Disney | ABC Studios at The Ranch

Draft Environmental Impact Report

Volume VI

SCH No. 2010011010
County Project No. TR071216-(5)
Plan Amendment No. 200900010
Zone Change No. 200900012
Vesting Tentative Tract Map No. 071216
Conditional Use Permit No. 200900126
Oak Tree Permit No. 200900041
Parking Permit No. 201000002
Environmental Review No. 200900112

Lead Agency:
County of Los Angeles
Department of Regional Planning
Impact Analysis Section
320 West Temple Street, Room 1348
Los Angeles, California 90012

May 2012

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May 2012

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6701 Center Drive West, Suite 900
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Noise Worksheets

Disney | ABC Studios at the Ranch – EIR

Noise Calculations Worksheets

Provided by Acoustical Engineering Services

Ambient Noise Measurements

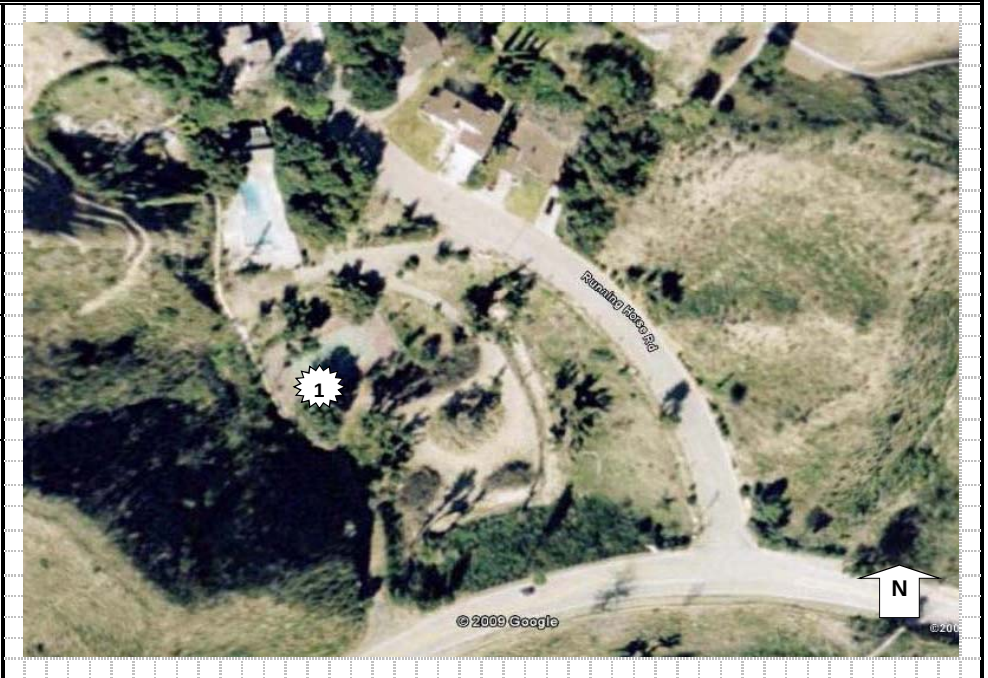
ACOUSTICAL ENGINEERING SERVICES
22801 Crespi Street, Woodland Hills, California 91364 - 818.239.4600

Environmental Noise Survey

AES

Client:	Matrix Environmental	Job No:	2009123
Job Title:	Disney GOR	Sheet No:	
Location:	Loc R1 - Residential uses on Running Horse Rd. north of Placerita Canyon		
Made By:	Sean Bui	Date:	11/12/2009
Sound Meter:	Quest 2900	S/N:	CD0090010
Calibrator:	Quest QC-10	S/N:	Q10090010
Calibration Before:	114.0	Calibration After:	114.0

Notes: - mostly traffic noise from Freeway 14 and Dockweiler Dr.



Time		Wind		Noise Level, dB(A)									Comments
Start	Finish	Speed	Dir'n	Leq	Lmax	Lmin	L1	L10	L50	L90			
													Long-term measurement - See attached noise graphs

ACOUSTICAL ENGINEERING SERVICES
22801 Crespi Street, Woodland Hills, California 91364 - 818.239.4600

Environmental Noise Survey

AES

Client:	Matrix Environmental	Job No:	2009123
Job Title:	Disney GOR	Sheet No:	
Location:	R2 - Existing SF residential Placerita Canyon Rd. west of Project Site		
Made By:	Sean Bui	Date:	11/12/2009
Sound Meter:	Quest 2900	S/N:	CD0090010
Calibrator:	Quest QC-10	S/N:	Q10090010
Calibration Before:	114.0	Calibration After:	114.0

Notes: - mostly traffic noise from Freeway 14 and Placerity Canyon Rd.

Time		Wind		Noise Level, dB(A)									Comments
Start	Finish	Speed	Dir'n	Leq	Lmax	Lmin	L1	L10	L50	L90			
													Long-term measurement - See attached noise graphs

ACOUSTICAL ENGINEERING SERVICES
22801 Crespi Street, Woodland Hills, California 91364 - 818.239.4600

Environmental Noise Survey

AES

Client: Matrix Environmental Job No: 2009123

Job Title: Disney GOR Sheet No:

Location: Loc R3 - Existing residential uses on Oakhurst Dr. south of Dockweiler Dr.

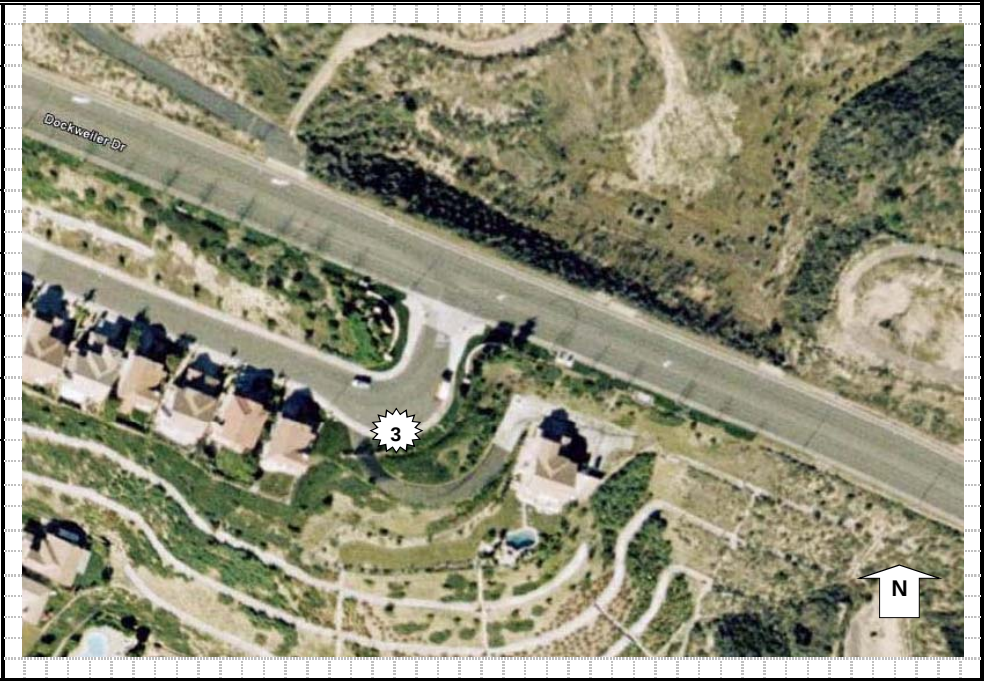
Made By: Sean Bui Date: 11/12/2009

Sound Meter: Quest 2900 S/N: CD0090010

Calibrator: Quest QC-10 S/N: Q10090010

Calibration Before: 114.0 Calibration After: 114.0

Notes: - mostly traffic noise from Freeway 14 and Dockweiler Dr.



Time		Wind		Noise Level, dB(A)									Comments
Start	Finish	Speed	Dir'n	Leq	Lmax	Lmin	L1	L10	L50	L90			
3:57 PM	4:12 PM	n/a	--	60.2	73.6	56.1	66.8	61	59.6	58.3			

ACOUSTICAL ENGINEERING SERVICES
22801 Crespi Street, Woodland Hills, California 91364 - 818.239.4600

Environmental Noise Survey

AES

Client: Matrix Environmental Job No: 2009123

Job Title: Disney GOR Sheet No:

Location: Loc R4 - on Sierra Highway, near the mobile home park

Made By: Sean Bui Date: 11/12/2009

Sound Meter: Quest 2900 S/N: CD0090010

Calibrator: Quest QC-10 S/N: Q10090010

Calibration Before: 114.0 Calibration After: 114.0

Notes:
- mostly traffic noise from Freeway 14, free flowing
- light trafic on Dockeweiler Dr.
- small aircraft flyover

Time		Wind		Noise Level, dB(A)									Comments
Start	Finish	Speed	Dir'n	Leq	Lmax	Lmin	L1	L10	L50	L90			
4:22 PM	4:37 PM	Light	--	72.5	82.8	62.0	79.5	76.6	70.1	64			Numbers of vehicles in 15 minutes: Cars: 278 Medium Truck: 4 Bus: 3

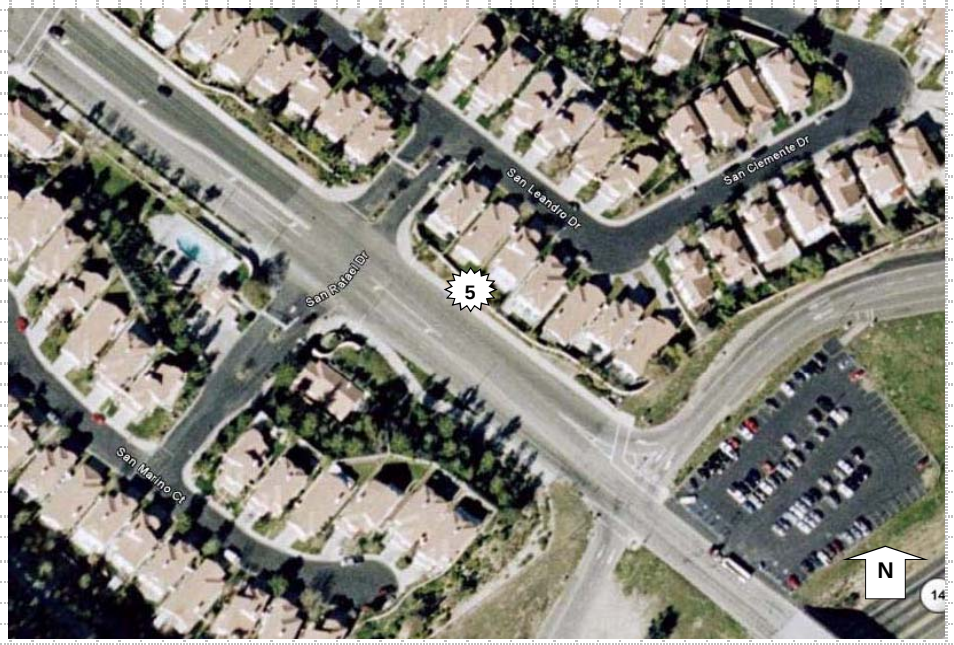
ACOUSTICAL ENGINEERING SERVICES
22801 Crespi Street, Woodland Hills, California 91364 - 818.239.4600

Environmental Noise Survey

AES

Client:	Matrix Environmental	Job No:	2009123
Job Title:	Disney GOR	Sheet No:	
Location:	Loc R5 - Existing residential uses on Golden Valley Road, NW of Fwy 14		
Made By:	Sean Bui	Date:	11/12/2009
Sound Meter:	Quest 2900	S/N:	CD0090010
Calibrator:	Quest QC-10	S/N:	Q10090010
Calibration Before:	114.0	Calibration After:	114.0

Notes:



Time		Wind		Noise Level, dB(A)									Comments
Start	Finish	Speed	Dir'n	Leq	Lmax	Lmin	L1	L10	L50	L90			
3:37 PM	3:53 PM	Light	--	70.2	80.1	54.9	77.8	73.7	69	59.9			Numbers of vehicles in 15 minutes: Cars: 357 Medium Truck: 6 Heavy Truck: 3

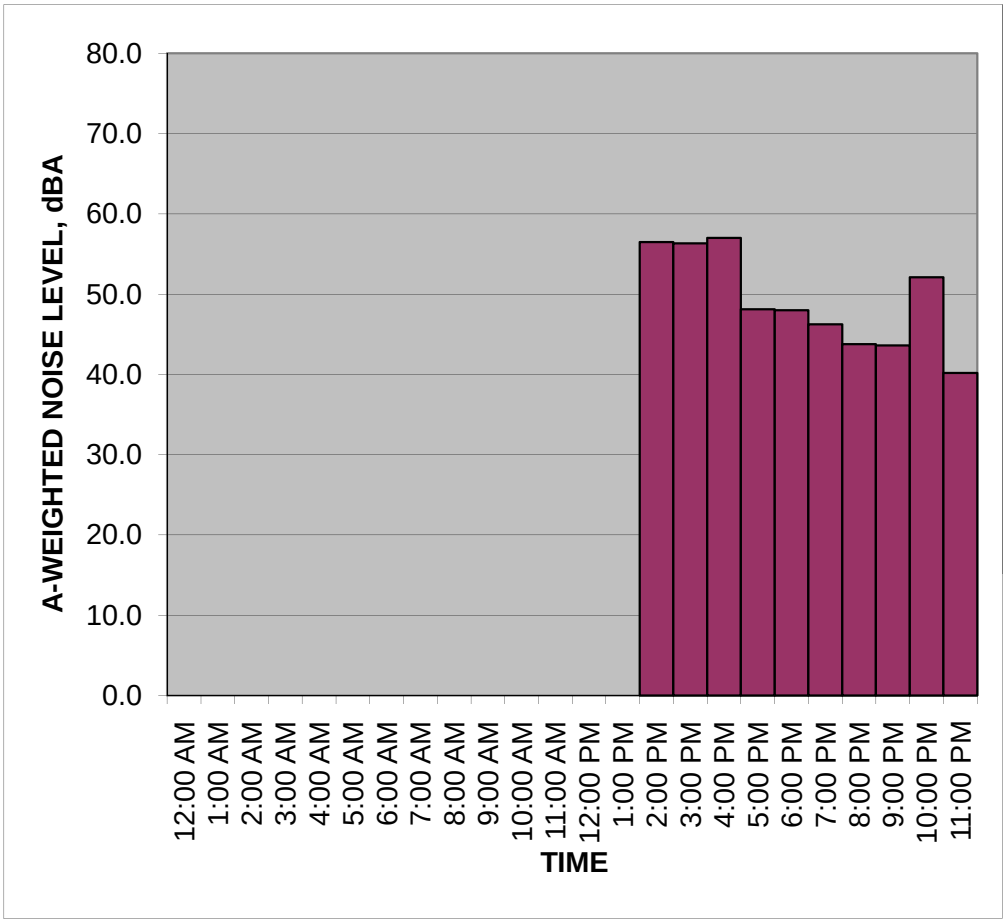
Measured Ambient Noise Levels

AES
Acoustical Engineering Services

Project: Disney GOR
Location: R1
Sources: Ambient

Date: November 12, 2009

TIME	HNL, dB(A)
12:00 AM	0.0
1:00 AM	0.0
2:00 AM	0.0
3:00 AM	0.0
4:00 AM	0.0
5:00 AM	0.0
6:00 AM	0.0
7:00 AM	0.0
8:00 AM	0.0
9:00 AM	0.0
10:00 AM	0.0
11:00 AM	0.0
12:00 PM	0.0
1:00 PM	0.0
2:00 PM	56.5
3:00 PM	56.3
4:00 PM	57.0
5:00 PM	48.1
6:00 PM	48.0
7:00 PM	46.3
8:00 PM	43.8
9:00 PM	43.6
10:00 PM	52.1
11:00 PM	40.2
CNEL, dB(A):	**55.5**



NOTES:

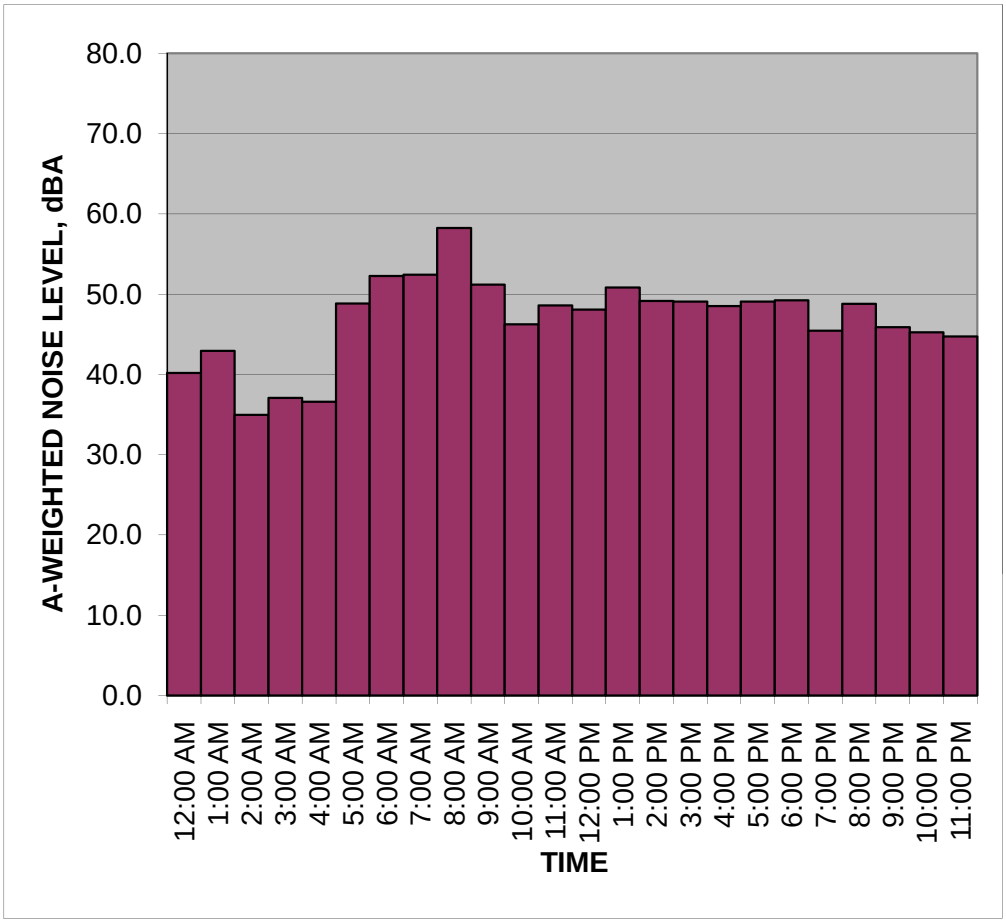
Measured Ambient Noise Levels

AES
Acoustical Engineering Services

Project: Disney GOR
Location: R1
Sources: Ambient

Date: November 13, 2009

TIME	HNL, dB(A)
12:00 AM	40.2
1:00 AM	42.9
2:00 AM	35.0
3:00 AM	37.1
4:00 AM	36.6
5:00 AM	48.8
6:00 AM	52.2
7:00 AM	52.4
8:00 AM	58.2
9:00 AM	51.2
10:00 AM	46.2
11:00 AM	48.6
12:00 PM	48.1
1:00 PM	50.8
2:00 PM	49.1
3:00 PM	49.1
4:00 PM	48.5
5:00 PM	49.1
6:00 PM	49.2
7:00 PM	45.5
8:00 PM	48.8
9:00 PM	45.9
10:00 PM	45.2
11:00 PM	44.7
CNEL, dB(A):	**53.7**



NOTES:

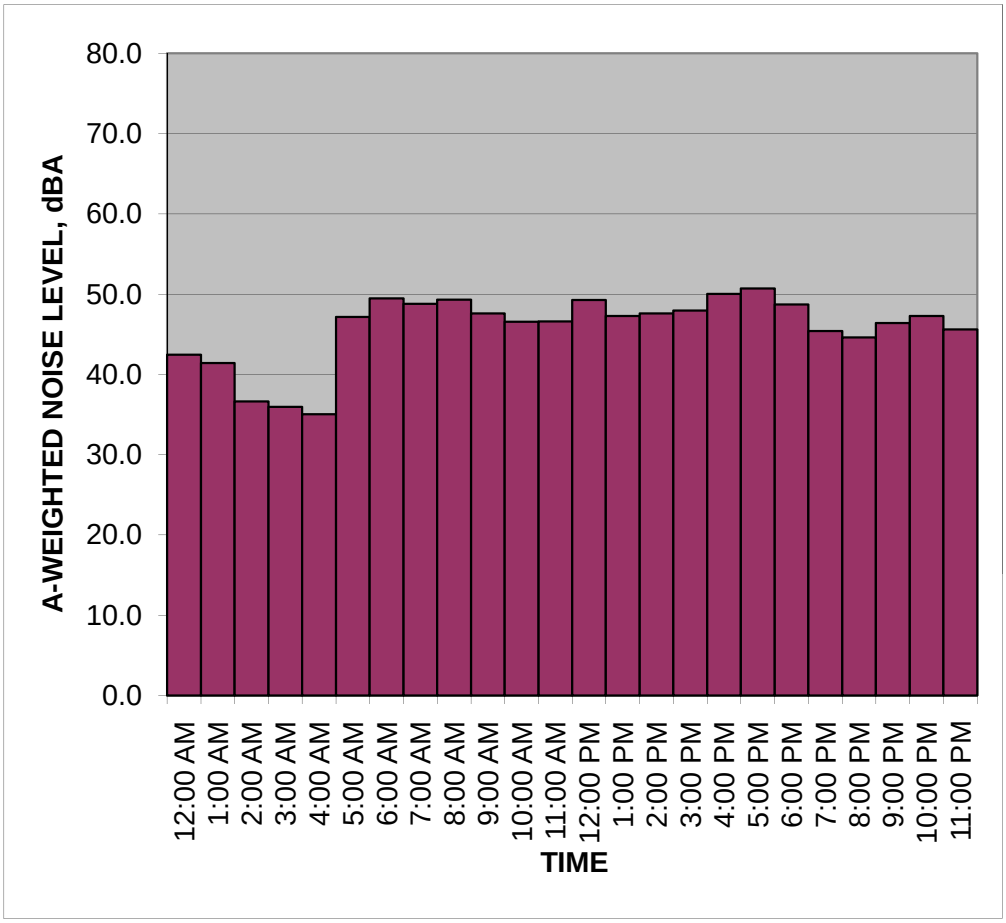
Measured Ambient Noise Levels

AES
Acoustical Engineering Services

Project: Disney GOR
Location: R1
Sources: Ambient

Date: November 14, 2009

TIME	HNL, dB(A)
12:00 AM	42.5
1:00 AM	41.4
2:00 AM	36.6
3:00 AM	35.9
4:00 AM	35.1
5:00 AM	47.1
6:00 AM	49.5
7:00 AM	48.8
8:00 AM	49.3
9:00 AM	47.6
10:00 AM	46.6
11:00 AM	46.6
12:00 PM	49.3
1:00 PM	47.3
2:00 PM	47.6
3:00 PM	48.0
4:00 PM	50.0
5:00 PM	50.7
6:00 PM	48.7
7:00 PM	45.4
8:00 PM	44.6
9:00 PM	46.4
10:00 PM	47.3
11:00 PM	45.6
CNEL, dB(A):	**52.1**



NOTES:

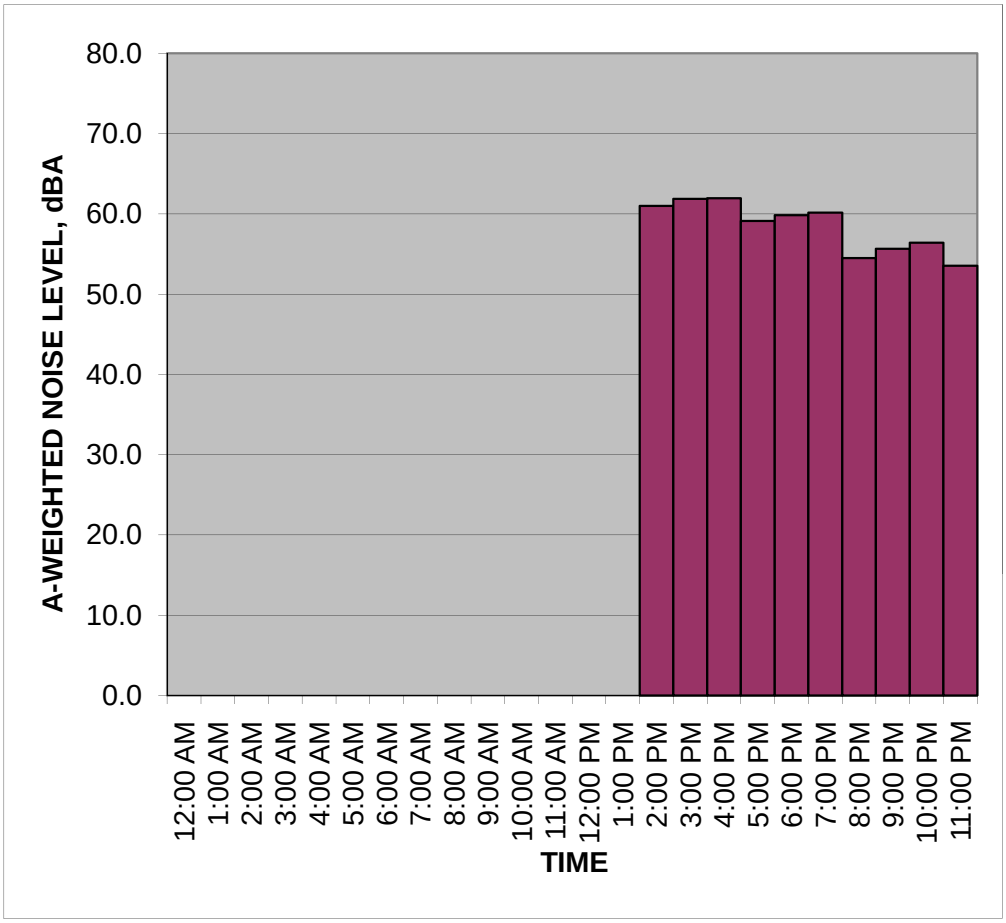
Measured Ambient Noise Levels

AES
Acoustical Engineering Services

Project: Disney GOR
Location: R2
Sources: Ambient

Date: November 12, 2009

TIME	HNL, dB(A)
12:00 AM	0.0
1:00 AM	0.0
2:00 AM	0.0
3:00 AM	0.0
4:00 AM	0.0
5:00 AM	0.0
6:00 AM	0.0
7:00 AM	0.0
8:00 AM	0.0
9:00 AM	0.0
10:00 AM	0.0
11:00 AM	0.0
12:00 PM	0.0
1:00 PM	0.0
2:00 PM	61.0
3:00 PM	61.8
4:00 PM	61.9
5:00 PM	59.1
6:00 PM	59.8
7:00 PM	60.1
8:00 PM	54.5
9:00 PM	55.6
10:00 PM	56.4
11:00 PM	53.5
CNEL, dB(A):	**62.6**



NOTES:

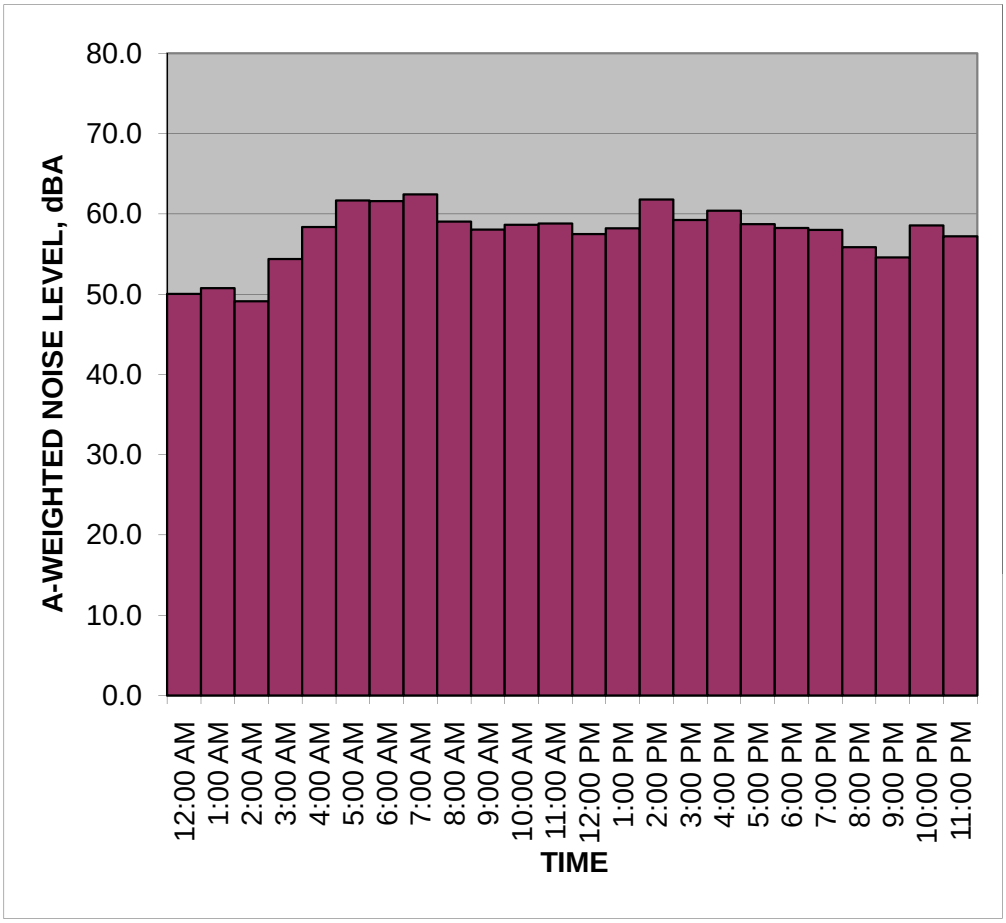
Measured Ambient Noise Levels

AES
Acoustical Engineering Services

Project: Disney GOR
Location: R2
Sources: Ambient

Date: November 13, 2009

TIME	HNL, dB(A)
12:00 AM	50.0
1:00 AM	50.8
2:00 AM	49.1
3:00 AM	54.3
4:00 AM	58.3
5:00 AM	61.7
6:00 AM	61.6
7:00 AM	62.4
8:00 AM	59.0
9:00 AM	58.0
10:00 AM	58.6
11:00 AM	58.8
12:00 PM	57.5
1:00 PM	58.2
2:00 PM	61.8
3:00 PM	59.2
4:00 PM	60.4
5:00 PM	58.7
6:00 PM	58.2
7:00 PM	58.0
8:00 PM	55.8
9:00 PM	54.6
10:00 PM	58.5
11:00 PM	57.2
CNEL, dB(A):	**64.6**



NOTES:

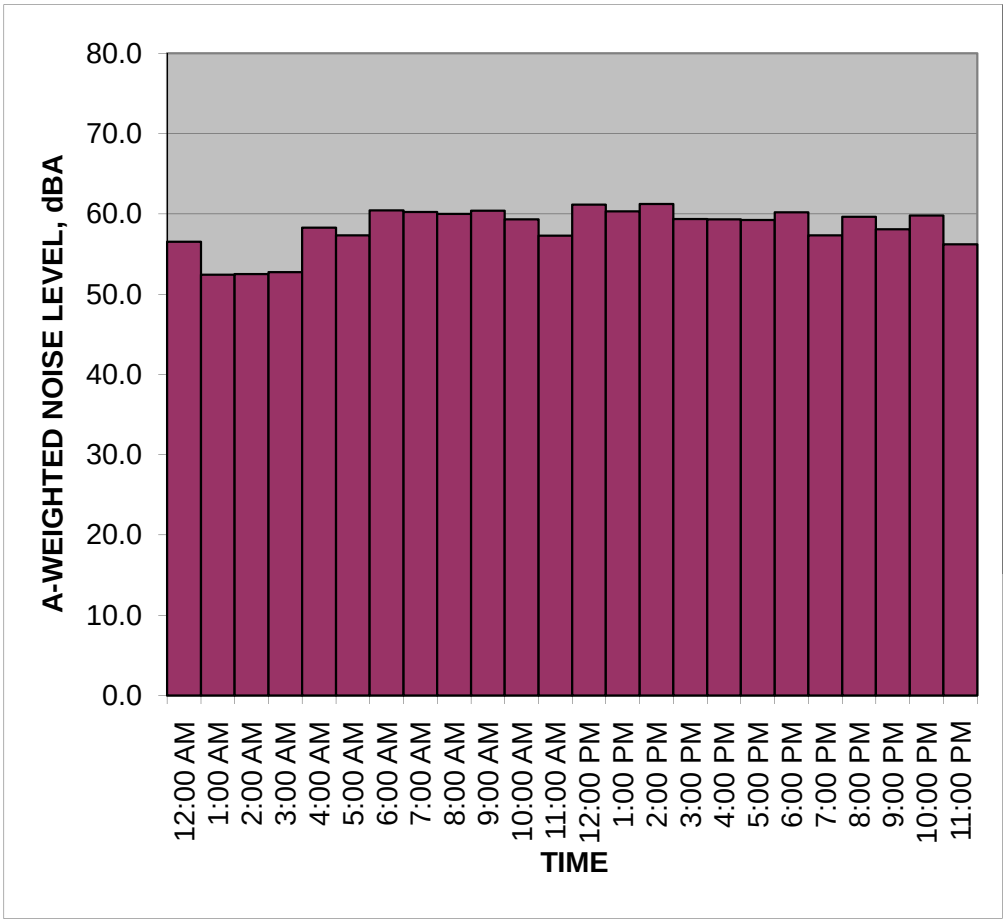
Measured Ambient Noise Levels

AES
Acoustical Engineering Services

Project: Disney GOR
Location: R2
Sources: Ambient

Date: November 14, 2009

TIME	HNL, dB(A)
12:00 AM	56.5
1:00 AM	52.4
2:00 AM	52.5
3:00 AM	52.7
4:00 AM	58.3
5:00 AM	57.3
6:00 AM	60.4
7:00 AM	60.2
8:00 AM	60.0
9:00 AM	60.4
10:00 AM	59.3
11:00 AM	57.3
12:00 PM	61.1
1:00 PM	60.3
2:00 PM	61.2
3:00 PM	59.4
4:00 PM	59.3
5:00 PM	59.2
6:00 PM	60.2
7:00 PM	57.3
8:00 PM	59.6
9:00 PM	58.1
10:00 PM	59.8
11:00 PM	56.2
CNEL, dB(A):	**64.3**



NOTES:

Traffic Noise Calculations

Roadway Traffic Noise Calculations

Project: Disney I ABC Studios at the Ranch ***- Soundstages Option***

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Existing					
	Speed		**Traffic Noise Levels, CNEL**		
Roadway/Segment	**MPH**	**ADT**	**ROW**	**25 Feet**	**50 Feet**
Placerita Canyon Road w/o Sierra Highway	35	1080	58.8	55.8	54.1
Placerita Canyon Road between Fwy 14 & Project Driveway	45	3440	66.4	63.4	61.7
Placerita Canyon Road e/o Project Driveway	45	3470	66.5	63.5	61.7
Sierra Highway s/o Placerita Canyon Road	45	20180	72.9	70.5	69.0
Sierra Highway n/o Placerita Canyon Road	45	22700	73.5	71.0	69.5

Future No Project					
	Speed		**Traffic Noise Levels, CNEL**		
Roadway/Segment	**MPH**	**ADT**	**ROW**	**25 Feet**	**50 Feet**
Placerita Canyon Road w/o Sierra Highway	35	1370	59.8	56.8	55.1
Placerita Canyon Road between Fwy 14 & Project Driveway	45	4385	67.5	64.5	62.7
Placerita Canyon Road e/o Project Driveway	45	4420	67.5	64.5	62.8
Sierra Highway s/o Placerita Canyon Road	45	25700	74.0	71.6	70.0
Sierra Highway n/o Placerita Canyon Road	45	28920	74.5	72.1	70.5

Future With Project					
	Speed		**Traffic Noise Levels, CNEL**		
Roadway/Segment	**MPH**	**ADT**	**ROW**	**25 Feet**	**50 Feet**
Placerita Canyon Road w/o Sierra Highway	35	1510	60.2	57.3	55.5
Placerita Canyon Road between Fwy 14 & Project Driveway	45	6525	69.2	66.2	64.5
Placerita Canyon Road e/o Project Driveway	45	4450	67.5	64.6	62.8
Sierra Highway s/o Placerita Canyon Road	45	25700	74.0	71.6	70.0
Sierra Highway n/o Placerita Canyon Road	45	29110	74.5	72.1	70.5

Impacts Summary	**25 ft. from ROW**		**At ROW**	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
Placerita Canyon Road w/o Sierra Highway	0.5	1.5	0.4	1.4
Placerita Canyon Road between Fwy 14 & Project Driveway	1.7	2.8	1.7	2.8
Placerita Canyon Road e/o Project Driveway	0.1	1.1	0.0	1.0
Sierra Highway s/o Placerita Canyon Road	0.0	1.1	0.0	1.1
Sierra Highway n/o Placerita Canyon Road	0.0	1.1	0.0	1.0

AES
Acoustical Engineering Services

Roadway Traffic Noise Calculations

Project: Disney I ABC Studios at the Ranch ***- Office Studio Option***

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Existing					
	Speed		**Traffic Noise Levels, CNEL**		
Roadway/Segment	**MPH**	**ADT**	**ROW**	**25 Feet**	**50 Feet**
Placerita Canyon Road w/o Sierra Highway	35	1080	58.8	55.8	54.1
Placerita Canyon Road between Fwy 14 & Project Driveway	45	3440	66.4	63.4	61.7
Placerita Canyon Road e/o Project Driveway	45	3470	66.5	63.5	61.7
Sierra Highway s/o Placerita Canyon Road	45	20180	72.9	70.5	69.0
Sierra Highway n/o Placerita Canyon Road	45	22700	73.5	71.0	69.5

Future No Project					
	Speed		**Traffic Noise Levels, CNEL**		
Roadway/Segment	**MPH**	**ADT**	**ROW**	**25 Feet**	**50 Feet**
Placerita Canyon Road w/o Sierra Highway	35	1370	59.8	56.8	55.1
Placerita Canyon Road between Fwy 14 & Project Driveway	45	4385	67.5	64.5	62.7
Placerita Canyon Road e/o Project Driveway	45	4420	67.5	64.5	62.8
Sierra Highway s/o Placerita Canyon Road	45	25700	74.0	71.6	70.0
Sierra Highway n/o Placerita Canyon Road	45	28920	74.5	72.1	70.5

