9919**	**3.4000e-004**	**8.9922**	**0.9025**	**3.1000e-004**	**0.9028**		**45.7767**	**45.7767**	**1.3200e-003**		**45.8096**

3.10 LAR UV Plant Drainage and V-Ditch - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919		225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**		**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	0.0181	0.0122	0.1635	4.6000e-004	1.7746	3.4000e-004	1.7750	0.1844	3.1000e-004	0.1847		45.7767	45.7767	1.3200e-003		45.8096
Total	**0.0181**	**0.0122**	**0.1635**	**4.6000e-004**	**1.7746**	**3.4000e-004**	**1.7750**	**0.1844**	**3.1000e-004**	**0.1847**		**45.7767**	**45.7767**	**1.3200e-003**		**45.8096**

3.10 LAR UV Plant Drainage and V-Ditch - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919	0.0000	225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**	**0.0000**	**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	0.0181	0.0122	0.1635	4.6000e-004	1.1036	3.4000e-004	1.1039	0.1173	3.1000e-004	0.1176		45.7767	45.7767	1.3200e-003		45.8096
Total	**0.0181**	**0.0122**	**0.1635**	**4.6000e-004**	**1.1036**	**3.4000e-004**	**1.1039**	**0.1173**	**3.1000e-004**	**0.1176**		**45.7767**	**45.7767**	**1.3200e-003**		**45.8096**

3.11 San Fernando Creek - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735		1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0000**	**0.2973**	**0.2973**	**0.0000**	**0.2735**	**0.2735**		**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

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	4.6500e-003	0.1850	0.0326	4.4000e-004	1.9211	4.6000e-004	1.9215	0.1931	4.4000e-004	0.1935		47.9384	47.9384	3.7500e-003		48.0322
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	0.0362	0.0243	0.3271	9.2000e-004	15.3127	6.8000e-004	15.3134	1.5418	6.2000e-004	1.5424		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0409**	**0.2093**	**0.3597**	**1.3600e-003**	**17.2338**	**1.1400e-003**	**17.2349**	**1.7349**	**1.0600e-003**	**1.7360**		**139.4918**	**139.4918**	**6.3800e-003**		**139.6514**

3.11 San Fernando Creek - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735	0.0000	1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0000**	**0.2973**	**0.2973**	**0.0000**	**0.2735**	**0.2735**	**0.0000**	**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

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	4.6500e-003	0.1850	0.0326	4.4000e-004	1.1792	4.6000e-004	1.1797	0.1189	4.4000e-004	0.1194		47.9384	47.9384	3.7500e-003		48.0322
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	0.0362	0.0243	0.3271	9.2000e-004	9.4072	6.8000e-004	9.4079	0.9513	6.2000e-004	0.9519		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0409**	**0.2093**	**0.3597**	**1.3600e-003**	**10.5864**	**1.1400e-003**	**10.5876**	**1.0702**	**1.0600e-003**	**1.0712**		**139.4918**	**139.4918**	**6.3800e-003**		**139.6514**

3.12 Lower San Fernando Detention Basin - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3143	3.1577	3.4196	4.6600e-003		0.1997	0.1997		0.1837	0.1837		451.1528	451.1528	0.1459		454.8006
Total	**0.3143**	**3.1577**	**3.4196**	**4.6600e-003**	**0.0000**	**0.1997**	**0.1997**	**0.0000**	**0.1837**	**0.1837**		**451.1528**	**451.1528**	**0.1459**		**454.8006**

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	0.0181	0.0122	0.1635	4.6000e-004	5.9264	3.4000e-004	5.9268	0.5984	3.1000e-004	0.5987		45.7767	45.7767	1.3200e-003		45.8096
Total	**0.0181**	**0.0122**	**0.1635**	**4.6000e-004**	**5.9264**	**3.4000e-004**	**5.9268**	**0.5984**	**3.1000e-004**	**0.5987**		**45.7767**	**45.7767**	**1.3200e-003**		**45.8096**

3.12 Lower San Fernando Detention Basin - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3143	3.1577	3.4196	4.6600e-003		0.1997	0.1997		0.1837	0.1837	0.0000	451.1528	451.1528	0.1459		454.8006
Total	**0.3143**	**3.1577**	**3.4196**	**4.6600e-003**	**0.0000**	**0.1997**	**0.1997**	**0.0000**	**0.1837**	**0.1837**	**0.0000**	**451.1528**	**451.1528**	**0.1459**		**454.8006**

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	0.0181	0.0122	0.1635	4.6000e-004	3.6448	3.4000e-004	3.6451	0.3702	3.1000e-004	0.3705		45.7767	45.7767	1.3200e-003		45.8096
Total	**0.0181**	**0.0122**	**0.1635**	**4.6000e-004**	**3.6448**	**3.4000e-004**	**3.6451**	**0.3702**	**3.1000e-004**	**0.3705**		**45.7767**	**45.7767**	**1.3200e-003**		**45.8096**

3.13 Bull Creek Extension (Sediment Basin) - 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					6.3300e-003	0.0000	6.3300e-003	9.6000e-004	0.0000	9.6000e-004			0.0000			0.0000
Off-Road	0.6206	7.3508	2.8131	9.0100e-003		0.2765	0.2765		0.2544	0.2544		872.9622	872.9622	0.2823		880.0205
Total	**0.6206**	**7.3508**	**2.8131**	**9.0100e-003**	**6.3300e-003**	**0.2765**	**0.2828**	**9.6000e-004**	**0.2544**	**0.2553**		**872.9622**	**872.9622**	**0.2823**		**880.0205**

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	4.6500e-003	0.1850	0.0326	4.4000e-004	1.0385	4.6000e-004	1.0389	0.1051	4.4000e-004	0.1055		47.9384	47.9384	3.7500e-003		48.0322
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	0.0362	0.0243	0.3271	9.2000e-004	8.3930	6.8000e-004	8.3937	0.8518	6.2000e-004	0.8524		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0409**	**0.2093**	**0.3597**	**1.3600e-003**	**9.4315**	**1.1400e-003**	**9.4326**	**0.9569**	**1.0600e-003**	**0.9579**		**139.4918**	**139.4918**	**6.3800e-003**		**139.6514**

3.13 Bull Creek Extension (Sediment Basin) - 2020

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					2.8500e-003	0.0000	2.8500e-003	4.3000e-004	0.0000	4.3000e-004			0.0000			0.0000
Off-Road	0.6206	7.3508	2.8131	9.0100e-003		0.2765	0.2765		0.2544	0.2544	0.0000	872.9622	872.9622	0.2823		880.0205
Total	**0.6206**	**7.3508**	**2.8131**	**9.0100e-003**	**2.8500e-003**	**0.2765**	**0.2793**	**4.3000e-004**	**0.2544**	**0.2548**	**0.0000**	**872.9622**	**872.9622**	**0.2823**		**880.0205**

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	4.6500e-003	0.1850	0.0326	4.4000e-004	0.6390	4.6000e-004	0.6395	0.0651	4.4000e-004	0.0656		47.9384	47.9384	3.7500e-003		48.0322
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	0.0362	0.0243	0.3271	9.2000e-004	5.1718	6.8000e-004	5.1725	0.5297	6.2000e-004	0.5303		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0409**	**0.2093**	**0.3597**	**1.3600e-003**	**5.8109**	**1.1400e-003**	**5.8120**	**0.5948**	**1.0600e-003**	**0.5959**		**139.4918**	**139.4918**	**6.3800e-003**		**139.6514**

3.14 Upper Northeast Drainage - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2806	3.3072	1.2266	4.6900e-003		0.1098	0.1098		0.1010	0.1010		453.8699	453.8699	0.1468		457.5397
Total	**0.2806**	**3.3072**	**1.2266**	**4.6900e-003**	**0.0000**	**0.1098**	**0.1098**	**0.0000**	**0.1010**	**0.1010**		**453.8699**	**453.8699**	**0.1468**		**457.5397**

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	9.3100e-003	0.3700	0.0652	8.9000e-004	0.0175	9.2000e-004	0.0184	4.8000e-003	8.8000e-004	5.6800e-003		95.8769	95.8769	7.5000e-003		96.0643
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	0.0362	0.0243	0.3271	9.2000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0455**	**0.3944**	**0.3923**	**1.8100e-003**	**0.1069**	**1.6000e-003**	**0.1085**	**0.0285**	**1.5000e-003**	**0.0300**		**187.4303**	**187.4303**	**0.0101**		**187.6835**

3.14 Upper Northeast Drainage - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2806	3.3072	1.2266	4.6900e-003		0.1098	0.1098		0.1010	0.1010	0.0000	453.8699	453.8699	0.1468		457.5397
Total	**0.2806**	**3.3072**	**1.2266**	**4.6900e-003**	**0.0000**	**0.1098**	**0.1098**	**0.0000**	**0.1010**	**0.1010**	**0.0000**	**453.8699**	**453.8699**	**0.1468**		**457.5397**

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	9.3100e-003	0.3700	0.0652	8.9000e-004	0.0175	9.2000e-004	0.0184	4.8000e-003	8.8000e-004	5.6800e-003		95.8769	95.8769	7.5000e-003		96.0643
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	0.0362	0.0243	0.3271	9.2000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0455**	**0.3944**	**0.3923**	**1.8100e-003**	**0.1069**	**1.6000e-003**	**0.1085**	**0.0285**	**1.5000e-003**	**0.0300**		**187.4303**	**187.4303**	**0.0101**		**187.6835**

3.15 LAR North Dike Stormwater Basin - 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					0.0286	0.0000	0.0286	4.3300e-003	0.0000	4.3300e-003			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816		828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0286**	**0.1974**	**0.2261**	**4.3300e-003**	**0.1816**	**0.1860**		**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	3.7200e-003	0.1480	0.0261	3.5000e-004	2.5136	3.7000e-004	2.5140	0.2519	3.5000e-004	0.2522		38.3508	38.3508	3.0000e-003		38.4257
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	0.0362	0.0243	0.3271	9.2000e-004	25.1732	6.8000e-004	25.1739	2.5251	6.2000e-004	2.5257		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0399**	**0.1723**	**0.3531**	**1.2700e-003**	**27.6868**	**1.0500e-003**	**27.6879**	**2.7770**	**9.7000e-004**	**2.7780**		**129.9042**	**129.9042**	**5.6300e-003**		**130.0449**

3.15 LAR North Dike Stormwater Basin - 2020

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					0.0129	0.0000	0.0129	1.9500e-003	0.0000	1.9500e-003			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816	0.0000	828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0129**	**0.1974**	**0.2103**	**1.9500e-003**	**0.1816**	**0.1836**	**0.0000**	**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	3.7200e-003	0.1480	0.0261	3.5000e-004	1.5412	3.7000e-004	1.5416	0.1546	3.5000e-004	0.1550		38.3508	38.3508	3.0000e-003		38.4257
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	0.0362	0.0243	0.3271	9.2000e-004	15.4426	6.8000e-004	15.4432	1.5521	6.2000e-004	1.5527		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0399**	**0.1723**	**0.3531**	**1.2700e-003**	**16.9838**	**1.0500e-003**	**16.9848**	**1.7067**	**9.7000e-004**	**1.7077**		**129.9042**	**129.9042**	**5.6300e-003**		**130.0449**

3.16 East Channel - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4377	4.8860	2.9363	7.0200e-003		0.2096	0.2096		0.1929	0.1929		679.4463	679.4463	0.2198		684.9400
Total	**0.4377**	**4.8860**	**2.9363**	**7.0200e-003**	**0.0000**	**0.2096**	**0.2096**	**0.0000**	**0.1929**	**0.1929**		**679.4463**	**679.4463**	**0.2198**		**684.9400**

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	3.1000e-003	0.1233	0.0218	3.0000e-004	0.4962	3.1000e-004	0.4965	0.0505	2.9000e-004	0.0508		31.9590	31.9590	2.5000e-003		32.0214
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	0.0362	0.0243	0.3271	9.2000e-004	5.9711	6.8000e-004	5.9718	0.6103	6.2000e-004	0.6109		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0393**	**0.1477**	**0.3488**	**1.2200e-003**	**6.4673**	**9.9000e-004**	**6.4683**	**0.6608**	**9.1000e-004**	**0.6617**		**123.5124**	**123.5124**	**5.1300e-003**		**123.6406**

3.16 East Channel - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4377	4.8860	2.9363	7.0200e-003		0.2096	0.2096		0.1929	0.1929	0.0000	679.4463	679.4463	0.2198		684.9400
Total	**0.4377**	**4.8860**	**2.9363**	**7.0200e-003**	**0.0000**	**0.2096**	**0.2096**	**0.0000**	**0.1929**	**0.1929**	**0.0000**	**679.4463**	**679.4463**	**0.2198**		**684.9400**

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	3.1000e-003	0.1233	0.0218	3.0000e-004	0.3060	3.1000e-004	0.3063	0.0315	2.9000e-004	0.0318		31.9590	31.9590	2.5000e-003		32.0214
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	0.0362	0.0243	0.3271	9.2000e-004	3.6895	6.8000e-004	3.6902	0.3821	6.2000e-004	0.3827		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0393**	**0.1477**	**0.3488**	**1.2200e-003**	**3.9954**	**9.9000e-004**	**3.9964**	**0.4136**	**9.1000e-004**	**0.4145**		**123.5124**	**123.5124**	**5.1300e-003**		**123.6406**

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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	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
User Defined Industrial	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas 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

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					
User Defined Industrial	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Unmitigated	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**		**0.2335**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**		**0.2335**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Van Norman Complex Ongoing Maintenance Program - Subsequent Years

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1,000.00	User Defined Unit	1,340.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on Initial Study.

Construction Phase - Site preparation only. Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Off-road Equipment - Based on data needs.

Trips and VMT - Based on data needs.

On-road Fugitive Dust - Based on off-road distance travelled onsite.

Demolition - No demolition.

Grading - Based on data needs.

Architectural Coating - No architectural coatings.

Vehicle Trips - Operation modeled as construction phase.

Construction Off-road Equipment Mitigation - In accordance with SCAQMD Rule 403, watering twice per day and speed limit of 15 mph.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	6,000.00	5.00
tblConstructionPhase	NumDays	6,000.00	2.00

tblConstructionPhase	NumDays	6,000.00	6.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	5.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	9.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	2.00
tblConstructionPhase	NumDays	6,000.00	3.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblGrading	MaterialExported	0.00	2,294.00
tblGrading	MaterialExported	0.00	112.00
tblGrading	MaterialExported	0.00	1,265.00
tblGrading	MaterialExported	0.00	8,285.00
tblGrading	MaterialExported	0.00	439.00
tblGrading	MaterialExported	0.00	634.00
tblLandUse	LotAcreage	0.00	1,340.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00

Van Norman Complex Ongoing Maintenance Program - Subsequent Years - South Coast AQMD Air District, Winter

tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOnRoadDust	HaulingPercentPave	100.00	74.00
tblOnRoadDust	HaulingPercentPave	100.00	87.00
tblOnRoadDust	HaulingPercentPave	100.00	90.00
tblOnRoadDust	HaulingPercentPave	100.00	93.00
tblOnRoadDust	HaulingPercentPave	100.00	78.70
tblOnRoadDust	HaulingPercentPave	100.00	95.00
tblOnRoadDust	HaulingPercentPave	100.00	79.50
tblOnRoadDust	HaulingPercentPave	100.00	79.50
tblOnRoadDust	HaulingPercentPave	100.00	71.30
tblOnRoadDust	HaulingPercentPave	100.00	78.10
tblOnRoadDust	HaulingPercentPave	100.00	76.00
tblOnRoadDust	HaulingPercentPave	100.00	76.50
tblOnRoadDust	HaulingPercentPave	100.00	75.20
tblOnRoadDust	HaulingPercentPave	100.00	97.00
tblOnRoadDust	WorkerPercentPave	100.00	82.30
tblOnRoadDust	WorkerPercentPave	100.00	91.20
tblOnRoadDust	WorkerPercentPave	100.00	93.20
tblOnRoadDust	WorkerPercentPave	100.00	95.20
tblOnRoadDust	WorkerPercentPave	100.00	85.50
tblOnRoadDust	WorkerPercentPave	100.00	96.60
tblOnRoadDust	WorkerPercentPave	100.00	86.00

tblOnRoadDust	WorkerPercentPave	100.00	86.00
tblOnRoadDust	WorkerPercentPave	100.00	80.50
tblOnRoadDust	WorkerPercentPave	100.00	85.10
tblOnRoadDust	WorkerPercentPave	100.00	83.70
tblOnRoadDust	WorkerPercentPave	100.00	84.00
tblOnRoadDust	WorkerPercentPave	100.00	83.10
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripNumber	287.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	14.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	158.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	1,036.00	8.00
tblTripsAndVMT	HaulingTripNumber	55.00	2.00

tblTripsAndVMT	HaulingTripNumber	79.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	5.00	4.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	8.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00

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
Year	lb/day										lb/day					
2020	0.6687	7.5623	5.7407	0.0124	42.3198	0.2987	42.5188	4.2399	0.2748	4.4231	0.0000	1,214.3968	1,214.3968	0.3499	0.0000	1,223.1445
Maximum	**0.6687**	**7.5623**	**5.7407**	**0.0124**	**42.3198**	**0.2987**	**42.5188**	**4.2399**	**0.2748**	**4.4231**	**0.0000**	**1,214.3968**	**1,214.3968**	**0.3499**	**0.0000**	**1,223.1445**

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	0.6687	7.5623	5.7407	0.0124	25.9385	0.2987	26.1376	2.6008	0.2748	2.7839	0.0000	1,214.3968	1,214.3968	0.3499	0.0000	1,223.1445
Maximum	**0.6687**	**7.5623**	**5.7407**	**0.0124**	**25.9385**	**0.2987**	**26.1376**	**2.6008**	**0.2748**	**2.7839**	**0.0000**	**1,214.3968**	**1,214.3968**	**0.3499**	**0.0000**	**1,223.1445**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**38.71**	**0.00**	**38.53**	**38.66**	**0.00**	**37.06**	**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
Category	lb/day										lb/day					
Area	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**	**0.0000**	**3.7000e-004**	**3.7000e-004**	**0.0000**	**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**	**0.0000**	**0.2335**

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	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**	**0.0000**	**3.7000e-004**	**3.7000e-004**	**0.0000**	**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**	**0.0000**	**0.2335**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	Upper Debris Basin	Site Preparation	9/1/2020	9/7/2020	5	5	
2	Middle Debris Basin	Site Preparation	9/8/2020	9/18/2020	5	9	
3	Bee Drainage Channel	Site Preparation	9/19/2020	9/22/2020	5	2	
4	San Fernando Gate Drainage Feature	Site Preparation	9/23/2020	9/24/2020	5	2	
5	Upper San Fernando Drain Line	Site Preparation	9/25/2020	9/29/2020	5	3	
6	Upper San Fernando Drain Line Feature 1	Site Preparation	9/30/2020	9/30/2020	5	1	
7	Upper San Fernando Drain Line Feature 2	Site Preparation	10/1/2020	10/1/2020	5	1	
8	Yarnell Debris Basin	Site Preparation	10/2/2020	10/2/2020	5	1	
9	LAR UV Plant Drainage and V-Ditch	Site Preparation	10/3/2020	10/5/2020	5	1	
10	San Fernando Creek	Site Preparation	10/6/2020	10/7/2020	5	2	
11	Lower San Fernando Detention Basin	Site Preparation	10/8/2020	10/15/2020	5	6	
12	Bull Creek Extension (Sediment Basin)	Site Preparation	10/16/2020	10/19/2020	5	2	
13	Upper Northeast Drainage	Site Preparation	10/20/2020	10/20/2020	5	1	
14	LAR North Dike Stormwater Basin	Site Preparation	10/21/2020	10/27/2020	5	5	
15	East Channel	Site Preparation	10/28/2020	10/30/2020	5	3	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Upper Debris Basin	Excavators	1	6.00	158	0.38
Upper Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Upper Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Upper Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Middle Debris Basin	Excavators	1	6.00	158	0.38
Middle Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Middle Debris Basin	Rubber Tired Loaders	1	6.00	203	0.36
Middle Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Bee Drainage Channel	Rubber Tired Dozers	0	8.00	247	0.40
Bee Drainage Channel	Rubber Tired Loaders	1	6.00	203	0.36
Bee Drainage Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Gate Drainage Feature	Excavators	1	6.00	158	0.38
San Fernando Gate Drainage Feature	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Gate Drainage Feature	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Gate Drainage Feature	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line	Excavators	1	6.00	158	0.38
Upper San Fernando Drain Line	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line	Rubber Tired Loaders	1	6.00	203	0.36
Upper San Fernando Drain Line	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper San Fernando Drain Line Feature 1	Excavators	0	6.00	158	0.38
Upper San Fernando Drain Line Feature 1	Rubber Tired Dozers	0	8.00	247	0.40

Van Norman Complex Ongoing Maintenance Program - Subsequent Years - South Coast AQMD Air District, Winter

Upper San Fernando Drain Line Feature 1	Rubber Tired Loaders	0	6.00	203	0.36
Upper San Fernando Drain Line Feature 1	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Upper San Fernando Drain Line Feature 2	Rubber Tired Dozers	0	8.00	247	0.40
Upper San Fernando Drain Line Feature 2	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Yarnell Debris Basin	Rubber Tired Dozers	0	8.00	247	0.40
Yarnell Debris Basin	Tractors/Loaders/Backhoes	1	6.00	97	0.37
LAR UV Plant Drainage and V-Ditch	Rubber Tired Dozers	0	8.00	247	0.40
LAR UV Plant Drainage and V-Ditch	Tractors/Loaders/Backhoes	1	6.00	97	0.37
San Fernando Creek	Excavators	1	6.00	158	0.38
San Fernando Creek	Rubber Tired Dozers	0	8.00	247	0.40
San Fernando Creek	Rubber Tired Loaders	1	6.00	203	0.36
San Fernando Creek	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Lower San Fernando Detention Basin	Rubber Tired Dozers	0	8.00	247	0.40
Lower San Fernando Detention Basin	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Bull Creek Extension (Sediment Basin)	Cranes	1	6.00	231	0.29
Bull Creek Extension (Sediment Basin)	Rubber Tired Dozers	0	8.00	247	0.40
Bull Creek Extension (Sediment Basin)	Rubber Tired Loaders	1	6.00	203	0.36
Bull Creek Extension (Sediment Basin)	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Upper Northeast Drainage	Rubber Tired Dozers	0	8.00	247	0.40
Upper Northeast Drainage	Rubber Tired Loaders	1	6.00	203	0.36
Upper Northeast Drainage	Tractors/Loaders/Backhoes	0	8.00	97	0.37
LAR North Dike Stormwater Basin	Excavators	1	6.00	158	0.38
LAR North Dike Stormwater Basin	Rubber Tired Dozers	0	8.00	247	0.40
LAR North Dike Stormwater Basin	Rubber Tired Loaders	1	6.00	203	0.36
LAR North Dike Stormwater Basin	Tractors/Loaders/Backhoes	0	8.00	97	0.37
East Channel	Rubber Tired Dozers	0	8.00	247	0.40

East Channel	Rubber Tired Loaders	1	6.00	203	0.36
East Channel	Tractors/Loaders/Backhoes	1	6.00	97	0.37

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
Upper Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Middle Debris Basin	3	8.00	0.00	8.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Bee Drainage Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
San Fernando Gate Drainage Feature	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 1	1	8.00	0.00	0.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper San Fernando Drain Line Feature 2	1	4.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Yarnell Debris Basin	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
LAR UV Plant Drainage and V-Ditch	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
San Fernando Creek	3	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Lower San Fernando Detention Basin	2	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bull Creek Extension (Sediment Basin)	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Upper Northeast Drainage	1	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
LAR North Dike Stormwater Basin	2	8.00	0.00	4.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
East Channel	2	8.00	0.00	2.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Upper Debris Basin - 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					0.0519	0.0000	0.0519	7.8600e-003	0.0000	7.8600e-003			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735		1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0519**	**0.2973**	**0.3492**	**7.8600e-003**	**0.2735**	**0.2814**		**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

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	7.8000e-003	0.2957	0.0590	6.9000e-004	6.1334	7.6000e-004	6.1342	0.6141	7.2000e-004	0.6148		74.2325	74.2325	6.3900e-003		74.3923
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	0.0395	0.0266	0.2945	8.6000e-004	30.7089	6.8000e-004	30.7096	3.0772	6.2000e-004	3.0778		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0473**	**0.3224**	**0.3535**	**1.5500e-003**	**36.8424**	**1.4400e-003**	**36.8438**	**3.6912**	**1.3400e-003**	**3.6926**		**159.8617**	**159.8617**	**8.8500e-003**		**160.0829**

3.2 Upper Debris Basin - 2020

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					0.0234	0.0000	0.0234	3.5400e-003	0.0000	3.5400e-003			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735	0.0000	1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0234**	**0.2973**	**0.3206**	**3.5400e-003**	**0.2735**	**0.2770**	**0.0000**	**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

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	7.8000e-003	0.2957	0.0590	6.9000e-004	3.7595	7.6000e-004	3.7603	0.3767	7.2000e-004	0.3774		74.2325	74.2325	6.3900e-003		74.3923
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	0.0395	0.0266	0.2945	8.6000e-004	18.8309	6.8000e-004	18.8315	1.8893	6.2000e-004	1.8900		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0473**	**0.3224**	**0.3535**	**1.5500e-003**	**22.5904**	**1.4400e-003**	**22.5918**	**2.2660**	**1.3400e-003**	**2.2674**		**159.8617**	**159.8617**	**8.8500e-003**		**160.0829**

3.3 Middle Debris Basin - 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					0.1041	0.0000	0.1041	0.0158	0.0000	0.0158			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735		1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.1041**	**0.2973**	**0.4014**	**0.0158**	**0.2735**	**0.2893**		**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

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	4.3300e-003	0.1643	0.0328	3.8000e-004	2.6883	4.2000e-004	2.6887	0.2694	4.0000e-004	0.2698		41.2403	41.2403	3.5500e-003		41.3290
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	0.0395	0.0266	0.2945	8.6000e-004	24.3083	6.8000e-004	24.3089	2.4389	6.2000e-004	2.4395		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0438**	**0.1909**	**0.3273**	**1.2400e-003**	**26.9966**	**1.1000e-003**	**26.9977**	**2.7083**	**1.0200e-003**	**2.7093**		**126.8695**	**126.8695**	**6.0100e-003**		**127.0196**

3.3 Middle Debris Basin - 2020

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					0.0469	0.0000	0.0469	7.0900e-003	0.0000	7.0900e-003			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735	0.0000	1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0469**	**0.2973**	**0.3441**	**7.0900e-003**	**0.2735**	**0.2806**	**0.0000**	**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

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	4.3300e-003	0.1643	0.0328	3.8000e-004	1.6485	4.2000e-004	1.6489	0.1655	4.0000e-004	0.1659		41.2403	41.2403	3.5500e-003		41.3290
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	0.0395	0.0266	0.2945	8.6000e-004	14.9132	6.8000e-004	14.9138	1.4994	6.2000e-004	1.5000		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0438**	**0.1909**	**0.3273**	**1.2400e-003**	**16.5616**	**1.1000e-003**	**16.5627**	**1.6648**	**1.0200e-003**	**1.6658**		**126.8695**	**126.8695**	**6.0100e-003**		**127.0196**

3.4 Bee Drainage Channel - 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					0.0248	0.0000	0.0248	3.7600e-003	0.0000	3.7600e-003			0.0000			0.0000
Off-Road	0.4377	4.8860	2.9363	7.0200e-003		0.2096	0.2096		0.1929	0.1929		679.4463	679.4463	0.2198		684.9400
Total	**0.4377**	**4.8860**	**2.9363**	**7.0200e-003**	**0.0248**	**0.2096**	**0.2345**	**3.7600e-003**	**0.1929**	**0.1966**		**679.4463**	**679.4463**	**0.2198**		**684.9400**

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	4.8700e-003	0.1848	0.0369	4.3000e-004	3.0243	4.7000e-004	3.0248	0.3031	4.5000e-004	0.3036		46.3953	46.3953	3.9900e-003		46.4952
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	0.0395	0.0266	0.2945	8.6000e-004	24.3083	6.8000e-004	24.3089	2.4389	6.2000e-004	2.4395		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0444**	**0.2115**	**0.3314**	**1.2900e-003**	**27.3326**	**1.1500e-003**	**27.3337**	**2.7420**	**1.0700e-003**	**2.7431**		**132.0245**	**132.0245**	**6.4500e-003**		**132.1858**

3.4 Bee Drainage Channel - 2020

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					0.0112	0.0000	0.0112	1.6900e-003	0.0000	1.6900e-003			0.0000			0.0000
Off-Road	0.4377	4.8860	2.9363	7.0200e-003		0.2096	0.2096		0.1929	0.1929	0.0000	679.4463	679.4463	0.2198		684.9400
Total	**0.4377**	**4.8860**	**2.9363**	**7.0200e-003**	**0.0112**	**0.2096**	**0.2208**	**1.6900e-003**	**0.1929**	**0.1946**	**0.0000**	**679.4463**	**679.4463**	**0.2198**		**684.9400**

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	4.8700e-003	0.1848	0.0369	4.3000e-004	1.8545	4.7000e-004	1.8550	0.1861	4.5000e-004	0.1866		46.3953	46.3953	3.9900e-003		46.4952
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	0.0395	0.0266	0.2945	8.6000e-004	14.9132	6.8000e-004	14.9138	1.4994	6.2000e-004	1.5000		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0444**	**0.2115**	**0.3314**	**1.2900e-003**	**16.7677**	**1.1500e-003**	**16.7688**	**1.6855**	**1.0700e-003**	**1.6866**		**132.0245**	**132.0245**	**6.4500e-003**		**132.1858**

3.5 San Fernando Gate Drainage Feature - 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					0.0359	0.0000	0.0359	5.4300e-003	0.0000	5.4300e-003			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816		828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0359**	**0.1974**	**0.2333**	**5.4300e-003**	**0.1816**	**0.1871**		**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	9.7400e-003	0.3697	0.0738	8.6000e-004	8.4611	9.5000e-004	8.4621	0.8468	9.0000e-004	0.8477		92.7906	92.7906	7.9900e-003		92.9903
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	0.0395	0.0266	0.2945	8.6000e-004	33.8228	6.8000e-004	33.8235	3.3877	6.2000e-004	3.3883		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0492**	**0.3963**	**0.3683**	**1.7200e-003**	**42.2839**	**1.6300e-003**	**42.2856**	**4.2345**	**1.5200e-003**	**4.2360**		**178.4198**	**178.4198**	**0.0105**		**178.6809**

3.5 San Fernando Gate Drainage Feature - 2020

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					0.0161	0.0000	0.0161	2.4400e-003	0.0000	2.4400e-003			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816	0.0000	828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0161**	**0.1974**	**0.2136**	**2.4400e-003**	**0.1816**	**0.1841**	**0.0000**	**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	9.7400e-003	0.3697	0.0738	8.6000e-004	5.1856	9.5000e-004	5.1866	0.5193	9.0000e-004	0.5202		92.7906	92.7906	7.9900e-003		92.9903
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	0.0395	0.0266	0.2945	8.6000e-004	20.7368	6.8000e-004	20.7374	2.0791	6.2000e-004	2.0797		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0492**	**0.3963**	**0.3683**	**1.7200e-003**	**25.9224**	**1.6300e-003**	**25.9240**	**2.5983**	**1.5200e-003**	**2.5999**		**178.4198**	**178.4198**	**0.0105**		**178.6809**

3.6 Upper San Fernando Drain Line - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816		828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0000**	**0.1974**	**0.1974**	**0.0000**	**0.1816**	**0.1816**		**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	3.2500e-003	0.1232	0.0246	2.9000e-004	2.1535	3.2000e-004	2.1538	0.2158	3.0000e-004	0.2161		30.9302	30.9302	2.6600e-003		30.9968
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	0.0395	0.0266	0.2945	8.6000e-004	25.8652	6.8000e-004	25.8659	2.5941	6.2000e-004	2.5948		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0427**	**0.1499**	**0.3191**	**1.1500e-003**	**28.0187**	**1.0000e-003**	**28.0197**	**2.8099**	**9.2000e-004**	**2.8108**		**116.5594**	**116.5594**	**5.1200e-003**		**116.6874**

3.6 Upper San Fernando Drain Line - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816	0.0000	828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0000**	**0.1974**	**0.1974**	**0.0000**	**0.1816**	**0.1816**	**0.0000**	**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	3.2500e-003	0.1232	0.0246	2.9000e-004	1.3204	3.2000e-004	1.3207	0.1325	3.0000e-004	0.1328		30.9302	30.9302	2.6600e-003		30.9968
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	0.0395	0.0266	0.2945	8.6000e-004	15.8661	6.8000e-004	15.8668	1.5942	6.2000e-004	1.5948		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0427**	**0.1499**	**0.3191**	**1.1500e-003**	**17.1865**	**1.0000e-003**	**17.1875**	**1.7267**	**9.2000e-004**	**1.7276**		**116.5594**	**116.5594**	**5.1200e-003**		**116.6874**

3.7 Upper San Fernando Drain Line Feature 1 - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919		225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**		**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	0.0395	0.0266	0.2945	8.6000e-004	28.2871	6.8000e-004	28.2877	2.8356	6.2000e-004	2.8363		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0395**	**0.0266**	**0.2945**	**8.6000e-004**	**28.2871**	**6.8000e-004**	**28.2877**	**2.8356**	**6.2000e-004**	**2.8363**		**85.6292**	**85.6292**	**2.4600e-003**		**85.6906**

3.7 Upper San Fernando Drain Line Feature 1 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919	0.0000	225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**	**0.0000**	**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	0.0395	0.0266	0.2945	8.6000e-004	17.3485	6.8000e-004	17.3492	1.7418	6.2000e-004	1.7424		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0395**	**0.0266**	**0.2945**	**8.6000e-004**	**17.3485**	**6.8000e-004**	**17.3492**	**1.7418**	**6.2000e-004**	**1.7424**		**85.6292**	**85.6292**	**2.4600e-003**		**85.6906**

3.8 Upper San Fernando Drain Line Feature 2 - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919		225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**		**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	9.7400e-003	0.3697	0.0738	8.6000e-004	6.9313	9.5000e-004	6.9322	0.6943	9.0000e-004	0.6952		92.7906	92.7906	7.9900e-003		92.9903
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	0.0197	0.0133	0.1472	4.3000e-004	13.8840	3.4000e-004	13.8844	1.3919	3.1000e-004	1.3923		42.8146	42.8146	1.2300e-003		42.8453
Total	**0.0295**	**0.3830**	**0.2210**	**1.2900e-003**	**20.8153**	**1.2900e-003**	**20.8166**	**2.0862**	**1.2100e-003**	**2.0874**		**135.6052**	**135.6052**	**9.2200e-003**		**135.8356**

3.8 Upper San Fernando Drain Line Feature 2 - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919	0.0000	225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**	**0.0000**	**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	9.7400e-003	0.3697	0.0738	8.6000e-004	4.2492	9.5000e-004	4.2502	0.4261	9.0000e-004	0.4270		92.7906	92.7906	7.9900e-003		92.9903
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	0.0197	0.0133	0.1472	4.3000e-004	8.5154	3.4000e-004	8.5158	0.8551	3.1000e-004	0.8554		42.8146	42.8146	1.2300e-003		42.8453
Total	**0.0295**	**0.3830**	**0.2210**	**1.2900e-003**	**12.7647**	**1.2900e-003**	**12.7659**	**1.2811**	**1.2100e-003**	**1.2823**		**135.6052**	**135.6052**	**9.2200e-003**		**135.8356**

3.9 Yarnell Debris Basin - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919		225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**		**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	0.0197	0.0133	0.1472	4.3000e-004	14.6625	3.4000e-004	14.6628	1.4696	3.1000e-004	1.4699		42.8146	42.8146	1.2300e-003		42.8453
Total	**0.0197**	**0.0133**	**0.1472**	**4.3000e-004**	**14.6625**	**3.4000e-004**	**14.6628**	**1.4696**	**3.1000e-004**	**1.4699**		**42.8146**	**42.8146**	**1.2300e-003**		**42.8453**

3.9 Yarnell Debris Basin - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919	0.0000	225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**	**0.0000**	**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	0.0197	0.0133	0.1472	4.3000e-004	8.9919	3.4000e-004	8.9922	0.9025	3.1000e-004	0.9028		42.8146	42.8146	1.2300e-003		42.8453
Total	**0.0197**	**0.0133**	**0.1472**	**4.3000e-004**	**8.9919**	**3.4000e-004**	**8.9922**	**0.9025**	**3.1000e-004**	**0.9028**		**42.8146**	**42.8146**	**1.2300e-003**		**42.8453**

3.10 LAR UV Plant Drainage and V-Ditch - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919		225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**		**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	0.0197	0.0133	0.1472	4.3000e-004	1.7746	3.4000e-004	1.7750	0.1844	3.1000e-004	0.1847		42.8146	42.8146	1.2300e-003		42.8453
Total	**0.0197**	**0.0133**	**0.1472**	**4.3000e-004**	**1.7746**	**3.4000e-004**	**1.7750**	**0.1844**	**3.1000e-004**	**0.1847**		**42.8146**	**42.8146**	**1.2300e-003**		**42.8453**

3.10 LAR UV Plant Drainage and V-Ditch - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1571	1.5789	1.7098	2.3300e-003		0.0998	0.0998		0.0919	0.0919	0.0000	225.5764	225.5764	0.0730		227.4003
Total	**0.1571**	**1.5789**	**1.7098**	**2.3300e-003**	**0.0000**	**0.0998**	**0.0998**	**0.0000**	**0.0919**	**0.0919**	**0.0000**	**225.5764**	**225.5764**	**0.0730**		**227.4003**

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	0.0197	0.0133	0.1472	4.3000e-004	1.1036	3.4000e-004	1.1039	0.1173	3.1000e-004	0.1176		42.8146	42.8146	1.2300e-003		42.8453
Total	**0.0197**	**0.0133**	**0.1472**	**4.3000e-004**	**1.1036**	**3.4000e-004**	**1.1039**	**0.1173**	**3.1000e-004**	**0.1176**		**42.8146**	**42.8146**	**1.2300e-003**		**42.8453**

3.11 San Fernando Creek - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735		1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0000**	**0.2973**	**0.2973**	**0.0000**	**0.2735**	**0.2735**		**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

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	4.8700e-003	0.1848	0.0369	4.3000e-004	1.9211	4.7000e-004	1.9215	0.1931	4.5000e-004	0.1936		46.3953	46.3953	3.9900e-003		46.4952
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	0.0395	0.0266	0.2945	8.6000e-004	15.3127	6.8000e-004	15.3134	1.5418	6.2000e-004	1.5424		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0444**	**0.2115**	**0.3314**	**1.2900e-003**	**17.2338**	**1.1500e-003**	**17.2349**	**1.7349**	**1.0700e-003**	**1.7360**		**132.0245**	**132.0245**	**6.4500e-003**		**132.1858**

3.11 San Fernando Creek - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6214	6.6955	5.3872	0.0109		0.2973	0.2973		0.2735	0.2735	0.0000	1,054.5351	1,054.5351	0.3411		1,063.0616
Total	**0.6214**	**6.6955**	**5.3872**	**0.0109**	**0.0000**	**0.2973**	**0.2973**	**0.0000**	**0.2735**	**0.2735**	**0.0000**	**1,054.5351**	**1,054.5351**	**0.3411**		**1,063.0616**

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	4.8700e-003	0.1848	0.0369	4.3000e-004	1.1792	4.7000e-004	1.1797	0.1189	4.5000e-004	0.1194		46.3953	46.3953	3.9900e-003		46.4952
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	0.0395	0.0266	0.2945	8.6000e-004	9.4072	6.8000e-004	9.4079	0.9513	6.2000e-004	0.9519		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0444**	**0.2115**	**0.3314**	**1.2900e-003**	**10.5864**	**1.1500e-003**	**10.5876**	**1.0702**	**1.0700e-003**	**1.0713**		**132.0245**	**132.0245**	**6.4500e-003**		**132.1858**

3.12 Lower San Fernando Detention Basin - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3143	3.1577	3.4196	4.6600e-003		0.1997	0.1997		0.1837	0.1837		451.1528	451.1528	0.1459		454.8006
Total	**0.3143**	**3.1577**	**3.4196**	**4.6600e-003**	**0.0000**	**0.1997**	**0.1997**	**0.0000**	**0.1837**	**0.1837**		**451.1528**	**451.1528**	**0.1459**		**454.8006**

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	0.0197	0.0133	0.1472	4.3000e-004	5.9264	3.4000e-004	5.9268	0.5984	3.1000e-004	0.5987		42.8146	42.8146	1.2300e-003		42.8453
Total	**0.0197**	**0.0133**	**0.1472**	**4.3000e-004**	**5.9264**	**3.4000e-004**	**5.9268**	**0.5984**	**3.1000e-004**	**0.5987**		**42.8146**	**42.8146**	**1.2300e-003**		**42.8453**

3.12 Lower San Fernando Detention Basin - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3143	3.1577	3.4196	4.6600e-003		0.1997	0.1997		0.1837	0.1837	0.0000	451.1528	451.1528	0.1459		454.8006
Total	**0.3143**	**3.1577**	**3.4196**	**4.6600e-003**	**0.0000**	**0.1997**	**0.1997**	**0.0000**	**0.1837**	**0.1837**	**0.0000**	**451.1528**	**451.1528**	**0.1459**		**454.8006**

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	0.0197	0.0133	0.1472	4.3000e-004	3.6448	3.4000e-004	3.6451	0.3702	3.1000e-004	0.3705		42.8146	42.8146	1.2300e-003		42.8453
Total	**0.0197**	**0.0133**	**0.1472**	**4.3000e-004**	**3.6448**	**3.4000e-004**	**3.6451**	**0.3702**	**3.1000e-004**	**0.3705**		**42.8146**	**42.8146**	**1.2300e-003**		**42.8453**

3.13 Bull Creek Extension (Sediment Basin) - 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					6.3300e-003	0.0000	6.3300e-003	9.6000e-004	0.0000	9.6000e-004			0.0000			0.0000
Off-Road	0.6206	7.3508	2.8131	9.0100e-003		0.2765	0.2765		0.2544	0.2544		872.9622	872.9622	0.2823		880.0205
Total	**0.6206**	**7.3508**	**2.8131**	**9.0100e-003**	**6.3300e-003**	**0.2765**	**0.2828**	**9.6000e-004**	**0.2544**	**0.2553**		**872.9622**	**872.9622**	**0.2823**		**880.0205**

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	4.8700e-003	0.1848	0.0369	4.3000e-004	1.0385	4.7000e-004	1.0389	0.1051	4.5000e-004	0.1055		46.3953	46.3953	3.9900e-003		46.4952
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	0.0395	0.0266	0.2945	8.6000e-004	8.3930	6.8000e-004	8.3937	0.8518	6.2000e-004	0.8524		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0444**	**0.2115**	**0.3314**	**1.2900e-003**	**9.4315**	**1.1500e-003**	**9.4326**	**0.9569**	**1.0700e-003**	**0.9579**		**132.0245**	**132.0245**	**6.4500e-003**		**132.1858**

3.13 Bull Creek Extension (Sediment Basin) - 2020

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					2.8500e-003	0.0000	2.8500e-003	4.3000e-004	0.0000	4.3000e-004			0.0000			0.0000
Off-Road	0.6206	7.3508	2.8131	9.0100e-003		0.2765	0.2765		0.2544	0.2544	0.0000	872.9622	872.9622	0.2823		880.0205
Total	**0.6206**	**7.3508**	**2.8131**	**9.0100e-003**	**2.8500e-003**	**0.2765**	**0.2793**	**4.3000e-004**	**0.2544**	**0.2548**	**0.0000**	**872.9622**	**872.9622**	**0.2823**		**880.0205**

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	4.8700e-003	0.1848	0.0369	4.3000e-004	0.6390	4.7000e-004	0.6395	0.0651	4.5000e-004	0.0656		46.3953	46.3953	3.9900e-003		46.4952
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	0.0395	0.0266	0.2945	8.6000e-004	5.1718	6.8000e-004	5.1725	0.5297	6.2000e-004	0.5303		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0444**	**0.2115**	**0.3314**	**1.2900e-003**	**5.8109**	**1.1500e-003**	**5.8120**	**0.5948**	**1.0700e-003**	**0.5959**		**132.0245**	**132.0245**	**6.4500e-003**		**132.1858**

3.14 Upper Northeast Drainage - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2806	3.3072	1.2266	4.6900e-003		0.1098	0.1098		0.1010	0.1010		453.8699	453.8699	0.1468		457.5397
Total	**0.2806**	**3.3072**	**1.2266**	**4.6900e-003**	**0.0000**	**0.1098**	**0.1098**	**0.0000**	**0.1010**	**0.1010**		**453.8699**	**453.8699**	**0.1468**		**457.5397**

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	9.7400e-003	0.3697	0.0738	8.6000e-004	0.0175	9.5000e-004	0.0184	4.8000e-003	9.0000e-004	5.7000e-003		92.7906	92.7906	7.9900e-003		92.9903
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	0.0395	0.0266	0.2945	8.6000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0492**	**0.3963**	**0.3683**	**1.7200e-003**	**0.1069**	**1.6300e-003**	**0.1085**	**0.0285**	**1.5200e-003**	**0.0300**		**178.4198**	**178.4198**	**0.0105**		**178.6809**

3.14 Upper Northeast Drainage - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2806	3.3072	1.2266	4.6900e-003		0.1098	0.1098		0.1010	0.1010	0.0000	453.8699	453.8699	0.1468		457.5397
Total	**0.2806**	**3.3072**	**1.2266**	**4.6900e-003**	**0.0000**	**0.1098**	**0.1098**	**0.0000**	**0.1010**	**0.1010**	**0.0000**	**453.8699**	**453.8699**	**0.1468**		**457.5397**

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	9.7400e-003	0.3697	0.0738	8.6000e-004	0.0175	9.5000e-004	0.0184	4.8000e-003	9.0000e-004	5.7000e-003		92.7906	92.7906	7.9900e-003		92.9903
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	0.0395	0.0266	0.2945	8.6000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0492**	**0.3963**	**0.3683**	**1.7200e-003**	**0.1069**	**1.6300e-003**	**0.1085**	**0.0285**	**1.5200e-003**	**0.0300**		**178.4198**	**178.4198**	**0.0105**		**178.6809**

3.15 LAR North Dike Stormwater Basin - 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					0.0286	0.0000	0.0286	4.3300e-003	0.0000	4.3300e-003			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816		828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0286**	**0.1974**	**0.2261**	**4.3300e-003**	**0.1816**	**0.1860**		**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	3.9000e-003	0.1479	0.0295	3.4000e-004	2.5136	3.8000e-004	2.5140	0.2519	3.6000e-004	0.2522		37.1163	37.1163	3.2000e-003		37.1961
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	0.0395	0.0266	0.2945	8.6000e-004	25.1732	6.8000e-004	25.1739	2.5251	6.2000e-004	2.5257		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0434**	**0.1745**	**0.3240**	**1.2000e-003**	**27.6868**	**1.0600e-003**	**27.6879**	**2.7770**	**9.8000e-004**	**2.7780**		**122.7455**	**122.7455**	**5.6600e-003**		**122.8867**

3.15 LAR North Dike Stormwater Basin - 2020

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					0.0129	0.0000	0.0129	1.9500e-003	0.0000	1.9500e-003			0.0000			0.0000
Off-Road	0.4643	5.1167	3.6774	8.5600e-003		0.1974	0.1974		0.1816	0.1816	0.0000	828.9588	828.9588	0.2681		835.6613
Total	**0.4643**	**5.1167**	**3.6774**	**8.5600e-003**	**0.0129**	**0.1974**	**0.2103**	**1.9500e-003**	**0.1816**	**0.1836**	**0.0000**	**828.9588**	**828.9588**	**0.2681**		**835.6613**

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	3.9000e-003	0.1479	0.0295	3.4000e-004	1.5412	3.8000e-004	1.5416	0.1546	3.6000e-004	0.1550		37.1163	37.1163	3.2000e-003		37.1961
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	0.0395	0.0266	0.2945	8.6000e-004	15.4426	6.8000e-004	15.4432	1.5521	6.2000e-004	1.5527		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0434**	**0.1745**	**0.3240**	**1.2000e-003**	**16.9838**	**1.0600e-003**	**16.9849**	**1.7067**	**9.8000e-004**	**1.7077**		**122.7455**	**122.7455**	**5.6600e-003**		**122.8867**

3.16 East Channel - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4377	4.8860	2.9363	7.0200e-003		0.2096	0.2096		0.1929	0.1929		679.4463	679.4463	0.2198		684.9400
Total	**0.4377**	**4.8860**	**2.9363**	**7.0200e-003**	**0.0000**	**0.2096**	**0.2096**	**0.0000**	**0.1929**	**0.1929**		**679.4463**	**679.4463**	**0.2198**		**684.9400**

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	3.2500e-003	0.1232	0.0246	2.9000e-004	0.4962	3.2000e-004	0.4965	0.0505	3.0000e-004	0.0508		30.9302	30.9302	2.6600e-003		30.9968
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	0.0395	0.0266	0.2945	8.6000e-004	5.9711	6.8000e-004	5.9718	0.6103	6.2000e-004	0.6109		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0427**	**0.1499**	**0.3191**	**1.1500e-003**	**6.4673**	**1.0000e-003**	**6.4683**	**0.6608**	**9.2000e-004**	**0.6617**		**116.5594**	**116.5594**	**5.1200e-003**		**116.6874**

3.16 East Channel - 2020

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4377	4.8860	2.9363	7.0200e-003		0.2096	0.2096		0.1929	0.1929	0.0000	679.4463	679.4463	0.2198		684.9400
Total	**0.4377**	**4.8860**	**2.9363**	**7.0200e-003**	**0.0000**	**0.2096**	**0.2096**	**0.0000**	**0.1929**	**0.1929**	**0.0000**	**679.4463**	**679.4463**	**0.2198**		**684.9400**

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	3.2500e-003	0.1232	0.0246	2.9000e-004	0.3060	3.2000e-004	0.3063	0.0315	3.0000e-004	0.0318		30.9302	30.9302	2.6600e-003		30.9968
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	0.0395	0.0266	0.2945	8.6000e-004	3.6895	6.8000e-004	3.6902	0.3821	6.2000e-004	0.3827		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0427**	**0.1499**	**0.3191**	**1.1500e-003**	**3.9954**	**1.0000e-003**	**3.9964**	**0.4136**	**9.2000e-004**	**0.4145**		**116.5594**	**116.5594**	**5.1200e-003**		**116.6874**

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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	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
User Defined Industrial	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas 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

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					
User Defined Industrial	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Unmitigated	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**		**0.2335**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6700e-003	9.5000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2189	0.2189	5.9000e-004		0.2335
Total	**9.6700e-003**	**9.5000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2189**	**0.2189**	**5.9000e-004**		**0.2335**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B

Biological Resources Report

38 NORTH MARENGO AVENUE
PASADENA, CALIFORNIA 91101
T 626.204.9800 F 626.204.9834

October 14, 2019 10649-33

Christopher Lopez
Environmental Planning and Assessment
Los Angeles Department of Water and Power
111 North Hope Street
Los Angeles, California 90012

Subject: Biological Technical Letter Report for the Van Norman Complex Routine Operation and Maintenance Program, City of Los Angeles, Los Angeles County, California

Dear Mr. Lopez:

This biological technical letter report describes the existing biological conditions of the proposed Van Norman Complex (VNC) Routine Operation and Maintenance Program (project), and provides an assessment of potential biological impacts. The proposed project and potential impacts to special-status biological resources are analyzed in the context of the California Environmental Quality Act (CEQA). This report describes the project site, surveys conducted, special-status biological resources present or potentially present on site, potential impacts of the project on special-status biological resources, and recommended mitigation measures.

1 Project Location and Description

The Los Angeles Department of Water and Power (LADWP) owns and operates the VNC, a 1,340-acre industrial complex located in the Granada Hills area of the City of Los Angeles, approximately 20 miles northwest of downtown Los Angeles (Figure 1, Project Location). More specifically, the VNC is immediately northwest of the Interstate 5/Interstate 405 interchange. The VNC occurs within the U.S. Geological Survey 7.5-minute San Fernando quadrangle map in Sections 5 and 6, Township 2 North, Range 15 West, and Sections 29–32 Township 3 North, Range 15 West (Assessor's Parcel Numbers 260-500-1808, 260-500-1807, 260-500-1918, 260-500-1910, and 260-500-1909).

The VNC consists of existing facilities, including water storage reservoirs, detention basins, conveyance channels, and treatment facilities, that cumulatively function to receive, store, treat, and distribute water to the City of Los Angeles. LADWP is proposing ongoing vegetation management and maintenance activities of several existing facilities throughout the VNC to ensure that these facilities are functioning properly. The study area consists of the proposed maintenance work areas within the facilities and a 500-foot buffer around the work area (Figure 2, Project Site). The facilities consist of the following:

- Upper Debris Basin
- Middle Debris Basin
- Bee Drainage Channel
- San Fernando Gate Drain
- Upper San Fernando Drain Line

- Upper San Fernando Drain Line Features 1 and 2
- Yarnell Debris Basin
- Bull Creek Extension Channel
- Los Angeles Reservoir (LAR) Ultraviolet (UV) Plant Drainage and V-Ditch
- Upper Northeast Drainage
- San Fernando Creek
- Lower San Fernando Detention Basin
- LAR North Dike Stormwater Basin
- East Channel

2 Methods

This section describes the methods of field surveys, identifies limitations, and defines special-status plant and wildlife species for purposes of this report. Data regarding biological resources present in the study area were obtained through a review of pertinent literature, field reconnaissance, and focused biological surveys, which are described in detail below.

2.1 Special-Status and/or Regulated Resources

For this report, "special-status" species are those that are (1) listed, proposed for listing, or candidates for listing under the federal Endangered Species Act as threatened or endangered; (2) listed or candidates for listing under the California Endangered Species Act as threatened or endangered; (3) a state fully protected species; (4) a California Department of Fish and Wildlife (CDFW) Species of Special Concern; (5) a species listed on the California Native Plant Society Inventory of Rare and Endangered Plants with a California Rare Plant Rank (CRPR) of 1B or 2B; and/or (6) a locally recognized species within the City of Los Angeles CEQA Thresholds Guide (City-designated) (City of Los Angeles 2006).

Special-status vegetation communities are those communities identified as high priority for inventory in the List of Vegetation Alliances and Associations (CDFG 2010) by a state rarity ranking of S1, S2, or S3. In addition, communities that are regulated by CDFW under California Fish and Game Code Sections 1600–1616, and/or that provide suitable habitat for special-status species may also be considered special status under CEQA. Areas regulated by CDFW under California Fish and Game Code Sections 1600–1616 are discussed under separate cover.

2.2 Literature Review

Special-status biological resources present or potentially present within the study area were identified through a literature search using the following sources: Los Angeles County GIS Data Portal (County of Los Angeles 2014); U.S. Department of Agriculture's Natural Resources Conservation Service Soil Survey of Santa Monica Mountains National Recreation Area (USDA 2006); U.S. Department of Agriculture's Soil Conservation Service and West Los Angeles County Resource Conservation District soils information (USDA et al. 1980); U.S. Fish and Wildlife Service's (USFWS) Critical Habitat and Occurrence Data (USFWS 2018); CDFW's California Natural Diversity Database (CDFW 2018); and the California Native Plant Society's online Inventory of Rare, Threatened, and Endangered Plants (CNPS

2018). Searches were completed for the following U.S. Geological Survey quadrangles: San Fernando, Newhall, Mint Canyon, Agua Dulce, Oat Mountain, Sunland, Canoga Park, Van Nuys, and Burbank. Biological technical letter reports have been completed for other projects within the VNC site, including for the LAR UV Plant and the VNC Corrosion Control Station projects. Results of LAR UV and VNC Corrosion Control Station projects' special-status species focused surveys completed in 2017 were reviewed, and vegetation mapping data were incorporated, where applicable (Dudek 2017a, 2017b).