Future With Project					
	Speed		**Traffic Noise Levels, CNEL**		
Roadway/Segment	**MPH**	**ADT**	**ROW**	**25 Feet**	**50 Feet**
Placerita Canyon Road w/o Sierra Highway	35	1530	60.3	57.3	55.6
Placerita Canyon Road between Fwy 14 & Project Driveway	45	6595	69.2	66.3	64.5
Placerita Canyon Road e/o Project Driveway	45	4460	67.5	64.6	62.8
Sierra Highway s/o Placerita Canyon Road	45	25700	74.0	71.6	70.0
Sierra Highway n/o Placerita Canyon Road	45	29120	74.5	72.1	70.5

Impacts Summary	**25 ft. from ROW**		**At ROW**	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
Placerita Canyon Road w/o Sierra Highway	0.5	1.5	0.5	1.5
Placerita Canyon Road between Fwy 14 & Project Driveway	1.8	2.9	1.7	2.8
Placerita Canyon Road e/o Project Driveway	0.1	1.1	0.0	1.0
Sierra Highway s/o Placerita Canyon Road	0.0	1.1	0.0	1.1
Sierra Highway n/o Placerita Canyon Road	0.0	1.1	0.0	1.0

Roadway Traffic Noise Calculations

Project: Disney I ABC Studios at the Ranch ***- Soundstages Option (Cumulative Analysis)***

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Existing					
	Speed		**Traffic Noise Levels, CNEL**		
Roadway/Segment	**MPH**	**ADT**	**ROW**	**25 Feet**	**50 Feet**
Placerita Canyon Road w/o Sierra Highway	35	1080	58.8	55.8	54.1
Placerita Canyon Road between Fwy 14 & Project Driveway	45	3440	66.4	63.4	61.7
Placerita Canyon Road e/o Project Driveway	45	3470	66.5	63.5	61.7
Sierra Highway s/o Placerita Canyon Road	45	20180	72.9	70.5	69.0
Sierra Highway n/o Placerita Canyon Road	45	22700	73.5	71.0	69.5

Future No Project					
	Speed		**Traffic Noise Levels, CNEL**		
Roadway/Segment	**MPH**	**ADT**	**ROW**	**25 Feet**	**50 Feet**
Placerita Canyon Road w/o Sierra Highway	35	1370	59.8	56.8	55.1
Placerita Canyon Road between Fwy 14 & Project Driveway	45	4385	67.5	64.5	62.7
Placerita Canyon Road e/o Project Driveway	45	4420	67.5	64.5	62.8
Sierra Highway s/o Placerita Canyon Road	45	25700	74.0	71.6	70.0
Sierra Highway n/o Placerita Canyon Road	45	28920	74.5	72.1	70.5

Future With Project (Cumulative)					
	Speed		**Traffic Noise Levels, CNEL**		
Roadway/Segment	**MPH**	**ADT**	**ROW**	**25 Feet**	**50 Feet**
Placerita Canyon Road w/o Sierra Highway	35	7600	67.3	64.3	62.5
Placerita Canyon Road between Fwy 14 & Project Driveway	45	6525	69.2	66.2	64.5
Placerita Canyon Road e/o Project Driveway	45	4450	67.5	64.6	62.8
Sierra Highway s/o Placerita Canyon Road	45	28820	74.5	72.1	70.5
Sierra Highway n/o Placerita Canyon Road	45	30910	74.8	72.4	70.8

Impacts Summary	**25 ft. from ROW**		**At ROW**	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
Placerita Canyon Road w/o Sierra Highway	7.5	8.5	7.5	8.5
Placerita Canyon Road between Fwy 14 & Project Driveway	1.7	2.8	1.7	2.8
Placerita Canyon Road e/o Project Driveway	0.1	1.1	0.0	1.0
Sierra Highway s/o Placerita Canyon Road	0.5	1.6	0.5	1.6
Sierra Highway n/o Placerita Canyon Road	0.3	1.4	0.3	1.3

Roadway Traffic Noise Calculations

Project: Disney I ABC Studios at the Ranch ***- Office Studio Option (Cumulative Analysis)***

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Existing					
	Speed		**Traffic Noise Levels, CNEL**		
Roadway/Segment	**MPH**	**ADT**	**ROW**	**25 Feet**	**50 Feet**
Placerita Canyon Road w/o Sierra Highway	35	1080	58.8	55.8	54.1
Placerita Canyon Road between Fwy 14 & Project Driveway	45	3440	66.4	63.4	61.7
Placerita Canyon Road e/o Project Driveway	45	3470	66.5	63.5	61.7
Sierra Highway s/o Placerita Canyon Road	45	20180	72.9	70.5	69.0
Sierra Highway n/o Placerita Canyon Road	45	22700	73.5	71.0	69.5

Future No Project					
	Speed		**Traffic Noise Levels, CNEL**		
Roadway/Segment	**MPH**	**ADT**	**ROW**	**25 Feet**	**50 Feet**
Placerita Canyon Road w/o Sierra Highway	35	1370	59.8	56.8	55.1
Placerita Canyon Road between Fwy 14 & Project Driveway	45	4385	67.5	64.5	62.7
Placerita Canyon Road e/o Project Driveway	45	4420	67.5	64.5	62.8
Sierra Highway s/o Placerita Canyon Road	45	25700	74.0	71.6	70.0
Sierra Highway n/o Placerita Canyon Road	45	28920	74.5	72.1	70.5

Future With Project (Cumulative)					
	Speed		**Traffic Noise Levels, CNEL**		
Roadway/Segment	**MPH**	**ADT**	**ROW**	**25 Feet**	**50 Feet**
Placerita Canyon Road w/o Sierra Highway	35	7620	67.3	64.3	62.5
Placerita Canyon Road between Fwy 14 & Project Driveway	45	6595	69.2	66.3	64.5
Placerita Canyon Road e/o Project Driveway	45	4460	67.5	64.6	62.8
Sierra Highway s/o Placerita Canyon Road	45	28820	74.5	72.1	70.5
Sierra Highway n/o Placerita Canyon Road	45	30920	74.8	72.4	70.8

Impacts Summary	**25 ft. from ROW**		**At ROW**	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
Placerita Canyon Road w/o Sierra Highway	7.5	8.5	7.5	8.5
Placerita Canyon Road between Fwy 14 & Project Driveway	1.8	2.9	1.7	2.8
Placerita Canyon Road e/o Project Driveway	0.1	1.1	0.0	1.0
Sierra Highway s/o Placerita Canyon Road	0.5	1.6	0.5	1.6
Sierra Highway n/o Placerita Canyon Road	0.3	1.4	0.3	1.3

Construction Noise Calculations

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Demolition***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Rubber Tired Loader	1	79	40%	6300	20
Dozer	1	82	40%	6300	20
Backhoe	1	78	40%	6300	20
Excavator	1	81	40%	6300	20
Dump/Haul Trucks	1	76	40%	6300	20

Receptor: ***R1***

Results:

1-hour Leq: 21

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Site Grading / Excavation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Excavator	1	81	40%	6300	20
Grader	1	85	40%	6300	20
Scraper	1	84	40%	6300	20
Roller	1	80	20%	6300	20
Vibrator	1	80	20%	6300	20
Compactor	1	83	20%	6300	20
Dump/Haul Trucks	2	76	50%	6300	20

Receptor: ***R1***

Results:

1-hour Leq: 24

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Site Grading / Excavation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Excavator	1	81	40%	6300	20
Backhoe	1	78	40%	6300	20
Vibrator	1	80	20%	6300	20
Compactor	1	83	20%	6300	20
Generator	1	81	50%	6300	20
Pile Driver	1	101	20%	6300	20
Drill Rig	1	84	20%	6300	20

Receptor: ***R1***

Results:

1-hour Leq: 32

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Building Construction***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	6300	20
Forklifts	1	75	50%	6300	20
Compressor	1	78	40%	6300	20
Generator	1	81	50%	6300	20
Concrete pump	1	81	40%	6300	20
Concrete Mix Truck	2	79	25%	6300	20
Mortar mixer	1	80	20%	6300	20
Welding machine	1	74	40%	6300	20
Hand tool	5	85	50%	6300	20
Delivery Truck	1	74	40%	6300	20

Receptor: ***R1***

Results:

1-hour Leq: 28

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Sitework***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe	1	78	40%	6300	20
Roller	1	80	20%	6300	20
Compactor	1	83	20%	6300	20
Crane	1	81	16%	6300	20
Water Trucks	1	76	40%	6300	20

Receptor: ***R1***

Results:

1-hour Leq: 19

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Demolition***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Rubber Tired Loader	1	79	40%	2400	10
Dozer	1	82	40%	2400	10
Backhoe	1	78	40%	2400	10
Excavator	1	81	40%	2400	10
Dump/Haul Trucks	1	76	40%	2400	10

Receptor: ***R2***

Results:

1-hour Leq: 39

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Site Grading / Excavation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Excavator	1	81	40%	2400	10
Grader	1	85	40%	2400	10
Scraper	1	84	40%	2400	10
Roller	1	80	20%	2400	10
Vibrator	1	80	20%	2400	10
Compactor	1	83	20%	2400	10
Dump/Haul Trucks	2	76	50%	2400	10

Receptor: ***R2***

Results:

1-hour Leq: 42

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: *Site Grading / Excavation*

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Excavator	1	81	40%	2400	10
Backhoe	1	78	40%	2400	10
Vibrator	1	80	20%	2400	10
Compactor	1	83	20%	2400	10
Generator	1	81	50%	2400	10
Pile Driver	1	101	20%	2400	10
Drill Rig	1	84	20%	2400	10

Receptor: ***R2***

Results:

1-hour Leq: 51

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Building Construction***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	2400	10
Forklifts	1	75	50%	2400	10
Compressor	1	78	40%	2400	10
Generator	1	81	50%	2400	10
Concrete pump	1	81	40%	2400	10
Concrete Mix Truck	2	79	25%	2400	10
Mortar mixer	1	80	20%	2400	10
Welding machine	1	74	40%	2400	10
Hand tool	5	85	50%	2400	10
Delivery Truck	1	74	40%	2400	10

Receptor: ***R2***

Results:

1-hour Leq: 47

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Sitework***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe	1	78	40%	2400	10
Roller	1	80	20%	2400	10
Compactor	1	83	20%	2400	10
Crane	1	81	16%	2400	10
Water Trucks	1	76	40%	2400	10

Receptor: ***R2***

Results:

1-hour Leq: 37

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Demolition***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Rubber Tired Loader	1	79	40%	3700	20
Dozer	1	82	40%	3700	20
Backhoe	1	78	40%	3700	20
Excavator	1	81	40%	3700	20
Dump/Haul Trucks	1	76	40%	3700	20

Receptor: ***R3***

Results:

1-hour Leq: 25

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: *Site Grading / Excavation*

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Excavator	1	81	40%	3700	20
Grader	1	85	40%	3700	20
Scraper	1	84	40%	3700	20
Roller	1	80	20%	3700	20
Vibrator	1	80	20%	3700	20
Compactor	1	83	20%	3700	20
Dump/Haul Trucks	2	76	50%	3700	20

Receptor: ***R3***

Results:

1-hour Leq: 29

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Site Grading / Excavation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Excavator	1	81	40%	3700	20
Backhoe	1	78	40%	3700	20
Vibrator	1	80	20%	3700	20
Compactor	1	83	20%	3700	20
Generator	1	81	50%	3700	20
Pile Driver	1	101	20%	3700	20
Drill Rig	1	84	20%	3700	20

Receptor: ***R3***

Results:

1-hour Leq: 37

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Building Construction***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	3700	20
Forklifts	1	75	50%	3700	20
Compressor	1	78	40%	3700	20
Generator	1	81	50%	3700	20
Concrete pump	1	81	40%	3700	20
Concrete Mix Truck	2	79	25%	3700	20
Mortar mixer	1	80	20%	3700	20
Welding machine	1	74	40%	3700	20
Hand tool	5	85	50%	3700	20
Delivery Truck	1	74	40%	3700	20

Receptor: ***R3***

Results:

1-hour Leq: 33

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Sitework***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe	1	78	40%	3700	20
Roller	1	80	20%	3700	20
Compactor	1	83	20%	3700	20
Crane	1	81	16%	3700	20
Water Trucks	1	76	40%	3700	20

Receptor: ***R3***

Results:

1-hour Leq: 24

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Demolition***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Rubber Tired Loader	1	79	40%	5500	20
Dozer	1	82	40%	5500	20
Backhoe	1	78	40%	5500	20
Excavator	1	81	40%	5500	20
Dump/Haul Trucks	1	76	40%	5500	20

Receptor: ***R4***

Results:

1-hour Leq: 22

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Site Grading / Excavation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Excavator	1	81	40%	5500	20
Grader	1	85	40%	5500	20
Scraper	1	84	40%	5500	20
Roller	1	80	20%	5500	20
Vibrator	1	80	20%	5500	20
Compactor	1	83	20%	5500	20
Dump/Haul Trucks	2	76	50%	5500	20

Receptor: ***R4***

Results:

1-hour Leq: 25

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Site Grading / Excavation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Excavator	1	81	40%	5500	20
Backhoe	1	78	40%	5500	20
Vibrator	1	80	20%	5500	20
Compactor	1	83	20%	5500	20
Generator	1	81	50%	5500	20
Pile Driver	1	101	20%	5500	20
Drill Rig	1	84	20%	5500	20

Receptor: ***R4***

Results:

1-hour Leq: 34

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Building Construction***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	5500	20
Forklifts	1	75	50%	5500	20
Compressor	1	78	40%	5500	20
Generator	1	81	50%	5500	20
Concrete pump	1	81	40%	5500	20
Concrete Mix Truck	2	79	25%	5500	20
Mortar mixer	1	80	20%	5500	20
Welding machine	1	74	40%	5500	20
Hand tool	5	85	50%	5500	20
Delivery Truck	1	74	40%	5500	20

Receptor: ***R4***

Results:

1-hour Leq: 29

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Sitework***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe	1	78	40%	5500	20
Roller	1	80	20%	5500	20
Compactor	1	83	20%	5500	20
Crane	1	81	16%	5500	20
Water Trucks	1	76	40%	5500	20

Receptor: ***R4***

Results:

1-hour Leq: 20

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Demolition***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Rubber Tired Loader	1	79	40%	4500	20
Dozer	1	82	40%	4500	20
Backhoe	1	78	40%	4500	20
Excavator	1	81	40%	4500	20
Dump/Haul Trucks	1	76	40%	4500	20

Receptor: ***R5***

Results:

1-hour Leq: 24

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Site Grading / Excavation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Excavator	1	81	40%	4500	20
Grader	1	85	40%	4500	20
Scraper	1	84	40%	4500	20
Roller	1	80	20%	4500	20
Vibrator	1	80	20%	4500	20
Compactor	1	83	20%	4500	20
Dump/Haul Trucks	2	76	50%	4500	20

Receptor: ***R5***

Results:

1-hour Leq: 27

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: *Site Grading / Excavation*

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Excavator	1	81	40%	4500	20
Backhoe	1	78	40%	4500	20
Vibrator	1	80	20%	4500	20
Compactor	1	83	20%	4500	20
Generator	1	81	50%	4500	20
Pile Driver	1	101	20%	4500	20
Drill Rig	1	84	20%	4500	20

Receptor: ***R5***

Results:

1-hour Leq: 35

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Building Construction***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	4500	20
Forklifts	1	75	50%	4500	20
Compressor	1	78	40%	4500	20
Generator	1	81	50%	4500	20
Concrete pump	1	81	40%	4500	20
Concrete Mix Truck	2	79	25%	4500	20
Mortar mixer	1	80	20%	4500	20
Welding machine	1	74	40%	4500	20
Hand tool	5	85	50%	4500	20
Delivery Truck	1	74	40%	4500	20

Receptor: ***R5***

Results:

1-hour Leq: 31

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Sitework***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe	1	78	40%	4500	20
Roller	1	80	20%	4500	20
Compactor	1	83	20%	4500	20
Crane	1	81	16%	4500	20
Water Trucks	1	76	40%	4500	20

Receptor: ***R5***

Results:

1-hour Leq: 22

Source for Ref. Noise Levels: FHWA RCNM, 2005

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Off-Site Sewer Improvements "proposed alignment"***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe	1	78	40%	25	0
Excavator	1	81	40%	25	0
Roller	1	80	20%	25	0

Receptor: ***At 25 feet distance***

Results:

1-hour Leq: 86

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Off-Site Sewer Improvements "proposed alignment"***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe	1	78	40%	100	0
Excavator	1	81	40%	100	0
Roller	1	80	20%	100	0

Receptor: ***At 100 feet distance***

Results:

1-hour Leq: 74

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Off-Site Sewer Improvements "alternate alignment"***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe	1	78	40%	400	0
Excavator	1	81	40%	400	0
Roller	1	80	20%	400	0

Receptor: ***At 400 feet distance***

Results:

1-hour Leq: 62

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Off-Site Water Improvements Option 'A'***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe	1	78	40%	100	0
Excavator	1	81	40%	100	0
Roller	1	80	20%	100	0
Compactor	1	83	20%	100	0
Paver	1	77	50%	100	0
Water Trucks	1	76	40%	100	0

Receptor: ***At 100 feet distance***

Results:

1-hour Leq: 76

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Off-Site Water Improvements Option 'A'***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe	1	78	40%	300	0
Excavator	1	81	40%	300	0
Roller	1	80	20%	300	0
Compactor	1	83	20%	300	0
Paver	1	77	50%	300	0
Water Trucks	1	76	40%	300	0

Receptor: ***At 300 feet distance***

Results:

1-hour Leq: 67

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Off-Site Water Improvements Option 'A'***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe	1	78	40%	1800	0
Excavator	1	81	40%	1800	0
Roller	1	80	20%	1800	0
Compactor	1	83	20%	1800	0
Paver	1	77	50%	1800	0
Water Trucks	1	76	40%	1800	0

Receptor: ***At 1800 feet distance***

Results:

1-hour Leq: 51

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Off-Site Water Improvements Option 'B'***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe	1	78	40%	500	0
Excavator	1	81	40%	500	0
Roller	1	80	20%	500	0
Compactor	1	83	20%	500	0
Paver	1	77	50%	500	0
Water Trucks	1	76	40%	500	0

Receptor: ***At 500 feet distance from R2***

Results:

1-hour Leq: 62

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Off-Site SCE Power Poles***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Truck-mounted Drill Rig	1	79	20%	1800	0
Small Crane	1	81	16%	1800	0
Small Compaction	1	83	20%	1800	0
Small Roller	1	80	20%	1800	0

Receptor: ***R2***

Results:

1-hour Leq:	49	
Excess Attenuation:	8	due to soft grounds
1-hour Leq:	**41**	

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Off-Site SCE Power Poles***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Truck-mounted Drill Rig	1	79	20%	400	0
Small Crane	1	81	16%	400	0
Small Compaction	1	83	20%	400	0
Small Roller	1	80	20%	400	0

Receptor: ***400 feet - Residences at Sierra Highway & GVR***

Results:

1-hour Leq:	62	
Excess Attenuation:	0	due to soft grounds
1-hour Leq:	**62**	

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Public Hiking Trails***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Grader	1	79	20%	2600	0
Small Compaction	1	83	20%	2600	0
Augers on Small Excavato	1	81	40%	2600	0

Receptor: ***R2***

Results:

1-hour Leq: 46

AES
ACOUSTICAL ENGINEERING SERVICES

Disney GOR - Off-Site Haul Trucks on SR-14

2010 traffic counts

				% Split		Hourly truck volumes		Hourly cars volumes	
	Total ADT	%trucks	# of trucks/day	Daytime hours (7am to 8pm)	Nighttime hours (8pm to 7am)	Daytime hours (7am to 8pm)	Nighttime hours (8pm to 7am)	Daytime hours	Nighttime hours
SR-14 south of Placerita Canyon Road	149000	4.5	6705.0	0.8	0.2	413	122	8757	2587

Project truck volume, daytime	32	round trips
estimated increase in truck noise	0.2	dBA
Project truck volume, nightime	40	round trips
estimated increase in truck noise	0.7	

		Daytime		Nighttime	
TNM	Leq at 25ft	Existing	w/ Construction	Existing	w/ Construction
1 truck	53.8	80.0	80.6	74.7	76.9
1 car	45.1	84.5	84.5	79.2	79.2
Total car & truck		85.8	86.0	80.5	81.2
Increase in Noise			0.2		0.7

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Off-Site Roadway Infrastructure Improvements at Sierra Highwy/SR-14 Southbound Ramps***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe	1	78	40%	2200	0
Compactor	1	83	20%	2200	0
Roller	1	80	20%	2200	0
Paver	1	77	50%	2200	0
Dump/Haul Trucks	1	76	40%	2200	0
Pavement Grinder	1	90	20%	2200	0

Receptor: ***R2***

Results:

1-hour Leq:	52	
Excess Attenuation:	8	due to soft grounds
1-hour Leq:	**44**	

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Off-Site Roadway Infrastructure Improvements***
Sierra Highway/Placerita Canyon Road

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe	1	78	40%	1900	0
Compactor	1	83	20%	1900	0
Roller	1	80	20%	1900	0
Paver	1	77	50%	1900	0
Dump/Haul Trucks	1	76	40%	1900	0
Pavement Grinder	1	90	20%	1900	0

Receptor: ***R2***

Results:

1-hour Leq:	54	
Excess Attenuation:	8	due to soft grounds
1-hour Leq:	**46**	

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Off-Site Roadway Infrastructure Improvements at Placerita Canyon Road/SR-14 Northbound Ramps***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe	1	78	40%	2500	10
Compactor	1	83	20%	2500	10
Roller	1	80	20%	2500	10
Paver	1	77	50%	2500	10
Dump/Haul Trucks	1	76	40%	2500	10
Pavement Grinder	1	90	20%	2500	10

Receptor: ***R2***

Results:

1-hour Leq:	41	
Excess Attenuation:	8	due to soft grounds
1-hour Leq:	**33**	

AES
ACOUSTICAL ENGINEERING SERVICES

Project: Disney I ABC Studios at the Ranch

Construction Phase: ***Off-Site Roadway Infrastructure Improvements at Ranch main Entrance/Placerity Canyon Road***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe	1	78	40%	4450	10
Compactor	1	83	20%	4450	10
Roller	1	80	20%	4450	10
Paver	1	77	50%	4450	10
Dump/Haul Trucks	1	76	40%	4450	10
Pavement Grinder	1	90	20%	4450	10

Receptor: ***R2***

Results:

1-hour Leq:	36	
Excess Attenuation:	10	due to soft grounds
1-hour Leq:	**26**	

Golden Oak Ranch
Draft EIR

Appendix E.1
Air Worksheets
January 2012

E.1-1 Project Construction Emissions Analysis
E.1-2 SCAQMD Rule 403 (Fugitive Dust) Control Requirements
E.1-3 Project Operational Emissions Analysis

Appendix E.1-1
Construction Emissions Analysis

- Regional Construction Emissions (URBEMIS 2007 Output)
- Offsite Roadway Improvement Construction Spreadsheets
- Localized Construction Emissions Analysis (ISCST3 Input and Output)
- Full ISCST3 Output files available electronically

10/4/2011 08:46:05 AM

Urbemis 2007 Version 9.2.4

Detail Report for Summer Construction Mitigated Emissions (Pounds/Day)

Project Name: Disney Golden Oak Ranch-Phase I Construction

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Mitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
Time Slice 11/19/2012-11/30/2012	3.16	26.79	14.25	0.00	5.19	1.24	6.43	1.08	1.14	2.23	3,134.73
Mass Grading 11/19/2012-	3.16	26.79	14.25	0.00	5.19	1.24	6.43	1.08	1.14	2.23	3,134.73
Mass Grading Dust	0.00	0.00	0.00	0.00	5.18	0.00	5.18	1.08	0.00	1.08	0.00
Mass Grading Off Road Diesel	3.13	26.72	13.07	0.00	0.00	1.24	1.24	0.00	1.14	1.14	2,979.36
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.04	0.07	1.18	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.37
Time Slice 12/3/2012-12/14/2012	6.21	52.61	28.62	0.01	7.47	2.54	10.01	1.56	2.34	3.90	6,630.27
Demolition 12/03/2012-12/28/2012	3.05	25.83	14.36	0.01	2.28	1.30	3.58	0.48	1.20	1.67	3,495.54
Fugitive Dust	0.00	0.00	0.00	0.00	2.25	0.00	2.25	0.47	0.00	0.47	0.00
Demo Off Road Diesel	2.68	21.93	11.41	0.00	0.00	1.14	1.14	0.00	1.05	1.05	2,679.22
Demo On Road Diesel	0.32	3.81	1.54	0.01	0.02	0.16	0.18	0.01	0.14	0.15	629.87
Demo Worker Trips	0.04	0.08	1.42	0.00	0.01	0.01	0.01	0.00	0.00	0.01	186.44
Mass Grading 11/19/2012-	3.16	26.79	14.25	0.00	5.19	1.24	6.43	1.08	1.14	2.23	3,134.73
Mass Grading Dust	0.00	0.00	0.00	0.00	5.18	0.00	5.18	1.08	0.00	1.08	0.00
Mass Grading Off Road Diesel	3.13	26.72	13.07	0.00	0.00	1.24	1.24	0.00	1.14	1.14	2,979.36
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.04	0.07	1.18	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.37
Time Slice 12/17/2012-12/28/2012	46.82	**493.78**	**220.60**	**0.56**	113.04	**21.46**	134.51	23.85	**19.74**	43.59	**75,042.32**
Demolition 12/03/2012-12/28/2012	3.05	25.83	14.36	0.01	2.28	1.30	3.58	0.48	1.20	1.67	3,495.54
Fugitive Dust	0.00	0.00	0.00	0.00	2.25	0.00	2.25	0.47	0.00	0.47	0.00
Demo Off Road Diesel	2.68	21.93	11.41	0.00	0.00	1.14	1.14	0.00	1.05	1.05	2,679.22
Demo On Road Diesel	0.32	3.81	1.54	0.01	0.02	0.16	0.18	0.01	0.14	0.15	629.87
Demo Worker Trips	0.04	0.08	1.42	0.00	0.01	0.01	0.01	0.00	0.00	0.01	186.44
Mass Grading 11/19/2012-	3.16	26.79	14.25	0.00	5.19	1.24	6.43	1.08	1.14	2.23	3,134.73
Mass Grading Dust	0.00	0.00	0.00	0.00	5.18	0.00	5.18	1.08	0.00	1.08	0.00
Mass Grading Off Road Diesel	3.13	26.72	13.07	0.00	0.00	1.24	1.24	0.00	1.14	1.14	2,979.36
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mass Grading Worker Trips	0.04	0.07	1.18	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.37
Mass Grading 12/17/2012-	40.61	441.17	191.99	0.55	105.58	18.92	124.50	22.28	17.41	39.69	68,412.05
Mass Grading Dust	0.00	0.00	0.00	0.00	103.62	0.00	103.62	21.64	0.00	21.64	0.00
Mass Grading Off Road Diesel	10.88	89.32	45.77	0.00	0.00	4.55	4.55	0.00	4.19	4.19	9,741.63
Mass Grading On Road Diesel	29.61	351.62	142.20	0.54	1.93	14.35	16.29	0.63	13.20	13.84	58,142.17
Mass Grading Worker Trips	0.12	0.23	4.02	0.01	0.02	0.01	0.04	0.01	0.01	0.02	528.25
Time Slice 12/31/2012-12/31/2012	43.77	467.96	206.24	0.55	110.77	20.16	130.93	23.37	18.55	41.92	71,546.78
Mass Grading 11/19/2012-	3.16	26.79	14.25	0.00	5.19	1.24	6.43	1.08	1.14	2.23	3,134.73
Mass Grading Dust	0.00	0.00	0.00	0.00	5.18	0.00	5.18	1.08	0.00	1.08	0.00
Mass Grading Off Road Diesel	3.13	26.72	13.07	0.00	0.00	1.24	1.24	0.00	1.14	1.14	2,979.36
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.04	0.07	1.18	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.37
Mass Grading 12/17/2012-	40.61	441.17	191.99	0.55	105.58	18.92	124.50	22.28	17.41	39.69	68,412.05
Mass Grading Dust	0.00	0.00	0.00	0.00	103.62	0.00	103.62	21.64	0.00	21.64	0.00
Mass Grading Off Road Diesel	10.88	89.32	45.77	0.00	0.00	4.55	4.55	0.00	4.19	4.19	9,741.63
Mass Grading On Road Diesel	29.61	351.62	142.20	0.54	1.93	14.35	16.29	0.63	13.20	13.84	58,142.17
Mass Grading Worker Trips	0.12	0.23	4.02	0.01	0.02	0.01	0.04	0.01	0.01	0.02	528.25
Time Slice 1/1/2013-3/1/2013 Active	40.29	419.88	188.21	0.55	110.77	17.79	128.56	23.37	16.36	39.73	71,546.69
Mass Grading 11/19/2012-	3.00	25.01	13.72	0.00	5.19	1.14	6.32	1.08	1.04	2.13	3,134.71
Mass Grading Dust	0.00	0.00	0.00	0.00	5.18	0.00	5.18	1.08	0.00	1.08	0.00
Mass Grading Off Road Diesel	2.97	24.94	12.62	0.00	0.00	1.13	1.13	0.00	1.04	1.04	2,979.36
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.06	1.10	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.35
Mass Grading 12/17/2012-	37.29	394.87	174.49	0.55	105.58	16.65	122.23	22.28	15.32	37.60	68,411.98
Mass Grading Dust	0.00	0.00	0.00	0.00	103.62	0.00	103.62	21.64	0.00	21.64	0.00
Mass Grading Off Road Diesel	10.31	83.41	44.60	0.00	0.00	4.19	4.19	0.00	3.86	3.86	9,741.63
Mass Grading On Road Diesel	26.86	311.25	126.15	0.54	1.93	12.45	14.38	0.63	11.45	12.09	58,142.17
Mass Grading Worker Trips	0.11	0.21	3.74	0.01	0.02	0.01	0.04	0.01	0.01	0.02	528.18
Time Slice 3/4/2013-5/17/2013 Active	37.29	394.87	174.49	0.55	105.58	16.65	122.23	22.28	15.32	37.60	68,411.98
Mass Grading 12/17/2012-	37.29	394.87	174.49	0.55	105.58	16.65	122.23	22.28	15.32	37.60	68,411.98
Mass Grading Dust	0.00	0.00	0.00	0.00	103.62	0.00	103.62	21.64	0.00	21.64	0.00
Mass Grading Off Road Diesel	10.31	83.41	44.60	0.00	0.00	4.19	4.19	0.00	3.86	3.86	9,741.63
Mass Grading On Road Diesel	26.86	311.25	126.15	0.54	1.93	12.45	14.38	0.63	11.45	12.09	58,142.17
Mass Grading Worker Trips	0.11	0.21	3.74	0.01	0.02	0.01	0.04	0.01	0.01	0.02	528.18
Time Slice 5/20/2013-5/24/2013 Active	40.12	416.95	187.10	0.55	105.59	17.86	123.45	22.29	16.43	38.72	71,153.31
Mass Grading 12/17/2012-	37.29	394.87	174.49	0.55	105.58	16.65	122.23	22.28	15.32	37.60	68,411.98
Mass Grading Dust	0.00	0.00	0.00	0.00	103.62	0.00	103.62	21.64	0.00	21.64	0.00
Mass Grading Off Road Diesel	10.31	83.41	44.60	0.00	0.00	4.19	4.19	0.00	3.86	3.86	9,741.63
Mass Grading On Road Diesel	26.86	311.25	126.15	0.54	1.93	12.45	14.38	0.63	11.45	12.09	58,142.17
Mass Grading Worker Trips	0.11	0.21	3.74	0.01	0.02	0.01	0.04	0.01	0.01	0.02	528.18
Trenching 05/20/2013-04/18/2014	2.83	22.07	12.61	0.00	0.01	1.21	1.22	0.00	1.11	1.11	2,741.33
Trenching Off Road Diesel	2.79	21.99	11.07	0.00	0.00	1.20	1.20	0.00	1.10	1.10	2,523.84

Trenching Worker Trips	0.05	0.09	1.54	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.49
Time Slice 5/27/2013-6/14/2013 Active	41.80	428.07	194.64	0.55	105.60	18.54	124.13	22.29	17.05	39.34	72,662.71
Mass Grading 12/17/2012-	37.29	394.87	174.49	0.55	105.58	16.65	122.23	22.28	15.32	37.60	68,411.98
Mass Grading Dust	0.00	0.00	0.00	0.00	103.62	0.00	103.62	21.64	0.00	21.64	0.00
Mass Grading Off Road Diesel	10.31	83.41	44.60	0.00	0.00	4.19	4.19	0.00	3.86	3.86	9,741.63
Mass Grading On Road Diesel	26.86	311.25	126.15	0.54	1.93	12.45	14.38	0.63	11.45	12.09	58,142.17
Mass Grading Worker Trips	0.11	0.21	3.74	0.01	0.02	0.01	0.04	0.01	0.01	0.02	528.18
Trenching 05/20/2013-04/18/2014	2.83	22.07	12.61	0.00	0.01	1.21	1.22	0.00	1.11	1.11	2,741.33
Trenching Off Road Diesel	2.79	21.99	11.07	0.00	0.00	1.20	1.20	0.00	1.10	1.10	2,523.84
Trenching Worker Trips	0.05	0.09	1.54	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.49
Trenching 05/27/2013-02/27/2015	1.68	11.13	7.54	0.00	0.01	0.68	0.69	0.00	0.62	0.63	1,509.40
Trenching Off Road Diesel	1.65	11.06	6.44	0.00	0.00	0.67	0.67	0.00	0.62	0.62	1,354.05
Trenching Worker Trips	0.03	0.06	1.10	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.35
Time Slice 6/17/2013-8/23/2013 Active	4.52	33.20	20.15	0.00	0.02	1.88	1.90	0.01	1.73	1.74	4,250.73
Trenching 05/20/2013-04/18/2014	2.83	22.07	12.61	0.00	0.01	1.21	1.22	0.00	1.11	1.11	2,741.33
Trenching Off Road Diesel	2.79	21.99	11.07	0.00	0.00	1.20	1.20	0.00	1.10	1.10	2,523.84
Trenching Worker Trips	0.05	0.09	1.54	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.49
Trenching 05/27/2013-02/27/2015	1.68	11.13	7.54	0.00	0.01	0.68	0.69	0.00	0.62	0.63	1,509.40
Trenching Off Road Diesel	1.65	11.06	6.44	0.00	0.00	0.67	0.67	0.00	0.62	0.62	1,354.05
Trenching Worker Trips	0.03	0.06	1.10	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.35
Time Slice 8/26/2013-11/15/2013	20.50	176.80	92.93	0.05	0.20	8.26	8.46	0.07	7.60	7.66	26,677.65
Fine Grading 08/26/2013-04/25/2014	15.98	143.60	72.78	0.05	0.19	6.38	6.56	0.06	5.86	5.93	22,426.92
Fine Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	13.82	120.52	56.77	0.00	0.00	5.44	5.44	0.00	5.01	5.01	17,225.36
Fine Grading On Road Diesel	1.96	22.69	9.20	0.04	0.14	0.91	1.05	0.05	0.83	0.88	4,238.40
Fine Grading Worker Trips	0.20	0.39	6.82	0.01	0.05	0.03	0.07	0.02	0.02	0.04	963.16
Trenching 05/20/2013-04/18/2014	2.83	22.07	12.61	0.00	0.01	1.21	1.22	0.00	1.11	1.11	2,741.33
Trenching Off Road Diesel	2.79	21.99	11.07	0.00	0.00	1.20	1.20	0.00	1.10	1.10	2,523.84
Trenching Worker Trips	0.05	0.09	1.54	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.49
Trenching 05/27/2013-02/27/2015	1.68	11.13	7.54	0.00	0.01	0.68	0.69	0.00	0.62	0.63	1,509.40
Trenching Off Road Diesel	1.65	11.06	6.44	0.00	0.00	0.67	0.67	0.00	0.62	0.62	1,354.05
Trenching Worker Trips	0.03	0.06	1.10	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.35
Time Slice 11/18/2013-12/31/2013	34.71	268.02	184.68	0.15	0.60	13.69	14.29	0.21	12.58	12.78	44,531.20
Building 11/18/2013-11/14/2014	14.21	91.22	91.75	0.10	0.40	5.43	5.83	0.14	4.98	5.12	17,853.55
Building Off Road Diesel	11.13	66.96	42.72	0.00	0.00	4.38	4.38	0.00	4.03	4.03	7,998.83
Building Vendor Trips	2.15	22.49	17.90	0.05	0.19	0.93	1.12	0.06	0.86	0.92	5,458.39
Building Worker Trips	0.93	1.77	31.13	0.05	0.21	0.12	0.33	0.07	0.10	0.18	4,396.33
Fine Grading 08/26/2013-04/25/2014	15.98	143.60	72.78	0.05	0.19	6.38	6.56	0.06	5.86	5.93	22,426.92
Fine Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	13.82	120.52	56.77	0.00	0.00	5.44	5.44	0.00	5.01	5.01	17,225.36
Fine Grading On Road Diesel	1.96	22.69	9.20	0.04	0.14	0.91	1.05	0.05	0.83	0.88	4,238.40
Fine Grading Worker Trips	0.20	0.39	6.82	0.01	0.05	0.03	0.07	0.02	0.02	0.04	963.16