2.3 Field Surveys

Dudek conducted several biological surveys from May through July 2018, including general plant and wildlife surveys, vegetation mapping, habitat assessment for special-status species, and focused surveys for special-status/regulated species. Protocol-level presence/absence surveys were conducted for the following listed species: coastal California gnatcatcher (*Polioptila californica californica*) (CAGN), least Bell's vireo (*Vireo bellii pusillus*) (LBVI), and southwestern willow flycatcher (*Empidonax traillii extimus*) (SWFL). Details of each survey are provided below.

2.3.1 General Reconnaissance Survey

The purpose of the reconnaissance survey was to map vegetation communities occurring within the study area and to determine the presence and likelihood of occurrence of any special-status plant or wildlife species based on the presence/absence of suitable habitat and other natural history elements that might predict their occurrence. Survey conditions during field visits were suitable for determining potential biological resources and viewing special-status plant and wildlife species (see Table 1, Reconnaissance Survey Details and Conditions).

Table 1. Reconnaissance Survey Details and Conditions

Date	Time	Personnel	Survey Type	Pass Number	Survey Conditions (temperature, skies, wind)
5/2/2018	0815–1500	TKP	General biological survey, vegetation mapping, and habitat assessments	N/A	59°F–65°F; 3–5 mph winds; 95%–100% cc
5/3/2018	1300–1645	TKP	General biological survey	N/A	77°F; 3–5 mph winds; 1%–5% cc
8/7/2018	0800–1540	BAS, TKP	Vegetation mapping	N/A	82°F–101°F; 1–2 mph winds; 0% cc

Personnel: TKP = Tracy K. Park; BAS = Britney A. Strittmater
Notes: N/A = not applicable; °F = degrees Fahrenheit; mph = miles per hour; cc = cloud cover.

The study area was methodically surveyed on foot to ensure 100% visual coverage for special-status plant and wildlife species, and all resources were identified and inventoried during the field surveys. Biologist Tracy K. Park surveyed all suitable habitat for potential special-status species.

Vegetation communities and land uses within the study area were mapped in the field directly onto a 200-scale (1 inch = 200 feet) color digital orthographic map. Following completion of the fieldwork, all vegetation polygons were digitized using ArcGIS software, and GIS coverage was created. Natural vegetation communities were mapped in the field using CDFW's List of Vegetation Alliances and Associations (or Natural Communities List) (CDFG 2010),

which is based on A Manual of California Vegetation (Sawyer et al. 2009), where feasible, with modifications to accommodate the lack of conformity of the observed communities. Land cover types were described in accordance with the Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008). Dudek GIS specialist Spenser Lucarelli mapped biological resources into GIS and provided figures using ArcGIS software.

Vegetation communities were also mapped within the entire VNC site and a 100-foot buffer around the VNC. This vegetation mapping was conducted through a combination of desktop mapping using aerial photographs and the vegetation mapping completed for the study area, and a field visit to ground-truth the desktop mapping.

Flora and Fauna

Latin and common names for plant species with a CRPR follow the California Native Plant Society's Inventory of Rare and Endangered Plants (CNPS 2018). For plant species without a CRPR, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2018), and common names follow the U.S. Department of Agriculture's Natural Resources Conservation Service Plants Database (USDA 2018). Latin and common names of animals follow Crother (2012) for reptiles and amphibians, the American Ornithological Society for birds (AOU 2015), Wilson and Reeder (2005) for mammals, the North American Butterfly Association for butterflies (NABA 2001), and Moyle (2002) for fish.

Survey Limitations

The surveys were conducted during the spring and summer seasons, which resulted in detection and identification of most plant species with potential to occur in the study area. Vegetation mapping was restricted within the northern portion of the VNC site due to access issues (e.g., locked gates/fencing), and this area was mapped using binoculars. Direct observation of mammal species was limited because the survey was conducted during the daytime when many of the species potentially occurring are inactive (e.g., small rodents). Therefore, identification of mammals primarily relied on detection of surface sign such as scat, burrows, and tracks.

2.3.2 Coastal California Gnatcatcher Focused Surveys

A presence/absence focused survey for the federally listed as threatened and state Species of Special Concern CAGN was conducted for the project, and the focused survey report is provided in Attachment A, Focused Survey Reports. Methods and results of this survey are summarized herein. Surveys for CAGN were conducted from May 25 through June 29, 2018, as shown in Table 2. The survey area for CAGN totaled approximately 80 acres and consisted of suitable coastal scrub habitat within the study area (CAGN survey area), as depicted in Figures 3A, 3B, and 3C, CAGN Survey Area and Routes.

Table 2. Coastal California Gnatcatcher Survey Details and Conditions

Date	Time	Personnel	Survey Type	Pass Number	Survey Conditions (temperature, skies, wind)
5/25/2018	0600–1200	JDP	CAGN focused survey	1	56°F–70°F; 0–4 mph winds; 90%–100% cc
6/1/2018	0600–1200	JDP	CAGN focused survey	2	58°F–76°F; 0–4 mph winds; 0% cc

Table 2. Coastal California Gnatcatcher Survey Details and Conditions

Date	Time	Personnel	Survey Type	Pass Number	Survey Conditions (temperature, skies, wind)
6/8/2018	0600–1200	JDP	CAGN focused survey	3	57°F–85°F; 0–5 mph winds; 0% cc
6/15/2018	0600–1200	JDP	CAGN focused survey	4	58°F–83°F; 0–5 mph winds; 50% cc
6/22/2018	0600–1200	JDP	CAGN focused survey	5	63°F–85°F; 0–5 mph winds; 0%–100% cc
6/29/2018	0600–1200	JDP	CAGN focused survey	6	57°F–75°F; 0–5 mph winds; 10%–100% cc

Personnel: JDP = Jeff D. Priest
Notes: CAGN = coastal California gnatcatcher; °F = degrees Fahrenheit; mph = miles per hour; cc = cloud cover

The survey was conducted following the currently accepted USFWS Presence/Absence Survey Protocol (USFWS 1997). The survey consisted of six visits at a minimum of 7-day intervals. In accordance with the protocol, no more than 80 acres of suitable habitat was surveyed by a single biologist during each site visit. This allowed for complete audible and visual coverage of all suitable CAGN habitat within the CAGN survey area. Survey routes completely covered the CAGN survey area.

A topographic map at 200-scale of the site (1 inch = 200 feet) overlain with vegetation polygons and the study area was carried during the survey. Additionally, digital mobile maps were used during the surveys to assist in navigating the CAGN survey area. Weather conditions, time of day, and season were appropriate for the detection of CAGN and are provided in Table 2. Appropriate binoculars (e.g., 10×50 magnification) were used to aid in detecting and identifying bird species. A recording of CAGN vocalizations was played approximately every 100 to 200 feet to induce responses from potentially present CAGN. Vocalization playback would have been terminated immediately upon detection of any CAGN to minimize the potential for harassment. All other avian species detected during surveys were recorded.

Survey Limitations

Due to refinement of the work areas after focused surveys had been initiated, not all habitat suitable for CAGN within the study area was included in the focused surveys; however, due to the similarity of habitat throughout the project site and the adjacency of areas not surveyed to areas surveyed, the results of the survey are assumed to be valid for all suitable habitat within the project site.

2.3.3 Least Bell's Vireo and Southwestern Willow Flycatcher Focused Surveys

Focused protocol surveys were conducted for the federally listed and state-listed endangered LBVI and SWFL. The focused survey report is provided in Attachment A, and methods and results of this survey are summarized herein. The survey area included suitable riparian habitat within the study area (LBVI/SWFL survey area), as shown in Figures 4A, 4B, and 4C, LBVI/SWFL Survey Area and Routes. These areas were composed of patches of riparian habitat generally associated with sediment within concrete V-ditches, earthen-bottomed channels, stream banks,

and catch basins. Approximately 32.3 acres of suitable habitat occurs within the study area. The LBVI/SWFL survey area was surveyed eight times for LBVI and five times for SWFL (Table 3).

Table 3. Least Bell's Vireo and Southwestern Willow Flycatcher Survey Details and Conditions

Date	Time	Personnel	Survey Type	Pass Number	Survey Conditions (temperature, skies, wind)
5/18/2018	0610–1145	TKP	LBVI focused survey	LBVI 1	58°F–63°F; 0–3 mph winds; 75%–99% cc
5/30/2018	0615–1110	BO	SWFL focused survey	SWFL 1	55°F–57°F; 0–1 mph winds; 100% cc
5/30/2018	0615–1110	BO	LBVI focused survey	LBVI 2	55°F–57°F; 0–1 mph winds; 100% cc
6/8/2018	0600–1100	TKP	LBVI focused survey	LBVI 3	60°F–78°F; 0–3 mph winds; 0% cc
6/8/2018	0630–1100	PL	LBVI focused survey	LBVI 3	60°F–82°F; 0–3 mph winds; 0% cc
6/8/2018	0630–1100	PL	SWFL focused survey	SWFL 2	60°F–82°F; 0–3 mph winds; 0% cc
6/18/2018	0600–1025	TKP	LBVI focused survey	LBVI 4	62°F–73°F; 0–4 mph winds; 2%–3% cc
6/18/2018	0600–1100	JDP	LBVI focused survey	LBVI 4	58°F–72°F; 0–6 mph winds; 0% cc
6/18/2018	0600–1100	JDP	SWFL focused survey	SWFL 3	58°F–72°F; 0–6 mph winds; 0% cc
6/29/2018	0630–1100	TKP	LBVI focused survey	LBVI 5	65°F–75°F; 0–5 mph winds; 40%–100% cc
6/292018	0707–0738	MB	LBVI focused survey	LBVI 5	62°F; 0–1 mph winds; 100% cc
6/292018	0625–0942	MB	SWFL focused survey	SWFL 4	62°F–66°F; 0–1 mph winds; 100% cc
7/10/2018	0615–1055	TKP	LBVI focused survey	LBVI 6	78°F–86°F; 1–3 mph winds; 70%–80% cc
7/10/2018	0545–0945	JDP	LBVI focused survey	LBVI 6	74°F–80°F; 0–4 mph winds; 70%–80% cc
7/10/2018	0545–0945	JDP	SWFL focused survey	SWFL 5	74°F–80°F; 0–4 mph winds; 70%–80% cc
7/20/2018	0555–1100	TKP	LBVI focused survey	LBVI 7	69°F–85°F; 0–1 mph winds; 5% cc
7/30/2018	0603–1100	TKP	LBVI focused survey	LBVI 8	74°F–94°F; 0–1 mph winds; 20%–70% cc

Personnel: TKP = Tracy K. Park; BO = Brock Ortega; PL = Paul Lemons; JDP = Jeff D. Priest; MB = Melissa Blundell
Notes: LBVI = least Bell's vireo; SWFL = southwestern willow flycatcher; °F = degrees Fahrenheit; mph = miles per hour; cc = cloud cover

Permitted wildlife biologists Brock Ortega (TE813545-7), Paul Lemons (TE051248-5), Jeff Priest (TE840619-6), and Melissa Blundell (TE840619-6) conducted SWFL/LBVI presence/absence surveys, and qualified biologist Tracy Park conducted LBVI surveys. Focused surveys for these species were initiated on May 18, 2018. Surveys for SWFL were completed on July 10, 2018, and surveys for LBVI were completed on July 30, 2018.

All surveys consisted of slowly walking a methodical, meandering transect within and adjacent to all riparian habitat in the LBVI/SWFL survey area. The perimeter was also surveyed. This route was arranged to cover all suitable habitat within the LBVI/SWFL survey area (Figures 4A, 4B, and 4C). A vegetation map (1:2,400 scale; 1 inch = 200 feet) of the LBVI/SWFL survey area was available to record any detected LBVI or SWFL. Binoculars (e.g., 10×42, 10×50 magnification) were used to aid in detecting and identifying wildlife species.

The five surveys conducted for SWFL followed the currently accepted protocol (A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher [Sogge et al. 2010]), which states that a minimum of five survey visits is needed to evaluate project effects on SWFL. The protocol recommends one survey between May 15 and 31, two surveys between June 1 and June 24, and two surveys between June 25 and July 17. Consistent with the protocol, surveys during the final period (June 25 through July 17) were separated by at least 5 days. Recorded SWFL vocalizations were used approximately every 50 to 100 feet within suitable habitat to induce SWFL responses. If SWFL were detected, the recorded playback ceased immediately to avoid harassment.

A Section 10(a)(1)(A) permit is not required to conduct presence/absence surveys for LBVI. The eight surveys for LBVI followed the currently accepted Least Bell's Vireo Survey Guidelines (USFWS 2001), which states that a minimum of eight survey visits should be made to all riparian areas and any other potential LBVI habitat between April 10 and July 31. The site visits are required to be conducted at least 10 days apart to maximize the detection of early and late arrivals, females, non-vocal birds, and nesting pairs. Recorded playback of LBVI vocalizations was not used during the surveys. Surveys were conducted between dawn and noon, and were not conducted during periods of excessive or abnormal cold, heat, wind, rain, or other inclement weather. Weather conditions, time of day, and season were appropriate for the detection of SWFL and LBVI (see Table 3). All other avian species detected during surveys were recorded.

3 Results

3.1 Site Description

The project site is generally characterized by rolling hills, with slope gradients fairly level within localized areas. Site elevations range from approximately 1,032 feet above mean sea level in the southern portion of the VNC to approximately 1,270 feet above mean sea level along the northern portion of the site. Distinctive geographic features include the LAR at the center of the VNC. The VNC is bordered by major highways to the east, north, and south. Residential, commercial, and industrial development borders the VNC to the southwest and west.

The study area occurs throughout sections of the VNC that include a mosaic of developed areas and infrastructure, some native and non-native upland vegetation, and riparian vegetation that occurs along proposed project work areas. The proposed project work areas occur within or around channels, drainages, and catch basins, where accumulating sediment or overgrown vegetation limits proper functioning of project facilities. The surrounding area is dominated by disturbed and developed land associated with ongoing utility operations at the VNC.

3.2 Vegetation Communities and Land Covers

Twenty-seven vegetation communities and land covers were identified within the study area: Fremont cottonwood forest alliance, Fremont cottonwood and sandbar willow association, arroyo willow thickets, arroyo willow and mulefat thickets association, sandbar willow thickets, mulefat scrub thickets, mulefat scrub–blue elderberry association, red willow thickets, red willow–arroyo willow association, red willow–arroyo willow and mulefat thickets association, cattail marshes, water sedge and lakeshore sedge meadows, brittle bush scrub, disturbed brittle bush scrub, California buckwheat scrub, coyote brush scrub, California sagebrush scrub, non-native grassland, eucalyptus groves semi-natural stands alliance, upland mustard semi-natural stands alliance, giant reed breaks semi-natural stands, disturbed habitat, concrete-lined channel, unvegetated drainage, open water, parks and ornamental plantings, and urban/developed land. These vegetation communities and land cover types are described below, and their spatial distributions are presented in Figures 5A through 5E, Biological Resources. Table 4 summarizes the extent of each vegetation community or land cover within the study area. Photo documentation of the project site is provided in Attachment B, Site Photographs.

Table 4. Vegetation Communities and Land Covers within the Study Area

Vegetation Community or Land Cover (State Rank)	Map Code	Study Area (acres)
Riparian Forest and Woodland Alliances and Stands		
Black willow thickets (S 3)	BWT	3.48
Fremont cottonwood forest[a] (S 3.2)	FCF	4.25
Fremont cottonwood/sandbar willow association[a] (S 3.2)	FCF/SWT	0.15
Subtotal Riparian Forest and Woodland Alliances and Stands[b]		*7.88*
Riparian Thickets Alliances and Stands		
Arroyo willow thickets (S 4)	AWT	1.05
Arroyo willow/mulefat thickets (S 4)	AWT/MFT	0.82
Sandbar willow thickets (S 4.2)	SWT	1.09
Mulefat scrub thickets (S 4)	MFT	3.45
Disturbed mulefat thickets (S 4)	D- MFT	0.93
Red willow thickets[a] (S 3)	RWT	6.06
Red willow–arroyo willow association (S 3)	RWT-AWT	0.78
Red willow–arroyo willow/mulefat thickets association (S3)	RWT-AWT/MFT	9.69
Smartweed patches (not ranked)	SMW	1.68
Cattail marshes (S 5)	CM	4.91
Water sedge and lakeshore sedge meadows (S 3)	Meadow	0.04
Subtotal Riparian Alliances and Stands[b]		*30.5*

Table 4. Vegetation Communities and Land Covers within the Study Area

Vegetation Community or Land Cover (State Rank)	Map Code	Study Area (acres)
Upland Shrubland Alliances and Stands		
Bladderpod spiderflower (not ranked)	BP	1.22
Blue elderberry (S 3)	BES	4.39
Disturbed blue elderberry	D-BES	3.51
Brittle bush scrub (S 4)	BBS	74.59
Disturbed brittle brush scrub (S 4)	D-BBS	0.28
Brittle bush scrub–California sagebrush scrub association (S 4)	BBS-CSS	2.16
California buckwheat scrub (S 5)	CBS	0.31
Coyote brush scrub (S 5)	CS	4.67
California sagebrush scrub (S 5)	CSS	2.32
California sagebrush scrub–black sage scrub (S 4)	CSS-BSS	0.0
California sagebrush scrub–California buckwheat scrub	CSS-CBS	0.0
Subtotal Upland Shrubland Alliances and Stands[b]		*93.45*
Non-Natural Land Covers/Unvegetated Communities		
Basin (not ranked)	BAS	9.47
Non-native grassland (not ranked)	NNG	65.50
Eucalyptus groves (semi-natural stands)[c] (not ranked)	EUC	0.48
Upland mustards (semi-natural stands)[c] (not ranked)	UM (SNS)	82.98
Giant reed breaks (semi-natural stands)[c] (not ranked)	GRB	0.40
Parks and ornamental plantings (not ranked)	ORN	11.55
Disturbed habitat (not ranked)	DH	122.96
Unvegetated drainage (not ranked)	UD	4.98
Concrete-lined channel (not ranked)	CC	12.01
Open water (not ranked)	OW	33.64
Urban/developed (not ranked)	DEV	277.64
Subtotal Non-natural Land Covers/Unvegetated Communities[b]		*621.61*
Total[b]		**753.44**

[a] Communities listed by CDFW as high priority for inventory (i.e., State Rank [S] 1, 2, or 3).
[b] Totals may not sum due to rounding.
[c] The term "semi-natural stands" versus alliance is used in the *Manual of California Vegetation* to distinguish between natural vegetation communities and vegetation types dominated by non-native plants (Sawyer et al. 2009).

3.2.1 Riparian and Marsh Vegetation Communities

Black Willow Thickets Woodland Alliance

Black willow thickets is a native plant community dominated by black willow (*Salix gooddingii*) in an open to continuous tree canopy less than 98 feet in height. This vegetation community typically occurs along large rivers and canyons, and smaller intermittent streams, seeps, and springs (Sawyer et al. 2009).

A patch of black willow thickets occurs within the Lower San Fernando Detention Basin within the buffer portion of the study area. Additionally, this community is found within the northern portion of the study area within two of the the backwash water reclamation ponds located west of the Upper San Fernando Drain Line. The understory of the black willow thickets within the Lower San Fernando Detention Basin consists of a low cover of mulefat (*Baccharis salicifolia*) and southern cattail (*Typha domingensis*). Within the northern reclamation ponds west of the Upper San Fernando Drain Line, vegetation includes young herbaceous growth and is a result of recent germination upon receding of previous inundation. This vegetation consist of black willow with a low cover of mulefat, Fremont cottonwood (*Populus fremontii*), and saltcedar (*Tamarix ramosissima*).

Fremont Cottonwood Forest Alliance

Fremont cottonwood forest alliance is dominated or co-dominated by Fremont cottonwood. Fremont cottonwood forest typically occurs on floodplains, intermittent streams, springs, lower desert canyons, alluvial fans, and valleys with a variable sub-surface water supply (Sawyer et al. 2009).

Within the study area, this vegetation occurs within the Lower San Fernando Detention Basin and the Upper Northeast Drainage. The understory of the Fremont cottonwood forest vegetation within the Lower San Fernando Detention Basin consists of a low cover of mulefat; stinging nettle (*Urtica dioica*); tall flatsedge (*Cyperus eragrostis*); and a variety of non-native herbaceous species, including Russian thistle (*Salsola tragus*), castorbean (*Ricinus communis*), sacred thorn-apple (*Datura wrightii*), tree tobacco (*Nicotiana glauca*), black mustard (*Brassica nigra*), shortpod mustard (*Hirschfeldia incana*), horehound (*Marrubium vulgare*), poison hemlock (*Conium maculatum*), yellow sweetclover (*Melilotus albus*), prickly lettuce (*Lactuca serriola*), common sowthistle (*Sonchus oleraceus*), and London rocket (*Sisymbrium irio*).

Within the Upper Northeast Drainage, the understory consists of arroyo willow (*Salix lasiolepis*) and Mexican fan palm (*Washingtonia robusta*).

Fremont Cottonwood/Sandbar Willow Association

Fremont cottonwood forest/sandbar willow association is one of 20 associations within the Fremont cottonwood forest alliance, and is co-dominated by Fremont cottonwood and sandbar willow (*Salix exigua*) (CDFG 2010).

Within the study area, Fremont cottonwood forest/sandbar willow association occurs within the LAR UV Plant Drainage and V-Ditch, where the concrete V-ditch becomes earthen-bottomed. The understory consists of a low cover of mulefat, southern cattail, red brome (*Bromus madritensis* ssp. *rubens*), London rocket, shortpod mustard, and redstem stork's bill (*Erodium cicutarium*). An ornamental Jerusalem thorn (*Parkinsonia aculeata*) is also found along the LAR UV Plant Drainage and V-Ditch.

Arroyo Willow Thickets

Arroyo willow thickets are dominated by arroyo willow in the tall shrub or low tree canopy, and occur on stream banks and benches, slope seeps, and stringers along drainages (Sawyer et al. 2009).

Within the study area, arroyo willow thickets are found within the Lower San Fernando Detention Basin, Upper San Fernando Drain Line, Upper San Fernando Drain Line Feature 2, Upper Northeast Drainage, and the LAR UV Plant Drainage and V-Ditch. Other plants observed within this vegetation community in low cover include mulefat, redstem stork's bill, and red brome.

Arroyo Willow/Mulefat Thickets Association

Arroyo willow/mulefat thickets association is one of eight associations within the arroyo willow alliance, dominated by arroyo willow and mulefat (CDFG 2010).

A small patch of arroyo willow/mulefat thickets association occurs within a small portion of the concrete V-ditch that supports sediment located within the LAR UV Plant Drainage and V-Ditch. On site, this association is composed of arroyo willow and a few mulefat stands, but also consists of a low cover of southern cattail, eastern Mojave buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), and red brome.

Sandbar Willow Thickets

Sandbar willow thickets is dominated or co-dominated by sandbar willow. Sandbar willow thickets typically occur on temporarily flooded floodplains, along rivers and streams, and at springs (Sawyer et al. 2009).

Within the study area, this vegetation community occurs within the Upper and Middle Debris Basins, and a small patch occurs within the Lower San Fernando Detention Basin. In the study area, this association is dominated by sandbar willow, but also consists of a low cover of mulefat, arroyo willow, and red brome.

Mulefat Scrub Thickets

Mulefat scrub is a dense, shrubby plant community dominated by mulefat with a two-tiered canopy less than 2 meters (7 feet) tall and 5 meters (16 feet) tall, which typically occurs in riparian habitats, edges of catchment basins, and in canyons (Sawyer et al. 2009).

Mulefat scrub thickets occur within the Upper and Middle Debris Basins, Lower San Fernando Detention Basin, and LAR UV Plant Drainage and V-Ditch. Other plants observed in low cover include flatspine bur ragweed (*Ambrosia acanthicarpa*), lambsquarters (*Chenopodium album*), shortpod mustard, tree tobacco, castorbean, and Russian thistle. Disturbed mulefat scrub thickets occur on hillsides within the buffer of the study area outside of potential work areas, and are composed of mulefat with a high cover of non-native species such as Russian prickly thistle, black mustard, and red brome.

Red Willow Thickets

Red willow thickets alliance is dominated by red willow (*Salix laevigata*), and typically occurs within ditches, floodplains, and lake edges, and along low-gradient stream banks (Sawyer et al. 2009).

In the study area, red willow thickets occur within the Upper San Fernando Drain Line, Lower San Fernando Detention Basin, and San Fernando Creek. Other plants observed in the understory and outer edges include yellow sweetclover, annual rabbitsfoot grass (*Polypogon monspeliensis*), seaside heliotrope (*Heliotropium curassavicum* var. *oculatum*), common tarweed (*Centromadia pungens* ssp. *pungens*), petty spurge (*Euphorbia peplus*), spiny sowthistle (*Sonchus asper* ssp. *asper*), shortpod mustard, Russian thistle, castorbean, red brome, Maltese star-thistle (*Centaurea melitensis*), chaparral nightshade (*Solanum xanti*), and southern crabgrass (*Digitaria ciliaris* var. *ciliaris*).

Red Willow–Arroyo Willow Association

Red willow–arroyo willow association is dominated by red willow and co-dominated by arroyo willow.

Within the study area, red willow–arroyo willow thickets occur within San Fernando Creek. The understory includes castorbean and cattails (*Typha* sp.).

Red Willow–Arroyo Willow/Mulefat Thickets Association

Red willow–arroyo willow and mulefat thickets association is dominated by red willow and co-dominated by arroyo willow, with mulefat thickets co-dominant in the understory.

Within the study area, this association occurs within the Middle Debris Basin, Upper San Fernando Drain Line, Upper San Fernando Drain Line Feature 1, and the Yarnell Debris Basin. This association is co-dominated by red willow, arroyo willow, and mulefat, and its understory includes common sunflower (*Helianthus annuus*), yellow sweetclover, castorbean, and southern crabgrass (*Digitaria ciliaris*).

Smartweed Patches

Smartweed patches is dominated or co-dominated by smartweed (*Persicaria lapathifolia* [*Polygonum lapathifolium]*) and/or cocklebur (*Xanthium strumarium*). This vegetation community typically occurs within marshes, regularly disturbed vernally wet ponds, fields, and stream terraces in clay-rich or silty soils (Sawyer et al. 2009).

Within the study area, smartweed patches occur within the Yarnell Debris Basin, in areas that were previously inundated during the early summer. Alkali mallow (*Malvella leprosa*), seaside heliotrope, and narrowleaf plantain (*Plantago lanceolata*) also grow within this vegetation community.

Cattail Marshes

Cattail marshes alliance is dominated or co-dominated by cattail marshes and occurs within semi-permanently inundated areas.

Within the study area, patches of cattail marshes occur within the Upper San Fernando Drain Line, Upper San Fernando Drain Line Feature 1, LAR North Dike Stormwater Basin, and the Lower San Fernando Detention Basin.

Other species prevalent within this vegetation community include mulefat, California bulrush (*Schoenoplectus californicus*), and pale spikerush (*Eleocharis macrostachya*). Small patches of cattails grow in various concrete-lined channels throughout the project site that are regularly maintained and experience high-velocity flows. These patches of cattails are small in size and occur variably depending on levels of disturbance within the concrete-lined channels; therefore, they are mapped within the concrete-lined channel mapping unit.

Water Sedge and Lakeshore Sedge Meadows

Water sedge and lakeshore sedge meadows alliance is dominated by sedges (*Carex* spp.). This vegetation community typically occurs within semi-permanently flooded freshwater or brackish marshes (Sawyer et al. 2009).

A small patch of water sedge and lakeshore sedge meadows vegetation community occurs southwest of the LAR North Dike Stormwater Basin within the buffer portion of the study area. This vegetation community is limited and supports a small number of sedges and pale spikerush.

3.2.2 Upland Vegetation Communities

Bladderpod Spiderflower Scrub

Bladderpod spiderflower scrub (*Peritoma arborea*) is not recognized as an alliance by A Manual of California Vegetation (Sawyer et al. 2009) or the List of California Vegetation Alliances and Associations (CDFG 2010). However, both recognize narrowleaf goldensbush–bladderpod scrub alliance (*Ericameria linearifolia–Cleome isomeris*) (CDFG 2010; Sawyer et al. 2009). This alliance is described as a native plant community dominated or co-dominated by bladderpod spiderflower, yellow aster (*Eastwoodia elegans*), and/or narrowleaf goldenbush in the shrub canopy. This vegetation community occurs on dry slopes and ridges where soils are shallow (Sawyer et al. 2009).

Within the study area, bladderpod spiderwort scrub occurs on steep hillsides along the southern extent of the VNC within the buffer portion of the study area, outside of potential work areas. Associated species in this community include California sagebrush, California buckwheat, and brittle bush at low covers.

Blue Elderberry Stands

Blue elderberry stands is a native plant community dominated by blue elderberry (*Sambucus nigra* spp. *caerulea*) in an open to continuous, sometimes two-tiered, shrub canopy less than 26 feet in height. This vegetation community typically occurs on stream terraces, in bottomlands, and sometimes in upland settings (Sawyer et al. 2009).

Blue elderberry stands occur along the Middle Debris Basin. In addition, patches of disturbed blue elderberry stands occur on hillsides south of Bee Drainage Channel. Other plants observed include red brome, shortpod mustard, castorbean, black mustard, and tree tobacco. Disturbed blue elderberry habitat also occurs within the buffer of the study area, outside of potential work areas, and is composed of blue elderberry with a high cover of non-native species such as shortpod mustard, black mustard, and red brome.

Brittle Bush Scrub

Brittle bush scrub is a native plant community dominated by brittlebush (*Encelia farinosa*) at an open to intermittent cover within the shrub canopy. This vegetation community typically occurs on alluvial fans, hillsides, slopes of small washes, and rills in well-drained soils (Sawyer et al. 2009).

Brittle bush scrub occurs throughout the buffer portion of the study area, outside of potential work areas. Portions of this vegetation community also consists of a mix of other coastal scrub species such as common deerweed (*Acmispon glaber* var. *glaber*), laurel sumac (*Malosma laurina*), orange bush monkeyflower (*Diplacus aurantiacus* var. *puniceus*), California buckwheat, black sage (*Salvia mellifera*), white sage (*Salvia apiana*), and California sagebrush (*Artemisia californica*); however, much of the brittle brush scrub within the study area is mainly composed of monotypic stands, where brittle bush is the only species within the shrub canopy layer.

Disturbed brittle bush scrub habitat also occurs on site within the buffer portion of the study area and is composed of brittle bush with a high cover of non-native species such as shortpod mustard, black mustard, and red brome.

Brittle Bush Scrub–California Sagebrush Scrub Association

Brittle bush scrub–California sagebrush association is similar to the brittle bush alliance described above; however, it is co-dominated by brittle bush and California sagebrush.

This association occurs in one patch within the western buffer portion of the study area, outside of the potential work areas, and is co-dominated by brittle bush and California sagebrush. In consists of a low cover of California buckwheat and an understory composed of shortpod mustard and red brome.

California Buckwheat Scrub

California buckwheat scrub is a native plant community dominated by California buckwheat (*Eriogonum fasciculatum*) in a continuous or intermittent shrub canopy less than 2 meters (7 feet) in height. This vegetation community typically occurs on upland slopes, intermittently flooded arroyos, channels, and washes with coarse, well-drained soils (Sawyer et al. 2009).

Within the study area, California buckwheat scrub occurs in one location southeast of the LAR North Dike Stormwater Basin. This patch consists of a mix of California buckwheat with brittlebush, castorbean, cheeseweed mallow (*Malva parviflorum*), and shortpod mustard.

Coyote Brush Scrub

Coyote brush scrub is a native plant community dominated by coyote brush (*Baccharis pilularis*) with a continuous or intermittent shrub canopy less than 3 meters (10 feet) in height. This vegetation community typically occurs at river mouths, stream sides, terraces, coastal bluffs, open slopes, or ridges with sandy to heavy clay soils (Sawyer et al. 2009).

Coyote brush scrub occurs within the buffer portion of the study area along a drainage within the southeastern portion of the Lower San Fernando Detention Basin.

California Sagebrush Scrub

California sagebrush scrub is a native plant community dominated by California sagebrush in the shrub canopy.

Within the study area, California sagebrush scrub occurs as small patches within the Upper Northeast Drainage and in the upland of the Upper San Fernando Drain Line and Yarnell Debris Basin.

California Sagebrush Scrub–Black Sage Scrub

California sagebrush scrub–black sage scrub alliance is a native plant community co-dominated by California sagebrush and black sage in the shrub canopy with an intermittent to continuous shrub canopy less than 2 meters (7 feet) in height. This vegetation community typically occurs on steep, east- to southwest-facing slopes, usually with colluvial derived soils (Sawyer et al. 2009).

Within the study area, California sagebrush scrub–black sage scrub occurs in two patches in the western portion of the study area within the buffer, outside of potential work areas. Other associated species present include golden eardrops (*Ehrendorferia chrysantha*), blue elderberry, and California buckwheat at low covers.

California Sagebrush Scrub–California Buckwheat Scrub

California sagebrush–California buckwheat scrub alliance communities include California sagebrush and California buckwheat as co-dominant shrubs in the canopy. California sagebrush–California buckwheat scrub has a two-tiered continuous or intermittent shrub canopy, with most shrubs less than 2 meters (7 feet) in height while others reach up to 5 meters (16 feet) in height. This alliance has a seasonally present herbaceous layer and is found along slopes that are usually south-facing and steep (Sawyer et al. 2009).

Within the study area, California sagebrush scrub–California buckwheat scrub occurs in several patches along the western portion of the study area within the buffer, outside of potential work areas. Other associated species present include brittle bush at a low cover.

3.2.3 Non-Natural Land Cover Types

Land cover types are not vegetation communities; therefore, they are not recognized by A Manual of California Vegetation (Sawyer et al. 2009) or the List of California Vegetation Alliances and Associations (CDFG 2010).

Basin

The basin mapping unit is not recognized by the Natural Communities List (CDFG 2010), but is described by Jones & Stokes (1993). Basins are artificial drying ponds that are used to collect stormwater runoff. This land cover type often contains hydrophytic vegetation such as arroyo willow, mulefat, or cattails (Jones & Stokes 1993).

The basins in the study area are located northwest of the LAR within a developed area. These basins are concrete-sided and earthen-bottomed, with small patches of emergent cattails growing along the edges. Levels of inundation within these basins are highly variable due to activities associated with LADWP operations. Over the course of

multiple surveys in 2018, these basins varied between being fully inundated to completely drained. Therefore, hydrophytic vegetation may grow in underlying sediment when water is absent from basins.

Non-Native Grassland

The non-native grassland (also referred to as California annual grassland) mapping unit is not recognized by the Natural Communities List (CDFG 2010), but is described by Jones & Stokes (1993), Holland (1986), and CDFW's A Guide to Wildlife Habitats of California (Kie 2005). Non-native grassland is dominated by a dense to sparse cover of introduced annual grasses such as wild oat (*Avena fatua*), soft brome (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), red brome, mouse barley (*Hordeum murinum*), and rat-tail fescue (*Festuca myuros*) (Holland 1986; Kie 2005). This vegetation community typically occurs on flat plains or gently rolling foothills at low elevations (Kie 2005).

Within the study area, non-native annual grasses occur east of the LAR North Dike Stormwater Basin and throughout the upland areas surrounding the Yarnell Debris Basin. This vegetation community within the study area is dominated by bromes (*Bromus* spp.), slender oat (*Avena barbata*), common Mediterranean grass (*Schismus barbatus*), mouse barley, redstem stork's bill, and black mustard. Other herbaceous annuals that occur in low cover include telegraphweed (*Heterotheca grandiflora*), sweet fennel (*Foeniculum vulgare*), Canadian horseweed (*Erigeron canadensis*), and common sunflower.

Eucalyptus Groves Semi-Natural Stands

Eucalyptus groves (semi-natural stands) is a distinct naturalized vegetation type that is planted as groves and windbreaks and naturalized fairly widespread in Southern California. It typically consists of monotypic stands of introduced Australian eucalyptus tree (*Eucalyptus* spp.), where the understory is either depauperate or absent (Holland 1986).

A small patch of eucalyptus grove occurs northwest of the Yarnell Debris Basin.

Upland Mustards Semi-Natural Stands

Upland mustards semi-natural stands consist of herbaceous vegetation dominated by various non-native mustard forbs, mostly annual and biennial species. Most of these species are invasive exotics. These stands are generally of low stature, below 3 meters (10 feet) high; however, black mustard often attains a height of 3 meters (10 feet) (Sawyer et al. 2009).

Multiple mustard species occur within the study area, including black mustard, shortpod mustard, and London rocket. Upland mustards semi-natural stands vegetation community is located throughout most of the study area's open landscape and is indicative of the study area's disturbance history.

Giant Reed Breaks Semi-Natural Stands

Giant reed breaks consist of herbaceous vegetation dominated by giant reed (*Arundo donax*). Giant reed is a naturalized perennial grass that grows in dense stands with a continuous canopy less than 8 meters (26 feet) high within riparian areas (Sawyer et al. 2009). Giant reed is ranked within the California Invasive Plant Council inventory to have an invasive species rank of "high," meaning it is widely distributed geographically, has moderate to high

rates of dispersal and establishment, and has severe ecological impacts on naturally occurring plant and animal communities (Cal-IPC 2018).

Pockets of giant reed breaks occur within riparian vegetation along the Middle Debris Basin and the Upper San Fernando Drain Line.

Parks and Ornamental Plantings

Parks and ornamental plantings land cover identified within the study area is dominated by Peruvian peppertree (*Schinus molle*) and eucalyptus trees, with understory dominated by redstem stork's bill, castorbean, mustards, and various non-native grasses. Within the study area, ornamental plantings occur in the 500-foot buffer surrounding the East Channel, San Fernando Creek, and the LAR North Dike Stormwater Basin.

Disturbed Habitat

The "disturbed" mapping unit is not recognized by the Natural Communities List (CDFG 2010), but is described by Jones & Stokes (1993). Disturbed habitat refers to areas that experience or have experienced high levels of human disturbance, and, as a result, are generally lacking vegetation. Areas mapped as disturbed may include unpaved roads and graded areas. Vegetation in these areas, if present at all, is usually sparse and dominated by non-native weedy herbaceous species such as Maltese star-thistle, wild oat, black mustard, spiny sowthistle, and prickly lettuce (Jones & Stokes 1993).

Within the study area, disturbed land includes dirt roads and bare, open areas with minimal vegetative cover that consists of yellow star-thistle (*Centaurea solstitialis*) and black mustard. This land cover is dominant throughout the study area. This land cover can vary according to annual precipitation cycles and can transition quickly into a non-native grassland or upland mustard community.

Unvegetated Drainage

Unvegetated drainages are earthen-bottomed drainages that lack vegetation. This habitat type refers to the unvegetated ephemeral drainage channels that occur within the Upper Debris Basin, Middle Debris Basin, Bee Drainage Channel, San Fernando Gate Drain, and Upper Northeast Drainage.

Concrete-Lined Channel

Concrete V-ditch or concrete-lined channel is characterized by barren or sparsely vegetated concrete-lined channels. This land cover type occurs throughout much of the project site. In the East Channel, small patches of cattails occur within sediment accumulated along seams in the concrete. As a result of disturbance due to regular maintenance and high-velocity flows associated with LADWP operations, these patches of cattails are removed by maintenance and resprout in areas supporting sediment. Additionally, these patches are below the minimum mapping unit for the vegetation mapping unit and are, therefore, not mapped separately.

Open Water

Open water consists of standing water with no emergent vegetation in the form of lakes, streams, ponds, or rivers (Jones & Stokes 1993). Within the study area, open water occurs within holding ponds, basins, and channels in and surrounding the Yarnell Debris Basin, Lower San Fernando Detention Basin, East Channel, Upper San Fernando Drain Line, and the LAR North Dike Stormwater Basin. Basins and channels containing open water on site are subject to variable levels of inundation due to seasonal weather conditions and activities associated with LADWP operations. Hydrophytic or emergent herbaceous vegetation (e.g., cattail marsh, smartweed patches, and young willows) may grow within areas where open water recedes.

Urban/Developed

Developed land describes areas occupied by structures, paving, and other impermeable surfaces that cannot support vegetation or habitat for wildlife. Within the study area, developed land consists of paved roads, parking lots, and buildings. This land cover type occurs throughout much of the study area.

3.3 Floral Diversity

A total of 69 vascular plant species consisting of 35 native species (51%) and 34 non-native species (49%) were recorded during the reconnaissance biological surveys conducted in May and August 2018. The recorded flora of the study area is composed of a combination of natural vegetation communities and disturbed and built land cover types. A list of the species observed during the May and August 2018 surveys is provided as Attachment C, Plant Compendium.

3.4 Wildlife

A total of 50 wildlife species were recorded in the study area consisting of 44 bird species, 3 mammal species, 2 reptile species, and 1 amphibian species. Birds commonly observed within the study area include song sparrow (*Melospiza melodia*), California towhee (*Melozone crissalis*), house finch (*Carpodacus mexicanus*), lesser goldfinch (*Spinus psaltria*), American goldfinch (*Spinus tristis*), killdeer (*Charadrius vociferus*), California quail (*Callipepla californica*), and mourning dove (*Zenaida macroura*). A red-tailed hawk (*Buteo jamaicensis*) was detected soaring overhead, and another individual was perched on a Fremont cottonwood tree during the site visit. Two red-tailed hawk nests were observed on site within the Lower San Fernando Detention Basin (Figures 3A through 3C).

Mammals detected within the study area include coyote (*Canis latrans*), desert cottontail (*Sylvilagus audubonii*), and California ground squirrel (*Spermophilus beecheyi*). Other common mammal species that may occur in the study area include Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), and Botta's pocket gopher (*Thomomys bottae*).

Reptiles observed within the study area were western fence lizard (*Sceloporus occidentalis*) and common side-blotched lizard (*Uta stanburiana*), and amphibian species observed within the study area were western toad (*Anaxyrus boreas*) tadpoles. Other common amphibian and reptile species that may occur include gopher snake (*Pituophis catenifer*) and Baja California tree frog (*Pseudacris hypochondriaca*).

Only one invertebrate species was observed within the study area—Cabbage white butterfly (*Pieris rapae*)—although checkered white butterfly (*Pontia protodice*) is a common species that may also occur. A list of the species observed during the general biological reconnaissance and vegetation mapping survey is provided as Attachment D, Wildlife Compendium.

3.5 Special-Status Plant Species

Special-status plant species identified during the literature review, along with a determination as to their potential to occur within the study area, are provided as Attachment E, Special-Status Plant Species Potential to Occur. No special-status plant species were observed within the study area during general biological reconnaissance surveys. All special-status species identified in the literature review were determined to either have a low potential to occur or were not expected to occur based on an assessment of habitat within the study area.

Three federally listed and/or state-listed plant species have been documented in the project vicinity: Nevin's barberry (*Berberis nevinii*) (federally listed and state-listed as endangered; CRPR 1B.1), San Fernando Valley spineflower (*Chorizanthe parryi* var. f*ernandina*; state-listed as endangered; CRPR 1B.1), and slender-horned spineflower (*Dodecahema leptoceras*; federally listed and state-listed as endangered; CRPR 1B.1). Descriptions of these species and their potential to occur within the study area are provided below.

3.5.1 Federally Listed and/or State-Listed Plant Species

Nevin's barberry is a shrub endemic to California. It occurs in chaparral, foothill woodland, and coastal sage scrub habitats in sandy to gravely soils. Nevin's barberry blooms from April through June. The closest documented occurrence for Nevin's barberry is 3.3 miles southeast of the project site. This occurrence dates back to 1941, and much development has occurred since its collection; therefore, this occurrence is considered extirpated (CDFW 2018). Suitable coastal sage scrub habitat with sandy or gravelly soils is present for this species within the study area; however, this shrub would have been observed during the biological reconnaissance-level field survey conducted in May 2018, if present. Therefore, this species was determined to not occur within the study area.

Slender-horned spineflower is an annual herb that is endemic to California. It is associated with alluvial fans in chaparral and coastal sage scrub habitats. It is typically associated with sandy and/or gravely soils and blooms April through June. The closest documented occurrence for slender-horned spineflower is approximately 2 miles southeast of the project site. This occurrence dates back to 1937, and much development has occurred since its collection; therefore, this occurrence is considered extirpated (CDFW 2018). The site does not support alluvial fans, and therefore does not support suitable habitat for this species. This species was not observed during general biological reconnaissance-level survey conducted in May 2018, which is within this species' blooming period. This species is not expected to occur within the study area.

San Fernando Valley spineflower is an annual herb that was documented within 2 miles of the study area (CDFW 2018). San Fernando Valley spineflower occurs within sandy soils in coastal sage scrub habitat. Its blooming period is April through July. San Fernando Valley spineflower was documented to occur in 1922, immediately south of the project site, but is now likely extirpated (CDFW 2018). Suitable coastal sage scrub habitat with sandy soils is present for this species within the study area; however, this species was not observed during the general biological reconnaissance-level survey conducted in May 2018, which is within this species' blooming period. This species

was also not observed during focused surveys conducted in 2017 for the LAR UV project, which occurs within the subject study area. San Fernando Valley spineflower is not expected to occur within the study area.

3.6 Special-Status Wildlife Species

Special-status wildlife species identified in the literature review, along with their habitat requirements, a determination as to their potential to occur within the study area, and survey observations, are provided as Attachment F, Special-Status Wildlife Species Potential to Occur. Special-status wildlife species potential to occur in the study area was determined based on the results of habitat mapped within the study area and the results of the general biological reconnaissance-level surveys. One special-status species was detected within the study area during the field survey: LBVI (federally listed and state-listed endangered; City-designated species).

Non-listed special-status wildlife species with a moderate or higher potential to occur within the study area include Blainville's horned lizard (*Phrynosoma blainvillii*) (state Species of Special Concern, City-designated species), San Diego tiger whiptail (*Aspidoscelis tigris stejnegeri*) (state Species of Special Concern), loggerhead shrike (*Lanius ludovicianus*) (state Species of Special Concern, City-designated species), and Cooper's hawk (*Accipiter cooperii*) (state Watch List species, City-designated species). The state fully protected white tailed kite (*Elanus leucurus*) also has a low potential to occur within the study area.

Federally listed and/or state-listed wildlife species documented in the project vicinity include Swainson's hawk (*Buteo swainsoni*) (state threatened), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) (federally threatened, state endangered, City-designated species), CAGN (federally threatened, state Species of Special Concern, City-designated species), LBVI (federally and state endangered, City-designated species), and SWFL (federally and state endangered, City-designated species). Descriptions of the listed species documented in the vicinity and their potential to occur within the study area are provided below.

3.6.1 Federally Listed and/or State-Listed Wildlife Species

Swainson's Hawk

Swainson's hawk has been documented to occur within 5 miles from the study area; however, it is currently known to only occur in the region during migration (CDFW 2018). The closest known nesting area is in Antelope Valley, approximately 25 miles from the project site; thus, this species is not expected to occur within the study area.

Western Yellow-Billed Cuckoo

There is one occurrence record for western yellow-billed cuckoo within 5 miles of the study area (CDFW 2018). However, records of this species date back to 1900, and the species is presumed extirpated from the area (CDFW 2018). Yellow-billed cuckoos nest in extensive stands of riparian habitat, which are absent in the study area; therefore, western yellow-billed cuckoo is not expected to occur within the study area.

Coastal California Gnatcatcher

CAGN has been documented within 1 mile of the project site (CDFW 2018). CAGN is a federally listed threatened species and a CDFW Species of Special Concern. This species is a resident songbird in California that generally

prefers open sage scrub with low-growing, drought-deciduous shrubs, including California sagebrush, California buckwheat, and sages (*Salvia* spp.) as a dominant or co-dominant species (Mock 2004). The typical breeding season for CAGN extends from approximately mid-February through August 30. Although much of the coastal scrub within the study area consists of fragmented, monotypic stands of brittle bush too small in size and too disturbed to support this species, some portions of coastal scrub within the study area could provide suitable habitat for this species. Thus, there is a moderate potential for this species to occur.

Protocol-level presence/absence surveys were completed within the majority of the study area. There were no CAGN or CAGN nests detected within the CAGN survey area. Potentially suitable habitat within the study area and outside of the CAGN survey area is similar to the habitat within the CAGN survey area, consisting primarily of monotypic stands of brittle bush. Additionally, suitable habitat outside of the CAGN survey area is situated adjacent to or in between patches of surveyed habitat. It is unlikely that these areas would be occupied by CAGN since the surrounding surveyed habitat is unoccupied, surveyors were proximate to nearly all of the additional habitat patches, and the habitat patches are composed of monotypic stands of less-than-ideal species. CAGN were absent from the study area; however, CAGN have a low potential to occupy the study area in the future due to the presence of suitable habitat.

Least Bell's Vireo

There are two documented occurrences for LBVI within 1 mile of the project site (CDFW 2018). In addition, one LBVI individual was observed during the reconnaissance-level field surveys conducted in May 2018 within the Lower San Fernando Detention Basin and the Middle Debris Basin. LBVI is a migratory bird species that generally returns to breeding sites in Southern California in mid- to late-March and departs from breeding grounds between late-July and late-September (Kus 2002). LBVI prefer to nest in riparian habitat with early to mid-successional riparian vegetation. Suitable riparian habitat occurs within many of the facilities proposed for maintenance.

Protocol-level presence/absence surveys were completed for the project for LBVI. LBVI were observed within the Middle Debris Basin, Lower San Fernando Detention Basin, LAR North Dike Stormwater Basin, and Yarnell Debris Basin. A total of 21 observations of singing LBVI males were made within the study area. Based on the locations of observations over multiple survey passes, these observations were determined to comprise 16 resident males. Five locations were only observed during a single survey pass and therefore determined to not represent LBVI residents within the study area. Three LBVI males within the Middle Debris Basin were confirmed to be paired based on visual and/or auditory association with an LBVI female. Of these pairs, one was confirmed breeding: an adult LBVI was observed feeding an LBVI fledgling during the seventh survey pass conducted on July 20, 2018. All LBVI detected visually were unbanded individuals.

Overall, three facilities within the study area are considered occupied based on repeated observations of LBVI across survey passes: Middle Debris Basin, Lower San Fernando Detention Basin, and Yarnell Debris Basin. Brown-headed cowbirds (*Molothrus ater*) were detected within all three LBVI-occupied facilities. All LBVI detections are documented in Table 5. LBVI detections and resident LBVI observed use areas are depicted in Figures 5B and 5D.

Table 5. Least Bell's Vireo Survey Results

Survey Pass	Date	Middle Debris Basin	Yarnell Debris Basin	Lower San Fernando Detention Basin	LAR UV North Dike Stormwater Basin	LAR UV Plant Drainage and V-Ditch
1	5/18/2018	1 LBVI – A 1 LBVI – A/V	2 LBVI – A	2 LBVI – A	No LBVI detected	No LBVI detected
2	5/30/2018	3 LBVI – A	1 LBVI – A	4 LBVI – A	No LBVI detected	No LBVI detected
3	6/8/2018	6 LBVI – A	6 LBVI – A	4 LBVI – A	1 LBVI – A	1 LBVI – A
4	6/18/2018	1 LBVI – A 1 LBVI pair – A 1 LBVI pair – A/V	1 LBVI – A	3 LBVI – A	No LBVI detected	No LBVI detected
5	6/29/2018	5 LBVI – A	No LBVI detected	1 LBVI – A 2 LBVI – A/V	No LBVI detected	No LBVI detected
6	7/10/2018	1 LBVI – A 2 LBVI – A/V 2 pair LBVI – A/V	1 LBVI – A	3 LBVI – A 1 LBVI – A/V	No LBVI detected	No LBVI detected
7	7/20/2018	2 LBVI – A 1 LBVI pair – A/V 1 LBVI fledgling – A/V	No LBVI detected	2 LBVI – A	No LBVI detected	No LBVI detected
8	7/30/2018	1 LBVI – A 2 LBVI pair – A/V	1 LBVI – A	3 LBVI – A	No LBVI detected	No LBVI detected

LAR = Los Angeles Reservoir; UV = ultraviolet; LBVI = least Bell's vireo; A = auditory detection; V = visual detection

Southwestern Willow Flycatcher

SWFL has been documented within 5.2 miles of the project site (USFWS 2018). Breeding SWFL are considered almost extirpated from Los Angeles County (Allen et al. 2016); however, a breeding individual was recently documented approximately 5.2 miles southeast of the project site at Hansen Dam (USFWS 2018). Willow flycatcher is a migratory species composed of four subspecies that breed within distinct geographic ranges. SWFL is a federally listed and state-listed endangered subspecies that breeds within the southwestern region of the United States. SWFL is a riparian obligate species and prefers to nest within dense, contiguous riparian habitat that is at least 30 feet wide with slow-moving water sources and saturated soils present (Sogge et al. 2010). There is minimal riparian vegetation suitable for this species present within the study area.

Although the potential for this species to occur within the study area is low, protocol-level presence/absence surveys were completed for SWFL within the study area. No federally protected or state-protected SWFL were observed within the study area. One migrant willow flycatcher (*Empidonax traillii;* full species) was observed singing within red willow–arroyo willow/mulefat thicket habitat in the Yarnell Debris Basin on May 30, 2018 (Figure 5B). Willow flycatcher was not detected during any other survey passes. In accordance with the survey protocol, a single early season detection of this species indicates a migrant subspecies and not the listed subspecies SWFL.

3.7 City Ordinances

City of Los Angeles Protected Trees

The City of Los Angeles Protected Tree Ordinance, as modified by Ordinance 177404, provides guidelines for the preservation of native Southern California tree species measuring 4 inches or more in cumulative diameter at 4.5 feet above the ground from the base of the tree. Trees protected under this ordinance include all oak trees indigenous to California (excluding scrub oak [*Quercus dumosa*]), Southern California black walnut (*Juglans californica* var. *californica*), California sycamore (*Platanus racemosa*), and California bay (*Umbellularia californica*).

The project site does not include any City of Los Angeles protected trees.

4 Impacts

The purpose of this section is to describe the impacts of the proposed project on special-status biological resources. The proposed project would involve routine maintenance of 14 facilities composed of water storage reservoirs, detention basins, conveyance channels, and treatment facilities that together create the VNC. Routine maintenance activities include sediment removal and vegetation management activities. Avoidance and minimization measures (AMMs) implemented by LADWP as part of the project are provided in Attachment G.

Impacts Definition

This impact analysis assesses the potential for permanent, temporary, direct, and indirect impacts, as defined below, to biological resources within the study area.

Permanent impacts result in the permanent long-term loss of a biological resource.

Temporary impacts refer to areas impacted by project activities that would be restored to existing conditions after the project activity is complete.

Direct impacts are the alteration, disturbance, or destruction of biological resources that would result from project-related activities. Direct impacts can include temporary impacts, such as the disturbance or removal of vegetation that returns to pre-activity conditions, or permanent impacts that could result, for example, from repetitive maintenance activities that preclude the regeneration of vegetation.

Indirect impacts are reasonably foreseeable impacts caused by project implementation on biological resources outside of the direct area of impact (usually the limits of work areas). Indirect impacts may include increased human activity, decreased water quality and altered hydrology, soil compaction, elevated noise and dust levels, and the introduction of invasive wildlife and/or plant species. Temporary indirect impacts are usually directly related to maintenance activities and may include temporary increases in noise or dust, whereas permanent indirect impacts could result from long-term effects to surrounding habitat, such as the introduction of invasive species.

Significance Thresholds

The following are the significance thresholds for biological resources provided in the CEQA Appendix G Environmental Checklist, which states that project activities could potentially have a significant affect if they:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS (Threshold Bio-1).
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS (Threshold Bio-2).
3. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (Threshold Bio-3).
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (Threshold Bio-4).
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Threshold Bio-5).
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan (Threshold Bio-6).

Impacts to Vegetation Communities and Land Covers

Table 6 summarizes direct impacts to vegetation communities and land covers as a result of the proposed project, and provides the basis for the subsequent impact analysis. Figures 6A through 6E, Biological Resources Work Areas, depict the extent of proposed work areas.

Table 6. Impacts to Vegetation Communities and Land Covers

Vegetation Community or Land Cover (State Rank)	Map Code	Proposed Work Area (acres)
Black willow thickets (S 3)	BWT	0.0
Fremont cottonwood forest[a] (S 3.2)	FCF	3.67
Fremont cottonwood/sandbar willow association[a] (S 3.2)	FCF/SWT	0.15
Subtotal Riparian Forest and Woodland Alliances and Stands[b]		3.82
Arroyo willow thickets (S 4)	AWT	0.46
Arroyo willow/mulefat thickets (S 4)	AWT/MFT	0.0
Sandbar willow thickets (S 4.2)	SWT	0.68
Mulefat scrub thickets (S 4)	MFT	0.69
Disturbed mulefat thickets (S 4)	D-MFT	0.0

Table 6. Impacts to Vegetation Communities and Land Covers

Vegetation Community or Land Cover (State Rank)	Map Code	Proposed Work Area (acres)
Red willow thickets[a] (S 3)	RWT	2.78
Red willow–arroyo willow association (S 3)	RWT-AWT	0.78
Red willow–arroyo willow/mulefat thickets association (S3)	RWT-AWT/MFT	1.66
Smartweed patches (not ranked)	SMW	0.0
Cattail marshes (S 5)	CM	1.65
Water sedge and lakeshore sedge meadows (S 3)	Meadow	0.0
Subtotal Riparian Alliances and Stands[b]		*8.7*
Bladderpod spiderflower (not ranked)	BP	0.0
Blue elderberry (S 3)	BES	0.0
Disturbed blue elderberry	D-BES	0.0
Brittle bush scrub (S 4)	BBS	5.63
Disturbed brittle brush scrub (S 4)	D-BBS	0.0
Brittle bush scrub–California sagebrush scrub association (S 4)	BBS-CSS	0.0
California buckwheat scrub (S 5)	CBS	0.19
Coyote brush scrub (S 5)	CS	0.0
California sagebrush scrub (S 5)	CSS	0.04
California sagebrush scrub–black sage scrub (S 4)	CSS-BSS	0.0
California sagebrush scrub–California buckwheat scrub	CSS-CBS	0.0
Subtotal Upland Shrubland Alliances and Stands[a]		*5.86*
Basin (not ranked)	BAS	0.0
Non-native grassland (not ranked)	NNG	0.0
Eucalyptus groves (semi-natural stands)[c] (not ranked)	EUC	0.0
Upland mustards (semi-natural stands)[c] (not ranked)	UM (SNS)	50.02
Giant reed breaks (semi-natural stands)[c] (not ranked)	GRB	0.27
Parks and ornamental plantings (not ranked)	ORN	0.0
Disturbed habitat (not ranked)	DH	6.08
Unvegetated drainage (not ranked)	UD	3.64
Concrete-lined channel (not ranked)	CC	2.55
Open water (not ranked)	OW	0.27

Table 6. Impacts to Vegetation Communities and Land Covers

Vegetation Community or Land Cover (State Rank)	Map Code	Proposed Work Area (acres)
Urban/developed[b] (not ranked)	DEV	0.54
Subtotal Non-Natural Land Covers/Unvegetated Communities[b]		*63.37*
Total[b]		**81.75**

[a] Communities listed by CDFW as high priority for inventory (i.e., State Rank [S] 1, 2, or 3).
[b] Totals may not sum due to rounding.
[c] The term "semi-natural stands" versus alliance is used in the Manual of California Vegetation to distinguish between natural vegetation communities and vegetation types dominated by non-native plants (Sawyer et al. 2009).

4.1 Threshold Bio-1: Special-Status Species

4.1.1 Special-Status Plants

No special-status plant species were observed during general biological reconnaissance surveys. All special-status species identified in the literature review were determined to either have a low potential to occur or were not expected to occur based on an assessment of habitat within the study area. Therefore, no impacts to special-status plant species would occur.

4.1.2 Special-Status Wildlife

Listed Wildlife Species

Five listed species have a potential to occur within the study area. The federally and state endangered LBVI was confirmed present during focused surveys. The federally threatened CAGN and the federally and state endangered SWFL were not detected during focused protocol surveys for these species, and there is a low potential for them to occupy the study area in the future. The state threatened Swainson's hawk has a low potential to occur.

Due to the presence of LBVI, direct or indirect impacts to listed species is a potentially significant impact. Direct impacts to LBVI could include collisions with maintenance equipment or destruction of nests during ground-disturbing activities should maintenance activities occur during the breeding season. Indirect impacts could result from an increase in noise, dust, and pollution during maintenance activities that would negatively impact nest success. The project would implement AMM-1, Resource Protection, which provides for avoidance of nesting birds by conducting maintenance outside of the nesting bird season, or, if nesting bird season cannot be avoided, conducting pre-activity surveys with avoidance of the nest and suitable buffer if nests are present. AMM-1 provides for pre-activity surveys within 1 week prior to start of work. Should special-status species be detected, LADWP would develop and implement a plan for the protection of these species. Indirect impacts to special-status species would be minimized through implementation of AMM-2, Habitat Protection, which provides for avoidance activities taking place at night, and AMM-6, Pollution, Litter, and Cleanup, which provides for best management practices for managing spills, leaks, and trash.

As shown in Table 7, the project would result in permanent impacts to 2.81 acres of unoccupied suitable habitat, and temporary impacts to 7.49 acres of unoccupied suitable habitat and 0.57 acres of habitat occupied by LBVI. Areas were identified as temporary impacts where work would be timed such that the habitat would be able to regenerate

between maintenance events. Within the Upper Debris Basin, Middle Debris Basin, and Lower San Fernando Debris Basin, impacts to riparian vegetation would be temporary, since vegetation would have the opportunity to regenerate in between proposed maintenance events. Impacts to riparian vegetation within all other project facilities would be permanent. Permanent impacts to occupied and suitable LBVI habitat would be significant, requiring mitigation. Additionally, consultation with USFWS is required for potential adverse impacts to LBVI. With implementation of mitigation measure (MM) MM-BIO-1, impacts to listed species would be less than significant.

Table 7. Impacts to Suitable and Occupied Least Bell's Vireo Habitat

Vegetation Community	Permanent Impacts to Unoccupied Suitable LBVI Habitat (acres)	Temporary Impacts		
		Occupied LBVI Habitat (acres)	Suitable LBVI Habitat (acres)	Total Temporary Impacts (acres)
Lower San Fernando Detention Basin	—	—	—	6.55
Arroyo willow thickets	—	—	0.36	—
Mulefat thickets	—	0.08	0.15	—
Fremont cottonwood forest	—	—	3.66	—
Red willow thickets	—	0.03	2.27	—
Upper Debris Basin	—	—	—	1.51
Mulefat thickets	—	0.12	0.07	—
Red willow–arroyo willow/mulefat	—	0.34	0.03	—
Sandbar willow	—	—	0.68	—
LAR UV Plant Drainage Feature	—	—	—	—
Arroyo willow thickets	0.02	—	—	—
Fremont cottonwood/sandbar willow	0.15	—	—	—
San Fernando Creek	—	—	—	—
Red willow thickets	0.25	—	—	—
Red willow–arroyo willow	0.78	—	—	—
Upper San Fernando Drain Line	—	—	—	—
Red willow thickets	0.24	—	—	—
Red willow–arroyo willow/mulefat	0.35	—	—	—
Upper San Fernando Drain Line Feature 1	—	—	—	—
Red willow–arroyo willow/mulefat	0.94	—	—	—
Upper San Fernando Drain Line Feature 2	—	—	—	—
Arroyo willow thickets	0.08	—	—	—
Total	**2.81**	**0.57**	**7.49**	**8.06**

LBVI = least Bell's vireo; LAR = Los Angeles Reservoir; UV = ultraviolet

Non-Listed Wildlife Species

Four non-listed wildlife species have a moderate potential to occur within the study area: Blainville's horned lizard, San Diegan tiger whiptail, loggerhead shrike, and Cooper's hawk. The state fully protected white-tailed kite (*Elanus leucurus*) has a low potential to occur within the study area. Direct impacts could include crushing of low-mobility species during grading, collisions with construction equipment, and destruction of bird nests during vegetation and ground-disturbance activities. Direct impacts to these species would be avoided through implementation of AMM-1, Resource Protection, which provides for a designated biologist to monitor all ground-disturbing maintenance activities and relocate non-listed, special-status, ground-dwelling vertebrates out of harm's way to the extent feasible. AMM-1 also provides for avoidance of nesting birds. Potential indirect impacts would be minimized as described above under "Listed Wildlife Species" with implementation of AMM-2, Habitat Protection, and AMM-6, Pollution, Litter, and Cleanup. With implementation of AMM-1, AMM-2, and AMM-6, impacts to non-listed wildlife species would be less than significant.

Nesting Birds

One red-tail hawk nest was observed within the project site during the survey efforts. Additionally, all of the project site includes suitable habitat for nesting bird species. Project activities could result in direct and indirect impacts to other nesting birds, including the loss of nests, eggs, and fledglings if vegetation clearing and ground-disturbing activities occur during the avian nesting season (typically January 1 through August 31). Implementation of AMM-1, Resource Protection, which provides for avoidance measures for nesting birds, would result in less-than-significant impacts to nesting birds.

4.2 Threshold Bio-2: Vegetation Communities

Table 8 summarizes impacts to special-status vegetation communities as a result of the project.

Table 8. Impacts to Special-Status Vegetation Communities

Vegetation Community or Land Cover	Permanent Impacts				Temporary Impacts		
	CDFW Rank S1, S2, or S3 and Suitable for LBVI (acres)	Not Ranked S1, S2, or S3 by CDFW		Total Permanent Impacts (acres)	CDFW Rank S1, S2, or S3 and Suitable for LBVI (acres)	Not Ranked S1, S2, or S3 by CDFW and Suitable for LBVI (acres)	Total Temporary Impacts (acres)
		Suitable for LBVI (acres)	Not Suitable for LBVI (acres)				
Not CDFW Streambed							
Arroyo willow thickets	—	0.02	—	0.02	—	—	—
Fremont cottowood forest	—	—	—	—	3.66	—	3.66
Mulefat thickets	—	—	—	—	—	0.15	0.15
Subtotal	—	*0.02*	—	*0.02*	*3.66*	*0.15*	*3.81*

Table 8. Impacts to Special-Status Vegetation Communities

Vegetation Community or Land Cover	Permanent Impacts				Temporary Impacts		
		Not Ranked S1, S2, or S3 by CDFW					
	CDFW Rank S1, S2, or S3 and Suitable for LBVI (acres)	Suitable for LBVI (acres)	Not Suitable for LBVI (acres)	Total Permanent Impacts (acres)	CDFW Rank S1, S2, or S3 and Suitable for LBVI (acres)	Not Ranked S1, S2, or S3 by CDFW and Suitable for LBVI (acres)	Total Temporary Impacts (acres)
CDFW Vegetated Streambed							
Arroyo willow thickets	–	0.08	–	0.08	–	0.36	0.36
Cattail marshes	–	–	1.57	1.57	–	–	–
Fremont cottonwood forest	–	–	–	–	–	–	–
Fremont cottonwood/sandbar willow	0.15	–	–	0.15	–	–	–
Mulefat thickets	–	–	–	–	–	0.54	0.54
Red willow thickets	0.48	–	–	0.48	2.30	–	2.30
Red willow–arroyo willow association	0.78	–	–	0.78	–	–	–
Red willow–arroyo willow/mulefat thickets association	1.30	–	–	*1.30*	*0.37*	–	1.36
Sandbar willow	–	–	–	–	–	0.68	0.68
Subtotal	*2.71*	*0.08*	*1.57*	*4.36*	*2.67*	*1.58*	*5.24*
Total	**2.71**	**0.10**	**1.57**	**4.38**	**6.33**	**1.73**	**8.06**

CDFW = California Department of Fish and Wildlife; LBVI = least Bell's vireo

Direct impacts to special-status vegetation communities would include removal due to sediment clearing and vegetation management. Maintenance of riparian habitat would be limited to every 3 years; therefore, impacts within the Upper Debris Basin, Middle Debris Basin, and Lower San Fernando Debris Basin would be temporary, since vegetation would have the opportunity to regenerate in between maintenance events. Additionally, maintenance activities within blue elderberry stands would be limited to hand pruning of the lower limbs of the trees and maintenance of the understory. Therefore, maintenance activities within 4.3 acres of blue elderberry stands would not result in impacts to this community. Impacts to special-status communities within all other facilities would be permanent. Loss of special-status vegetation communities is potentially significant; however, the special-status communities overlap with suitable LBVI habitat and/or CDFW jurisdictional streambeds that would be mitigated through implementation of MM-BIO-1 and MM-BIO-2, respectively.

Monitoring would be conducted as described under AMM-BIO-1 to confirm that timing limitations within special-status communities would be implemented, as outlined in the project description and AMMs. Implementation of AMM-BIO-7, which identifies removal of non-native species, would ensure that native species have the opportunity to regrow within maintained areas. Additional direct impacts could also result from inadvertent removal of special-status vegetation communities outside of designated work areas. The potential for inadvertent impacts outside of the work area would be minimized through implementation of AMM-BIO-2, which provides for demarcating the perimeter of the work area to prevent damage to adjacent habitat.

Indirect impacts to vegetation communities would include impacts from the generation of fugitive dust, the release of chemical pollutants, and the adverse effect of invasive plant species. Indirect impacts to special-status vegetation communities would be minimized through implementation of AMM-6, Pollution, Litter, and Cleanup, which provides best management practices for managing spills, leaks, and trash, and AMM-7, Exotic Species Removal and Control, which identifies methods for removing and managing invasive species.

With implementation of AMM-1, AMM-2, AMM-6, AMM-7, and MM-BIO-1, impacts to special-status vegetation communities would be less than significant.

4.3 Threshold Bio-3: Jurisdictional Waters

The delineation of jurisdictional waters was prepared under separate cover, and impacts to jurisdictional waters are not discussed herein.

4.4 Threshold Bio-4: Wildlife Corridors

The project site is surrounded on all sides by development; undeveloped open space occurs to the north. The project site does not function as a wildlife corridor and does not support any wildlife nursery sites. As a result, implementation of the proposed project would not result in impacts to these resources.

4.5 Threshold Bio-5: Local Policies and Ordinances

There were no tree species defined as protected trees by the City of Los Angeles Municipal Code observed within the study area. There are no other local ordinances or codes relevant to biological resources; therefore, the project is consistent with local policies and ordinances, and no impact would occur.

4.6 Threshold Bio-6: Habitat Conservation Plan

The project site does not overlap any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan; therefore, the project would not be in conflict with any such plans, and no impact would occur.

5 Mitigation Measure

MM-BIO-1 Removal or disturbance of habitat suitable for least Bell's vireo shall be conducted outside of the typical nesting period for this species (approximately March 15 through August 15). Mitigation for permanent impacts to habitat shall be at a ratio of 1:1, or as otherwise determined by applicable resource agency permits. Mitigation shall be a combination of habitat preservation, enhancement, and/or creation through purchase of credits at an approved in-lieu fee program or mitigation bank, or an agency-approved permittee responsible mitigation project.

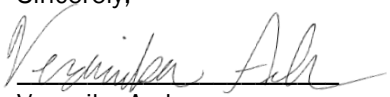
Prior to removal of suitable and/or occupied least Bell's vireo habitat, and presuming there is risk of "take" under federal or state law, the Los Angeles Department of Water and Power (LADWP) shall consult with the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service on implementation of this mitigation measure (MM-BIO-1) and other minimization and avoidance measures as necessary to avoid "take." If "take" is unavoidable, LADWP shall secure the appropriate incidental take authorization or permit under Section 7 of the federal Endangered Species Act and Section 2081 of the California Endangered Species Act. Any measures determined to be necessary through Section 7 or Section 2081 shall be implemented.

6 Conclusions

The majority of the study area occurs within non-natural land covers and unvegetated communities dominated by disturbed habitat, developed areas, and upland mustards (semi-natural stands) with low potential to support special-status species. No federally listed or state-listed plant species were identified or have a moderate or high potential to occur within the study area. One listed wildlife species—LBVI—occurs within the study area within the Middle Debris Basin, Lower San Fernando Detention Basin, and Yarnell Debris Basin. Implementation of project AMMs, along with recommended MM-BIO-1, would reduce impacts to LBVI to less than significant. Implementation of project AMMs would result in less-than-significant impacts to other special-status wildlife species with a potential to occur, including CAGN, SWFL, Swainson's hawk, white-tailed kite, Blainville's horned lizard, San Diegan tiger whiptail, loggerhead shrike, Cooper's hawk, and other nesting bird species.

If you have any questions or comments regarding the content of this letter, please do not hesitate to contact me at 951.300.2181 or larcher@dudek.com.

Sincerely,



Veronika Archer
Senior Biologist

Att.: *Figures 1–6E*
Attachment A – Focused Survey Reports
Attachment B – Site Photographs
Attachment C – Plant Compendium
Attachment D – Wildlife Compendium
Attachment E – Special-Status Plant Species Potential to Occur
Attachment F – Special-Status Wildlife Species Potential to Occur
Attachment G – Avoidance and Minimization Measures

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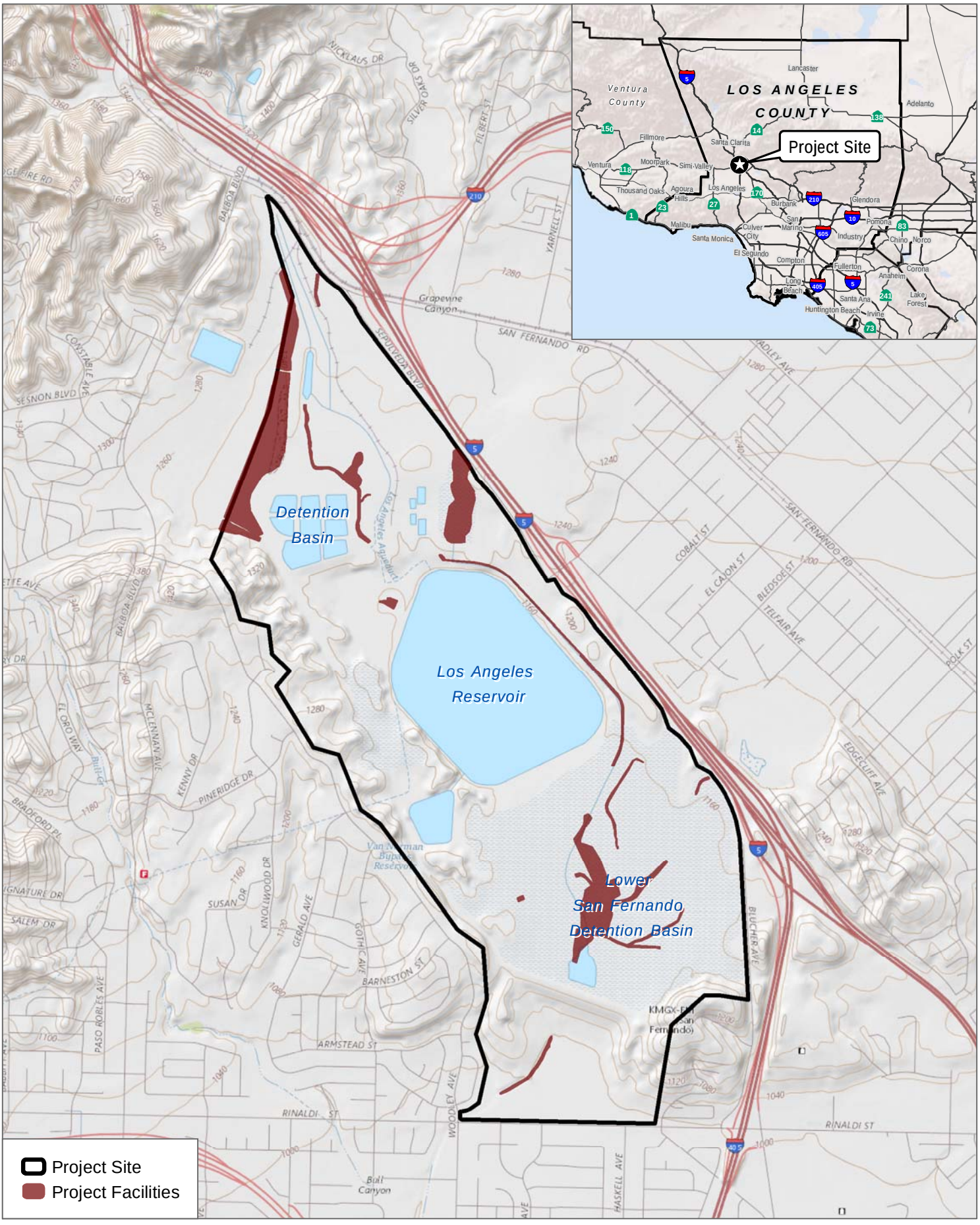


SOURCE: USGS 7.5-Minute Series San Fernando Quadrangle

FIGURE 1

Project Location

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

Los Angeles Department of Water & Power

0 750 1,500 Feet

FIGURE 2

Project Site

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

Los Angeles Department of Water & Power

0 275 550 Feet

FIGURE 3A

CAGN Survey Area and Routes

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

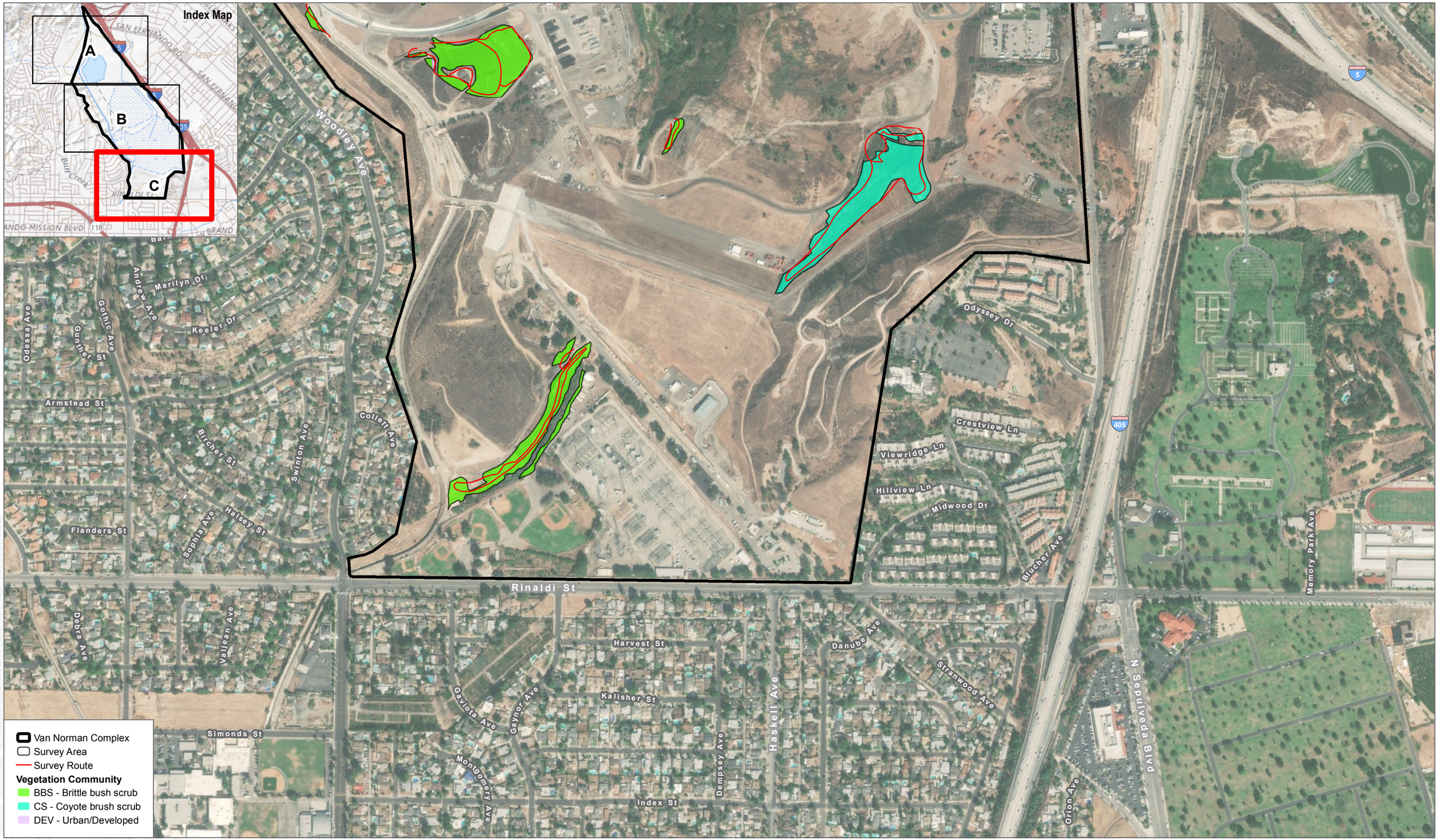
Los Angeles Department of Water & Power

0 275 550 Feet

FIGURE 3B

CAGN Survey Area and Routes

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

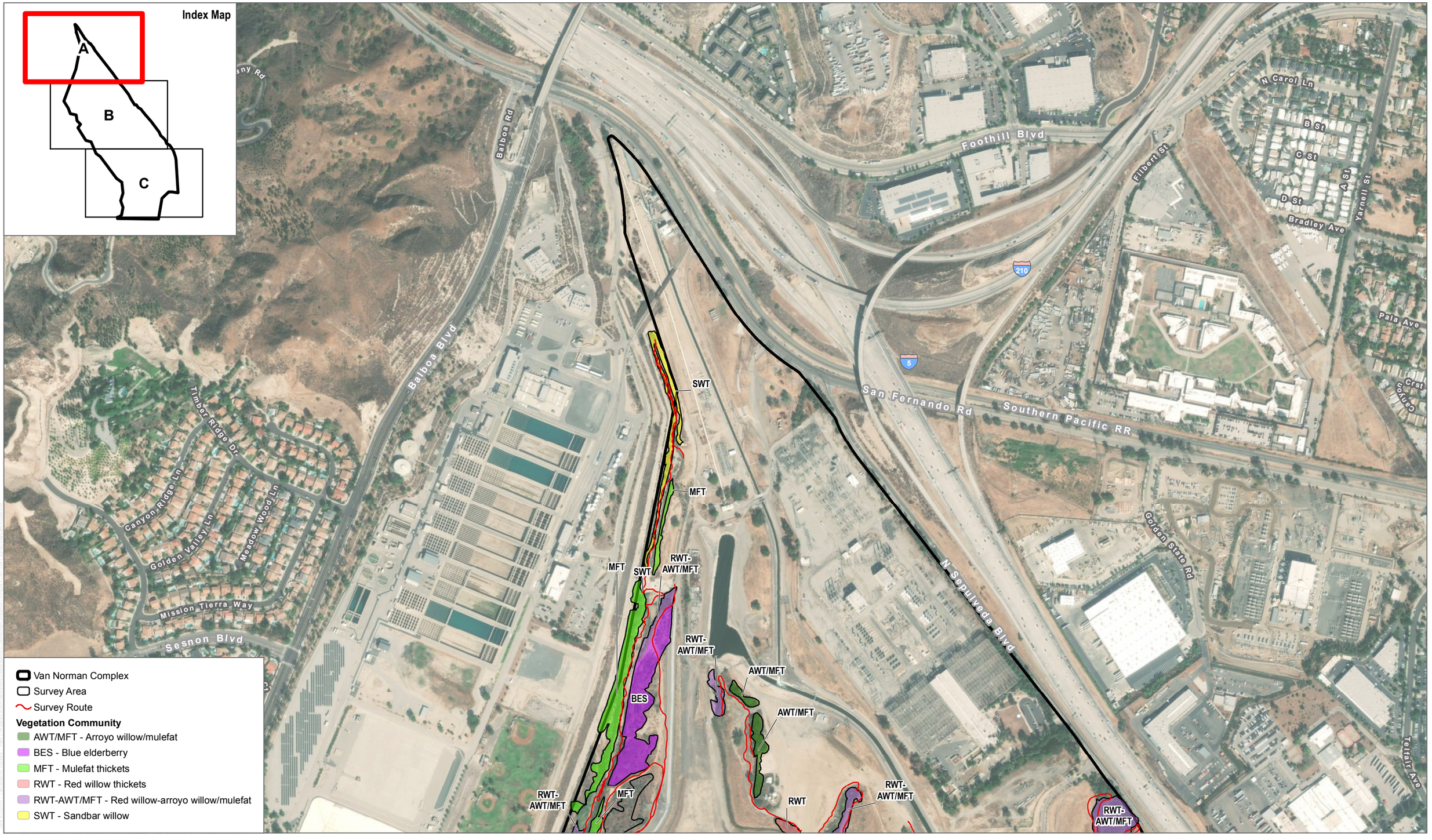
Los Angeles Department of Water & Power

0 275 550 Feet

FIGURE 3C

CAGN Survey Area and Routes

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

Los Angeles Department of Water & Power

0 275 550 Feet

FIGURE 4A

LBVI / SWFL Survey Area and Routes

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

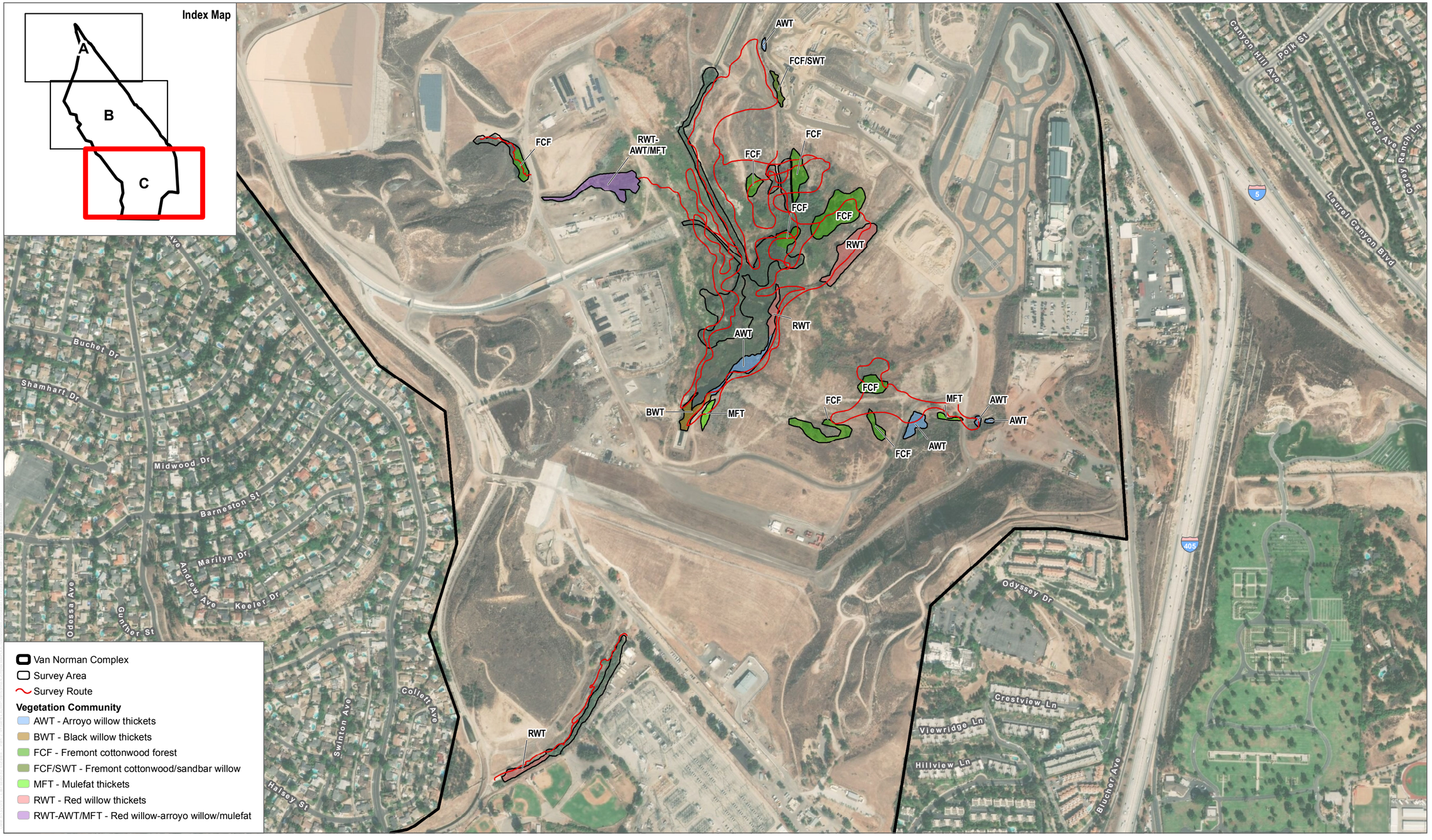
Los Angeles Department of Water & Power

0 275 550 Feet

FIGURE 4B

LBVI / SWFL Survey Area and Routes

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

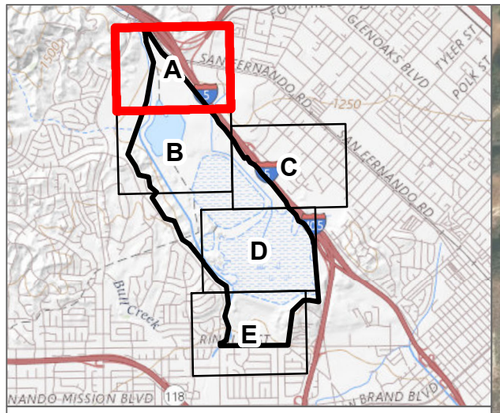
LA DWP Los Angeles Department of Water & Power

0 275 550 Feet

FIGURE 4C

LBVI / SWFL Survey Area and Routes

LADWP Van Norman Complex



- Van Norman Complex
- Study Area
- LBVI / SWFL Survey Area

Special-staus Species

- AMKE - American kestrel
- YEWA - yellow warbler
- Resident LBVI Observations
- Resident LBVI Observed Use Areas

General Vegetation Type

- Scrub and Chaparral
- Riparian and Bottomland Habitat
- Grass and Herb Dominated Communities
- Bog and Marsh
- Other

Vegetation Communities

- AWT/MFT - Arroyo willow/mulefat
- BBS - Brittle bush scrub
- BES - Blue elderberry
- CBS - California buckwheat scrub
- CC - Concrete-lined channel
- CM - Cattail marshes
- CSS - California Sagebrush scrub
- DEV - Urban/Developed
- DH - Disturbed Habitat
- FCF - Fremont cottonwood forest
- GRB - Giant Reed Breaks
- MFT - Mulefat thickets
- OW - Open water
- RWT-AWT/MFT - Red willow-arroyo willow/mulefat
- SWT - Sandbar willow
- UD - Unvegetated Drainage
- UM(SNS) - Upland mustards

SOURCE: DigitalGlobe 2016

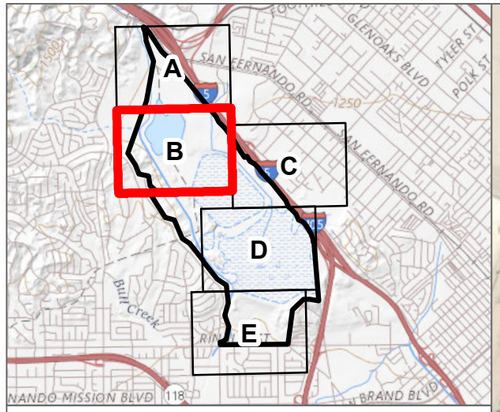
Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 5A

Biological Resources

LADWP Van Norman Complex



- Van Norman Complex
- Study Area
- LBVI / SWFL Survey Area

Special-staus Species

- BHCO - brown-headed cowbird
- WIFL - willow flycatcher (migrant)
- YEWA - yellow warbler
- Resident LBVI Observations
- Non-Resident LBVI Observations
- Resident LBVI Observed Use Areas

General Vegetation Type

- Scrub and Chaparral
- Riparian and Bottomland Habitat
- Broad Leafed Upland Tree Dominated
- Grass and Herb Dominated Communities
- Bog and Marsh
- Other

Vegetation Communities

- AWT - Arroyo willow thickets
- AWT/MFT - Arroyo willow/mulefat
- BAS - Basin
- BBS - Brittle bush scrub
- BBS-CSS - Brittle bush scrub-California Sagebrush scrub
- BES - Blue elderberry
- BWT - Black willow thickets
- CBS - California buckwheat scrub
- CC - Concrete-lined channel
- CM - Cattail marshes
- CSS - California Sagebrush scrub
- CSS-CBS - California Sagebrush scrub-California buckwheat scrub
- D-BBS - Disturbed Brittle bush scrub
- DEV - Urban/Developed
- DH - Disturbed Habitat
- EUC - Eucalyptus groves
- GRB - Giant Reed Breaks
- MFT - Mulefat thickets
- Meadow - Water sedge and Lakeshore sedge meadows
- NNG - Non-Native grassland
- ORN - Parks and ornamental plantings
- OW - Open water
- RWT - Red willow thickets
- RWT-AWT/MFT - Red willow-arroyo willow/mulefat
- SMW - Smartweed patches
- UD - Unvegetated Drainage
- UM(SNS) - Upland mustards
- dBES - Disturbed Blue Elderberry
- dMFS - Disturbed Mulefat thickets

SOURCE: DigitalGlobe 2016

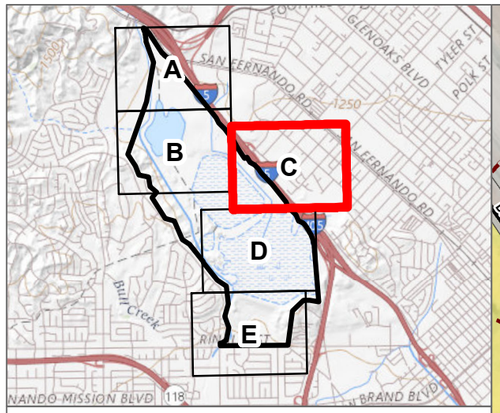
LA DWP Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 5B

Biological Resources

LADWP Van Norman Complex



Van Norman Complex

Study Area

General Vegetation Type

Scrub and Chaparral

Grass and Herb Dominated Communities

Other

Vegetation Communities

BBS - Brittle bush scrub

CC - Concrete-lined channel

DEV - Urban/Developed

DH - Disturbed Habitat

NNG - Non-Native grassland

ORN - Parks and ornamental plantings

OW - Open water

UD - Unvegetated Drainage

UM(SNS) - Upland mustards

SOURCE: DigitalGlobe 2016

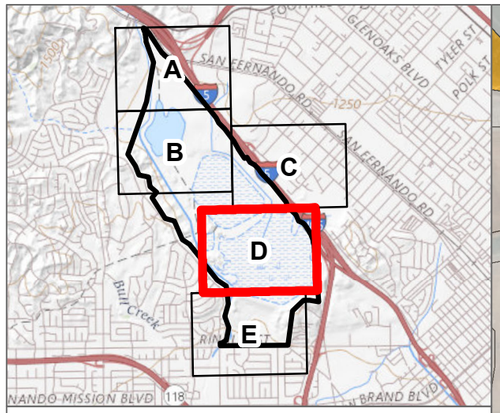
Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 5C

Biological Resources

LADWP Van Norman Complex



- Van Norman Complex
- Study Area
- LBVI / SWFL Survey Area

Special-staus Species

- AMKE - American kestrel
- BHCO - brown-headed cowbird
- YEWA - yellow warbler
- RTHA - red-tailed hawk nest
- Resident LBVI Observations
- Non-Resident LBVI Observations
- Resident LBVI Observed Use Areas

General Vegetation Type

- Scrub and Chaparral
- Riparian and Bottomland Habitat
- Grass and Herb Dominated Communities
- Bog and Marsh
- Other

Vegetation Communities

- AWT - Arroyo willow thickets
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- BWT - Black willow thickets
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- CM - Cattail marshes
- CS - Coyote brush scrub
- CSS - California Sagebrush scrub
- DEV - Urban/Developed
- DH - Disturbed Habitat
- FCF - Fremont cottonwood forest
- FCF/SWT - Fremont cottonwood/sandbar willow
- MFT - Mulefat thickets
- NNG - Non-Native grassland
- ORN - Parks and ornamental plantings
- OW - Open water
- RWT - Red willow thickets
- RWT-AWT/MFT - Red willow-arroyo willow/mulefat
- UD - Unvegetated Drainage
- UM(SNS) - Upland mustards

SOURCE: DigitalGlobe 2016

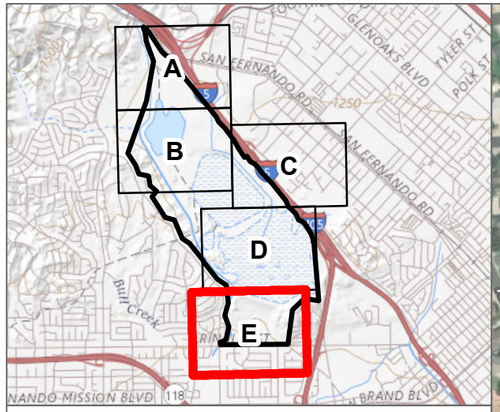
LA DWP Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 5D

Biological Resources

LADWP Van Norman Complex



- Van Norman Complex
- Study Area
- LBVI / SWFL Survey Area

General Vegetation Type

- Scrub and Chaparral
- Riparian and Bottomland Habitat
- Grass and Herb Dominated Communities
- Other

Vegetation Communities

- BBS - Brittle bush scrub
- BP - Bladderpod spiderflower
- CC - Concrete-lined channel
- CS - Coyote brush scrub
- CSS - California Sagebrush scrub
- DEV - Urban/Developed
- DH - Disturbed Habitat
- NNG - Non-Native grassland
- ORN - Parks and ornamental plantings
- RWT - Red willow thickets
- RWT-AWT - Red willow-arroyo willow
- UM(SNS) - Upland mustards

SOURCE: DigitalGlobe 2016

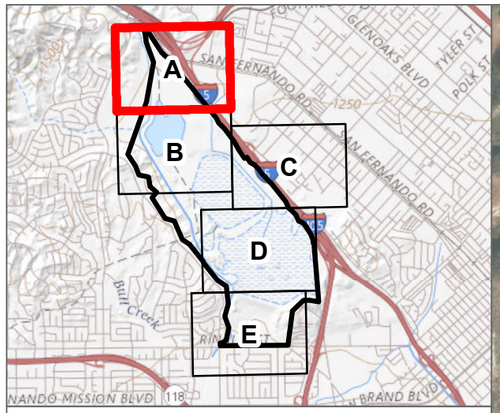
LA DWP Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 5E

Biological Resources

LADWP Van Norman Complex



- Van Norman Complex
- Study Area
- Work Areas

Special-staus Species

- AMKE - American kestrel
- YEWA - yellow warbler
- Resident LBVI Observations
- Resident LBVI Observed Use Areas

General Vegetation Type

- Scrub and Chaparral
- Riparian and Bottomland Habitat
- Grass and Herb Dominated Communities
- Bog and Marsh
- Other

Vegetation Communities

- AWT/MFT - Arroyo willow/mulefat
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- CSS - California Sagebrush scrub
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- DH - Disturbed Habitat
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- OW - Open water
- RWT-AWT/MFT - Red willow-arroyo willow/mulefat
- SWT - Sandbar willow
- UD - Unvegetated Drainage
- UM(SNS) - Upland mustards

SOURCE: DigitalGlobe 2016

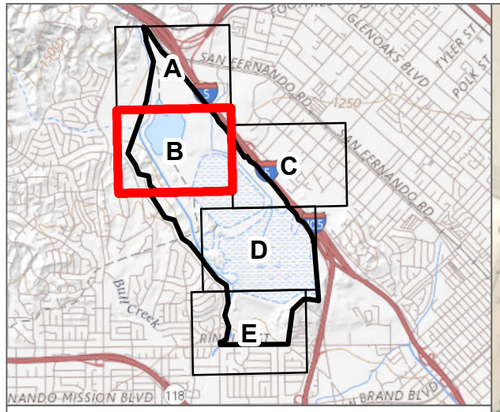
LA DWP Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 6A

Biological Resources Work Areas

LADWP Van Norman Complex



- Van Norman Complex
- Study Area
- Work Areas

Special-staus Species

- BHCO - brown-headed cowbird
- WIFL - willow flycatcher (migrant)
- YEWA - yellow warbler
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- Non-Resident LBVI Observations
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- Grass and Herb Dominated Communities
- Bog and Marsh
- Other

Vegetation Communities

- AWT - Arroyo willow thickets
- AWT/MFT - Arroyo willow/mulefat
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- BBS - Brittle bush scrub
- BBS-CSS - Brittle bush scrub-California Sagebrush scrub
- BES - Blue elderberry
- BWT - Black willow thickets
- CBS - California buckwheat scrub
- CC - Concrete-lined channel
- CM - Cattail marshes
- CSS - California Sagebrush scrub
- CSS-CBS - California Sagebrush scrub-California buckwheat scrub
- D-BBS - Disturbed Brittle bush scrub
- DEV - Urban/Developed
- DH - Disturbed Habitat
- EUC - Eucalyptus groves
- GRB - Giant Reed Breaks
- MFT - Mulefat thickets
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- OW - Open water
- RWT - Red willow thickets
- RWT-AWT/MFT - Red willow-arroyo willow/mulefat
- SMW - Smartweed patches
- UD - Unvegetated Drainage
- UM(SNS) - Upland mustards
- dBES - Disturbed Blue Elderberry
- dMFS - Disturbed Mulefat thickets

SOURCE: DigitalGlobe 2016

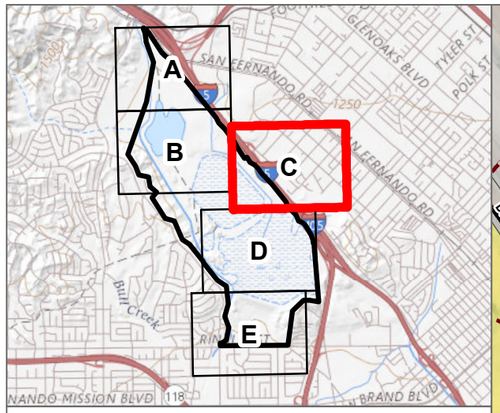
LA DWP Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 6B

Biological Resources Work Areas

LADWP Van Norman Complex



- Van Norman Complex
- Study Area
- Work Areas

General Vegetation Type

- Scrub and Chaparral
- Grass and Herb Dominated Communities
- Other

Vegetation Communities

- BBS - Brittle bush scrub
- CC - Concrete-lined channel
- DEV - Urban/Developed
- DH - Disturbed Habitat
- NNG - Non-Native grassland
- ORN - Parks and ornamental plantings
- OW - Open water
- UD - Unvegetated Drainage
- UM(SNS) - Upland mustards

SOURCE: DigitalGlobe 2016

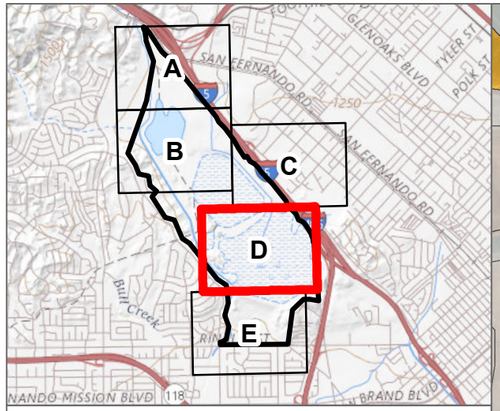
Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 6C

Biological Resources Work Areas

LADWP Van Norman Complex



- Van Norman Complex
- Study Area
- Work Areas

Special-staus Species

- AMKE - American kestrel
- BHCO - brown-headed cowbird
- YEWA - yellow warbler
- RTHA - red-tailed hawk nest
- Resident LBVI Observations
- Non-Resident LBVI Observations
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- AWT - Arroyo willow thickets
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- DEV - Urban/Developed
- DH - Disturbed Habitat
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- FCF/SWT - Fremont cottonwood/sandbar willow
- MFT - Mulefat thickets
- NNG - Non-Native grassland
- ORN - Parks and ornamental plantings
- OW - Open water
- RWT - Red willow thickets
- RWT-AWT/MFT - Red willow-arroyo willow/mulefat
- UD - Unvegetated Drainage
- UM(SNS) - Upland mustards

SOURCE: DigitalGlobe 2016

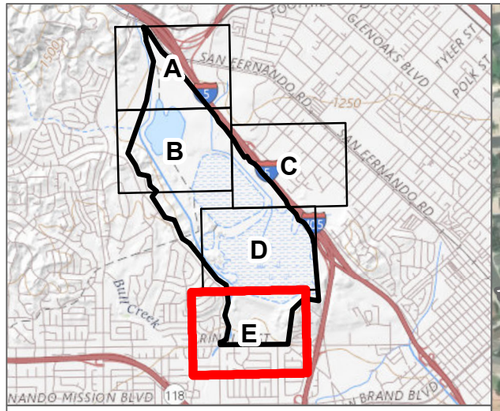
Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 6D

Biological Resources Work Areas

LADWP Van Norman Complex



- Van Norman Complex
- Study Area
- Work Areas

General Vegetation Type

- Scrub and Chaparral
- Riparian and Bottomland Habitat
- Grass and Herb Dominated Communities
- Other

Vegetation Communities

- BBS - Brittle bush scrub
- BP - Bladderpod spiderflower
- CC - Concrete-lined channel
- CS - Coyote brush scrub
- CSS - California Sagebrush scrub
- DEV - Urban/Developed
- DH - Disturbed Habitat
- NNG - Non-Native grassland
- ORN - Parks and ornamental plantings
- RWT - Red willow thickets
- RWT-AWT - Red willow-arroyo willow
- UM(SNS) - Upland mustards

SOURCE: DigitalGlobe 2016

LA DWP Los Angeles Department of Water & Power

0 200 400 Feet

FIGURE 6E

Biological Resources Work Areas

LADWP Van Norman Complex

Attachment A

Focused Survey Reports

DUDEK

38 NORTH MARENGO
PASADENA, CALIFORNIA 91101
T: 626.204.9800

August 13, 2018 10649.33

U.S. Fish and Wildlife Service
Attn: Recovery Permit Coordinator
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

Subject: ***Focused California Gnatcatcher Survey Report for the LADWP Van Norman Complex Routine Maintenance Program, City of Los Angeles, Los Angeles County, California***

Dear Recovery Permit Coordinator:

This report documents the results of protocol-level presence/absence surveys for the coastal California gnatcatcher (*Polioptila californica californica*; CAGN). Focused surveys were conducted throughout areas of suitable habitat (i.e., brittle bush scrub, disturbed brittle bush scrub, California sagebrush scrub, California buckwheat scrub, coyote bush scrub) within and near the Los Angeles Department of Water and Power's (LADWP) proposed Van Norman Complex (VNC) Routine Maintenance Program project site (Figure 1). The survey area is comprised of work areas and surrounding buffer within the VNC that are the subject of the routine maintenance program. Suitable habitat for CAGN is approximately 80 acres within the survey area. The project site is located in the City of Los Angeles, Los Angeles County, California. Dudek biologist Jeff Priest (TE840619-6) conducted CAGN surveys from May through June 2018.

The CAGN is a federally listed threatened species and a California Department of Fish and Wildlife (CDFW) Species of Special Concern. It is closely associated with coastal sage scrub habitat and typically occurs below 950 feet elevation and on slopes less than 40% (Atwood 1990), but CAGN have been observed at elevations greater than 2,000 feet. The species is threatened primarily by loss, degradation, and fragmentation of coastal sage scrub habitat, and is also impacted by brown-headed cowbird (*Molothrus ater*) nest parasitism (Braden et al. 1997).

LOCATION AND EXISTING CONDITIONS

LADWP intends to seek facility-wide permits related to its routine maintenance and operations of several existing drainage facilities throughout the Van Norman Complex (VNC). The approximately 1,340-acre VNC consists of several existing water facilities, including water storage reservoirs, detention basins, conveyance channels, and treatment facilities, that

cumulatively function to receive, store, treat, and distribute water to the City of Los Angeles. On-going vegetation management and maintenance activities throughout the VNC are required to ensure that these facilities are functioning properly to serve the City of Los Angeles. The survey area is comprised of work areas and surrounding buffer within the VNC that are the subject of the routine maintenance program.

The VNC is an industrial complex owned by LADWP, and is located immediately northwest of the Interstate 5 (I-5) and Interstate 405 (I-405) interchange in the neighborhood of Granada Hills, within the City of Los Angeles (Figure 1). The VNC occurs within the U.S. Geological Survey (USGS) 7.5-minute San Fernando quadrangle map in Sections 5 and 6, Township 2 North, Range 15 West (Assessor's Parcel Number: 260-500-1808, -1807, -1918, -1910, -1909).

Elevations range from approximately 1,032 feet above mean sea level (AMSL) in the southern portion of the VNC to approximately 1,270 feet AMSL along the northern portion of the VNC. The VNC is generally characterized by rolling hills, with slope gradients fairly level within localized areas. Distinctive geographic features include the Los Angeles Reservoir (LAR) at the center of the VNC.

Soils in the survey area are mapped as Balcom silty clay loam, Capistrano-Urban land complex, Chualar-Urban land complex, Cropley-Urban land complex, Gazos silty clay loam, Saugus loam, Soper gravelly sandy loam, Xerorthents, Xerorthents-Urban land-Balcom complex, Xerorthents-Urban land-Saugus complex, Dam, debris basin, and water (USDA 2018).

VEGETATION COMMUNITIES

The survey area occurs throughout sections of the VNC that includes a mosaic of developed areas and infrastructure, some native and non-native upland vegetation, and riparian vegetation along proposed project work areas. Table 1 summarizes the extent of each vegetation community within the survey area. Suitable CAGN habitat within the survey area includes brittle bush scrub, California sagebrush scrub, and coyote bush scrub, described in detail below.

Table 1
Vegetation Communities and Land Covers in Survey Area

Vegetation Community or Land Cover	Survey Area (acres)
Upland Shrubland Alliances and Stands	
Brittle bush alliance (S 4)	73.1
Disturbed brittle bush alliance (not ranked)	0.25
California buckwheat alliance (S 5)	1.75

Table 1
Vegetation Communities and Land Covers in Survey Area

Vegetation Community or Land Cover	Survey Area (acres)
California sagebrush scrub (S 5)	0.25
Coyote bush scrub (S 5)	4.70
Total	**80.05**

Brittle Bush Scrub Alliance

Brittle bush scrub is a native plant community dominated by brittlebush (*Encelia farinosa*) at an open to intermittent cover within the shrub canopy. This vegetation community typically occurs on alluvial fans, hillsides, slopes of small washes, and rills in well-drained soils (Sawyer et al. 2009).

Brittle bush scrub occurs throughout the VNC. Within the VNC, this vegetation community may also consist of a mix of other coastal scrub species such as common deerweed (*Acmispon glaber* var. *glaber*), laurel sumac (*Mallosma laurina*), orange bush monkeyflower (Diplacus aurantiacus var. puniceus), California buckwheat, black sage (*Salvia mellifera*), white sage (*Salvia apiana*), and California sagebrush (*Artemisia californica*); however, much of the brittle brush scrub within the VNC is mainly composed of monotypic stands, where brittle bush is the only species within the shrub canopy layer. Disturbed brittle bush scrub habitat also occurs on-site, and is composed of a high cover of non-native species such as shortpod mustard, black mustard, and red brome.