Trenching 05/20/2013-04/18/2014	2.83	22.07	12.61	0.00	0.01	1.21	1.22	0.00	1.11	1.11	2,741.33
Trenching Off Road Diesel	2.79	21.99	11.07	0.00	0.00	1.20	1.20	0.00	1.10	1.10	2,523.84
Trenching Worker Trips	0.05	0.09	1.54	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.49
Trenching 05/27/2013-02/27/2015	1.68	11.13	7.54	0.00	0.01	0.68	0.69	0.00	0.62	0.63	1,509.40
Trenching Off Road Diesel	1.65	11.06	6.44	0.00	0.00	0.67	0.67	0.00	0.62	0.62	1,354.05
Trenching Worker Trips	0.03	0.06	1.10	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.35
Time Slice 1/1/2014-4/18/2014 Active	32.04	243.84	176.79	0.15	0.60	12.15	12.76	0.21	11.17	11.37	44,530.59
Building 11/18/2013-11/14/2014	13.05	83.73	87.28	0.10	0.40	4.85	5.25	0.14	4.45	4.59	17,853.08
Building Off Road Diesel	10.25	62.30	41.78	0.00	0.00	3.92	3.92	0.00	3.60	3.60	7,998.83
Building Vendor Trips	1.95	19.80	16.43	0.05	0.19	0.81	1.00	0.06	0.74	0.81	5,458.39
Building Worker Trips	0.85	1.63	29.06	0.05	0.21	0.13	0.33	0.07	0.11	0.18	4,395.87
Fine Grading 08/26/2013-04/25/2014	14.81	129.46	69.94	0.05	0.19	5.62	5.80	0.06	5.17	5.23	22,426.82
Fine Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	12.86	109.18	55.48	0.00	0.00	4.81	4.81	0.00	4.43	4.43	17,225.36
Fine Grading On Road Diesel	1.76	19.92	8.09	0.04	0.14	0.78	0.92	0.05	0.72	0.76	4,238.40
Fine Grading Worker Trips	0.19	0.36	6.37	0.01	0.05	0.03	0.07	0.02	0.02	0.04	963.06
Trenching 05/20/2013-04/18/2014	2.63	20.36	12.25	0.00	0.01	1.07	1.08	0.00	0.99	0.99	2,741.30
Trenching Off Road Diesel	2.59	20.28	10.81	0.00	0.00	1.07	1.07	0.00	0.98	0.98	2,523.84
Trenching Worker Trips	0.04	0.08	1.44	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.46
Trenching 05/27/2013-02/27/2015	1.55	10.30	7.31	0.00	0.01	0.61	0.61	0.00	0.56	0.56	1,509.39
Trenching Off Road Diesel	1.52	10.24	6.29	0.00	0.00	0.60	0.60	0.00	0.55	0.55	1,354.05
Trenching Worker Trips	0.03	0.06	1.03	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33
Time Slice 4/21/2014-4/25/2014 Active	29.41	223.48	164.53	0.15	0.59	11.08	11.67	0.20	10.18	10.38	41,789.29
Building 11/18/2013-11/14/2014	13.05	83.73	87.28	0.10	0.40	4.85	5.25	0.14	4.45	4.59	17,853.08
Building Off Road Diesel	10.25	62.30	41.78	0.00	0.00	3.92	3.92	0.00	3.60	3.60	7,998.83
Building Vendor Trips	1.95	19.80	16.43	0.05	0.19	0.81	1.00	0.06	0.74	0.81	5,458.39
Building Worker Trips	0.85	1.63	29.06	0.05	0.21	0.13	0.33	0.07	0.11	0.18	4,395.87
Fine Grading 08/26/2013-04/25/2014	14.81	129.46	69.94	0.05	0.19	5.62	5.80	0.06	5.17	5.23	22,426.82
Fine Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	12.86	109.18	55.48	0.00	0.00	4.81	4.81	0.00	4.43	4.43	17,225.36
Fine Grading On Road Diesel	1.76	19.92	8.09	0.04	0.14	0.78	0.92	0.05	0.72	0.76	4,238.40
Fine Grading Worker Trips	0.19	0.36	6.37	0.01	0.05	0.03	0.07	0.02	0.02	0.04	963.06
Trenching 05/27/2013-02/27/2015	1.55	10.30	7.31	0.00	0.01	0.61	0.61	0.00	0.56	0.56	1,509.39
Trenching Off Road Diesel	1.52	10.24	6.29	0.00	0.00	0.60	0.60	0.00	0.55	0.55	1,354.05
Trenching Worker Trips	0.03	0.06	1.03	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33
Time Slice 4/28/2014-5/16/2014 Active	14.60	94.02	94.59	0.10	0.40	5.46	5.87	0.14	5.01	5.15	19,362.47
Building 11/18/2013-11/14/2014	13.05	83.73	87.28	0.10	0.40	4.85	5.25	0.14	4.45	4.59	17,853.08
Building Off Road Diesel	10.25	62.30	41.78	0.00	0.00	3.92	3.92	0.00	3.60	3.60	7,998.83
Building Vendor Trips	1.95	19.80	16.43	0.05	0.19	0.81	1.00	0.06	0.74	0.81	5,458.39
Building Worker Trips	0.85	1.63	29.06	0.05	0.21	0.13	0.33	0.07	0.11	0.18	4,395.87
Trenching 05/27/2013-02/27/2015	1.55	10.30	7.31	0.00	0.01	0.61	0.61	0.00	0.56	0.56	1,509.39
Trenching Off Road Diesel	1.52	10.24	6.29	0.00	0.00	0.60	0.60	0.00	0.55	0.55	1,354.05

Trenching Worker Trips	0.03	0.06	1.03	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33
Time Slice 5/19/2014-10/3/2014 Active	89.75	94.06	95.32	0.10	0.41	5.46	5.87	0.14	5.01	5.16	19,472.66
Building 11/18/2013-11/14/2014	13.05	83.73	87.28	0.10	0.40	4.85	5.25	0.14	4.45	4.59	17,853.08
Building Off Road Diesel	10.25	62.30	41.78	0.00	0.00	3.92	3.92	0.00	3.60	3.60	7,998.83
Building Vendor Trips	1.95	19.80	16.43	0.05	0.19	0.81	1.00	0.06	0.74	0.81	5,458.39
Building Worker Trips	0.85	1.63	29.06	0.05	0.21	0.13	0.33	0.07	0.11	0.18	4,395.87
Coating 05/19/2014-11/14/2014	75.15	0.04	0.73	0.00	0.01	0.00	0.01	0.00	0.00	0.00	110.19
Architectural Coating	75.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	0.73	0.00	0.01	0.00	0.01	0.00	0.00	0.00	110.19
Trenching 05/27/2013-02/27/2015	1.55	10.30	7.31	0.00	0.01	0.61	0.61	0.00	0.56	0.56	1,509.39
Trenching Off Road Diesel	1.52	10.24	6.29	0.00	0.00	0.60	0.60	0.00	0.55	0.55	1,354.05
Trenching Worker Trips	0.03	0.06	1.03	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33
Time Slice 10/6/2014-11/14/2014	**92.40**	109.28	107.29	0.10	0.43	6.70	7.13	0.15	6.15	6.30	21,287.73
Asphalt 10/06/2014-01/02/2015	2.64	15.22	11.98	0.00	0.02	1.24	1.25	0.01	1.14	1.14	1,815.07
Paving Off-Gas	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.56	9.90	0.00	0.00	1.21	1.21	0.00	1.11	1.11	1,418.44
Paving On Road Diesel	0.05	0.55	0.22	0.00	0.00	0.02	0.03	0.00	0.02	0.02	117.03
Paving Worker Trips	0.05	0.10	1.85	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.60
Building 11/18/2013-11/14/2014	13.05	83.73	87.28	0.10	0.40	4.85	5.25	0.14	4.45	4.59	17,853.08
Building Off Road Diesel	10.25	62.30	41.78	0.00	0.00	3.92	3.92	0.00	3.60	3.60	7,998.83
Building Vendor Trips	1.95	19.80	16.43	0.05	0.19	0.81	1.00	0.06	0.74	0.81	5,458.39
Building Worker Trips	0.85	1.63	29.06	0.05	0.21	0.13	0.33	0.07	0.11	0.18	4,395.87
Coating 05/19/2014-11/14/2014	75.15	0.04	0.73	0.00	0.01	0.00	0.01	0.00	0.00	0.00	110.19
Architectural Coating	75.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	0.73	0.00	0.01	0.00	0.01	0.00	0.00	0.00	110.19
Trenching 05/27/2013-02/27/2015	1.55	10.30	7.31	0.00	0.01	0.61	0.61	0.00	0.56	0.56	1,509.39
Trenching Off Road Diesel	1.52	10.24	6.29	0.00	0.00	0.60	0.60	0.00	0.55	0.55	1,354.05
Trenching Worker Trips	0.03	0.06	1.03	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33
Time Slice 11/17/2014-12/31/2014	4.19	25.51	19.29	0.01	0.02	1.84	1.87	0.01	1.69	1.70	3,324.46
Asphalt 10/06/2014-01/02/2015	2.64	15.22	11.98	0.00	0.02	1.24	1.25	0.01	1.14	1.14	1,815.07
Paving Off-Gas	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.56	9.90	0.00	0.00	1.21	1.21	0.00	1.11	1.11	1,418.44
Paving On Road Diesel	0.05	0.55	0.22	0.00	0.00	0.02	0.03	0.00	0.02	0.02	117.03
Paving Worker Trips	0.05	0.10	1.85	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.60
Trenching 05/27/2013-02/27/2015	1.55	10.30	7.31	0.00	0.01	0.61	0.61	0.00	0.56	0.56	1,509.39
Trenching Off Road Diesel	1.52	10.24	6.29	0.00	0.00	0.60	0.60	0.00	0.55	0.55	1,354.05
Trenching Worker Trips	0.03	0.06	1.03	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33
Time Slice 1/1/2015-1/2/2015 Active	3.91	23.72	18.88	0.01	0.02	1.69	1.72	0.01	1.56	1.56	3,324.42
Asphalt 10/06/2014-01/02/2015	2.49	14.22	11.74	0.00	0.02	1.14	1.16	0.01	1.05	1.05	1,815.05
Paving Off-Gas	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.20	13.65	9.82	0.00	0.00	1.11	1.11	0.00	1.02	1.02	1,418.44
Paving On Road Diesel	0.04	0.48	0.20	0.00	0.00	0.02	0.02	0.00	0.02	0.02	117.03

Paving Worker Trips	0.05	0.10	1.72	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.57
Trenching 05/27/2013-02/27/2015	1.42	9.49	7.14	0.00	0.01	0.55	0.56	0.00	0.51	0.51	1,509.37
Trenching Off Road Diesel	1.39	9.44	6.18	0.00	0.00	0.55	0.55	0.00	0.50	0.50	1,354.05
Trenching Worker Trips	0.03	0.05	0.96	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.32
Time Slice 1/5/2015-2/27/2015 Active	1.42	9.49	7.14	0.00	0.01	0.55	0.56	0.00	0.51	0.51	1,509.37
Trenching 05/27/2013-02/27/2015	1.42	9.49	7.14	0.00	0.01	0.55	0.56	0.00	0.51	0.51	1,509.37
Trenching Off Road Diesel	1.39	9.44	6.18	0.00	0.00	0.55	0.55	0.00	0.50	0.50	1,354.05
Trenching Worker Trips	0.03	0.05	0.96	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.32

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 11/19/2012 - 3/1/2013 - Site Access Road and Retaining Wall

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 12/17/2012 - 6/14/2013 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Phase Assumptions

Phase: Demolition 12/3/2012 - 12/28/2012 - Default Demolition Description

Building Volume Total (cubic feet): 0

Building Volume Daily (cubic feet): 5350

On Road Truck Travel (VMT): 148.61

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Fine Grading 8/26/2013 - 4/25/2014 - Foundation

Total Acres Disturbed: 0

Maximum Daily Acreage Disturbed: 0

Fugitive Dust Level of Detail: Default

0 lbs per acre-day

On Road Truck Travel (VMT): 1000

Off-Road Equipment:

2 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day

3 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day

3 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
2 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day
2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
2 Generator Sets (549 hp) operating at a 0.74 load factor for 8 hours per day
2 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
2 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day
2 Pumps (53 hp) operating at a 0.74 load factor for 8 hours per day
2 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day
1 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day
1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day
1 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 8 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 11/19/2012 - 3/1/2013 - Site Access Road and Retaining Wall
Total Acres Disturbed: 3
Maximum Daily Acreage Disturbed: 0.5
Fugitive Dust Level of Detail: Default
  20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 12/17/2012 - 6/14/2013 - Default Mass Site Grading/Excavation Description
Total Acres Disturbed: 56
Maximum Daily Acreage Disturbed: 10
Fugitive Dust Level of Detail: Default
  20 lbs per acre-day
On Road Truck Travel (VMT): 13717.95
Off-Road Equipment:
2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
2 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

1 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 8 hours per day
2 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day
2 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day
2 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day
2 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 5/20/2013 - 4/18/2014 - Central Plant
Off-Road Equipment:
1 Aerial Lifts (60 hp) operating at a 0.46 load factor for 8 hours per day
2 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day
1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day
1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Trenching 5/27/2013 - 2/27/2015 - Site Work (drainage, fencing, landscape
Off-Road Equipment:
1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
2 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 8 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day
1 Trenchers (63 hp) operating at a 0.75 load factor for 8 hours per day

Phase: Paving 10/6/2014 - 1/2/2015 - Default Paving Description
Acres to be Paved: 5
Off-Road Equipment:
4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 11/18/2013 - 11/14/2014 - Default Building Construction Description
Off-Road Equipment:
2 Aerial Lifts (60 hp) operating at a 0.46 load factor for 8 hours per day
3 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day
2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day

3 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
2 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
3 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
2 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
2 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day
2 Pumps (53 hp) operating at a 0.74 load factor for 8 hours per day
2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day
2 Signal Boards (15 hp) operating at a 0.78 load factor for 8 hours per day
2 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 8 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Architectural Coating 5/19/2014 - 11/14/2014 - Default Architectural Coating Description
Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Urbemis 2007 Version 9.2.4

Detail Report for Summer Construction Mitigated Emissions (Pounds/Day)

Project Name: Disney Golden Oak Ranch-Phase II Construction

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Mitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
Time Slice 10/12/2021-11/1/2021	1.70	10.47	11.95	0.01	2.28	0.46	2.74	0.48	0.42	0.90	3,495.42
Demolition 10/12/2021-11/01/2021	1.70	10.47	11.95	0.01	2.28	0.46	2.74	0.48	0.42	0.90	3,495.42
Fugitive Dust	0.00	0.00	0.00	0.00	2.25	0.00	2.25	0.47	0.00	0.47	0.00
Demo Off Road Diesel	1.57	9.36	10.91	0.00	0.00	0.42	0.42	0.00	0.39	0.39	2,679.22
Demo On Road Diesel	0.12	1.09	0.45	0.01	0.02	0.03	0.05	0.01	0.03	0.04	629.87
Demo Worker Trips	0.01	0.03	0.59	0.00	0.01	0.01	0.01	0.00	0.00	0.01	186.32
Time Slice 11/2/2021-11/22/2021	8.54	61.53	49.41	**0.16**	109.37	2.55	111.91	22.91	2.34	25.25	**25,626.08**
Mass Grading 11/02/2021-	1.13	7.02	7.56	0.00	5.19	0.31	5.49	1.08	0.28	1.37	2,061.70
Mass Grading Dust	0.00	0.00	0.00	0.00	5.18	0.00	5.18	1.08	0.00	1.08	0.00
Mass Grading Off Road Diesel	1.12	6.99	7.07	0.00	0.00	0.30	0.30	0.00	0.28	0.28	1,906.44
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.01	0.02	0.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.27
Mass Grading 11/02/2021-	6.23	47.28	35.19	0.15	104.17	1.87	106.04	21.82	1.72	23.54	21,456.43
Mass Grading Dust	0.00	0.00	0.00	0.00	103.62	0.00	103.62	21.64	0.00	21.64	0.00
Mass Grading Off Road Diesel	3.21	19.61	22.49	0.00	0.00	1.01	1.01	0.00	0.93	0.93	5,072.06
Mass Grading On Road Diesel	3.00	27.61	11.52	0.15	0.53	0.85	1.38	0.17	0.78	0.96	16,011.74
Mass Grading Worker Trips	0.03	0.06	1.17	0.00	0.02	0.01	0.03	0.01	0.01	0.02	372.64
Trenching 11/02/2021-04/24/2023	1.18	7.23	6.67	0.00	0.01	0.38	0.38	0.00	0.34	0.35	2,107.95
Trenching Off Road Diesel	1.17	7.21	6.18	0.00	0.00	0.37	0.37	0.00	0.34	0.34	1,952.69
Trenching Worker Trips	0.01	0.02	0.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.27
Time Slice 11/23/2021-12/27/2021	2.31	14.25	14.23	0.00	5.20	0.68	5.88	1.09	0.63	1.71	4,169.65
Mass Grading 11/02/2021-	1.13	7.02	7.56	0.00	5.19	0.31	5.49	1.08	0.28	1.37	2,061.70
Mass Grading Dust	0.00	0.00	0.00	0.00	5.18	0.00	5.18	1.08	0.00	1.08	0.00
Mass Grading Off Road Diesel	1.12	6.99	7.07	0.00	0.00	0.30	0.30	0.00	0.28	0.28	1,906.44
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.01	0.02	0.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.27
Trenching 11/02/2021-04/24/2023	1.18	7.23	6.67	0.00	0.01	0.38	0.38	0.00	0.34	0.35	2,107.95
Trenching Off Road Diesel	1.17	7.21	6.18	0.00	0.00	0.37	0.37	0.00	0.34	0.34	1,952.69

Trenching Worker Trips	0.01	0.02	0.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.27
Time Slice 12/28/2021-12/31/2021	7.56	50.43	47.68	0.03	5.30	2.14	7.44	1.12	1.97	3.09	16,516.39
Fine Grading 12/28/2021-	5.25	36.18	33.45	0.03	0.10	1.46	1.57	0.04	1.34	1.38	12,346.74
Fine Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	4.77	32.10	29.93	0.00	0.00	1.32	1.32	0.00	1.21	1.21	9,444.87
Fine Grading On Road Diesel	0.43	3.99	1.66	0.02	0.08	0.12	0.20	0.03	0.11	0.14	2,311.86
Fine Grading Worker Trips	0.04	0.09	1.85	0.01	0.03	0.02	0.05	0.01	0.01	0.02	590.01
Mass Grading 11/02/2021-	1.13	7.02	7.56	0.00	5.19	0.31	5.49	1.08	0.28	1.37	2,061.70
Mass Grading Dust	0.00	0.00	0.00	0.00	5.18	0.00	5.18	1.08	0.00	1.08	0.00
Mass Grading Off Road Diesel	1.12	6.99	7.07	0.00	0.00	0.30	0.30	0.00	0.28	0.28	1,906.44
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.01	0.02	0.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.27
Trenching 11/02/2021-04/24/2023	1.18	7.23	6.67	0.00	0.01	0.38	0.38	0.00	0.34	0.35	2,107.95
Trenching Off Road Diesel	1.17	7.21	6.18	0.00	0.00	0.37	0.37	0.00	0.34	0.34	1,952.69
Trenching Worker Trips	0.01	0.02	0.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.27
Time Slice 1/3/2022-3/21/2022 Active	7.56	50.43	47.68	0.03	5.30	2.14	7.44	1.12	1.97	3.09	16,516.39
Fine Grading 12/28/2021-	5.25	36.18	33.45	0.03	0.10	1.46	1.57	0.04	1.34	1.38	12,346.74
Fine Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	4.77	32.10	29.93	0.00	0.00	1.32	1.32	0.00	1.21	1.21	9,444.87
Fine Grading On Road Diesel	0.43	3.99	1.66	0.02	0.08	0.12	0.20	0.03	0.11	0.14	2,311.86
Fine Grading Worker Trips	0.04	0.09	1.85	0.01	0.03	0.02	0.05	0.01	0.01	0.02	590.01
Mass Grading 11/02/2021-	1.13	7.02	7.56	0.00	5.19	0.31	5.49	1.08	0.28	1.37	2,061.70
Mass Grading Dust	0.00	0.00	0.00	0.00	5.18	0.00	5.18	1.08	0.00	1.08	0.00
Mass Grading Off Road Diesel	1.12	6.99	7.07	0.00	0.00	0.30	0.30	0.00	0.28	0.28	1,906.44
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.01	0.02	0.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.27
Trenching 11/02/2021-04/24/2023	1.18	7.23	6.67	0.00	0.01	0.38	0.38	0.00	0.34	0.35	2,107.95
Trenching Off Road Diesel	1.17	7.21	6.18	0.00	0.00	0.37	0.37	0.00	0.34	0.34	1,952.69
Trenching Worker Trips	0.01	0.02	0.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.27
Time Slice 3/22/2022-5/30/2022 Active	11.65	**76.66**	**78.45**	0.07	5.44	**3.42**	8.86	1.17	**3.14**	4.31	24,760.01
Building 03/22/2022-02/27/2023	4.09	26.23	30.77	0.03	0.14	1.28	1.42	0.05	1.17	1.22	8,243.62
Building Off Road Diesel	3.66	23.40	22.98	0.00	0.00	1.13	1.13	0.00	1.04	1.04	4,757.28
Building Vendor Trips	0.31	2.58	2.86	0.02	0.07	0.10	0.17	0.02	0.09	0.12	1,919.17
Building Worker Trips	0.12	0.25	4.92	0.02	0.07	0.05	0.12	0.03	0.04	0.07	1,567.16
Fine Grading 12/28/2021-	5.25	36.18	33.45	0.03	0.10	1.46	1.57	0.04	1.34	1.38	12,346.74
Fine Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	4.77	32.10	29.93	0.00	0.00	1.32	1.32	0.00	1.21	1.21	9,444.87
Fine Grading On Road Diesel	0.43	3.99	1.66	0.02	0.08	0.12	0.20	0.03	0.11	0.14	2,311.86
Fine Grading Worker Trips	0.04	0.09	1.85	0.01	0.03	0.02	0.05	0.01	0.01	0.02	590.01
Mass Grading 11/02/2021-	1.13	7.02	7.56	0.00	5.19	0.31	5.49	1.08	0.28	1.37	2,061.70
Mass Grading Dust	0.00	0.00	0.00	0.00	5.18	0.00	5.18	1.08	0.00	1.08	0.00
Mass Grading Off Road Diesel	1.12	6.99	7.07	0.00	0.00	0.30	0.30	0.00	0.28	0.28	1,906.44
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mass Grading Worker Trips	0.01	0.02	0.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.27
Trenching 11/02/2021-04/24/2023	1.18	7.23	6.67	0.00	0.01	0.38	0.38	0.00	0.34	0.35	2,107.95
Trenching Off Road Diesel	1.17	7.21	6.18	0.00	0.00	0.37	0.37	0.00	0.34	0.34	1,952.69
Trenching Worker Trips	0.01	0.02	0.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.27
Time Slice 5/31/2022-10/10/2022	6.40	40.48	44.99	0.04	5.34	1.96	7.30	1.14	1.80	2.94	12,413.27
Building 03/22/2022-02/27/2023	4.09	26.23	30.77	0.03	0.14	1.28	1.42	0.05	1.17	1.22	8,243.62
Building Off Road Diesel	3.66	23.40	22.98	0.00	0.00	1.13	1.13	0.00	1.04	1.04	4,757.28
Building Vendor Trips	0.31	2.58	2.86	0.02	0.07	0.10	0.17	0.02	0.09	0.12	1,919.17
Building Worker Trips	0.12	0.25	4.92	0.02	0.07	0.05	0.12	0.03	0.04	0.07	1,567.16
Mass Grading 11/02/2021-	1.13	7.02	7.56	0.00	5.19	0.31	5.49	1.08	0.28	1.37	2,061.70
Mass Grading Dust	0.00	0.00	0.00	0.00	5.18	0.00	5.18	1.08	0.00	1.08	0.00
Mass Grading Off Road Diesel	1.12	6.99	7.07	0.00	0.00	0.30	0.30	0.00	0.28	0.28	1,906.44
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.01	0.02	0.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.27
Trenching 11/02/2021-04/24/2023	1.18	7.23	6.67	0.00	0.01	0.38	0.38	0.00	0.34	0.35	2,107.95
Trenching Off Road Diesel	1.17	7.21	6.18	0.00	0.00	0.37	0.37	0.00	0.34	0.34	1,952.69
Trenching Worker Trips	0.01	0.02	0.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.27
Time Slice 10/11/2022-11/21/2022	40.72	40.48	45.16	0.04	5.34	1.96	7.30	1.14	1.80	2.94	12,464.61
Building 03/22/2022-02/27/2023	4.09	26.23	30.77	0.03	0.14	1.28	1.42	0.05	1.17	1.22	8,243.62
Building Off Road Diesel	3.66	23.40	22.98	0.00	0.00	1.13	1.13	0.00	1.04	1.04	4,757.28
Building Vendor Trips	0.31	2.58	2.86	0.02	0.07	0.10	0.17	0.02	0.09	0.12	1,919.17
Building Worker Trips	0.12	0.25	4.92	0.02	0.07	0.05	0.12	0.03	0.04	0.07	1,567.16
Coating 10/11/2022-02/27/2023	34.32	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.34
Architectural Coating	34.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.34
Mass Grading 11/02/2021-	1.13	7.02	7.56	0.00	5.19	0.31	5.49	1.08	0.28	1.37	2,061.70
Mass Grading Dust	0.00	0.00	0.00	0.00	5.18	0.00	5.18	1.08	0.00	1.08	0.00
Mass Grading Off Road Diesel	1.12	6.99	7.07	0.00	0.00	0.30	0.30	0.00	0.28	0.28	1,906.44
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.01	0.02	0.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.27
Trenching 11/02/2021-04/24/2023	1.18	7.23	6.67	0.00	0.01	0.38	0.38	0.00	0.34	0.35	2,107.95
Trenching Off Road Diesel	1.17	7.21	6.18	0.00	0.00	0.37	0.37	0.00	0.34	0.34	1,952.69
Trenching Worker Trips	0.01	0.02	0.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.27
Time Slice 11/22/2022-12/30/2022	39.59	33.47	37.59	0.04	0.15	1.66	1.81	0.05	1.52	1.57	10,402.91
Building 03/22/2022-02/27/2023	4.09	26.23	30.77	0.03	0.14	1.28	1.42	0.05	1.17	1.22	8,243.62
Building Off Road Diesel	3.66	23.40	22.98	0.00	0.00	1.13	1.13	0.00	1.04	1.04	4,757.28
Building Vendor Trips	0.31	2.58	2.86	0.02	0.07	0.10	0.17	0.02	0.09	0.12	1,919.17
Building Worker Trips	0.12	0.25	4.92	0.02	0.07	0.05	0.12	0.03	0.04	0.07	1,567.16
Coating 10/11/2022-02/27/2023	34.32	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.34
Architectural Coating	34.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.34
Trenching 11/02/2021-04/24/2023	1.18	7.23	6.67	0.00	0.01	0.38	0.38	0.00	0.34	0.35	2,107.95
Trenching Off Road Diesel	1.17	7.21	6.18	0.00	0.00	0.37	0.37	0.00	0.34	0.34	1,952.69

Trenching Worker Trips	0.01	0.02	0.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.27
Time Slice 1/2/2023-2/6/2023 Active	39.59	33.47	37.59	0.04	0.15	1.66	1.81	0.05	1.52	1.57	10,402.91
Building 03/22/2022-02/27/2023	4.09	26.23	30.77	0.03	0.14	1.28	1.42	0.05	1.17	1.22	8,243.62
Building Off Road Diesel	3.66	23.40	22.98	0.00	0.00	1.13	1.13	0.00	1.04	1.04	4,757.28
Building Vendor Trips	0.31	2.58	2.86	0.02	0.07	0.10	0.17	0.02	0.09	0.12	1,919.17
Building Worker Trips	0.12	0.25	4.92	0.02	0.07	0.05	0.12	0.03	0.04	0.07	1,567.16
Coating 10/11/2022-02/27/2023	34.32	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.34
Architectural Coating	34.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.34
Trenching 11/02/2021-04/24/2023	1.18	7.23	6.67	0.00	0.01	0.38	0.38	0.00	0.34	0.35	2,107.95
Trenching Off Road Diesel	1.17	7.21	6.18	0.00	0.00	0.37	0.37	0.00	0.34	0.34	1,952.69
Trenching Worker Trips	0.01	0.02	0.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.27
Time Slice 2/7/2023-2/27/2023 Active	**41.32**	41.72	46.11	0.04	0.17	2.23	2.40	0.06	2.05	2.11	11,994.49
Asphalt 02/07/2023-03/20/2023	1.73	8.25	8.51	0.00	0.02	0.58	0.59	0.01	0.53	0.54	1,591.58
Paving Off-Gas	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.23	7.78	7.75	0.00	0.00	0.56	0.56	0.00	0.51	0.51	1,151.69
Paving On Road Diesel	0.05	0.44	0.18	0.00	0.01	0.01	0.02	0.00	0.01	0.02	253.57
Paving Worker Trips	0.01	0.03	0.59	0.00	0.01	0.01	0.01	0.00	0.00	0.01	186.32
Building 03/22/2022-02/27/2023	4.09	26.23	30.77	0.03	0.14	1.28	1.42	0.05	1.17	1.22	8,243.62
Building Off Road Diesel	3.66	23.40	22.98	0.00	0.00	1.13	1.13	0.00	1.04	1.04	4,757.28
Building Vendor Trips	0.31	2.58	2.86	0.02	0.07	0.10	0.17	0.02	0.09	0.12	1,919.17
Building Worker Trips	0.12	0.25	4.92	0.02	0.07	0.05	0.12	0.03	0.04	0.07	1,567.16
Coating 10/11/2022-02/27/2023	34.32	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.34
Architectural Coating	34.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.34
Trenching 11/02/2021-04/24/2023	1.18	7.23	6.67	0.00	0.01	0.38	0.38	0.00	0.34	0.35	2,107.95
Trenching Off Road Diesel	1.17	7.21	6.18	0.00	0.00	0.37	0.37	0.00	0.34	0.34	1,952.69
Trenching Worker Trips	0.01	0.02	0.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.27
Time Slice 2/28/2023-3/20/2023 Active	2.91	15.48	15.18	0.01	0.02	0.95	0.98	0.01	0.88	0.88	3,699.53
Asphalt 02/07/2023-03/20/2023	1.73	8.25	8.51	0.00	0.02	0.58	0.59	0.01	0.53	0.54	1,591.58
Paving Off-Gas	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.23	7.78	7.75	0.00	0.00	0.56	0.56	0.00	0.51	0.51	1,151.69
Paving On Road Diesel	0.05	0.44	0.18	0.00	0.01	0.01	0.02	0.00	0.01	0.02	253.57
Paving Worker Trips	0.01	0.03	0.59	0.00	0.01	0.01	0.01	0.00	0.00	0.01	186.32
Trenching 11/02/2021-04/24/2023	1.18	7.23	6.67	0.00	0.01	0.38	0.38	0.00	0.34	0.35	2,107.95
Trenching Off Road Diesel	1.17	7.21	6.18	0.00	0.00	0.37	0.37	0.00	0.34	0.34	1,952.69
Trenching Worker Trips	0.01	0.02	0.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.27
Time Slice 3/21/2023-4/24/2023 Active	1.18	7.23	6.67	0.00	0.01	0.38	0.38	0.00	0.34	0.35	2,107.95
Trenching 11/02/2021-04/24/2023	1.18	7.23	6.67	0.00	0.01	0.38	0.38	0.00	0.34	0.35	2,107.95
Trenching Off Road Diesel	1.17	7.21	6.18	0.00	0.00	0.37	0.37	0.00	0.34	0.34	1,952.69
Trenching Worker Trips	0.01	0.02	0.49	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.27

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 11/2/2021 - 11/21/2022 - Access Road and Bridge Erection

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 11/2/2021 - 11/22/2021 - Default Mass Site Grading

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Phase Assumptions

Phase: Demolition 10/12/2021 - 11/1/2021 - Default Demolition Description

Building Volume Total (cubic feet): 0

Building Volume Daily (cubic feet): 5350

On Road Truck Travel (VMT): 148.61

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Fine Grading 12/28/2021 - 5/30/2022 - Foundation

Total Acres Disturbed: 0

Maximum Daily Acreage Disturbed: 0

Fugitive Dust Level of Detail: Default

0 lbs per acre-day

On Road Truck Travel (VMT): 545.45

Off-Road Equipment:

1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day

2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day

2 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Generator Sets (549 hp) operating at a 0.74 load factor for 8 hours per day

1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

1 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day

1 Pumps (53 hp) operating at a 0.74 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day

1 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day

1 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 8 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
2 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 11/2/2021 - 11/21/2022 - Access Road and Bridge Erection
Total Acres Disturbed: 3
Maximum Daily Acreage Disturbed: 0.5
Fugitive Dust Level of Detail: Default
  20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day
1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Mass Grading 11/2/2021 - 11/22/2021 - Default Mass Site Grading
Total Acres Disturbed: 56
Maximum Daily Acreage Disturbed: 10
Fugitive Dust Level of Detail: Default
  20 lbs per acre-day
On Road Truck Travel (VMT): 3777.78
Off-Road Equipment:
1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
2 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
2 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day
2 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day
2 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 11/2/2021 - 4/24/2023 - Site Work (drainage, fencing, landscape
Off-Road Equipment:
2 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
1 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 8 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

1 Trenchers (63 hp) operating at a 0.75 load factor for 8 hours per day

Phase: Paving 2/7/2023 - 3/20/2023 - Default Paving Description
Acres to be Paved: 5
Off-Road Equipment:
2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
1 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 3/22/2022 - 2/27/2023 - Default Building Construction Description
Off-Road Equipment:
2 Aerial Lifts (60 hp) operating at a 0.46 load factor for 8 hours per day
2 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day
2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day
2 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
1 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
2 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
1 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day
1 Pumps (53 hp) operating at a 0.74 load factor for 8 hours per day
1 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day
1 Signal Boards (15 hp) operating at a 0.78 load factor for 8 hours per day
1 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 8 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
2 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Architectural Coating 10/11/2022 - 2/27/2023 - Default Architectural Coating Description
Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Urbemis 2007 Version 9.2.4

Detail Report for Summer Construction Mitigated Emissions (Pounds/Day)

Project Name: Disney Golden Oak Ranch-Phase I and II Construction Buildout Year 2014

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Mitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
Time Slice 11/19/2012-11/30/2012	3.16	26.79	14.25	0.00	2.60	1.24	3.84	0.54	1.14	1.69	3,134.73
Mass Grading 11/19/2012-	3.16	26.79	14.25	0.00	2.60	1.24	3.84	0.54	1.14	1.69	3,134.73
Mass Grading Dust	0.00	0.00	0.00	0.00	2.59	0.00	2.59	0.54	0.00	0.54	0.00
Mass Grading Off Road Diesel	3.13	26.72	13.07	0.00	0.00	1.24	1.24	0.00	1.14	1.14	2,979.36
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.04	0.07	1.18	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.37
Time Slice 12/3/2012-12/14/2012	6.05	50.71	27.85	0.01	4.86	2.47	7.33	1.02	2.27	3.28	6,315.33
Demolition 12/03/2012-12/28/2012	2.89	23.92	13.59	0.00	2.27	1.22	3.49	0.47	1.12	1.60	3,180.60
Fugitive Dust	0.00	0.00	0.00	0.00	2.25	0.00	2.25	0.47	0.00	0.47	0.00
Demo Off Road Diesel	2.68	21.93	11.41	0.00	0.00	1.14	1.14	0.00	1.05	1.05	2,679.22
Demo On Road Diesel	0.16	1.90	0.77	0.00	0.01	0.08	0.09	0.00	0.07	0.07	314.94
Demo Worker Trips	0.04	0.08	1.42	0.00	0.01	0.01	0.01	0.00	0.00	0.01	186.44
Mass Grading 11/19/2012-	3.16	26.79	14.25	0.00	2.60	1.24	3.84	0.54	1.14	1.69	3,134.73
Mass Grading Dust	0.00	0.00	0.00	0.00	2.59	0.00	2.59	0.54	0.00	0.54	0.00
Mass Grading Off Road Diesel	3.13	26.72	13.07	0.00	0.00	1.24	1.24	0.00	1.14	1.14	2,979.36
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.04	0.07	1.18	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.37
Time Slice 12/17/2012-12/28/2012	46.66	**491.88**	**219.83**	**0.56**	110.44	**21.39**	131.83	23.30	**19.67**	42.97	**74,727.38**
Demolition 12/03/2012-12/28/2012	2.89	23.92	13.59	0.00	2.27	1.22	3.49	0.47	1.12	1.60	3,180.60
Fugitive Dust	0.00	0.00	0.00	0.00	2.25	0.00	2.25	0.47	0.00	0.47	0.00
Demo Off Road Diesel	2.68	21.93	11.41	0.00	0.00	1.14	1.14	0.00	1.05	1.05	2,679.22
Demo On Road Diesel	0.16	1.90	0.77	0.00	0.01	0.08	0.09	0.00	0.07	0.07	314.94
Demo Worker Trips	0.04	0.08	1.42	0.00	0.01	0.01	0.01	0.00	0.00	0.01	186.44
Mass Grading 11/19/2012-	3.16	26.79	14.25	0.00	2.60	1.24	3.84	0.54	1.14	1.69	3,134.73
Mass Grading Dust	0.00	0.00	0.00	0.00	2.59	0.00	2.59	0.54	0.00	0.54	0.00
Mass Grading Off Road Diesel	3.13	26.72	13.07	0.00	0.00	1.24	1.24	0.00	1.14	1.14	2,979.36
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mass Grading Worker Trips	0.04	0.07	1.18	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.37
Mass Grading 12/17/2012-	40.61	441.17	191.99	0.55	105.58	18.92	124.50	22.28	17.41	39.69	68,412.05
Mass Grading Dust	0.00	0.00	0.00	0.00	103.62	0.00	103.62	21.64	0.00	21.64	0.00
Mass Grading Off Road Diesel	10.88	89.32	45.77	0.00	0.00	4.55	4.55	0.00	4.19	4.19	9,741.63
Mass Grading On Road Diesel	29.61	351.62	142.20	0.54	1.93	14.35	16.29	0.63	13.20	13.84	58,142.17
Mass Grading Worker Trips	0.12	0.23	4.02	0.01	0.02	0.01	0.04	0.01	0.01	0.02	528.25
Time Slice 12/31/2012-12/31/2012	43.77	467.96	206.24	0.55	108.18	20.16	128.34	22.83	18.55	41.38	71,546.78
Mass Grading 11/19/2012-	3.16	26.79	14.25	0.00	2.60	1.24	3.84	0.54	1.14	1.69	3,134.73
Mass Grading Dust	0.00	0.00	0.00	0.00	2.59	0.00	2.59	0.54	0.00	0.54	0.00
Mass Grading Off Road Diesel	3.13	26.72	13.07	0.00	0.00	1.24	1.24	0.00	1.14	1.14	2,979.36
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.04	0.07	1.18	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.37
Mass Grading 12/17/2012-	40.61	441.17	191.99	0.55	105.58	18.92	124.50	22.28	17.41	39.69	68,412.05
Mass Grading Dust	0.00	0.00	0.00	0.00	103.62	0.00	103.62	21.64	0.00	21.64	0.00
Mass Grading Off Road Diesel	10.88	89.32	45.77	0.00	0.00	4.55	4.55	0.00	4.19	4.19	9,741.63
Mass Grading On Road Diesel	29.61	351.62	142.20	0.54	1.93	14.35	16.29	0.63	13.20	13.84	58,142.17
Mass Grading Worker Trips	0.12	0.23	4.02	0.01	0.02	0.01	0.04	0.01	0.01	0.02	528.25
Time Slice 1/1/2013-3/1/2013 Active	40.29	419.88	188.21	0.55	108.18	17.79	125.97	22.83	16.36	39.19	71,546.69
Mass Grading 11/19/2012-	3.00	25.01	13.72	0.00	2.60	1.14	3.73	0.54	1.04	1.59	3,134.71
Mass Grading Dust	0.00	0.00	0.00	0.00	2.59	0.00	2.59	0.54	0.00	0.54	0.00
Mass Grading Off Road Diesel	2.97	24.94	12.62	0.00	0.00	1.13	1.13	0.00	1.04	1.04	2,979.36
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.06	1.10	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.35
Mass Grading 12/17/2012-	37.29	394.87	174.49	0.55	105.58	16.65	122.23	22.28	15.32	37.60	68,411.98
Mass Grading Dust	0.00	0.00	0.00	0.00	103.62	0.00	103.62	21.64	0.00	21.64	0.00
Mass Grading Off Road Diesel	10.31	83.41	44.60	0.00	0.00	4.19	4.19	0.00	3.86	3.86	9,741.63
Mass Grading On Road Diesel	26.86	311.25	126.15	0.54	1.93	12.45	14.38	0.63	11.45	12.09	58,142.17
Mass Grading Worker Trips	0.11	0.21	3.74	0.01	0.02	0.01	0.04	0.01	0.01	0.02	528.18
Time Slice 3/4/2013-5/17/2013 Active	37.29	394.87	174.49	0.55	105.58	16.65	122.23	22.28	15.32	37.60	68,411.98
Mass Grading 12/17/2012-	37.29	394.87	174.49	0.55	105.58	16.65	122.23	22.28	15.32	37.60	68,411.98
Mass Grading Dust	0.00	0.00	0.00	0.00	103.62	0.00	103.62	21.64	0.00	21.64	0.00
Mass Grading Off Road Diesel	10.31	83.41	44.60	0.00	0.00	4.19	4.19	0.00	3.86	3.86	9,741.63
Mass Grading On Road Diesel	26.86	311.25	126.15	0.54	1.93	12.45	14.38	0.63	11.45	12.09	58,142.17
Mass Grading Worker Trips	0.11	0.21	3.74	0.01	0.02	0.01	0.04	0.01	0.01	0.02	528.18
Time Slice 5/20/2013-5/24/2013 Active	40.12	416.95	187.10	0.55	105.59	17.86	123.45	22.29	16.43	38.72	71,153.31
Mass Grading 12/17/2012-	37.29	394.87	174.49	0.55	105.58	16.65	122.23	22.28	15.32	37.60	68,411.98
Mass Grading Dust	0.00	0.00	0.00	0.00	103.62	0.00	103.62	21.64	0.00	21.64	0.00
Mass Grading Off Road Diesel	10.31	83.41	44.60	0.00	0.00	4.19	4.19	0.00	3.86	3.86	9,741.63
Mass Grading On Road Diesel	26.86	311.25	126.15	0.54	1.93	12.45	14.38	0.63	11.45	12.09	58,142.17
Mass Grading Worker Trips	0.11	0.21	3.74	0.01	0.02	0.01	0.04	0.01	0.01	0.02	528.18
Trenching 05/20/2013-04/18/2014	2.83	22.07	12.61	0.00	0.01	1.21	1.22	0.00	1.11	1.11	2,741.33
Trenching Off Road Diesel	2.79	21.99	11.07	0.00	0.00	1.20	1.20	0.00	1.10	1.10	2,523.84