California Buckwheat Scrub Alliance

California buckwheat scrub is a native plant community dominated by California buckwheat (*Eriogonum fasciculatum*) in a continuous or intermittent shrub canopy less than 2 meters (7 feet) in height. This vegetation community typically occurs on upland slopes, intermittently flooded arroyos, channels, and washes with coarse well-drained soils (Sawyer et al. 2009).

Within the VNC, California buckwheat scrub occurs in one location southeast of the LAR North Dike Stormwater Basin. This patch consists of a mix of California buckwheat with brittlebush, castorbean, cheeseweed mallow (*Malva parviflorum*), and shortpod mustard also present.

Coyote Bush Scrub

Coyote brush scrub is a native plant community dominated by coyote brush (*Baccharis pilularis*) with a continuous or intermittent shrub canopy less than 3 meters (10 feet) in height. This

vegetation community typically occurs at river mouths, stream sides, terraces, coastal bluffs, open slopes, or ridges with sandy to heavy clay soils (Sawyer et al. 2009).

Within the VNC, coyote brush scrub occurs along a drainage within the southeastern portion of the Lower San Fernando Detention Basin.

California Sagebrush Scrub

California sagebrush scrub is a native plant community dominated by California sagebrush (*Artemisia californica*) in the shrub canopy with intermittent to continuous cover. The shrub canopy can either be less than 2 meters (7 feet) or in two tiers with a second layer that is typically less than 5 meters (16 feet). The herbaceous layer varies seasonally and annually (Sawyer et al. 2009).

Within the VNC, California sagebrush scrub occurs as small patches within the Upper Northeast Drainage, and in the upland of the Upper San Fernando Drain Line and Yarnell Debris Basin.

METHODS

The presence/absence focused survey for CAGN was conducted for the project between May 25 and June 29, 2018. The survey was conducted according to the schedule provided below in Table 2. The specific areas surveyed and the routes taken are provided in Figure 2. Critical habitat for this species is located approximately 0.5 mile northwest of the project site.

Table 2
Survey Dates and Conditions

Date	Personnel	Temperature	Wind	Sky	Time
05/25/18	Jeff Priest	56°F- 70°F	0-4 mph	90%-100% cc	0600–1200
06/01/18	Jeff Priest	58°F- 76°F	0-4 mph	0% cc	0600–1200
06/08/18	Jeff Priest	57°F- 85°F	0-5 mph	0% cc	0600–1200
06/15/18	Jeff Priest	58°F-83°F	0-5 mph	50% cc	0600–1200
06/22/18	Jeff Priest	63°F- 85°F	0-5 mph	0%-100% cc	0600–1200
06/29/17	Jeff Priest	57°F- 75°F	0-5 mph	100%-10% cc	0600–1200

* Survey Conditions: °F = degrees Fahrenheit; cc = cloud cover; mph = miles per hour

The survey was conducted following the currently accepted protocol of the U.S. Fish and Wildlife Service (USFWS), *Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol* (USFWS 1997). The survey included six visits at a minimum of 7-day intervals. In accordance with the protocol, no more than 80-acres of suitable habitat

were surveyed by a single biologist during each site visit. Survey routes are shown in Figure 2, and allowed for complete audible and visual coverage of all suitable CAGN habitat on site.

A topographic map at 200-scale of the site (1 inch = 200 feet) overlain with vegetation polygons and the site area was carried during the survey. Additionally, digital mobile maps were utilized during the surveys to assist in navigating each survey area and mapping any CAGN present. Weather conditions, time of day, and season were appropriate for the detection of CAGN and are provided in Table 2. Appropriate binoculars (e.g., 10x50 magnification) were used to aid in detecting and identifying bird species. A recording of CAGN vocalizations was played approximately every 100 to 200 feet to induce responses from potentially present CAGN. Vocalization-playback would have been terminated immediately upon detection of any CAGN to minimize the potential for harassment.

RESULTS

No CAGN were observed within the LADWP VNC project site. A full list of bird species observed during the survey and within proximity of the survey area is provided in Attachment B.

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

Sincerely,

Jeff Priest
Permit # TE840619-6

Att: A, Figure 1, Project Map
Figure 2, Survey Routes
B, Compendium of Wildlife Species Observed or Detected

REFERENCES

Atwood, J. L. 1990. *Status review of the California gnatcatcher (Polioptila californica*). Unpublished technical report Manomet Bird Observatory, Manomet, Massachusetts. 79pp.

Braden, G.T, R.L. McKernan, and S.M. Powell. 1997. "Effects of Nest Parasitism by the Brown-Headed Cowbird on Nesting Success of the California gnatcatcher." Condor 99: 858–865.

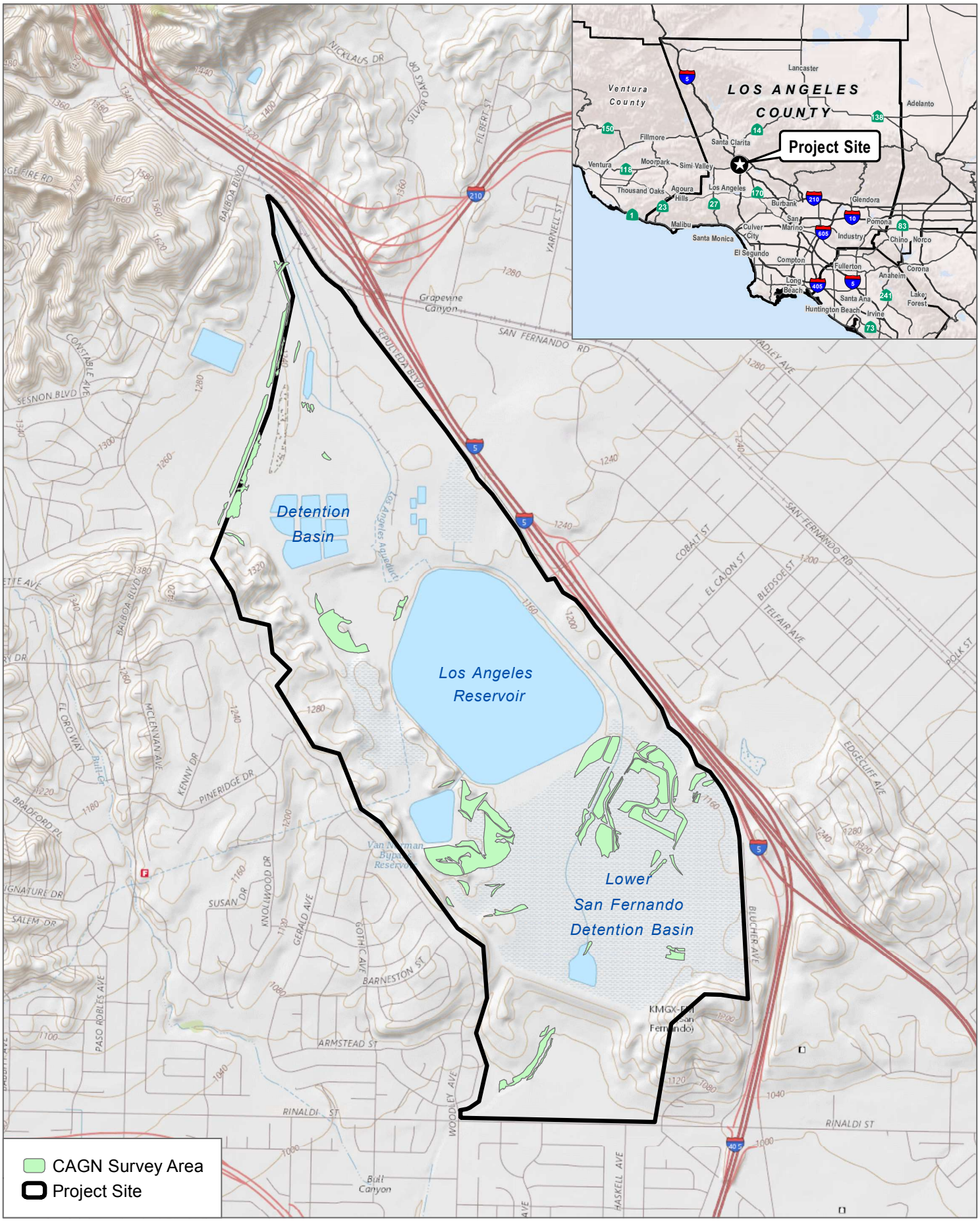
Sawyer, John O., Todd Keeler-Wolf, and Julie Evens. 2009. *A Manual of California Vegetation*. 2nd ed. Sacramento, California: California Native Plant Society.

USDA (U.S. Department of Agriculture), Soil Conservation Service, and West Los Angeles County Resource Conservation District in cooperation with University of California Agricultural Experiment Station. 1980. Soil Survey of Los Angeles County, California, West San Fernando Valley Area. Accessed May 2016. http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/lawsfvaCA1980/lawsfvaCA1980.pdf.

USFWS (U.S. Fish and Wildlife Service). 1997. *Coastal California Gnatcatcher* (Polioptila californica californica) *Presence/Absence Survey Protocol*. July 28, 1997.

ATTACHMENT A

Figures 1–2



SOURCE: USGS 7.5-Minute Series San Fernando Quadrangle

Los Angeles Department of Water & Power

FIGURE 1

Project Location

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

LA DWP Los Angeles Department of Water & Power

0 270 540 Feet

FIGURE 2A

Survey Area and Routes

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

Los Angeles Department of Water & Power

0 270 540 Feet

FIGURE 2B

Survey Area and Routes

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

LA DWP Los Angeles Department of Water & Power

0 270 540 Feet

FIGURE 2C

Survey Area and Routes

LADWP Van Norman Complex

ATTACHMENT B

Compendium of Wildlife Species Observed or Detected

APPENDIX B
Compendium of Wildlife Species Observed or Detected

AMPHIBIAN

TOADS

BUFONIDAE—TRUE TOADS

Anaxyrus boreas—western toad

BIRD

BLACKBIRDS, ORIOLES AND ALLIES

ICTERIDAE—BLACKBIRDS

* *Molothrus ater*—brown-headed cowbird

Agelaius phoeniceus—red-winged blackbird

Quiscalus mexicanus—great-tailed grackle

BUSHTITS

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus—bushtit

CARDINALS, GROSBEAKS AND ALLIES

CARDINALIDAE—CARDINALS AND ALLIES

Pheucticus melanocephalus—black-headed grosbeak

EMBERIZINES

EMBERIZIDAE—EMBERIZIDS

Melospiza melodia—song sparrow

Melozone crissalis—California towhee

Pipilo maculatus—spotted towhee

FALCONS

FALCONIDAE—CARACARAS AND FALCONS

Falco sparverius—American kestrel

FINCHES

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch
Spinus psaltria—lesser goldfinch

FLYCATCHERS

TYRANNIDAE—TYRANT FLYCATCHERS

Myiarchus cinerascens—ash-throated flycatcher
Sayornis nigricans—black phoebe
Sayornis saya—Say's phoebe
Tyrannus vociferans—Cassin's kingbird

HAWKS

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Buteo jamaicensis—red-tailed hawk
Buteo lineatus—red-shouldered hawk

HUMMINGBIRDS

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird
Selasphorus sasin—Allen's hummingbird

JAYS, MAGPIES AND CROWS

CORVIDAE—CROWS AND JAYS

Aphelocoma californica—California scrub-jay
Corvus brachyrhynchos—American crow
Corvus corax—common raven

MOCKINGBIRDS AND THRASHERS

MIMIDAE—MOCKINGBIRDS AND THRASHERS

Mimus polyglottos—northern mockingbird
Toxostoma redivivum—California thrasher

NEW WORLD QUAIL

ODONTOPHORIDAE—NEW WORLD QUAIL

Callipepla californica—California quail

PIGEONS AND DOVES

COLUMBIDAE—PIGEONS AND DOVES

* *Streptopelia decaocto*—Eurasian collared-dove
Zenaida macroura—mourning dove

ROADRUNNERS AND CUCKOOS

CUCULIDAE—CUCKOOS, ROADRUNNERS, AND ANIS

Geococcyx californianus—greater roadrunner

SHOREBIRDS

CHARADRIIDAE—LAPWINGS AND PLOVERS

Charadrius vociferus—killdeer

SILKY FLYCATCHERS

PTILOGONATIDAE—SILKY-FLYCATCHERS

Phainopepla nitens—phainopepla

STARLINGS AND ALLIES

STURNIDAE—STARLINGS

* *Sturnus vulgaris*—European starling

SWALLOWS

HIRUNDINIDAE—SWALLOWS

Hirundo rustica—barn swallow
Petrochelidon pyrrhonota—cliff swallow
Stelgidopteryx serripennis—northern rough-winged swallow

SWIFTS

APODIDAE—SWIFTS

Aeronautes saxatalis—white-throated swift

VIREOS

VIREONIDAE—VIREOS

Vireo bellii pusillus—least Bell's vireo

WATERFOWL

ANATIDAE—DUCKS, GEESE, AND SWANS

Anas platyrhynchos—mallard

Branta canadensis—Canada goose

WOOD WARBLERS AND ALLIES

PARULIDAE—WOOD-WARBLERS

Geothlypis trichas—common yellowthroat

WRENS

TROGLODYTIDAE—WRENS

Thryomanes bewickii—Bewick's wren

Troglodytes aedon—house wren

WRENTITS

TIMALIIDAE—BABBLERS

Chamaea fasciata—wrentit

INVERTEBRATE

BUTTERFLIES

LYCAENIDAE—BLUES, HAIRSTREAKS, AND COPPERS

Euphilotes battoides bernardino—Bernardino square-spotted blue

NYMPHALIDAE—BRUSH-FOOTED BUTTERFLIES

Junonia coenia—common buckeye

RIODINIDAE—METALMARKS

Apodemia mormo virgulti—Behr's metalmark

PAPILIONIDAE—SWALLOWTAILS

Papilio eurymedon—pale swallowtail

PIERIDAE—WHITES AND SULFURS

Pieris rapae—cabbage white

Pontia protodice—checkered white

MAMMAL

CANIDS

CANIDAE—WOLVES AND FOXES

Canis latrans—coyote

HARES AND RABBITS

LEPORIDAE—HARES AND RABBITS

Sylvilagus bachmani—brush rabbit

POCKET GOPHERS

GEOMYIDAE—POCKET GOPHERS

Thomomys bottae—Botta's pocket gopher

SQUIRRELS

SCIURIDAE—SQUIRRELS

Spermophilus (Otospermophilus) beecheyi—California ground squirrel

REPTILE

LIZARDS

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—western fence lizard

Uta stanburiana—common side-blotched lizard

* signifies introduced (non-native) species

INTENTIONALLY LEFT BLANK

38 NORTH MARENGO AVENUE
PASADENA, CALIFORNIA 91101
T 626.204.9800 F 626.204.9834

August 24, 2018 10649.33

U.S. Fish and Wildlife Service
Attn: Recovery Permit Coordinator
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

Subject: 2018 Southwestern Willow Flycatcher and Least Bell's Vireo Focused Survey Results for the LADWP Van Norman Complex Routine Maintenance Program, City of Los Angeles, Los Angeles County, California

Dear Recovery Permit Coordinator:

This report documents the results of eight protocol-level presence/absence surveys for the state- and federally listed endangered least Bell's vireo (*Vireo bellii pusillus*) (vireo) and five protocol-level presence/absence surveys for the state- and federally listed endangered southwestern willow flycatcher (*Empidonax traillii extimus*) (flycatcher). Focused surveys were conducted throughout all areas of suitable habitat (i.e., Fremont cottonwood forest, arroyo willow thickets, mulefat thickets, red willow thickets, and sandbar willow) within and near the proposed Los Angeles Department of Water and Power (LADWP) Van Norman Complex (VNC) Routine Maintenance Program project site (Figure 1). The survey area consists of work areas and surrounding buffer within the VNC that are the subject of the routine maintenance program. The survey area is approximately 31.3 acres. The project site is located in the City of Los Angeles, Los Angeles County, California. Permitted Dudek biologists Brock Ortega (Permit # TE813545-7), Paul Lemons (Permit # TE051248-5), Melissa Blundell (Permit # TE-97717A), and Jeffrey Priest (Permit # TE840619-6) conducted all flycatcher surveys and qualified biologist Tracy Park conducted vireo surveys from May through July 2018.

The flycatcher and vireo are closely associated with riparian habitats, especially densely vegetated willow scrub and riparian forest vegetation. These species are threatened primarily by loss, degradation, and fragmentation of riparian habitats. Flycatcher is also impacted by brown-headed cowbird (*Molothrus ater*) nest parasitism.

Location and Existing Conditions

LADWP intends to seek facility-wide permits related to its routine maintenance and operations of several drainage facilities throughout the VNC. The approximately 1,340-acre VNC consists of several existing water facilities, including water storage reservoirs, detention basins, conveyance channels, and treatment facilities, that cumulatively function to receive, store, treat, and distribute water to the City of Los Angeles. Ongoing vegetation management and maintenance activities throughout the VNC are required to ensure that these facilities are functioning properly to serve the City of Los Angeles. The survey area consists of work areas and surrounding buffer within the VNC that are the subject of the routine maintenance program.

The VNC is an industrial complex owned by LADWP and is located immediately northwest of the Interstate 5 and Interstate 405 interchange in the neighborhood of Granada Hills, within the City of Los Angeles (Figure 1). The VNC occurs within the U.S. Geological Survey 7.5-minute San Fernando quadrangle map in Sections 5 and 6, Township 2 North, Range 15 West (Assessor's Parcel Number: 260-500-1808, -1807, -1918, -1910, -1909).

Elevations range from approximately 1,032 feet above mean sea level in the southern portion of the VNC to approximately 1,270 feet above mean sea level along the northern portion of the VNC. The VNC is generally characterized by rolling hills, with slope gradients fairly level within localized areas. Distinctive geographic features include the Los Angeles Reservoir (LAR) at the center of the VNC.

Soils in the VNC are mapped as Balcom silty clay loam, Capistrano-Urban land complex, Chualar-Urban land complex, Cropley-Urban land complex, Gazos silty clay loam, Saugus loam, Soper gravelly sandy loam, Xerorthents, Xerorthents-Urban land-Balcom complex, Xerorthents-Urban land-Saugus complex, dam, debris basin, and water (USDA 2018).

Vegetation Communities

The survey area occurs throughout sections of the VNC that includes a mosaic of developed areas and infrastructure, some native and non-native upland vegetation, and riparian vegetation along proposed project work areas. Table 1 summarizes the extent of each vegetation community within the survey area. Suitable flycatcher and vireo habitat includes Fremont cottonwood, Fremont cottonwood/sandbar willow, arroyo willow thickets, mulefat thickets, red willow thickets, red willow-arroyo willow/mulefat, and sandbar willow, as described below.

Table 1
Vegetation Communities and Land Covers within the Survey Area

Vegetation Community or Land Cover	Map Code	Survey Area (acres)
Riparian Forest and Woodland Alliances and Stands		
Fremont cottonwood alliance[a]	FCF	4.25
Fremont cottonwood/sandbar willow association[a]	FCF/SWT	0.15
Subtotal Riparian Forest and Woodland Alliances and Stands[b]		*4.40*
Riparian Thickets Alliances and Stands		
Arroyo willow thickets	AWT	0.93
Arroyo willow/mulefat thickets association	Sallas/Bacsal	0.82
Black willow thickets	BWT	0.35
Blue elderberry scrub	BES	4.39
Mulefat thickets alliance	MFT	3.44
Red willow thickets alliance[a]	RWT	6.32
Red willow-arroyo willow	Sallae-Sallas	0.78
Red willow-arroyo willow/mulefat	Sallae-Sallas/Bacsal	8.72
Sandbar willow	SWT	1.16
Subtotal Riparian Alliances and Stand[b]		*26.91*
Total[b]		**31.31**

[a] Communities listed by CDFW as high priority for inventory (i.e., State Rank (S) 1, 2, or 3).
[b] Totals may not sum due to rounding.

Fremont Cottonwood Alliance

Fremont cottonwood is a native plant community dominated by Fremont cottonwood (*Populus fremontii*) in a less than 80-foot-tall continuous to open tree canopy with an intermittent to open shrub layer. This vegetation community typically occurs on floodplains, along low-gradient rivers, perennial or seasonally intermittent streams, in lower canyons, and in alluvial fans (Sawyer et al. 2009).

Fremont Cottonwood/Sandbar Willow Association

Fremont cottonwood/sandbar willow is a native plant community dominated by Fremont cottonwood and sandbar willow (*Salix exigua*) with an intermittent to continuous shrub layer less than 22 feet in height and a continuous to open tree canopy less than 80 feet in height. This vegetation community typically occurs on floodplains, along rivers and streams, and at springs (Sawyer et al. 2009).

Blue Elderberry Stands

Blue elderberry stands is a native plant community dominated by blue elderberry (*Sambucus nigra*) in an open to continuous, sometimes two-tiered, shrub canopy less than 26 feet in height. This vegetation community typically occurs on stream terraces, in bottomlands, and sometimes in upland settings (Sawyer et al. 2009).

Arroyo Willow Thickets

Arroyo willow is a native plant community dominated by arroyo willow (*Salix lasiolepis*) in an open to continuous canopy less than 32 feet in height. This vegetation community typically occurs on stream banks and benches, slope seeps, and stringers along drainages (Sawyer et al. 2009).

Black Willow Thickets

Black willow thickets is a native plant community dominated by black willow (*Salix gooddingii*) in an open to continuous tree canopy less than 98 feet in height. This vegetation community typically occurs along large rivers and canyons, as well as smaller intermittent streams, seeps, and springs (Sawyer et al. 2009).

Mulefat Thickets Alliance

Mulefat thickets is a native plant community dominated by mulefat (*Baccharis salicifolia*) in a less than 16-foot-tall continuous two-tiered shrub canopy with a sparse herbaceous layer. This vegetation community typically occurs on canyon bottoms, floodplains, irrigation ditches, lake margins, and stream channels (Sawyer et al. 2009).

Red Willow Thickets Alliance

Red willow thickets is a native plant community dominated by red willow (*Salix laevigata*) in an open to continuous tree canopy less than 65 feet in height. This vegetation community typically occurs on floodplains, ditches, lake edges, and low-gradient depositions along streams (Sawyer et al. 2009).

Red Willow–Arroyo Willow Association

Red willow–arroyo willow association is dominated by red willow and co-dominated by arroyo willow. On site, red willow thickets occurs within San Fernando Creek.

Red Willow-Arroyo Willow/Mulefat

Red willow-arroyo willow/mulefat is a native plant community dominated by red willow, arroyo willow, and mulefat with an open to continuous shrub and tree layer. This vegetation community typically occurs along streams, along drainages, on canyon bottoms, and on floodplains (Sawyer et al. 2009).

Sandbar Willow

Sandbar willow is a native plant community dominated by sandbar willow in an intermittent to continuous shrub layer less than 23 feet in height. This vegetation community typically occurs on temporarily flooded floodplains, depositions along rivers and streams, and at springs (Sawyer et al. 2009).

Methods

Suitable habitat within the survey area was surveyed eight times for vireo and five times for flycatcher (Table 2). Permitted Dudek wildlife biologists Brock Ortega, Paul Lemons, Melissa Blundell, and Jeffrey Priest conducted flycatcher and vireo surveys, while qualified Dudek biologist Tracy Park conducted vireo surveys. Focused surveys for these species were initiated on May 30, 2018. Surveys for flycatcher were completed on July 10, 2018, and surveys for vireo were completed on July 30, 2018.

Surveys conducted for vireo and flycatcher by the same biologist on the same day were not conducted concurrently. Due to differences in detectability, surveys were conducted sequentially, with surveys for flycatcher first (i.e., first thing in the morning) and surveys for vireo conducted afterward. Survey routes were arranged such that flycatchers were surveyed from a starting point to an end point, and vireos were surveyed on the way back. These routes covered all suitable habitat on site (as shown on Figure 2).

The survey was conducted according to the schedule provided below in Table 2. The specific areas surveyed and the routes taken are provided in Figure 2. The nearest critical habitat for flycatcher is located approximately 4.5 miles southeast of the project site within Hansen Dam Park, and nearest critical habitat for vireo is located approximately 9.3 miles northwest of the project site within the Santa Clara River.

Table 2
Survey Dates and Conditions

Survey Pass - Survey Type	Date	Personnel	Temperature	Wind	Sky	Time
1-LBVI	05/18/18	Tracy Park	58°F–63°F	0–3 mph	75%–99% cc	0610–1145
1-SWFL 2-LBVI	05/30/18	Brock Ortega	55°F–57°F	0–1 mph	100% cc	0615–1110
2-SWFL 3-LBVI	06/08/18	Paul Lemons	60°F–82°F	0–3 mph	0% cc	0630–1100
3-LBVI	06/08/18	Tracy Park	60°F–78°F	0–3 mph	0% cc	0600–1100
3-SWFL 4-LBVI	06/18/18	Jeffrey Priest	58°F–72°F	0–6 mph	0% cc	0600–1100
4-LBVI	06/18/18	Tracy Park	62°F–73°F	0–4 mph	2%–3% cc	0600–1025
4-SWFL 5-LBVI	06/29/18	Melissa Blundell	62°F–66°F	0–1 mph	100% cc	0625–0942
5-LBVI	06/29/18	Tracy Park	65°F–75°F	0–5 mph	40%–100% cc	0630–1100
5-SWFL 6-LBVI	07/10/18	Jeffrey Priest	74°F–80°F	0–4 mph	70%–80% cc	0545–0945
6-LBVI	07/10/18	Tracy Park	78°F–86°F	1–3 mph	70%–80% cc	0615–1055
7-LBVI	07/20/18	Tracy Park	69°F–85°F	0–1 mph	5% cc	0555–1100
8-LBVI	07/30/18	Tracy Park	74°F–94°F	0–1 mph	20%–70% cc	0603–1100

Note: SWFL = southwestern willow flycatcher; LBVI = least bell's vireo; °F = degrees Fahrenheit; cc = cloud cover; mph = miles per hour

All surveys consisted of slowly walking a methodical, meandering transect within and adjacent to all riparian habitat within the survey area. The perimeter was also surveyed. This route was arranged to cover all suitable habitat on site (depicted on Figure 2). A vegetation map (1:2,400 scale; 1 inch = 200 feet) of the project site was available to record any detected flycatchers or vireos. Binoculars (e.g., 10×42, 10×50) were used to aid in detecting and identifying wildlife species.

The five surveys conducted for flycatcher followed the currently accepted protocol (*A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher* (Sogge et al. 2010)), which states that a minimum of five survey visits are needed to evaluate project effects on flycatchers. The protocol recommends one survey between May 15 and 31, two surveys between June 1 and June 24, and two surveys between June 25 and July 17. Consistent with the protocol, surveys during the final period (June 29 and July 10) were separated by at least 5 days. A tape of recorded

flycatcher vocalizations was used, approximately every 50 to 100 feet within suitable habitat, to induce flycatcher responses. If flycatchers were detected, tape playback ceased immediately to avoid harassment. Weather conditions, time of day, and season were appropriate for the detection of flycatcher (Table 2).

The entire survey area was surveyed for flycatcher on SWFL survey passes 1 and 2. Based on these two visits, two areas were determined to be suitable breeding habitat for flycatcher (i.e., trees of different size classes with a distinct overstory, recognizable subcanopy layers, and a dense understory): Lower San Fernando Detention Basin and Yarnell Basin. Survey passes 3, 4, and 5 only covered these areas for flycatcher.

A Section 10(a)(1)(A) permit is not required to conduct presence/absence surveys for vireo. The eight surveys for vireo followed the currently accepted *Least Bell's Vireo Survey Guidelines* (USFWS 2001), which states that a minimum of eight survey visits should be made to all riparian areas and any other potential vireo habitat between April 10 and July 31. The site visits are required to be conducted at least 10 days apart to maximize the detection of early and late arrivals, females, non-vocal birds, and nesting pairs. Taped playback of vireo vocalizations was not used during the surveys.

Surveys were conducted between dawn and noon and were not conducted during periods of excessive or abnormal cold, heat, wind, rain, or other inclement weather. Weather conditions, time of day, and season were appropriate for the detection of vireos and flycatchers (Table 2). All other avian species detected during surveys were recorded.

Results

One willow flycatcher (*Empidonax traillii*) was observed during the first focused survey on May 30, 2018. The single willow flycatcher was observed north of the LAR within riparian habitat. Flycatcher detection information is depicted on Figure 2. In accordance with the survey protocol, a single early season detection of this species indicates a migrant subspecies and not the listed subspecies southwestern willow flycatcher.

Multiple vireos were observed at the VNC within the Middle Debris Basin, Lower San Fernando Detention Basin, LAR North Dike Stormwater Basin, and Yarnell Debris Basin. A total of 21 observations of singing vireo males were made within the study area. Based on locations of observations over multiple survey passes, these observations were determined to comprise 16 resident males. Five locations were only observed during a single survey pass and therefore determined to be non-resident, transient vireos using the VNC facilities as stopover habitat. Three vireo males within the Middle Debris Basin were confirmed to be paired based on visual and/or auditory association with a vireo female. Of these pairs, one was confirmed breeding: an adult vireo was observed feeding a vireo fledgling during the 7th survey pass conducted on July 20, 2018. All vireo detected visually were un-banded individuals.

Overall, three facilities within the VNC are considered occupied based on repeated observations of vireo across survey passes: Middle Debris Basin, Lower San Fernando Detention Basin, and Yarnell Debris Basin. Brown-headed cowbirds were detected within all three vireo-occupied facilities. Five brown-headed cowbirds (four male, one female) were detected during the survey. Vireo detections and resident vireo observed use areas are depicted on Figure 3. Survey results for vireo are shown in Table 3.

Table 3
Least Bell's Vireo Survey Results

Survey Pass	Date	Middle Debris Basin	Yarnell Debris Basin	Lower San Fernando Detention Basin	LAR UV North Dike Stormwater Basin	LAR UV Plant Drainage and V-Ditch
1	5/18/2018	1 LBVI – A 1 LBVI – A / V	2 LBVI – A	2 LBVI – A	No LBVI detected	No LBVI detected
2	5/30/2018	3 LBVI – A	1 LBVI – A	4 LBVI – A	No LBVI detected	No LBVI detected
3	6/8/2018	6 LBVI – A	6 LBVI – A	4 LBVI – A	1 LBVI – A	1 LBVI – A
4	6/18/2018	1 LBVI – A 1 LBVI pair – A 1 LBVI pair – A / V	1 LBVI – A	3 LBVI – A	No LBVI detected	No LBVI detected
5	6/29/2018	5 LBVI – A	No LBVI detected	1 LBVI – A 2 LBVI – A / V	No LBVI detected	No LBVI detected
6	7/10/2018	1 LBVI – A 2 LBVI – A / V 2 pair LBVI – A / V	1 LBVI – A	3 LBVI – A 1 LBVI – A / V	No LBVI detected	No LBVI detected
7	7/20/2018	2 LBVI – A 1 LBVI pair – A / V 1 LBVI fledgling – A / V	No LBVI detected	2 LBVI – A	No LBVI detected	No LBVI detected
8	7/30/2018	1 LBVI – A 2 LBVI pair – A / V	1 LBVI – A	3 LBVI – A	No LBVI detected	No LBVI detected

Note: LAR = Los Angeles Reservoir; A = Auditory detection; V = Visual detection; LBVI = least Bell's vireo

Other special-status species observed included American peregrine falcon (*Falco peregrinus anatum*), a federally de-listed and California Department of Fish and Wildlife (CDFW) Fully Protected (FP) species; Cooper's hawk (*Accipiter cooperi*), a CDFW Watch List (WL) species; Lawrence's goldfinch (*Spinus lawrencei*), a U.S. Fish and Wildlife Service (USFWS) Bird of Conservation Concern (BCC); double-crested cormorant (*Phalacrocorax auritus*), a CDFW WL species; rufous hummingbird (*Selasphorus rufus*), a USFWS BCC species; and yellow warbler (*Setophaga petechia*), a CDFW Species of Special Concern (SSC) (Appendix A).

A full list of 74 bird species observed during the survey and within proximity of the survey area is provided in Appendix A. The willow flycatcher survey and detection form is included as Appendix B.

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

Sincerely,

Brock Ortega
Permit # TE813545-7

Paul Lemons
Permit # TE051248-5

Jeff Priest
Permit # TE840619-6

Melissa Blundell
Permit # TE-97717A

Att: Figure 1, Location Map
Figure 2A, Survey Areas and Routes
Figure 2B, Survey Areas and Routes
Figure 2C, Survey Areas and Routes
Figure 3A, Results
Figure 3B, Results
Figure 3C, Results
Appendix A, Wildlife Species Observed in Survey Area
Appendix B, Willow Flycatcher Survey and Detection Form

References

Sawyer, John O., Todd Keeler-Wolf, and Julie Evens. 2009. *A Manual of California Vegetation*. 2nd ed. Sacramento, California: California Native Plant Society.

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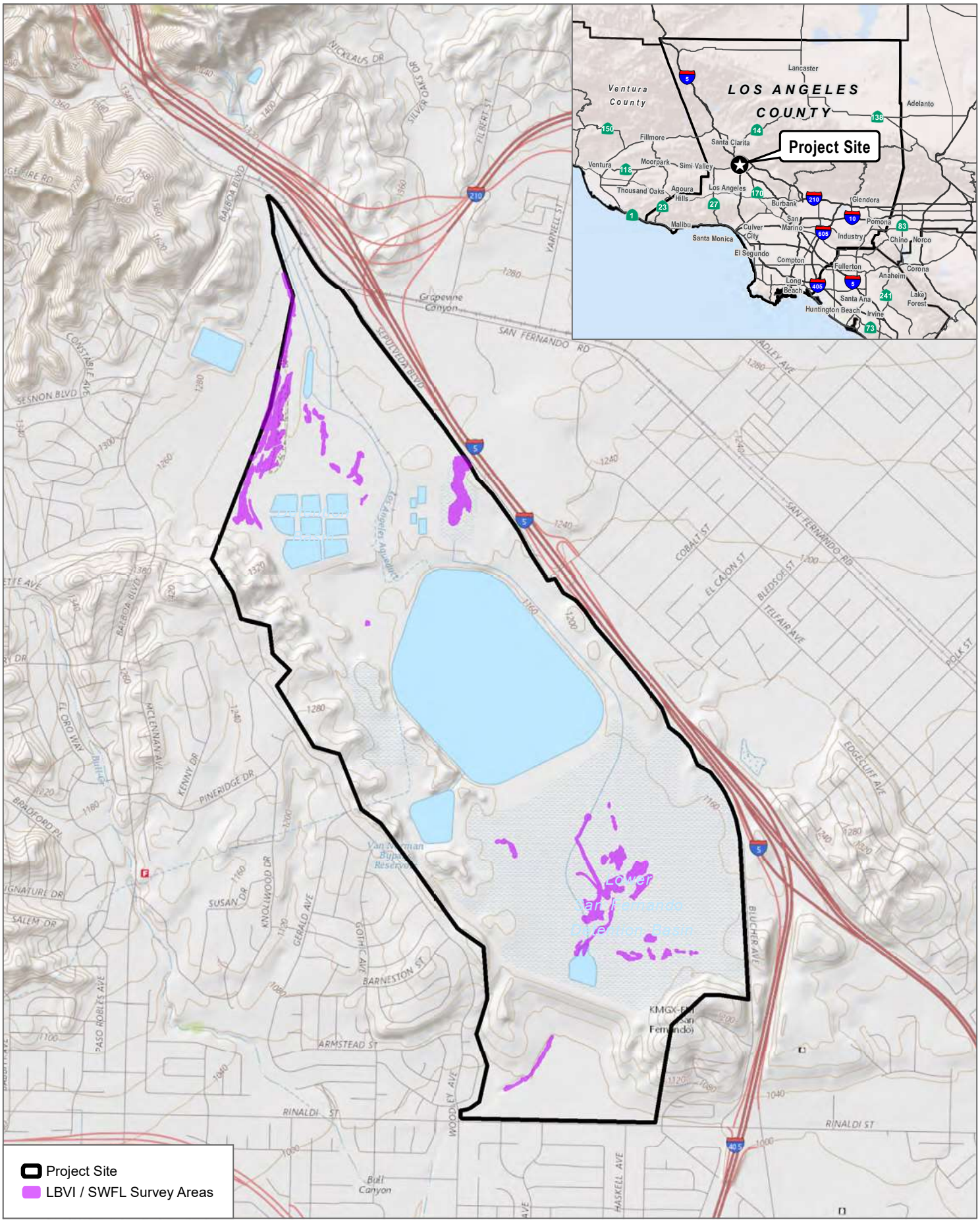
USFWS. 2001. *Least Bell's Vireo Survey Guidelines.* January 19, 2001.



SOURCE: USGS 7.5-Minute Series San Fernando Quadrangle

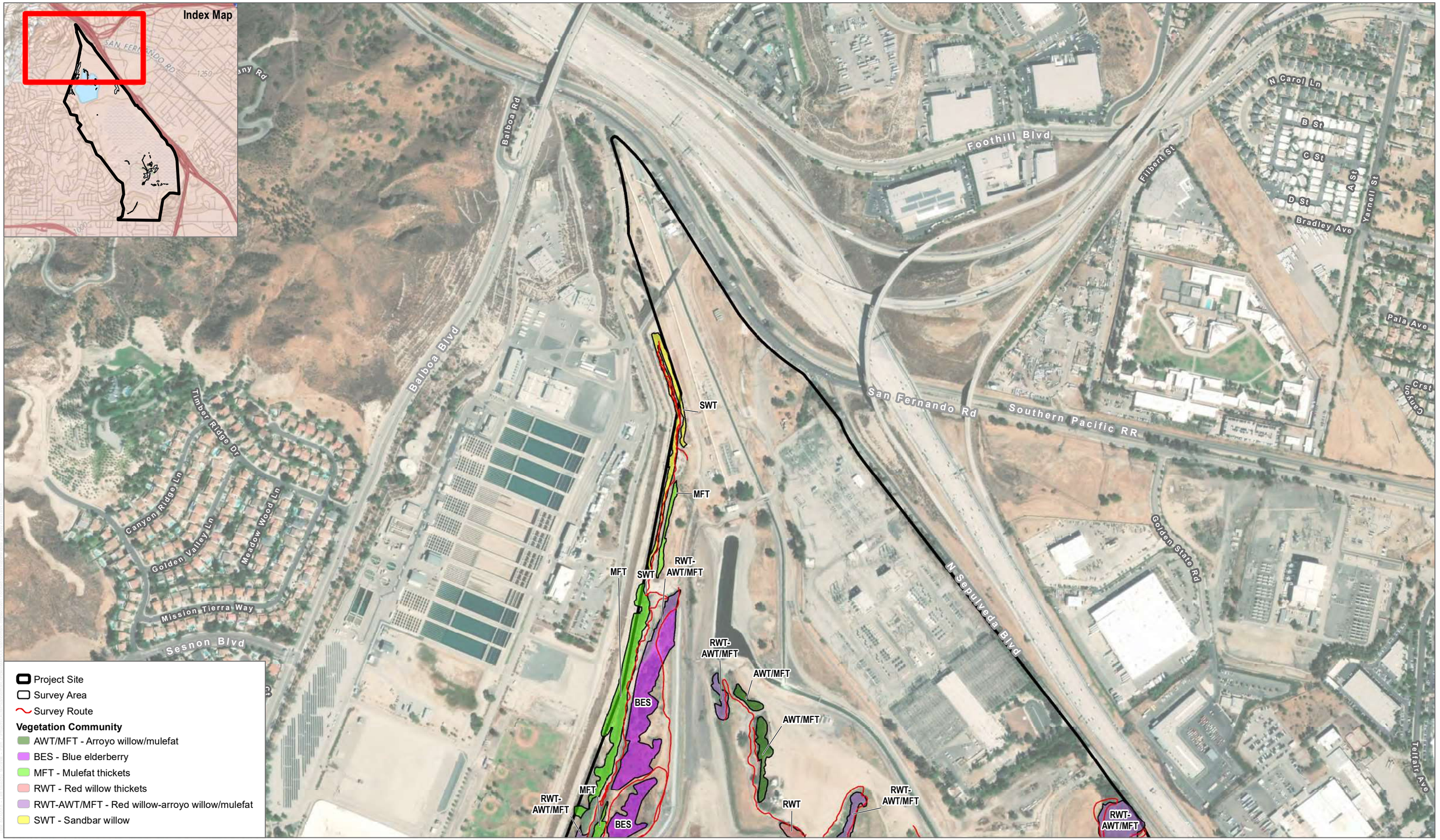
LA DWP Los Angeles Department of Water & Power

0 1,000 2,000 Feet

FIGURE 1

Project Location

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

LA DWP Los Angeles Department of Water & Power

0 275 550 Feet

FIGURE 2A

Survey Area and Routes

LADWP Van Norman Complex



SOURCE: DigititalGlobe 2016

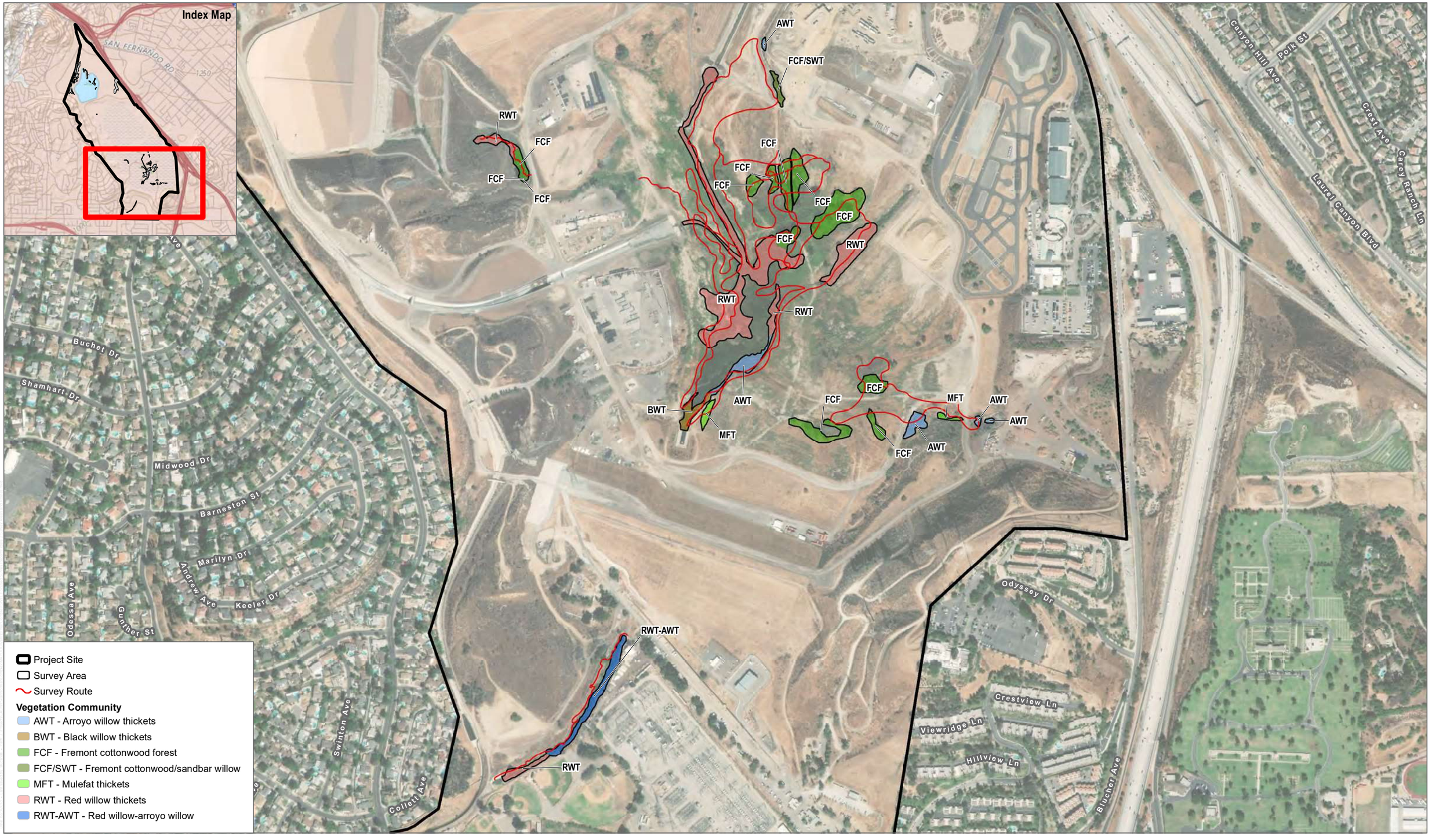
Los Angeles Department of Water & Power

0 275 550 Feet

FIGURE 2B

Survey Area and Routes

LADWP Van Norman Complex



SOURCE: DigititalGlobe 2016

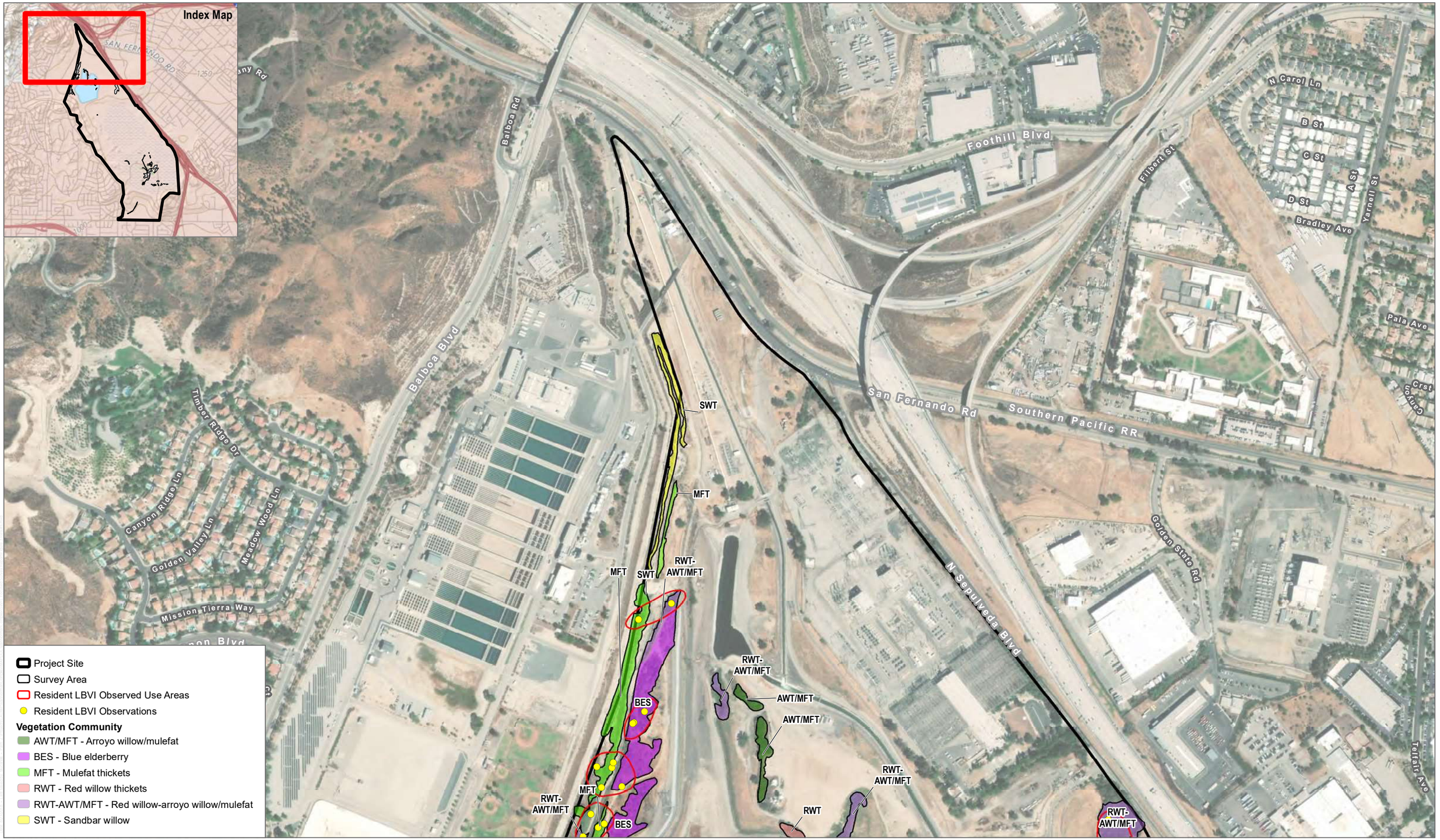
LA DWP Los Angeles Department of Water & Power

0 275 550 Feet

FIGURE 2C

Survey Area and Routes

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

Los Angeles Department of Water & Power

0 250 500 Feet

FIGURE 3A

Results

LADWP Van Norman Complex



SOURCE: DigititalGlobe 2016

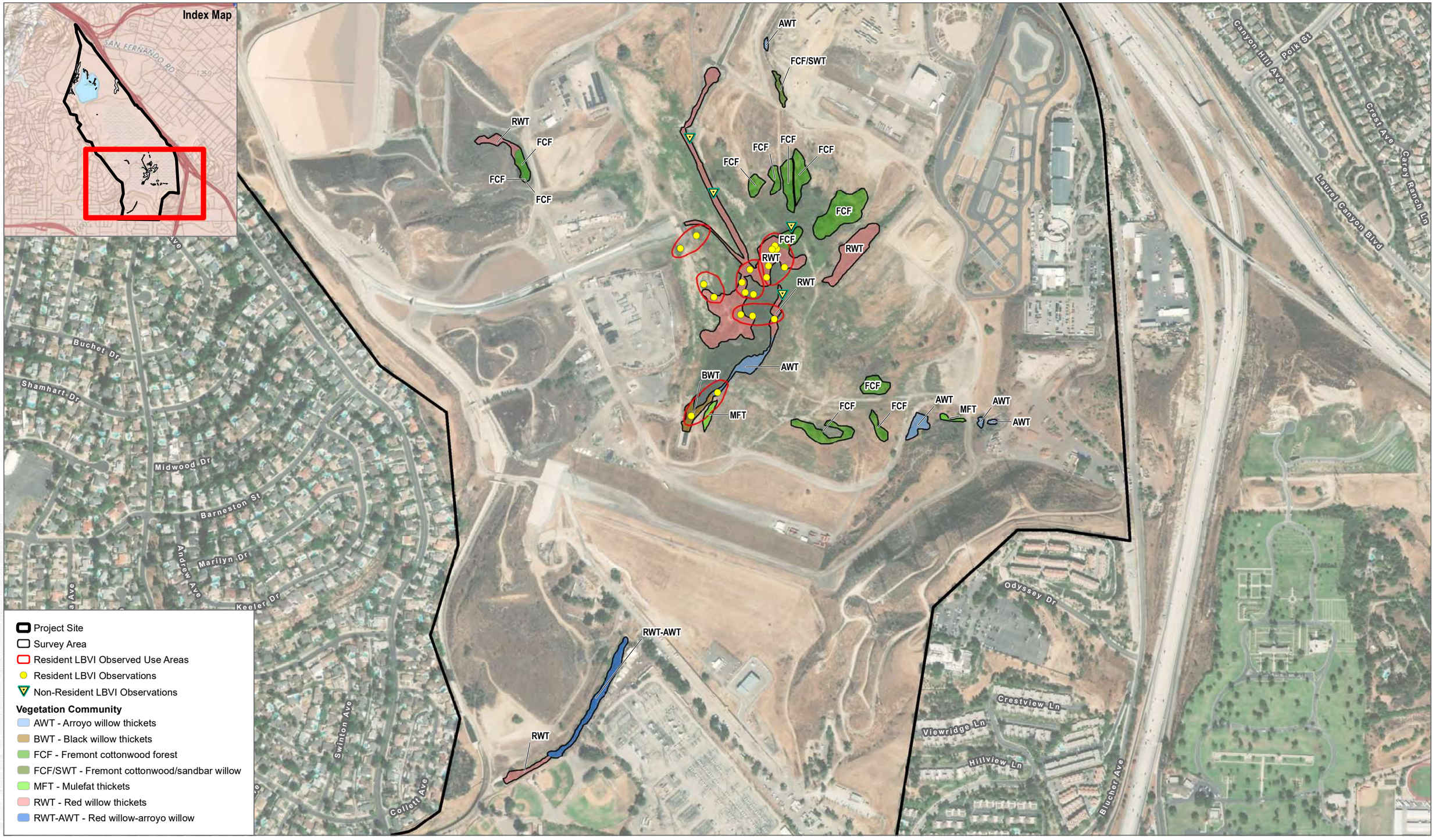
LA DWP Los Angeles Department of Water & Power

0 250 500 Feet

FIGURE 3B

Results

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

LA DWP Los Angeles Department of Water & Power

0 250 500 Feet

FIGURE 3C

Results

LADWP Van Norman Complex

Appendix A

Wildlife Species Observed in Survey Area

AMPHIBIAN

FROGS

RANIDAE—TONGUELESS FROGS

* *Lithobates catesbeianus—American bullfrog*

TOADS

BUFONIDAE—TRUE TOADS

Anaxyrus boreas—western toad

BIRD

BLACKBIRDS, ORIOLES AND ALLIES

ICTERIDAE—BLACKBIRDS

Agelaius phoeniceus—red-winged blackbird
Euphagus cyanocephalus—Brewer's blackbird
Icterus cucullatus—hooded oriole
Quiscalus mexicanus—great-tailed grackle
Molothrus ater—brown-headed cowbird*

BUSHTITS

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus—bushtit

CARDINALS, GROSBEAKS AND ALLIES

CARDINALIDAE—CARDINALS AND ALLIES

Passerina amoena—lazuli bunting
Passerina caerulea—blue grosbeak
Pheucticus melanocephalus—black-headed grosbeak
Piranga ludoviciana—western tanager

CORMORANTS

PHALACROCORACIDAE—CORMORANTS

Phalacrocorax auritus—double-crested cormorant

FALCONS

FALCONIDAE—CARACARAS AND FALCONS

Falco peregrinus anatum—American peregrine falcon
Falco sparverius—American kestrel

FINCHES

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES & ALLIES

Haemorhous mexicanus—house finch
Spinus lawrencei—Lawrence's goldfinch
Spinus psaltria—lesser goldfinch
Spinus tristis—American goldfinch

FLYCATCHERS

TYRANNIDAE—TYRANT FLYCATCHERS

Empidonax traillii—willow flycatcher
Myiarchus cinerascens—ash-throated flycatcher
Sayornis nigricans—black phoebe
Tyrannus vociferans—Cassin's kingbird
Sayornis saya—black phoebe

HAWKS

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Accipiter cooperii—Cooper's hawk
Buteo jamaicensis—red-tailed hawk
Buteo lineatus—red-shouldered hawk

HERONS AND BITTERNS

ARDEIDAE—HERONS, BITTERNS, AND ALLIES

Ardea alba—great egret
Ardea herodias—great blue heron
Egretta thula—snowy egret
Nycticorax nycticorax—black-crowned night-heron

HUMMINGBIRDS

TROCHILIDAE—HUMMINGBIRDS

Archilochus alexandri—black-chinned hummingbird
Calypte anna—Anna's hummingbird
Selasphorus rufus—rufous hummingbird
Selasphorus sasin—Allen's hummingbird

JAYS, MAGPIES AND CROWS

CORVIDAE—CROWS AND JAYS

Aphelocoma californica—California scrub-jay
Corvus brachyrhynchos—American crow
Corvus corax—common raven

MOCKINGBIRDS AND THRASHERS

MIMIDAE—MOCKINGBIRDS AND THRASHERS

Mimus polyglottos—northern mockingbird
Toxostoma redivivum—California thrasher

NEW WORLD QUAIL

ODONTOPHORIDAE—NEW WORLD QUAIL

Callipepla californica—California quail

NEW WORLD VULTURES

CATHARTIDAE—NEW WORLD VULTURES

Cathartes aura—turkey vulture

OLD WORLD SPARROWS

PASSERIDAE—OLD WORLD SPARROWS

* *Passer domesticus*—house sparrow

PIGEONS AND DOVES

COLUMBIDAE—PIGEONS AND DOVES

Zenaida macroura—mourning dove
* *Columba livia*—rock pigeon (rock dove)
* *Streptopelia decaocto*—Eurasian collared-dove

RAILS, GALLINULES AND COOTS

RALLIDAE—RAILS, GALLINULES, AND COOTS

Fulica americana—American coot

ROADRUNNERS & CUCKOOS

CUCULIDAE—CUCKOOS, ROADRUNNERS, AND ANIS

Geococcyx californianus—greater roadrunner

SHOREBIRDS

RECURVIROSTRIDAE—STILTS AND AVOCETS

Himantopus mexicanus—black-necked stilt

CHARADRIIDAE—LAPWINGS AND PLOVERS

Charadrius vociferus—killdeer

SILKY FLYCATCHERS

PTILOGONATIDAE—SILKY-FLYCATCHERS

Phainopepla nitens—phainopepla

STARLINGS AND ALLIES

STURNIDAE—STARLINGS

* *Sturnus vulgaris*—European starling

SWALLOWS

HIRUNDINIDAE—SWALLOWS

Hirundo rustica—barn swallow
Petrochelidon pyrrhonota—cliff swallow
Stelgidopteryx serripennis—northern rough-winged swallow
Tachycineta bicolor—tree swallow
Tachycineta thalassina—violet-green swallow

SWIFTS

APODIDAE—SWIFTS

Aeronautes saxatalis—white-throated swift

THRUSHES

TURDIDAE—THRUSHES

Sialia mexicana—western bluebird

VIREOS

VIREONIDAE—VIREOS

Vireo bellii pusillus—least Bell's vireo
Vireo gilvus—warbling vireo

WATERFOWL

ANATIDAE—DUCKS, GEESE, AND SWANS

Anas platyrhynchos—mallard

WOOD WARBLERS AND ALLIES

PARULIDAE—WOOD-WARBLERS

Cardellina pusilla—Wilson's warbler
Geothlypis trichas—common yellowthroat
Setophaga petechia—yellow warbler

WOODPECKERS

PICIDAE—WOODPECKERS AND ALLIES

Picoides nuttallii—Nuttall's woodpecker
Picoides pubescens—downy woodpecker

WRENS

TROGLODYTIDAE—WRENS

Salpinctes obsoletus—rock wren
Thryomanes bewickii—Bewick's wren
Troglodytes aedon—house wren

WRENTITS

TIMALIIDAE—BABBLERS

Chamaea fasciata—wrentit

NEW WORLD SPARROWS

PASSERELLIDAE—NEW WORLD SPARROWS

Chondestes grammacus—lark sparrow
Junco hyemalis—dark-eyed junco
Melospiza melodia—song sparrow
Melozone crissalis—California towhee
Pipilo maculatus—spotted towhee

INVERTEBRATE

BUTTERFLIES

PAPILIONIDAE—SWALLOWTAILS

Papilio eurymedon—pale swallowtail

PIERIDAE—WHITES & SULFURS

Pieris rapae—cabbage white

MAMMAL

CANIDS

CANIDAE—WOLVES AND FOXES

Canis latrans—coyote

HARES AND RABBITS

LEPORIDAE—HARES AND RABBITS

Sylvilagus bachmani—brush rabbit

SQUIRRELS

SCIURIDAE—SQUIRRELS

Spermophilus (Otospermophilus) beecheyi—California ground squirrel

RATS, MICE, AND VOLES

CRICETIDAE—RATS, MICE, AND VOLES

Neotoma sp.—woodrat

RACCOONS

PROCYONIDAE—RACCOONS AND RELATIVES

Procyon lotor—raccoon

REPTILE

LIZARDS

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—western fence lizard
Uta stansburiana—common side-blotched lizard

Appendix B

Willow Flycatcher Survey and Detection Form

Appendix 1. Willow Flycatcher Survey and Detection Form

Always check the U.S. Fish and Wildlife Service Arizona Ecological Services Field Office web site (http://www.fws.gov/southwest/es/arizona/) for the most up-to-date version.

Willow Flycatcher (WIFL) Survey and Detection Form (revised April 2010)

Site Name LADWP - Van Norman Complex State CA County Los Angeles
USGS Quad Name San Fernando Elevation 1032 - 1270 ft ~~(meters)~~
Creek, River, Wetland, or Lake Name Los Angeles Reservoir
Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? *Yes* X *No* ___

Survey Coordinates: Start: E 362449 N 3798252 UTM Datum 83 (See instructions)
Stop: E 363797 N 3794544 UTM Zone 11
If survey coordinates changed between visits, enter coordinates for each survey in comments section on back of this page.
***** Fill in additional site information on back of this page *****

Survey # / Observer(s) (Full Name)	Date (m/d/y) Survey time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N / If Yes, number of nests	Comments (e.g., bird behavior; evidence of pairs or breeding; potential threats [livestock, cowbirds, *Diorhabda* spp.]). If *Diorhabda* found, contact USFWS and State WIFL coordinator	GPS Coordinates for WIFL Detections (this is an optional column for documenting individuals, pairs, or groups of birds found on each survey). Include additional sheets if necessary.			
							# Birds	Sex	UTM E	UTM N
Survey # 1 Observer(s) Brock Ortega	Date 5/30/18 Start 0615 Stop 1110 Total hrs 5	1	0	0	N		1		363325	3796801
Survey # 2 Observer(s) Paul Lemons	Date 6/8 Start 0630 Stop 1100 Total hrs 4.5	0	0	0	N	N/A				
Survey # 3 Observer(s) Jeff Priest	Date 6/18 Start 0600 Stop 1100 Total hrs 5	0	0	0	N	N/A				
Survey # 4 Observer(s) Melissa Blundell	Date 6/29 Start 0625 Stop 0942 Total hrs 3	0	0	0	N	N/A				
Survey # 5 Observer(s) Jeff Priest	Date 7/10 Start 0545 Stop 0945 Total hrs 4	0	0	0	N	N/A				

Overall Site Summary	Total Adult Residents	Total Pairs	Total Territories	Total Nests	
Totals do not equal the sum of each column. Include only resident adults. Do not include migrants, nestlings, and fledglings. Be careful not to double count individuals. Total Survey Hrs 21.5		0	0	0	Were any Willow Flycatchers color-banded? Yes___ No ___ If yes, report color combination(s) in the comments section on back of form and report to USFWS.

Reporting Individual Brock Ortega Date Report Completed July 2018
US Fish and Wildlife Service Permit # TE813545-7 State Wildlife Agency Permit # ___

Submit form to USFWS and State Wildlife Agency by September 1st. Retain a copy for your records.

Fill in the following information completely. Submit form by September 1st. Retain a copy for your records.

Reporting Individual Brock Ortega Phone # 760-479-4254
Affiliation Consultant - Dudek E-mail bortega@dudek.com
Site Name LAPWP - Van Norman Complex Date Report Completed July 2018

Did you verify that this site name is consistent with that used in previous years? Yes X No ____ Not Applicable ___
If site name is different, what name(s) was used in the past?____
If site was surveyed last year, did you survey the same general area this year? Yes ___ No ___ If no, summarize below. N/A
Did you survey the same general area during each visit to this site this year? Yes X No ___ If no, summarize below.

Management Authority for Survey Area : Federal___ Municipal/County X State ___ Tribal ___ Private ___
Name of Management Entity or Owner (e.g., Tonto National Forest) Los Angeles Dept. of Water & Power

Length of area surveyed: 24.81 acres ~~(meters)~~

Vegetation Characteristics: Mark the category that best describes the predominant tree/shrub foliar layer at this site (check one):

X Native broadleaf plants (entirely or almost entirely, > 90% native, includes high-elevation willow)

____ Mixed native and exotic plants (mostly native, 50 - 90% native)

____ Mixed native and exotic plants (mostly exotic, 50 - 90% exotic)

____ Exotic/introduced plants (entirely or almost entirely, > 90% exotic)

Identify the 2-3 predominant tree/shrub species in order of dominance. Use scientific name.
Salix lasiolepis, Salix laevigata, Populus fremontii

Average height of canopy (Do not include a range): 10 (meters)

Attach copy of USGS quad/topographical map (REQUIRED) of survey area, outlining survey site and location of WIFL detections.
Attach sketch or aerial photo showing site location, patch shape, survey route, location of any WIFLs or WIFL nests detected.
Attach photos of the interior of the patch, exterior of the patch, and overall site; describe any unique habitat features.

Comments (attach additional sheets if necessary)

Territory Summary Table. Provide the following information for each verified territory at your site.

Territory Number	All Dates Detected	UTM N	UTM E	Pair Confirmed? Y or N	Nest Found? Y or N	Description of How You Confirmed Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)
1	5/30/18	3796880	365325	N	N	One-time observation

Attach additional sheets if necessary

DUDEK

38 NORTH MARENGO
PASADENA, CALIFORNIA 91101
T: 626.204.9800

August 13, 2018 10649.33

U.S. Fish and Wildlife Service
Attn: Recovery Permit Coordinator
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

Subject: ***Focused California Gnatcatcher Survey Report for the LADWP Van Norman Complex Routine Maintenance Program, City of Los Angeles, Los Angeles County, California***

Dear Recovery Permit Coordinator:

This report documents the results of protocol-level presence/absence surveys for the coastal California gnatcatcher (*Polioptila californica californica*; CAGN). Focused surveys were conducted throughout areas of suitable habitat (i.e., brittle bush scrub, disturbed brittle bush scrub, California sagebrush scrub, California buckwheat scrub, coyote bush scrub) within and near the Los Angeles Department of Water and Power's (LADWP) proposed Van Norman Complex (VNC) Routine Maintenance Program project site (Figure 1). The survey area is comprised of work areas and surrounding buffer within the VNC that are the subject of the routine maintenance program. Suitable habitat for CAGN is approximately 80 acres within the survey area. The project site is located in the City of Los Angeles, Los Angeles County, California. Dudek biologist Jeff Priest (TE840619-6) conducted CAGN surveys from May through June 2018.

The CAGN is a federally listed threatened species and a California Department of Fish and Wildlife (CDFW) Species of Special Concern. It is closely associated with coastal sage scrub habitat and typically occurs below 950 feet elevation and on slopes less than 40% (Atwood 1990), but CAGN have been observed at elevations greater than 2,000 feet. The species is threatened primarily by loss, degradation, and fragmentation of coastal sage scrub habitat, and is also impacted by brown-headed cowbird (*Molothrus ater*) nest parasitism (Braden et al. 1997).

LOCATION AND EXISTING CONDITIONS

LADWP intends to seek facility-wide permits related to its routine maintenance and operations of several existing drainage facilities throughout the Van Norman Complex (VNC). The approximately 1,340-acre VNC consists of several existing water facilities, including water storage reservoirs, detention basins, conveyance channels, and treatment facilities, that

cumulatively function to receive, store, treat, and distribute water to the City of Los Angeles. On-going vegetation management and maintenance activities throughout the VNC are required to ensure that these facilities are functioning properly to serve the City of Los Angeles. The survey area is comprised of work areas and surrounding buffer within the VNC that are the subject of the routine maintenance program.

The VNC is an industrial complex owned by LADWP, and is located immediately northwest of the Interstate 5 (I-5) and Interstate 405 (I-405) interchange in the neighborhood of Granada Hills, within the City of Los Angeles (Figure 1). The VNC occurs within the U.S. Geological Survey (USGS) 7.5-minute San Fernando quadrangle map in Sections 5 and 6, Township 2 North, Range 15 West (Assessor's Parcel Number: 260-500-1808, -1807, -1918, -1910, -1909).

Elevations range from approximately 1,032 feet above mean sea level (AMSL) in the southern portion of the VNC to approximately 1,270 feet AMSL along the northern portion of the VNC. The VNC is generally characterized by rolling hills, with slope gradients fairly level within localized areas. Distinctive geographic features include the Los Angeles Reservoir (LAR) at the center of the VNC.

Soils in the survey area are mapped as Balcom silty clay loam, Capistrano-Urban land complex, Chualar-Urban land complex, Cropley-Urban land complex, Gazos silty clay loam, Saugus loam, Soper gravelly sandy loam, Xerorthents, Xerorthents-Urban land-Balcom complex, Xerorthents-Urban land-Saugus complex, Dam, debris basin, and water (USDA 2018).

VEGETATION COMMUNITIES

The survey area occurs throughout sections of the VNC that includes a mosaic of developed areas and infrastructure, some native and non-native upland vegetation, and riparian vegetation along proposed project work areas. Table 1 summarizes the extent of each vegetation community within the survey area. Suitable CAGN habitat within the survey area includes brittle bush scrub, California sagebrush scrub, and coyote bush scrub, described in detail below.

Table 1
Vegetation Communities and Land Covers in Survey Area

Vegetation Community or Land Cover	Survey Area (acres)
Upland Shrubland Alliances and Stands	
Brittle bush alliance (S 4)	73.1
Disturbed brittle bush alliance (not ranked)	0.25
California buckwheat alliance (S 5)	1.75

Table 1
Vegetation Communities and Land Covers in Survey Area

Vegetation Community or Land Cover	Survey Area (acres)
California sagebrush scrub (S 5)	0.25
Coyote bush scrub (S 5)	4.70
Total	**80.05**

Brittle Bush Scrub Alliance

Brittle bush scrub is a native plant community dominated by brittlebush (*Encelia farinosa*) at an open to intermittent cover within the shrub canopy. This vegetation community typically occurs on alluvial fans, hillsides, slopes of small washes, and rills in well-drained soils (Sawyer et al. 2009).

Brittle bush scrub occurs throughout the VNC. Within the VNC, this vegetation community may also consist of a mix of other coastal scrub species such as common deerweed (*Acmispon glaber* var. *glaber*), laurel sumac (*Mallosma laurina*), orange bush monkeyflower (Diplacus aurantiacus var. puniceus), California buckwheat, black sage (*Salvia mellifera*), white sage (*Salvia apiana*), and California sagebrush (*Artemisia californica*); however, much of the brittle brush scrub within the VNC is mainly composed of monotypic stands, where brittle bush is the only species within the shrub canopy layer. Disturbed brittle bush scrub habitat also occurs on-site, and is composed of a high cover of non-native species such as shortpod mustard, black mustard, and red brome.

California Buckwheat Scrub Alliance

California buckwheat scrub is a native plant community dominated by California buckwheat (*Eriogonum fasciculatum*) in a continuous or intermittent shrub canopy less than 2 meters (7 feet) in height. This vegetation community typically occurs on upland slopes, intermittently flooded arroyos, channels, and washes with coarse well-drained soils (Sawyer et al. 2009).

Within the VNC, California buckwheat scrub occurs in one location southeast of the LAR North Dike Stormwater Basin. This patch consists of a mix of California buckwheat with brittlebush, castorbean, cheeseweed mallow (*Malva parviflorum*), and shortpod mustard also present.

Coyote Bush Scrub

Coyote brush scrub is a native plant community dominated by coyote brush (*Baccharis pilularis*) with a continuous or intermittent shrub canopy less than 3 meters (10 feet) in height. This

vegetation community typically occurs at river mouths, stream sides, terraces, coastal bluffs, open slopes, or ridges with sandy to heavy clay soils (Sawyer et al. 2009).

Within the VNC, coyote brush scrub occurs along a drainage within the southeastern portion of the Lower San Fernando Detention Basin.

California Sagebrush Scrub

California sagebrush scrub is a native plant community dominated by California sagebrush (*Artemisia californica*) in the shrub canopy with intermittent to continuous cover. The shrub canopy can either be less than 2 meters (7 feet) or in two tiers with a second layer that is typically less than 5 meters (16 feet). The herbaceous layer varies seasonally and annually (Sawyer et al. 2009).

Within the VNC, California sagebrush scrub occurs as small patches within the Upper Northeast Drainage, and in the upland of the Upper San Fernando Drain Line and Yarnell Debris Basin.

METHODS

The presence/absence focused survey for CAGN was conducted for the project between May 25 and June 29, 2018. The survey was conducted according to the schedule provided below in Table 2. The specific areas surveyed and the routes taken are provided in Figure 2. Critical habitat for this species is located approximately 0.5 mile northwest of the project site.

Table 2
Survey Dates and Conditions

Date	Personnel	Temperature	Wind	Sky	Time
05/25/18	Jeff Priest	56°F- 70°F	0-4 mph	90%-100% cc	0600–1200
06/01/18	Jeff Priest	58°F- 76°F	0-4 mph	0% cc	0600–1200
06/08/18	Jeff Priest	57°F- 85°F	0-5 mph	0% cc	0600–1200
06/15/18	Jeff Priest	58°F-83°F	0-5 mph	50% cc	0600–1200
06/22/18	Jeff Priest	63°F- 85°F	0-5 mph	0%-100% cc	0600–1200
06/29/17	Jeff Priest	57°F- 75°F	0-5 mph	100%-10% cc	0600–1200

* Survey Conditions: °F = degrees Fahrenheit; cc = cloud cover; mph = miles per hour

The survey was conducted following the currently accepted protocol of the U.S. Fish and Wildlife Service (USFWS), *Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol* (USFWS 1997). The survey included six visits at a minimum of 7-day intervals. In accordance with the protocol, no more than 80-acres of suitable habitat

were surveyed by a single biologist during each site visit. Survey routes are shown in Figure 2, and allowed for complete audible and visual coverage of all suitable CAGN habitat on site.

A topographic map at 200-scale of the site (1 inch = 200 feet) overlain with vegetation polygons and the site area was carried during the survey. Additionally, digital mobile maps were utilized during the surveys to assist in navigating each survey area and mapping any CAGN present. Weather conditions, time of day, and season were appropriate for the detection of CAGN and are provided in Table 2. Appropriate binoculars (e.g., 10x50 magnification) were used to aid in detecting and identifying bird species. A recording of CAGN vocalizations was played approximately every 100 to 200 feet to induce responses from potentially present CAGN. Vocalization-playback would have been terminated immediately upon detection of any CAGN to minimize the potential for harassment.

RESULTS

No CAGN were observed within the LADWP VNC project site. A full list of bird species observed during the survey and within proximity of the survey area is provided in Attachment B.

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

Sincerely,

Jeff Priest
Permit # TE840619-6

Att: A, Figure 1, Project Map
Figure 2, Survey Routes
B, Compendium of Wildlife Species Observed or Detected

REFERENCES

Atwood, J. L. 1990. *Status review of the California gnatcatcher (Polioptila californica*). Unpublished technical report Manomet Bird Observatory, Manomet, Massachusetts. 79pp.

Braden, G.T, R.L. McKernan, and S.M. Powell. 1997. "Effects of Nest Parasitism by the Brown-Headed Cowbird on Nesting Success of the California gnatcatcher." Condor 99: 858–865.

Sawyer, John O., Todd Keeler-Wolf, and Julie Evens. 2009. *A Manual of California Vegetation*. 2nd ed. Sacramento, California: California Native Plant Society.

USDA (U.S. Department of Agriculture), Soil Conservation Service, and West Los Angeles County Resource Conservation District in cooperation with University of California Agricultural Experiment Station. 1980. Soil Survey of Los Angeles County, California, West San Fernando Valley Area. Accessed May 2016. http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/lawsfvaCA1980/lawsfvaCA1980.pdf.

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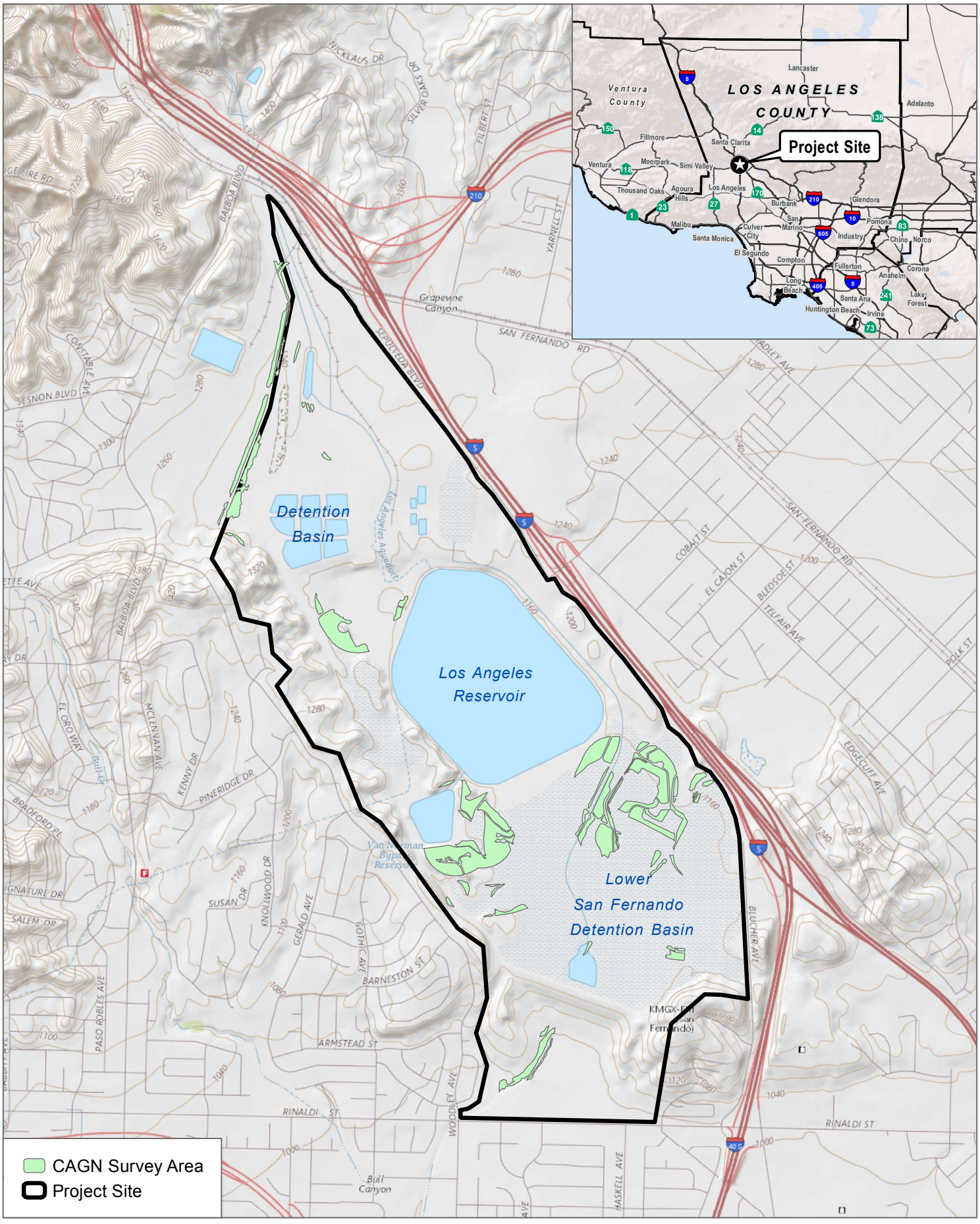
ATTACHMENT A

Figures 1–2



SOURCE: USGS 7.5-Minute Series San Fernando Quadrangle

Los Angeles Department of Water & Power

FIGURE 1

Project Location

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

LA DWP Los Angeles Department of Water & Power

0 270 540 Feet

FIGURE 2A

Survey Area and Routes

LADWP Van Norman Complex



SOURCE: DigitalGlobe 2016

Los Angeles Department of Water & Power

0 270 540 Feet

FIGURE 2B

Survey Area and Routes

LADWP Van Norman Complex



SOURCE: DigititalGlobe 2016

LA DWP Los Angeles Department of Water & Power

0 270 540 Feet

FIGURE 2C

Survey Area and Routes

LADWP Van Norman Complex

ATTACHMENT B

Compendium of Wildlife Species Observed or Detected

APPENDIX B
Compendium of Wildlife Species Observed or Detected

AMPHIBIAN

TOADS

BUFONIDAE—TRUE TOADS

Anaxyrus boreas—western toad

BIRD

BLACKBIRDS, ORIOLES AND ALLIES

ICTERIDAE—BLACKBIRDS

* *Molothrus ater*—brown-headed cowbird

Agelaius phoeniceus—red-winged blackbird

Quiscalus mexicanus—great-tailed grackle

BUSHTITS

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus—bushtit

CARDINALS, GROSBEAKS AND ALLIES

CARDINALIDAE—CARDINALS AND ALLIES

Pheucticus melanocephalus—black-headed grosbeak

EMBERIZINES

EMBERIZIDAE—EMBERIZIDS

Melospiza melodia—song sparrow

Melozone crissalis—California towhee

Pipilo maculatus—spotted towhee

FALCONS

FALCONIDAE—CARACARAS AND FALCONS

Falco sparverius—American kestrel

FINCHES

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch
Spinus psaltria—lesser goldfinch

FLYCATCHERS

TYRANNIDAE—TYRANT FLYCATCHERS

Myiarchus cinerascens—ash-throated flycatcher
Sayornis nigricans—black phoebe
Sayornis saya—Say's phoebe
Tyrannus vociferans—Cassin's kingbird

HAWKS

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Buteo jamaicensis—red-tailed hawk
Buteo lineatus—red-shouldered hawk

HUMMINGBIRDS

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird
Selasphorus sasin—Allen's hummingbird

JAYS, MAGPIES AND CROWS

CORVIDAE—CROWS AND JAYS

Aphelocoma californica—California scrub-jay
Corvus brachyrhynchos—American crow
Corvus corax—common raven

MOCKINGBIRDS AND THRASHERS

MIMIDAE—MOCKINGBIRDS AND THRASHERS

Mimus polyglottos—northern mockingbird
Toxostoma redivivum—California thrasher

NEW WORLD QUAIL

ODONTOPHORIDAE—NEW WORLD QUAIL

Callipepla californica—California quail

PIGEONS AND DOVES

COLUMBIDAE—PIGEONS AND DOVES

* *Streptopelia decaocto*—Eurasian collared-dove
Zenaida macroura—mourning dove

ROADRUNNERS AND CUCKOOS

CUCULIDAE—CUCKOOS, ROADRUNNERS, AND ANIS

Geococcyx californianus—greater roadrunner

SHOREBIRDS

CHARADRIIDAE—LAPWINGS AND PLOVERS

Charadrius vociferus—killdeer

SILKY FLYCATCHERS

PTILOGONATIDAE—SILKY-FLYCATCHERS

Phainopepla nitens—phainopepla

STARLINGS AND ALLIES

STURNIDAE—STARLINGS

* *Sturnus vulgaris*—European starling

SWALLOWS

HIRUNDINIDAE—SWALLOWS

Hirundo rustica—barn swallow
Petrochelidon pyrrhonota—cliff swallow
Stelgidopteryx serripennis—northern rough-winged swallow

SWIFTS

APODIDAE—SWIFTS

Aeronautes saxatalis—white-throated swift

VIREOS

VIREONIDAE—VIREOS

Vireo bellii pusillus—least Bell's vireo

WATERFOWL

ANATIDAE—DUCKS, GEESE, AND SWANS

Anas platyrhynchos—mallard

Branta canadensis—Canada goose

WOOD WARBLERS AND ALLIES

PARULIDAE—WOOD-WARBLERS

Geothlypis trichas—common yellowthroat

WRENS

TROGLODYTIDAE—WRENS

Thryomanes bewickii—Bewick's wren

Troglodytes aedon—house wren

WRENTITS

TIMALIIDAE—BABBLERS

Chamaea fasciata—wrentit

INVERTEBRATE

BUTTERFLIES

LYCAENIDAE—BLUES, HAIRSTREAKS, AND COPPERS

Euphilotes battoides bernardino—Bernardino square-spotted blue

NYMPHALIDAE—BRUSH-FOOTED BUTTERFLIES

Junonia coenia—common buckeye

RIODINIDAE—METALMARKS

Apodemia mormo virgulti—Behr's metalmark

PAPILIONIDAE—SWALLOWTAILS

Papilio eurymedon—pale swallowtail

PIERIDAE—WHITES AND SULFURS

Pieris rapae—cabbage white

Pontia protodice—checkered white

MAMMAL

CANIDS

CANIDAE—WOLVES AND FOXES

Canis latrans—coyote

HARES AND RABBITS

LEPORIDAE—HARES AND RABBITS

Sylvilagus bachmani—brush rabbit

POCKET GOPHERS

GEOMYIDAE—POCKET GOPHERS

Thomomys bottae—Botta's pocket gopher

SQUIRRELS

SCIURIDAE—SQUIRRELS

Spermophilus (Otospermophilus) beecheyi—California ground squirrel

REPTILE

LIZARDS

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—western fence lizard

Uta stanburiana—common side-blotched lizard

* signifies introduced (non-native) species

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Attachment B

Site Photographs



Photo 1: Facing northeast toward the Lower San Fernando Detention Basin



Photo 2: Upper Northeast Drainage



Photo 3: San Fernando Gate Drainage Feature



Photo 4: Yarnell Debris Basin

	
Photo 5: Riparian habitat and unvegetated drainage within the Upper Debris Basin	**Photo 6:** Riparian habitat and unvegetated drainage within the Middle Debris Basin
	
Photo 7: LAR North Dike Stormwater Basin	**Photo 8:** Facing northwest toward the Bee Drainage Channel



Photo 9: Bull Creek Extension



Photo 10: Facing southeast toward the central portion of the Upper San Fernando Drain Line and Upper San Fernando Drain Line Feature 1



Photo 11: Facing southwest toward the northern portion of the LAR UV Plant Drainage and V-ditch



Photo 12: San Fernando Creek

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Attachment C

Plant Compendium

VASCULAR SPECIES

DICOTS

ADOXACEAE—MUSKROOT FAMILY

Sambucus nigra ssp. *caerulea*—blue elderberry

ANACARDIACEAE—SUMAC OR CASHEW FAMILY

* *Schinus molle*—Peruvian peppertree

Malosma laurina—laurel sumac

APIACEAE—CARROT FAMILY

* *Conium maculatum*—poison hemlock

* *Foeniculum vulgare*—sweet fennel

ASTERACEAE—SUNFLOWER FAMILY

* *Centaurea melitensis*—Maltese star-thistle

* *Lactuca serriola*—prickly lettuce

* *Sonchus asper* ssp. *asper*—spiny sowthistle

* *Sonchus oleraceus*—common sowthistle

Ambrosia acanthicarpa—flatspine bur ragweed

Artemisia californica—coastal sagebrush

Baccharis pilularis—coyotebrush

Centromadia pungens ssp. pungens—common tarweed

Encelia farinosa—brittlebush

Erigeron canadensis—Canadian horseweed

Helianthus annuus—common sunflower

Heterotheca grandiflora—telegraphweed

Baccharis salicifolia ssp. *salicifolia*—mulefat

BORAGINACEAE—BORAGE FAMILY

Heliotropium curassavicum var. oculatum—seaside heliotrope

BRASSICACEAE—MUSTARD FAMILY

* *Brassica nigra*—black mustard

* *Hirschfeldia incana*—shortpod mustard

* *Sisymbrium irio*—London rocket

CHENOPODIACEAE—GOOSEFOOT FAMILY

* *Chenopodium album*—lambsquarters

* *Salsola tragus*—prickly Russian thistle

CLEOMACEAE—CLEOME FAMILY

Peritoma arborea—bladderpod spiderflower

EUPHORBIACEAE—SPURGE FAMILY

* *Euphorbia peplus*—petty spurge

* *Ricinus communis*—castorbean

FABACEAE—LEGUME FAMILY

* *Melilotus albus*—yellow sweetclover

* *Parkinsonia aculeata*—Jerusalem thorn

Acmispon glaber var. *glaber*—common deerweed

GERANIACEAE—GERANIUM FAMILY

* *Erodium cicutarium*—redstem stork's bill

LAMIACEAE—MINT FAMILY

* *Marrubium vulgare*—horehound

Salvia apiana—white sage

Salvia mellifera—black sage

MALVACEAE—MALLOW FAMILY

* *Malva parviflora*—cheeseweed mallow

Malvella leprosa – alkali mallow

MYRTACEAE—MYRTLE FAMILY

* *Eucalyptus camaldulensis*—river redgum

PAPAVERACEAE—POPPY FAMILY

Ehrendorferia chrysantha—golden eardrops

PHRYMACEAE—LOPSEED FAMILY

Diplacus aurantiacus var. puniceus—orange bush monkeyflower

PLANTAGINACEAE—PLAINTAIN FAMILY

Plantago lanceolata – narrowleaf plantain

POLYGONACEAE—BUCKWHEAT FAMILY

Eriogonum fasciculatum var. *foliolosum*—Eastern Mojave buckwheat

Persicaria lapathifolia – curlytop knotweed

SALICACEAE—WILLOW FAMILY

Populus fremontii ssp. *fremontii*—Fremont cottonwood

Salix exigua—narrowleaf willow

Salix laevigata—red willow

Salix lasiolepis—arroyo willow

SOLANACEAE—NIGHTSHADE FAMILY

* *Nicotiana glauca*—tree tobacco
Datura wrightii—sacred thorn-apple
Solanum xanti—chaparral nightshade

TAMARICACEAE—TAMARISK FAMILY

* *Tamarix ramosissima*—saltcedar

URTICACEAE—NETTLE FAMILY

Urtica dioica—stinging nettle

MONOCOTS

ARECACEAE—PALM FAMILY

* *Washingtonia robusta*—Washington fan palm

CYPERACEAE—SEDGE FAMILY

Carex spp.—assorted *Carex* species
Cyperus eragrostis—tall flatsedge
Eleocharis macrostachya—pale spikerush
Schoenoplectus californicus—California bulrush

POACEAE—GRASS FAMILY

* *Arundo donax*—giant reed
* *Avena barbata*—slender oat
* *Bromus diandrus*—ripgut brome
* *Bromus hordeaceus*—soft brome
* *Bromus madritensis* ssp. *rubens*—red brome
* *Digitaria ciliaris var. ciliaris*—southern crabgrass
* *Hordeum murinum*—mouse barley
* *Polypogon monspeliensis*—annual rabbitsfoot grass
* *Schismus barbatus*—common Mediterranean grass

TYPHACEAE—CATTAIL FAMILY

Typha domingensis—southern cattail

* signifies introduced (non-native) species

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Attachment D

Wildlife Compendium

AMPHIBIAN

TOADS

BUFONIDAE—TRUE TOADS

Anaxyrus boreas—western toad

BIRD

BLACKBIRDS, ORIOLES and ALLIES

ICTERIDAE—BLACKBIRDS

* *Molothrus ater*—brown-headed cowbird

Agelaius phoeniceus—red-winged blackbird

Quiscalus mexicanus—great-tailed grackle

BUSHTITS

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus—bushtit

CARDINALS, GROSBEAKS and ALLIES

CARDINALIDAE—CARDINALS AND ALLIES

Passerina caerulea—blue grosbeak

Pheucticus melanocephalus—black-headed grosbeak

EMBERIZINES

EMBERIZIDAE—EMBERIZIDS

Melospiza melodia—song sparrow

Melozone crissalis—California towhee

Zonotrichia leucophrys—white-crowned sparrow

FINCHES

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch

Spinus lawrencei—Lawrence's goldfinch

Spinus psaltria—lesser goldfinch

FLYCATCHERS

TYRANNIDAE—TYRANT FLYCATCHERS

Sayornis nigricans—black phoebe
Sayornis saya—Say's phoebe
Tyrannus vociferans—Cassin's kingbird

HAWKS

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Buteo jamaicensis—red-tailed hawk

HERONS AND BITTERNS

ARDEIDAE—HERONS, BITTERNS, AND ALLIES

Ardea alba—great egret
Ardea herodias—great blue heron
Egretta thula—snowy egret

HUMMINGBIRDS

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird
Selasphorus sasin—Allen's hummingbird

JAYS, MAGPIES AND CROWS

CORVIDAE—CROWS AND JAYS

Aphelocoma californica—California scrub-jay
Corvus corax—common raven

MOCKINGBIRDS AND THRASHERS

MIMIDAE—MOCKINGBIRDS AND THRASHERS

Mimus polyglottos—northern mockingbird

NEW WORLD QUAIL

ODONTOPHORIDAE—NEW WORLD QUAIL

Callipepla californica—California quail

PIGEONS AND DOVES

COLUMBIDAE—PIGEONS AND DOVES

Zenaida macroura—mourning dove

RAILS, GALLINULES AND COOTS

RALLIDAE—RAILS, GALLINULES, AND COOTS

Fulica americana—American coot

SHOREBIRDS

CHARADRIIDAE—LAPWINGS AND PLOVERS

Charadrius vociferus—killdeer

SILKY FLYCATCHERS

PTILOGONATIDAE—SILKY-FLYCATCHERS

Phainopepla nitens—phainopepla

STARLINGS AND ALLIES

STURNIDAE—STARLINGS

* *Sturnus vulgaris*—European starling

SWALLOWS

HIRUNDINIDAE—SWALLOWS

Hirundo rustica—barn swallow

Petrochelidon pyrrhonota—cliff swallow

Stelgidopteryx serripennis—northern rough-winged swallow

Tachycineta bicolor—tree swallow

SWIFTS

APODIDAE—SWIFTS

Aeronautes saxatalis—white-throated swift

TERNS AND GULLS

LARIDAE—GULLS, TERNS, AND SKIMMERS

Larus occidentalis—western gull

VIREOS

VIREONIDAE—VIREOS

Vireo bellii pusillus—least Bell's vireo

WATERFOWL

ANATIDAE—DUCKS, GEESE, AND SWANS

Anas platyrhynchos—mallard

Branta canadensis—Canada goose

Oxyura jamaicensis—ruddy duck

WOOD WARBLERS AND ALLIES

PARULIDAE—WOOD-WARBLERS

Geothlypis trichas—common yellowthroat

Setophaga coronata—yellow-rumped warbler

Setophaga petechia—yellow warbler

WRENS

TROGLODYTIDAE—WRENS

Thryomanes bewickii—Bewick's wren

MAMMAL

CANIDS

CANIDAE—WOLVES AND FOXES

Canis latrans—coyote

HARES AND RABBITS

LEPORIDAE—HARES AND RABBITS

Sylvilagus audubonii—desert cottontail

SQUIRRELS

SCIURIDAE—SQUIRRELS

Spermophilus (Otospermophilus) beecheyi—California ground squirrel

REPTILE

LIZARDS

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—western fence lizard

Uta stansburiana—common side-blotched lizard

* signifies introduced (non-native) species

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Attachment E

Special-Status Plant Species Potential to Occur

Scientific Name	Common Name	Status (Federal/State/CRPR/City)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Astragalus brauntonii	Braunton's milk-vetch	FE/None/1B.1/None	Chaparral, coastal scrub, valley and foothill grassland; recent burns or disturbed areas, usually sandstone with carbonate layers/perennial herb/Jan–Aug/13–2,100	Not expected to occur. The coastal scrub habitat on site is extremely disturbed and suitable soils do not occur. Additionally, the closest CNDDB occurrence is over 10 miles southwest of the project site. Furthermore, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.
Atriplex parishii	Parish's brittlescale	None/None/1B.1/City	Chenopod scrub, playas, vernal pools; alkaline/annual herb/June–Oct/82–6234	Not expected to occur. No suitable habitat (i.e., vernal pool, chenopod scrub or playas) on site.
Berberis nevinii	Nevin's barberry	FE/CE/1B.1/City	Chaparral, cismontane woodland, coastal scrub, riparian scrub; sandy or gravelly/perennial evergreen shrub/Mar–June/230–2,707	Not expected to occur. The coastal and riparian scrub habitat on site is extremely disturbed. Additionally, this conspicuous evergreen shrub was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.
Calochortus catalinae	Catalina mariposa lily	None/None/4.2/City	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland/perennial bulbiferous herb/(Feb) Mar–June/49–2,297	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed. Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.
Calochortus clavatus var. *clavatus*	club-haired mariposa lily	None/None/4.3/City	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland; usually serpentinite, clay, rocky/perennial bulbiferous herb/May–June/246–4,265	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed and the site lacks clay soils. Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.

Scientific Name	Common Name	Status (Federal/State/CRPR/City)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Calochortus clavatus var. *gracilis*	slender mariposa lily	None/None/1B.2/None	Chaparral, coastal scrub, valley and foothill grassland/perennial bulbiferous herb/Mar–June/1,050–3,281	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed. Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.
Calochortus palmeri var. *palmeri*	Palmer's mariposa lily	None/None/1B.2/None	Chaparral, lower montane coniferous forest, meadows and seeps; mesic/perennial bulbiferous herb/Apr–July/2,329–7,841	Not expected to occur. The site is outside of the species' known elevation range.
Calochortus plummerae	Plummer's mariposa lily	None/None/4.2/None	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland; granitic, rocky/perennial bulbiferous herb/May–July/328–5,577	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed and lacks rocky soils preferred by this species Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.
Calystegia peirsonii	Peirson's morning-glory	None/None/4.2/City	Chaparral, chenopod scrub, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland/perennial rhizomatous herb/Apr–June/98–4,921	Not expected to occur. The coastal scrub habitat on site is extremely disturbed. Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.
Camissoniopsis lewisii	Lewis' evening-primrose	None/None/3/None	Coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland; sandy or clay/annual herb/Mar–May (June)/0–984	Not expected to occur. The site is outside of the species' known elevation range. Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.

Scientific Name	Common Name	Status (Federal/State/CRPR/City)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Canbya candida	white pygmy-poppy	None/None/4.2/None	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland; gravelly, sandy, granitic/annual herb/Mar–June/1,969–4,790	Not expected to occur. The site lack suitable habitat for this species and is outside of the species' known elevation range.
Centromadia parryi ssp. *australis*	southern tarplant	None/None/1B.1/City	Marshes and swamps (margins), valley and foothill grassland (vernally mesic), vernal pools/annual herb/May–Nov/0–1,575	Not expected to occur. The marsh habitat on-site is too small and isolated to support this species. Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.
Cercocarpus betuloides var. *blancheae*	island mountain-mahogany	None/None/4.3/None	Closed-cone coniferous forest, chaparral/perennial evergreen shrub/Feb–May/98–1,969	Not expected to occur. No suitable habitat on site. Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.
Chorizanthe parryi var. *fernandina*	San Fernando Valley spineflower	FC/CE/1B.1/City	Coastal scrub (sandy), valley and foothill grassland/annual herb/Apr–July/492–4,003	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed. Although a CNDDB occurrence overlaps with the project site, this element occurrence dates back to 1922 and is likely extirpated (CDFW 2018). Furthermore, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species. This species was also not observed during focused surveys for this species in 2017 within a portion of the study area.
Convolvulus simulans	small-flowered morning-glory	None/None/4.2/None	Chaparral (openings), coastal scrub, valley and foothill grassland; clay, serpentinite seeps/annual herb/Mar–July/98–2,297	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed and lacks suitable clay, serpentinite seeps preferred by this species.

Scientific Name	Common Name	Status (Federal/State/CRPR/City)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Deinandra minthornii	Santa Susana tarplant	None/CR/1B.2/None	Chaparral, coastal scrub; rocky/perennial deciduous shrub/July–Nov/919–2,493	Not expected to occur. The coastal scrub habitat on site is extremely disturbed. Additionally, this species is only known to occur in Santa Monica and the Santa Susana Mountains and is a conspicuous perennial deciduous shrub that would likely have been detected during the general biological reconnaissance survey conducted in May 2018, if present.
Deinandra paniculata	paniculate tarplant	None/None/4.2/None	Coastal scrub, valley and foothill grassland, vernal pools; usually vernally mesic, sometimes sandy/annual herb/Apr–Nov/82–3,084	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed and lacks vernally mesic conditions suitable for this species.
Delphinium parryi ssp. *purpureum*	Mt. Pinos larkspur	None/None/4.3/None	Chaparral, Mojavean desert scrub, pinyon and juniper woodland/perennial herb/May–June/3,281–8,530	Not expected to occur. The site lacks suitable habitat and is outside of the species' known elevation range.
Dodecahema leptoceras	slender-horned spineflower	FE/CE/1B.1/City	Chaparral, cismontane woodland, coastal scrub (alluvial fan); sandy/annual herb/Apr–June/656–2,493	Not expected to occur. The coastal scrub habitat on site is extremely disturbed. Further the site lacks alluvial fans associated with this species. The closest CNDDB occurrence is approximately 2 miles southeast of the project site, dates back to 1937, and is considered extirpated (CDFW 2018).
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	None/None/1B.1/None	Coastal bluff scrub, chaparral, coastal scrub, valley and foothill grassland; rocky, often clay or serpentinite/perennial herb/Apr–June/16–1,476	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed and lacks rocky, clay, or serpentinite soils preferred by this species.
Dudleya multicaulis	many-stemmed dudleya	None/None/1B.2/None	Chaparral, coastal scrub, valley and foothill grassland; often clay/perennial herb/Apr–July/49–2,592	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed and lacks clay soils with which the species is associated.

Scientific Name	Common Name	Status (Federal/State/CRPR/City)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Harpagonella palmeri	Palmer's grapplinghook	None/None/4.2/None	Chaparral, coastal scrub, valley and foothill grassland; clay/annual herb/Mar–May/66–3,133	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed and lacks clay soils preferred by this species.
Helianthus inexpectatus	Newhall sunflower	None/None/1B.1/None	Marshes and swamps, riparian woodland; freshwater, seeps/perennial rhizomatous herb/Aug–Oct/1,001	Not expected to occur. The marsh and riparian woodland habitat on site is too isolated and disturbed for this species. In addition, the closest CNDDB is over 10 miles northeast of the project site, where it is known solely to occur at Newhall Ranch (CDFW 2018). Furthermore, this is a conspicuous perennial rhizomatous herb that would have likely been detected during the general biological reconnaissance survey conducted in May 2018, if present.
Heuchera caespitosa	urn-flowered alumroot	None/None/4.3/None	Cismontane woodland, lower montane coniferous forest, riparian forest (montane), upper montane coniferous forest; rocky/perennial rhizomatous herb/May–Aug/3,789–8,694	Not expected to occur. The site is outside of the species' known elevation range.
Hordeum intercedens	vernal barley	None/None/3.2/None	Coastal dunes, coastal scrub, valley and foothill grassland (saline flats and depressions), vernal pools/annual herb/Mar–June/16–3,281	Not expected to occur. The coastal scrub and grassland habitat on site is extremely disturbed and lacks saline flats and depressions.
Horkelia cuneata var. *puberula*	mesa horkelia	None/None/1B.1/None	Chaparral (maritime), cismontane woodland, coastal scrub; sandy or gravelly/perennial herb/Feb–July (Sep)/230–2,657	Low potential to occur. The coastal scrub habitat on site is extremely disturbed. Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.

Scientific Name	Common Name	Status (Federal/State/CRPR/City)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Hulsea vestita ssp. *gabrielensis*	San Gabriel Mountains sunflower	None/None/4.3/City	Lower montane coniferous forest, upper montane coniferous forest; rocky/perennial herb/May–July/4,921–8,202	Not expected to occur. The site lacks suitable habitat for this species and is outside of the species' known elevation range.
Hulsea vestita ssp. *parryi*	Parry's sunflower	None/None/4.3/None	Lower montane coniferous forest, pinyon and juniper woodland, upper montane coniferous forest; granitic or carbonate, rocky, openings/perennial herb/Apr–Aug/4495–9,498	Not expected to occur. The site lacks suitable habitat for this species and is outside of the species' known elevation range.
Juglans californica	Southern California black walnut	None/None/4.2/City	Chaparral, cismontane woodland, coastal scrub; alluvial/perennial deciduous tree/Mar–Aug/164–2,953	Not expected to occur. The coastal scrub habitat on site is extremely disturbed. Additionally, this species is a conspicuous deciduous tree that would have been detected during the general biological reconnaissance survey conducted in May 2018, if present.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None/None/1B.1/None	Marshes and swamps (coastal salt), playas, vernal pools/annual herb/Feb–June/3–4,003	Not expected to occur. The marsh habitat on site is too small and isolated to support this species, and the site lacks playas and vernal pools.
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	None/None/4.3/None	Chaparral, coastal scrub/annual herb/Jan–July/3–2,904	Not expected to occur. The coastal scrub habitat on site is extremely disturbed. The closest CNDDB occurrence is over 4 miles from the project site and dates back to 1917 (CDFW 2018). Additionally, this species was not observed during the general biological reconnaissance survey conducted in May 2018 within the blooming period for this species.

Scientific Name	Common Name	Status (Federal/State/CRPR/City)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Lilium humboldtii ssp. *ocellatum*	ocellated Humboldt lily	None/None/4.2/City	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland; openings/perennial bulbiferous herb/Mar–July (Aug)/98–5,906	Not expected to occur. The coastal scrub and riparian woodland habitat on site is extremely disturbed; the site lacks the habitat with which this species is associated.
Linanthus concinnus	San Gabriel linanthus	None/None/1B.2/None	Chaparral, lower montane coniferous forest, upper montane coniferous forest; rocky, openings/annual herb/Apr–July/4,987–9,186	Not expected to occur. The site is outside of the species' known elevation range.
Lupinus paynei	Payne's bush lupine	None/None/1B.1/None	Coastal scrub, riparian scrub, valley and foothill grassland; sandy/perennial shrub/ Mar-Apr (May-Jul)/722–1,378	Not expected to occur. The coastal scrub, riparian scrub, and grassland habitat on site is extremely disturbed. Additionally, this species is a conspicuous perennial shrub that would likely have been detected during the general biological reconnaissance survey conducted in May 2018, if present.
Malacothamnus davidsonii	Davidson's bush-mallow	None/None/1B.2/City	Chaparral, cismontane woodland, coastal scrub, riparian woodland/perennial deciduous shrub/June–Jan/607–2,805	Not expected to occur. The coastal scrub and riparian woodland habitat on site is extremely disturbed. Additionally, this species is a perennial deciduous shrub that would have been detected during the general biological reconnaissance survey conducted in May 2018.
Monardella hypoleuca ssp. *hypoleuca*	white-veined monardella	None/None/1B.3/None	Chaparral, cismontane woodland/perennial herb/(Apr) May–Aug (Sep) (Oct) (Nov) (Dec)/164–5,003	Not expected to occur. The site lacks suitable habitat (i.e., chaparral, cismontane woodland) for this species.
Navarretia fossalis	spreading navarretia	FT/None/1B.1/None	Chenopod scrub, marshes and swamps (assorted shallow freshwater), playas, vernal pools/annual herb/Apr–June/98–2,149	Not expected to occur. The marsh habitat on-site is too small and isolated to support this species and the site lacks playas and vernal pools with which this species is associated.

Scientific Name	Common Name	Status (Federal/State/CRPR/City)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Navarretia setiloba	Piute Mountains navarretia	None/None/1B.1/None	Cismontane woodland, pinyon and juniper woodland, valley and foothill grassland; clay or gravelly loam/annual herb/Apr–July/935–6,890	Not expected to occur. The grassland habitat on site is extremely disturbed and lacks open clay areas preferred by this species. The closest CNDDB occurrence is over 8 miles from the project site (CDFW 2018).
Opuntia basilaris var. *brachyclada*	short-joint beavertail	None/None/1B.2/None	Chaparral, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland/perennial stem succulent/Apr–June (Aug)/1,394–5,906	Not expected to occur. The site lacks suitable habitat and is outside of the species' known elevation range.
Orcuttia californica	California Orcutt grass	FE/CE/1B.1/City	Vernal pools/annual herb/Apr–Aug/49–2,165	Not expected to occur. The habitat on-site lacks vernal pools preferred by this species.
Phacelia hubbyi	Hubby's phacelia	None/None/4.2/None	Chaparral, coastal scrub, valley and foothill grassland; gravelly, rocky, talus/annual herb/Apr–July/0–3,281	Not expected to occur. The habitat on site for this species is extremely disturbed and lacks gravelly, rocky soils preferred by this species.
Phacelia mohavensis	Mojave phacelia	None/None/4.3/None	Cismontane woodland, lower montane coniferous forest, meadows and seeps, pinyon and juniper woodland; sandy or gravelly/annual herb/Apr–Aug/4,593–8,202	Not expected to occur. The site lacks suitable habitat and is outside of the species' known elevation range.
Pseudognaphalium leucocephalum	white rabbit-tobacco	None/None/2B.2/None	Chaparral, cismontane woodland, coastal scrub, riparian woodland; sandy, gravelly/perennial herb/(July) Aug–Nov (Dec)/0–6,890	Low potential to occur. The site is located within the species' known elevation range and there is limited habitat on site; however, it is extremely disturbed. In addition, the closest CNDDB occurrence is over 7.5 miles southeast of the project site and dates back to 1932 (CDFW 2018). Furthermore, this conspicuous perennial herb would likely have been detected during the general biological reconnaissance survey conducted in May 2018.

Scientific Name	Common Name	Status (Federal/State/CRPR/City)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Quercus durata var. *gabrielensis*	San Gabriel oak	None/None/4.2/None	Chaparral, cismontane woodland/perennial evergreen shrub/Apr–May/1,476–3,281	Not expected to occur. The site lacks suitable cismontane woodland and chaparral habitat and is outside of the species' known elevation range.
Senecio aphanactis	chaparral ragwort	None/None/2B.2/None	Chaparral, cismontane woodland, coastal scrub; sometimes alkaline/annual herb/Jan–Apr (May)/49–2,625	Low potential to occur. The coastal scrub habitat on site is extremely disturbed and lacks alkaline soils. The closest CNDDB occurrence is over 6 miles north of the project site and dates back to 1901 (CDFW 2018).
Spermolepis lateriflora	western bristly scaleseed	None/None/2A/None	Sonoran desert scrub; rocky, sandy/annual herb/Mar–Apr/1,198–2,198	Not expected to occur. The site lacks suitable habitat for this species.
Symphyotrichum greatae	Greata's aster	None/None/1B.3/None	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, riparian woodland; mesic/perennial rhizomatous herb/June–Oct/984–6,594	Low potential to occur. The site is located within the species' known elevation range; however, the limited habitat on site is extremely disturbed. In addition, the closest CNDDB occurrence is over 4.5 miles north of the project site and dates back to 1918 (CDFW 2018).

Status Legend
Federal
FE: Federally listed as endangered
FT: Federally listed as threatened
FC: Federal Candidate for listing
State
CE: State listed as endangered
CRPR: California Rare Plant Rank
CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
CRPR 2A: Plants presumed extirpated in California, but more common elsewhere
CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
CRPR 3: Plants about which more Information is needed - a review list
CRPR 4: Plants of limited distribution - a watch list
Threat Rank
.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
.3 Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)
Local Designation
City: Species locally designated or recognized by the City of Los Angeles, Northwest Valley Planning Subregion

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Attachment F

Special-Status Wildlife Species Potential to Occur

Common Name	Scientific Name	Status (Federal/State/City)	Habitat	Project Site
Amphibians				
western spadefoot	*Spea hammondii*	None/SSC/City	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture	Low potential to occur. The coastal scrub habitats on site lack ephemeral wetlands suitable for this species. Documented occurrence within 5 miles of the project site (CDFW 2018).
arroyo toad	*Anaxyrus californicus*	FE/SSC/City	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering	Not expected to occur. The drainages on site do not provide suitable habitat (i.e., terraces and stream braiding of third order or higher) to support breeding for this species.
southern mountain yellow-legged frog	*Rana muscosa*	FE/SE, SSC/City	Lakes, ponds, meadow streams, isolated pools, and open riverbanks; rocky canyons in narrow canyons and in chaparral	Not expected to occur. Although drainages occur within the proposed project site, these drainages lack rocky canyons typically preferred by this species.
California newt	*Taricha torosa (Monterey Co. south only)*	None/SSC/None	Wet forests, oak forests, chaparral, and rolling grassland	Low potential to occur. Ponds and drainages on site have the potential to provide suitable breeding habitat for this species; however, the surrounding forest and grassland habitats are extremely disturbed. Documented occurrence within 5 miles of the project site (CDFW 2018).
Reptiles				
California legless lizard	*Anniella sp.*	None/SSC/None	Stabilized dunes, beaches, dry washes, chaparral, scrubs, and pine, oak, and riparian woodlands; associated with sparse vegetation and sandy or loose, loamy soils	Low potential to occur. Drainages, scrub habitat, and riparian woodlands on site have the potential to support this species; however, no documented occurrences occur within 5 miles of the project site (CDFW 2018).