Trenching Worker Trips	0.05	0.09	1.54	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.49
Time Slice 5/27/2013-6/14/2013 Active	41.80	428.07	194.64	0.55	105.60	18.54	124.13	22.29	17.05	39.34	72,662.71
Mass Grading 12/17/2012-	37.29	394.87	174.49	0.55	105.58	16.65	122.23	22.28	15.32	37.60	68,411.98
Mass Grading Dust	0.00	0.00	0.00	0.00	103.62	0.00	103.62	21.64	0.00	21.64	0.00
Mass Grading Off Road Diesel	10.31	83.41	44.60	0.00	0.00	4.19	4.19	0.00	3.86	3.86	9,741.63
Mass Grading On Road Diesel	26.86	311.25	126.15	0.54	1.93	12.45	14.38	0.63	11.45	12.09	58,142.17
Mass Grading Worker Trips	0.11	0.21	3.74	0.01	0.02	0.01	0.04	0.01	0.01	0.02	528.18
Trenching 05/20/2013-04/18/2014	2.83	22.07	12.61	0.00	0.01	1.21	1.22	0.00	1.11	1.11	2,741.33
Trenching Off Road Diesel	2.79	21.99	11.07	0.00	0.00	1.20	1.20	0.00	1.10	1.10	2,523.84
Trenching Worker Trips	0.05	0.09	1.54	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.49
Trenching 05/27/2013-02/27/2015	1.68	11.13	7.54	0.00	0.01	0.68	0.69	0.00	0.62	0.63	1,509.40
Trenching Off Road Diesel	1.65	11.06	6.44	0.00	0.00	0.67	0.67	0.00	0.62	0.62	1,354.05
Trenching Worker Trips	0.03	0.06	1.10	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.35
Time Slice 6/17/2013-8/23/2013 Active	4.52	33.20	20.15	0.00	0.02	1.88	1.90	0.01	1.73	1.74	4,250.73
Trenching 05/20/2013-04/18/2014	2.83	22.07	12.61	0.00	0.01	1.21	1.22	0.00	1.11	1.11	2,741.33
Trenching Off Road Diesel	2.79	21.99	11.07	0.00	0.00	1.20	1.20	0.00	1.10	1.10	2,523.84
Trenching Worker Trips	0.05	0.09	1.54	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.49
Trenching 05/27/2013-02/27/2015	1.68	11.13	7.54	0.00	0.01	0.68	0.69	0.00	0.62	0.63	1,509.40
Trenching Off Road Diesel	1.65	11.06	6.44	0.00	0.00	0.67	0.67	0.00	0.62	0.62	1,354.05
Trenching Worker Trips	0.03	0.06	1.10	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.35
Time Slice 8/26/2013-11/15/2013	20.50	176.80	92.93	0.05	0.20	8.26	8.46	0.07	7.60	7.66	26,677.65
Fine Grading 08/26/2013-04/25/2014	15.98	143.60	72.78	0.05	0.19	6.38	6.56	0.06	5.86	5.93	22,426.92
Fine Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	13.82	120.52	56.77	0.00	0.00	5.44	5.44	0.00	5.01	5.01	17,225.36
Fine Grading On Road Diesel	1.96	22.69	9.20	0.04	0.14	0.91	1.05	0.05	0.83	0.88	4,238.40
Fine Grading Worker Trips	0.20	0.39	6.82	0.01	0.05	0.03	0.07	0.02	0.02	0.04	963.16
Trenching 05/20/2013-04/18/2014	2.83	22.07	12.61	0.00	0.01	1.21	1.22	0.00	1.11	1.11	2,741.33
Trenching Off Road Diesel	2.79	21.99	11.07	0.00	0.00	1.20	1.20	0.00	1.10	1.10	2,523.84
Trenching Worker Trips	0.05	0.09	1.54	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.49
Trenching 05/27/2013-02/27/2015	1.68	11.13	7.54	0.00	0.01	0.68	0.69	0.00	0.62	0.63	1,509.40
Trenching Off Road Diesel	1.65	11.06	6.44	0.00	0.00	0.67	0.67	0.00	0.62	0.62	1,354.05
Trenching Worker Trips	0.03	0.06	1.10	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.35
Time Slice 11/18/2013-12/31/2013	35.78	276.45	201.67	0.19	0.74	14.05	14.79	0.26	12.91	13.16	47,949.52
Building 11/18/2013-11/14/2014	15.28	99.65	108.74	0.13	0.53	5.79	6.33	0.19	5.31	5.50	21,271.86
Building Off Road Diesel	11.13	66.96	42.72	0.00	0.00	4.38	4.38	0.00	4.03	4.03	7,998.83
Building Vendor Trips	2.90	30.31	24.12	0.07	0.25	1.26	1.51	0.09	1.15	1.24	7,356.23
Building Worker Trips	1.25	2.38	41.89	0.06	0.28	0.16	0.44	0.10	0.14	0.24	5,916.81
Fine Grading 08/26/2013-04/25/2014	15.98	143.60	72.78	0.05	0.19	6.38	6.56	0.06	5.86	5.93	22,426.92
Fine Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	13.82	120.52	56.77	0.00	0.00	5.44	5.44	0.00	5.01	5.01	17,225.36
Fine Grading On Road Diesel	1.96	22.69	9.20	0.04	0.14	0.91	1.05	0.05	0.83	0.88	4,238.40
Fine Grading Worker Trips	0.20	0.39	6.82	0.01	0.05	0.03	0.07	0.02	0.02	0.04	963.16

Trenching 05/20/2013-04/18/2014	2.83	22.07	12.61	0.00	0.01	1.21	1.22	0.00	1.11	1.11	2,741.33
Trenching Off Road Diesel	2.79	21.99	11.07	0.00	0.00	1.20	1.20	0.00	1.10	1.10	2,523.84
Trenching Worker Trips	0.05	0.09	1.54	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.49
Trenching 05/27/2013-02/27/2015	1.68	11.13	7.54	0.00	0.01	0.68	0.69	0.00	0.62	0.63	1,509.40
Trenching Off Road Diesel	1.65	11.06	6.44	0.00	0.00	0.67	0.67	0.00	0.62	0.62	1,354.05
Trenching Worker Trips	0.03	0.06	1.10	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.35
Time Slice 1/1/2014-4/18/2014 Active	33.01	251.29	192.55	0.19	0.74	12.48	13.22	0.26	11.46	11.72	47,948.75
Building 11/18/2013-11/14/2014	14.02	91.17	103.04	0.13	0.53	5.18	5.72	0.19	4.75	4.94	21,271.24
Building Off Road Diesel	10.25	62.30	41.78	0.00	0.00	3.92	3.92	0.00	3.60	3.60	7,998.83
Building Vendor Trips	2.62	26.68	22.15	0.07	0.25	1.10	1.35	0.09	1.00	1.09	7,356.23
Building Worker Trips	1.15	2.19	39.11	0.06	0.28	0.17	0.45	0.10	0.14	0.24	5,916.18
Fine Grading 08/26/2013-04/25/2014	14.81	129.46	69.94	0.05	0.19	5.62	5.80	0.06	5.17	5.23	22,426.82
Fine Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	12.86	109.18	55.48	0.00	0.00	4.81	4.81	0.00	4.43	4.43	17,225.36
Fine Grading On Road Diesel	1.76	19.92	8.09	0.04	0.14	0.78	0.92	0.05	0.72	0.76	4,238.40
Fine Grading Worker Trips	0.19	0.36	6.37	0.01	0.05	0.03	0.07	0.02	0.02	0.04	963.06
Trenching 05/20/2013-04/18/2014	2.63	20.36	12.25	0.00	0.01	1.07	1.08	0.00	0.99	0.99	2,741.30
Trenching Off Road Diesel	2.59	20.28	10.81	0.00	0.00	1.07	1.07	0.00	0.98	0.98	2,523.84
Trenching Worker Trips	0.04	0.08	1.44	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.46
Trenching 05/27/2013-02/27/2015	1.55	10.30	7.31	0.00	0.01	0.61	0.61	0.00	0.56	0.56	1,509.39
Trenching Off Road Diesel	1.52	10.24	6.29	0.00	0.00	0.60	0.60	0.00	0.55	0.55	1,354.05
Trenching Worker Trips	0.03	0.06	1.03	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33
Time Slice 4/21/2014-4/25/2014 Active	30.38	230.93	180.30	0.18	0.73	11.41	12.13	0.25	10.47	10.73	45,207.44
Building 11/18/2013-11/14/2014	14.02	91.17	103.04	0.13	0.53	5.18	5.72	0.19	4.75	4.94	21,271.24
Building Off Road Diesel	10.25	62.30	41.78	0.00	0.00	3.92	3.92	0.00	3.60	3.60	7,998.83
Building Vendor Trips	2.62	26.68	22.15	0.07	0.25	1.10	1.35	0.09	1.00	1.09	7,356.23
Building Worker Trips	1.15	2.19	39.11	0.06	0.28	0.17	0.45	0.10	0.14	0.24	5,916.18
Fine Grading 08/26/2013-04/25/2014	14.81	129.46	69.94	0.05	0.19	5.62	5.80	0.06	5.17	5.23	22,426.82
Fine Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	12.86	109.18	55.48	0.00	0.00	4.81	4.81	0.00	4.43	4.43	17,225.36
Fine Grading On Road Diesel	1.76	19.92	8.09	0.04	0.14	0.78	0.92	0.05	0.72	0.76	4,238.40
Fine Grading Worker Trips	0.19	0.36	6.37	0.01	0.05	0.03	0.07	0.02	0.02	0.04	963.06
Trenching 05/27/2013-02/27/2015	1.55	10.30	7.31	0.00	0.01	0.61	0.61	0.00	0.56	0.56	1,509.39
Trenching Off Road Diesel	1.52	10.24	6.29	0.00	0.00	0.60	0.60	0.00	0.55	0.55	1,354.05
Trenching Worker Trips	0.03	0.06	1.03	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33
Time Slice 4/28/2014-5/16/2014 Active	15.57	101.47	110.35	0.13	0.54	5.79	6.33	0.19	5.31	5.50	22,780.62
Building 11/18/2013-11/14/2014	14.02	91.17	103.04	0.13	0.53	5.18	5.72	0.19	4.75	4.94	21,271.24
Building Off Road Diesel	10.25	62.30	41.78	0.00	0.00	3.92	3.92	0.00	3.60	3.60	7,998.83
Building Vendor Trips	2.62	26.68	22.15	0.07	0.25	1.10	1.35	0.09	1.00	1.09	7,356.23
Building Worker Trips	1.15	2.19	39.11	0.06	0.28	0.17	0.45	0.10	0.14	0.24	5,916.18
Trenching 05/27/2013-02/27/2015	1.55	10.30	7.31	0.00	0.01	0.61	0.61	0.00	0.56	0.56	1,509.39
Trenching Off Road Diesel	1.52	10.24	6.29	0.00	0.00	0.60	0.60	0.00	0.55	0.55	1,354.05

Trenching Worker Trips	0.03	0.06	1.03	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33
Time Slice 5/19/2014-10/3/2014 Active	116.95	101.53	111.33	0.14	0.55	5.79	6.34	0.19	5.31	5.50	22,928.83
Building 11/18/2013-11/14/2014	14.02	91.17	103.04	0.13	0.53	5.18	5.72	0.19	4.75	4.94	21,271.24
Building Off Road Diesel	10.25	62.30	41.78	0.00	0.00	3.92	3.92	0.00	3.60	3.60	7,998.83
Building Vendor Trips	2.62	26.68	22.15	0.07	0.25	1.10	1.35	0.09	1.00	1.09	7,356.23
Building Worker Trips	1.15	2.19	39.11	0.06	0.28	0.17	0.45	0.10	0.14	0.24	5,916.18
Coating 05/19/2014-11/14/2014	101.38	0.05	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.01	148.21
Architectural Coating	101.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.01	148.21
Trenching 05/27/2013-02/27/2015	1.55	10.30	7.31	0.00	0.01	0.61	0.61	0.00	0.56	0.56	1,509.39
Trenching Off Road Diesel	1.52	10.24	6.29	0.00	0.00	0.60	0.60	0.00	0.55	0.55	1,354.05
Trenching Worker Trips	0.03	0.06	1.03	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33
Time Slice 10/6/2014-11/14/2014	**119.59**	116.74	123.31	0.14	0.57	7.03	7.59	0.20	6.45	6.64	24,743.91
Asphalt 10/06/2014-01/02/2015	2.64	15.22	11.98	0.00	0.02	1.24	1.25	0.01	1.14	1.14	1,815.07
Paving Off-Gas	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.56	9.90	0.00	0.00	1.21	1.21	0.00	1.11	1.11	1,418.44
Paving On Road Diesel	0.05	0.55	0.22	0.00	0.00	0.02	0.03	0.00	0.02	0.02	117.03
Paving Worker Trips	0.05	0.10	1.85	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.60
Building 11/18/2013-11/14/2014	14.02	91.17	103.04	0.13	0.53	5.18	5.72	0.19	4.75	4.94	21,271.24
Building Off Road Diesel	10.25	62.30	41.78	0.00	0.00	3.92	3.92	0.00	3.60	3.60	7,998.83
Building Vendor Trips	2.62	26.68	22.15	0.07	0.25	1.10	1.35	0.09	1.00	1.09	7,356.23
Building Worker Trips	1.15	2.19	39.11	0.06	0.28	0.17	0.45	0.10	0.14	0.24	5,916.18
Coating 05/19/2014-11/14/2014	101.38	0.05	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.01	148.21
Architectural Coating	101.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.01	148.21
Trenching 05/27/2013-02/27/2015	1.55	10.30	7.31	0.00	0.01	0.61	0.61	0.00	0.56	0.56	1,509.39
Trenching Off Road Diesel	1.52	10.24	6.29	0.00	0.00	0.60	0.60	0.00	0.55	0.55	1,354.05
Trenching Worker Trips	0.03	0.06	1.03	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33
Time Slice 11/17/2014-12/31/2014	4.19	25.51	19.29	0.01	0.02	1.84	1.87	0.01	1.69	1.70	3,324.46
Asphalt 10/06/2014-01/02/2015	2.64	15.22	11.98	0.00	0.02	1.24	1.25	0.01	1.14	1.14	1,815.07
Paving Off-Gas	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.56	9.90	0.00	0.00	1.21	1.21	0.00	1.11	1.11	1,418.44
Paving On Road Diesel	0.05	0.55	0.22	0.00	0.00	0.02	0.03	0.00	0.02	0.02	117.03
Paving Worker Trips	0.05	0.10	1.85	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.60
Trenching 05/27/2013-02/27/2015	1.55	10.30	7.31	0.00	0.01	0.61	0.61	0.00	0.56	0.56	1,509.39
Trenching Off Road Diesel	1.52	10.24	6.29	0.00	0.00	0.60	0.60	0.00	0.55	0.55	1,354.05
Trenching Worker Trips	0.03	0.06	1.03	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.33
Time Slice 1/1/2015-1/2/2015 Active	3.91	23.72	18.88	0.01	0.02	1.69	1.72	0.01	1.56	1.56	3,324.42
Asphalt 10/06/2014-01/02/2015	2.49	14.22	11.74	0.00	0.02	1.14	1.16	0.01	1.05	1.05	1,815.05
Paving Off-Gas	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.20	13.65	9.82	0.00	0.00	1.11	1.11	0.00	1.02	1.02	1,418.44
Paving On Road Diesel	0.04	0.48	0.20	0.00	0.00	0.02	0.02	0.00	0.02	0.02	117.03

Paving Worker Trips	0.05	0.10	1.72	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.57
Trenching 05/27/2013-02/27/2015	1.42	9.49	7.14	0.00	0.01	0.55	0.56	0.00	0.51	0.51	1,509.37
Trenching Off Road Diesel	1.39	9.44	6.18	0.00	0.00	0.55	0.55	0.00	0.50	0.50	1,354.05
Trenching Worker Trips	0.03	0.05	0.96	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.32
Time Slice 1/5/2015-2/27/2015 Active	1.42	9.49	7.14	0.00	0.01	0.55	0.56	0.00	0.51	0.51	1,509.37
Trenching 05/27/2013-02/27/2015	1.42	9.49	7.14	0.00	0.01	0.55	0.56	0.00	0.51	0.51	1,509.37
Trenching Off Road Diesel	1.39	9.44	6.18	0.00	0.00	0.55	0.55	0.00	0.50	0.50	1,354.05
Trenching Worker Trips	0.03	0.05	0.96	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.32

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 11/19/2012 - 3/1/2013 - Site Access Road and Retaining Wall

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 12/17/2012 - 6/14/2013 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Phase Assumptions

Phase: Demolition 12/3/2012 - 12/28/2012 - Default Demolition Description

Building Volume Total (cubic feet): 0

Building Volume Daily (cubic feet): 5350

On Road Truck Travel (VMT): 74.31

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Fine Grading 8/26/2013 - 4/25/2014 - Foundation

Total Acres Disturbed: 0

Maximum Daily Acreage Disturbed: 0

Fugitive Dust Level of Detail: Default

0 lbs per acre-day

On Road Truck Travel (VMT): 1000

Off-Road Equipment:

2 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day

3 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day

3 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
2 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day
2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
2 Generator Sets (549 hp) operating at a 0.74 load factor for 8 hours per day
2 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
2 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day
2 Pumps (53 hp) operating at a 0.74 load factor for 8 hours per day
2 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day
1 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day
1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day
1 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 8 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 11/19/2012 - 3/1/2013 - Site Access Road and Retaining Wall
Total Acres Disturbed: 1
Maximum Daily Acreage Disturbed: 0.25
Fugitive Dust Level of Detail: Default
  20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 12/17/2012 - 6/14/2013 - Default Mass Site Grading/Excavation Description
Total Acres Disturbed: 56
Maximum Daily Acreage Disturbed: 10
Fugitive Dust Level of Detail: Default
  20 lbs per acre-day
On Road Truck Travel (VMT): 13717.95
Off-Road Equipment:
2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
2 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

1 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 8 hours per day
2 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day
2 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day
2 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day
2 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 5/20/2013 - 4/18/2014 - Central Plant
Off-Road Equipment:
1 Aerial Lifts (60 hp) operating at a 0.46 load factor for 8 hours per day
2 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day
1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day
1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Trenching 5/27/2013 - 2/27/2015 - Site Work (drainage, fencing, landscape
Off-Road Equipment:
1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
2 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 8 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day
1 Trenchers (63 hp) operating at a 0.75 load factor for 8 hours per day

Phase: Paving 10/6/2014 - 1/2/2015 - Default Paving Description
Acres to be Paved: 5
Off-Road Equipment:
4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 11/18/2013 - 11/14/2014 - Default Building Construction Description
Off-Road Equipment:
2 Aerial Lifts (60 hp) operating at a 0.46 load factor for 8 hours per day
3 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day
2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day

3 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
2 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
3 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
2 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
2 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day
2 Pumps (53 hp) operating at a 0.74 load factor for 8 hours per day
2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day
2 Signal Boards (15 hp) operating at a 0.78 load factor for 8 hours per day
2 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 8 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Architectural Coating 5/19/2014 - 11/14/2014 - Default Architectural Coating Description
Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Golden Oak Ranch
Offsite Utility Construction
URBEMIS Output

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6/6/2011 12:55:43 PM

Urbemis 2007 Version 9.2.4

Detail Report for Summer Construction Mitigated Emissions (Pounds/Day)

File Name: C:\Dropbox\Projects\Golden Oak Ranch\Construction Revised for Night Haul\URBEMIS\Offsite Utility Revised.urb924

Project Name: Dinsey Golden Oaks Ranch Utilities Improvements

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Mitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
Time Slice 5/27/2013-6/13/2013	3.09	25.05	16.13	0.02	1.78	1.40	3.18	0.38	1.28	1.66	3,657.18
Demolition 05/27/2013-12/27/2014	1.04	7.42	5.58	0.00	0.95	0.50	1.46	0.20	0.46	0.66	953.15
Fugitive Dust	**0.00**	**0.00**	**0.00**	**0.00**	**0.95**	**0.00**	**0.95**	**0.20**	**0.00**	**0.20**	**0.00**
Demo Off Road Diesel	**0.96**	**6.67**	**4.63**	**0.00**	**0.00**	**0.47**	**0.47**	**0.00**	**0.43**	**0.43**	**727.49**
Demo On Road Diesel	0.06	0.71	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	132.45
Demo Worker Trips	0.02	0.04	0.66	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.21
Mass Grading 05/27/2013-	2.04	17.64	10.55	0.01	0.83	0.89	1.72	0.18	0.82	1.00	2,704.03
Mass Grading Dust	**0.00**	**0.00**	**0.00**	**0.00**	**0.78**	**0.00**	**0.78**	**0.16**	**0.00**	**0.16**	**0.00**
Mass Grading Off Road Diesel	**1.42**	**10.66**	**6.86**	**0.00**	**0.00**	**0.61**	**0.61**	**0.00**	**0.56**	**0.56**	**1,285.36**
Mass Grading On Road Diesel	0.60	6.93	2.81	0.01	0.04	0.28	0.32	0.01	0.25	0.27	1,294.40
Mass Grading Worker Trips	0.03	0.05	0.88	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.28
Time Slice 6/14/2013-8/26/2013	4.04	30.53	20.52	0.02	1.78	1.77	3.56	0.38	1.63	2.01	4,329.11
Building 06/14/2013-02/27/2014	0.95	5.47	4.40	0.00	0.00	0.38	0.38	0.00	0.35	0.35	671.93
Building Off Road Diesel	**0.94**	**5.42**	**4.12**	**0.00**	**0.00**	**0.38**	**0.38**	**0.00**	**0.35**	**0.35**	**627.92**
Building Vendor Trips	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.01
Building Worker Trips	0.01	0.01	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.00
Demolition 05/27/2013-12/27/2014	1.04	7.42	5.58	0.00	0.95	0.50	1.46	0.20	0.46	0.66	953.15
Fugitive Dust	**0.00**	**0.00**	**0.00**	**0.00**	**0.95**	**0.00**	**0.95**	**0.20**	**0.00**	**0.20**	**0.00**
Demo Off Road Diesel	**0.96**	**6.67**	**4.63**	**0.00**	**0.00**	**0.47**	**0.47**	**0.00**	**0.43**	**0.43**	**727.49**
Demo On Road Diesel	0.06	0.71	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	132.45
Demo Worker Trips	0.02	0.04	0.66	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.21
Mass Grading 05/27/2013-	2.04	17.64	10.55	0.01	0.83	0.89	1.72	0.18	0.82	1.00	2,704.03
Mass Grading Dust	**0.00**	**0.00**	**0.00**	**0.00**	**0.78**	**0.00**	**0.78**	**0.16**	**0.00**	**0.16**	**0.00**

Mass Grading Off Road Diesel	**1.42**	**10.66**	**6.86**	**0.00**	**0.00**	**0.61**	**0.61**	**0.00**	**0.56**	**0.56**	**1,285.36**
Mass Grading On Road Diesel	0.60	6.93	2.81	0.01	0.04	0.28	0.32	0.01	0.25	0.27	1,294.40
Mass Grading Worker Trips	0.03	0.05	0.88	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.28
Time Slice 8/27/2013-12/26/2013	4.62	33.67	23.28	0.02	1.79	2.04	3.83	0.38	1.87	2.25	4,743.51
Asphalt 08/27/2013-02/27/2014	0.58	3.15	2.76	0.00	0.01	0.26	0.27	0.00	0.24	0.24	414.41
Paving Off-Gas	**0.07**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Paving Off Road Diesel	**0.47**	**2.90**	**1.80**	**0.00**	**0.00**	**0.25**	**0.25**	**0.00**	**0.23**	**0.23**	**252.03**
Paving On Road Diesel	0.02	0.20	0.08	0.00	0.00	0.01	0.01	0.00	0.01	0.01	38.09
Paving Worker Trips	0.03	0.05	0.88	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.28
Building 06/14/2013-02/27/2014	0.95	5.47	4.40	0.00	0.00	0.38	0.38	0.00	0.35	0.35	671.93
Building Off Road Diesel	**0.94**	**5.42**	**4.12**	**0.00**	**0.00**	**0.38**	**0.38**	**0.00**	**0.35**	**0.35**	**627.92**
Building Vendor Trips	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.01
Building Worker Trips	0.01	0.01	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.00
Demolition 05/27/2013-12/27/2014	1.04	7.42	5.58	0.00	0.95	0.50	1.46	0.20	0.46	0.66	953.15
Fugitive Dust	**0.00**	**0.00**	**0.00**	**0.00**	**0.95**	**0.00**	**0.95**	**0.20**	**0.00**	**0.20**	**0.00**
Demo Off Road Diesel	**0.96**	**6.67**	**4.63**	**0.00**	**0.00**	**0.47**	**0.47**	**0.00**	**0.43**	**0.43**	**727.49**
Demo On Road Diesel	0.06	0.71	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	132.45
Demo Worker Trips	0.02	0.04	0.66	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.21
Mass Grading 05/27/2013-	2.04	17.64	10.55	0.01	0.83	0.89	1.72	0.18	0.82	1.00	2,704.03
Mass Grading Dust	**0.00**	**0.00**	**0.00**	**0.00**	**0.78**	**0.00**	**0.78**	**0.16**	**0.00**	**0.16**	**0.00**
Mass Grading Off Road Diesel	**1.42**	**10.66**	**6.86**	**0.00**	**0.00**	**0.61**	**0.61**	**0.00**	**0.56**	**0.56**	**1,285.36**
Mass Grading On Road Diesel	0.60	6.93	2.81	0.01	0.04	0.28	0.32	0.01	0.25	0.27	1,294.40
Mass Grading Worker Trips	0.03	0.05	0.88	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.28
Time Slice 12/27/2013-12/31/2013	**6.71**	**33.68**	**23.30**	**0.02**	1.79	**2.04**	3.83	0.38	**1.87**	2.25	**4,746.55**
Asphalt 08/27/2013-02/27/2014	0.58	3.15	2.76	0.00	0.01	0.26	0.27	0.00	0.24	0.24	414.41
Paving Off-Gas	**0.07**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Paving Off Road Diesel	**0.47**	**2.90**	**1.80**	**0.00**	**0.00**	**0.25**	**0.25**	**0.00**	**0.23**	**0.23**	**252.03**
Paving On Road Diesel	0.02	0.20	0.08	0.00	0.00	0.01	0.01	0.00	0.01	0.01	38.09
Paving Worker Trips	0.03	0.05	0.88	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.28
Building 06/14/2013-02/27/2014	0.95	5.47	4.40	0.00	0.00	0.38	0.38	0.00	0.35	0.35	671.93
Building Off Road Diesel	**0.94**	**5.42**	**4.12**	**0.00**	**0.00**	**0.38**	**0.38**	**0.00**	**0.35**	**0.35**	**627.92**
Building Vendor Trips	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.01
Building Worker Trips	0.01	0.01	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.00
Coating 12/27/2013-02/27/2014	2.10	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.04
Architectural Coating	**2.09**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.04
Demolition 05/27/2013-12/27/2014	1.04	7.42	5.58	0.00	0.95	0.50	1.46	0.20	0.46	0.66	953.15
Fugitive Dust	**0.00**	**0.00**	**0.00**	**0.00**	**0.95**	**0.00**	**0.95**	**0.20**	**0.00**	**0.20**	**0.00**

Demo Off Road Diesel	**0.96**	**6.67**	**4.63**	**0.00**	**0.00**	**0.47**	**0.47**	**0.00**	**0.43**	**0.43**	**727.49**
Demo On Road Diesel	0.06	0.71	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	132.45
Demo Worker Trips	0.02	0.04	0.66	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.21
Mass Grading 05/27/2013-	2.04	17.64	10.55	0.01	0.83	0.89	1.72	0.18	0.82	1.00	2,704.03
Mass Grading Dust	**0.00**	**0.00**	**0.00**	**0.00**	**0.78**	**0.00**	**0.78**	**0.16**	**0.00**	**0.16**	**0.00**
Mass Grading Off Road Diesel	**1.42**	**10.66**	**6.86**	**0.00**	**0.00**	**0.61**	**0.61**	**0.00**	**0.56**	**0.56**	**1,285.36**
Mass Grading On Road Diesel	0.60	6.93	2.81	0.01	0.04	0.28	0.32	0.01	0.25	0.27	1,294.40
Mass Grading Worker Trips	0.03	0.05	0.88	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.28
Time Slice 1/1/2014-1/27/2014 Active	6.39	31.00	22.62	**0.02**	1.79	1.82	3.62	0.38	1.68	2.06	4,746.51
Asphalt 08/27/2013-02/27/2014	0.55	2.97	2.68	0.00	0.01	0.24	0.25	0.00	0.22	0.23	414.39
Paving Off-Gas	**0.07**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Paving Off Road Diesel	**0.45**	**2.75**	**1.78**	**0.00**	**0.00**	**0.23**	**0.23**	**0.00**	**0.22**	**0.22**	**252.03**
Paving On Road Diesel	0.02	0.18	0.07	0.00	0.00	0.01	0.01	0.00	0.01	0.01	38.09
Paving Worker Trips	0.02	0.05	0.82	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Building 06/14/2013-02/27/2014	0.88	5.13	4.33	0.00	0.00	0.34	0.34	0.00	0.31	0.31	671.93
Building Off Road Diesel	**0.87**	**5.09**	**4.07**	**0.00**	**0.00**	**0.34**	**0.34**	**0.00**	**0.31**	**0.31**	**627.92**
Building Vendor Trips	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.01
Building Worker Trips	0.01	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.99
Coating 12/27/2013-02/27/2014	2.10	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.04
Architectural Coating	**2.09**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.04
Demolition 05/27/2013-12/27/2014	0.96	6.90	5.49	0.00	0.95	0.46	1.41	0.20	0.42	0.62	953.14
Fugitive Dust	**0.00**	**0.00**	**0.00**	**0.00**	**0.95**	**0.00**	**0.95**	**0.20**	**0.00**	**0.20**	**0.00**
Demo Off Road Diesel	**0.89**	**6.24**	**4.62**	**0.00**	**0.00**	**0.43**	**0.43**	**0.00**	**0.39**	**0.39**	**727.49**
Demo On Road Diesel	0.06	0.62	0.25	0.00	0.00	0.02	0.03	0.00	0.02	0.02	132.45
Demo Worker Trips	0.02	0.03	0.62	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.20
Mass Grading 05/27/2013-	1.89	15.99	10.11	0.01	0.83	0.79	1.61	0.18	0.72	0.90	2,704.02
Mass Grading Dust	**0.00**	**0.00**	**0.00**	**0.00**	**0.78**	**0.00**	**0.78**	**0.16**	**0.00**	**0.16**	**0.00**
Mass Grading Off Road Diesel	**1.33**	**9.86**	**6.82**	**0.00**	**0.00**	**0.54**	**0.54**	**0.00**	**0.50**	**0.50**	**1,285.36**
Mass Grading On Road Diesel	0.54	6.08	2.47	0.01	0.04	0.24	0.28	0.01	0.22	0.23	1,294.40
Mass Grading Worker Trips	0.02	0.05	0.82	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 1/28/2014-2/27/2014	4.49	15.01	12.51	0.00	0.96	1.04	2.00	0.20	0.95	1.16	2,042.49
Asphalt 08/27/2013-02/27/2014	0.55	2.97	2.68	0.00	0.01	0.24	0.25	0.00	0.22	0.23	414.39
Paving Off-Gas	**0.07**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Paving Off Road Diesel	**0.45**	**2.75**	**1.78**	**0.00**	**0.00**	**0.23**	**0.23**	**0.00**	**0.22**	**0.22**	**252.03**
Paving On Road Diesel	0.02	0.18	0.07	0.00	0.00	0.01	0.01	0.00	0.01	0.01	38.09
Paving Worker Trips	0.02	0.05	0.82	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Building 06/14/2013-02/27/2014	0.88	5.13	4.33	0.00	0.00	0.34	0.34	0.00	0.31	0.31	671.93

Building Off Road Diesel	**0.87**	**5.09**	**4.07**	**0.00**	**0.00**	**0.34**	**0.34**	**0.00**	**0.31**	**0.31**	**627.92**
Building Vendor Trips	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.01
Building Worker Trips	0.01	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.99
Coating 12/27/2013-02/27/2014	2.10	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.04
Architectural Coating	**2.09**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.04
Demolition 05/27/2013-12/27/2014	0.96	6.90	5.49	0.00	0.95	0.46	1.41	0.20	0.42	0.62	953.14
Fugitive Dust	**0.00**	**0.00**	**0.00**	**0.00**	**0.95**	**0.00**	**0.95**	**0.20**	**0.00**	**0.20**	**0.00**
Demo Off Road Diesel	**0.89**	**6.24**	**4.62**	**0.00**	**0.00**	**0.43**	**0.43**	**0.00**	**0.39**	**0.39**	**727.49**
Demo On Road Diesel	0.06	0.62	0.25	0.00	0.00	0.02	0.03	0.00	0.02	0.02	132.45
Demo Worker Trips	0.02	0.03	0.62	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.20
Time Slice 2/28/2014-12/26/2014	0.96	6.90	5.49	0.00	0.95	0.46	1.41	0.20	0.42	0.62	953.14
Demolition 05/27/2013-12/27/2014	0.96	6.90	5.49	0.00	0.95	0.46	1.41	0.20	0.42	0.62	953.14
Fugitive Dust	**0.00**	**0.00**	**0.00**	**0.00**	**0.95**	**0.00**	**0.95**	**0.20**	**0.00**	**0.20**	**0.00**
Demo Off Road Diesel	**0.89**	**6.24**	**4.62**	**0.00**	**0.00**	**0.43**	**0.43**	**0.00**	**0.39**	**0.39**	**727.49**
Demo On Road Diesel	0.06	0.62	0.25	0.00	0.00	0.02	0.03	0.00	0.02	0.02	132.45
Demo Worker Trips	0.02	0.03	0.62	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.20

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 5/27/2013 - 1/27/2014 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Phase Assumptions

Phase: Demolition 5/27/2013 - 12/27/2014 - Default Demolition Description

Building Volume Total (cubic feet): 0

Building Volume Daily (cubic feet): 2250

On Road Truck Travel (VMT): 31.25

Off-Road Equipment:

1 Air Compressors (106 hp) operating at a 0.48 load factor for 4 hours per day

1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Mass Grading 5/27/2013 - 1/27/2014 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 10.1
Maximum Daily Acreage Disturbed: 0.2
Fugitive Dust Level of Detail: Default
10 lbs per acre-day
On Road Truck Travel (VMT): 305.4
Off-Road Equipment:
1 Excavators (168 hp) operating at a 0.57 load factor for 6 hours per day
1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 4 hours per day

Phase: Paving 8/27/2013 - 2/27/2014 - Default Paving Description
Acres to be Paved: 3.33
Off-Road Equipment:
1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 2 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 2 hours per day
1 Paving Equipment (104 hp) operating at a 0.53 load factor for 2 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 2 hours per day

Phase: Building Construction 6/14/2013 - 2/27/2014 - Default Building Construction Description
Off-Road Equipment:
1 Air Compressors (106 hp) operating at a 0.48 load factor for 4 hours per day
1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 4 hours per day
1 Excavators (168 hp) operating at a 0.57 load factor for 6 hours per day
1 Welders (45 hp) operating at a 0.45 load factor for 6 hours per day

Phase: Architectural Coating 12/27/2013 - 2/27/2014 - Default Architectural Coating Description
Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Road Construction Emissions Model, Version 6.3.2

Emission Estimates for -> Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	3.2	13.3	26.3	11.1	1.1	10.0	3.1	1.0	2.1	3,167.9
Grading/Excavation	4.5	27.1	34.2	11.6	1.6	10.0	3.5	1.4	2.1	4,855.9
Drainage/Utilities/Sub-Grade	3.1	13.5	24.0	11.2	1.2	10.0	3.2	1.1	2.1	2,938.6
Paving	1.9	7.8	11.1	1.0	1.0	-	0.9	0.9	-	1,157.6
Maximum (pounds/day)	4.5	27.1	34.2	11.6	1.6	10.0	3.5	1.4	2.1	4,855.9
Total (tons/construction project)	0.0	0.2	0.3	0.1	0.0	0.1	0.0	0.0	0.0	38.6

Notes: Project Start Year -> 2014
Project Length (months) -> 1
Total Project Area (acres) -> 1
Maximum Area Disturbed/Day (acres) -> 1
Total Soil Imported/Exported (yd^3/day)-> 160

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	1.4	6.0	12.0	5.0	0.5	4.5	1.4	0.4	0.9	1,439.9
Grading/Excavation	2.0	12.3	15.6	5.3	0.7	4.5	1.6	0.6	0.9	2,207.2
Drainage/Utilities/Sub-Grade	1.4	6.1	10.9	5.1	0.6	4.5	1.5	0.5	0.9	1,335.7
Paving	0.9	3.6	5.0	0.4	0.4	-	0.4	0.4	-	526.2
Maximum (kilograms/day)	2.0	12.3	15.6	5.3	0.7	4.5	1.6	0.6	0.9	2,207.2
Total (megagrams/construction project)	0.0	0.2	0.3	0.1	0.0	0.1	0.0	0.0	0.0	35.0

Notes: Project Start Year -> 2014
Project Length (months) -> 1
Total Project Area (hectares) -> 0
Maximum Area Disturbed/Day (hectares) -> 0
Total Soil Imported/Exported ($meters^3$/day)-> 122

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sume of exhaust and fugitive dust emissions shown in columns K and L.

Road Construction Emissions Model
Data Entry Worksheet

Version 6.3.2

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells C10 through C25.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

Input Type		
Project Name		
Construction Start Year	2014	Enter a Year between 2005 and 2025 (inclusive)
Project Type	2	1 New Road Construction 2 Road Widening 3 Bridge/Overpass Construction
Project Construction Time	1.0	month
Predominant Soil/Site Type: Enter 1, 2, or 3	1	1. Sand Gravel 2. Weathered Rock-Earth 3. Blasted Rock
Project Length	0.1	miles
Total Project Area	1.0	acre
Maximum Area Disturbed/Day	1.0	acres
Water Trucks Used?	1	1. Yes 2. No
Soil Imported	80.0	yd^3/day
Soil Exported	80.0	yd^3/day
Average Truck Capacity	16.0	yd^3 (assume 20 if unknown)

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells C34 through C37.

Construction Periods	User Override of Construction Months	Program Calculated Months	2005	%	2006	%	2007	%
Grubbing/Land Clearing		0.10	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation		0.40	0.00	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade		0.35	0.00	0.00	0.00	0.00	0.00	0.00
Paving		0.15	0.00	0.00	0.00	0.00	0.00	0.00
Totals	0.00	1.00						

Hauling emission default values can be overridden in cells C45 through C46.

Soil Hauling Emissions	User Override of Soil Hauling Defaults	Default Values
User Input		
Miles/round trip		30
Round trips/day		10
Vehicle miles traveled/day (calculated)		300

Hauling Emissions	**ROG**	**NOx**	**CO**	**PM10**	**PM2.5**	**CO2**
Emission rate (grams/mile)	0.76	9.04	4.74	0.36	0.29	1880.47
Emission rate (grams/trip)	9.63	7.32	157.57	0.01	0.01	188.75
Pounds per day	0.9	6.3	10.1	0.2	0.2	1250.9
Tons per contruction period	0.00	0.03	0.04	0.00	0.00	5.50

Worker commute default values can be overridden in cells C60 through C65.

Worker Commute Emissions	User Override of Worker Commute Default Values	Default Values
Miles/ one-way trip		20
One-way trips/day		2
No. of employees: Grubbing/Land Clearing		3
No. of employees: Grading/Excavation		5
No. of employees: Drainage/Utilities/Sub-Grade		5
No. of employees: Paving		4

	ROG	**NOx**	**CO**	**PM10**	**PM2.5**	**CO2**
Emission rate - Grubbing/Land Clearing (grams/mile)	0.104	0.189	1.990	0.033	0.018	426.680
Emission rate - Grading/Excavation (grams/mile)	0.104	0.189	1.990	0.033	0.018	426.680
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.104	0.189	1.990	0.033	0.018	426.680
Emission rate - Paving (grams/mile)	0.104	0.189	1.990	0.033	0.018	426.680
Emission rate - Grubbing/Land Clearing (grams/trip)	0.687	0.289	6.716	0.140	0.013	193.100
Emission rate - Grading/Excavation (grams/trip)	0.687	0.289	6.716	0.140	0.013	193.100
Emission rate - Draining/Utilities/Sub-Grade (gr/trip)	0.687	0.289	6.716	0.140	0.013	193.100
Emission rate - Paving (grams/trip)	0.687	0.289	6.716	0.140	0.013	193.100
Pounds per day - Grubbing/Land Clearing	0.042	0.053	0.645	0.011	0.005	108.059
Tons per const. Period - Grub/Land Clear	0.000	0.000	0.001	0.000	0.000	0.119
Pounds per day - Grading/Excavation	0.042	0.053	0.645	0.011	0.005	108.059
Tons per const. Period - Grading/Excavation	0.000	0.000	0.003	0.000	0.000	0.475
Pounds per day - Drainage/Utilities/Sub-Grade	0.042	0.053	0.645	0.011	0.005	108.059
Tons per const. Period - Drain/Util/Sub-Grade	0.000	0.000	0.002	0.000	0.000	0.416
Pounds per day - Paving	0.053	0.053	0.645	0.011	0.005	155.050
Tons per const. Period - Paving	0.000	0.000	0.001	0.000	0.000	0.256
tons per construction period	0.000	0.001	0.007	0.000	0.000	1.266

Water truck default values can be overriden in cells C91 through C93 and E91 through E93.

Water Truck Emissions	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Miles Traveled/Day	Default Values Miles Traveled/Day
Grubbing/Land Clearing - Exhaust		1		40
Grading/Excavation - Exhaust		1		40
Drainage/Utilities/Subgrade		1		40

	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.76	9.04	4.74	0.36	0.29	1880.47
Emission rate - Grading/Excavation (grams/mile)	0.76	9.04	4.74	0.36	0.29	1880.47
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.76	9.04	4.74	0.36	0.29	1880.47
Pounds per day - Grubbing/Land Clearing	0.07	0.80	0.42	0.03	0.03	165.68
Tons per const. Period - Grub/Land Clear	0.00	0.00	0.00	0.00	0.00	0.73
Pound per day - Grading/Excavation	0.07	0.80	0.42	0.03	0.03	165.68
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.73
Pound per day - Drainage/Utilities/Subgrade	0.07	0.80	0.42	0.03	0.03	165.68
Tons per const. Period - Drainage/Utilities/Subgrade	0.00	0.00	0.00	0.00	0.00	0.64

Fugitive dust default values can be overridden in cells C110 through C112.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		1	10.0	0.0	2.1	0.0
Fugitive Dust - Grading/Excavation		1	10.0	0.0	2.1	0.0
Fugitive Dust - Drainage/Utilities/Subgrade		1	10.0	0.0	2.1	0.0

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rubber Tired Dozers	1.44	6.24	12.03	0.50	0.46	1245.79
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	1	Scrapers	1.53	5.72	13.21	0.51	0.47	1623.76
	0	Signal Boards	0.07	0.23	0.22	0.02	0.02	24.58
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing	pounds per day	3.0	12.2	25.5	1.0	0.9	2894.1
	Grubbing/Land Clearing	tons per phase	0.0	0.0	0.0	0.0	0.0	3.2

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
	0	Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Excavators	0.55	3.25	4.07	0.22	0.21	547.36
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
	1	Graders	0.73	3.83	5.51	0.30	0.28	647.87
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
	0	Other Construction Equipment	0.03	0.19	0.23	0.02	0.02	28.78
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rubber Tired Loaders	0.51	2.70	3.86	0.21	0.19	458.86
	1	Scrapers	1.53	5.72	13.21	0.51	0.47	1623.76
	0	Signal Boards	0.07	0.23	0.22	0.02	0.02	24.58
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grading/Excavation	pounds per day	3.4	15.9	27.1	1.3	1.2	3331.2
	Grading	tons per phase	0.0	0.1	0.1	0.0	0.0	14.7

Drainage/Utilities/Subgrade	Default Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
	1	Graders	0.73	3.83	5.51	0.30	0.28	647.87
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Plate Compactors	0.02	0.09	0.11	0.00	0.00	14.83
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	1	Scrapers	1.53	5.72	13.21	0.51	0.47	1623.76
	0	Signal Boards	0.07	0.23	0.22	0.02	0.02	24.58
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
	1	Trenchers	0.66	2.53	4.09	0.34	0.32	353.84
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage	pounds per day	3.0	12.4	23.1	1.2	1.1	2664.9
	Drainage	tons per phase	0.0	0.0	0.1	0.0	0.0	10.3

Paving	Default Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Pavers	0.73	2.80	4.44	0.38	0.35	386.18
	1	Paving Equipment	0.55	2.10	3.35	0.29	0.27	291.96
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rollers	0.47	2.05	3.01	0.25	0.23	299.86
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
	0	Signal Boards	0.07	0.23	0.22	0.02	0.02	24.58
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Paving	pounds per day	1.8	7.2	11.0	0.9	0.9	1002.6
	Paving	tons per phase	0.0	0.0	0.0	0.0	0.0	1.7
Total Emissions all Phases (tons per construction period) =>			0.0	0.1	0.3	0.0	0.0	29.8

Equipment default values for horsepower, load factor, and hours/day can be overridden in cells C285 through C317, E285 through E317, and G285 through G317.

Equipment		Default Values Horsepower		Default Values Load Factor		Default Values Hours/day
Aerial Lifts		60		0.46		8
Air Compressors		106		0.48		8
Bore/Drill Rigs		291		0.75		8
Cement and Mortar Mixers		10		0.56		8
Concrete/Industrial Saws		19		0.73		8
Cranes		399		0.43		8
Crushing/Proc. Equipment		142		0.78		8
Excavators		168		0.57		8
Forklifts		145		0.30		8
Generator Sets		549		0.74		8
Graders		174		0.61		8
Off-Highway Tractors		267		0.65		8
Off-Highway Trucks		479		0.57		8
Other Construction Equipment		75		0.62		8
Other General Industrial Equipment		238		0.51		8
Other Material Handling Equipment		191		0.59		8
Pavers		100		0.62		8
Paving Equipment		104		0.53		8
Plate Compactors		8		0.43		8
Pressure Washers		1		0.60		8
Pumps		53		0.74		8
Rollers		95		0.56		8
Rough Terrain Forklifts		93		0.60		8
Rubber Tired Dozers		357		0.59		8
Rubber Tired Loaders		157		0.54		8
Scrapers		313		0.72		8
Signal Boards		20		0.78		8
Skid Steer Loaders		44		0.55		8
Surfacing Equipment		362		0.45		8
Sweepers/Scrubbers		91		0.68		8
Tractors/Loaders/Backhoes		108		0.55		8
Trenchers		63		0.75		8
Welders		45		0.45		8

0

END OF DATA ENTRY SHEET

Road Construction Emissions Model, Version 6.3.2

Emission Estimates for -> Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	3.2	13.3	26.3	11.1	1.1	10.0	3.1	1.0	2.1	3,167.9
Grading/Excavation	4.5	27.1	34.2	11.6	1.6	10.0	3.5	1.4	2.1	4,855.9
Drainage/Utilities/Sub-Grade	3.1	13.5	24.0	11.2	1.2	10.0	3.2	1.1	2.1	2,938.6
Paving	1.9	7.8	11.1	1.0	1.0	-	0.9	0.9	-	1,157.6
Maximum (pounds/day)	4.5	27.1	34.2	11.6	1.6	10.0	3.5	1.4	2.1	4,855.9
Total (tons/construction project)	0.0	0.2	0.3	0.1	0.0	0.1	0.0	0.0	0.0	38.6

Notes: Project Start Year -> 2014
Project Length (months) -> 1
Total Project Area (acres) -> 1
Maximum Area Disturbed/Day (acres) -> 1
Total Soil Imported/Exported (yd^3/day)-> 160

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	1.4	6.0	12.0	5.0	0.5	4.5	1.4	0.4	0.9	1,439.9
Grading/Excavation	2.0	12.3	15.6	5.3	0.7	4.5	1.6	0.6	0.9	2,207.2
Drainage/Utilities/Sub-Grade	1.4	6.1	10.9	5.1	0.6	4.5	1.5	0.5	0.9	1,335.7
Paving	0.9	3.6	5.0	0.4	0.4	-	0.4	0.4	-	526.2
Maximum (kilograms/day)	2.0	12.3	15.6	5.3	0.7	4.5	1.6	0.6	0.9	2,207.2
Total (megagrams/construction project)	0.0	0.2	0.3	0.1	0.0	0.1	0.0	0.0	0.0	35.0

Notes: Project Start Year -> 2014
Project Length (months) -> 1
Total Project Area (hectares) -> 0
Maximum Area Disturbed/Day (hectares) -> 0
Total Soil Imported/Exported ($meters^3$/day)-> 122

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sume of exhaust and fugitive dust emissions shown in columns K and L.

Road Construction Emissions Model
Version 6.3.2

Data Entry Worksheet

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells C10 through C25.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

Input Type		
Project Name		
Construction Start Year	2014	Enter a Year between 2005 and 2025 (inclusive)
Project Type	2	1 New Road Construction 2 Road Widening 3 Bridge/Overpass Construction
Project Construction Time	1.0	month
Predominant Soil/Site Type: Enter 1, 2, or 3	1	1. Sand Gravel 2. Weathered Rock-Earth 3. Blasted Rock
Project Length	0.1	miles
Total Project Area	1.0	acre
Maximum Area Disturbed/Day	1.0	acres
Water Trucks Used?	1	1. Yes 2. No
Soil Imported	80.0	yd^3/day
Soil Exported	80.0	yd^3/day
Average Truck Capacity	16.0	yd^3 (assume 20 if unknown)

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells C34 through C37.

Construction Periods	User Override of Construction Months	Program Calculated Months	2005	%	2006	%	2007	%
Grubbing/Land Clearing		0.10	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation		0.40	0.00	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade		0.35	0.00	0.00	0.00	0.00	0.00	0.00
Paving		0.15	0.00	0.00	0.00	0.00	0.00	0.00
Totals	0.00	1.00						

Hauling emission default values can be overridden in cells C45 through C46.

Soil Hauling Emissions	User Override of Soil Hauling Defaults	Default Values
User Input		
Miles/round trip		30
Round trips/day		10
Vehicle miles traveled/day (calculated)		300

Hauling Emissions	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate (grams/mile)	0.76	9.04	4.74	0.36	0.29	1880.47
Emission rate (grams/trip)	9.63	7.32	157.57	0.01	0.01	188.75
Pounds per day	0.9	6.3	10.1	0.2	0.2	1250.9
Tons per contruction period	0.00	0.03	0.04	0.00	0.00	5.50

Worker commute default values can be overridden in cells C60 through C65.

Worker Commute Emissions	User Override of Worker Commute Default Values	Default Values
Miles/ one-way trip		20
One-way trips/day		2
No. of employees: Grubbing/Land Clearing		3
No. of employees: Grading/Excavation		5
No. of employees: Drainage/Utilities/Sub-Grade		5
No. of employees: Paving		4

	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.104	0.189	1.990	0.033	0.018	426.680
Emission rate - Grading/Excavation (grams/mile)	0.104	0.189	1.990	0.033	0.018	426.680
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.104	0.189	1.990	0.033	0.018	426.680
Emission rate - Paving (grams/mile)	0.104	0.189	1.990	0.033	0.018	426.680
Emission rate - Grubbing/Land Clearing (grams/trip)	0.687	0.289	6.716	0.140	0.013	193.100
Emission rate - Grading/Excavation (grams/trip)	0.687	0.289	6.716	0.140	0.013	193.100
Emission rate - Draining/Utilities/Sub-Grade (gr/trip)	0.687	0.289	6.716	0.140	0.013	193.100
Emission rate - Paving (grams/trip)	0.687	0.289	6.716	0.140	0.013	193.100
Pounds per day - Grubbing/Land Clearing	0.042	0.053	0.645	0.011	0.005	108.059
Tons per const. Period - Grub/Land Clear	0.000	0.000	0.001	0.000	0.000	0.119
Pounds per day - Grading/Excavation	0.042	0.053	0.645	0.011	0.005	108.059
Tons per const. Period - Grading/Excavation	0.000	0.000	0.003	0.000	0.000	0.475
Pounds per day - Drainage/Utilities/Sub-Grade	0.042	0.053	0.645	0.011	0.005	108.059
Tons per const. Period - Drain/Util/Sub-Grade	0.000	0.000	0.002	0.000	0.000	0.416
Pounds per day - Paving	0.053	0.053	0.645	0.011	0.005	155.050
Tons per const. Period - Paving	0.000	0.000	0.001	0.000	0.000	0.256
tons per construction period	0.000	0.001	0.007	0.000	0.000	1.266

Water truck default values can be overriden in cells C91 through C93 and E91 through E93.

Water Truck Emissions	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Miles Traveled/Day	Default Values Miles Traveled/Day
Grubbing/Land Clearing - Exhaust		1		40
Grading/Excavation - Exhaust		1		40
Drainage/Utilities/Subgrade		1		40

	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.76	9.04	4.74	0.36	0.29	1880.47
Emission rate - Grading/Excavation (grams/mile)	0.76	9.04	4.74	0.36	0.29	1880.47
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.76	9.04	4.74	0.36	0.29	1880.47
Pounds per day - Grubbing/Land Clearing	0.07	0.80	0.42	0.03	0.03	165.68
Tons per const. Period - Grub/Land Clear	0.00	0.00	0.00	0.00	0.00	0.73
Pound per day - Grading/Excavation	0.07	0.80	0.42	0.03	0.03	165.68
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.73
Pound per day - Drainage/Utilities/Subgrade	0.07	0.80	0.42	0.03	0.03	165.68
Tons per const. Period - Drainage/Utilities/Subgrade	0.00	0.00	0.00	0.00	0.00	0.64

Fugitive dust default values can be overridden in cells C110 through C112.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		1	10.0	0.0	2.1	0.0
Fugitive Dust - Grading/Excavation		1	10.0	0.0	2.1	0.0
Fugitive Dust - Drainage/Utilities/Subgrade		1	10.0	0.0	2.1	0.0

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rubber Tired Dozers	1.44	6.24	12.03	0.50	0.46	1245.79
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	1	Scrapers	1.53	5.72	13.21	0.51	0.47	1623.76
	0	Signal Boards	0.07	0.23	0.22	0.02	0.02	24.58
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing	pounds per day	3.0	12.2	25.5	1.0	0.9	2894.1
	Grubbing/Land Clearing	tons per phase	0.0	0.0	0.0	0.0	0.0	3.2

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
	0	Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Excavators	0.55	3.25	4.07	0.22	0.21	547.36
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
	1	Graders	0.73	3.83	5.51	0.30	0.28	647.87
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
	0	Other Construction Equipment	0.03	0.19	0.23	0.02	0.02	28.78
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rubber Tired Loaders	0.51	2.70	3.86	0.21	0.19	458.86
	1	Scrapers	1.53	5.72	13.21	0.51	0.47	1623.76
	0	Signal Boards	0.07	0.23	0.22	0.02	0.02	24.58
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grading/Excavation	pounds per day	3.4	15.9	27.1	1.3	1.2	3331.2
	Grading	tons per phase	0.0	0.1	0.1	0.0	0.0	14.7

Drainage/Utilities/Subgrade	Default Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
	1	Graders	0.73	3.83	5.51	0.30	0.28	647.87
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Plate Compactors	0.02	0.09	0.11	0.00	0.00	14.83
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	1	Scrapers	1.53	5.72	13.21	0.51	0.47	1623.76
	0	Signal Boards	0.07	0.23	0.22	0.02	0.02	24.58
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
	1	Trenchers	0.66	2.53	4.09	0.34	0.32	353.84
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage	pounds per day	3.0	12.4	23.1	1.2	1.1	2664.9
	Drainage	tons per phase	0.0	0.0	0.1	0.0	0.0	10.3

Paving	Default Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Pavers	0.73	2.80	4.44	0.38	0.35	386.18
	1	Paving Equipment	0.55	2.10	3.35	0.29	0.27	291.96
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rollers	0.47	2.05	3.01	0.25	0.23	299.86
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
	0	Signal Boards	0.07	0.23	0.22	0.02	0.02	24.58
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Paving	pounds per day	1.8	7.2	11.0	0.9	0.9	1002.6
	Paving	tons per phase	0.0	0.0	0.0	0.0	0.0	1.7
Total Emissions all Phases (tons per construction period) =>			0.0	0.1	0.3	0.0	0.0	29.8

Equipment default values for horsepower, load factor, and hours/day can be overridden in cells C285 through C317, E285 through E317, and G285 through G317.

Equipment		Default Values Horsepower		Default Values Load Factor		Default Values Hours/day
Aerial Lifts		60		0.46		8
Air Compressors		106		0.48		8
Bore/Drill Rigs		291		0.75		8
Cement and Mortar Mixers		10		0.56		8
Concrete/Industrial Saws		19		0.73		8
Cranes		399		0.43		8
Crushing/Proc. Equipment		142		0.78		8
Excavators		168		0.57		8
Forklifts		145		0.30		8
Generator Sets		549		0.74		8
Graders		174		0.61		8
Off-Highway Tractors		267		0.65		8
Off-Highway Trucks		479		0.57		8
Other Construction Equipment		75		0.62		8
Other General Industrial Equipment		238		0.51		8
Other Material Handling Equipment		191		0.59		8
Pavers		100		0.62		8
Paving Equipment		104		0.53		8
Plate Compactors		8		0.43		8
Pressure Washers		1		0.60		8
Pumps		53		0.74		8
Rollers		95		0.56		8
Rough Terrain Forklifts		93		0.60		8
Rubber Tired Dozers		357		0.59		8
Rubber Tired Loaders		157		0.54		8
Scrapers		313		0.72		8
Signal Boards		20		0.78		8
Skid Steer Loaders		44		0.55		8
Surfacing Equipment		362		0.45		8
Sweepers/Scrubbers		91		0.68		8
Tractors/Loaders/Backhoes		108		0.55		8
Trenchers		63		0.75		8
Welders		45		0.45		8

0

END OF DATA ENTRY SHEET

Road Construction Emissions Model, Version 6.3.2

Emission Estimates for -> Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	3.4	14.1	27.0	11.1	1.1	10.0	3.1	1.0	2.1	3,271.1
Grading/Excavation	6.6	49.3	48.3	12.1	2.1	10.0	3.9	1.9	2.1	7,617.3
Drainage/Utilities/Sub-Grade	3.3	14.3	24.7	11.3	1.3	10.0	3.2	1.2	2.1	3,041.8
Paving	2.1	8.7	11.7	1.0	1.0	-	0.9	0.9	-	1,260.8
Maximum (pounds/day)	6.6	49.3	48.3	12.1	2.1	10.0	3.9	1.9	2.1	7,617.3
Total (tons/construction project)	0.1	0.6	0.7	0.2	0.0	0.2	0.1	0.0	0.0	102.9

Notes:	
Project Start Year ->	2014
Project Length (months) ->	2
Total Project Area (acres) ->	2
Maximum Area Disturbed/Day (acres) ->	1
Total Soil Imported/Exported (yd^3/day)->	500

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	1.5	6.4	12.3	5.1	0.5	4.5	1.4	0.5	0.9	1,486.9
Grading/Excavation	3.0	22.4	22.0	5.5	1.0	4.5	1.8	0.8	0.9	3,462.4
Drainage/Utilities/Sub-Grade	1.5	6.5	11.2	5.1	0.6	4.5	1.5	0.5	0.9	1,382.6
Paving	1.0	3.9	5.3	0.5	0.5	-	0.4	0.4	-	573.1
Maximum (kilograms/day)	3.0	22.4	22.0	5.5	1.0	4.5	1.8	0.8	0.9	3,462.4
Total (megagrams/construction project)	0.1	0.6	0.7	0.2	0.0	0.2	0.1	0.0	0.0	93.3

Notes:	
Project Start Year ->	2014
Project Length (months) ->	2
Total Project Area (hectares) ->	1
Maximum Area Disturbed/Day (hectares) ->	0
Total Soil Imported/Exported ($meters^3$/day)->	382

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sume of exhaust and fugitive dust emissions shown in columns K and L.

Road Construction Emissions Model
Data Entry Worksheet

Version 6.3.2

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells C10 through C25.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

Input Type		
Project Name		
Construction Start Year	2014	Enter a Year between 2005 and 2025 (inclusive)
Project Type	2	1 New Road Construction 2 Road Widening 3 Bridge/Overpass Construction
Project Construction Time	2.0	months
Predominant Soil/Site Type: Enter 1, 2, or 3	1	1. Sand Gravel 2. Weathered Rock-Earth 3. Blasted Rock
Project Length	0.4	miles
Total Project Area	2.4	acres
Maximum Area Disturbed/Day	1.0	acres
Water Trucks Used?	1	1. Yes 2. No
Soil Imported	250.0	yd^3/day
Soil Exported	250.0	yd^3/day
Average Truck Capacity	16.0	yd^3 (assume 20 if unknown)

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells C34 through C37.

Construction Periods	User Override of Construction Months	Program Calculated Months	2005	%	2006	%	2007	%
Grubbing/Land Clearing		0.20	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation		0.80	0.00	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade		0.70	0.00	0.00	0.00	0.00	0.00	0.00
Paving		0.30	0.00	0.00	0.00	0.00	0.00	0.00
Totals	0.00	2.00						

Hauling emission default values can be overridden in cells C45 through C46.

Soil Hauling Emissions	User Override of Soil Hauling Defaults	Default Values
User Input		
Miles/round trip		30
Round trips/day		31
Vehicle miles traveled/day (calculated)		937.5

Hauling Emissions	**ROG**	**NOx**	**CO**	**PM10**	**PM2.5**	**CO2**
Emission rate (grams/mile)	0.76	9.04	4.74	0.36	0.29	1880.47
Emission rate (grams/trip)	9.63	7.32	157.57	0.01	0.01	188.75
Pounds per day	2.9	19.7	31.5	0.7	0.6	3909.1
Tons per contruction period	0.03	0.17	0.28	0.01	0.01	34.40

Worker commute default values can be overridden in cells C60 through C65.

Worker Commute Emissions	User Override of Worker Commute Default Values	Default Values
Miles/ one-way trip		20
One-way trips/day		2
No. of employees: Grubbing/Land Clearing		4
No. of employees: Grading/Excavation		6
No. of employees: Drainage/Utilities/Sub-Grade		6
No. of employees: Paving		5

	ROG	**NOx**	**CO**	**PM10**	**PM2.5**	**CO2**
Emission rate - Grubbing/Land Clearing (grams/mile)	0.104	0.189	1.990	0.033	0.018	426.680
Emission rate - Grading/Excavation (grams/mile)	0.104	0.189	1.990	0.033	0.018	426.680
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.104	0.189	1.990	0.033	0.018	426.680
Emission rate - Paving (grams/mile)	0.104	0.189	1.990	0.033	0.018	426.680
Emission rate - Grubbing/Land Clearing (grams/trip)	0.687	0.289	6.716	0.140	0.013	193.100
Emission rate - Grading/Excavation (grams/trip)	0.687	0.289	6.716	0.140	0.013	193.100
Emission rate - Draining/Utilities/Sub-Grade (gr/trip)	0.687	0.289	6.716	0.140	0.013	193.100
Emission rate - Paving (grams/trip)	0.687	0.289	6.716	0.140	0.013	193.100
Pounds per day - Grubbing/Land Clearing	0.053	0.067	0.821	0.014	0.006	137.530
Tons per const. Period - Grub/Land Clear	0.000	0.000	0.002	0.000	0.000	0.303
Pounds per day - Grading/Excavation	0.053	0.067	0.821	0.014	0.006	137.530
Tons per const. Period - Grading/Excavation	0.000	0.001	0.007	0.000	0.000	1.210
Pounds per day - Drainage/Utilities/Sub-Grade	0.053	0.067	0.821	0.014	0.006	137.530
Tons per const. Period - Drain/Util/Sub-Grade	0.000	0.001	0.006	0.000	0.000	1.059
Pounds per day - Paving	0.065	0.067	0.821	0.014	0.006	184.521
Tons per const. Period - Paving	0.000	0.000	0.003	0.000	0.000	0.609
tons per construction period	0.001	0.001	0.018	0.000	0.000	3.181

Water truck default values can be overriden in cells C91 through C93 and E91 through E93.

Water Truck Emissions

	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Miles Traveled/Day	Default Values Miles Traveled/Day
Grubbing/Land Clearing - Exhaust		1		40
Grading/Excavation - Exhaust		1		40
Drainage/Utilities/Subgrade		1		40

	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.76	9.04	4.74	0.36	0.29	1880.47
Emission rate - Grading/Excavation (grams/mile)	0.76	9.04	4.74	0.36	0.29	1880.47
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.76	9.04	4.74	0.36	0.29	1880.47
Pounds per day - Grubbing/Land Clearing	0.07	0.80	0.42	0.03	0.03	165.68
Tons per const. Period - Grub/Land Clear	0.00	0.01	0.00	0.00	0.00	1.46
Pound per day - Grading/Excavation	0.07	0.80	0.42	0.03	0.03	165.68
Tons per const. Period - Grading/Excavation	0.00	0.01	0.00	0.00	0.00	1.46
Pound per day - Drainage/Utilities/Subgrade	0.07	0.80	0.42	0.03	0.03	165.68
Tons per const. Period - Drainage/Utilities/Subgrade	0.00	0.01	0.00	0.00	0.00	1.28

Fugitive dust default values can be overridden in cells C110 through C112.

Fugitive Dust

	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		1	10.0	0.0	2.1	0.0
Fugitive Dust - Grading/Excavation		1	10.0	0.1	2.1	0.0
Fugitive Dust - Drainage/Utilities/Subgrade		1	10.0	0.1	2.1	0.0

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rubber Tired Dozers	1.44	6.24	12.03	0.50	0.46	1245.79
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	1	Scrapers	1.53	5.72	13.21	0.51	0.47	1623.76
	1	Signal Boards	0.28	0.91	0.89	0.07	0.07	98.33
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing	pounds per day	3.3	12.9	26.1	1.1	1.0	2967.9
	Grubbing/Land Clearing	tons per phase	0.0	0.0	0.1	0.0	0.0	6.5

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
	0	Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Excavators	0.55	3.25	4.07	0.22	0.21	547.36
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
	1	Graders	0.73	3.83	5.51	0.30	0.28	647.87
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
	0	Other Construction Equipment	0.03	0.19	0.23	0.02	0.02	28.78
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rubber Tired Loaders	0.51	2.70	3.86	0.21	0.19	458.86
	1	Scrapers	1.53	5.72	13.21	0.51	0.47	1623.76
	1	Signal Boards	0.28	0.91	0.89	0.07	0.07	98.33
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grading/Excavation	pounds per day	3.6	16.6	27.8	1.3	1.2	3405.0
	Grading	tons per phase	0.0	0.1	0.2	0.0	0.0	30.0

Drainage/Utilities/Subgrade	Default Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
	1	Graders	0.73	3.83	5.51	0.30	0.28	647.87
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Plate Compactors	0.02	0.09	0.11	0.00	0.00	14.83
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	1	Scrapers	1.53	5.72	13.21	0.51	0.47	1623.76
	1	Signal Boards	0.28	0.91	0.89	0.07	0.07	98.33
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
	1	Trenchers	0.66	2.53	4.09	0.34	0.32	353.84
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage	pounds per day	3.2	13.1	23.8	1.2	1.1	2738.6
	Drainage	tons per phase	0.0	0.1	0.2	0.0	0.0	21.1

Paving	Default Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Pavers	0.73	2.80	4.44	0.38	0.35	386.18
	1	Paving Equipment	0.55	2.10	3.35	0.29	0.27	291.96
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rollers	0.47	2.05	3.01	0.25	0.23	299.86
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Signal Boards	0.28	0.91	0.89	0.07	0.07	98.33
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Paving	pounds per day	2.0	7.9	11.7	1.0	0.9	1076.3
	Paving	tons per phase	0.0	0.0	0.0	0.0	0.0	3.6
Total Emissions all Phases (tons per construction period) =>			0.1	0.3	0.5	0.0	0.0	61.1

Equipment default values for horsepower, load factor, and hours/day can be overridden in cells C285 through C317, E285 through E317, and G285 through G317.

Equipment		Default Values Horsepower		Default Values Load Factor		Default Values Hours/day
Aerial Lifts		60		0.46		8
Air Compressors		106		0.48		8
Bore/Drill Rigs		291		0.75		8
Cement and Mortar Mixers		10		0.56		8
Concrete/Industrial Saws		19		0.73		8
Cranes		399		0.43		8
Crushing/Proc. Equipment		142		0.78		8
Excavators		168		0.57		8
Forklifts		145		0.30		8
Generator Sets		549		0.74		8
Graders		174		0.61		8
Off-Highway Tractors		267		0.65		8
Off-Highway Trucks		479		0.57		8
Other Construction Equipment		75		0.62		8
Other General Industrial Equipment		238		0.51		8
Other Material Handling Equipment		191		0.59		8
Pavers		100		0.62		8
Paving Equipment		104		0.53		8
Plate Compactors		8		0.43		8
Pressure Washers		1		0.60		8
Pumps		53		0.74		8
Rollers		95		0.56		8
Rough Terrain Forklifts		93		0.60		8
Rubber Tired Dozers		357		0.59		8
Rubber Tired Loaders		157		0.54		8
Scrapers		313		0.72		8
Signal Boards		20		0.78		8
Skid Steer Loaders		44		0.55		8
Surfacing Equipment		362		0.45		8
Sweepers/Scrubbers		91		0.68		8
Tractors/Loaders/Backhoes		108		0.55		8
Trenchers		63		0.75		8
Welders		45		0.45		8

0

END OF DATA ENTRY SHEET

Road Construction Emissions Model, Version 6.3.2

Emission Estimates for -> Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	3.2	13.3	26.3	11.1	1.1	10.0	3.1	1.0	2.1	3,167.9
Grading/Excavation	4.5	27.1	34.2	11.6	1.6	10.0	3.5	1.4	2.1	4,855.9
Drainage/Utilities/Sub-Grade	3.1	13.5	24.0	11.2	1.2	10.0	3.2	1.1	2.1	2,938.6
Paving	1.9	7.8	11.1	1.0	1.0	-	0.9	0.9	-	1,157.6
Maximum (pounds/day)	4.5	27.1	34.2	11.6	1.6	10.0	3.5	1.4	2.1	4,855.9
Total (tons/construction project)	0.1	0.5	0.7	0.3	0.0	0.2	0.1	0.0	0.0	96.6

Notes: Project Start Year -> 2014
Project Length (months) -> 3
Total Project Area (acres) -> 1
Maximum Area Disturbed/Day (acres) -> 1
Total Soil Imported/Exported (yd^3/day)-> 160

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	1.4	6.0	12.0	5.0	0.5	4.5	1.4	0.4	0.9	1,439.9
Grading/Excavation	2.0	12.3	15.6	5.3	0.7	4.5	1.6	0.6	0.9	2,207.2
Drainage/Utilities/Sub-Grade	1.4	6.1	10.9	5.1	0.6	4.5	1.5	0.5	0.9	1,335.7
Paving	0.9	3.6	5.0	0.4	0.4	-	0.4	0.4	-	526.2
Maximum (kilograms/day)	2.0	12.3	15.6	5.3	0.7	4.5	1.6	0.6	0.9	2,207.2
Total (megagrams/construction project)	0.1	0.5	0.7	0.2	0.0	0.2	0.1	0.0	0.0	87.6

Notes: Project Start Year -> 2014
Project Length (months) -> 3
Total Project Area (hectares) -> 0
Maximum Area Disturbed/Day (hectares) -> 0
Total Soil Imported/Exported ($meters^3$/day)-> 122

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sume of exhaust and fugitive dust emissions shown in columns K and L.

Road Construction Emissions Model
Data Entry Worksheet

Version 6.3.2

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells C10 through C25.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

Input Type		
Project Name		
Construction Start Year	2014	Enter a Year between 2005 and 2025 (inclusive)
Project Type	2	1 New Road Construction 2 Road Widening 3 Bridge/Overpass Construction
Project Construction Time	2.5	months
Predominant Soil/Site Type: Enter 1, 2, or 3	1	1. Sand Gravel 2. Weathered Rock-Earth 3. Blasted Rock
Project Length	0.1	miles
Total Project Area	1.0	acre
Maximum Area Disturbed/Day	1.0	acres
Water Trucks Used?	1	1. Yes 2. No
Soil Imported	80.0	yd^3/day
Soil Exported	80.0	yd^3/day
Average Truck Capacity	16.0	yd^3 (assume 20 if unknown)

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells C34 through C37.

Construction Periods	User Override of Construction Months	Program Calculated Months	2005	%	2006	%	2007	%
Grubbing/Land Clearing		0.25	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation		1.00	0.00	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade		0.88	0.00	0.00	0.00	0.00	0.00	0.00
Paving		0.38	0.00	0.00	0.00	0.00	0.00	0.00
Totals	0.00	2.50						

Hauling emission default values can be overridden in cells C45 through C46.

Soil Hauling Emissions	User Override of Soil Hauling Defaults	Default Values
User Input		
Miles/round trip		30
Round trips/day		10
Vehicle miles traveled/day (calculated)		300

Hauling Emissions	**ROG**	**NOx**	**CO**	**PM10**	**PM2.5**	**CO2**
Emission rate (grams/mile)	0.76	9.04	4.74	0.36	0.29	1880.47
Emission rate (grams/trip)	9.63	7.32	157.57	0.01	0.01	188.75
Pounds per day	0.9	6.3	10.1	0.2	0.2	1250.9
Tons per contruction period	0.01	0.07	0.11	0.00	0.00	13.76

Worker commute default values can be overridden in cells C60 through C65.

Worker Commute Emissions	User Override of Worker Commute Default Values	Default Values
Miles/ one-way trip		20
One-way trips/day		2
No. of employees: Grubbing/Land Clearing		3
No. of employees: Grading/Excavation		5
No. of employees: Drainage/Utilities/Sub-Grade		5
No. of employees: Paving		4

	ROG	**NOx**	**CO**	**PM10**	**PM2.5**	**CO2**
Emission rate - Grubbing/Land Clearing (grams/mile)	0.104	0.189	1.990	0.033	0.018	426.680
Emission rate - Grading/Excavation (grams/mile)	0.104	0.189	1.990	0.033	0.018	426.680
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.104	0.189	1.990	0.033	0.018	426.680
Emission rate - Paving (grams/mile)	0.104	0.189	1.990	0.033	0.018	426.680
Emission rate - Grubbing/Land Clearing (grams/trip)	0.687	0.289	6.716	0.140	0.013	193.100
Emission rate - Grading/Excavation (grams/trip)	0.687	0.289	6.716	0.140	0.013	193.100
Emission rate - Draining/Utilities/Sub-Grade (gr/trip)	0.687	0.289	6.716	0.140	0.013	193.100
Emission rate - Paving (grams/trip)	0.687	0.289	6.716	0.140	0.013	193.100
Pounds per day - Grubbing/Land Clearing	0.042	0.053	0.645	0.011	0.005	108.059
Tons per const. Period - Grub/Land Clear	0.000	0.000	0.002	0.000	0.000	0.297
Pounds per day - Grading/Excavation	0.042	0.053	0.645	0.011	0.005	108.059
Tons per const. Period - Grading/Excavation	0.000	0.001	0.007	0.000	0.000	1.189
Pounds per day - Drainage/Utilities/Sub-Grade	0.042	0.053	0.645	0.011	0.005	108.059
Tons per const. Period - Drain/Util/Sub-Grade	0.000	0.001	0.006	0.000	0.000	1.040
Pounds per day - Paving	0.053	0.053	0.645	0.011	0.005	155.050
Tons per const. Period - Paving	0.000	0.000	0.003	0.000	0.000	0.640
tons per construction period	0.001	0.001	0.018	0.000	0.000	3.165

Water truck default values can be overriden in cells C91 through C93 and E91 through E93.