Common Name	Scientific Name	Status (Federal/State/City)	Habitat	Project Site
Blainville's horned lizard	*Phrynosoma blainvillii*	None/SSC/City	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats	Moderate potential to occur. Riparian and scrub habitat on-site with loose sandy soils have the potential to support this species. Documented occurrence within 5 miles of the project site (CDFW 2018).
San Diegan tiger whiptail	*Aspidoscelis tigris stejnegeri*	None/SSC/None	Open areas in semiarid grasslands, scrublands, and woodlands	Moderate potential to occur. Open scrublands and Fremont cottonwood forest habitats on site have the potential to support this species. Documented occurrence within 5 miles of the project site (CDFW 2018).
two-striped gartersnake	*Thamnophis hammondii*	None/SSC/City	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Low potential to occur. Ponds and other permanent water sources on site could support this species; however, no documented occurrences for this species within 5 miles of the project site (CDFW 2018).
southwestern pond turtle	*Actinemys pallida*	None/SSC/City	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	Low potential to occur. Ponds and other permanent water sources on site could support this species; however, the closest documented occurrence is over 5 miles from the project site and is considered extirpated (CDFW 2018).
California glossy snake	*Arizona elegans occidentalis*	None/SSC/None	Commonly occurs in desert regions throughout southern California. Prefers open sandy areas with scattered brush. Also found in rocky areas.	Low potential to occur. Open sandy areas with scattered brush on site could support this species; however, no documented occurrence for this species within 5 miles of the project site (CDFW 2018).

Common Name	Scientific Name	Status (Federal/State/City)	Habitat	Project Site
Birds				
burrowing owl (burrow sites and some wintering sites)	*Athene cunicularia*	BCC/SSC/City	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Low potential to occur. Soils within grassland and open scrub habitats on-site are compacted and lack suitable burrows to support this species. Additionally, this species was not recorded breeding anywhere in the Los Angeles Basin during the *Los Angeles County Breeding Bird Atlas* field work in 1995 to 1999 (Allen et al. 2016). No documented occurrences within 5 miles (CDFW 2018).
grasshopper sparrow (nesting)	*Ammodramus savannarum*	None/SSC/None	Nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches	Not expected to occur. Limited grassland habitat on-site is extremely disturbed with minimal shrubs for perches. Additionally, this species was not detected during the biological reconnaissance survey conducted in May 2018 survey, and there are no documented occurrences within 5 miles (CDFW 2018).
loggerhead shrike (nesting)	*Lanius ludovicianus*	BCC/SSC/City	Nests and forages in open habitats with scattered shrubs, trees, or other perches	Moderate potential to occur. Open Fremont cottonwood forest and shrublands on site could provide suitable foraging and nesting habitat for this species. In addition, this species was observed during a previous focused survey effort conducted in July 2017 within the Van Norman Complex. No nests were detected during the 2017 surveys.
Swainson's hawk (nesting)	*Buteo swainsoni*	BCC/ST/None	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture	Not expected to occur. Although the site contains Fremont cottonwood adjacent to a disturbed field that could provide suitable foraging and nesting habitat for this species, this species is likely extirpated from the area. It is currently known to only occur in the region during migration (CDFW 2018). The closest known nesting area is in the Antelope Valley, approximately 25 miles from the project site.

Common Name	Scientific Name	Status (Federal/State/City)	Habitat	Project Site
tricolored blackbird (nesting colony)	*Agelaius tricolor*	BCC/ST/None	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture	Not expected to nest and forage. The cattail marsh habitat on site is too small without suitable grassland or agricultural fields to support a nesting colony of this species. No documented occurrences within 5 miles of the project site (CNDDB 2018).
Cooper's hawk (nesting)	*Accipiter cooperii*	None/WL/City	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	Moderate potential to nest and forage. Suitable riparian woodland and adjacent open areas occur on site. However, not detected within the study area during May 2018 surveys.
coastal California gnatcatcher	*Polioptila californica californica*	FT/SSC/City	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level	Not expected to occur. Although much of the coastal scrub on site consists of fragmented, monotypic stands of brittle bush too small and disturbed to typically support this species, some portions of coastal scrub on site could provide suitable habitat for this species. Protocol focused surveys were negative for this species.
least Bell's vireo (nesting)	*Vireo bellii pusillus*	FE/SE/City	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	Present. Suitable riparian habitat occurs within the project site. This species was detected during the general reconnaissance survey conducted in May 2018 and during focused protocol surveys in 2018.
southwestern willow flycatcher (nesting)	*Empidonax traillii extimus*	FE/SE/City	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Not expected to occur. Minimal suitable dense riparian habitat with well-developed understory occurs on-site, this species was recently documented to occur 5.2 miles southeast of the Project site within the Hansen Dam (USFWS 2018). Focused surveys conducted in 2018 were negative.

Common Name	Scientific Name	Status (Federal/State/City)	Habitat	Project Site
white-tailed (nesting) kite	*Elanus leucurus*	None/FP/City	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	Low potential to nest. The Freemont cottonwood trees on site provide limited suitable habitat for this species; however, this species may occasionally forage within the adjacent disturbed, open areas. No nests for this species were observed during the general reconnaissance survey conducted in May 2018. No documented occurrences within 5 miles of the project site (CDFW 2018).
prairie falcon (nesting)	*Falco mexicanus*	BCC/WL/City	Forages in grassland, savanna, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs	Low potential to occur. There are no cliffs or bluffs suitable for nesting within the facility site. However, this species may occasionally forage within the study area.
southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	None/WL/City	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	Low potential to occur. Coastal scrub habitat along hillsides within the study area has the potential to provide suitable habitat for this species; however, this is a common year-round resident that would have been detected during May 2018 surveys, if present. No documented occurrences within 5 miles of the project site (CDFW 2018).
Bell's sage sparrow	*Artemisiospiza belli belli*	BCC/WL/City	Nests and forages in coastal scrub and dry chaparral; typically in large, unfragmented patches dominated by chamise; nests in more dense patches but uses more open habitat in winter	Low potential to occur. This species prefers large unfragmented patches of coastal scrub dominated by chamise, which does not occur on site. The lack of contiguous habitat and small size of the shrubs makes it unlikely for this species to occur.
California horned lark	*Eremophila alpestris actia*	None/WL/City	Nests and forages in grasslands, disturbed lands, agriculture, and beaches; nests in alpine fell fields of the Sierra Nevada	Low potential to occur. Limited suitable habitat for this species on site. Additionally, this species was not detected during the May 2018 surveys, if present. No documented occurrences within 5 miles of the project site (CDFW 2018).
western yellow-billed cuckoo (nesting)	*Coccyzus americanus occidentalis*	FT, BCC/SE/City	Nests in dense, wide riparian woodlands and forest with well-developed understories	Not expected to occur. No suitable dense riparian habitat with well-developed understory occurs on site or within the study area.

Common Name	Scientific Name	Status (Federal/State/City)	Habitat	Project Site
Fishes				
arroyo chub	*Gila orcuttii*	None/SSC/City	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths >40 centimeters (16 inches); substrates of sand or mud	Not expected to occur. The channels on site are man-made and ephemeral, and do not provide enough water to support this species.
Santa Ana sucker	*Catostomus santaanae*	FT/SSC/City	Small, shallow, cool, clear streams less than 7 meters (23 feet) in width and a few centimeters to more than a meter (1.5 inches to more than 3 feet) in depth; substrates are generally coarse gravel, rubble, and boulder	Not expected to occur. The site is outside of the species' known geographic range.
Santa Ana speckled dace	*Rhinichthys osculus* ssp. 3	None/SSC/City	Headwaters of the Santa Ana and San Gabriel Rivers; may be extirpated from the Los Angeles River system	Not expected to occur. The site is outside of the species' known geographic range.
unarmored threespine stickleback	*Gasterosteus aculeatus williamsoni*	FE/SE, FP/City	Slow-moving and backwater areas	Not expected to occur. The channels on site are man-made and ephemeral, and do not provide enough water to support this species.
Mammals				
San Diego desert woodrat	*Neotoma lepida intermedia*	None/SSC/City	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	Low potential to occur. Coastal scrub habitat occurs in the study area; however, woodrat middens were not detected on site during reconnaissance-level surveys conducted in May 2018.
big free-tailed bat	*Nyctinomops macrotis*	None/SSC/None	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water	Low potential to roost and forage. The Freemont cottonwood trees within the Lower San Fernando Detention Basin provides limited habitat for this species; however, suitable cavities were not identified during the site visit. No documented occurrences within 5 miles of the project site (CDFW 2018).

Common Name	Scientific Name	Status (Federal/State/City)	Habitat	Project Site
pallid bat	*Antrozous pallidus*	None/SSC/City	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	Low potential to roost and forage. Project site is disturbed, lacking suitable habitat (i.e., rocky outcrops) to support this species. The Freemont cottonwood trees within the Lower San Fernando Detention Basin provides limited habitat for this species. No documented occurrences within 5 miles of the project site (CDFW 2018).
American badger	*Taxidea taxus*	None/SSC/None	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Not expected to occur. Open grasslands and scrub habitat on site lack friable soils suitable for this species. Additionally, suitable burrows for this species were not detected during the reconnaissance-level surveys conducted in May 2018.
Los Angeles pocket mouse	*Perognathus longimembris brevinasus*	None/SSC/City	Lower-elevation grassland, alluvial sage scrub, and coastal scrub	Low potential to occur. Coastal scrub habitat (i.e., brittle bush scrub) occurs on site; however, suitable burrows were not identified during the site visit conducted in May 2018. No occurrences within 5 miles of project site (CDFW 2018).
San Diego black-tailed jackrabbit	*Lepus californicus bennettii*	None/SSC/City	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	Low potential to occur. Open coastal scrub habitat for this species occurs on site; however, this species was not detected during the reconnaissance-level surveys during May 2018. No documented occurrences within 5 miles (CDFW 2018).
southern grasshopper mouse	*Onychomys torridus ramona*	None/SSC/City	Grassland and sparse coastal scrub	Low potential to occur. Grassland and sparse coastal scrub habitat occurs on-site; however, suitable burrows were not identified during the site visits conducted in May 2018. No documented occurrences within 5 miles (CDFW 2018).

Common Name	Scientific Name	Status (Federal/State/City)	Habitat	Project Site
spotted bat	*Euderma maculatum*	None/SSC/None	Foothills, mountains, desert regions of southern California, including arid deserts, grasslands, and mixed-conifer forests; roosts in rock crevices and cliffs; feeds over water and along washes	Not expected to roost and low potential to forage. The project site lacks suitable roosting habitat (i.e., rock crevices and cliffs) that could support this species.
Townsend's big-eared bat	*Corynorhinus townsendii*	None/SCT, SSC/City	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels	Low potential to roost, moderate potential to forage. This species is extremely sensitive to disturbance and unlikely to roost within the well-trafficked man-made structures on site. Closest documented occurrence is approximately 4.3 miles east of the project site (CDFW 2018).
western mastiff bat	*Eumops perotis californicus*	None/SSC/City	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	Not expected to roost, moderate potential to forage. No suitable roosting habitat (i.e. tunnels, vertical cliffs, deciduous forest) exists within the project site. This species could occasionally forage in the Freemont cottonwood forest habitat within the study area.
western yellow bat	*Lasiurus xanthinus*	None/SSC/None	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms	Low potential to roost and forage. This species prefers desert riparian and palm habitat not present on-site. Additionally, this species has not been documented within 5 miles of the project site (CDFW 2018).
Californian leaf-nosed bat	*Macrotus californicus*	None/SSC/City	Riparian woodlands, desert wash, desert scrub; roosts in mines and caves, occasionally buildings	Low potential to roost, moderate potential to forage. No suitable roosting habitat (i.e., mines, caves, buildings) exists within the project facilities on-site; however, this species has the potential to forage within the Freemont cottonwood habitat within the Lower San Fernando Detention Basin.

Common Name	Scientific Name	Status (Federal/State/City)	Habitat	Project Site
Invertebrates				
vernal pool fairy shrimp	*Branchinecta lynchi*	FT/None/None	Vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats	Not expected to occur. The site is outside of the species' known geographic range and no vernal pools were documented on site.

Status Legend

Federal

- FE: Federally Endangered
- FT: Federally Threatened
- BCC U. S. Fish & Wildlife Service Birds of Conservation Concern
- TH American Fisheries Society - Threatened
- VU American Fisheries Society - Vulnerable

State

- SCT: State candidate for listing as threatened)
- FP: California Fully Protected species
- SE: State listed as endangered
- ST: State listed as threatened
- SSC: California Species of Special Concern; considered by CDFW as vulnerable to extinction in California due to declining populations or habitat.
- WL State Watch List

Local Designation

Species locally designated or recognized by the City of Los Angeles, Northwest Valley Planning Subregion

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Attachment G

Avoidance and Minimization Measures

Avoidance and Minimization Measures

The Los Angeles Department of Water and Power (LADPW) implements the avoidance and minimization measures listed below to avoid or minimize adverse impacts to fish and wildlife resources during maintenance activities associated with the Van Norman Complex (VNC) Ongoing Maintenance Program.

AMM-1 Resource Protection

Designated Biologist. A Designated Biologist monitors all ground- or vegetation-disturbing activities within sensitive habitat or aquatic areas in the VNC. The Designated Biologist shall be knowledgeable and experienced in the biology and natural history of local fish and wildlife resources and able to identify those resources present at the VNC. The Designated Biologist works with the operations and maintenance manager to halt or redirect any activity to order any reasonable measure to avoid or minimize impacts to fish and wildlife resources. The Designated Biologist will confirm that maintenance activities in riparian areas occur no more than once every three years. The Designated Biologist will also confirm that maintenance within blue elderberry stands is limited to the understory and lower limbs of blue elderberry trees are pruned with hand tools.

Leave Wildlife Unharmed. The Designated Biologist is present during all vegetation-removal and rough grading activities to monitor for non-listed, special-status, and/or common ground-dwelling vertebrates encountered in the path of project-related activities. The Designated Biologist makes every effort to relocate the species out of harm's way to the extent feasible by doing one of the following:

1. Use shovel, rake, or similar hand tool to gently re-direct the animal out of work area;
2. Install silt fence or other exclusionary fencing to prevent species from re-entering disturbance area; or
3. If the Designated Biologist has the appropriate handling permits, he/she may capture/relocate species to appropriate habitat outside the disturbance area.

The Designated Biologist works with the operation and maintenance manager to temporarily halt or redirect activities until the species is determined to be out of harm's way. Any exclusionary devices is checked by a biological monitor on a weekly basis to check/ensure continued exclusionary device effectiveness.

Bird Breeding/Nesting Period. LADWP makes every effort to conduct project activities outside of the bird breeding/nesting season from February 1 through September 15 to avoid impacts to breeding/nesting birds. If work cannot be avoided, then the Designated Biologist will conduct two focused surveys for breeding/nesting birds no earlier than 3 days prior to the beginning of project-related activities. If any nests are found, the Designated Biologist implements an avoidance buffer to ensure activities do not affect the nest. The breeding habitat/nest site is fenced and/or flagged in all directions, and this area is not be disturbed until the nest becomes inactive; the young have fledged; the young are no longer being fed by the parents; the young have left the area; and the young will no longer be impacted by the project as determined by the Designated Biologist.

Pre-Activity Surveys. The Designated Biologist conducts a pre-activity general biological survey for species of concern, including western spadefoot toad, likely to be found in the area or using the area to forage during the proposed maintenance activities. The surveys are conducted within 1 week prior to start of work. Survey limits are determined by the Designated Biologist and include all areas within the project footprint. Should any species of concern be found, the LADWP shall develop and implement a plan for the protection of these species.

AMM-2 Habitat Protection

Demarcate Work Area Boundary. In consultation with the Designated Biologist, LADWP will demarcate the outer perimeter of the work area to prevent damage to adjacent habitat and to provide visual orientation to its limits. Marking will be in place during all periods of operation. All persons employed or otherwise working on the project site will be instructed about the restrictions that the marking represents. LADWP will remove all temporary flagging, fencing, and/or barriers from the project site and vicinity of the stream upon completion of project activities.

Hours of Operation and Lighting. LADWP's maintenance activities take place during daylight hours only. No night work or lights are authorized.

AMM-3 Placement of In-Stream Structures

Stranded Aquatic Life. When water is present, the Designated Biologist checks daily for stranded aquatic life until the water level no longer supports aquatic organisms. All reasonable efforts will be made to capture and move all stranded aquatic life observed in the dewatered areas. Capture methods may include fish landing nets, dip nets, buckets, and by hand. Captured aquatic life will be released immediately in the closest body of water adjacent to the work site.

Unauthorized Materials. Any materials placed in seasonally dry portions of a stream that could be washed downstream or could be deleterious to aquatic life will be removed prior to inundation by high flows.

Excavation Spoils. No castings or spoil from the excavation operations will be placed on the stream side of the project site. Spoil storage sites will not be located within a stream, where spoils can be washed back into a stream, or where they will cover aquatic or riparian vegetation.

AMM-4 Turbidity and Siltation

Erosion Control Measures. LADWP uses erosion control measures as specified in the Storm Water Pollution Plan (SWPPP) or Best Management Plan (BMP) prepared by LADWP's Wastewater group Qualified Stormwater Developer (QSD) throughout all phases of operation where sediment runoff from exposed slopes threatens to enter a river, stream, or lake. Any type of erosion control blanket or other product will not use plastic and will be weed-free. If netting is to be used, it must be flexible (e.g., "soft" hemp) so that snakes or other animals do not become trapped in the netting.

Sediment and Runoff Control. Sediment from project-related activities are not be placed in seasonally dry portions of the stream where it might likely be washed into the stream or inundated by high flows, or where it is likely to have a negative impact on emergent native vegetation, or where it is likely to have a negative impact on native trees. Preparation will be made so that runoff from steep, erodible surfaces will be diverted into stable areas with little

erosion potential. Frequent water checks will be placed on dirt roads, cat tracks, or other work trails to control erosion.

Contaminated Site Water. Water containing mud, silt, or other pollutants from equipment washing or other activities will not be allowed to enter a flowing stream, a dry ephemeral stream, or into storm drains. Such water will be settled, filtered, or otherwise treated prior to discharge back into the water body.

Minimize Turbidity and Siltation. LADWP takes precautions to minimize turbidity/siltation during maintenance and post-maintenance periods. Precautions include, but are not limited to, pre-activity planning to identify site-specific turbidity and siltation minimization measures and best management erosion control practices; best management erosion control practices during project activity; and settling, filtering, or otherwise treating silty and turbid water prior to discharge into a stream or storm drain.

AMM-5 Equipment and Access

Staging and Vehicle Storage. Staging/storage areas for equipment and materials will be located outside of the stream in an area selected due to its non-vegetated status.

AMM-6 Pollution, Litter and Cleanup

Operating Equipment and Vehicle Leaks. Any equipment or vehicles driven and/or operated within or adjacent to the ephemeral drainage will be checked and maintained daily to prevent leaks of materials that could be deleterious to aquatic and terrestrial life or riparian habitat. All refueling and maintenance of equipment and vehicles will be at least 150 feet from any aquatic habitat, wetland area, water body, or ephemeral drainages. Stationary equipment such as motors, pumps, generators, and welders, located within or adjacent to the stream, lake or ephemeral drainage will be positioned over drip pans. Stationary heavy equipment will have suitable containment to handle a catastrophic spill/leak. Clean up equipment such as extra boom, absorbent pads, skimmers, will be on site prior to the start of project-related activities.

Pollutants and Debris. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, waste, cement or concrete or washings thereof, asphalt, paint, oil or other petroleum products or any other substances which could be hazardous to aquatic life, or other organic or earthen material from any project-related activity will be allowed to contaminate the soil and/or enter into or placed where it may be washed by rainfall or runoff into, any stream/channel/culvert/ditch. Any of these materials, placed within or where they may enter a stream/channel/culvert/ditch, by LADWP or any party working under contract, or with the permission of LADWP, will be removed immediately. When project-related activities are completed, any excess materials or debris will be removed from the work area. No rubbish will be deposited within 150 feet of the high water mark of any stream.

Pollution Compliance. LADWP will comply with all litter and pollution laws. All contractors, subcontractors, and employees will also obey these laws, and it will be the responsibility of the LADWP to ensure compliance.

Trash Receptacles. LADWP will install and use fully covered trash receptacles with secure lids (wildlife proof) that contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash generated by work force personnel. Following maintenance activities, all trash and maintenance debris will be removed from the project site.

Remove Temporary Flagging, Fencing, and Barriers. LADWP will remove all temporary flagging, fencing, and/or barriers from the project site and vicinity of the stream upon completion of project activities.

AMM-7 Exotic Species Removal and Control

LADWP will also perform exotic species removal and control as defined by the following measures.

Remove Invasive Vegetation by Hand. Whenever practicable, invasive species will be removed by hand or by hand-operated power tools rather than by chemical means. Where chemical control of non-native vegetation is deemed necessary within the bed, bank, or channel of the stream, and there is a possibility that the herbicides could contact water, LADWP will employ only those herbicides that are approved for aquatic use. If surfactants are required, they will be restricted to non-ionic chemicals that are approved for aquatic use. All herbicide use conditions for mixing, application, and clean-up will conform to all applicable federal, state, and local regulations. Any application of herbicide will be done by a licensed or certified applicator in accordance with all applicable, federal, state, and local regulations. Herbicides will be used only for selective treatment of non-native vegetation identified as invasive by California Invasive Plant Council.

Invasive Plant Control/Eradication. To minimize the spread of invasive plant species to uninfested areas within and outside of the project site, LADWP implements control and eradication activities prior to the initiation of ground-disturbing activities. LADWP utilizes control and eradication methods that are specific to the target species, avoid the spread and proliferation of other invasive plant species, and minimize damage to and/or removal of native plant species. All non-native and invasive plants controlled or eradicated at the project site will be removed and disposed of in a manner that prevents the introduction and establishment of those species to new areas.

Invasive Species. LADWP will conduct project activities in a manner that prevents the introduction, transfer, and spread of invasive species, including plants, animals, and microbes (e.g., algae, fungi, parasites, bacteria), from one project site and/or watershed to another. Prevention best management practices and guidelines for invasive plants can be found on the California Invasive Plant Council's website (http://www.cal-ipc.org/ip/prevention/index.php).

Prevention best management practices and guidelines for invasive mussels and aquatic species can be found at the Stop Aquatic Hitchhikers website (http://www.protectyourwaters.net/).

Inspection of Project Equipment. LADWP inspects all vehicles, tools, waders and boots, and other project-related equipment and removes all visible soil/mud, plant materials, and animal remnants prior to entering and exiting the stream and/or between each use in different watersheds.

Decontamination of Project Equipment. LADWP decontaminates all tools, waders and boots, and other equipment that will enter the streambed and make contact with water or wetted soils prior to entering and after exiting the stream.

If decontamination for aquatic invasive animal species is applicable, LADWP will decontaminate project gear and equipment utilizing one of three methods: drying, using a hot water soak, or freezing, as appropriate to the type of gear or equipment. For all methods, LADWP will begin the decontamination process by thoroughly scrubbing equipment, paying close attention to small crevices such as boot laces, seams, net corners, etc., with a stiff-bristled brush to remove all organisms. To decontaminate by drying, LADWP will allow equipment to dry thoroughly (i.e., until there is a complete absence of water), preferably in the sun, for a minimum of 48 hours. To decontaminate using a hot water soak, LADWP will immerse equipment in 140°F or hotter water and soak for a minimum of 5 minutes.

To decontaminate by freezing, LADWP will place equipment in a freezer 32°F or colder for a minimum of 8 hours. Repeat decontamination is required only if the equipment and clothing is removed from the site, used within a different watersheds, and returned to the project site.

Decontamination of Vehicles and Equipment. If decontamination for aquatic invasive animal species is applicable, LADWP will decontaminate vehicles and other project-related equipment too large to immerse in a hot water bath by pressure washing with hot water a minimum of 140°F at the point of contact or 155°F at the nozzle. Additionally, LADWP will flush watercraft engines and all areas that could contain standing water (e.g., storage compartments) for a minimum of 10 minutes. Following the hot water wash, LADWP will dry all vehicles, watercraft, and other large equipment as thoroughly as possible.

Decontamination Sites. If decontamination for aquatic invasive animal species is applicable, LADWP will perform decontamination of vehicles, watercraft, and other project gear and equipment in a designated location where runoff can be contained and not allowed to pass into drainage areas and other sensitive habitat areas.

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APPENDIX C

Cultural Report

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January 7, 2019 10649.33

Christopher Lopez
Environmental Planning and Assessment
Los Angeles Department of Water and Power
111 N. Hope Street, Room 1044
Los Angeles, California 90012
213.367.6376

Subject: Section 106-Compliant Cultural and Paleontological Resources Letter Report in Support of the Van Norman Complex Routine Maintenance Project, Los Angeles City, Los Angeles County, California

Dear Mr. Lopez:

This cultural resources letter report provides the results of a cultural and paleontological resources assessment for the approximate 2.1-square-mile (1,340-acre) Los Angeles Department of Water and Power (LADWP) Van Norman Complex Routine Maintenance Project (proposed project), located in the City of Los Angeles, in Los Angeles County, California.

This cultural and paleontological resources study included the following components: (1) a California Historical Resources Information System records search covering the proposed project sites plus a 1-mile radius at the South Central Coast Information Center (SCCIC), (2) a review of the California Native American Heritage Commission's (NAHC's) Sacred Lands File, (3) a paleontological records search of the Natural History Museum of Los Angeles County's (LACM's) fossil localities, (4) a Phase I pedestrian survey of the project area for cultural and paleontological resources, and (5) recommendations.

This study is compliant with federal regulations under Section 106 of the National Historic Preservation Act (NHPA) to assist the U.S. Army Corps of Engineers with its permitting obligations. In addition, this study is in compliance with California Public Resources Code (PRC) Section 5024.1, Sections 21083.2 and 21084.1 of the California Environmental Quality Act (CEQA) (California PRC, Section 21000 et. seq.), and Section 15064.5 of the CEQA Guidelines (14 CCR 15000 et seq.). PRC Section 5024.1 requires the identification and evaluation of historical resources that may be affected by a proposed project.

Project Location and Description

LADWP seeks to perform routine operation and maintenance activities in and around various earthen and concrete-lined drainage facilities throughout the Van Norman Complex (VNC) in order to ensure that the facilities are functioning properly. Due to the unique characteristics at each facility, the specific activities performed would vary on a site-by-site basis. However, the activities can generally be characterized as vegetation management-type activities, which include removing overgrown vegetation and accumulated sediment and mowing herbaceous vegetation. These maintenance activities would occur annually, or on an as-needed basis and would be undertaken by LADWP maintenance staff or contracted workers. In performing these maintenance activities, maintenance staff would use equipment ranging from hand tools, mowers, loaders, bobcat dozers, and back hoes.

The VNC (proposed project area) is located within the neighborhood of Granada Hills, approximately 20 miles northeast of downtown Los Angeles. The approximately 1,340-acre complex sits at the foothills of the Santa Susana Mountains in the northern portion of the San Fernando Valley. It is located approximately 0.45 miles northwest of the Interstate 5 and Interstate 405 interchange, and generally bounded by Interstate 5 to the northeast and east, Balboa Avenue to the northwest, Woodley Avenue to the west, and Rinaldi Street and commercial and residential development to the south. Specifically, the project area is within Township 3 North, Range 15 West, Section 30, 31, and 32, and Township 2 North, Range 15 West, Section 5 and 6, San Bernardino Base and Meridian, as shown on the U.S. Geological Survey 7.5-minute San Fernando quadrangle map (Attachment A, Figure 1).

Regulatory Setting

The treatment of cultural resources is governed by federal, state, and local laws and regulations. There are specific criteria for determining whether prehistoric and historic sites or objects are significant and/or protected by law. For instance, federal and state significance criteria generally focus on the resource's integrity and uniqueness, its relationship to similar resources, and its potential to contribute important information to scholarly research. As a whole, the laws and regulations seek to avoid impacts to significant prehistoric or historic resources, and, when avoidance is not feasible, to mitigate those impacts to less than significant levels. In some cases, mitigation can be achieved through "preservation in place" techniques; but when such techniques are infeasible, mitigation can be accomplished via data recovery.

Federal

Title 36 Code of Federal Regulations, Part 800, and Section 106 of the NHPA

The NHPA established the National Register of Historic Places (NRHP) and the President's Advisory Council on Historic Preservation (ACHP), and provided that states may establish State Historic Preservation Officers (SHPOs) to carry out some functions of the NHPA. Most significantly for federal agencies responsible for managing cultural resources, Section 106 of the NHPA directs the following:

> The head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall, prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the NRHP.

Section 106 also affords the ACHP a reasonable opportunity to comment on the undertaking (16 USC 470f).

Title 36 of the Code of Federal Regulations (CFR), Part 800, implements Section 106 of the NHPA. It defines the steps necessary to identify historic properties (those cultural resources listed in or eligible for listing in the NRHP), including the following: consult with federally recognized Native American tribes to identify resources with important cultural values; determine whether or not they may be adversely affected by a proposed undertaking; and outline the process for eliminating, reducing, or mitigating the adverse effects.

The content of 36 CFR 60.4 defines criteria for determining eligibility for listing in the NRHP. The significance of cultural resources identified during an inventory must be formally evaluated for historical significance in consultation with the California SHPO to determine if the resources are eligible for inclusion in the NRHP. Cultural resources may be considered eligible for listing if they possess integrity of location, design, setting, materials, workmanship, feeling, and association. The criteria for determining eligibility are essentially the same in content and order as those outlined under the CEQA, but the criteria under NHPA are labeled A through D (rather than 1–4 under CEQA).

Regarding criteria A through D of Section 106, the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, cultural resources, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that, according to 36 CFR 60.4:

A. Are associated with events that have made a significant contribution to the broad patterns of our history; or
B. Are associated with the lives of persons significant in our past; or
C. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. Have yielded or may be likely to yield, information important in prehistory or history.

The current evaluation of prehistoric cultural resources was performed with the intent of assessing historical significance under criterion D. The ability of an archaeological site to yield important information to history or prehistory is based upon the site's ability to address specific research themes.

The ACHP provides methodological and conceptual guidance for identifying historic properties. In 36 CFR 800.4, the steps necessary for identifying historic properties include:

- Determine and document the area of potential effect (APE) (36 CFR 800.16(d));
- Review existing information on historic properties within the APE, including preliminary data;
- Confer with consulting parties to obtain additional information on historic properties or concerns about effects to these;
- Consult with Native American tribes (36 CFR 800.3(f)) to obtain knowledge on resources that are identified with places which they attach cultural or religious significance;
- Appropriate fieldwork (including phased identification and evaluation); and
- Apply NRHP criteria to determine a resource eligibility for NRHP listing.

Fulfilling these steps is generally thought to constitute a reasonable effort to identify historic properties within the APE for an undertaking. The obligations of a federal agency must also assess whether an undertaking will have an adverse effect on cultural resources. An undertaking will have an adverse effect when (36 CFR Part 800.5(1)):

> an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those

> that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

The process of determining whether an undertaking may have an adverse effect requires the federal agency to confer with consulting parties in order to appropriately consider all relevant stakeholder concerns and values. Consultation regarding the treatment of a historic property may result in a Programmatic Agreement and/or Memorandum of Agreement between consulting parties that typically include the lead federal agency, SHPO, and Native American tribes if they agree to be signatories to these documents. Treatment documents—whether resource-specific or generalized—provide guidance for resolving potential or realized adverse effects to known historic properties or to those that may be discovered during implementation of the undertaking. In all cases, avoidance of adverse effects to historic properties is the preferred treatment measure, and it is generally the burden of the federal agency to demonstrate why avoidance may not be feasible. Avoidance of adverse effects may not be feasible if it would compromise the objectives of an undertaking that can be reasonably said to have public benefit. Other non-archaeological considerations about the benefit of an undertaking may also apply, resulting in the determination that avoidance is not feasible. In general, avoidance of adverse effects is most difficult when a permitted undertaking is being implemented, such as identification of an NRHP-eligible archaeological resource during earthmoving.

State

The California Register of Historical Resources

In California, the term "historical resource" includes but is not limited to "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (California PRC, Section 5020.1(j)). In 1992, the California legislature established the California Register of Historical Resources (CRHR) "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (California PRC, Section 5024.1(a)). A resource is eligible for listing in the CRHR if the State Historical Resources Commission determines that it is a significant resource and that it meets any of the following criteria (California PRC, Section 5024.1(c)):

1. Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. 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.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

Resources less than 50 years old are not considered for listing in the CRHR but may be considered if it can be demonstrated that sufficient time has passed to understand the historical importance of the resource (see 14 CCR 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing on the NRHP are automatically listed on the CRHR. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys. The SHPO maintains the CRHR.

CEQA Statues and Guidelines

The following sections of the CEQA Statute and Guidelines are relevant to the analysis of archaeological and historic resources:

1. California PRC Section 21083.2(g): Defines "unique archaeological resource."
2. California PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a): Define historical resources. In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource." It also defines the circumstances when a project would materially impair the significance of a historical resource.
3. California PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e): These statutes set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
4. California PRC Sections 21083.2(b)-(c) and CEQA Guidelines Section 15126.4: These statutes and regulations provide information regarding the mitigation framework for archaeological and historic resources, including options of preservation-in-place mitigation measures. Preservation-in-place is identified as the preferred manner of mitigating impacts to significant archaeological sites.

Under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (California PRC, Section 21084.1; 14 CCR 15064.5(b)). A "historical resource" is any site listed or eligible for listing in the CRHR.

The term "historical resource" also includes any site described in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of California PRC, Section 5024.1(q)).

CEQA also applies to "unique archaeological resources." PRC Section 21083.2(g) defines a "unique archaeological resource" as any archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

All historical resources and unique archaeological resources—as defined by statute—are presumed to be historically or culturally significant for purposes of CEQA (California PRC, Section 21084.1; 14 CCR 15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (California PRC, Section 21084.1; 14 CCR 15064.5(a)). A site or resource that does not meet the definition of "historical

resource" or "unique archaeological resource" is not considered significant under CEQA and need not be analyzed further (California PRC, Section 21083.2(a); 14 CCR 15064.5(c)(4)).

Under CEQA any significant cultural impact results from a "substantial adverse change in the significance of an historical resource [including a unique archaeological resource]" due to the "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (14 CCR 15064.5(b)(1); California PRC, Section 5020.1(q)). In turn, the significance of a historical resource is materially impaired when a project:

1. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR; or
2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
3. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA.

Pursuant to this section, CEQA requires the lead agency to first evaluate whether a project site contains any "historical resources," then assess whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance is materially impaired.

When a project significantly affects a unique archaeological resource, CEQA imposes special mitigation requirements:

> If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment, in no order of preference, may include, but are not limited to, any of the following:
>
> 1. Planning construction to avoid archaeological sites.
> 2. Deeding archaeological sites into permanent conservation easements.
> 3. Capping or covering archaeological sites with a layer of soil before building on the sites.
> 4. Planning parks, greenspace, or other open space to incorporate archaeological sites.

Paleontological resources are also afforded consideration under CEQA. Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) includes the following question to be answered in the Environmental Checklist (Appendix G, Section V, Part c): Would the project "[d]irectly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" California PRC Section 5097.5 specifies that any unauthorized removal of paleontological remains is a misdemeanor. Further, the California Penal Code Section 622.5 sets the penalties for damage to or removal of paleontological resources.

California PRC, Section 21083.2(b)(1)-(4).

If preservation-in-place options are not feasible, mitigation may be accomplished through data recovery (California PRC, Section 21083.2(d); 14 CCR 15126.4(b)(3)(C)). PRC section 21083.2(d) states the following:

> Excavation as mitigation shall be restricted to those parts of the unique archaeological resource that would be damaged or destroyed by the project. Excavation as mitigation shall not be required for a unique archaeological resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource, if this determination is documented in the environmental impact report.

Assembly Bill 52

Assembly Bill (AB) 52 of 2014 amended California PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3.

Consultation with Native Americans

AB 52 formalizes the consultation process between lead agencies and tribal representatives, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the project site and/or area. This may include tribes that are not federally recognized. Lead agencies are required to begin consultation prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report (EIR).

Tribal Cultural Resources

Section 4 of AB 52 adds Sections 21074 (a) and (b) to the PRC, addressing tribal cultural resources and cultural landscapes. Section 21074 (a) defines tribal cultural resources as one of the following:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
   a. Included or determined to be eligible for inclusion in the California Register of Historical Resources.
   b. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Section 1 (a)(9) of AB 52 establishes that "a substantial adverse change to a tribal cultural resource has a significant effect on the environment." Effects on tribal cultural resources should be considered under CEQA. Section 6 of AB 52 adds Section 21080.3.2 to the PRC, which states that parties may propose mitigation measures "capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource." Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to

tribal cultural resources, the consultation shall include those topics (California PRC, Section 21080.3.2(a)). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3(a)).

Native American Historic Cultural Sites

The Native American Historic Resources Protection Act (California PRC, Section 5097 et seq.) addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NAHC to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy a Native American historic or cultural site that is listed or may be eligible for listing in the CRHR.

California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act, enacted in 2001, requires all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The act also provides a process for the identification and repatriation of these items to the appropriate tribes.

California Health and Safety Code

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in PRC Section 5097.98.

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. California Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the county coroner has examined the remains (Section 7050.5b). If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours. In accordance with PRC Section 5097.98, the NAHC shall notify the most likely descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. The inspection must be completed within 48 hours of notification of the MLD by the NAHC. The MLD may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

Los Angeles County

Historical, cultural, and paleontological resources are discussed in the Conservation and Natural Resources Element of the *Los Angeles County General Plan 2035, Public Review Draft 2012*. The County of Los Angeles (County) recognizes that historical and cultural resources are an important part of the County's identity and

contribute to the local economy. The goals and policies that apply to historical, cultural, and paleontological resources are as follows:

- Policy C/NR 14.1: Mitigate all impacts from new development on or adjacent to historic, cultural, and paleontological resources to the greatest extent feasible.
- Policy C/NR 14.2: Support an inter-jurisdictional collaborative system that protects and enhances the County's historic, cultural, and paleontological resources.
- Policy C/NR 14.3: Support the preservation and rehabilitation of historic buildings.
- Policy C/NR 14.4: Ensure proper notification procedures to Native American tribes in accordance with Senate Bill 18 (2004).

The County's General Plan Environmental Impact Report addresses potential impacts to paleontological resources and details procedures for reducing the impacts to a less-than-significant level (County of Los Angeles 2014):

> A paleontological resources assessment shall be performed to determine the paleontological sensitivity of the proposed project site. Assessments shall include a records search at the Natural History Museum of Los Angeles County (NHM) and/or other scientific institution that maintains records of fossil localities in the region. If the NHM indicates that the proposed project site is highly sensitive, a qualified paleontologist shall be retained to perform a field survey to further characterize or identify significant paleontological resources.

Local

Los Angeles Historic-Cultural Monuments

Local landmarks in the City of Los Angeles are known as Historic-Cultural Monuments (HCMs) and are under the aegis of the Planning Department, Office of Historic Resources. They are defined in the Cultural Heritage Ordinance as follows (Los Angeles Municipal Code, Section 22.171.7, added by Ordinance No. 178,402, effective April 2, 2007):

> Historic-Cultural Monument (Monument) is any site (including significant trees or other plant life located on the site), building or structure of particular historic or cultural significance to the City of Los Angeles, including historic structures or sites in which the broad cultural, economic or social history of the nation, State or community is reflected or exemplified; or which is identified with historic personages or with important events in the main currents of national, State or local history; or which embodies the distinguishing characteristics of an architectural type specimen, inherently valuable for a study of a period, style or method of construction; or a notable work of a master builder, designer, or architect whose individual genius influenced his or her age.

This definition has been broken down into the following four HCM designation criteria that closely parallel the existing NRHP and CRHR criteria:

1. Is identified with important events in the main currents of national, State or local history, or exemplifies significant contributions to the broad cultural, political, economic or social history of the nation, state, city, or community; or

2. Is associated with the lives of Historic Personages important to national, state, city, or local history; or
3. Embodies the distinctive characteristics of a style, type, period, or method of construction; or represents a notable work of a master designer, builder or architect whose genius influenced his or her age; or possesses high artistic values; or
4. Has yielded, or has the potential to yield, information important to the pre-history or history of the nation, state, city or community.

Historic Preservation Overlay Zones

As described by the City of Los Angeles Office of Historic Resources, the Historic Preservation Overlay Zone Ordinance was adopted in 1979 and amended in 2004 to identify and protect neighborhoods with distinct architectural and cultural resources. Historic Preservation Overlay Zones, commonly known as historic districts, provide for review of proposed exterior alterations and additions to historic properties within designated districts.

Regarding Historic Preservation Overlay Zone eligibility, City of Los Angeles Ordinance Number 175891 states (Los Angeles Municipal Code, Section 12.20.3):

> Features designated as contributing shall meet one or more of the following criteria:
>
> 1. adds to the Historic architectural qualities or Historic associations for which a property is significant because it was present during the period of significance, and possesses Historic integrity reflecting its character at that time; or
> 2. owing to its unique location or singular physical characteristics, represents an established feature of the neighborhood, community or city; or
> 3. retaining the building, structure, Landscaping, or Natural Feature, would contribute to the preservation and protection of an Historic place or area of Historic interest in the City.

Regarding effects on federal and locally significant properties, Los Angeles Municipal Code (Section 91.106.4.5, Permits for Historical and Cultural Buildings), states:

> The department shall not issue a permit to demolish, alter or remove a building or structure of historical, archaeological or architectural consequence if such building or structure has been officially designated, or has been determined by state or federal action to be eligible for designation, on the National Register of Historic Places, or has been included on the City of Los Angeles list of historic cultural monuments, without the department having first determined whether the demolition, alteration or removal may result in the loss of or serious damage to a significant historical or cultural asset. If the department determines that such loss or damage may occur, the applicant shall file an application and pay all fees for the California Environmental Quality Act Initial Study and Check List, as specified in Section 19.05 of the Los Angeles Municipal Code. If the Initial Study and Check List identifies the historical or cultural asset as significant, the permit

shall not be issued without the department first finding that specific economic, social or other considerations make infeasible the preservation of the building or structure.

Background Research

Archaeological Records Search

On April 30, 2018, Dudek completed a search of the California Historical Resources Information System at the SCCIC, located on the campus of California State University, Fullerton. This search included mapped prehistoric, historical, and built-environment resources; Department of Parks and Recreation site records; technical reports; archival resources; and ethnographic references. Additional consulted sources included historical maps of the project area, the NRHP, the CRHR, the California Historic Property Data File, and the lists of California State Historical Landmarks, California Points of Historical Interest, and the Archaeological Determinations of Eligibility. The confidential records search results are provided in Attachment B.

Previously Conducted Cultural Resource Studies

The SCCIC records indicate that 72 previous cultural resources technical investigations have been conducted within 1.0 mile (1,608 meters) of the project area between 1971 and 2012. Of these, 10 previous studies have been conducted overlapping a portion the project area, 1 previously conducted study intersects the project area, and 3 studies are adjacent to the project area. All 72 technical investigations are summarized in Table 1.

Table 1. Previously Technical Studies Within the 1-Mile Search Buffer

Report Number	Author	Year	Report Title	Proximity to Project Area
LA-00014	Kelly, Roger E.	1973	Assessment of the Archaeological Resources and the Impact of Development of Highway 118 From Desoto Avenue to the San Diego Freeway in the San Fernando Valley	Outside
LA-00033	Anonymous	1974	Impact Assessment of Archaeological Resources by the Construction of Palmdale Maintenance Stations	Outside
LA-00051	Kelly, Roger E. and Gerald R. Gates	1974	Cultural Resources of Los Angeles Reservoir, City of Los Angeles	Overlap
LA-00097	Gates, Gerald R.	1975	Report on the Salvage Excavation of CA-Lan-493 and CA-LAn-645 Located in the Van Norman Reservoir Complex, City of Los Angeles	Overlap
LA-00368	Raab, Mark L.	1988	Report of Archaeological Reconnaissance Survey Of: the Proposed Metropolitan Water District of Southern California Joseph Jensen Filtration Plant Expansion	Adjacent
LA-00486	Unavailable	1977	Archaeological Survey Report on Eighty (80) Acres Located in the Granada Hills Area of the County of Los Angeles	Outside
LA-00487	Fontaine, Keith J. Lee	1977	Archaeological Field Test Report on Archaeological Site CA-LAN-786 Located in the Granada Hills Area of the County of Los Angeles	Outside

Table 1. Previously Technical Studies Within the 1-Mile Search Buffer

Report Number	Author	Year	Report Title	Proximity to Project Area
LA-00818	Gates, Gerald R.	1973	Archaeological Resources of the Van Norman Reservoir Area a Preliminary Report	Overlap
LA-01001	Schroth, Adella	1981	Archaeological Assessment of the Southeast Area Economic Development Project, City of Glendora, Los Angeles County, California	Outside
LA-01018	Singer, Clay A.	1980	Cultural Resource Survey and Impact Assessment for Tentative Tract No.37743, Near the Community of San Fernando, Los Angeles County, California	Outside
LA-01044	McIntyre, Michael J.	1977	Assessment of the Impact Upon Cultural Resources by the Proposed Development of O'melveny (bee Canyon) Park, Granada Hills	Outside
LA-01113	McIntyre, Michael J.	1976	Assessment of the Archaeological Impact by the Proposed Development of Tract No. 3d3287	Outside
LA-01151	Rechtman, Robert B. and Richard D. Aycock	1982	An Archaeological Resource Survey and Impact Report Assessment of a 9 Acre Parcel, Eastern Holy Cross Property, Los Angeles County, California	Outside
LA-01154	Colby, Susan M.	1982	An Archaeological and Resource Survey and Impact Assessment of Site D in the City of Los Angeles, California	Outside
LA-01432	Colby, Susan M.	1985	An Archaeological Resource Survey and Impact Assessment of Northern Parcels of Holy Cross Hospital Property, Mission Hills, Los Angeles County, California	Outside
LA-01464	Colby, Susan M.	1985	An Archaeological Resource Survey and Impact Assessment of a 10 + Acre Parcel at 10105 Mission Hills Road, Los Angeles County, California	Outside
LA-01510	White, Robert S.	1986	Archaeological Survey Report: the Sunset Farms Property, City of Los Angeles	Outside
LA-01730	Clewlow, William C. Jr.	1978	Archaeological Report Status of LAN-816 in Sunshine Canyon	Outside
LA-01847	Salls, Roy A.	1989	Report of Archaeological Reconnaissance Survey Of:44622, Lots 8, 11, and 12 15900 Valley View Court, Sylmar, California tract	Outside
LA-01981	Garfinkel, Alan P.	1972	The Andres Pico Adobe: a Research Proposal	Outside
LA-02006	Briuer, Frederick L.	1976	Assessment of the Archaeological Impact of the Proposed Zone Change of the 5 Acre Lot on Olden Street in Sylmar City of Los Angeles	Outside
LA-02083	Eberhart, Hal	1975	Draft Environmental Impact Report	Outside
LA-02095	Salls, Roy A.	1990	Report of Archaeological Reconnaissance Survey of Parcel C Parcel. Map No. L.a. 4587 Ga Project No. 8926 13258 Ralston Avenue, Sylmar, California 9134	Outside
LA-02231	Chartkoff, Joseph and Kerry Chartkoff	1966	University of California Los Angeles - Archaeological Survey Field Project Number Ucas-081-b Highway Construction Survey Vii-la-5-p.m. 43.4-45.6	Outside
LA-02371	Walker, Edwin F.	1936	A Ceremonial Site at Porter Ranch, San Fernando	Outside
LA-02402	Foster, John M. and Robert J. Wlodarski	1983	A Burial From the Van Norman Reservoir.	Overlap

Table 1. Previously Technical Studies Within the 1-Mile Search Buffer

Report Number	Author	Year	Report Title	Proximity to Project Area
LA-02488	Knight, Albert	1991	The Andres Pico Adobe	Outside
LA-02517	Wlodarski, Robert J.	1991	A Phase 1 Archaeological Study for Eight Areas Proposed for the New Los Angeles Police Training Academy, and Driver Training Facility, City of Los Angeles County, California	Overlap
LA-02526	Gamble, Lynn H.	1985	Letter Report: the Montevideo Country Club Project Planned for Topanga Canyon	Outside
LA-02540	Kaptain, Neal	1991	Cultural Resource Investigation Survey of Service Connection La-35 Joseph Jenson Filtration Plant Granada Hills, California	Outside
LA-02683	Engineering Science	1992	Draft Environmental Impact Report - Police Bond Program, Police Driver Training Facility	Overlap
LA-02892	Stone, David and Robert Sheets	1993	Phase I Archaeological Survey Report Pacific Pipeline Project Santa Barbara Coastal Reroutes Ethnohistoric Village Placement Locations	Outside
LA-02950	Anonymous	1992	Consolidated Report: Cultural Resource Studies for the Proposed Pacific Pipeline Project	Outside
LA-03009	Knight, Albert	1994	Damages to and Losses of Cultural Resources in Los Angeles County, California During the Riots, Fire Storms and Earthquakes of 1992-1994	Outside
LA-03289	Davis, Gene	1990	Mobil M-70 Pipeline Replacement Project Cultural Resource Survey Report for Mobil Corporation	Outside
LA-03587	King, Chester	1994	Prehistoric Native American Cultural Sites in the Santa Monica Mountains	Overlap
LA-03670	Getchell, Barbie Stevenson and John E. Atwood	1997	Cultural Resources Monitoring for the Stranwood Avenue to Sepulveda Boulevard Drain Project Located in the Community of Mission Hills, Los Angeles County, California	Outside
LA-04072	King, Chester	1995	Letter of August 20, 1995 to Colonel Rogers	Outside
LA-04088	Walker, Edwin Francis	1952	A Metate Site at San Fernando - (excerpt from) Five Prehistoric Archaeological Sites in Los Angeles County, California	Outside
LA-04104	Macko, Michael E.	1993	Cultural Resource Evaluation of the LADWP Power Plant 1–olive Line 1 Transmission Line Maintenance Project Los Angeles County, California	Outside
LA-04107	York, Andrew L. and Gene Davis	1991	B1r Route Variation Supplement & Templin Hwy Supplement to Mobile M-70 Pipeline Replacement Project Cultural Resources Survey Report	Adjacent
LA-04403	Duke, Curt	1999	Cultural Resource Assessment for the AT&T Wireless Services Facility Number R109.1, Located at the Interstate 5 and Interstate 405 Interchange, City of San Fernando, County of Los Angeles, California	Outside
LA-04499	Slawson, Dana N.	1998	Historical Resource Investigation for Health Structures Tract 52539	Outside

Table 1. Previously Technical Studies Within the 1-Mile Search Buffer

Report Number	Author	Year	Report Title	Proximity to Project Area
LA-04582	Duke, Curt	1999	Cultural Resource Assessment for Pacific Bell Mobile Services Facility La 823-03, County of Los Angeles, California	Outside
LA-04766	Duke, Curt	1999	Cultural Resource Assessment for Pacific Bell Mobile Services Facility La 219-01, County of Los Angeles, California	Outside
LA-05174	Iverson, Gary	1999	Negative Archaeological Survey Report:20180k	Outside
LA-05543	Duke, Curt	2001	Cultural Resource Assessment: Cingular Wireless Facility No. Vy 101-01 Los Angeles County, California	Outside
LA-06997	Foster, John M.	2002	Archaeological Investigation for Northeast Valley Animal Shelter (stranwood) Task Id No. Nev002 City of Los Angeles, California	Outside
LA-07008	Unknown	2002	Los Angeles Unified School District Site Expansion of Kennedy High School Facilities Located at 11254 Gothic Avenue, Granada Hills in the City of Los Angeles	Outside
LA-07082	Milburn, Douglas H.	2003	Archaeological Investigation at CA-LAN-1209/h, Cooper Creek Site, Northern San Gabriel Mountains, Los Angeles County, California	Outside
LA-07165	Thal, Erika	2005	CA-6392a/chips Telecommuunications12000 Blucher Avenue, Granada Hills, Ca Los Angeles County	Outside
LA-08255	Arrington, Cindy and Nancy Sikes	2006	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and Ii	Outside
LA-08839	Bonner, Wayne H.	2007	Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate Sv00871a (global Signal Monopine), 12690 North Balboa Boulevard, Granada Hills, Los Angeles County, California	Outside
LA-09068	Bonner, Wayne H.	2003	Cultural Survey Results for Cingular Wireless Facility Candidate Vy-351-01 (Woodley/Balboa), 13000 North Balboa Blvd., Granada Hills, Los Angeles County, California.	Outside
LA-09586	Bonner, Wayne H.	2008	Cultural Resources Records Search and site Visit Results for T-Mobile USA Candidate SV00875A(XR) (Knolwood Country Club), Granada Hills, Los Angeles County, California	Outside
LA-10003	Foster, John M.	2004	An Extended Phase I Archaeological Program, Northeast Valley Animal Shelter Mission Hills, California	Outside
LA-10004	Foster, John M.	2005	Archaeological Monitoring Program, Northeast Valley Animal Shelter Mission Hills, California	Outside
LA-10010	Maki, Mary K.	2004	Archaeological Record Search Results for the Cascades Business Park Project, Sylmar, Los Angeles County, California	Outside
LA-10179	Smith, Phil and Gary Iverson	2000	Highway Project Description - 1Y0201	Adjacent

Table 1. Previously Technical Studies Within the 1-Mile Search Buffer

Report Number	Author	Year	Report Title	Proximity to Project Area
LA-10642	Tang, Bai "Tom"	2010	Preliminary Historical/Archaeological Resources Study, Antelope Valley line Positive Train Control (PTC) Project Southern California Regional Rail Authority, Lancaster to Glendale, Los Angeles County, California	Outside
LA-10961	Abdo-Hintzman, Kholod, Hamilton, M. Colleen, and Warren, Keith	2010	Archaeological Phase III Data Recovery at Mission San Fernando for the Brand Park Community Center. Mission Hills, San Fernando Valley, California	Outside
LA-11086	Wlodarski, Robert J.	2009	Aviation/Artesia - LAR090 1765 Artesia Boulevard, Manhattan Beach, CA 90266	Outside
LA-11186	Wallace, James R. and Sara Dietler	2011	Archaeological Monitoring Report and Assessment for the Van Norman Chlorination Stations Nos. 1 & 2, Los Angeles, California	Overlap
LA-11606	Maxon, Patrick	2011	Phase I Cultural Resources Assessment, Sylmar Ground Return Replacement Project, Los Angeles County, California	Intersecting
LA-11663	Watson, Tracy	2012	McDonald's Restaurant no.834 Wireless Antenna Indoor Installation 11015 Sepulveda Boulevard Mission Hills, Los Angeles County, California	Outside
LA-11664	Loftus, Shannon	2011	Cultural Resource Records Search and Site Survey, AT&T Site LA0609 (44468) I-5 FWY/I-405 Fwy Interchange 12000 North Blucher Avenue, Granada Hills, Los Angeles County, California 91344	Outside
LA-11818	Dietler, Sara, Kry, Linda, and Gibson, Heather	2012	Phase I Cultural Resources Assessment for the Van Norman Complex Water Quality Improvement Project City of Los Angeles, California	Overlapping
LA-12526	Ehringer, Candace, Ramirez, Katherine, and Vader, Michael	2013	Santa Clarita Valley Sanitation District Chloride TMDL Facilities Plan Project, Phase I Cultural Resources Assessment	Outside
LA-12635	Millington, Chris, Dietler, Sara, Shawn, Brandi, and Gibson, Heather	2014	Cultural Resources Monitoring report for the San Fernando Substation Grounding Rods and Lateral Installation Project (I0329985) Mission Hills, City of Los Angeles, Los Angeles County, California	Outside
LA-12766	Strudwick, Ivan	2013	Results of Cultural Resource Monitoring at the Andres Pico Adobe, 10940 Sepulveda Boulevard, City and County of Los Angeles, California	Outside
LA-12946	Holloway, Charles and Hal Messinger	2009	Mitigated Negative Declaration, Los Angeles Aqueduct Filtration Plant Disinfection Contact Tank Project	Overlap
LA-13030	Bonner, Diane F. and Carrie D. Wills	2014	Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Candidate CLV4082 (Filbert Tower), 16397 Filbert Street, Sylmar, Los Angeles County, California, CASPR No. 3551699410	Outside

Previously Recorded Cultural Resources

The SCCIC records indicate that 35 resources have been recorded within 1.0 mile (1,608 meters) of the project area, including 13 historic resources, 12 prehistoric resources, 8 multicomponent resources, and 2 sites of unknown age. Of the 35 resources, 16 resources intersect the project site, including 14 prehistoric or multicomponent resources (1 of which is an archaeological district that encompasses 9 of the resources), and 2 historic resources. Aside from the sites intersecting the project site, most of the remaining sites are clustered almost 1 mile to the south and southwest of the project site. All 35 resources are summarized below in Table 2.