Water Truck Emissions	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Miles Traveled/Day	Default Values Miles Traveled/Day
Grubbing/Land Clearing - Exhaust		1		40
Grading/Excavation - Exhaust		1		40
Drainage/Utilities/Subgrade		1		40

	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.76	9.04	4.74	0.36	0.29	1880.47
Emission rate - Grading/Excavation (grams/mile)	0.76	9.04	4.74	0.36	0.29	1880.47
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.76	9.04	4.74	0.36	0.29	1880.47
Pounds per day - Grubbing/Land Clearing	0.07	0.80	0.42	0.03	0.03	165.68
Tons per const. Period - Grub/Land Clear	0.00	0.01	0.00	0.00	0.00	1.82
Pound per day - Grading/Excavation	0.07	0.80	0.42	0.03	0.03	165.68
Tons per const. Period - Grading/Excavation	0.00	0.01	0.00	0.00	0.00	1.82
Pound per day - Drainage/Utilities/Subgrade	0.07	0.80	0.42	0.03	0.03	165.68
Tons per const. Period - Drainage/Utilities/Subgrade	0.00	0.01	0.00	0.00	0.00	1.59

Fugitive dust default values can be overridden in cells C110 through C112.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		1	10.0	0.0	2.1	0.0
Fugitive Dust - Grading/Excavation		1	10.0	0.1	2.1	0.0
Fugitive Dust - Drainage/Utilities/Subgrade		1	10.0	0.1	2.1	0.0

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rubber Tired Dozers	1.44	6.24	12.03	0.50	0.46	1245.79
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	1	Scrapers	1.53	5.72	13.21	0.51	0.47	1623.76
	0	Signal Boards	0.07	0.23	0.22	0.02	0.02	24.58
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing	pounds per day	3.0	12.2	25.5	1.0	0.9	2894.1
	Grubbing/Land Clearing	tons per phase	0.0	0.0	0.1	0.0	0.0	8.0

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
	0	Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Excavators	0.55	3.25	4.07	0.22	0.21	547.36
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
	1	Graders	0.73	3.83	5.51	0.30	0.28	647.87
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
	0	Other Construction Equipment	0.03	0.19	0.23	0.02	0.02	28.78
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rubber Tired Loaders	0.51	2.70	3.86	0.21	0.19	458.86
	1	Scrapers	1.53	5.72	13.21	0.51	0.47	1623.76
	0	Signal Boards	0.07	0.23	0.22	0.02	0.02	24.58
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grading/Excavation	pounds per day	3.4	15.9	27.1	1.3	1.2	3331.2
	Grading	tons per phase	0.0	0.2	0.3	0.0	0.0	36.6

Drainage/Utilities/Subgrade	Default Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
	1	Graders	0.73	3.83	5.51	0.30	0.28	647.87
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Plate Compactors	0.02	0.09	0.11	0.00	0.00	14.83
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	1	Scrapers	1.53	5.72	13.21	0.51	0.47	1623.76
	0	Signal Boards	0.07	0.23	0.22	0.02	0.02	24.58
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
	1	Trenchers	0.66	2.53	4.09	0.34	0.32	353.84
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage	pounds per day	3.0	12.4	23.1	1.2	1.1	2664.9
	Drainage	tons per phase	0.0	0.1	0.2	0.0	0.0	25.6

Paving	Default Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Pavers	0.73	2.80	4.44	0.38	0.35	386.18
	1	Paving Equipment	0.55	2.10	3.35	0.29	0.27	291.96
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rollers	0.47	2.05	3.01	0.25	0.23	299.86
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
	0	Signal Boards	0.07	0.23	0.22	0.02	0.02	24.58
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Paving	pounds per day	1.8	7.2	11.0	0.9	0.9	1002.6
	Paving	tons per phase	0.0	0.0	0.0	0.0	0.0	4.1
Total Emissions all Phases (tons per construction period) =>			0.1	0.4	0.6	0.0	0.0	74.4

Equipment default values for horsepower, load factor, and hours/day can be overridden in cells C285 through C317, E285 through E317, and G285 through G317.

Equipment		Default Values Horsepower		Default Values Load Factor		Default Values Hours/day
Aerial Lifts		60		0.46		8
Air Compressors		106		0.48		8
Bore/Drill Rigs		291		0.75		8
Cement and Mortar Mixers		10		0.56		8
Concrete/Industrial Saws		19		0.73		8
Cranes		399		0.43		8
Crushing/Proc. Equipment		142		0.78		8
Excavators		168		0.57		8
Forklifts		145		0.30		8
Generator Sets		549		0.74		8
Graders		174		0.61		8
Off-Highway Tractors		267		0.65		8
Off-Highway Trucks		479		0.57		8
Other Construction Equipment		75		0.62		8
Other General Industrial Equipment		238		0.51		8
Other Material Handling Equipment		191		0.59		8
Pavers		100		0.62		8
Paving Equipment		104		0.53		8
Plate Compactors		8		0.43		8
Pressure Washers		1		0.60		8
Pumps		53		0.74		8
Rollers		95		0.56		8
Rough Terrain Forklifts		93		0.60		8
Rubber Tired Dozers		357		0.59		8
Rubber Tired Loaders		157		0.54		8
Scrapers		313		0.72		8
Signal Boards		20		0.78		8
Skid Steer Loaders		44		0.55		8
Surfacing Equipment		362		0.45		8
Sweepers/Scrubbers		91		0.68		8
Tractors/Loaders/Backhoes		108		0.55		8
Trenchers		63		0.75		8
Welders		45		0.45		8

0

END OF DATA ENTRY SHEET

Road Construction Emissions Model, Version 6.3.2

Emission Estimates for -> Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	-	-	-	-	-	-	-	-	-	-
Grading/Excavation	1.9	9.1	12.2	10.2	0.8	9.4	2.7	0.7	2.0	1,446.9
Drainage/Utilities/Sub-Grade	-	-	-	-	-	-	-	-	-	-
Paving	-	-	-	-	-	-	-	-	-	-
Maximum (pounds/day)	1.9	9.1	12.2	10.2	0.8	9.4	2.7	0.7	2.0	1,446.9
Total (tons/construction project)	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	15.9

Notes: Project Start Year -> 2012
Project Length (months) -> 1
Total Project Area (acres) -> 2
Maximum Area Disturbed/Day (acres) -> 1
Total Soil Imported/Exported (yd^3/day)-> 0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	-	-	-	-	-	-	-	-	-	-
Grading/Excavation	0.8	4.2	5.6	4.7	0.4	4.3	1.2	0.3	0.9	657.7
Drainage/Utilities/Sub-Grade	-	-	-	-	-	-	-	-	-	-
Paving	-	-	-	-	-	-	-	-	-	-
Maximum (kilograms/day)	0.8	4.2	5.6	4.7	0.4	4.3	1.2	0.3	0.9	657.7
Total (megagrams/construction project)	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	14.4

Notes: Project Start Year -> 2012
Project Length (months) -> 1
Total Project Area (hectares) -> 1
Maximum Area Disturbed/Day (hectares) -> 0
Total Soil Imported/Exported ($meters^3$/day)-> 0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sume of exhaust and fugitive dust emissions shown in columns K and L.

Road Construction Emissions Model
Data Entry Worksheet

Version 6.3.2

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a
yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells C10 through C25.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

Input Type		
Project Name		
Construction Start Year	2012	Enter a Year between 2005 and 2025 (inclusive)
Project Type	2	1 New Road Construction 2 Road Widening 3 Bridge/Overpass Construction
Project Construction Time	1.0	month
Predominant Soil/Site Type: Enter 1, 2, or 3	1	1. Sand Gravel 2. Weathered Rock-Earth 3. Blasted Rock
Project Length	0.776515152	miles
Total Project Area	1.9	acres
Maximum Area Disturbed/Day	0.9	acres
Water Trucks Used?	1	1. Yes 2. No
Soil Imported	0.0	yd^3/day
Soil Exported	0.0	yd^3/day
Average Truck Capacity	16.0	yd^3 (assume 20 if unknown)

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells C34 through C37.

Construction Periods	User Override of Construction Months	Program Calculated Months	2005	%	2006	%	2007	%
Grubbing/Land Clearing	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation	1.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00
Totals	1.00	1.00						

Hauling emission default values can be overridden in cells C45 through C46.

Soil Hauling Emissions	User Override of Soil Hauling Defaults	Default Values
User Input		
Miles/round trip		30
Round trips/day		0
Vehicle miles traveled/day (calculated)		0

Hauling Emissions	**ROG**	**NOx**	**CO**	**PM10**	**PM2.5**	**CO2**
Emission rate (grams/mile)	0.93	11.59	6.20	0.45	0.38	1868.60
Emission rate (grams/trip)	10.89	7.79	185.47	0.02	0.01	209.04
Pounds per day	0.0	0.0	0.0	0.0	0.0	0.0
Tons per contruction period	0.00	0.00	0.00	0.00	0.00	0.00

Worker commute default values can be overridden in cells C60 through C65.

Worker Commute Emissions	User Override of Worker Commute Default Values	Default Values
Miles/ one-way trip		20
One-way trips/day		2
No. of employees: Grubbing/Land Clearing		4
No. of employees: Grading/Excavation		7
No. of employees: Drainage/Utilities/Sub-Grade		7
No. of employees: Paving		6

	ROG	**NOx**	**CO**	**PM10**	**PM2.5**	**CO2**
Emission rate - Grubbing/Land Clearing (grams/mile)	0.000	0.000	0.000	0.000	0.000	0.000
Emission rate - Grading/Excavation (grams/mile)	0.132	0.235	2.427	0.033	0.018	426.640
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.000	0.000	0.000	0.000	0.000	0.000
Emission rate - Paving (grams/mile)	0.000	0.000	0.000	0.000	0.000	0.000
Emission rate - Grubbing/Land Clearing (grams/trip)	0.000	0.000	0.000	0.000	0.000	0.000
Emission rate - Grading/Excavation (grams/trip)	0.809	0.343	7.916	0.130	0.012	192.280
Emission rate - Draining/Utilities/Sub-Grade (gr/trip)	0.000	0.000	0.000	0.000	0.000	0.000
Emission rate - Paving (grams/trip)	0.000	0.000	0.000	0.000	0.000	0.000
Pounds per day - Grubbing/Land Clearing	0.000	0.000	0.000	0.000	0.000	0.000
Tons per const. Period - Grub/Land Clear	0.000	0.000	0.000	0.000	0.000	0.000
Pounds per day - Grading/Excavation	0.083	0.105	1.259	0.018	0.008	174.469
Tons per const. Period - Grading/Excavation	0.001	0.001	0.014	0.000	0.000	1.919
Pounds per day - Drainage/Utilities/Sub-Grade	0.000	0.000	0.000	0.000	0.000	0.000
Tons per const. Period - Drain/Util/Sub-Grade	0.000	0.000	0.000	0.000	0.000	0.000
Pounds per day - Paving	0.000	0.000	0.000	0.000	0.000	0.000
Tons per const. Period - Paving	0.000	0.000	0.000	0.000	0.000	0.000
tons per construction period	0.001	0.001	0.014	0.000	0.000	1.919

Water truck default values can be overriden in cells C91 through C93 and E91 through E93.

Water Truck Emissions	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Miles Traveled/Day	Default Values Miles Traveled/Day
Grubbing/Land Clearing - Exhaust		1		40
Grading/Excavation - Exhaust		1		40
Drainage/Utilities/Subgrade		1		40

	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00
Emission rate - Grading/Excavation (grams/mile)	0.93	11.59	6.20	0.45	0.38	1868.60
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grub/Land Clear	0.00	0.00	0.00	0.00	0.00	0.00
Pound per day - Grading/Excavation	0.08	1.02	0.55	0.04	0.03	164.63
Tons per const. Period - Grading/Excavation	0.00	0.01	0.01	0.00	0.00	1.81
Pound per day - Drainage/Utilities/Subgrade	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Subgrade	0.00	0.00	0.00	0.00	0.00	0.00

Fugitive dust default values can be overridden in cells C110 through C112.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		0	0.0	0.0	0.0	0.0
Fugitive Dust - Grading/Excavation		0.941230487	9.4	0.0	2.0	0.0
Fugitive Dust - Drainage/Utilities/Subgrade		0	0.0	0.0	0.0	0.0

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	1	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
	2	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing	pounds per day	0.0	0.0	0.0	0.0	0.0	0.0
	Grubbing/Land Clearing	tons per phase	0.0	0.0	0.0	0.0	0.0	0.0

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
	0	Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
	1	Graders	0.81	3.85	6.25	0.36	0.33	647.87
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
	0	Other Construction Equipment	0.04	0.18	0.25	0.02	0.02	27.09
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
1.00		Rollers	0.54	2.08	3.37	0.29	0.27	299.86
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
1.00		Skid Steer Loaders	0.31	1.22	1.25	0.09	0.09	133.01
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grading/Excavation	pounds per day	1.7	7.3	11.1	0.8	0.7	1107.8
	Grading	tons per phase	0.0	0.1	0.1	0.0	0.0	12.2

Drainage/Utilities/Subgrade	Default Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
	1	Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	1	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
	2	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
	1	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage	pounds per day	0.0	0.0	0.0	0.0	0.0	0.0
	Drainage	tons per phase	0.0	0.0	0.0	0.0	0.0	0.0

Paving	Default Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Pavers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
	2	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Paving	pounds per day	0.0	0.0	0.0	0.0	0.0	0.0
	Paving	tons per phase	0.0	0.0	0.0	0.0	0.0	0.0
Total Emissions all Phases (tons per construction period) =>			0.0	0.1	0.1	0.0	0.0	12.2

Equipment default values for horsepower, load factor, and hours/day can be overridden in cells C285 through C317, E285 through E317, and G285 through G317.

Equipment		Default Values Horsepower		Default Values Load Factor		Default Values Hours/day
Aerial Lifts		60		0.46		8
Air Compressors		106		0.48		8
Bore/Drill Rigs		291		0.75		8
Cement and Mortar Mixers		10		0.56		8
Concrete/Industrial Saws		19		0.73		8
Cranes		399		0.43		8
Crushing/Proc. Equipment		142		0.78		8
Excavators		168		0.57		8
Forklifts		145		0.30		8
Generator Sets		549		0.74		8
Graders		174		0.61		8
Off-Highway Tractors		267		0.65		8
Off-Highway Trucks		479		0.57		8
Other Construction Equipment		75		0.62		8
Other General Industrial Equipment		238		0.51		8
Other Material Handling Equipment		191		0.59		8
Pavers		100		0.62		8
Paving Equipment		104		0.53		8
Plate Compactors		8		0.43		8
Pressure Washers		1		0.60		8
Pumps		53		0.74		8
Rollers		95		0.56		8
Rough Terrain Forklifts		93		0.60		8
Rubber Tired Dozers		357		0.59		8
Rubber Tired Loaders		157		0.54		8
Scrapers		313		0.72		8
Signal Boards		20		0.78		8
Skid Steer Loaders		44		0.55		8
Surfacing Equipment		362		0.45		8
Sweepers/Scrubbers		91		0.68		8
Tractors/Loaders/Backhoes		108		0.55		8
Trenchers		63		0.75		8
Welders		45		0.45		8

0

END OF DATA ENTRY SHEET

ISC Input Values

Phase 1 and 2

	NOx	CO	Fugitive PM10	Exhaust PM10	Total PM10	Fugitive PM2.5	Exhaust PM2.5	Total PM2.5
Max (lbs/day)	220.5	117.0	108.5	6.9	115.4	22.7	6.4	29.0
Max (g/day)	100030.2	53070.0	49196.4	3143.4	52339.8	10273.8	2893.9	13167.7
Hours per day	8	8	8	8	8	8	8	8
Seconds per day	28800	28800	28800	28800	28800	28800	28800	28800
Max (g/s)	**3.473270927**	**1.842709375**	**1.70820734**	**0.109145094**	**1.817352434**	**0.356729635**	**0.100482785**	**0.45721242**

Offsite Improvements

	NOx	CO	Fugitive PM10	Exhaust PM10	Total PM10	Fugitive PM2.5	Exhaust PM2.5	Total PM2.5
Max (lbs/day)	**25.7**	**17.4**	1.7	1.7	3.4	0.4	1.6	1.9
Max (g/day)	11634.6	7897.0	784.7	775.6		163.3	712.1	
Hours per day	8	8	8	8		8	8	
Seconds per day	28800	28800	28800	28800		28800	28800	
Max (g/s)	**0.403978594**	**0.274201455**	**0.027246899**	**0.026931906**		**0.005669875**	**0.024726955**	

Roadway Improvements (Except #3--Off-Ramp and Main Entrance)

	NOx	CO	Fugitive PM10	Exhaust PM10	Total PM10	Fugitive PM2.5	Exhaust PM2.5	Total PM2.5
Max (lbs/day)	27.9	17.0	9.1	2.3	11.4	2.6	0.7	3.3
Max (g/day)	12676.8	7693.1	4123.8	1031.0		1192.2	298.0	1490.2
Hours per day	8	8	8	8		8	8	8
Seconds per day	28800	28800	28800	28800		28800	28800	28800
Max (g/s)	**0.440166495**	**0.267122789**	**0.143188779**	**0.035797195**		**0.041394962**	**0.01034874**	0.051743702

Roadway Improvements

	NOx	CO	Fugitive PM10	Exhaust PM10	Total PM10	Fugitive PM2.5	Exhaust PM2.5	Total PM2.5
Max (lbs/day)	28.6	17.8	9.1	2.3	11.4	2.7	0.7	3.3
Max (g/day)	12978.5	8085.3	4145.3	1036.3		1214.0	303.5	1517.5
Hours per day	8	8	8	8		8	8	8
Seconds per day	28800	28800	28800	28800		28800	28800	28800
Max (g/s)	**0.450641916**	**0.280739678**	**0.143934022**	**0.035983506**		**0.042152867**	**0.010538217**	0.052691084

Pollutant	On-site Residential (East of the Development Area and Ranch)	Whitney Canyon Park (Hikers)	Residential (West of the Ranch)	Residential (North of the Ranch)
PM_{10} (24-hr Concentration) (µg/m^3)				
Project Increment	8.5	7.8	3.2	1.6
LST Threshold	10.4	10.4	10.4	10.4
Over/(Under)	(2.0)	(2.6)	(7.2)	(8.8)
Exceed Threshold?	No	No	No	No
PM_{10} (Annual Concentration) (µg/m^3)				
Project Increment	0.9	0.8	0.2	0.0
LST Threshold	1	1	1	1
Over/(Under)	(0.1)	(0.2)	(0.8)	(1.0)
Exceed Threshold?	No	No	No	No
$PM_{2.5}$ (24-hr Concentration) (µg/m^3)				
Project Increment	2.2	2.0	0.9	0.4
LST Threshold	10.4	10.4	10.4	10.4
Over/(Under)	(8.2)	(8.4)	(9.6)	(10.0)
Exceed Threshold?	No	No	No	No
CO (1-hr Concentration) (µg/m^3)				
Project Increment	111	100	61	40
Background	2,290	2,290	2,290	2,290
Background+Increment	2,401	2,390	2,352	2,330
LST Threshold	23,000	23,000	23,000	23,000
Over/(Under)	(20,599)	(20,610)	(20,648)	(20,670)
Exceed Threshold?	No	No	No	No
CO (8-hr Concentration) (µg/m^3)				
Project Increment	25	22	10	6
Background	1,603	1,603	1,603	1,603
Background+Increment	1,628	1,626	1,613	1,609
LST Threshold	10,000	10,000	10,000	10,000
Over/(Under)	(8,372)	(8,374)	(8,387)	(8,391)
Exceed Threshold?	No	No	No	No
NO_2 (1-hr Concentration) (µg/m^3)				
Project Increment	23	31	39	43
NAAQS Background	244	244	244	244
NAAQS Background+Increment	268	275	284	288
NAAQS LST Threshold[d]	339	339	339	339
Over/(Under)	(71)	(64)	(55)	(51)
Exceed Threshold?	No	No	No	No
NO_2 (1-hr Concentration) (µg/m^3)				
Project Increment	23	31	39	43
CAAQS Background	115	115	115	115
CAAQS Background+Increment	138	145	154	158
CAAQS LST Threshold[d]	188	188	188	188
Over/(Under)	(50)	(43)	(34)	(30)
Exceed Threshold?	No	No	No	No
Distance:	200	350	750	1,500
NO_2 (Annual) (µg/m^3)				
Project Increment	0.42	0.61	0.28	0.12
Background	37.60	37.60	37.60	37.60
Background+Increment	38.02	38.21	37.88	37.72
LST Threshold[d]	57	57	57	57
Over/(Under)	(19)	(19)	(19)	(19)
Exceed Threshold?	No	No	No	No
Distance:	200	350	750	1,500

37.60
57.00
19.40

Note: Annual scalar is based on 22 construction days per month and 70 percent of max daily activity (0.51)
NO2 emisisons are based on the NOx/NO2 conversion rate per SCAQMD LST Guidelines Table 2-4.

Table 2-4. NO2-to-NOX Ratio as a Function of Downwind Distance

Downwind Distance (m)	NO2/NOx Ratio
20	0.053
50	0.059
70	0.064
100	0.074
200	0.114
500	0.258
1000	0.467
2000	0.75
3000	0.9
4000	0.978
5000	1

Sunset Bronson
Construction Localized Significance Threshold Calculation (Interpolation)

Step 1. Determine Allowable Increase using 98th percentile NO2 and Max NO2 data

Santa Clarita NO Monitoring Data

Stn #	City	Design Value 2006-2008	98th percentile, ppb 2005	2006	2007	2008	Threshold (ppb)	Allowable Increase (ppb)	Allowable Increase (ug/m3)
90	SCLR	61	61	60	63	60	100	39	73.32

Stn #	City	Design Value 2006-2008	Max Hourly, ppb 2005	2006	2007	2008	Threshold (ppb)	Allowable Increase (ppb)	Allowable Increase (ug/m3)
90	SCLR	84		80	84	73	180	96	180.48

Max Hourly vs. 98th Percentile Ratio (Allowable Increase)	**41%**

Step 2. Use ratio in Step 1 to determine LST lookup value. Extrapolate/Interpolate LST look-up value for project area

LST Threshold (SRA 13, 25 meter receptor)

Project	NO2	98th Percentile	CO	Construction PM10	Construction PM2.5	Operations PM10	Operations PM2.5	
1	114	46	590	4	3	1	1	0.03

LST Threshold (SRA 13, 100 meter receptor)

Project	NO2	98th Percentile	CO	Construction PM10	Construction PM2.5	Operations PM10	Operations PM2.5	
1	133	54	1294	25	7			0.03

LST Threshold (SRA 13, 200 meter receptor)

Project Size (acres)	NO2 (lbs/day)	98th Percentile NO2 (lbs/day)	CO (lbs/day)	Construction PM10 (lbs/day)	Construction PM2.5 (lbs/day)	Operations PM10 (lbs/day)	Operations PM2.5 (lbs/day)
1	173	70	2500	51	18	13	5

Appendix E.1-2

SCAQMD Rule 403 - Fugitive Dust Control

(Adopted May 7, 1976) (Amended November 6, 1992)
(Amended July 9, 1993) (Amended February 14, 1997)
(Amended December 11, 1998)(Amended April 2, 2004)
(Amended June 3, 2005)

RULE 403. FUGITIVE DUST

(a) Purpose

The purpose of this Rule is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

(b) Applicability

The provisions of this Rule shall apply to any activity or man-made condition capable of generating fugitive dust.

(c) Definitions

(1) ACTIVE OPERATIONS means any source capable of generating fugitive dust, including, but not limited to, earth-moving activities, construction/demolition activities, disturbed surface area, or heavy- and light-duty vehicular movement.

(2) AGGREGATE-RELATED PLANTS are defined as facilities that produce and / or mix sand and gravel and crushed stone.

(3) AGRICULTURAL HANDBOOK means the region-specific guidance document that has been approved by the Governing Board or hereafter approved by the Executive Officer and the U.S. EPA. For the South Coast Air Basin, the Board-approved region-specific guidance document is the Rule 403 Agricultural Handbook dated December 1998. For the Coachella Valley, the Board-approved region-specific guidance document is the Rule 403 Coachella Valley Agricultural Handbook dated April 2, 2004.

(4) ANEMOMETERS are devices used to measure wind speed and direction in accordance with the performance standards, and maintenance and calibration criteria as contained in the most recent Rule 403 Implementation Handbook.

(5) BEST AVAILABLE CONTROL MEASURES means fugitive dust control actions that are set forth in Table 1 of this Rule.

(6) BULK MATERIAL is sand, gravel, soil, aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.

(7) CEMENT MANUFACTURING FACILITY is any facility that has a cement kiln at the facility.

(8) CHEMICAL STABILIZERS are any non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any applicable law, rule or regulation. The chemical stabilizers shall meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.

(9) COMMERCIAL POULTRY RANCH means any building, structure, enclosure, or premises where more than 100 fowl are kept or maintained for the primary purpose of producing eggs or meat for sale or other distribution.

(10) CONFINED ANIMAL FACILITY means a source or group of sources of air pollution at an agricultural source for the raising of 3,360 or more fowl or 50 or more animals, including but not limited to, any structure, building, installation, farm, corral, coop, feed storage area, milking parlor, or system for the collection, storage, or distribution of solid and liquid manure; if domesticated animals, including horses, sheep, goats, swine, beef cattle, rabbits, chickens, turkeys, or ducks are corralled, penned, or otherwise caused to remain in restricted areas for commercial agricultural purposes and feeding is by means other than grazing.

(11) CONSTRUCTION/DEMOLITION ACTIVITIES means any on-site mechanical activities conducted in preparation of, or related to, the building, alteration, rehabilitation, demolition or improvement of property, including, but not limited to the following activities: grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking.

(12) CONTRACTOR means any person who has a contractual arrangement to conduct an active operation for another person.

(13) DAIRY FARM is an operation on a property, or set of properties that are contiguous or separated only by a public right-of-way, that raises cows or

produces milk from cows for the purpose of making a profit or for a livelihood. Heifer and calf farms are dairy farms.

(14) DISTURBED SURFACE AREA means a portion of the earth's surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emission of fugitive dust. This definition excludes those areas which have:

(A) been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;

(B) been paved or otherwise covered by a permanent structure; or

(C) sustained a vegetative ground cover of at least 70 percent of the native cover for a particular area for at least 30 days.

(15) DUST SUPPRESSANTS are water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.

(16) EARTH-MOVING ACTIVITIES means the use of any equipment for any activity where soil is being moved or uncovered, and shall include, but not be limited to the following: grading, earth cutting and filling operations, loading or unloading of dirt or bulk materials, adding to or removing from open storage piles of bulk materials, landfill operations, weed abatement through disking, and soil mulching.

(17) DUST CONTROL SUPERVISOR means a person with the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule 403 requirements at an active operation.

(18) FUGITIVE DUST means any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of any person.

(19) HIGH WIND CONDITIONS means that instantaneous wind speeds exceed 25 miles per hour.

(20) INACTIVE DISTURBED SURFACE AREA means any disturbed surface area upon which active operations have not occurred or are not expected to occur for a period of 20 consecutive days.

(21) LARGE OPERATIONS means any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic

meters (5,000 cubic yards) or more three times during the most recent 365-day period.

(22) OPEN STORAGE PILE is any accumulation of bulk material, which is not fully enclosed, covered or chemically stabilized, and which attains a height of three feet or more and a total surface area of 150 or more square feet.

(23) PARTICULATE MATTER means any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.

(24) PAVED ROAD means a public or private improved street, highway, alley, public way, or easement that is covered by typical roadway materials, but excluding access roadways that connect a facility with a public paved roadway and are not open to through traffic. Public paved roads are those open to public access and that are owned by any federal, state, county, municipal or any other governmental or quasi-governmental agencies. Private paved roads are any paved roads not defined as public.

(25) PM_{10} means particulate matter with an aerodynamic diameter smaller than or equal to 10 microns as measured by the applicable State and Federal reference test methods.

(26) PROPERTY LINE means the boundaries of an area in which either a person causing the emission or a person allowing the emission has the legal use or possession of the property. Where such property is divided into one or more sub-tenancies, the property line(s) shall refer to the boundaries dividing the areas of all sub-tenancies.

(27) RULE 403 IMPLEMENTATION HANDBOOK means a guidance document that has been approved by the Governing Board on April 2, 2004 or hereafter approved by the Executive Officer and the U.S. EPA.

(28) SERVICE ROADS are paved or unpaved roads that are used by one or more public agencies for inspection or maintenance of infrastructure and which are not typically used for construction-related activity.

(29) SIMULTANEOUS SAMPLING means the operation of two PM_{10} samplers in such a manner that one sampler is started within five minutes of the other, and each sampler is operated for a consecutive period which must be not less than 290 minutes and not more than 310 minutes.

(30) SOUTH COAST AIR BASIN means the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange

County as defined in California Code of Regulations, Title 17, Section 60104. The area is bounded on the west by the Pacific Ocean, on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains, and on the south by the San Diego county line.

(31) STABILIZED SURFACE means any previously disturbed surface area or open storage pile which, through the application of dust suppressants, shows visual or other evidence of surface crusting and is resistant to wind-driven fugitive dust and is demonstrated to be stabilized. Stabilization can be demonstrated by one or more of the applicable test methods contained in the Rule 403 Implementation Handbook.

(32) TRACK-OUT means any bulk material that adheres to and agglomerates on the exterior surface of motor vehicles, haul trucks, and equipment (including tires) that have been released onto a paved road and can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(33) TYPICAL ROADWAY MATERIALS means concrete, asphaltic concrete, recycled asphalt, asphalt, or any other material of equivalent performance as determined by the Executive Officer, and the U.S. EPA.

(34) UNPAVED ROADS means any unsealed or unpaved roads, equipment paths, or travel ways that are not covered by typical roadway materials. Public unpaved roads are any unpaved roadway owned by federal, state, county, municipal or other governmental or quasi-governmental agencies. Private unpaved roads are all other unpaved roadways not defined as public.

(35) VISIBLE ROADWAY DUST means any sand, soil, dirt, or other solid particulate matter which is visible upon paved road surfaces and which can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(36) WIND-DRIVEN FUGITIVE DUST means visible emissions from any disturbed surface area which is generated by wind action alone.

(37) WIND GUST is the maximum instantaneous wind speed as measured by an anemometer.

(d) Requirements

(1) No person shall cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that:

(A) the dust remains visible in the atmosphere beyond the property line of the emission source; or

(B) the dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the Rule 403 Implementation Handbook), if the dust emission is the result of movement of a motorized vehicle.

(2) No person shall conduct active operations without utilizing the applicable best available control measures included in Table 1 of this Rule to minimize fugitive dust emissions from each fugitive dust source type within the active operation.

(3) No person shall cause or allow PM_{10} levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM_{10} monitoring. If sampling is conducted, samplers shall be:

(A) Operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate U.S. EPA-published documents for U.S. EPA-approved equivalent method(s) for PM_{10}.

(B) Reasonably placed upwind and downwind of key activity areas and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized.

(4) No person shall allow track-out to extend 25 feet or more in cumulative length from the point of origin from an active operation. Notwithstanding the preceding, all track-out from an active operation shall be removed at the conclusion of each workday or evening shift.

(5) No person shall conduct an active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk material without utilizing at least one of the measures listed in subparagraphs (d)(5)(A) through (d)(5)(E) at each vehicle egress from the site to a paved public road.

(A) Install a pad consisting of washed gravel (minimum-size: one inch) maintained in a clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long.

(B) Pave the surface extending at least 100 feet and at least 20 feet wide.

(C) Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipe, or grates) at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(D) Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(E) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the actions specified in subparagraphs (d)(5)(A) through (d)(5)(D).

(6) Beginning January 1, 2006, any person who operates or authorizes the operation of a confined animal facility subject to this Rule shall implement the applicable conservation management practices specified in Table 4 of this Rule.

(e) Additional Requirements for Large Operations

(1) Any person who conducts or authorizes the conducting of a large operation subject to this Rule shall implement the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards can not be met through use of Table 2 actions; and shall:

(A) submit a fully executed Large Operation Notification (Form 403 N) to the Executive Officer within 7 days of qualifying as a large operation;

(B) include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;

(C) maintain daily records to document the specific dust control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request;

(D) install and maintain project signage with project contact signage that meets the minimum standards of the Rule 403 Implementation Handbook, prior to initiating any earthmoving activities;

(E) identify a dust control supervisor that:

(i) is employed by or contracted with the property owner or developer;

(ii) is on the site or available on-site within 30 minutes during working hours;

(iii) has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements;

(iv) has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and

(F) notify the Executive Officer in writing within 30 days after the site no longer qualifies as a large operation as defined by paragraph (c)(18).

(2) Any Large Operation Notification submitted to the Executive Officer or AQMD-approved dust control plan shall be valid for a period of one year from the date of written acceptance by the Executive Officer. Any Large Operation Notification accepted pursuant to paragraph (e)(1), excluding those submitted by aggregate-related plants and cement manufacturing facilities must be resubmitted annually by the person who conducts or authorizes the conducting of a large operation, at least 30 days prior to the expiration date, or the submittal shall no longer be valid as of the expiration date. If all fugitive dust sources and corresponding control measures or special circumstances remain identical to those identified in the previously accepted submittal or in an AQMD-approved dust control plan, the resubmittal may be a simple statement of no-change (Form 403NC).

(f) Compliance Schedule

The newly amended provisions of this Rule shall become effective upon adoption. Pursuant to subdivision (e), any existing site that qualifies as a large operation will have 60 days from the date of Rule adoption to comply with the notification and recordkeeping requirements for large operations. Any Large Operation

Notification or AQMD-approved dust control plan which has been accepted prior to the date of adoption of these amendments shall remain in effect and the Large Operation Notification or AQMD-approved dust control plan annual resubmittal date shall be one year from adoption of this Rule amendment.

(g) Exemptions

(1) The provisions of this Rule shall not apply to:

(A) Dairy farms.

(B) Confined animal facilities provided that the combined disturbed surface area within one continuous property line is one acre or less.

(C) Agricultural vegetative crop operations provided that the combined disturbed surface area within one continuous property line and not separated by a paved public road is 10 acres or less.

(D) Agricultural vegetative crop operations within the South Coast Air Basin, whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Agricultural Handbook;

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(E) Agricultural vegetative crop operations outside the South Coast Air Basin whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Coachella Valley Agricultural Handbook; and

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Coachella Valley Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(F) Active operations conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency.

(G) Active operations conducted by essential service utilities to provide electricity, natural gas, telephone, water and sewer during periods of service outages and emergency disruptions.

(H) Any contractor subsequent to the time the contract ends, provided that such contractor implemented the required control measures during the contractual period.

(I) Any grading contractor, for a phase of active operations, subsequent to the contractual completion of that phase of earth-moving activities, provided that the required control measures have been implemented during the entire phase of earth-moving activities, through and including five days after the final grading inspection.

(J) Weed abatement operations ordered by a county agricultural commissioner or any state, county, or municipal fire department, provided that:

(i) mowing, cutting or other similar process is used which maintains weed stubble at least three inches above the soil; and

(ii) any discing or similar operation which cuts into and disturbs the soil, where watering is used prior to initiation of these activities, and a determination is made by the agency issuing the weed abatement order that, due to fire hazard conditions, rocks, or other physical obstructions, it is not practical to meet the conditions specified in clause (g)(1)(H)(i). The provisions this clause shall not exempt the owner of any property from stabilizing, in accordance with paragraph (d)(2), disturbed surface areas which have been created as a result of the weed abatement actions.

(K) sandblasting operations.

(2) The provisions of paragraphs (d)(1) and (d)(3) shall not apply:

(A) When wind gusts exceed 25 miles per hour, provided that:

(i) The required Table 3 contingency measures in this Rule are implemented for each applicable fugitive dust source type, and;

(ii) records are maintained in accordance with subparagraph (e)(1)(C).

(B) To unpaved roads, provided such roads:

(i) are used solely for the maintenance of wind-generating equipment; or

(ii) are unpaved public alleys as defined in Rule 1186; or

(iii) are service roads that meet all of the following criteria:

(a) are less than 50 feet in width at all points along the road;

(b) are within 25 feet of the property line; and

(c) have a traffic volume less than 20 vehicle-trips per day.

(C) To any active operation, open storage pile, or disturbed surface area for which necessary fugitive dust preventive or mitigative actions are in conflict with the federal Endangered Species Act, as determined in writing by the State or federal agency responsible for making such determinations.

(3) The provisions of (d)(2) shall not apply to any aggregate-related plant or cement manufacturing facility that implements the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards of paragraphs (d)(1) and (d)(3) can not be met through use of Table 2 actions.

(4) The provisions of paragraphs (d)(1), (d)(2), and (d)(3) shall not apply to:

(A) Blasting operations which have been permitted by the California Division of Industrial Safety; and

(B) Motion picture, television, and video production activities when dust emissions are required for visual effects. In order to obtain this exemption, the Executive Officer must receive notification in writing at least 72 hours in advance of any such activity and no nuisance results from such activity.

(5) The provisions of paragraph (d)(3) shall not apply if the dust control actions, as specified in Table 2, are implemented on a routine basis for

each applicable fugitive dust source type. To qualify for this exemption, a person must maintain records in accordance with subparagraph (e)(1)(C).

(6) The provisions of paragraph (d)(4) shall not apply to earth coverings of public paved roadways where such coverings are approved by a local government agency for the protection of the roadway, and where such coverings are used as roadway crossings for haul vehicles provided that such roadway is closed to through traffic and visible roadway dust is removed within one day following the cessation of activities.

(7) The provisions of subdivision (e) shall not apply to:

(A) officially-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, state recreational areas, and county regional parks.

(B) any large operation which is required to submit a dust control plan to any city or county government which has adopted a District-approved dust control ordinance.

(C) any large operation subject to Rule 1158, which has an approved dust control plan pursuant to Rule 1158, provided that all sources of fugitive dust are included in the Rule 1158 plan.

(8) The provisions of subparagraph (e)(1)(A) through (e)(1)(C) shall not apply to any large operation with an AQMD-approved fugitive dust control plan provided that there is no change to the sources and controls as identified in the AQMD-approved fugitive dust control plan.

(h) Fees

Any person conducting active operations for which the Executive Officer conducts upwind/downwind monitoring for PM_{10} pursuant to paragraph (d)(3) shall be assessed applicable Ambient Air Analysis Fees pursuant to Rule 304.1. Applicable fees shall be waived for any facility which is exempted from paragraph (d)(3) or meets the requirements of paragraph (d)(3).