Table 2. Previously Recorded Cultural Resources Within the 1-Mile Search Buffer

Primary Number	Trinomial	Period	NRHP/CRHP Status	Description	Recorded By/Year	Proximity to Project Area
P-19-000034	CA-LAN-000034	Prehistoric	Not evaluated	San Fernando Metate Site	1951 (Walker, Edwin, Southwest Museum); 1998 (Sutton, MQ, California State University, Bakersfield)	Outside
P-19-000169	CA-LAN-000169H	Multicomponent	Not evaluated	San Fernando Mission Archaeological Site	1950 (Pilling); 2013 (Aaron Elzinga and Chris Millington, SWCA); 2014 (Andrea Bean, John-Mark Cardwell, Chris Purtel, SWCA)	Outside
P-19-000255	CA-LAN-000255	Prehistoric	Not evaluated	Possible cemetery and habitation site	1968 (J. Beaton)	Outside
P-19-000408	CA-LAN-000408	Prehistoric	Not evaluated	Campsite	1970 (T. King); 1989 (MQ Sutton, Cal State Bakersfield)	Outside
P-19-000409	CA-LAN-000409	Prehistoric	Not evaluated	Campsite	1970 (T. King); 1989 (MQ Sutton, Cal State Bakersfield)	Outside
P-19-000411	CA-LAN-000411	Unknown	Not evaluated	Campsite	1970 (T. King)	Outside
P-19-000412	CA-LAN-000412	Unknown	Not evaluated	Campsite	1970 (T. King)	Outside

Table 2. Previously Recorded Cultural Resources Within the 1-Mile Search Buffer

Primary Number	Trinomial	Period	NRHP/CRHP Status	Description	Recorded By/Year	Proximity to Project Area
P-19-000475	CA-LAN-000475/H	Multicomponent	2S (Determined Eligible; Listed in the CR)	Groundstone and lithic scatter; Original record stated that the site was at risk of destruction. Site has not been updated or relocated since 1972.	1972 (G. Gates)	Within
P-19-000490	CA-LAN-000490	Prehistoric	2S (Determined Eligible; Listed in the CR)	Lithic scatter; 1991 update stated that most surficial artifacts had been removed. Site has not been updated or relocated since 1991.	1972 (G. Gates); 1991 (R. Wlodarski & J. Budd, Cal State University Northridge)	Within
P-19-000491	CA-LAN-000491/H	Multicomponent	2S (Determined Eligible; Listed in the CR)	Groundstone and lithic scatter; Original record stated that the site was at risk of destruction. Site has not been updated or relocated since 1991.	1972 (G. Gates)	Within
P-19-000492	CA-LAN-000492	Prehistoric	2S (Determined Eligible; Listed in the CR)	Groundstone and lithic scatter; Original record stated that the site was at risk of destruction. Site has not been updated or relocated since 1972	1972 (GATES)	Within
P-19-000493	CA-LAN-000493/H	Multicomponent	2S (Determined Eligible; Listed in the CR)	Groundstone and lithic scatter; Historic artifact scatter; Original record stated that the site was at risk of destruction. Site has not been updated or relocated since 1972.	1972 (G. Gates)	Within

Table 2. Previously Recorded Cultural Resources Within the 1-Mile Search Buffer

Primary Number	Trinomial	Period	NRHP/CRHP Status	Description	Recorded By/Year	Proximity to Project Area
P-19-000629	CA-LAN-000629	Prehistoric	Not evaluated	Burial; Originally recorded and excavated completely, additional testing showed it was isolated and no other artifacts were recovered. Attempt to relocate in 2011 were unsuccessful as the site was and is still mapped as being within the Los Angeles Reservoir.	1972 (G. Gates); 1974 (Kelly et al.); 2011 (Sara Dietler, Linda Kry, Tim Harris, AECOM)	Within
P-19-000642	CA-LAN-000642	Prehistoric	Not evaluated	Groundstone and lithic scatter; Original site record states it was basically destroyed at time of recordation. Site has not been updated or relocated since 1974	1974 (Kelly, Gates, Bente)	Within
P-19-000643	CA-LAN-000643	Prehistoric	2S (Determined Eligible; Listed in the CR)	Groundstone and lithic scatter; Most recent recordation stated it appeared as a surficial deposit. Site has not been updated or relocated since 1991.	1974 (Kelly et al.); 1991 (R. Wlodarski, J Budd)	Within
P-19-000644	CA-LAN-000644	Prehistoric	2S (Determined Eligible; Listed in the CR)	Groundstone and lithic scatter; Original site record states it was "pretty much already destroyed" at time of recordation. Site has not been updated or relocated since 1974.	1974 (Kelly et al.)	Within
P-19-000645	CA-LAN-000645	Prehistoric	Not evaluated	Groundstone and lithic scatter; Original site record states it was destroyed by construction of the Los Angeles Dam. Site is mapped as being within the Los Angeles Reservoir.	1974 (Kelly et al.)	Within

Table 2. Previously Recorded Cultural Resources Within the 1-Mile Search Buffer

Primary Number	Trinomial	Period	NRHP/CRHP Status	Description	Recorded By/Year	Proximity to Project Area
P-19-000646	CA-LAN-000646/H	Multicomponent	2S (Determined Eligible; Listed in the CR)	Groundstone and lithic scatter; Site has not been updated or relocated since 1974	1974 (Kelly et al.)	Within
P-19-000960	CA-LAN-000960H	Historic	Not evaluated	San Fernando Mission Dam	1978 (Bob Edberg, NARC); 1978 (Bob Edberg, NARC)	Outside
P-19-002150	CA-LAN-002150H	Historic	6Y (Determined ineligible for NR through Section 106 Process)	Aqueduct	1993 (R. Sheets, A. Cole, Science Applications International Corp)	Outside
P-19-002681	CA-LAN-002681/H	Multicomponent	Not evaluated	Historic and prehistoric artifacts scatter	1998 (Albert Knight, Pacific Pipeline Systems, Inc.); 1998 (Albert Knight, Pacific Pipeline Systems, Inc.); 2001 (Albert Knight, SAIC); 2001 (Albert Knight)	Outside
P-19-002760	CA-LAN-002760H	Historic	3S (Appears eligible for NR through survey evaluation)	Reservoir and Weir Box	1998 (D. Slawson, Greenwood & Associates)	Outside
P-19-003182	CA-LAN-003182H	Historic	3S (Appears eligible for NR through survey evaluation)	Mission period stone foundation and associated historic period refuse deposit	2004 (John M. Foster, Greenwood & Associates)	Outside
P-19-004226	CA-LAN-004226	Prehistoric	Not evaluated	Groundstone and lithic scatter; Identified during construction for Van Norman Chlorination Tank No. 1. All artifacts out of situ and in disturbed context.	2009 (Frank Humphries, AECOM)	Within

Table 2. Previously Recorded Cultural Resources Within the 1-Mile Search Buffer

Primary Number	Trinomial	Period	NRHP/CRHP Status	Description	Recorded By/Year	Proximity to Project Area
P-19-004227	CA-LAN-004227/H	Multicomponent	Not evaluated	Groundstone and lithic scatter; historic artifact scatter; Identified during construction for Van Norman Chlorination Tank No. 2. All artifacts out of situ and in disturbed context. Likely remnants of previously destroyed sites. Chlorination Tanks now sit where site was recorded.	2009 (Frank Humprhies, AECOM)	Within
P-19-004228	CA-LAN-004228H	Historic	Not evaluated	Historic refuse scatter; Exposed artifacts were collected, extent of site unknown.	2009 (Frank Humphries, AECOM)	Within
P-19-167231	-	Historic	2S (Determined Eligible; Listed in the CR)	Mission San Fernando Rey de Espana Convento Building	1988 (D. Cameron, Archival Center, San Fernando Mission)	Outside
P-19-173040	-	Historic	3S (Appears eligible for NR through survey evaluation)	Mission Wells and Settling Basin	1967 (LA Cultural Heritage Commission); 2012 (Albert Knight)	Outside
P-19-175538	-	Multicomponent	2S (Determined Eligible; Listed in the CR)	Van Norman Reservoir Archaeological District-includes P-19-000475,-000490, -000491, -000492, -000493, -000642, -000643, -000645, and -000646	1974 (G. Gates & Dr. A Gilman, Northridge Archaeological Center)	Within
P-19-186558	-	Historic	5S1 (Individual Property that is listed or designated locally)	Brand Park/Memory Garden	1980 (J. Arbuckle)	Outside

Table 2. Previously Recorded Cultural Resources Within the 1-Mile Search Buffer

Primary Number	Trinomial	Period	NRHP/CRHP Status	Description	Recorded By/Year	Proximity to Project Area
P-19-186560	-	Historic	5S1 (Individual Property that is listed or designated locally)	Terminus of Owens Rivers Aqueduct	1980 (J. Arbuckle)	Outside
P-19-186721	-	Historic	6Y (Determined ineligible for NR through Section 106 Process)	1640-1646 North Spring Street	2002 (D. Slawson, Greenwood & Associates)	Outside
P-19-188007	-	Historic	6Y (Determined ineligible for NR through Section 106 Process)	Old San Fernando Rd	2006 (J. McKenna, McKenna et al); 2011 (C. Ehringer, ESA)	Outside
P-19-190043	-	Historic	6Y (Determined ineligible for NR through Section 106 Process)	Bull Creek Extension Channel; Resource has already been determine ineligible and therefore no significant impact will result.	2011 (Sara Dietler, Linda Kry, Tim Harris, AECOM)	Within
P-19-190318	-	Historic	Not evaluated	Rail Spur crossing San Fernando Road	2012 (C. Ehringer, ESA)	Outside

Notes: NRHP = National Register of Historic Places; CRHR= California Register of Historical Resources

Site Revisits

In total, 15 archaeological sites and 1 archaeological district were revisited during the intensive pedestrian survey. Each resource is discussed below.

Van Norman Archaeological District (P-19-175538)

The Van Norman Archaeological District was nominated to the NRHP in 1974 and approved in 1975. The district includes the following sites: P-19-000475,-000490, -000491, -000492, -000493, -000643, and -000646. These sites were all identified and recorded by Gerald Gates between 1972 and 1975. Several of the sites, including P-19-000475, -000491, -000492, -000493, and -000643, were located within the boundaries of Lower Van Norman Lake, the original reservoir that existed in the area prior to the development of the extant Lower Van Norman Reservoir. Lower Van Norman Lake was drained in the 1970s, exposing the sites and allowing for their identification

and excavation. All of these sites are within the project site and will be briefly discussed below. Sites P-19-000642 and P-19-000645 were originally nominated for inclusion but were deemed not eligible.

P-19-000475 (CA-LAN-475/H)

This site is a prehistoric lithic and groundstone scatter with an associated historic artifacts scatter originally recorded in 1972 by Gerald Gates. The site was excavated by an archaeological field class from California State University, Northridge, for five semesters between 1972 and 1975, though it was indicated that less than 1% of the site was sampled. The site is located within the boundaries of the original Lower Van Norman Lake. The original site record from 1972 states that the site was in danger of being destroyed by development in the area. No remnants of the site were observed during pedestrian survey conducted for this site. It is likely that at least the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000490 (CA-LAN-490)

This site is a prehistoric lithic and groundstone scatter originally recorded in 1972 and was updated once in 1991 by Robert Wlodarski and J. Budd. During the original recordation, more than 70 surface artifacts were collected and the 1991 record indicates that very few artifacts remained at that time. The original record states that the subject may have been victim to looting, which likely added to its destruction. The 1991 record states that the site may have contained subsurface components, but it was not tested. No remnants of the site were observed during pedestrian survey conducted for this site. It is likely that at least the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000491 (CA-LAN-491)

This site is a prehistoric lithic and groundstone scatter with an associated historic artifacts scatter originally recorded in 1972 by Gerald Gates. The site is located within the boundaries of the original Lower Van Norman Reservoir. At the time of recordation, the site had been partially destroyed and was at risk of being completely destroyed. No remnants of the site were observed during pedestrian survey conducted for this site. It is likely that at least the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000492 (CA-LAN-492)

This site is a prehistoric lithic and groundstone scatter originally recorded in 1972 by Gerald Gates. The site is located within the boundaries of the original Lower Van Norman Lake. At the time of recordation, the site had been partially destroyed and was at risk of being completely destroyed. No remnants of the site were observed during pedestrian survey conducted for this site. It is likely that at least the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000493 (CA-LAN-493)

This site is a prehistoric lithic and groundstone scatter with an associated historic artifacts scatter originally recorded in 1972 by Gerald Gates. The site is located within the boundaries of the original Lower Van Norman Lake. At the time of recordation, the site had been partially destroyed and was at risk of being completely destroyed. The nomination record for the Van Norman Archaeological District indicates that salvage excavations were conducted

at this site in 1974 and 1975, due to the planned destruction of the site. No remnants of the site were observed during pedestrian survey conducted for this site. It is likely that the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000643 (CA-LAN-643)

This site is a prehistoric lithic and groundstone scatter originally recorded in 1974 by Gerald Gates and updated once in 1991 by Robert Wlodarski and J. Budd. The site is located within the boundaries of the original Lower Van Norman Lake. At the time of recordation, the site was not at risk for destruction. The updated site record indicates that in 1991 much of the site was covered by riprap. This record also states that the site appeared surficial, although it was not tested. The site has not been updated since 1991 and was not observed during pedestrian survey conducted for this project. It is likely that at least the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000646 (CA-LAN-646)

This site is a prehistoric lithic and groundstone scatter originally recorded in 1974 by Gerald Gates and Associates. At the time of recordation, there were no plans for construction within or near the site that would have impacted it. The site is located in the southwestern-most corner of the project area, which has seen a relatively small number of disturbances over the years; however, no components of the site were observed during the pedestrian survey. The site may have lost its surficial component due to erosion, construction and maintenance, or looting; however, it is unknown if a subsurface component exists.

P-19-000629 (CA-LAN-629)

This site is an isolated, prehistoric human burial associated with a large amount of artifacts originally recorded in 1972 by Gerald Gates and updated in 2011 by Sara Dietler, Linda Kry, and Tim Harris. The burial was completely excavated in block in 1972, and additional testing was conducted at that time. Additional testing indicated that additional materials were not present. AECOM completed a survey for the Van Norman Complex Water Quality Improvement Project in 2011 and attempted to relocate the site; however, no portions of the site were present. The entirety of the site is completely under water within the Los Angeles Reservoir. The site condition has not changed since 2011, and no aspect of the site was observed during pedestrian survey. The presence of the site beneath the water is unknown.

P-19-000642 (CA-LAN-642)

This site is a prehistoric lithic and groundstone scatter with an associated historic artifact scatter originally recorded in 1972 by Gerald Gates. The site is located within the boundaries of the original Lower Van Norman Lake. The original site record from 1972 states that the site had already been essentially destroyed by grading and planned construction would likely destroy any remnants. No portions of the site were observed during pedestrian survey conducted for this site. It is likely that at least the surficial component of the site has been completely destroyed; however, it is unknown if a subsurface component exists.

P-19-000644 (CA-LAN-644)

This site is a prehistoric lithic and groundstone scatter originally recorded in 1974 by Gerald Gates. At the time of recordation, the site had been essentially destroyed and planned construction would likely destroy any remnants. The site is located in the same location as several VNC facilities between the Yarnell Debris Basin and the Upper San Fernando Drain Line. No remnants of the site were observed during pedestrian survey conducted for this site. It is likely that the site is either completely destroyed or now completely lacks a surficial component.

P-19-000645 (CA-LAN-645)

This site is a prehistoric lithic and groundstone scatter with an associated historic artifacts scatter originally recorded in 1972 by Gerald Gates. The site is located within the boundaries of Lower Van Norman Lake, the original reservoir that existed in the area, prior to the development of the extant VNC. Lower Van Norman Lake was drained in the 1970s, exposing the site and allowing for its identification and excavation. At the time of recordation, the site was determined to have been destroyed or to be in danger of being destroyed by the Los Angeles Dam Project. The nomination record for the Van Norman Archaeological District indicates that salvage excavations were conducted at this site in 1974 and 1975, due to the planned destruction of the site. The site is mapped within the Los Angeles Reservoir, and no aspect of the site was observed during pedestrian survey. The presence of the site beneath the water is unknown.

P-19-004226 (CA-LAN-4226)

This site is a sparse prehistoric lithic and groundstone scatter originally record in 2009 by Frank Humphries. The site was identified during monitoring for the Van Norman Chlorination Tank No. 1 construction. No artifacts were identified in situ. All artifacts were collected. The site record states that the artifacts may have been redeposited as the result of historic grading and fill episodes. The site is located in the area directly to the northwest of the Los Angeles Reservoir, in the same location as several VNC Facilities.

P-19-004227 (CA-LAN-4227)

This site is a prehistoric lithic and groundstone scatter with an associated historic artifact scatter originally record in 2009 by Frank Humphries. The site was identified during monitoring for the Van Norman Chlorination Tank No. 2 construction. No artifacts were identified in situ. All artifacts were collected. The site record states that the artifacts may have been constituents of previously recorded sites, which were spread throughout the area during grading and filling episodes. The site is located along the southern border of the project area in the same location as two VNC buildings.

P-19-004228 (CA-LAN-4228)

This site is a historic refuse scatter originally record in 2009 by Frank Humphries. The site was identified during monitoring for the Van Norman Chlorination Tank No. 2 construction. No artifacts were identified in situ. All artifacts were collected. The site record states that the site may have been a result of historic construction and maintenance of the reservoir or a result of the habitation of historic homes that were once located at the site. The site is located along the southern border of the project area in the same location as two VNC buildings.

P-19-190043 (CA-LAN-190043)

This resource is the Bull Creek Extension Channel, which runs through the VNC and was recorded and evaluated in 2011 by Sara Dietler, Linda Kry, and Tim Harris. The evaluation determined that the Bull Creek Extension Channel was not eligible for listing on the CRHR because it did not retain integrity due to changes that have been made to it over time.

Paleontological Records Search

Dudek sent a paleontological records search request to the LACM on May 01, 2018, and received the results on May 15, 2018. According to the LACM (Attachment C) and surficial geological mapping by Dibblee (2010) at a scale of 1:24,000, the VNC is underlain by the following geological units from youngest to oldest: Holocene (<12,000 years ago) younger Quaternary alluvium (map unit Qa) underlain by Pleistocene (~2.8 million to 12,000 years ago) older Quaternary alluvium (map unit Qoa), Pliocene (~5.3 to 2.8 million years ago) to Pleistocene Saugus Formation (map units Qts and Tsr), Pliocene Towsley Formation (map unit Ttos), and the late Miocene (~11.6 to 5.3 million years ago) Monterey Formation (map unit Tm).

The LACM reported two previously recorded vertebrate fossil localities within the VNC and several localities outside but near the VNC. The two vertebrate fossil localities are from older Quaternary deposits or the Saugus Formation in the northwestern and northeastern proposed project area and yielded a fossil bison (*Bison*) at 75 feet below the ground surface and a fossil mammoth (*Mammuthus*) and bison (*Bison*) from an unspecified depth, respectively (Attachment C). Nearby, but east of the northernmost proposed project area, McLeod (2018, included as Attachment C) reported on fossil mastodon (*Mammut*) and horse (*Equus*) from older Quaternary deposits. The LACM did not report any fossil localities from the Towsley Formation or Monterey Formation within the proposed project area; however, there are several in the vicinity of the VNC. The nearest definitive Saugus Formation locality, which is situated just east of the southern portion of the Debris Basin, yielded a fossil specimen of horse (*Equus*) (Attachment C). The LACM reported on a fossil locality from the Towsley Formation, approximately 1 mile north-northeast of the proposed project area that produced a specimen of baleen whale. While only one indeterminate mammal was reported by the LACM from the Monterey Formation near the proposed project area, McLeod (2018, included as Attachment C) mentioned numerous LACM localities from the Monterey Formation south of the proposed project area on the northern flank of the Santa Monica Mountains. No further details regarding these localities was given.

Map and Historic Aerial Photography Research

Historic maps and aerial photographs were consulted to understand development of the project area and surrounding properties. Topographic maps are available from 1900 to the present and aerial images are available from 1947 to the present (NETR 2018).

Topographic maps show that the project area began to be used as a reservoir by at least 1924. Originally, the reservoir consisted of one unlined, irregularly shaped lake, which was dammed on the southeastern corner, in roughly the same location as the existing Lower San Fernando Dam. By 1927, topographic maps indicate that the reservoir was expanded and a second man-made lake was built to the north of the original reservoir. These reservoirs were named Upper and Lower San Fernando Reservoirs. In 1967 the names of the two reservoirs were changed to Upper and Lower Van Norman Reservoirs. Topographic maps indicate that there were no substantial

changes to the size and shape of the reservoirs until after the 1971 Sylmar Earthquake, when the existing Los Angeles Reservoir was constructed. The neighborhoods surrounding the reservoirs to the west, south, and east, however, had undergone extensive development between 1927 and 1975, transforming from a sparsely developed, mainly agricultural area, to moderately dense residential area.

The first historic aerials from the project area, dating to 1947, shows both the Upper and Lower Van Norman Reservoirs, though at this time they were both irregularly shaped lakes. Similar to the findings based on the topographical maps, the historic aerials did not indicate any massive changes to the project area occurred until after the 1971 Sylmar Earthquake, when the existing Los Angeles Reservoir was constructed to replace the Upper and Lower Van Norman Reservoirs. Between 1980 and 2014, several buildings associated with the reservoirs were built within the VNC.

Native American Correspondence

Dudek contacted the NAHC on May 3, 2018, and requested a review of the Sacred Lands File. The NAHC replied via email on May 7, 2018, stating that the Sacred Lands File search was completed with negative results. Because the Sacred Lands File search does not include an exhaustive list of Native American cultural resources, the NAHC suggested contacting Native American individuals and/or tribal organizations who may have direct knowledge of cultural resources in or near the project. The NAHC provided a list of nine Native American groups and individuals who may have knowledge of cultural resources in the project area. No tribal outreach was conducted. Documents related to the NAHC SLF search are included in Attachment D. Survey Methods

A Dudek specialist who qualifies for paleontology and archaeology under the Secretary of Interior Standards conducted an intensive pedestrian survey of the project area on May 2 and May 3, 2018, using standard paleontological and archaeological procedures and techniques. All work areas were surveyed and included the Lower San Fernando Detention Basin, Upper Northeast Drainage, LAR UV Plant Drainage and V-Ditch, LAR North Dike Storm Water Basin and East Channel, Yarnell Debris Basin, Upper San Fernando Drain Line Feature 1 and Feature 2, San Fernando Gate Drainage Feature, Upper Debris Basin, Middle Debris Basin, Bee Drainage Channel, Segment of Bull Creek Extension, and San Fernando Creek (Attachment A, Figure 2). All field practices met the Secretary of Interior's standards and guidelines for a cultural resources and paleontological inventory. Pedestrian transects were walked on 20-meter intervals throughout the project area. Ground disturbances such as burrows, cut banks, and drainages were also visually inspected for exposed subsurface materials and to record locational information.

Where cultural materials were encountered, all data necessary to complete the appropriate State of California Department of Parks and Recreation 523 series forms were collected. Following California Office of Historic Preservation guidelines, any cultural material more than 45 years old was recorded as an archaeological site, built environment resource, or isolate, as appropriate. All fieldwork was documented using field notes and iPad technology with close-scale field maps and aerial photographs. Location-specific photographs were taken using an Apple 3rd Generation iPad equipped with 8 megapixel resolution and georeferenced PDF maps of the project area. All field notes, photographs, and records related to the current study are on file at Dudek's Pasadena, California, office.

Survey Results

No significant archaeological or paleontological resources were documented during the survey; however, insignificant resources were documented in the Upper Northeast Drainage (chunks of bricks, concrete, and asphalt mixed in the riprap) and Middle Debris Basin (bricks and fragmentary glass insulator deposited on the creek bottom) (Attachment A, Figures 3 and 4). Much of the project area is covered with vegetation, and portions have been covered with gravel. Ground visibility was generally poor (0%–20%) and many of the channels were lined with concrete and/or riprap, completely overgrown with vegetation, or contained water, further diminishing the surveyable area. Soils in the area are light yellowish-brown sands with gravel. The project area is fenced in with a chain-link fence and is located within a rural, residential area. During the survey, no remnants of the 15 sites that were recorded within the project area were observed. These results likely speak to the disturbance that the site has experienced over the last 50 years. There is a low probability of uncovering significant archaeological deposits because of the landforms on which these resources existed has been completely disturbed. However, there is still the possibility of identifying sensitive artifacts, whether in situ or not. Overviews of the proposed project area are shown in Figures 5 and 6 in Attachment A.

Impacts Analysis

Archaeological Sensitivity

The routine operation and maintenance activities will consist of annual vegetation and debris removal within active earthen-bottom and concrete-lined channels with the ability to transport archaeological resources from their original locations. None of the previously identified significant or potentially significant archaeological sites recorded in the project area could be relocated due to extensive disturbances in the past that have destroyed the sites. Despite disturbances, there remains a possibility of discovering sensitive remains or artifacts during earth-moving activities associated with the project, and thus, archaeological sensitivity is considered low to moderate. Therefore, the following mitigation measures should be adopted to ensure that cultural resources are not impacted during the proposed project.

Paleontological Sensitivity

The routine operation and maintenance activities will consist of annual vegetation and debris removal within active earthen-bottom and concrete-lined channels with the ability to transport paleontological resources from their original locations. No significant paleontological or unique geological resources were identified within the project area during the pedestrian survey. The paleontological sensitivity within the project area is considered low, and no unique geological features are anticipated to be impacted by the implementation of the proposed project. The following mitigation measure should be adopted to prevent impacts to potentially significant resources.

Effects to historic properties

No previously recorded or new cultural resources were identified within the project APE. Previously recorded cultural resources (eligible/listed in the NRHP/CRHR or not) were not found. Extensive landform modification has completely destroyed previously recorded resources in the APE.

This study was completed to support the proposed routine operation and maintenance activities. Based on these activities, and the lack of identified historic properties, no effects to historic properties were identified, and no effects are likely to occur.

Recommendations

Unanticipated Discovery of Archaeological Resources

CUL-1: A qualified archaeologist should attend the maintenance activity kick-off meeting to coordinate with Los Angeles Department of Water and Power (LADWP) and the construction foreman to allow for brief inspection of initial ground disturbance within 50 feet of previously recorded archaeological site boundaries. The goal of this meeting will be to determine if more intensive archaeological monitoring is required.

Unanticipated Discovery of Paleontological Resources

CUL-2: In the event that paleontological resources (e.g., fossils) are unearthed during project earthmoving, the area of discovery shall be roped off with a 50-foot radius buffer. A qualified paleontologist shall be retained to assess the find and provide appropriate mitigation. Once documentation and collection of the find is completed, the qualified paleontologist will remove the rope and allow grading to recommence in the area of the find. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the proposed project. The PRIMP shall be consistent with the guidelines of the Society of Vertebrate Paleontology (2010).

Please do not hesitate to contact me if you have any questions about this report. I may be reached via email at mwilliams@dudek.com or via phone at 225.892.7622.

Sincerely,

Michael Williams, PhD
Paleontologist

Erica Nicolay, MA
Archaeologist

CC: Micah Hale, PhD, Dudek

Att.: A, Figures
B, Confidential South Central Coastal Information Center Results
C, Paleontological Records Search Results
D, Native American Heritage Commission Results

References Cited

County of Los Angeles. 2014. "Cultural Resources Study." Appendix I in *County of Los Angeles General Plan Environmental Impact Report*. Prepared for PlaceWorks by Sapphos Environmental Inc. June 12, 2014. Accessed August 2018. http://planning.lacounty.gov/assets/upl/project/gp_2035_deir-appendixI.pdf.

Dibblee, T.W. 2010. "Geologic Map of the San Fernando and North 1/2 Van Nuys Quadrangles, Los Angeles County, California" [map]. Edited by H.E. Ehrenspeck (1991) and J.A. Minch (2010). Dibblee Geology Center Map DF-33. Scale 1:24,000. First printing, 1991; second printing, 2010.

NETR (National Environmental Title Research, LLC). 2018. Historic Aerials and Topographic Maps. Accessed June 2018. http://www.historicaerials.com/.

Society of Vertebrate Paleontology. 2010. "Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources." Society of Vertebrate Paleontology, Impact Mitigation Guidelines Revision Committee. Accessed August 2018. http://vertpaleo.org/Membership/Member-Ethics/SVP_Impact_Mitigation_Guidelines.aspx.

Attachment A

Figures

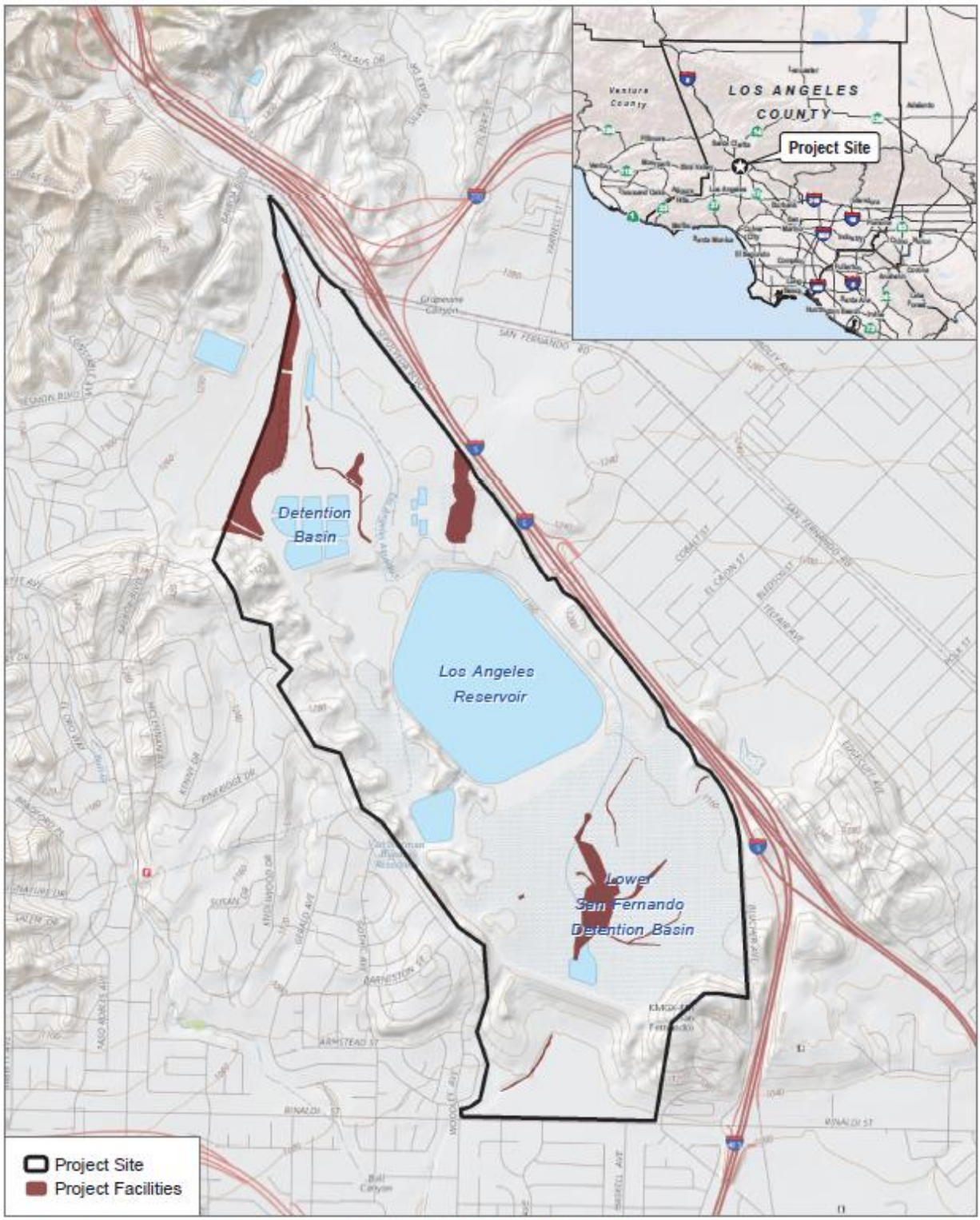

FIGURE 1
Project Location
LADWP Van Norman Complex

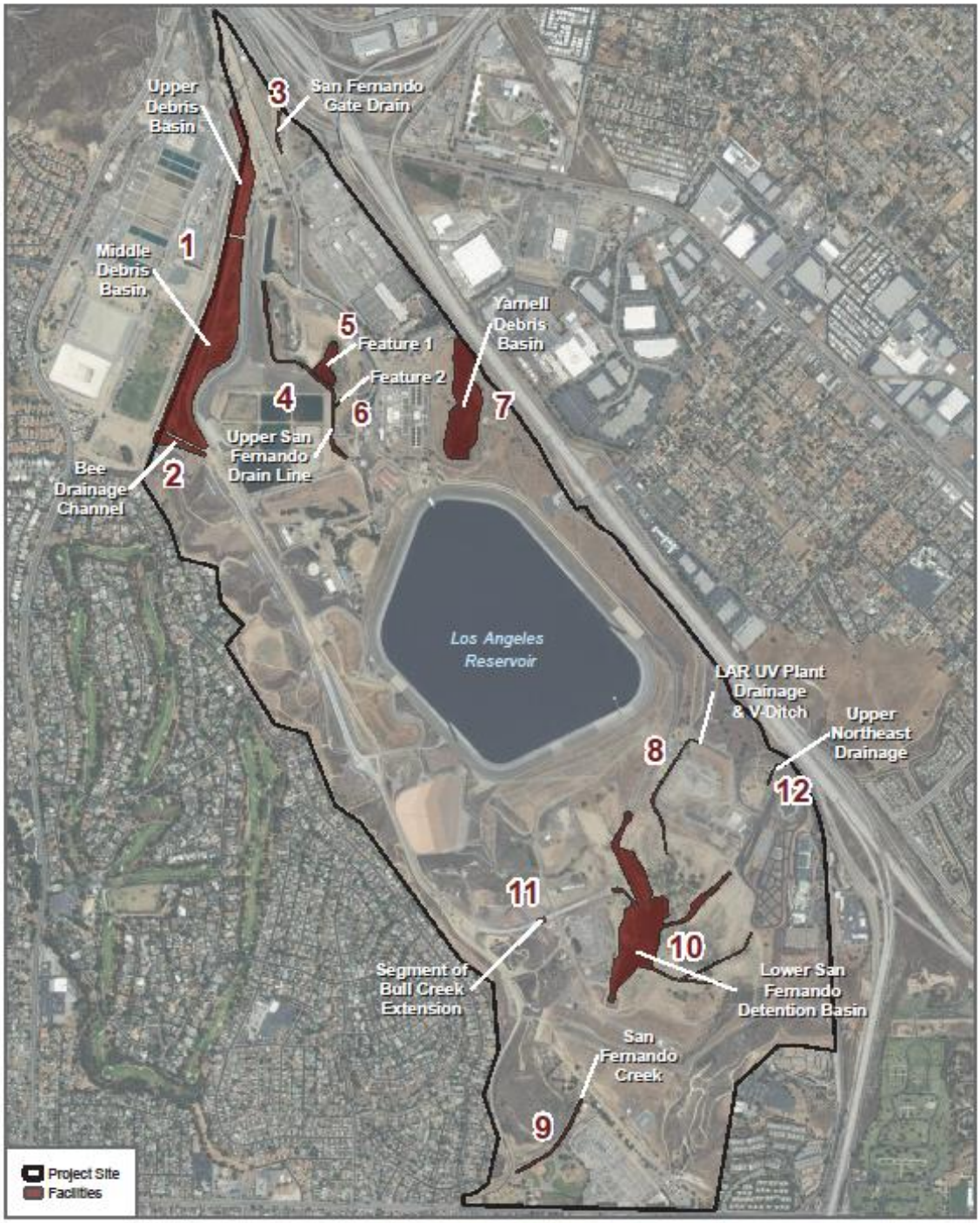

FIGURE 2
Project Site
LADWP Van Norman Complex



Figure 3. Close-up of asphalt and bricks lining east bank of drainage, Upper Northeast Drainage.



Figure 4. Fragmentary glass insulator deposited on bottom of creek channel, Middle Debris Basin.



Figure 5. Developed concrete and asphalt ditch in middle Segment Bull Creek Extension.



Figure 6. Overview of the Project Area, northeast terminus of drainage, LAR UV Plant Drainage

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Attachment B

Confidential South Central Coastal Information Center Results

Attachment C

Paleontological Records Search Results

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smcleod@nhm.org

15 May 2018

Dudek
605 Third Street
Encinitas, CA 92024

Attn: Michael Williams, Ph.D., Paleontologist

re: Vertebrate Paleontology Records Check for paleontological resources for the proposed Van Norman Maintenance Project, Dudek Project # 10649.33, in Granada Hills, Los Angeles County, project area

Dear Mike:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for the proposed Van Norman Maintenance Project, Dudek Project # 10649.33, in Granada Hills, Los Angeles County, project area as outlined on the portion of the San Fernando USGS topographic quadrangle map that you sent to me via e- mail on 1 May 2018. We have two vertebrate fossil localities that lie directly within the proposed project area boundaries, and we have other localities nearby from the same sedimentary deposits that occur in the proposed project area.

The lower lying terrain that occupies most of the proposed project area around the Van Norman Reservoir has surface deposits of younger Quaternary Alluvium, derived as alluvial fan deposits from the mountains to the west and north. These younger Quaternary deposits typically do not contain significant vertebrate fossils, at least in the uppermost layers, but they are underlain at variably depth by older sedimentary Quaternary deposits that may well contain significant fossil vertebrate remains. Most of the Elevated terrain around the proposed project area has exposures of the Plio-Pleistocene Saugus Formation. Elevated terrain around the very southern end of the proposed project area has exposures of older Quaternary Alluvium, the marine Pliocene Towsley Formation, and the marine late Miocene Monterey Formation.

Inspiring wonder, discovery and responsibility for our natural and cultural worlds.

We have two vertebrate fossil localities from older Quaternary deposits or from the Saugus Formation that occur within the proposed project area: LACM 3397, on the northwestern side of the current Van Norman Reservoir, that produced fossil bison, *Bison*, at a seventy-five foot depth; and LACM 7152, in the northeastern portion of the southern Debris Basin, that produced fossil mammoth, *Mammuthus*, and bison, *Bison*, in terrace deposits. Directly east of the northern-most portion of the proposed project area, just east of the Golden State Freeway (I-5) and south of the Foothill Freeway (I-210), but still in similar older Quaternary deposits, our older Quaternary locality LACM 5745 contained fossil mastodon, *Mammut*, and horse, *Equus*, in fill dirt. Our closest vertebrate fossil locality definitely from the Saugus Formation is LACM 1733, situated just outside the southeastern boundary of the proposed project area east of the southern portion of the Debris Basin, that produced fossil horse, *Equus*, at unknown depth.

Our closest vertebrate fossil locality from the Towsley Formation is LACM 7421, about one mile north-northwest of the northern-most part of the proposed project area adjacent to the Golden State Freeway (I-5), that produced fossil specimens of the extinct baleen whale *Nannocetus*. Our closest vertebrate locality from the Monterey Formation is LACM 3690, east of the southern-most part of the proposed project area in the hills on the southern side of the Tujunga Valley east of the Hansen Dam Flood Control Basin, that produced a fossil specimen of undetermined mammal, Mammalia. We have a great number of vertebrate fossil localities from the Monterey Formation directly south of the proposed project area on the northern side of the Santa Monica Mountains.

Grading or very shallow excavations in the uppermost few feet of younger Quaternary Alluvium found at the surface in the lower lying portions of the proposed project area are unlikely to uncover significant vertebrate fossils. Deeper excavations in those deposits that extend down into older sedimentary deposits, however, as well as any excavations in the exposures of the Saugus Formation, the Towsley Formation, or the Monterey Formation, may well encounter significant fossil vertebrate remains. Any substantial excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. Sediment samples should also be collected and processed to determine the small fossil potential in these rock units. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice

Attachment D

Native American Heritage Commission Results

STATE OF CALIFORNIA — Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710

May 7, 2018

Erica Nicolay
Dudek

Sent by E-mail: enicolay@dudek.com

RE: Proposed Van Norman Reservoir (Project 10649.33) Project, near the City of San Fernando; San Fernando and Oat Mountain USGS Quadrangles, Los Angeles County, California

Dear Ms. Nicolay:

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed for the area of potential project effect (APE) referenced above with negative results. Please note that the absence of specific site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE.

Attached is a list of tribes culturally affiliated to the project area. I suggest you contact all of the listed Tribes. If they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult. If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact via email: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst
(916) 373-3714

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Native American Heritage Commission
Native American Contact List
Los Angeles County
5/7/2018

Fernandeno Tataviam Band of Mission Indians
Beverly Salazar Folkes, Elders Council
1931 Shady Brooks Drive — Tataviam
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Phone: (805) 558 - 1154
folkes9@msn.com

Fernandeno Tataviam Band of Mission Indians
Jairo Avila, Tribal Historic and Cultural Preservation Officer
1019 Second Street, Suite 1 — Tataviam
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Phone: (818) 837 - 0794
Fax: (818) 837-0796
jairo.avila@tataviam-nsn.us

Fernandeno Tataviam Band of Mission Indians
Alan Salazar, Chairman Elders Council
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San Fernando, CA, 91340
Phone: (805) 423 - 0091

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393 — Gabrieleno
Covina, CA, 91723
Phone: (626) 926 - 4131
admin@gabrielenoindians.org

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693 — Gabrieleno
San Gabriel, CA, 91778
Phone: (626) 483 - 3564
Fax: (626) 286-1262
GTTribalcouncil@aol.com

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., #231 — Gabrielino
Los Angeles, CA, 90012
Phone: (951) 807 - 0479
sgoad@gabrielino-tongva.com

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Chairperson
P.O. Box 490 — Gabrielino
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Phone: (562) 761 - 6417
Fax: (562) 761-6417
gtongva@gmail.com

Gabrielino-Tongva Tribe
Charles Alvarez,
23454 Vanowen Street — Gabrielino
West Hills, CA, 91307
Phone: (310) 403 - 6048
roadkingcharles@aol.com

San Fernando Band of Mission Indians
Donna Yocum, Chairperson
P.O. Box 221838 — Kitanemuk
Newhall, CA, 91322 — Serrano
Phone: (503) 539 - 0933 — Tataviam
Fax: (503) 574-3308
ddyocum@comcast.net

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Van Norman Reservoir Project, Los Angeles County.

PROJ-2018-002585 — 05/07/2018 11:46 AM — 1 of 1

APPENDIX D

Noise Modeling Results

Field Noise Measurement Data Sheets

DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT: LADWP VAN NORMAN 1S — PROJECT #: 10644.33
SITE ID:
SITE ADDRESS: — OBSERVER(S): PETE VITAL
START DATE: 6/7/18 — END DATE: 6/7/18
START TIME: 9:33 — END TIME: 9:48

METEOROLOGICAL CONDITIONS

TEMP: 62 F — HUMIDITY: 67 % R.H. — WIND: (CALM) LIGHT MODERATE
WINDSPD: MPH — DIR. N NE S SE S SW W NW — VARIABLE STEADY GUSTY
SKY: (SUNNY) CLEAR OVRCAST (PRTLY CLDY) FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT: PICCOLO SLM-P3 — TYPE 1 (2) — SERIAL # 130927046
CALIBRATOR: BSWA CA 114 — SERIAL # 480151
CALIBRATION CHECK — PRE-TEST: ____ dBA SPL — POST-TEST: ____ dBA SPL — WINDSCRN: YES

SETTINGS: A-WTD (SLOW) FAST FRONTAL RANDOM ANSI OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
25-26(ST1)	9:33	9:48	63.9	82.1	48.7				

COMMENTS: IN FRONT OF 12734 WOODLEY AVE (RESIDENTIAL); LIGHT TRAFFIC; OCCASIONAL AIRPLANE FLYOVERS

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE: (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT — DIST. TO RDWY C/L OR EOP: 28'6"

TRAFFIC COUNT DURATION: ___ MIN — SPEED

COUNT 1 (OR RDWY 1) DIRECTION	NB/EB	SB/WB	NB/EB	SB/WB
AUTOS				
MED TRKS				
HVY TRKS				
BUSES				
MOTRCLS				

IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ____

TRAFFIC COUNT DURATION: ___ MIN — SPEED

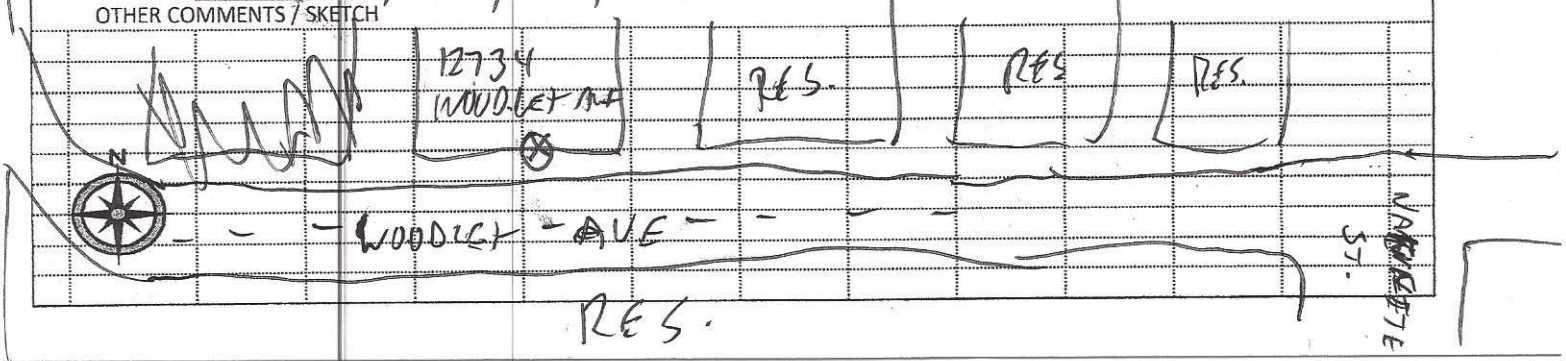
COUNT 2 (OR RDWY 2)	NB/EB	SB/WB	NB/EB	SB/WB

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS (BIRDS) DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER:

DESCRIPTION / SKETCH

TERRAIN: (HARD) SOFT MIXED FLAT OTHER:
PHOTOS: 1531; 1532; 1533; 1534
OTHER COMMENTS / SKETCH



DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT: LADWP VAN NORMAN 15 | PROJECT #: 10649.33
SITE ID:
SITE ADDRESS: | OBSERVER(S): PETE VITAN
START DATE: 6/7/18 | END DATE: 6/7/18
START TIME: 9:58 | END TIME: 10:13

METEOROLOGICAL CONDITIONS

TEMP: 62 F | HUMIDITY: 67 % R.H. | WIND: (CALM) LIGHT MODERATE
WINDSPD: MPH | DIR. N NE S SE S SW W NW | VARIABLE STEADY GUSTY
SKY: SUNNY (CLEAR) OVRCAST (PRTLY CLDY) FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT: PICCOLO SLM-P3 | TYPE 1 (2) | SERIAL # 1309270046
CALIBRATOR: BSWA CA-114 | SERIAL # 480151
CALIBRATION CHECK: PRE-TEST ____ dBA SPL | POST-TEST ____ dBA SPL | WINDSCRN YES

SETTINGS: A-WTD (SLOW) FAST FRONTAL RANDOM ANSI OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
27-28 (ST2)	9:58	10:13	65.0	85.2	49.5				

COMMENTS: IN FRONT OF 12000 WOODLEY AVE (RESIDENTIAL); LIGHT TRAFFIC; OCCASIONAL AIRPLANE FLYOVER

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE: (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT | DIST. TO RDWY C/L OR EOP: 29'6"

TRAFFIC COUNT DURATION: ___ MIN SPEED | ___ MIN SPEED

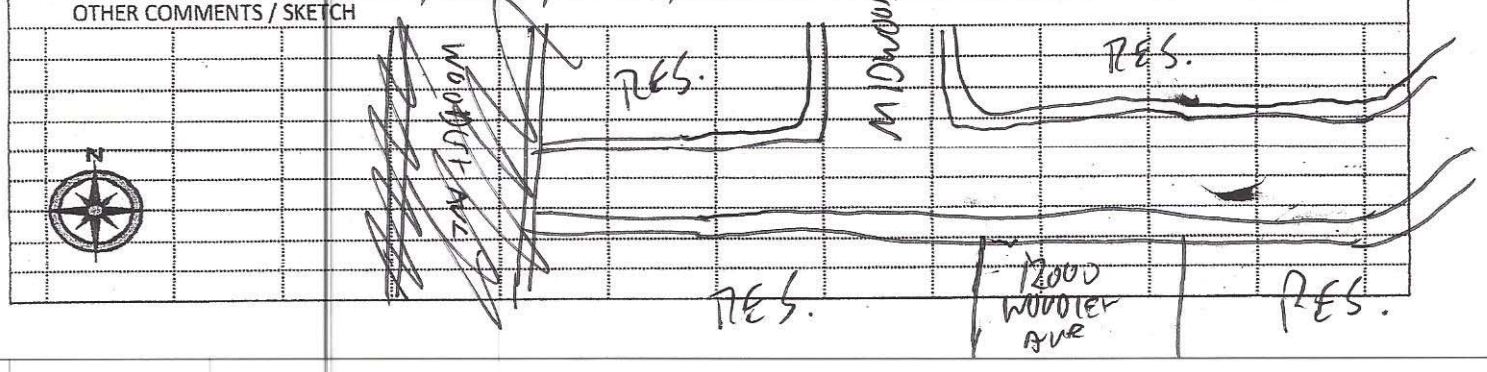
COUNT 1 (OR RDWY 1) DIRECTION	NB/EB	SB/WB	NB/EB	SB/WB	IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE	COUNT 2 (OR RDWY 2) NB/EB	SB/WB	NB/EB	SB/WB
AUTOS									
MED TRKS									
HVY TRKS									
BUSES									
MOTRCLS									

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS (BIRDS) DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER:

DESCRIPTION / SKETCH

TERRAIN (HARD) SOFT MIXED FLAT OTHER:
PHOTOS: 1535; 1536; 1537; 1538
OTHER COMMENTS / SKETCH



DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT: KADWP VAN NORMAN IS — PROJECT #: 10649.33
SITE ID:
SITE ADDRESS:
OBSERVER(S): PETE VITAN
START DATE: 6/7/18 — END DATE: 6/7/18
START TIME: 10:30 — END TIME: 10:45

METEOROLOGICAL CONDITIONS

TEMP: 66 F — HUMIDITY: 62 % R.H. — WIND: (CALM) LIGHT MODERATE
WINDSPD: MPH — DIR. N NE S SE S SW W NW — VARIABLE STEADY GUSTY
SKY: (SUNNY) CLEAR OVRCAST (PRTLY CLDY) FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT: PICCOLO SLM-P3 — TYPE 1 (2) — SERIAL # 1309270046
CALIBRATOR: BSWA CA-114 — SERIAL # 480151
CALIBRATION CHECK — PRE-TEST ____ dBA SPL — POST-TEST ____ dBA SPL — WINDSCRN YES

SETTINGS: A-WTD (SLOW) FAST FRONTAL RANDOM ANSI OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
29-30 (ST3)	10:30	10:45	70.9	81.7	55.0				

COMMENTS: TAKEN FROM FENCELINE OF CANADA HILLS LITTLE LEAGUE FIELD ON RINALDI ST, ACROSS RINALDI ST FROM 16052 RINALDI ST; PRIMARY NOISE SOURCE - TRAFFIC ON RINALDI ST.