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Backfilling	01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling; and 01-3 Stabilize soil at completion of activity.	✓ Mix backfill soil with water prior to moving ✓ Dedicate water truck or high capacity hose to backfilling equipment ✓ Empty loader bucket slowly so that no dust plumes are generated ✓ Minimize drop height from loader bucket
Clearing and grubbing	02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	✓ Maintain live perennial vegetation where possible ✓ Apply water in sufficient quantity to prevent generation of dust plumes
Clearing forms	03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	✓ Use of high pressure air to clear forms may cause exceedance of Rule requirements
Crushing	04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	✓ Follow permit conditions for crushing equipment ✓ Pre-water material prior to loading into crusher ✓ Monitor crusher emissions opacity ✓ Apply water to crushed material to prevent dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Cut and fill	05-1 Pre-water soils prior to cut and fill activities; and 05-2 Stabilize soil during and after cut and fill activities.	✓ For large sites, pre-water with sprinklers or water trucks and allow time for penetration ✓ Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition – mechanical/manual	06-1 Stabilize wind erodible surfaces to reduce dust; and 06-2 Stabilize surface soil where support equipment and vehicles will operate; and 06-3 Stabilize loose soil and demolition debris; and 06-4 Comply with AQMD Rule 1403.	✓ Apply water in sufficient quantities to prevent the generation of visible dust plumes
Disturbed soil	07-1 Stabilize disturbed soil throughout the construction site; and 07-2 Stabilize disturbed soil between structures	✓ Limit vehicular traffic and disturbances on soils where possible ✓ If interior block walls are planned, install as early as possible ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
Earth-moving activities	08-1 Pre-apply water to depth of proposed cuts; and 08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	✓ Grade each project phase separately, timed to coincide with construction phase ✓ Upwind fencing can prevent material movement on site ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Importing/exporting of bulk materials	09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least six inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive dust emissions; and 09-5 Comply with Vehicle Code Section 23114.	✓ Use tarps or other suitable enclosures on haul trucks ✓ Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage ✓ Comply with track-out prevention/mitigation requirements ✓ Provide water while loading and unloading to reduce visible dust plumes
Landscaping	10-1 Stabilize soils, materials, slopes	✓ Apply water to materials to stabilize ✓ Maintain materials in a crusted condition ✓ Maintain effective cover over materials ✓ Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes ✓ Hydroseed prior to rain season
Road shoulder maintenance	11-1 Apply water to unpaved shoulders prior to clearing; and 11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	✓ Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs ✓ Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Screening	12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	✓ Dedicate water truck or high capacity hose to screening operation ✓ Drop material through the screen slowly and minimize drop height ✓ Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point
Staging areas	13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	✓ Limit size of staging area ✓ Limit vehicle speeds to 15 miles per hour ✓ Limit number and size of staging area entrances/exists
Stockpiles/ Bulk Material Handling	14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	✓ Add or remove material from the downwind portion of the storage pile ✓ Maintain storage piles to avoid steep sides or faces

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Traffic areas for construction activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	✓ Apply gravel/paving to all haul routes as soon as possible to all future roadway areas ✓ Barriers can be used to ensure vehicles are only used on established parking areas/haul routes
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16-2 Stabilize soils at the completion of trenching activities.	✓ Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching ✓ Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment
Truck loading	17-1 Pre-water material prior to loading; and 17-2 Ensure that freeboard exceeds six inches (CVC 23114)	✓ Empty loader bucket such that no visible dust plumes are created ✓ Ensure that the loader bucket is close to the truck to minimize drop height while loading
Turf Overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	✓ Haul waste material immediately off-site

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure		Guidance
Unpaved roads/parking lots	19-1	Stabilize soils to meet the applicable performance standards; and	✓ Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
	19-2	Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	
Vacant land	20-1	In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

Table 2
DUST CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Earth-moving (except construction cutting and filling areas, and mining operations)	(1a)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR
	(1a-1)	For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
Earth-moving: Construction fill areas:	(1b)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Earth-moving: Construction cut areas and mining operations:	(1c)	Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed surface areas (except completed grading areas)	(2a/b)	Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
Disturbed surface areas: Completed grading areas	(2c)	Apply chemical stabilizers within five working days of grading completion; OR
	(2d)	Take actions (3a) or (3c) specified for inactive disturbed surface areas.
Inactive disturbed surface areas	(3a)	Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR
	(3b)	Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR
	(3c)	Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR
	(3d)	Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Unpaved Roads	(4a)	Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR
	(4b)	Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR
	(4c)	Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open storage piles	(5a)	Apply chemical stabilizers; OR
	(5b)	Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR
	(5c)	Install temporary coverings; OR
	(5d)	Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.
All Categories	(6a)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

TABLE 3
CONTINGENCY CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY	CONTROL MEASURES
Earth-moving	(1A) Cease all active operations; OR (2A) Apply water to soil not more than 15 minutes prior to moving such soil.
Disturbed surface areas	(0B) On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR (1B) Apply chemical stabilizers prior to wind event; OR (2B) Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR (3B) Take the actions specified in Table 2, Item (3c); OR (4B) Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas.
Unpaved roads	(1C) Apply chemical stabilizers prior to wind event; OR (2C) Apply water twice per hour during active operation; OR (3C) Stop all vehicular traffic.
Open storage piles	(1D) Apply water twice per hour; OR (2D) Install temporary coverings.
Paved road track-out	(1E) Cover all haul vehicles; OR (2E) Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
All Categories	(1F) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 3 may be used.

Table 4
(Conservation Management Practices for Confined Animal Facilities)

SOURCE CATEGORY	CONSERVATION MANAGEMENT PRACTICES
Manure Handling **(Only applicable to Commercial Poultry Ranches)**	(1a) Cover manure prior to removing material off-site; AND (1b) Spread the manure before 11:00 AM and when wind conditions are less than 25 miles per hour; AND (1c) Utilize coning and drying manure management by removing manure at laying hen houses at least twice per year and maintain a base of no less than 6 inches of dry manure after clean out; or in lieu of complying with conservation management practice (1c), comply with conservation management practice (1d). (1d) Utilize frequent manure removal by removing the manure from laying hen houses at least every seven days and immediately thin bed dry the material.
Feedstock Handling	(2a) Utilize a sock or boot on the feed truck auger when filling feed storage bins.
Disturbed Surfaces	(3a) Maintain at least 70 percent vegetative cover on vacant portions of the facility; OR (3b) Utilize conservation tillage practices to manage the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops (if applicable) in narrow slots or tilled strips; OR (3c) Apply dust suppressants in sufficient concentrations and frequencies to maintain a stabilized surface.
Unpaved Roads	(4a) Restrict access to private unpaved roads either through signage or physical access restrictions and control vehicular speeds to no more than 15 miles per hour through worker notifications, signage, or any other necessary means; OR (4b) Cover frequently traveled unpaved roads with low silt content material (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of four inches); OR (4c) Treat unpaved roads with water, mulch, chemical dust suppressants or other cover to maintain a stabilized surface.
Equipment Parking Areas	(5a) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (5b) Apply material with low silt content (i.e., asphalt, concrete, recycled road base, or gravel to a depth of four inches).

Appendix E.1-3

Operational Emissions Analysis

- Regional Operational Emissions (URBEMIS 2007 Output)
    - Mobile Source Emissions
    - Electricity Generation
    - Natural Gas Consumption
    - Charbroiler Emissions
    - Emergency Generator Emissions
- Localized CO Hotspots Analysis
    - CALINE4 Output
    - EMFAC2007 Output File

Golden Oaks Ranch - Office Option
Regional Operational Emissions
December 2010

	Volatile Organic Compounds (VOCs)	Nitrogen Oxides (NOx)	Carbon Monoxide (CO)	Sulfur Oxides (SOx)	Particulate Matter <10 Microns (PM10)	Particulate Matter <2.5 Microns (PM2.5)
Future Emissions (Project Buildout)						
Regional Mobile Emissions (Car/Truck Trips) [1]	22	32	246	<1	60	12
Stationary Emissions (On-site Natural Gas Usage, Painting, Consumer Products) [2]	5	4	9	<1	<1	<1
Electricity Consumption (Powerplant emissions) [3]	<1	15	3	2	<1	<1
Charbroiler + Emergency Generator	<1	2	3	<1	<1	<1
Total	27	53	260	2	62	13
Incremental Increase						
Incremental Difference (Increase/Decrease)	27	53	260	2	62	13
SCAQMD Regional Operational Threshold	55	55	550	150	150	55
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

[1] Emissions from vehicle trips to and from project site. Based on ITE trip generation and EMFAC2007. See attached URBEMIS2007 outputs for details

[2] Emissions from on-site uses such as architectural coatings (painting), natural gas combustion (water heaters, cooking), consumer products and landscaping emissions

[3] Includes emissions as a result of electricity generation for use at the project site. Based on SCAQMD electricity generation factors (Appendix A9-C11 CEQA Handbook). See attached electricity usage worksheet.

Golden Oaks Ranch - Office Option
Electricity Usage Emissions
December 2010

Future Buidout Emissions						Emission Rate (lbs/day)					
						VOC	NOx	CO	SOx	PM10	PM2.5
Future Buildout Land Uses	**Amount**	**Units**	**SCAQMD Electricity Usage Factor (kWh/Sq. Ft./Year)**	**Project Electricity Usage (MWh/Day)**	**Emission Rate (lbs/Mwh) --->**	**0.01**	**1.15**	**0.2**	**0.12**	**0.04**	**0.04**
Office	255.00	KSF	12.95	9.0		0	10	2	1	0	0
Retail	18.00	KSF	13.55	0.7		0	1 0		0	0	0
Warehouse	293.70	KSF	4.35	3.5		0	4 1		0	0	0
Total Future Buildout Emissions						**0**	**15**	**3**	**2**	**1**	**1**

a Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.

b Emission Factors from Table A9-11-B, CEQA Air Quality Handbook, SCAQMD, 1993.

c Natural Gas Usage Rates from Table A9-12-A, CEQA Air Quality Handbook, SCAQMD, 1993.

d Emission Factors from URBEMIS2002 Version 8.7 (US EPA 1995)

e The emission factors for NOx in lbs per million cuft of natural gas are 100 for nonresidential uses and 94 for residential uses.

Golden Oaks Ranch - Office Option
Natural Gas Usage Emissions
December 2010

Future Buidout Emissions						Emission Rate (lbs/day)[a]					
						VOC	NOx	CO	SOx	PM10	PM2.5
Future Buildout Land Uses	**Amount**	**Units**	**SCAQMD Natural Gas Usage Rate (cu. Ft/sq. ft/month)**	**Project Natural Gas Usage (cu. Ft/day)**	**Emission Rate (lbs/MMSCF) --->**	**7.26**	**100/94[b]**	**40**	**0**	**0.18**	**0.18**
Office	255.00	KSF	2	17000.0		0.12	1.70	0.68	0.00	0.00	0.00
Retail	18.00	KSF	2.9	1740.0		0.01	0.17	0.07	0.00	0.00	0.00
Warehouse	293.70	KSF	2	19580.0		0.14	1.96	0.78	0.00	0.00	0.00
Total Future Buildout Emissions						**0**	**4 2**		**0**	**0**	**0**

a Natural Gas Usage Rates from Table A9-12-A, CEQA Air Quality Handbook, SCAQMD, 1993.

b 100 lbs/MSCF = non-residential emission factor. 94 lbs/MSC = residential emission factor.

Golden Oaks Ranch - Office Option
Charbroiler Emissions
December 2010

	Hamburger	Steak	Chicken	Seafood	Total	Controlled	# of Restaurants
Pounds of Meat Cooked per Week	270	180	471	143	1064		1
Emission Factors (lb/lb of meat)							
PM10	0.065	0.034	0.021	0.007			
PM2.5	0.064	0.034	0.010	0.006			
CO	0.027	0.010	0.010	0.006			
VOC	0.008	0.002	0.004	0.001			
Emission Rate (lbs/day)							
PM10	2.523	0.885	1.413	0.135	4.95	0.84	0.84
PM2.5	2.461	0.864	0.659	0.131	4.12	0.70	0.70
CO	1.057	0.256	0.651	0.131	2.09	2.09	2.09
VOC	0.304	0.044	0.245	0.016	0.61	0.09	0.09
NOx Calculations							
Heating Value (Btu/scf)	1020	1020	1020	1020			
NOx Emission Rate (lbs/scf)	0.0001	0.0001	0.0001	0.0001			
Emission Rate (lbs/day)	0.063	0.063	0.063	0.063	0.25	0.25	0.25

Source:
EPA, Technical Memorandum--Methods for Developing a National Emission Inventory for Commerical Cooking Processes, December 22, 2003.
SCAQMD Rule 1138 reduces VOC emissions by 86% and PM emissions by 83%.

Golden Oaks Ranch - Office Option
Back-Up Diesel Generator Usage
December 2010

Number of Generators	Horespower	Hours per Year
1	500	50

Pollutant	Emission Factor (lbs/hp-h	Emissions (lbs/Yr)	Emissions (lbs/Day)
NOx	0.0310	775.0	2.1
CO	0.0067	167.0	0.5
SOx	0.0021	51.3	0.1
VOC	0.0025	62.9	0.2
PM10	0.0022	55.0	0.2
PM2.5	0.0020	49.0	0.1
CO2	1.1500	28750.0	78.8

Notes:
Operation of proposed generators would typically include hourly test once per month or a total annual usage of 50 hours.

Source:
http://www.epa.gov/ttn/chief/ap42/ch03/final/c03s03.pdf

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: E:\Active\My Dropbox\Projects\Golden Oak Ranch\Operations\Ops 2014 Office Option.urb924

Project Name: Disney Golden Oak Ranch-Operations Soundstage Option Buildout Year 2014

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas							
Hearth							
Landscape	0.61	0.10	7.73	0.00	0.03	0.03	14.04
Consumer Products	0.31						
Architectural Coatings	3.33						
TOTALS (lbs/day, unmitigated)	4.25	0.10	7.73	0.00	0.03	0.03	14.04

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments low rise	0.13	0.14	1.32	0.00	0.31	0.06	187.71
Strip mall	0.11	0.00	0.01	0.00	0.00	0.00	1.65
General office building	14.78	19.59	184.07	0.27	44.88	8.70	26,716.28
Warehouse	3.31	4.32	39.50	0.06	9.82	1.90	5,821.17
General light industry	2.83	2.17	20.62	0.03	4.99	0.97	2,975.76
TOTALS (lbs/day, unmitigated)	21.16	26.22	245.52	0.36	60.00	11.63	35,702.57

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Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments low rise	0.38	3.00	dwelling units	6.00	18.00	181.85
Strip mall		0.01	1000 sq ft	18.00	0.18	1.62
General office building		10.02	1000 sq ft	255.00	2,555.10	26,004.53
Warehouse		9.19	1000 sq ft	69.00	634.11	5,689.87
General light industry		1.20	1000 sq ft	224.70	269.64	2,891.89
					3,477.03	34,769.76

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.2	0.2	99.6	0.2
Light Truck < 3750 lbs	6.7	1.5	97.0	1.5
Light Truck 3751-5750 lbs	23.0	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	80.0	20.0
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0

Motorcycle	2.4	50.0	50.0	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5
Warehouse				2.0	1.0	97.0
General light industry				50.0	25.0	25.0

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: E:\Active\My Dropbox\Projects\Golden Oak Ranch\Operations\Ops 2014 Office Option.urb924

Project Name: Disney Golden Oak Ranch-Operations Soundstage Option Buildout Year 2014

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas							
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	0.31						
Architectural Coatings	3.33						
TOTALS (lbs/day, unmitigated)	3.64						

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments low rise	0.12	0.17	1.24	0.00	0.31	0.06	169.86

Strip mall	0.05	0.00	0.01	0.00	0.00	0.00	1.49
General office building	15.83	23.63	173.33	0.23	44.88	8.70	24,163.70
Warehouse	3.50	5.21	37.55	0.05	9.82	1.90	5,262.66
General light industry	2.32	2.62	19.35	0.03	4.99	0.97	2,691.90
TOTALS (lbs/day, unmitigated)	21.82	31.63	231.48	0.31	60.00	11.63	32,289.61

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments low rise	0.38	3.00	dwelling units	6.00	18.00	181.85
Strip mall		0.01	1000 sq ft	18.00	0.18	1.62
General office building		10.02	1000 sq ft	255.00	2,555.10	26,004.53
Warehouse		9.19	1000 sq ft	69.00	634.11	5,689.87
General light industry		1.20	1000 sq ft	224.70	269.64	2,891.89
					3,477.03	34,769.76

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.2	0.2	99.6	0.2
Light Truck < 3750 lbs	6.7	1.5	97.0	1.5
Light Truck 3751-5750 lbs	23.0	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	80.0	20.0

Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.4	50.0	50.0	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5
Warehouse				2.0	1.0	97.0
General light industry				50.0	25.0	25.0

Golden Oaks Ranch - Soundstage Option
Regional Operational Emissions
December 2010

	Volatile Organic Compounds (VOCs)	Nitrogen Oxides (NOx)	Carbon Monoxide (CO)	Sulfur Oxides (SOx)	Particulate Matter <10 Microns (PM10)	Particulate Matter <2.5 Microns (PM2.5)
Future Emissions (Project Buildout)						
Regional Mobile Emissions (Car/Truck Trips) [1]	20	29	226	<1	55	11
Stationary Emissions (On-site Natural Gas Usage, Painting, Consumer Products) [2]	5	4	9	<1	<1	<1
Electricity Consumption (Powerplant emissions) [3]	<1	14	2	1	<1	<1
Charbroiler + Emergency Generator	<1	2	3	<1	<1	<1
Total	26	50	241	2	57	12
Incremental Increase						
Incremental Difference (Increase/Decrease)	26	50	241	2	57	12
SCAQMD Regional Operational Threshold	55	55	550	150	150	55
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

[1] Emissions from vehicle trips to and from project site. Based on ITE trip generation and EMFAC2007. See attached URBEMIS2007 outputs for details

[2] Emissions from on-site uses such as architectural coatings (painting), natural gas combustion (water heaters, cooking), consumer products and landscaping emissions

[3] Includes emissions as a result of electricity generation for use at the project site. Based on SCAQMD electricity generation factors (Appendix A9-C11 CEQA Handbook). See attached electricity usage worksheet.

Golden Oaks Ranch - Soundstage Option
Electricity Usage Emissions
December 2010

Future Buidout Emissions						Emission Rate (lbs/day)					
						VOC	NOx	CO	SOx	PM10	PM2.5
Future Buildout Land Uses	**Amount**	**Units**	**SCAQMD Electricity Usage Factor (kWh/Sq. Ft./Year)**	**Project Electricity Usage (MWh/Day)**	**Emission Rate (lbs/Mwh) --->**	**0.01**	**1.15**	**0.2**	**0.12**	**0.04**	**0.04**
Office	198.75	KSF	12.95	7.1		0	8 1		1	0	0
Retail	18.00	KSF	13.55	0.7		0	1 0		0	0	0
Warehouse	395.90	KSF	4.35	4.7		0	5 1		1	0	0
Total Future Buildout Emissions						**0**	**14**	**2**	**1**	**0**	**0**

a Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.

b Emission Factors from Table A9-11-B, CEQA Air Quality Handbook, SCAQMD, 1993.

c Natural Gas Usage Rates from Table A9-12-A, CEQA Air Quality Handbook, SCAQMD, 1993.

d Emission Factors from URBEMIS2002 Version 8.7 (US EPA 1995)

e The emission factors for NOx in lbs per million cuft of natural gas are 100 for nonresidential uses and 94 for residential uses.

Golden Oaks Ranch - Soundstage Option
Natural Gas Usage Emissions
December 2010

Future Buidout Emissions						Emission Rate (lbs/day)[a]					
						VOC	NOx	CO	SOx	PM10	PM2.5
Future Buildout Land Uses	**Amount**	**Units**	**SCAQMD Natural Gas Usage Rate (cu. Ft/sq. ft/month)**	**Project Natural Gas Usage (cu. Ft/day)**	**Emission Rate (lbs/MMSCF) --->**	**7.26**	**100/94[b]**	**40**	**0**	**0.18**	**0.18**
Office	198.75	KSF	2	13250.0		0.10	1.33	0.53	0.00	0.00	0.00
Retail	18.00	KSF	2.9	1740.0		0.01	0.17	0.07	0.00	0.00	0.00
Warehouse	395.90	KSF	2	26393.3		0.19	2.64	1.06	0.00	0.00	0.00
Residential (Multi-Family DU)	6.00	DU	4011.5	802.3		0	0	0	0	0	0
Total Future Buildout Emissions						**0**	**4 2**		**0**	**0**	**0**

a Natural Gas Usage Rates from Table A9-12-A, CEQA Air Quality Handbook, SCAQMD, 1993.

b 100 lbs/MSCF = non-residential emission factor. 94 lbs/MSC = residential emission factor.

Golden Oaks Ranch - Soundstage Option
Charbroiler Emissions
December 2010

	Hamburger	Steak	Chicken	Seafood	Total	Controlled	# of Restaurants
Pounds of Meat Cooked per Week	270	180	471	143	1064		1
Emission Factors (lb/lb of meat)							
PM10	0.065	0.034	0.021	0.007			
PM2.5	0.064	0.034	0.010	0.006			
CO	0.027	0.010	0.010	0.006			
VOC	0.008	0.002	0.004	0.001			
Emission Rate (lbs/day)							
PM10	2.523	0.885	1.413	0.135	4.95	0.84	0.84
PM2.5	2.461	0.864	0.659	0.131	4.12	0.70	0.70
CO	1.057	0.256	0.651	0.131	2.09	2.09	2.09
VOC	0.304	0.044	0.245	0.016	0.61	0.09	0.09
NOx Calculations							
Heating Value (Btu/scf)	1020	1020	1020	1020			
NOx Emission Rate (lbs/scf)	0.0001	0.0001	0.0001	0.0001			
Emission Rate (lbs/day)	0.063	0.063	0.063	0.063	0.25	0.25	0.25

Source:
EPA, Technical Memorandum--Methods for Developing a National Emission Inventory for Commerical Cooking Processes, December 22, 2003.
SCAQMD Rule 1138 reduces VOC emissions by 86% and PM emissions by 83%.

Golden Oaks Ranch - Soundstage Option
Back-Up Diesel Generator Usage
December 2010

Number of Generators	Horespower	Hours per Year
1	500	50

Pollutant	Emission Factor (lbs/hp-h	Emissions (lbs/Yr)	Emissions (lbs/Day)
NOx	0.0310	775.0	2.1
CO	0.0067	167.0	0.5
SOx	0.0021	51.3	0.1
VOC	0.0025	62.9	0.2
PM10	0.0022	55.0	0.2
PM2.5	0.0020	49.0	0.1
CO2	1.1500	28750.0	78.8

Notes:
Operation of proposed generators would typically include hourly test once per month or a total annual usage of 50 hours.

Source:
http://www.epa.gov/ttn/chief/ap42/ch03/final/c03s03.pdf

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: E:\Active\My Dropbox\Projects\Golden Oak Ranch\Operations\Ops 2014 Soundstage Option.urb924

Project Name: Disney Golden Oak Ranch-Operations Soundstage Option Buildout Year 2014

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas							
Hearth							
Landscape	0.61	0.10	7.73	0.00	0.03	0.03	14.04
Consumer Products	0.31						
Architectural Coatings	3.60						
TOTALS (lbs/day, mitigated)	4.52	0.10	7.73	0.00	0.03	0.03	14.04

Area Source Changes to Defaults

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments low rise	0.12	0.13	1.23	0.00	0.29	0.06	175.73

Strip mall	0.11	0.00	0.01	0.00	0.00	0.00	1.62
General office building	11.37	15.03	141.25	0.21	34.44	6.68	20,501.95
Warehouse	4.47	5.84	53.43	0.08	13.28	2.57	7,874.76
General light industry	4.01	3.20	30.37	0.04	7.35	1.43	4,382.10
TOTALS (lbs/day, mitigated)	20.08	24.20	226.29	0.33	55.36	10.74	32,936.16

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments low rise	0.38	3.00	dwelling units	6.00	18.00	181.85
Strip mall		0.01	1000 sq ft	18.00	0.18	1.62
General office building		10.16	1000 sq ft	198.75	2,019.30	20,551.43
Warehouse		9.52	1000 sq ft	92.00	875.84	7,858.91
General light industry		1.35	1000 sq ft	303.90	410.26	4,400.09
					3,323.58	32,993.90

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.2	0.2	99.6	0.2
Light Truck < 3750 lbs	6.7	1.5	97.0	1.5
Light Truck 3751-5750 lbs	23.0	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	80.0	20.0
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0

Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.4	50.0	50.0	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5
Warehouse				2.0	1.0	97.0
General light industry				50.0	25.0	25.0

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: E:\Active\My Dropbox\Projects\Golden Oak Ranch\Operations\Ops 2014 Soundstage Option.urb924

Project Name: Disney Golden Oak Ranch-Operations Soundstage Option Buildout Year 2014

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas							
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	0.31						
Architectural Coatings	3.60						
TOTALS (lbs/day, mitigated)	3.91						

Area Source Changes to Defaults

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments low rise	0.12	0.16	1.16	0.00	0.29	0.06	159.02

Strip mall	0.05	0.00	0.01	0.00	0.00	0.00	1.46
General office building	12.16	18.14	133.03	0.17	34.44	6.68	18,543.07
Warehouse	4.73	7.04	50.79	0.07	13.28	2.57	7,119.21
General light industry	3.34	3.86	28.50	0.04	7.35	1.43	3,964.07
TOTALS (lbs/day, mitigated)	20.40	29.20	213.49	0.28	55.36	10.74	29,786.83

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments low rise	0.38	3.00	dwelling units	6.00	18.00	181.85
Strip mall		0.01	1000 sq ft	18.00	0.18	1.62
General office building		10.16	1000 sq ft	198.75	2,019.30	20,551.43
Warehouse		9.52	1000 sq ft	92.00	875.84	7,858.91
General light industry		1.35	1000 sq ft	303.90	410.26	4,400.09
					3,323.58	32,993.90

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.2	0.2	99.6	0.2
Light Truck < 3750 lbs	6.7	1.5	97.0	1.5
Light Truck 3751-5750 lbs	23.0	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	80.0	20.0
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0

Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.4	50.0	50.0	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5
Warehouse				2.0	1.0	97.0
General light industry				50.0	25.0	25.0

Golden Oak Ranch - Office

CALINE4 Modeling Results and Estimated Local 1-Hour Carbon Monoxide Concentrations (ppm)

Projected Background 1-Hour CO Concentrations (ppm) [a]

Monitoring Station: Santa Clarita

Year	1-Hr Concentration
2015	5.1

Intersection and Receptor Locations	Future Without Project		Future With Project		
	Traffic CO Contribution [b]	Estimated Local CO Concentration [c]	Traffic CO Contribution [b]	Estimated Local CO Concentration [c]	Exceedance of Significance Threshold [d]
SIERRA HIGHWAY AND PLACERTIA CANYON ROAD					
NE	0.5	5.6	0.5	5.6	NO
SE	0.6	5.7	0.7	5.8	NO
SW	0.8	5.9	0.9	6.0	NO
NW	0.9	6.0	0.9	6.0	NO
SIERRA HIGHWAY AND PLACERTIA CANYON ROAD					
NE	1.1	6.2	1.2	6.3	NO
SE	1.1	6.2	1.1	6.2	NO
SW	0.6	5.7	0.6	5.7	NO
NW	0.6	5.7	0.6	5.7	NO
SIERRA HIGHWAY AND SR14 SB RAMPS					
NE	0.7	5.8	0.7	5.8	NO
SE	0.7	5.8	0.7	5.8	NO
SW	1.1	6.2	1.1	6.2	NO
NW	1.1	6.2	1.1	6.2	NO
SIERRA HIGHWAY AND SR14 SB RAMPS					
NE	1.1	6.2	1.2	6.3	NO
SE	1.1	6.2	1.1	6.2	NO
SW	0.6	5.7	0.6	5.7	NO
NW	0.6	5.7	0.6	5.7	NO

a Based on guidance provided by the AQMD Air Quality Analysis Guidance Handbook

b The 1-hour traffic contribution (ppm) is determined by inputing total traffic volumes into the CALINE4 model.

c The estimated local concentration is the traffic contribution + the background concentration.

d The California Ambient Air Quality Standard for 1-hour CO concentrations is 20 ppm.

Golden Oak Ranch - Office

CALINE4 Modeling Results and Estimated Local 8-Hour Carbon Monoxide Concentrations (ppm)

Projected Background 8-Hour CO Concentrations (ppm) [a]

Monitoring Station: Santa Clarita

Year	8-Hr Concentration
2015	2.6

Average Persistence Factor = 0.70

Intersection and Receptor Locations	Future Without Project		Future With Project		
	Traffic CO Contribution [b]	Estimated Local CO Concentration [c]	Traffic CO Contribution [b]	Estimated Local CO Concentration [c]	Exceedance of Significance Threshold [d]
SIERRA HIGHWAY AND PLACERTIA CANYON ROAD					
NE	0.3	2.9	0.4	3.0	NO
SE	0.4	3.0	0.4	3.0	NO
SW	0.4	3.0	0.4	3.0	NO
NW	0.4	3.0	0.4	3.0	NO
SIERRA HIGHWAY AND PLACERTIA CANYON ROAD					
NE	0.6	3.2	0.6	3.2	NO
SE	0.5	3.1	0.5	3.1	NO
SW	0.4	3.0	0.4	3.0	NO
NW	0.4	3.0	0.4	3.0	NO
SIERRA HIGHWAY AND SR14 SB RAMPS					
NE	0.4	3.0	0.4	3.0	NO
SE	0.4	3.0	0.4	3.0	NO
SW	0.6	3.2	0.6	3.2	NO
NW	0.5	3.1	0.6	3.2	NO
SIERRA HIGHWAY AND SR14 SB RAMPS					
NE	0.5	3.1	0.6	3.2	NO
SE	0.5	3.1	0.6	3.2	NO
SW	0.4	3.0	0.4	3.0	NO
NW	0.4	3.0	0.4	3.0	NO

a Based on guidance provided by the AQMD Air Quality Analysis Guidance Handbook.

b The persistence factor is calculated as recommended in Table B.15 in the Transportation Project-Level Carbon Monoxide Protocol (Institute of Transportation Studies, UC Davis, Revised 1997). This is a generalized persistence factor likely to provide a conservative estimate in most situations.

c The estimated local concentration is the traffic contribution + the background concentration.

d The California Ambient Air Quality Standard for 8-hour CO concentrations is 9 ppm.

Golden Oak Ranch - Soundstage

CALINE4 Modeling Results and Estimated Local 1-Hour Carbon Monoxide Concentrations (ppm)

Projected Background 1-Hour CO Concentrations (ppm) [a]

Monitoring Station: Santa Clarita

Year	1-Hr Concentration
2015	5.1

Intersection and Receptor Locations	Future Without Project		Future With Project		
	Traffic CO Contribution [b]	Estimated Local CO Concentration [c]	Traffic CO Contribution [b]	Estimated Local CO Concentration [c]	Exceedance of Significance Threshold [d]
SIERRA HIGHWAY AND PLACERTIA CANYON ROAD					
NE	0.5	5.6	0.5	5.6	NO
SE	0.6	5.7	0.7	5.8	NO
SW	0.8	5.9	0.9	6.0	NO
NW	0.9	6.0	0.9	6.0	NO
SIERRA HIGHWAY AND PLACERTIA CANYON ROAD					
NE	1.1	6.2	1.1	6.2	NO
SE	1.1	6.2	1.1	6.2	NO
SW	0.6	5.7	0.6	5.7	NO
NW	0.6	5.7	0.6	5.7	NO
SIERRA HIGHWAY AND SR14 SB RAMPS					
NE	0.7	5.8	0.7	5.8	NO
SE	0.7	5.8	0.7	5.8	NO
SW	1.1	6.2	1.1	6.2	NO
NW	1.1	6.2	1.1	6.2	NO
SIERRA HIGHWAY AND SR14 SB RAMPS					
NE	1.1	6.2	1.2	6.3	NO
SE	1.1	6.2	1.1	6.2	NO
SW	0.6	5.7	0.6	5.7	NO
NW	0.6	5.7	0.6	5.7	NO

a Based on guidance provided by the AQMD Air Quality Analysis Guidance Handbook

b The 1-hour traffic contribution (ppm) is determined by inputing total traffic volumes into the CALINE4 model.

c The estimated local concentration is the traffic contribution + the background concentration.

d The California Ambient Air Quality Standard for 1-hour CO concentrations is 20 ppm.

Golden Oak Ranch - Soundstage

CALINE4 Modeling Results and Estimated Local 8-Hour Carbon Monoxide Concentrations (ppm)

Projected Background 8-Hour CO Concentrations (ppm) [a]

Monitoring Station: Santa Clarita

Year	8-Hr Concentration
2015	2.6

Average Persistence Factor = 0.70

Intersection and Receptor Locations	Future Without Project		Future With Project		
	Traffic CO Contribution [b]	Estimated Local CO Concentration [c]	Traffic CO Contribution [b]	Estimated Local CO Concentration [c]	Exceedance of Significance Threshold [d]
SIERRA HIGHWAY AND PLACERTIA CANYON ROAD					
NE	0.3	2.9	0.4	3.0	NO
SE	0.4	3.0	0.4	3.0	NO
SW	0.4	3.0	0.4	3.0	NO
NW	0.4	3.0	0.4	3.0	NO
SIERRA HIGHWAY AND PLACERTIA CANYON ROAD					
NE	0.6	3.2	0.6	3.2	NO
SE	0.5	3.1	0.5	3.1	NO
SW	0.4	3.0	0.4	3.0	NO
NW	0.4	3.0	0.4	3.0	NO
SIERRA HIGHWAY AND SR14 SB RAMPS					
NE	0.4	3.0	0.4	3.0	NO
SE	0.4	3.0	0.4	3.0	NO
SW	0.6	3.2	0.6	3.2	NO
NW	0.5	3.1	0.6	3.2	NO
SIERRA HIGHWAY AND SR14 SB RAMPS					
NE	0.5	3.1	0.6	3.2	NO
SE	0.5	3.1	0.6	3.2	NO
SW	0.4	3.0	0.4	3.0	NO
NW	0.4	3.0	0.4	3.0	NO

a Based on guidance provided by the AQMD Air Quality Analysis Guidance Handbook.

b The persistence factor is calculated as recommended in Table B.15 in the Transportation Project-Level Carbon Monoxide Protocol (Institute of Transportation Studies, UC Davis, Revised 1997). This is a generalized persistence factor likely to provide a conservative estimate in most situations.

c The estimated local concentration is the traffic contribution + the background concentration.

d The California Ambient Air Quality Standard for 8-hour CO concentrations is 9 ppm.