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE: (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT — DIST. TO RDWY C/L OR EOP: 82'
TRAFFIC COUNT DURATION: ___ MIN — SPEED ___ MIN — SPEED

COUNT 1 (OR RDWY 1) DIRECTION	NB/EB	SB/WB	NB/EB SPEED	SB/WB SPEED
AUTOS				
MED TRKS				
HVY TRKS				
BUSES				
MOTRCLS				

IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ____

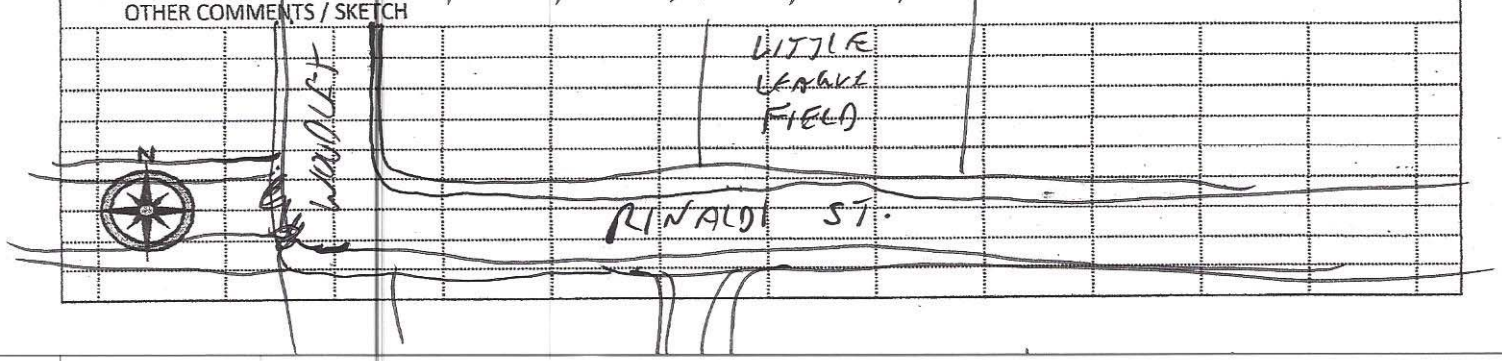
COUNT 2 (OR RDWY 2)	NB/EB	SB/WB	NB/EB SPEED	SB/WB SPEED

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS (BIRDS) DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER:

DESCRIPTION / SKETCH

TERRAIN: (HARD) SOFT MIXED FLAT OTHER:
PHOTOS: 1540; 1541; 1542; 1543; 1544; 1545
OTHER COMMENTS / SKETCH



DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT: LADWP VAN NORMAN IS — PROJECT #: 10649.33
SITE ID:
SITE ADDRESS: — OBSERVER(S): PETE VITAN
START DATE: 6/7/18 — END DATE: 6/7/18
START TIME: 10:52 — END TIME: 11:07

METEOROLOGICAL CONDITIONS

TEMP: 66 F — HUMIDITY: 62 % R.H. — WIND: (CALM) LIGHT MODERATE VARIABLE STEADY GUSTY
WINDSPD: MPH — DIR. N NE E SE S SW W NW
SKY: (SUNNY) (CLEAR) OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT: PICCOLO SLM-P3 — TYPE 1 (2) — SERIAL # 1309270046
CALIBRATOR: BSWA CA 114 — SERIAL # 480151
CALIBRATION CHECK — PRE-TEST _____ dBA SPL — POST-TEST _____ dBA SPL — WINDSCRN YES

SETTINGS: A-WTD (SLOW) FAST FRONTAL RANDOM ANSI OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
31-32 (ST4)	10:52	11:07	58.6	78.8	51.7				

COMMENTS: IN FRONT OF 11566 COLLET AVE (RESIDENTIAL); VERY LIGHT TRAFFIC ON COLLET AVE; TRAFFIC AUDIBLE FROM RINALDI AVE; BIRDS CHIRPING LOUDLY;

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE: (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT — DIST. TO RDWY C/L OR EOP: 17'6"

TRAFFIC COUNT DURATION: ___ MIN — SPEED

COUNT 1 (OR RDWY 1)	DIRECTION	NB/EB	SB/WB	NB/EB	SB/WB
	AUTOS				
	MED TRKS				
	HVY TRKS				
	BUSES				
	MOTRCLS				

IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ___

COUNT 2 (OR RDWY 2)	NB/EB	SB/WB	NB/EB	SB/WB
___ MIN SPEED				

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS (BIRDS) DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING (DIST. TRAFFIC (LIST RDWYS BELOW)) DISTD GARDENERS/LANDSCAPING NOISE
OTHER: TRAFFIC ON RINALDI ST

DESCRIPTION / SKETCH

TERRAIN: (HARD) SOFT MIXED FLAT OTHER:
PHOTOS: 1546; 1547; 1548; 1549
OTHER COMMENTS / SKETCH



DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT: LADWP VAN NORMAN 15 | PROJECT #: 10644.33
SITE ID:
SITE ADDRESS: | OBSERVER(S): PETE VITAN
START DATE: 6/7/18 | END DATE: 6/7/18
START TIME: 11:22 | END TIME: 11:37

METEOROLOGICAL CONDITIONS

TEMP: 66 F | HUMIDITY: 62 % R.H. | WIND: (CALM) LIGHT MODERATE
WINDSPD: MPH | DIR. N NE S SE S SW W NW | VARIABLE STEADY GUSTY
SKY: (SUNNY) (CLEAR) | OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT: PICCOLO SLM-P3 | TYPE 1 (2) | SERIAL # 1309270046
CALIBRATOR: BSWA CA-114 | SERIAL # 480151
CALIBRATION CHECK | PRE-TEST: dBA SPL | POST-TEST: dBA SPL | WINDSCRN: YES

SETTINGS: A-WTD (SLOW) FAST FRONTAL RANDOM ANSI OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
33-34 (STS)	11:22	11:37	64.2	86.8	54.9				

COMMENTS
TAKEN AT FRONT GATE OF 15625 ODYSSEY DR (RESIDENTIAL - GATED TOWNHOME COMPLEX); PRIMARY NOISE SOURCE - TRAFFIC ON [redacted] 405 FWY; VERY LIGHT TRAFFIC ON ODYSSEY DR.

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE: (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: ASPHALT | DIST. TO RDWY C/L OR EOP: 28'6"
TRAFFIC COUNT DURATION: ___ MIN | SPEED

COUNT 1 (OR RDWY 1)	DIRECTION	NB/EB	SB/WB	NB/EB SPEED	SB/WB SPEED
	AUTOS				
	MED TRKS				
	HVY TRKS				
	BUSES				
	MOTRCLS				

IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ___

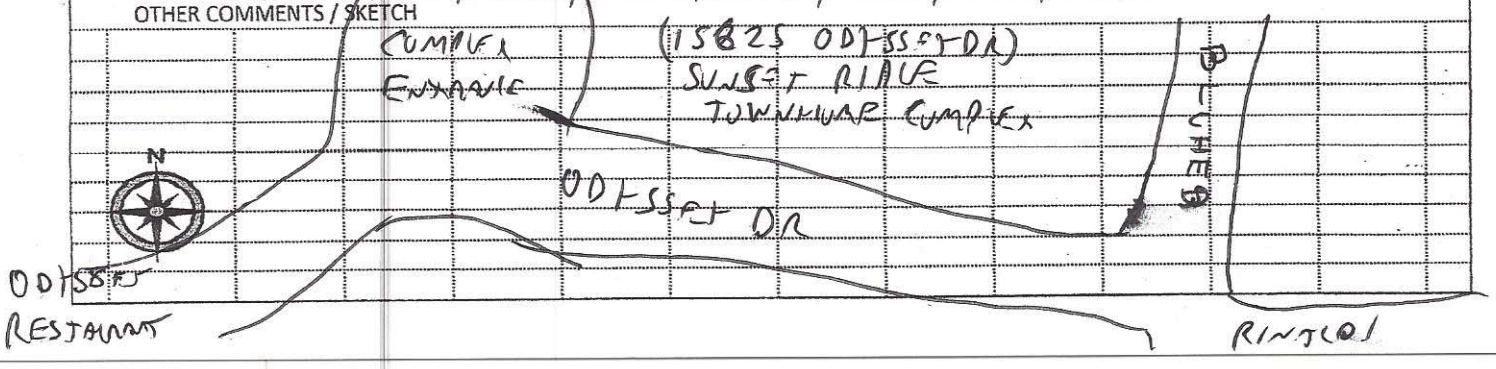
COUNT 2 (OR RDWY 2)	___ MIN	NB/EB	SB/WB	NB/EB SPEED	SB/WB SPEED

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS (BIRDS) DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER: [redacted] 405/[redacted] FWY

DESCRIPTION / SKETCH

TERRAIN: (HARD) SOFT MIXED FLAT OTHER:
PHOTOS: 1550; 1551; 1552; 1553; 1554; 1555; 1556
OTHER COMMENTS / SKETCH



Construction Noise Model Input / Output

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Bee Drainage Channel

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receiver 575'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	575	0
Backhoe	No	40		77.6	575	0
Front End Loader	No	40		79.1	575	0

Results

		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		59.5	55.5	N/A	N/A	N/A	N/A	N/A
Backhoe		56.3	52.4	N/A	N/A	N/A	N/A	N/A
Front End Loader		57.9	53.9	N/A	N/A	N/A	N/A	N/A
	Total	59.5	58.9	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Typical Receiver 750'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	750	0
Backhoe	No	40		77.6	750	0
Front End Loader	No	40		79.1	750	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	57.2	53.2	N/A	N/A	N/A	N/A	N/A
Backhoe	54	50.1	N/A	N/A	N/A	N/A	N/A

Front End Loader		55.6	51.6	N/A	N/A	N/A	N/A	N/A
	Total	57.2	56.6	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Bull Creek Extension

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 1100'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1100	0
Backhoe	No	40		77.6	1100	0
Front End Loader	No	40		79.1	1100	0
Crane	No	16		80.6	1100	0

		Results					
	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	53.9	49.9	N/A	N/A	N/A	N/A	N/A
Backhoe	50.7	46.7	N/A	N/A	N/A	N/A	N/A
Front End Loader	52.3	48.3	N/A	N/A	N/A	N/A	N/A
Crane	53.7	45.7	N/A	N/A	N/A	N/A	N/A
Total	53.9	54	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Typical Receiver 1200'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1200	0
Backhoe	No	40		77.6	1200	0
Front End Loader	No	40		79.1	1200	0
Crane	No	16		80.6	1200	0

		Results						
		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		53.1	49.1	N/A	N/A	N/A	N/A	N/A
Backhoe		50	46	N/A	N/A	N/A	N/A	N/A
Front End Loader		51.5	47.5	N/A	N/A	N/A	N/A	N/A
Crane		52.9	45	N/A	N/A	N/A	N/A	N/A
	Total	53.1	53.2	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
		0	0	0

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0
Crane	No	16		80.6	0	0

		Results						
		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator			0		0		0	
Backhoe			0		0		0	
Front End Loader			0		0		0	
Crane			0		0		0	
	Total	0	0		0		0	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_East Channel

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 1100'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1100	0
Backhoe	No	40		77.6	1100	0
Front End Loader	No	40		79.1	1100	0

Results

		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		53.9	49.9	N/A	N/A	N/A	N/A	N/A
Backhoe		50.7	46.7	N/A	N/A	N/A	N/A	N/A
Front End Loader		52.3	48.3	N/A	N/A	N/A	N/A	N/A
	Total	53.9	53.3	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Typical Receiver 1600'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1600	0
Backhoe	No	40		77.6	1600	0
Front End Loader	No	40		79.1	1600	0

Results

		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		50.6	46.6	N/A	N/A	N/A	N/A	N/A
Backhoe		47.5	43.5	N/A	N/A	N/A	N/A	N/A
Front End Loader		49	45	N/A	N/A	N/A	N/A	N/A
	Total	50.6	50	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
		0	0	0

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		0		0		0	
Backhoe		0		0		0	
Front End Loader		0		0		0	
Total	0	0		0		0	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_LAR North Dike Stormwater Basin

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 2000'	Residential	65	60	55

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	2000	0
Backhoe	No	40		77.6	2000	0
Front End Loader	No	40		79.1	2000	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	48.7	44.7	N/A	N/A	N/A	N/A	N/A
Backhoe	45.5	41.5	N/A	N/A	N/A	N/A	N/A
Front End Loader	47.1	43.1	N/A	N/A	N/A	N/A	N/A
Total	48.7	48.1	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Typical Receiver 2100'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	2100	0
Backhoe	No	40		77.6	2100	0
Front End Loader	No	40		79.1	2100	0

Results

		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		48.2	44.3	N/A	N/A	N/A	N/A	N/A
Backhoe		45.1	41.1	N/A	N/A	N/A	N/A	N/A
Front End Loader		46.6	42.7	N/A	N/A	N/A	N/A	N/A
	Total	48.2	47.6	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
		0	0	0

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0

Results

		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator			0		0		0	
Backhoe			0		0		0	
Front End Loader			0		0		0	
	Total	0	0		0		0	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018

Case Description: LADWP_LAR UV Plant Drainage and V-Ditch

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receiver 1800'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1800	0
Backhoe	No	40		77.6	1800	0
Front End Loader	No	40		79.1	1800	0
Tractor	No	40	84		1800	0

Results

Equipment	Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax
Excavator	49.6	45.6	N/A	N/A	N/A	N/A	N/A
Backhoe	46.4	42.5	N/A	N/A	N/A	N/A	N/A
Front End Loader	48	44	N/A	N/A	N/A	N/A	N/A
Tractor	52.9	48.9	N/A	N/A	N/A	N/A	N/A
Total	52.9	51.9	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Typical Receiver 2300'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	2300	0
Backhoe	No	40		77.6	2300	0
Front End Loader	No	40		79.1	2300	0
Tractor	No	40	84		2300	0

Results

Equipment	Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax
Excavator	47.5	43.5	N/A	N/A	N/A	N/A	N/A
Backhoe	44.3	40.3	N/A	N/A	N/A	N/A	N/A

Front End Loader		45.9	41.9	N/A	N/A	N/A	N/A	N/A
Tractor		50.7	46.8	N/A	N/A	N/A	N/A	N/A
	Total	50.7	49.8	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
		0	0	0

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0
Tractor	No	40	84		0	0

			Results				
	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		0		0		0	
Backhoe		0		0		0	
Front End Loader		0		0		0	
Tractor		0		0		0	
Total	0	0		0		0	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Lower San Fernando Dentention Basin

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 1500'	Residential	65	60	55

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Excavator	No	40		80.7	1500	0
Backhoe	No	40		77.6	1500	0
Front End Loader	No	40		79.1	1500	0

Tractor		No	40	84		1500	0

Results

		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		51.2	47.2	N/A	N/A	N/A	N/A	N/A
Backhoe		48	44	N/A	N/A	N/A	N/A	N/A
Front End Loader		49.6	45.6	N/A	N/A	N/A	N/A	N/A
Tractor		54.5	50.5	N/A	N/A	N/A	N/A	N/A
	Total	54.5	53.5	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Typical Receiver 2300'	Residential	65	60	55

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Excavator	No	40		80.7	2300	0
Backhoe	No	40		77.6	2300	0
Front End Loader	No	40		79.1	2300	0
Tractor	No	40	84		2300	0

Results

		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		47.5	43.5	N/A	N/A	N/A	N/A	N/A
Backhoe		44.3	40.3	N/A	N/A	N/A	N/A	N/A
Front End Loader		45.9	41.9	N/A	N/A	N/A	N/A	N/A
Tractor		50.7	46.8	N/A	N/A	N/A	N/A	N/A
	Total	50.7	49.8	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
		0	0	0

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)

Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0
Tractor	No	40	84		0	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator			0	0		0	
Backhoe			0	0		0	
Front End Loader			0	0		0	
Tractor			0	0		0	
Total	0		0	0		0	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Middle Debris Basin

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 750'	Residential	65	60	55

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	750	0
Backhoe	No	40		77.6	750	0
Front End Loader	No	40		79.1	750	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	57.2	53.2	N/A	N/A	N/A	N/A	N/A
Backhoe	54	50.1	N/A	N/A	N/A	N/A	N/A
Front End Loader	55.6	51.6	N/A	N/A	N/A	N/A	N/A
Total	57.2	56.6	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night

Typical Receiver 1500'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1500	0
Backhoe	No	40		77.6	1500	0
Front End Loader	No	40		79.1	1500	0

		Results Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		51.2	47.2	N/A	N/A	N/A	N/A	N/A
Backhoe		48	44	N/A	N/A	N/A	N/A	N/A
Front End Loader		49.6	45.6	N/A	N/A	N/A	N/A	N/A
	Total	51.2	50.6	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_San Fernando Creek

				---- Receptor #1 ----
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 350'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	350	0
Backhoe	No	40		77.6	375	0
Front End Loader	No	40		79.1	400	0

		Results Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		63.8	59.8	N/A	N/A	N/A	N/A	N/A
Backhoe		60.1	56.1	N/A	N/A	N/A	N/A	N/A
Front End Loader		61	57.1	N/A	N/A	N/A	N/A	N/A
	Total	63.8	62.7	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Typical Receiver 750'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	750	0
Backhoe	No	40		77.6	750	0
Front End Loader	No	40		79.1	750	0

		Results Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		57.2	53.2	N/A	N/A	N/A	N/A	N/A
Backhoe		54	50.1	N/A	N/A	N/A	N/A	N/A
Front End Loader		55.6	51.6	N/A	N/A	N/A	N/A	N/A
	Total	57.2	56.6	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
		0	0	0

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0

		Results Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator			0		0		0	
Backhoe			0		0		0	
Front End Loader			0		0		0	
	Total	0	0		0		0	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_San Fernando Gate Drainage Feature

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receiver 1300'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1300	0
Backhoe	No	40		77.6	1300	0
Front End Loader	No	40		79.1	1300	0

Results

Equipment	Calculated (dBA) *Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax
Excavator	52.4	48.4	N/A	N/A	N/A	N/A	N/A
Backhoe	49.3	45.3	N/A	N/A	N/A	N/A	N/A
Front End Loader	50.8	46.8	N/A	N/A	N/A	N/A	N/A
Total	52.4	51.8	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Typical Receiver 1800'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1800	0
Backhoe	No	40		77.6	1800	0
Front End Loader	No	40		79.1	1800	0

Results

Equipment	Calculated (dBA) *Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax
Excavator	49.6	45.6	N/A	N/A	N/A	N/A	N/A
Backhoe	46.4	42.5	N/A	N/A	N/A	N/A	N/A

Front End Loader		48	44	N/A	N/A	N/A	N/A	N/A
	Total	49.6	49	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Upper Debris Basin

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 1800'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1800	0
Backhoe	No	40		77.6	1800	0
Front End Loader	No	40		79.1	1800	0

	Results						
	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	49.6	45.6	N/A	N/A	N/A	N/A	N/A
Backhoe	46.4	42.5	N/A	N/A	N/A	N/A	N/A
Front End Loader	48	44	N/A	N/A	N/A	N/A	N/A
Total	49.6	49	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Typical Receiver 1900'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1900	0
Backhoe	No	40		77.6	1900	0
Front End Loader	No	40		79.1	1900	0

	Results						
	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax

Equipment		*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax
Excavator		49.1	45.1	N/A	N/A	N/A	N/A	N/A
Backhoe		46	42	N/A	N/A	N/A	N/A	N/A
Front End Loader		47.5	43.5	N/A	N/A	N/A	N/A	N/A
	Total	49.1	48.5	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Upper Northeast Drainage

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 1100'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1100	0
Backhoe	No	40		77.6	1100	0
Front End Loader	No	40		79.1	1100	0

Results

		Calculated (dBA)		Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax
Equipment		*Lmax	Leq					
Excavator		53.9	49.9	N/A	N/A	N/A	N/A	N/A
Backhoe		50.7	46.7	N/A	N/A	N/A	N/A	N/A
Front End Loader		52.3	48.3	N/A	N/A	N/A	N/A	N/A
	Total	53.9	53.3	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Typical Receiver 1200'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1200	0
Backhoe	No	40		77.6	1200	0

Front End Loader	No	40	79.1	1200	0	

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	53.1	49.1	N/A	N/A	N/A	N/A	N/A
Backhoe	50	46	N/A	N/A	N/A	N/A	N/A
Front End Loader	51.5	47.5	N/A	N/A	N/A	N/A	N/A
Total	53.1	53.2	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
		0	0	0

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator			0	0		0	
Backhoe			0	0		0	
Front End Loader			0	0		0	
Total	0	0	0	0		0	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Upper San Fernando Drain Line

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 2100'	Residential	65	60	55

Equipment

	Spec	Actual	Receptor	Estimated

Description	Impact Device	Usage(%)	Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Excavator	No	40		80.7	2100	0
Backhoe	No	40		77.6	2100	0
Front End Loader	No	40		79.1	2100	0

Results

		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		48.2	44.3	N/A	N/A	N/A	N/A	N/A
Backhoe		45.1	41.1	N/A	N/A	N/A	N/A	N/A
Front End Loader		46.6	42.7	N/A	N/A	N/A	N/A	N/A
	Total	48.2	47.6	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Typical Receiver 2700'	Residential	65	60	55

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	2700	0
Backhoe	No	40		77.6	2700	0
Front End Loader	No	40		79.1	2700	0

Results

		Calculated (dBA)		Noise Limits (dBA)				
				Day		Evening		Night
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		46.1	42.1	N/A	N/A	N/A	N/A	N/A
Backhoe		42.9	38.9	N/A	N/A	N/A	N/A	N/A
Front End Loader		44.5	40.5	N/A	N/A	N/A	N/A	N/A
	Total	46.1	45.5	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Upper San Fernando Drain Line Feature 1

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night

Nearest Receiver 2500'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	2500	0
Backhoe	No	40		77.6	2500	0
Front End Loader	No	40		79.1	2500	0
Tractor	No	40	84		2500	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	46.7	42.8	N/A	N/A	N/A	N/A	N/A
Backhoe	43.6	39.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	45.1	41.2	N/A	N/A	N/A	N/A	N/A
Tractor	50	46	N/A	N/A	N/A	N/A	N/A
Total	50	49.1	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Typical Receiver 2750'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	2750	0
Backhoe	No	40		77.6	2750	0
Front End Loader	No	40		79.1	2750	0
Tractor	No	40	84		2750	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	45.9	41.9	N/A	N/A	N/A	N/A	N/A
Backhoe	42.8	38.8	N/A	N/A	N/A	N/A	N/A
Front End Loader	44.3	40.3	N/A	N/A	N/A	N/A	N/A
Tractor	49.2	45.2	N/A	N/A	N/A	N/A	N/A
Total	49.2	48.3	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
		0	0	0

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0
Tractor	No	40	84		0	0

		Results					
	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator			0	0		0	
Backhoe			0	0		0	
Front End Loader			0	0		0	
Tractor			0	0		0	
Total	0	0		0		0	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Upper San Fernando Drain Line Feature 2

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 2500'	Residential	65	60	55

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Excavator	No	40		80.7	2500	0
Backhoe	No	40		77.6	2500	0
Front End Loader	No	40		79.1	2500	0

		Results					
	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax

Excavator		46.7	42.8	N/A	N/A	N/A	N/A	N/A
Backhoe		43.6	39.6	N/A	N/A	N/A	N/A	N/A
Front End Loader		45.1	41.2	N/A	N/A	N/A	N/A	N/A
	Total	46.7	46.1	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Typical Receiver 2550'	Residential	65	60	55

			Equipment			
	Impact		Spec Lmax	Actual Lmax	Receptor Distance	Estimated Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Excavator	No	40		80.7	2550	0
Backhoe	No	40		77.6	2550	0
Front End Loader	No	40		79.1	2550	0

			Results				
	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	46.6	42.6	N/A	N/A	N/A	N/A	N/A
Backhoe	43.4	39.4	N/A	N/A	N/A	N/A	N/A
Front End Loader	45	41	N/A	N/A	N/A	N/A	N/A
Total	46.6	46	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
		0	0	0

			Equipment			
	Impact		Spec Lmax	Actual Lmax	Receptor Distance	Estimated Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0

			Results				
	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		0		0		0	

Backhoe		0	0	0	
Front End Loader		0	0	0	
	Total	0	0	0	0

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/27/2018
Case Description: LADWP_Yarnell Debris Basin

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Receiver 1800'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1800	0
Backhoe	No	40		77.6	1800	0
Front End Loader	No	40		79.1	1800	0
Tractor	No	40	84		1800	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	49.6	45.6	N/A	N/A	N/A	N/A	N/A
Backhoe	46.4	42.5	N/A	N/A	N/A	N/A	N/A
Front End Loader	48	44	N/A	N/A	N/A	N/A	N/A
Tractor	52.9	48.9	N/A	N/A	N/A	N/A	N/A
Total	52.9	51.9	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Typical Receiver 2100'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	2100	0
Backhoe	No	40		77.6	2100	0
Front End Loader	No	40		79.1	2100	0

Tractor	No	40	84	2100	0	

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator	48.2	44.3	N/A	N/A	N/A	N/A	N/A
Backhoe	45.1	41.1	N/A	N/A	N/A	N/A	N/A
Front End Loader	46.6	42.7	N/A	N/A	N/A	N/A	N/A
Tractor	51.5	47.6	N/A	N/A	N/A	N/A	N/A
Total	51.5	50.6	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
		0	0	0

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	0	0
Backhoe	No	40		77.6	0	0
Front End Loader	No	40		79.1	0	0
Tractor	No	40	84		0	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Excavator		0		0		0	
Backhoe		0		0		0	
Front End Loader		0		0		0	
Tractor		0		0		0	
Total	0	0		0		0	

*Calculated Lmax is the Loudest value.

APPENDIX E

Trip Generation Memo

DUDEK

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TECHNICAL MEMORANDUM

To:	Christopher Lopez, LADWP
From:	Dennis Pascua, Transportation Services Manager
Subject:	Trip Generation Analysis for Vegetation Management and Maintenance Activities at the Van Norman Complex, LADWP
Date:	July 19, 2018
cc:	Rachel Struglia, Dudek
Attachments:	Figure 1 – VNC Facilities

The following memorandum presents a trip generation analysis for the proposed vegetation management and maintenance activities at the Los Angeles Department of Water and Power's (LADWP) Van Norman Complex (VNC) in the Granada Hills area of the San Fernando Valley, in the City of Los Angeles (City). The approximately 1,340 acre diamond shaped complex is located approximately 0.45-miles northwest of the Interstate 5 (I-5) and Interstate 405 (I-405) interchange. It is bounded by I-5 to the northeast and east, Balboa Avenue to the northwest, Woodley Avenue to the west, Rinaldi Street, I-405 and commercial and residential development to the south.

Per the City of Los Angeles Department of Transportation (LADOT) *Traffic Impact Study Guidelines* (2016), the general parameters for determining the appropriate transportation impact review process for a Development Project are as follows:

- A **Technical Memorandum** is required when the Development Project is likely to add 25 to 42 AM or PM peak hour vehicle trips, and the adjacent intersection(s) are presently estimated to be operating at LOS E or F. The scope of work of a Technical Memorandum, which is a significantly scaled-down version of a TIS, must be reviewed and approved by LADOT.
- A **Transportation Impact Study (TIS)**, previously referred to as a Traffic Study, is required when the Development Project is likely to add 43 or more a.m. or p.m. peak hour vehicle trips.

The following trip generation analysis of the proposed project will determine whether a higher level of analysis would be required by LADOT, and provide a qualitative assessment of whether the proposed project would create any significant traffic impacts.

PROJECT DESCRIPTION

The LADWP supplies water and electricity to the 4 million residents, businesses, and visitors in the City. As part of its water supplying infrastructure, the LADWP owns and operates the Van Norman Complex (VNC). The complex consists of several existing water facilities, including water storage reservoirs and detention basins that cumulatively function to receive, store, treat, and distribute water to the City. As part of maintaining its water infrastructure at the VNC, the LADWP seeks to perform ongoing vegetation management and maintenance activities at 15 facilities throughout the complex in order to ensure that the facilities are functioning properly. These facilities include:

1. Upper Debris Basin
2. Middle Debris Basin
3. Bee Drainage Channel
4. San Fernando Gate Drainage Feature
5. Upper San Fernando Drain Line
6. Upper San Fernando Drain Line Feature 1
7. Upper San Fernando Drain Line Feature 2
8. Yarnell Debris Basin
9. Lar UV Plant Drainage and V-Ditch
10. San Fernando Creek
11. Lower San Fernando Detention Basin
12. Bull Creek Extension (Sediment Basin)
13. Upper Northeast Drainage
14. Lar North Dike Stormwater Basin
15. East Channel

Figure 1 shows the locations of each of the facilities listed above within the VNC.

TRIP GENERATION

Trip generation estimates for the vegetation maintenance activities on the VNC were based on operational information provided by LADWP. The following assumptions were made for each activity:

- The maintenance activity completed for each of the 15 facilities will not overlap on the same day because LADWP will be using the same in-house crew at each facility. Even with the use of one crew, all work at the facilities can be completed between September and January.
- Maintenance crew work hours are from 7:00 a.m. to 3:00 p.m., with crew members arriving at the VNC before the AM peak period, and departing the VNC in the PM peak period.
- Haul trucks will arrive at each facility at 6:00 a.m., before the AM peak period, and depart each facility at 3:00 p.m., in the PM peak period. No outside contractors will be used.
- Haul trucks are 10-cubic yards trucks with 2-3 axles. A passenger-car equivalence (PCE) factor of 2.5 will be applied for trip generation purposes.

Table 1 presents the trip generation estimates of the vegetation maintenance activities at each of the facilities at the VNC.

Table 1
Project Trip Generation

Activity	Quantity/Units	Duration	Daily	AM Peak Hour			PM Peak Hour		
				In	*Out*	*Total*	*In*	*Out*	*Total*
Upper Debris Basin									
- Workers	4 workers	9–14 days	8	0	0	0	0	4	4
- Haul Trucks	4 trucks (2.5 PCE)		20	0	0	0	0	10	10
Total in PCE Trips			**28**	**0**	**0**	**0**	**0**	**14**	**14**
Middle Debris Basin									
- Workers	4 workers	9–14 days	8	0	0	0	0	4	4
- Haul Trucks	4 trucks (2.5 PCE)		20	0	0	0	0	10	10
Total in PCE Trips			**28**	**0**	**0**	**0**	**0**	**14**	**14**
Bee Drainage Channel									
- Workers	4 workers	1–2 days	8	0	0	0	0	4	4
- Haul Trucks	1 truck (2.5 PCE)		5	0	0	0	0	3	3
Total in PCE Trips			**13**	**0**	**0**	**0**	**0**	**7**	**7**

Table 1
Project Trip Generation

Activity	Quantity/Units	Duration	Daily	AM Peak Hour			PM Peak Hour		
				In	*Out*	*Total*	*In*	*Out*	*Total*
San Fernando Gate Drainage Feature									
- Workers	4 workers	1–2 days	8	0	0	0	0	4	4
- Haul Trucks	2 trucks (2.5 PCE)		10	0	0	0	0	5	5
Total in PCE Trips			**18**	**0**	**0**	**0**	**0**	**9**	**9**
Upper San Fernando Drain Line									
- Workers	4 workers	3–5 days	8	0	0	0	0	4	4
- Haul Trucks	1 truck (2.5 PCE)		5	0	0	0	0	3	3
Total in PCE Trips			**13**	**0**	**0**	**0**	**0**	**7**	**7**
Upper San Fernando Drain Line Feature 1									
- Workers	4 workers	1–3 days	8	0	0	0	0	4	4
- Haul Trucks	2 trucks (2.5 PCE)		10	0	0	0	0	5	5
Total in PCE Trips			**18**	**0**	**0**	**0**	**0**	**9**	**9**
Upper San Fernando Drain Line Feature 2									
- Workers	2 workers	1 day	4	0	0	0	0	2	2
- Haul Trucks	1 truck (2.5 PCE)		5	0	0	0	0	3	3
Total in PCE Trips			**9**	**0**	**0**	**0**	**0**	**5**	**5**
Yarnell Debris Basin									
- Workers	2 workers	1 day	4	0	0	0	0	2	2
- Haul Trucks	no trucks		0	0	0	0	0	0	0
Total in PCE Trips			**4**	**0**	**0**	**0**	**0**	**2**	**2**
LAR UV Plant Drainage and V-ditch									
- Workers	2 workers	1 day	4	0	0	0	0	2	2
- Haul Trucks	no trucks		0	0	0	0	0	0	0
Total in PCE Trips			**4**	**0**	**0**	**0**	**0**	**2**	**2**
San Fernando Creek									
- Workers	4 workers	2–7 days	8	0	0	0	0	4	4
- Haul Trucks	2 trucks (2.5 PCE)		10	0	0	0	0	5	5
Total in PCE Trips			**18**	**0**	**0**	**0**	**0**	**9**	**9**
Lower San Fernando Detention Basin									
- Workers	2 workers	6 days	4	0	0	0	0	2	2
- Haul Trucks	no trucks		0	0	0	0	0	0	0
Total in PCE Trips			**4**	**0**	**0**	**0**	**0**	**2**	**2**
Bull Creek Extension (Sediment Basin)									
- Workers	4 workers	2 days	8	0	0	0	0	4	4
- Haul Trucks	1 truck (2.5 PCE)		5	0	0	0	0	3	3
Total in PCE Trips			**13**	**0**	**0**	**0**	**0**	**7**	**7**

Table 1
Project Trip Generation

Activity	Quantity/Units	Duration	Daily	AM Peak Hour			PM Peak Hour		
				In	*Out*	*Total*	*In*	*Out*	*Total*
Upper Northeast Drainage									
- Workers	4 workers	1 day	8	0	0	0	0	4	4
- Haul Trucks	1 truck (2.5 PCE)		5	0	0	0	0	3	3
Total in PCE Trips			**13**	**0**	**0**	**0**	**0**	**7**	**7**
LAR North Dike Stormwater Basin									
- Workers	4 workers	5–7 days	8	0	0	0	0	4	4
- Haul Trucks	2 trucks (2.5 PCE)		10	0	0	0	0	5	5
Total in PCE Trips			**18**	**0**	**0**	**0**	**0**	**9**	**9**
East Channel									
- Workers	4 workers	3 days	8	0	0	0	0	4	4
- Haul Trucks	1 truck (2.5 PCE)		5	0	0	0	0	3	3
Total in PCE Trips			**13**	**0**	**0**	**0**	**0**	**7**	**7**

Notes: PCE – Passenger-car Equivalence.

As mentioned previously, LADWP has indicated that the maintenance activity completed for each of the 15 facilities will not overlap on the same day because LADWP will be using the same in-house crew at each facility. Therefore, based on the table above, the activities that would generate the highest volume of traffic would be at the Upper Debris Basin and Middle Debris Basin facilities, separately. Maintenance activities at those facilities would generate approximately 28 passenger-car equivalent (PCE) daily trips, zero PCE AM peak hour trips, and 14 PCE PM peak hour trips, at each of those facilities.

At all facilities, daily trips would range from 4 to 28 PCE trips at each facility. There would be no AM peak hour trips since all workers and haul trucks would arrive at each facility before the AM peak hours, starting at 7:00 a.m. For the PM peak hour, trips from each facility would range between 2 and 14 PCE trips.

CONCLUSION

Based on trip generation analysis above, the activities that would generate the highest volume of traffic would be at the Upper Debris Basin and Middle Debris Basin facilities, separately. Maintenance activities at those facilities would generate approximately 28 passenger-car equivalent (PCE) daily trips, zero PCE AM peak hour trips, and 14 PCE PM peak hour trips, at each of those facilities.

Per the LADOT *Traffic Impact Study Guidelines*, neither a Technical Memorandum nor TIS would be required for the proposed project since it would generate less than 25 to 42 a.m. or p.m. peak hour vehicle trips. Furthermore, traffic generated by the proposed project would be temporary and would last between 1 day and 14 days, depending on the facility. All maintenance activities would occur on the VNC site and would not require any (temporary) closures to public streets. Due to the relatively low, and temporary, traffic volumes generated by the proposed project, it would not have a measurable impact on the adjacent street network, and therefore, would not create a significant traffic impact.



SOURCE: DigitalGlobe 2016

Los Angeles Department of Water & Power

0 750 1,500 Feet

FIGURE 1

Project Site

LADWP Van Norman Complex

APPENDIX F

Mitigation Monitoring and Reporting Program

MITIGATION MONITORING AND REPORTING PROGRAM

Van Norman Complex Routine Operation and Maintenance Program

PREPARED BY

Los Angeles Department of Water & Power

Environmental Affairs

111 North Hope Street, Room 1044

Los Angeles, California 90012

WITH ASSISTANCE FROM

DUDEK

27372 Calle Arroyo

San Juan Capistrano, California 92675

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TABLE OF CONTENTS

SECTION PAGE

1 INTRODUCTION 2

2 MITIGATION MONITORING AND REPORTING PROGRAM 3

TABLES

Table 1. Mitigation Measures and Avoidance and Minimization Measures 3

1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that a public agency adopting a Mitigated Negative Declaration take affirmative steps to determine that approved mitigation measures are implemented subsequent to project approval. This Mitigation Monitoring and Reporting Program has been developed in compliance with CEQA to ensure that the Los Angeles Department of Water and Power (LADWP), as lead agency, implements the mitigation measures and the avoidance and minimization measures identified within the Van Norman Complex Routine Operation and Maintenance Program Initial Study and Mitigated Negative Declaration.

This Mitigation and Monitoring Program includes the following information:

- A list of mitigation measures and avoidance and minimization measures;
- The party responsible for implementing or monitoring the mitigation measures and avoidance and minimization measures;
- The timing for implementation of the mitigation measures and avoidance and minimization measures; and
- The date of completion of monitoring the mitigation measures and avoidance and minimization measures.

LADWP will adopt this Mitigation Monitoring and Reporting Program, or an equally effective program, if it approves the proposed Van Norman Complex Routine Operation and Maintenance Program (project).

2 MITIGATION MONITORING AND REPORTING PROGRAM

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	*Date*	*Remarks*
	Biological Resources					
AMM-BIO-1	**Resource Protection** **Designated Biologist.** A Designated Biologist shall monitor all ground or vegetation disturbing activities within the drainage channels and basins in the VNC. The Designated Biologist shall be knowledgeable and experienced in the biology and natural history of local fish and wildlife resources and able to identify those resources present at the VNC. The Designated Biologist shall work with the construction manager to halt or redirect any activity to order any reasonable measure to avoid or minimize impacts to fish and wildlife resources. **Leave Wildlife Unharmed.** The Designated Biologist shall be present during all vegetation-removal and rough grading activities to monitor for non-listed, special-status, and/or common ground-dwelling vertebrates encountered in the path of project-related activities. The Designated Biologist shall make every effort to relocate the species out of harm's way to the extent feasible by doing one of the following: 1) Utilize shovel, rake, or similar hand tool to gently re-direct the animal out of work area; 2) Install silt fence or other exclusionary fencing to prevent species from re-entering disturbance area; or 3) If the Designated Biologist has the appropriate handling permits, he/she may capture/relocate species to appropriate habitat outside the disturbance area. The Designated Biologist shall work with the construction manager to temporarily halt or redirect construction activities until the species is determined to be out of harm's way. Any	Prior to and during project work	Los Angeles Department of Water and Power			

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	*Date*	*Remarks*
	exclusionary devices shall be checked by a biological monitor on a weekly basis to check/ensure continued exclusionary device effectiveness. **Bird Breeding/Nesting Period.** LADWP shall make every effort to conduct project activities outside of the bird breeding/nesting season from February 1 to September 15 to avoid impacts to breeding/nesting birds. If work cannot be avoided, then the Designated Biologist shall conduct two focused surveys for breeding/nesting birds no earlier than 3 days prior to the beginning of project- related activities. If any nests are found, the Designated Biologist shall implement a default 300 foot minimum avoidance buffer for all passerine birds and 500 foot minimum avoidance buffer for all raptor species. The breeding habitat/nest site shall be fenced and/or flagged in all directions, and this area shall not be disturbed until the nest becomes inactive, the young have fledged, the young are no longer being fed by the parents, the young have left the area, and the young will no longer be impacted by the project. **Preconstruction Surveys.** The Designated Biologist shall conduct a pre- construction general biological survey for species of concern, including western spadefoot toad, likely to be found in the area or using the area to forage during the proposed construction activities. The surveys shall be conducted within one week prior to start of work. Survey limits shall be determined by the Designated Biologist and shall include all areas within the project footprint. Should any species of concern be found, the LADWP shall develop and implement a plan for the protection of these species.					
AMM-BIO-2	**Habitat Protection** **Demarcate Work Area Boundary.** In consultation with the Designated Biologist, LADWP shall demarcate the outer	During project work	Los Angeles Department of Water and Power			

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	*Date*	*Remarks*
	perimeter of the work area to prevent damage to adjacent habitat and to provide visual orientation to its limits. Marking shall be in place during all periods of operation. All persons employed or otherwise working on the project site shall be instructed about the restrictions that the marking represents. LADWP shall remove all temporary flagging, fencing, and/or barriers from the project site and vicinity of the stream upon completion of project activities. **Hours of Operation and Lighting.** LADWP's maintenance and construction activities shall take place during daylight hours only. No night work or lights are authorized.					
AMM-BIO-3	**Placement of In-stream Structures** **Stranded Aquatic Life.** When water is present, the Designated Biologist shall check daily for stranded aquatic life until the water level no longer support aquatic organisms. All reasonable efforts shall be made to capture and move all stranded aquatic life observed in the dewatered areas. Capture methods may include fish landing nets, dip nets, buckets and by hand. Captured aquatic life shall be released immediately in the closest body of water adjacent to the work site. **Unauthorized Materials.** Any materials placed in seasonally dry portions of a stream that could be washed downstream or could be deleterious to aquatic life shall be removed prior to inundation by high flows. **Excavation Spoils.** No castings or spoil from the excavation operations shall be placed on the stream side of the Project site. Spoil storage sites shall not be located within a stream, where spoils can be washed back into a stream, or where it will cover aquatic or riparian vegetation.	During project work	Los Angeles Department of Water and Power			
AMM-BIO-4	**Turbidity and Siltation**	During project work	Los Angeles Department of Water and Power			

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	*Date*	*Remarks*
	Erosion Control Measures. LADWP shall utilize erosion control measures as specified in the Storm Water Pollution Plan (SWPPP) or Best Management Plan (BMP) prepared by LADWP's Wastewater group Qualified Stormwater Developer (QSD) throughout all phases of operation where sediment runoff from exposed slopes threatens to enter a river, stream, or lake. Any type of erosion control blanket or other product should not use plastic and shall be weed-free to the extent possible. If netting is to be used, it should be flexible (e.g., "soft" hemp) so that snakes or other animals do not become trapped in the netting. **Sediment and Runoff Control.** Sediment from project-related activities shall not be placed in seasonally dry portions of the stream where it might likely be washed into the stream or inundated by high flows, or where it is likely to have a negative impact on emergent native vegetation, or where it is likely to have a negative impact on native trees. Preparation shall be made so that runoff from steep, erodible surfaces will be diverted into stable areas with little erosion potential. Frequent water checks shall be placed on dirt roads, cat tracks, or other work trails to control erosion. **Contaminated Site Water.** Water containing mud, silt, or other pollutants from equipment washing or other activities, shall not be allowed to enter a flowing stream, dry ephemeral stream or into storm drains. Such water shall be settled, filtered, or otherwise treated prior to discharge back into the water body. **Minimize Turbidity and Siltation.** LADWP shall take precautions to minimize turbidity/siltation during construction and post-construction periods as specified in the SWPPP or BMP Plan. Precautions should include, but are not limited to: pre-construction planning to identify site-specific turbidity and siltation minimization measures and best management erosion					

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	*Date*	*Remarks*
	control practices; best management erosion control practices during project activity; and settling, filtering, or otherwise treating silty and turbid water prior to discharge into a stream or storm drain.					
AMM-BIO-5	**Equipment and Access** **Staging and Vehicle Storage.** Staging/storage areas for equipment and materials shall be located outside of the stream in an area specified in the SWPPP or BMP Plan.	During project work	Los Angeles Department of Water and Power			
AMM-BIO-6	**Pollution, Litter, and Cleanup** **Operating Equipment and Vehicle Leaks.** Any equipment or vehicles driven and/or operated within or adjacent to the ephemeral drainage shall be checked and maintained daily to prevent leaks of materials that could be deleterious to aquatic and terrestrial life or riparian habitat. All refueling and maintenance of equipment and vehicles shall be at least 150 feet from any aquatic habitat, wetland area, water body, or ephemeral drainages. Stationary equipment such as motors, pumps, generators, and welders, located within or adjacent to the stream, lake or ephemeral drainage shall have measures in place to prevent any leaks or seeps from entering the waterway. Stationary heavy equipment shall have suitable containment to handle a catastrophic spill/leak. Clean up equipment such as extra boom, absorbent pads, skimmers, shall be accessible during the project-related activities. **Pollutants and Debris.** No debris, soil, silt, sand, bark, slash, sawdust, rubbish, construction waste, cement or concrete or washings thereof, asphalt, paint, oil or other petroleum products or any other substances which could be hazardous to aquatic life, or other organic or earthen material from any logging, construction, or other associated Project-related activity shall be allowed to contaminate the soil and/or enter into or placed where	During project work	Los Angeles Department of Water and Power			

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	*Date*	*Remarks*
	it may be washed by rainfall or runoff into, any stream/channel/culvert/ditch. Any of these materials, placed within or where they may enter a stream/channel/culvert/ditch, by LADWP or any party working under contract, or with the permission of LADWP, shall be removed immediately. When Project-related activities are completed, any excess materials or debris shall be removed from the work area. No rubbish shall be deposited within 150 feet of the high water mark of any stream. Pollution Compliance. LADWP shall comply with all litter and pollution laws. All contractors, subcontractors and employees shall also obey these laws and it shall be the responsibility of the LADWP to ensure compliance. **Trash Receptacles.** LADWP shall install and use fully covered trash receptacles with secure lids (wildlife proof) that contain all food, food scrapes, food wrappers, beverage containers and other miscellaneous trash generated by work force personnel. Following construction, all trash and construction debris shall be removed from the project site. **Remove Temporary Flagging, Fencing, and Barriers.** LADWP shall remove all temporary flagging, fencing, and/or barriers from the project site and vicinity of the stream upon completion of project activities.					
AMM-BIO-7	**Exotic Species Removal and Control** LADWP shall also perform exotic species removal and control as defined by the following measures. **Remove Invasive Vegetation by Hand.** Whenever practicable, invasive species shall be removed by hand or by hand-operated power tools rather than by chemical means. Where chemical control of non-native vegetation is deemed necessary within the bed, bank, or channel of the stream and there is a possibility that the herbicides could contact water, LADWP shall employ only	During project work	Los Angeles Department of Water and Power			

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	*Date*	*Remarks*
	those herbicides that are approved for aquatic use. If surfactants are required, they should be restricted to non-ionic chemicals that are approved for aquatic use. All herbicide use conditions for mixing, application and clean-up shall conform to all applicable federal, State, and local regulations. Any application of herbicide shall be done by a licensed or certified applicator in accordance with all applicable, federal ,state, and local. Herbicides shall be used only for selective treatment of non-native vegetation identified as invasive by California Invasive Plant Council.. **Invasive Plant Control/Eradication.** To minimize the spread of invasive plant species to uninfested areas within and outside of the project site, LADWP shall implement control and eradication activities prior to the initiation of ground-disturbing activities. LADWP shall utilize· control and eradication methods that are specific to the target species, avoid the spread and proliferation of other invasive plant species, and minimize damage to and/or removal of native plant species. All nonnative and invasive plants controlled or eradicated at the project site shall be removed and disposed of in a manner that prevents the introduction and establishment of those species to new areas. **Invasive Species.** LADWP shall conduct project activities in a manner that prevents the introduction, transfer, and spread of invasive species, including plants, animals, and microbes (e.g., algae, fungi, parasites, bacteria, etc.), from one project site and/or watershed to another. Prevention Best Management Practices (BMPs) and guidelines for invasive plants can be found on the California Invasive Plant Council's website at: http://www.cal-ipc.org/ip/prevention/index.php and for invasive mussels and aquatic species can be found at the Stop Aquatic Hitchhikers website: http://www.protectyourwaters.net/.					

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
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	Inspection of Project Equipment. LADWP shall inspect all vehicles, tools, waders and boots, and other project-related equipment and remove all visible soil/mud, plant materials, and animal remnants prior to entering and exiting the stream and/or between each use in different watersheds. **Decontamination of Project Equipment.** LADWP shall decontaminate all tools, waders and boots, and other equipment that will enter the streambed and make contact with water or wetted soils prior to entering and after exiting the stream. If decontamination for aquatic invasive animal species is applicable, LADWP shall decontaminate project gear and equipment utilizing one of three methods: drying, using a hot water soak, or freezing, as appropriate to the type of gear or equipment. For all methods, LADWP should begin the decontamination process by thoroughly scrubbing equipment, paying close attention to small crevices such as boot laces, seams, net corners, etc., with a stiff-bristled brush to remove all organisms. To decontaminate by drying, LADWP should allow equipment to dry thoroughly (i.e., until there is a complete absence of water), preferably in the sun, for a minimum of 48 hours. To decontaminate using a hot water soak, LADWP shall immerse equipment in 140°F or hotter water and soak for a minimum of 5 minutes. To decontaminate by freezing, LADWP shall place equipment in a freezer 32°F or colder for a minimum of 8 hours. Repeat decontamination is required only if the equipment and clothing is removed from the site, used within a different watersheds, and returned to the project site. **Decontamination of Vehicles and Equipment.** If decontamination for aquatic invasive animal species is applicable, LADWP shall decontaminate vehicles and other project-related equipment too large to immerse in a hot water bath by pressure washing with hot water a minimum of 140°F at					

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	the point of contact or 155°F at the nozzle. Additionally, LADWP shall flush watercraft engines and all areas that could contain standing water (e.g. storage compartments) for a minimum of 10 minutes. Following the hot water wash, LADWP shall dry all vehicles, watercraft, and other large equipment as thoroughly as possible. **Decontamination Sites.** If decontamination for aquatic invasive animal species is applicable, LADWP shall perform decontamination of vehicles, watercraft, and other project gear and equipment in a designated location where runoff can be contained and not allowed to pass into drainage areas and other sensitive habitat areas.					
MM-BIO-1	Removal or disturbance of habitat suitable for least Bell's vireo shall be conducted outside the typical nesting period for this species (approximately March 15 through August 15). Mitigation for permanent impacts to habitat shall be at a ratio of 1:1, or as otherwise determined by applicable resource agency permits. Mitigation shall be a combination of habitat preservation, enhancement, and/or creation through purchase of credits at an approved in-lieu fee program or mitigation bank, or an agency approved permittee responsible mitigation project. Prior to removal or disturbance of suitable and/or occupied least Bell's vireo habitat, and presuming there is risk of "take" under federal or state law, LADWP shall consult with CDFW and USFWS on implementation of this MM-BIO-1 and other minimization and avoid measures as necessary to avoid "take." If "take" is unavoidable, LADWP shall secure the appropriate incidental take authorization or permit under Section 7 of the federal Endangered Species Act and Section 2081 of the California Endangered Species Act. Any measures determined	During project work	Los Angeles Department of Water and Power			

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	*Date*	*Remarks*
	to be necessary through the Section 7 or Section 2081 shall be implemented.					
MM-BIO-2	In consultation with the U.S. Army Corps of Engineers, the Regional Water Quality Control Board (RWQCB) and the California Department of Fish and Wildlife (CDFW), LADWP shall acquire the appropriate permits and approvals (i.e., Section 404 permit [U.S. Army Corps of Engineers], Section 401 permit [RWQCB], Streambed Alteration Agreement [CDFW]) to address potential temporary and/or permanent impacts to jurisdictional waters if it is deemed required by any of these agencies. Compensatory mitigation for temporary and/or permanent impacts shall be implemented at a minimum ratio of 1:1 and as mutually agreed upon by the Resource Agencies and LADWP, and would include a combination of preservation, enhancement, and/or creation through purchase of credits at an approved in-lieu fee program or mitigation bank, or an agency-approved permittee responsible mitigation project. Either of these options would result in no net loss of jurisdictional aquatic resources.	Prior to commencement of project work	Los Angeles Department of Water and Power			
		Cultural Resources				
MM-CUL-1	A qualified archaeologist shall attend the maintenance activity kick-off meeting to coordinate with the Los Angeles Department of Water and Power (LADWP) and the construction foreman to allow for brief inspection of initial ground disturbance within 50 feet of previously recorded archaeological site boundaries. The goal of this meeting will be to determine if more intensive archaeological monitoring is required.	Prior to project work	Los Angeles Department of Water and Power			
MM-CUL-2	To reduce potential impacts to unanticipated cultural resources during project implementation, all construction personnel should undergo Worker Environmental Awareness Program (WEAP) training to ensure that any unanticipated archaeological discoveries are treated appropriately. The WEAP training will	Prior to project work	Los Angeles Department of Water and Power			

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
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	provide specific details on the kinds of archaeological materials that may be identified during project implementation.					
MM-CUL-3	In the event that archaeological resources (sites, features, or artifacts) are exposed during the maintenance and operation activities for the proposed project, all activities occurring within 100 feet of the find shall immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can evaluate the significance of the find and determine whether or not additional study is warranted. Depending upon the significance of the find under the California Environmental Quality Act (CEQA) (14 CCR 15064.5(f); California Public Resources Code Section 21082), the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under CEQA, additional work, such as preparation of an archaeological treatment plan, testing, or data recovery, may be warranted.	During project work	Los Angeles Department of Water and Power			
Geology and Soils						
MM-GEO-1	In the event that paleontological resources (e.g., fossils) are unearthed during project earthmoving, the area of discovery shall be roped off with a 50-foot radius buffer. A qualified paleontologist shall be retained to assess the find and provide appropriate mitigation. Once documentation and collection of the find is completed, the qualified paleontologist will remove the rope and allow ground disturbance to recommence in the area of the find. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program for the proposed project. The Paleontological Resources Impact Mitigation Program shall be consistent with the 2010 guidelines of the Society of Vertebrate Paleontology.	During project work	Los Angeles Department of Water and Power			
Hazards and Hazardous Materials						

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	*Date*	*Remarks*
MM-HAZ-1	The Los Angeles Department of Water and Power (LADWP) shall prepare and implement a Hazardous Site Safety Plan for the Yarnell Debris Basin and Lower San Fernando Detention Basin. The Hazardous Site Safety Plan shall include measures to minimize exposure to workers and for the safe excavation, handling, and disposal of hazardous media. Worker exposure to hazardous substances will be minimized through the implementation of a Health and Safety Plan. The project-specific Health and Safety Plan shall be prepared in accordance with the Occupational Safety and Health Administration standards, included in the Hazardous Site Safety Plan, and implemented during excavation and construction-related activities. The Hazardous Site Safety Plan shall also include procedures for the safe management of hazardous media and shall include, at a minimum, the following: 1. Identification of known areas with hazardous media of concern 2. Instructions for identification of suspect hazardous media 3. Procedures for temporary cessation of construction activity and evaluation of the level of environmental concern if previously unidentified suspect soils are encountered 4. Procedures for limiting access for properly trained personnel to the contaminated area 5. Procedures for characterizing and managing excavated soils 6. Procedures for proper disposal of hazardous media; disposal would be handled by the LADWP Hazardous Substances Group	Prior to commencement of project work	Los Angeles Department of Water and Power			

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	7. Procedures for notification and reporting, including internal management and agencies (e.g., local fire department, Certified Unified Program Agency, US Environmental Protection Agency), as needed.					
	Tribal Cultural Resources					
MM-TCR-1	To reduce potential impacts to unanticipated tribal cultural resources (TCRs) during project implementation, maintenance personnel shall undergo Worker Environmental Awareness Program (WEAP) training to ensure that any unanticipated TCR discoveries are treated appropriately. The WEAP training will provide specific details on the kinds of Native American cultural resources that may be identified during ground-disturbing activities.	During project work	Los Angeles Department of Water and Power			
MM-TCR-2	While no tribal cultural resources (TCRs) have been identified that may be affected by the project, the following approach for the inadvertent discovery of TCRs has been prepared to ensure there are no impacts to unanticipated resources. Should a potential TCR be encountered during maintenance activities, all work in the immediate vicinity of the discovery (within 50-feet) shall cease, LADWP shall be notified, and a qualified archaeologist meeting Secretary of Interior standards shall assess the find. LADWP will notify Native American tribes consulting under Assembly Bill (AB) 52. If the potential resource is archaeological in nature, appropriate management requirements shall be implemented as outlined in MM-CUL-2.	During project work	Los Angeles Department of Water and Power			
MM-TRC-3	If LADWP determines that the potential resource is a TCR (as defined by PRC, Section 21074), tribes consulting under AB 52 shall be provided a reasonable period of time, typically 5 days from the date that a new discovery is made, to conduct a site visit and make recommendations regarding future ground disturbance activities as well as the treatment and disposition of	During project work	Los Angeles Department of Water and Power			

Table 1. Mitigation Measures and Avoidance and Minimization Measures

Number	Mitigation Measure or Avoidance and Minimization Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
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	any discovered TCRs. Depending on the nature of the resource and tribal recommendations, review by a qualified archaeologist may be required. Implementation of proposed recommendations will be made based on the determination of LADWP that the approach is reasonable and feasible. The preferred mitigation is to avoid impacts to TCRs, but if that is not feasible, a mitigation and treatment plan will be developed in consultation with the consulting tribes. Work on the other areas of the project site outside of the buffered area may continue during this assessment period. All activities shall be conducted in accordance with regulatory requirements.					
MM-TRC-4	If significant Native American cultural resources are discovered during operations and maintenance and avoidance cannot be ensured, a qualified archaeologist shall be retained to develop a Cultural Resources Treatment Plan, the drafts of which shall be provided to the interested tribe(s) for review and comment. All in-field investigations, assessments, and/or data recovery enacted pursuant to the finalized Treatment Plan shall be monitored by a Native American monitor. LADWP shall, in good faith, consult with the interested tribe(s) on the disposition and treatment of any artifacts or other cultural materials encountered during the project.	During project work	Los Angeles Department of Water and Power			