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: SIERRA HIGHWAY AND PLACERTIA CANYON ROAD AM NP
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S Z0= 100. CM ALT= 0. (FT)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= .0 PPM
SIGTH= 5. DEGREES TEMP= 15.6 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. NF	23	-1500	23	-500	AG	359	2.0	.0	50.0
B. NA	23	-500	23	0	AG	353	2.7	.0	45.0
C. ND	23	0	23	500	AG	557	2.2	.0	33.0
D. NE	23	500	23	1500	AG	557	2.0	.0	50.0
E. SF	-23	1500	-23	500	AG	1629	2.0	.0	50.0
F. SA	-23	500	-23	0	AG	1495	2.9	.0	45.0
G. SD	-23	0	-23	-500	AG	1571	2.3	.0	33.0
H. SE	-23	-500	-23	-1500	AG	1571	2.0	.0	50.0
I. WF	1500	23	500	23	AG	370	2.0	.0	50.0
J. WA	500	23	0	23	AG	287	4.3	.0	45.0
K. WD	0	23	-500	23	AG	51	2.9	.0	33.0
L. WE	-500	23	-1500	23	AG	51	2.0	.0	50.0
M. EF	-1500	-23	-500	-23	AG	60	2.0	.0	50.0
N. EA	-500	-23	0	-23	AG	47	4.3	.0	45.0
O. ED	0	-23	500	-23	AG	239	2.9	.0	33.0
P. EE	500	-23	1500	-23	AG	239	2.0	.0	50.0
Q. NL	0	0	15	-500	AG	6	2.7	.0	33.0
R. SL	0	0	-15	500	AG	134	2.7	.0	33.0
S. WL	0	0	500	15	AG	83	4.3	.0	33.0
T. EL	0	0	-500	-15	AG	13	4.3	.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NE3	48	48	6.0
2. SE3	48	-48	6.0
3. SW3	-48	-48	6.0
4. NW3	-48	48	6.0
5. NE7	61	61	6.0
6. SE7	61	-61	6.0
7. SW7	-61	-61	6.0
8. NW7	-61	61	6.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE3	186.	.5	.0	.2	.0	.0	.0	.0	.0	.2
2. SE3	352.	.6	.0	.0	.2	.0	.0	.2	.0	.0
3. SW3	5.	.8	.0	.0	.0	.0	.0	.6	.0	.0
4. NW3	5.	.9	.0	.0	.0	.0	.1	.7	.0	.0
5. NE7	187.	.4	.0	.1	.0	.0	.0	.0	.0	.1
6. SE7	350.	.5	.0	.0	.1	.0	.0	.2	.0	.0
7. SW7	6.	.6	.0	.0	.0	.0	.0	.4	.0	.0
8. NW7	7.	.6	.0	.0	.0	.0	.0	.4	.0	.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. SE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. NE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. SE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. SW7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. NW7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: SIERRA HIGHWAY AND PLACERTIA CANYON ROAD AM WP (OFFICE)
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S Z0= 100. CM ALT= 0. (FT)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= .0 PPM
SIGTH= 5. DEGREES TEMP= 15.6 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. NF	23	-1500	23	-500	AG	359	2.0	.0	50.0
B. NA	23	-500	23	0	AG	353	2.7	.0	45.0
C. ND	23	0	23	500	AG	599	2.2	.0	33.0
D. NE	23	500	23	1500	AG	599	2.0	.0	50.0
E. SF	-23	1500	-23	500	AG	1683	2.0	.0	50.0
F. SA	-23	500	-23	0	AG	1495	2.9	.0	45.0
G. SD	-23	0	-23	-500	AG	1571	2.3	.0	33.0
H. SE	-23	-500	-23	-1500	AG	1571	2.0	.0	50.0
I. WF	1500	23	500	23	AG	414	2.0	.0	50.0
J. WA	500	23	0	23	AG	331	4.2	.0	45.0
K. WD	0	23	-500	23	AG	53	2.7	.0	33.0
L. WE	-500	23	-1500	23	AG	53	2.0	.0	50.0
M. EF	-1500	-23	-500	-23	AG	74	2.0	.0	50.0
N. EA	-500	-23	0	-23	AG	61	4.2	.0	45.0
O. ED	0	-23	500	-23	AG	307	2.7	.0	33.0
P. EE	500	-23	1500	-23	AG	307	2.0	.0	50.0
Q. NL	0	0	15	-500	AG	6	2.7	.0	33.0
R. SL	0	0	-15	500	AG	188	2.7	.0	33.0
S. WL	0	0	500	15	AG	83	4.2	.0	33.0
T. EL	0	0	-500	-15	AG	13	4.2	.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NE3	48	48	6.0
2. SE3	48	-48	6.0
3. SW3	-48	-48	6.0
4. NW3	-48	48	6.0
5. NE7	61	61	6.0
6. SE7	61	-61	6.0
7. SW7	-61	-61	6.0
8. NW7	-61	61	6.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE3	186.	.5	.0	.2	.0	.0	.0	.0	.0	.2
2. SE3	352.	.7	.0	.0	.2	.0	.0	.2	.0	.0
3. SW3	5.	.9	.0	.0	.0	.0	.0	.6	.0	.0
4. NW3	5.	.9	.0	.0	.0	.0	.1	.7	.0	.0
5. NE7	187.	.5	.0	.1	.0	.0	.0	.0	.0	.1
6. SE7	350.	.5	.0	.0	.1	.0	.0	.2	.0	.0
7. SW7	6.	.6	.0	.0	.0	.0	.0	.4	.0	.0
8. NW7	97.	.6	.0	.0	.0	.0	.0	.2	.0	.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. SE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. NE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. SE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. SW7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. NW7	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: SIERRA HIGHWAY AND PLACERTIA CANYON ROAD AM WP (SOUNDSTAGE)
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S Z0= 100. CM ALT= 0. (FT)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= .0 PPM
SIGTH= 5. DEGREES TEMP= 15.6 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. NF	23	-1500	23	-500	AG	359	2.0	.0	50.0
B. NA	23	-500	23	0	AG	353	2.7	.0	45.0
C. ND	23	0	23	500	AG	598	2.2	.0	33.0
D. NE	23	500	23	1500	AG	598	2.0	.0	50.0
E. SF	-23	1500	-23	500	AG	1681	2.0	.0	50.0
F. SA	-23	500	-23	0	AG	1495	2.9	.0	45.0
G. SD	-23	0	-23	-500	AG	1571	2.3	.0	33.0
H. SE	-23	-500	-23	-1500	AG	1571	2.0	.0	50.0
I. WF	1500	23	500	23	AG	413	2.0	.0	50.0
J. WA	500	23	0	23	AG	330	4.2	.0	45.0
K. WD	0	23	-500	23	AG	53	2.7	.0	33.0
L. WE	-500	23	-1500	23	AG	53	2.0	.0	50.0
M. EF	-1500	-23	-500	-23	AG	74	2.0	.0	50.0
N. EA	-500	-23	0	-23	AG	61	4.2	.0	45.0
O. ED	0	-23	500	-23	AG	305	2.7	.0	33.0
P. EE	500	-23	1500	-23	AG	305	2.0	.0	50.0
Q. NL	0	0	15	-500	AG	6	2.7	.0	33.0
R. SL	0	0	-15	500	AG	186	2.7	.0	33.0
S. WL	0	0	500	15	AG	83	4.2	.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NE3	48	48	6.0
2. SE3	48	-48	6.0
3. SW3	-48	-48	6.0
4. NW3	-48	48	6.0
5. NE7	61	61	6.0
6. SE7	61	-61	6.0
7. SW7	-61	-61	6.0
. NW7	-61	61	6.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE3	186.	.5	.0	.2	.0	.0	.0	.0	.0	.2
2. SE3	352.	.7	.0	.0	.2	.0	.0	.2	.0	.0
3. SW3	5.	.9	.0	.0	.0	.0	.0	.6	.0	.0
4. NW3	5.	.9	.0	.0	.0	.0	.1	.7	.0	.0
5. NE7	187.	.5	.0	.1	.0	.0	.0	.0	.0	.1
6. SE7	350.	.5	.0	.0	.1	.0	.0	.2	.0	.0

POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. SE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. NE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. SE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: SIERRA HIGHWAY AND PLACERTIA CANYON ROAD PM NP
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S Z0= 100. CM ALT= 0. (FT)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= .0 PPM
SIGTH= 5. DEGREES TEMP= 15.6 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. NF	23	-1500	23	-500	AG	1945	2.0	.0	50.0
B. NA	23	-500	23	0	AG	1925	3.0	.0	45.0
C. ND	23	0	23	500	AG	1936	2.5	.0	33.0
D. NE	23	500	23	1500	AG	1936	2.0	.0	50.0
E. SF	-23	1500	-23	500	AG	623	2.0	.0	50.0
F. SA	-23	500	-23	0	AG	595	2.7	.0	45.0
G. SD	-23	0	-23	-500	AG	625	2.2	.0	33.0
H. SE	-23	-500	-23	-1500	AG	625	2.0	.0	50.0
I. WF	1500	23	500	23	AG	280	2.0	.0	50.0
J. WA	500	23	0	23	AG	229	4.3	.0	45.0
K. WD	0	23	-500	23	AG	84	4.3	.0	33.0
L. WE	-500	23	-1500	23	AG	84	2.0	.0	50.0
M. EF	-1500	-23	-500	-23	AG	53	2.0	.0	50.0
N. EA	-500	-23	0	-23	AG	43	4.3	.0	45.0
O. ED	0	-23	500	-23	AG	256	4.3	.0	33.0
P. EE	500	-23	1500	-23	AG	256	2.0	.0	50.0
Q. NL	0	0	15	-500	AG	20	2.7	.0	33.0
R. SL	0	0	-15	500	AG	28	2.7	.0	33.0
S. WL	0	0	500	15	AG	51	4.3	.0	33.0
T. EL	0	0	-500	-15	AG	10	4.3	.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NE3	48	48	6.0
2. SE3	48	-48	6.0
3. SW3	-48	-48	6.0
4. NW3	-48	48	6.0
5. NE7	61	61	6.0
6. SE7	61	-61	6.0
7. SW7	-61	-61	6.0
8. NW7	-61	61	6.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE3	185.	1.1	.1	.8	.0	.0	.0	.0	.0	.0
2. SE3	353.	1.1	.0	.2	.6	.0	.0	.0	.0	.0
3. SW3	83.	.6	.0	.2	.0	.0	.0	.0	.0	.0
4. NW3	172.	.6	.1	.2	.0	.0	.0	.0	.2	.0
5. NE7	186.	.8	.0	.5	.0	.0	.0	.0	.0	.0
6. SE7	354.	.7	.0	.0	.3	.0	.0	.0	.0	.0
7. SW7	80.	.5	.0	.2	.0	.0	.0	.0	.0	.0
8. NW7	170.	.5	.0	.2	.0	.0	.0	.0	.1	.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. SE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW3	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0
4. NW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. NE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. SE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. SW7	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
8. NW7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: SIERRA HIGHWAY AND PLACERTIA CANYON ROAD PM WP (OFFICE)
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S Z0= 100. CM ALT= 0. (FT)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= .0 PPM
SIGTH= 5. DEGREES TEMP= 15.6 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. NF	23	-1500	23	-500	AG	1945	2.0	.0	50.0
B. NA	23	-500	23	0	AG	1925	3.0	.0	45.0
C. ND	23	0	23	500	AG	2202	2.5	.0	33.0
D. NE	23	500	23	1500	AG	2202	2.0	.0	50.0
E. SF	-23	1500	-23	500	AG	633	2.0	.0	50.0
F. SA	-23	500	-23	0	AG	595	2.7	.0	45.0
G. SD	-23	0	-23	-500	AG	625	2.2	.0	33.0
H. SE	-23	-500	-23	-1500	AG	625	2.0	.0	50.0
I. WF	1500	23	500	23	AG	559	2.0	.0	50.0
J. WA	500	23	0	23	AG	508	4.2	.0	45.0
K. WD	0	23	-500	23	AG	97	2.7	.0	33.0
L. WE	-500	23	-1500	23	AG	97	2.0	.0	50.0
M. EF	-1500	-23	-500	-23	AG	56	2.0	.0	50.0
N. EA	-500	-23	0	-23	AG	46	4.2	.0	45.0
O. ED	0	-23	500	-23	AG	269	2.7	.0	33.0
P. EE	500	-23	1500	-23	AG	269	2.0	.0	50.0
Q. NL	0	0	15	-500	AG	20	2.7	.0	33.0
R. SL	0	0	-15	500	AG	38	2.7	.0	33.0
S. WL	0	0	500	15	AG	51	4.2	.0	33.0
T. EL	0	0	-500	-15	AG	10	4.2	.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NE3	48	48	6.0
2. SE3	48	-48	6.0
3. SW3	-48	-48	6.0
4. NW3	-48	48	6.0
5. NE7	61	61	6.0
6. SE7	61	-61	6.0
7. SW7	-61	-61	6.0
8. NW7	-61	61	6.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE3	185.	1.2	.1	.8	.0	.0	.0	.0	.0	.0
2. SE3	353.	1.1	.0	.2	.6	.0	.0	.0	.0	.0
3. SW3	82.	.6	.0	.2	.0	.0	.0	.0	.0	.0
4. NW3	172.	.6	.1	.2	.0	.0	.0	.0	.2	.0
5. NE7	186.	.8	.0	.5	.0	.0	.0	.0	.0	.0
6. SE7	354.	.7	.0	.0	.4	.1	.0	.0	.0	.0
7. SW7	80.	.5	.0	.2	.0	.0	.0	.0	.0	.0
8. NW7	97.	.6	.0	.0	.2	.0	.0	.0	.0	.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE3	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. SE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW3	.0	.1	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
4. NW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. NE7	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. SE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. SW7	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. NW7	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: SIERRA HIGHWAY AND PLACERTIA CANYON ROAD PM WP (SOUNDSTAGE)
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S Z0= 100. CM ALT= 0. (FT)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= .0 PPM
SIGTH= 5. DEGREES TEMP= 15.6 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. NF	23	-1500	23	-500	AG	1945	2.0	.0	50.0
B. NA	23	-500	23	0	AG	1925	3.0	.0	45.0
C. ND	23	0	23	500	AG	2193	2.5	.0	33.0
D. NE	23	500	23	1500	AG	2193	2.0	.0	50.0
E. SF	-23	1500	-23	500	AG	632	2.0	.0	50.0
F. SA	-23	500	-23	0	AG	595	2.7	.0	45.0
G. SD	-23	0	-23	-500	AG	625	2.2	.0	33.0
H. SE	-23	-500	-23	-1500	AG	625	2.0	.0	50.0
I. WF	1500	23	500	23	AG	549	2.0	.0	50.0
J. WA	500	23	0	23	AG	498	4.2	.0	45.0
K. WD	0	23	-500	23	AG	96	2.7	.0	33.0
L. WE	-500	23	-1500	23	AG	96	2.0	.0	50.0
M. EF	-1500	-23	-500	-23	AG	55	2.0	.0	50.0
N. EA	-500	-23	0	-23	AG	45	4.2	.0	45.0
O. ED	0	-23	500	-23	AG	267	2.7	.0	33.0
P. EE	500	-23	1500	-23	AG	267	2.0	.0	50.0
Q. NL	0	0	15	-500	AG	20	2.7	.0	33.0
R. SL	0	0	-15	500	AG	37	2.7	.0	33.0
S. WL	0	0	500	15	AG	51	4.2	.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NE3	48	48	6.0
2. SE3	48	-48	6.0
3. SW3	-48	-48	6.0
4. NW3	-48	48	6.0
5. NE7	61	61	6.0
6. SE7	61	-61	6.0
7. SW7	-61	-61	6.0
. NW7	-61	61	6.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE3	185.	1.1	.1	.8	.0	.0	.0	.0	.0	.0
2. SE3	353.	1.1	.0	.2	.6	.0	.0	.0	.0	.0
3. SW3	82.	.6	.0	.2	.0	.0	.0	.0	.0	.0
4. NW3	172.	.6	.1	.2	.0	.0	.0	.0	.2	.0
5. NE7	186.	.8	.0	.5	.0	.0	.0	.0	.0	.0
6. SE7	354.	.7	.0	.0	.4	.1	.0	.0	.0	.0

POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE3	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. SE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW3	.0	.1	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
4. NW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. NE7	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. SE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: SIERRA HIGHWAY AND SR14 SB RAMPS AM NP
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S Z0= 100. CM ALT= 0. (FT)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= .0 PPM
SIGTH= 5. DEGREES TEMP= 15.6 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. NF	23	-1500	23	-500	AG	549	2.0	.0	50.0
B. NA	23	-500	23	0	AG	549	2.8	.0	33.0
C. ND	23	0	23	500	AG	413	2.2	.0	33.0
D. NE	23	500	23	1500	AG	413	2.0	.0	50.0
E. SF	-23	1500	-23	500	AG	2479	2.0	.0	50.0
F. SA	-23	500	-23	0	AG	1581	2.9	.0	45.0
G. SD	-23	0	-23	-500	AG	1640	2.3	.0	33.0
H. SE	-23	-500	-23	-1500	AG	1640	2.0	.0	50.0
I. WF	0	1800	0	1900	AG	64	2.0	.0	35.0
J. WA	0	1800	0	1900	AG	5	4.3	.0	33.0
K. WD	0	15	-500	15	AG	0	4.3	.0	33.0
L. WE	-500	15	-1500	15	AG	0	2.0	.0	35.0
M. EF	-1500	-15	-500	-15	AG	0	2.0	.0	35.0
N. EA	-500	-15	0	-15	AG	0	4.3	.0	33.0
O. ED	0	1800	0	1900	AG	1039	4.3	.0	33.0
P. EE	0	1800	0	1900	AG	1039	2.0	.0	35.0
Q. NL	0	-1900	0	-1800	AG	0	2.7	.0	33.0
R. SL	0	0	-15	500	AG	898	3.5	.0	33.0
S. WL	0	-1900	0	-1800	AG	59	4.3	.0	33.0
T. EL	0	0	-500	-15	AG	0	4.3	.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NE3	48	33	6.0
2. SE3	48	-33	6.0
3. SW3	-48	-33	6.0
4. NW3	-48	33	6.0
5. NE7	61	46	6.0
6. SE7	61	-46	6.0
7. SW7	-61	-46	6.0
8. NW7	-61	46	6.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE3	349.	.7	.0	.0	.1	.0	.0	.2	.0	.0
2. SE3	351.	.7	.0	.0	.1	.0	.0	.2	.0	.0
3. SW3	5.	1.1	.0	.0	.0	.0	.1	.7	.0	.0
4. NW3	6.	1.1	.0	.0	.0	.0	.1	.7	.0	.0
5. NE7	346.	.5	.0	.0	.0	.0	.0	.2	.0	.0
6. SE7	349.	.6	.0	.0	.0	.0	.0	.2	.0	.0
7. SW7	7.	.8	.0	.0	.0	.0	.0	.4	.0	.0
8. NW7	8.	.7	.0	.0	.0	.0	.0	.4	.0	.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
2. SE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
3. SW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
4. NW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
5. NE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
6. SE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
7. SW7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
8. NW7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: SIERRA HIGHWAY AND SR14 SB RAMPS AM WP (OFFICE)
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S Z0= 100. CM ALT= 0. (FT)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= .0 PPM
SIGTH= 5. DEGREES TEMP= 15.6 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. NF	23	-1500	23	-500	AG	590	2.0	.0	50.0
B. NA	23	-500	23	0	AG	590	2.8	.0	33.0
C. ND	23	0	23	500	AG	415	2.2	.0	33.0
D. NE	23	500	23	1500	AG	415	2.0	.0	50.0
E. SF	-23	1500	-23	500	AG	2497	2.0	.0	50.0
F. SA	-23	500	-23	0	AG	1599	2.9	.0	45.0
G. SD	-23	0	-23	-500	AG	1694	2.3	.0	33.0
H. SE	-23	-500	-23	-1500	AG	1694	2.0	.0	50.0
I. WF	0	1800	0	1900	AG	100	2.0	.0	35.0
J. WA	0	1800	0	1900	AG	5	4.3	.0	33.0
K. WD	0	15	-500	15	AG	0	4.3	.0	33.0
L. WE	-500	15	-1500	15	AG	0	2.0	.0	35.0
M. EF	-1500	-15	-500	-15	AG	0	2.0	.0	35.0
N. EA	-500	-15	0	-15	AG	0	4.3	.0	33.0
O. ED	0	1800	0	1900	AG	1078	4.3	.0	33.0
P. EE	0	1800	0	1900	AG	1078	2.0	.0	35.0
Q. NL	0	-1900	0	-1800	AG	0	2.7	.0	33.0
R. SL	0	0	-15	500	AG	898	3.5	.0	33.0
S. WL	0	-1900	0	-1800	AG	95	4.3	.0	33.0
T. EL	0	0	-500	-15	AG	0	4.3	.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NE3	48	33	6.0
2. SE3	48	-33	6.0
3. SW3	-48	-33	6.0
4. NW3	-48	33	6.0
5. NE7	61	46	6.0
6. SE7	61	-46	6.0
7. SW7	-61	-46	6.0
8. NW7	-61	46	6.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE3	349.	.7	.0	.0	.1	.0	.0	.2	.0	.0
2. SE3	351.	.7	.0	.0	.1	.0	.0	.2	.0	.0
3. SW3	5.	1.1	.0	.0	.0	.0	.1	.7	.0	.0
4. NW3	6.	1.1	.0	.0	.0	.0	.1	.7	.0	.0
5. NE7	346.	.5	.0	.0	.0	.0	.0	.2	.0	.0
6. SE7	349.	.6	.0	.0	.0	.0	.0	.2	.0	.0
7. SW7	7.	.8	.0	.0	.0	.0	.0	.4	.0	.0
8. NW7	8.	.8	.0	.0	.0	.0	.0	.4	.0	.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
2. SE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
3. SW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
4. NW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
5. NE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
6. SE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
7. SW7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
8. NW7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: SIERRA HIGHWAY AND SR14 SB RAMPS AM WP (SOUNDSTAGE)
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S Z0= 100. CM ALT= 0. (FT)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= .0 PPM
SIGTH= 5. DEGREES TEMP= 15.6 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. NF	23	-1500	23	-500	AG	589	2.0	.0	50.0
B. NA	23	-500	23	0	AG	589	2.8	.0	33.0
C. ND	23	0	23	500	AG	415	2.2	.0	33.0
D. NE	23	500	23	1500	AG	415	2.0	.0	50.0
E. SF	-23	1500	-23	500	AG	2496	2.0	.0	50.0
F. SA	-23	500	-23	0	AG	1598	2.9	.0	45.0
G. SD	-23	0	-23	-500	AG	1692	2.3	.0	33.0
H. SE	-23	-500	-23	-1500	AG	1692	2.0	.0	50.0
I. WF	0	1800	0	1900	AG	99	2.0	.0	35.0
J. WA	0	1800	0	1900	AG	5	4.3	.0	33.0
K. WD	0	15	-500	15	AG	0	4.3	.0	33.0
L. WE	-500	15	-1500	15	AG	0	2.0	.0	35.0
M. EF	-1500	-15	-500	-15	AG	0	2.0	.0	35.0
N. EA	-500	-15	0	-15	AG	0	4.3	.0	33.0
O. ED	0	1800	0	1900	AG	1077	4.3	.0	33.0
P. EE	0	1800	0	1900	AG	1077	2.0	.0	35.0
Q. NL	0	-1900	0	-1800	AG	0	2.7	.0	33.0
R. SL	0	0	-15	500	AG	898	3.5	.0	33.0
S. WL	0	-1900	0	-1800	AG	94	4.3	.0	33.0
T. EL	0	0	-500	-15	AG	0	4.3	.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NE3	48	33	6.0
2. SE3	48	-33	6.0
3. SW3	-48	-33	6.0
4. NW3	-48	33	6.0
5. NE7	61	46	6.0
6. SE7	61	-46	6.0
7. SW7	-61	-46	6.0
8. NW7	-61	46	6.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE3	349.	.7	.0	.0	.1	.0	.0	.2	.0	.0
2. SE3	351.	.7	.0	.0	.1	.0	.0	.2	.0	.0
3. SW3	5.	1.1	.0	.0	.0	.0	.1	.7	.0	.0
4. NW3	6.	1.1	.0	.0	.0	.0	.1	.7	.0	.0
5. NE7	346.	.5	.0	.0	.0	.0	.0	.2	.0	.0
6. SE7	349.	.6	.0	.0	.0	.0	.0	.2	.0	.0
7. SW7	7.	.8	.0	.0	.0	.0	.0	.4	.0	.0
8. NW7	8.	.8	.0	.0	.0	.0	.0	.4	.0	.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
2. SE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
3. SW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
4. NW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
5. NE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
6. SE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
7. SW7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
8. NW7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: SIERRA HIGHWAY AND SR14 SB RAMPS PM NP
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S Z0= 100. CM ALT= 0. (FT)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= .0 PPM
SIGTH= 5. DEGREES TEMP= 15.6 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. NF	23	-1500	23	-500	AG	1951	2.0	.0	50.0
B. NA	23	-500	23	0	AG	1951	3.8	.0	33.0
C. ND	23	0	23	500	AG	1895	2.3	.0	33.0
D. NE	23	500	23	1500	AG	1895	2.0	.0	50.0
E. SF	-23	1500	-23	500	AG	858	2.0	.0	50.0
F. SA	-23	500	-23	0	AG	585	2.7	.0	45.0
G. SD	-23	0	-23	-500	AG	617	2.2	.0	33.0
H. SE	-23	-500	-23	-1500	AG	617	2.0	.0	50.0
I. WF	0	1800	0	1900	AG	35	2.0	.0	35.0
J. WA	0	1800	0	1900	AG	3	4.3	.0	33.0
K. WD	0	15	-500	15	AG	0	4.3	.0	33.0
L. WE	-500	15	-1500	15	AG	0	2.0	.0	35.0
M. EF	-1500	-15	-500	-15	AG	0	2.0	.0	35.0
N. EA	-500	-15	0	-15	AG	0	4.3	.0	33.0
O. ED	0	1800	0	1900	AG	332	4.3	.0	33.0
P. EE	0	1800	0	1900	AG	332	2.0	.0	35.0
Q. NL	0	-1900	0	-1800	AG	0	2.7	.0	33.0
R. SL	0	0	-15	500	AG	273	2.8	.0	33.0
S. WL	0	-1900	0	-1800	AG	32	4.3	.0	33.0
T. EL	0	0	-500	-15	AG	0	4.3	.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NE3	48	33	6.0
2. SE3	48	-33	6.0
3. SW3	-48	-33	6.0
4. NW3	-48	33	6.0
5. NE7	61	46	6.0
6. SE7	61	-46	6.0
7. SW7	-61	-46	6.0
8. NW7	-61	46	6.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE3	186.	1.1	.0	.9	.0	.0	.0	.0	.0	.0
2. SE3	186.	1.1	.0	.9	.0	.0	.0	.0	.0	.0
3. SW3	169.	.6	.0	.3	.0	.0	.0	.0	.2	.0
4. NW3	170.	.6	.0	.3	.0	.0	.0	.0	.2	.0
5. NE7	187.	.7	.0	.6	.0	.0	.0	.0	.0	.0
6. SE7	188.	.7	.0	.6	.0	.0	.0	.0	.0	.0
7. SW7	7.	.5	.0	.0	.0	.2	.0	.2	.0	.0
8. NW7	168.	.5	.0	.3	.0	.0	.0	.0	.1	.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. SE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. NE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. SE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. SW7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. NW7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: SIERRA HIGHWAY AND SR14 SB RAMPS PM WP (OFFICE)
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S Z0= 100. CM ALT= 0. (FT)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= .0 PPM
SIGTH= 5. DEGREES TEMP= 15.6 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. NF	23	-1500	23	-500	AG	2217	2.0	.0	50.0
B. NA	23	-500	23	0	AG	2217	3.8	.0	33.0
C. ND	23	0	23	500	AG	1911	2.5	.0	33.0
D. NE	23	500	23	1500	AG	1911	2.0	.0	50.0
E. SF	-23	1500	-23	500	AG	861	2.0	.0	50.0
F. SA	-23	500	-23	0	AG	588	2.7	.0	45.0
G. SD	-23	0	-23	-500	AG	626	2.2	.0	33.0
H. SE	-23	-500	-23	-1500	AG	626	2.0	.0	50.0
I. WF	0	1800	0	1900	AG	41	2.0	.0	35.0
J. WA	0	1800	0	1900	AG	3	4.3	.0	33.0
K. WD	0	15	-500	15	AG	0	4.3	.0	33.0
L. WE	-500	15	-1500	15	AG	0	2.0	.0	35.0
M. EF	-1500	-15	-500	-15	AG	0	2.0	.0	35.0
N. EA	-500	-15	0	-15	AG	0	4.3	.0	33.0
O. ED	0	1800	0	1900	AG	582	4.3	.0	33.0
P. EE	0	1800	0	1900	AG	582	2.0	.0	35.0
Q. NL	0	-1900	0	-1800	AG	0	2.7	.0	33.0
R. SL	0	0	-15	500	AG	273	2.8	.0	33.0
S. WL	0	-1900	0	-1800	AG	38	4.3	.0	33.0
T. EL	0	0	-500	-15	AG	0	4.3	.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NE3	48	33	6.0
2. SE3	48	-33	6.0
3. SW3	-48	-33	6.0
4. NW3	-48	33	6.0
5. NE7	61	46	6.0
6. SE7	61	-46	6.0
7. SW7	-61	-46	6.0
8. NW7	-61	46	6.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE3	186.	1.2	.0	1.0	.0	.0	.0	.0	.0	.0
2. SE3	186.	1.1	.0	.9	.0	.0	.0	.0	.0	.0
3. SW3	169.	.6	.0	.3	.0	.0	.0	.0	.2	.0
4. NW3	169.	.6	.0	.4	.0	.0	.0	.0	.2	.0
5. NE7	187.	.8	.0	.6	.0	.0	.0	.0	.0	.0
6. SE7	188.	.8	.0	.6	.0	.0	.0	.0	.0	.0
7. SW7	7.	.5	.0	.0	.0	.2	.0	.2	.0	.0
8. NW7	168.	.5	.0	.3	.0	.0	.0	.0	.1	.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. SE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. NE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. SE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. SW7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. NW7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: SIERRA HIGHWAY AND SR14 SB RAMPS PM WP (SOUNDSTAGE)
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S Z0= 100. CM ALT= 0. (FT)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= .0 PPM
SIGTH= 5. DEGREES TEMP= 15.6 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. NF	23	-1500	23	-500	AG	2208	2.0	.0	50.0
B. NA	23	-500	23	0	AG	2208	3.8	.0	33.0
C. ND	23	0	23	500	AG	1910	2.5	.0	33.0
D. NE	23	500	23	1500	AG	1910	2.0	.0	50.0
E. SF	-23	1500	-23	500	AG	861	2.0	.0	50.0
F. SA	-23	500	-23	0	AG	588	2.7	.0	45.0
G. SD	-23	0	-23	-500	AG	626	2.2	.0	33.0
H. SE	-23	-500	-23	-1500	AG	626	2.0	.0	50.0
I. WF	0	1800	0	1900	AG	41	2.0	.0	35.0
J. WA	0	1800	0	1900	AG	3	4.3	.0	33.0
K. WD	0	15	-500	15	AG	0	4.3	.0	33.0
L. WE	-500	15	-1500	15	AG	0	2.0	.0	35.0
M. EF	-1500	-15	-500	-15	AG	0	2.0	.0	35.0
N. EA	-500	-15	0	-15	AG	0	4.3	.0	33.0
O. ED	0	1800	0	1900	AG	574	4.3	.0	33.0
P. EE	0	1800	0	1900	AG	574	2.0	.0	35.0
Q. NL	0	-1900	0	-1800	AG	0	2.7	.0	33.0
R. SL	0	0	-15	500	AG	273	2.8	.0	33.0
S. WL	0	-1900	0	-1800	AG	38	4.3	.0	33.0
T. EL	0	0	-500	-15	AG	0	4.3	.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NE3	48	33	6.0
2. SE3	48	-33	6.0
3. SW3	-48	-33	6.0
4. NW3	-48	33	6.0
5. NE7	61	46	6.0
6. SE7	61	-46	6.0
7. SW7	-61	-46	6.0
. NW7	-61	46	6.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE3	186.	1.2	.0	1.0	.0	.0	.0	.0	.0	.0
2. SE3	186.	1.1	.0	.9	.0	.0	.0	.0	.0	.0
3. SW3	169.	.6	.0	.3	.0	.0	.0	.0	.2	.0
4. NW3	169.	.6	.0	.4	.0	.0	.0	.0	.2	.0
5. NE7	187.	.8	.0	.6	.0	.0	.0	.0	.0	.0
6. SE7	188.	.8	.0	.6	.0	.0	.0	.0	.0	.0

RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. SE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NW3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. NE7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

Title : Los Angeles County Avg Winter CYr 2015 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/02/24 22:57:32
Scen Year: 2015 -- All model years in the range 1971 to 2015 selected
Season : Winter
Area : Los Angeles
****
****

Year: 2015 -- Model Years 1971 to 2015 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Table 1: Running Exhaust Emissions (grams/mile)

Pollutant Name: Carbon Monoxide Temperature: 60F Relative Humidity: 50%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
3	2.599	4.308	6.695	14.452	26.271	27.934	4.354
4	2.527	4.175	6.531	14.452	26.271	27.934	4.256
5	2.458	4.050	6.378	14.452	26.271	27.934	4.164
6	2.393	3.931	6.055	13.360	23.978	26.884	3.993
7	2.331	3.819	5.760	12.354	21.936	25.920	3.833
8	2.272	3.713	5.491	11.430	20.115	25.034	3.685
9	2.216	3.612	5.244	10.579	18.488	24.220	3.547
10	2.163	3.517	5.017	9.798	17.032	23.472	3.418
11	2.112	3.426	4.809	9.080	15.727	22.786	3.298
12	2.063	3.340	4.616	8.423	14.555	22.156	3.186
13	2.016	3.258	4.439	7.822	13.503	21.580	3.081
14	1.971	3.180	4.275	7.274	12.555	21.053	2.983
15	1.928	3.105	4.122	6.777	11.701	20.572	2.892
16	1.887	3.034	3.981	6.327	10.930	20.134	2.806
17	1.848	2.966	3.850	5.922	10.234	19.738	2.726
18	1.810	2.901	3.728	5.561	9.604	19.381	2.652
19	1.773	2.839	3.614	5.232	9.034	19.060	2.581
20	1.738	2.779	3.508	5.015	8.517	18.775	2.519
21	1.704	2.722	3.409	4.814	8.049	18.523	2.460
22	1.672	2.668	3.316	4.627	7.623	18.305	2.405
23	1.640	2.615	3.230	4.452	7.237	18.118	2.352
24	1.610	2.565	3.148	4.290	6.886	17.962	2.302
25	1.581	2.517	3.072	4.139	6.567	17.836	2.254
26	1.553	2.470	3.001	3.998	6.278	17.741	2.209
27	1.525	2.426	2.934	3.867	6.015	17.675	2.166
28	1.499	2.383	2.871	3.745	5.776	17.638	2.125
29	1.474	2.342	2.812	3.632	5.560	17.631	2.087
30	1.450	2.302	2.757	3.527	5.364	17.655	2.050
31	1.426	2.265	2.705	3.429	5.186	17.708	2.015
32	1.403	2.228	2.657	3.338	5.027	17.793	1.982
33	1.381	2.193	2.611	3.255	4.883	17.910	1.951
34	1.360	2.160	2.569	3.178	4.754	18.060	1.921
35	1.340	2.128	2.529	3.107	4.639	18.245	1.893
36	1.320	2.097	2.492	3.042	4.538	18.465	1.867
37	1.301	2.068	2.457	2.984	4.448	18.723	1.842
38	1.283	2.039	2.426	2.930	4.371	19.020	1.819
39	1.265	2.012	2.396	2.883	4.305	19.359	1.798
40	1.249	1.987	2.369	2.840	4.249	19.743	1.778

Appendix E.2

GHG Worksheets

Golden Oak Ranch
Draft EIR

Appendix E.2
GHG Worksheets
January 2011

E.2.1 Project Construction Emissions

E.2.2 Project Operation Emissions

Appendix E.2.1

- GHG Construction Worksheets and URBEMIS Output Sheets

Golden Oaks Ranch (Soundstage Scenario)
Construction Emissions
January 2011

Scalar: 0.7

Phase 1 (2012)

	Combustion Sources			Water (Dust Control)				
Construction Activity	**URBEMIS Output (tons CO_2/year)[1]**	**Tons CO_2/year[2]**	**Metric Tons CO2e per Year[3]**	**Average Daily Acreage Disturbed**	**Million Gallons Per Year[4]**	**MWh/Year[5]**	**Metric Tons CO2e[6]**	**Total Metric Tons CO2e per Year**
Diesel Sources (On-road and Off-Road)	457	320	291					291
Water (Dust Control)				2.0	0.9	7.6	2.7	3
Total:	457	320	291					294

Phase 1 (2013)

	Combustion Sources			Water (Dust Control)				
Construction Activity	**URBEMIS Output (tons CO_2/year)[1]**	**Tons CO_2/year[2]**	**Metric Tons CO2e per Year[3]**	**Average Daily Acreage Disturbed**	**Million Gallons Per Year[4]**	**MWh/Year[5]**	**Metric Tons CO2e[6]**	**Total Metric Tons CO2e per Year**
Diesel Sources (On-road and Off-Road)	6,206	4,344	3,956					3,956
Water (Dust Control)				2.0	0.9	7.6	2.7	3
Total:	6,206	4,344	3,956					3,959

Phase 1 (2014)

	Combustion Sources			Water (Dust Control)				
Construction Activity	**URBEMIS Output (tons CO_2/year)[1]**	**Tons CO_2/year[2]**	**Metric Tons CO2e per Year[3]**	**Average Daily Acreage Disturbed**	**Million Gallons Per Year[4]**	**MWh/Year[5]**	**Metric Tons CO2e[6]**	**Total Metric Tons CO2e per Year**
Diesel Sources (On-road and Off-Road)	4,191	2,934	2,672					2,672
Water (Dust Control)				2.0	0.9	7.6	2.7	3
Total:	4,191	2,934	2,672					2,675

Phase 2 (2015)

	Combustion Sources			Water (Dust Control)				
Construction Activity	**URBEMIS Output (tons CO_2/year)[1]**	**Tons CO_2/year[2]**	**Metric Tons CO2e per Year[3]**	**Average Daily Acreage Disturbed**	**Million Gallons Per Year[4]**	**MWh/Year[5]**	**Metric Tons CO2e[6]**	**Total Metric Tons CO2e per Year**
Diesel Sources (On-road and Off-Road)	34	23	21					21
Water (Dust Control)				2.0	0.9	7.6	2.7	3
Total:	34	23	21					24

Summary

Construction Year	**Total Metric Tons CO2e per Year**	**Total Metric Tons CO2e Amortized over 30 years**	**% Statewide Emissions CO2e**
2012	294	10	0.0001%
2013	3,959	132	0.0008%
2014	2,675	89	0.0006%
2015	24	1	0.0000%
Total:	6,952	232	0.0015%

Notes:

1. Consistent with the criteria pollutant analysis, CO_2 emissions from construction sources were calculated using URBEMIS2007.
2. Annual construction emissions are based on maximum daily emissions for each phase and then corrected to account for an average annual daily rate (70%).
3. The conversion from CO_2 to CO2e for diesel is based on the following information: One gallon of diesel fuel burned produces 22.384 pounds of CO_2, 0.000534 pounds of CH_4, and 0.0001928 pounds N_2O (USEPA, Office of Transportation and Ai r Quality, Emission Facts: Average Carbon Dioxide Resulting from Gasoline and Diesel Fuel, 2005 and California Climate Action Registry General Reporting Protocol, v3.1, Table C.6 (January 2009). Based on the global warming potential of 21 for CH_4 and 310 for N_2O relative to CO_2, the total pounds of CO2e from diesel fuel is 22.455 CO2e/gallon, which is 99.6 percent of the total emissions. Therefore, the CO_2 estimate was multiplied by 100/99.6 to incorporate the contribution of the other greenhouse gases.
4. Gallons per year of water usage for dust control is calculated based on a minimum control efficiency of 60% with an application rate of 1,703 gal/acre/day (Air & Waste Management Association Air Pollution Engineering Manual (1992 Edition)) and average of 22 construction days per month.
5. California Energy Commission, California's Water--Energy Relationship, November 2005 (Each gallon of delivered potable water in Southern California is associated with 0.0085 kWhr of electrictiy).
6. CO2e/MWhr greenhouse gas emission factor (727.18 lbs of CO2e/MWh) is from the California Climate Action Registry General Reporting Protocol, v3.1 (January 2009). The emission factor is based on 724.12 lbs of CO_2/MWh, 0.03 lbs of CH_4/MWh, and 0.008 lbs of N_2O/MWh with a CO2e factor of 23 for CH_4 and 296 for N_2O.

Golden Oaks Ranch (Office Scenario)
Construction Emissions
January 2011

Scalar: 0.7

Phase 1 (2012)

	Combustion Sources			Water (Dust Control)				
Construction Activity	**URBEMIS Output (tons CO_2/year)[1]**	**Tons CO_2/year[2]**	**Metric Tons CO2e per Year[3]**	**Average Daily Acreage Disturbed**	**Million Gallons Per Year[4]**	**MWh/Year[5]**	**Metric Tons CO2e[6]**	**Total Metric Tons CO2e per Year**
Diesel Sources (On-road and Off-Road)	457	320	291					291
Water (Dust Control)				2.0	0.9	7.6	2.7	3
Total:	457	320	291					294

Phase 1 (2013)

	Combustion Sources			Water (Dust Control)				
Construction Activity	**URBEMIS Output (tons CO_2/year)[1]**	**Tons CO_2/year[2]**	**Metric Tons CO2e per Year[3]**	**Average Daily Acreage Disturbed**	**Million Gallons Per Year[4]**	**MWh/Year[5]**	**Metric Tons CO2e[6]**	**Total Metric Tons CO2e per Year**
Diesel Sources (On-road and Off-Road)	6,206	4,344	3,956					3,956
Water (Dust Control)				2.0	0.9	7.6	2.7	3
Total:	6,206	4,344	3,956					3,959

Phase 1 (2014)

	Combustion Sources			Water (Dust Control)				
Construction Activity	**URBEMIS Output (tons CO_2/year)[1]**	**Tons CO_2/year[2]**	**Metric Tons CO2e per Year[3]**	**Average Daily Acreage Disturbed**	**Million Gallons Per Year[4]**	**MWh/Year[5]**	**Metric Tons CO2e[6]**	**Total Metric Tons CO2e per Year**
Diesel Sources (On-road and Off-Road)	4,191	2,934	2,672					2,672
Water (Dust Control)				2.0	0.9	7.6	2.7	3
Total:	4,191	2,934	2,672					2,675

Phase 2 (2015)

	Combustion Sources			Water (Dust Control)				
Construction Activity	**URBEMIS Output (tons CO_2/year)[1]**	**Tons CO_2/year[2]**	**Metric Tons CO2e per Year[3]**	**Average Daily Acreage Disturbed**	**Million Gallons Per Year[4]**	**MWh/Year[5]**	**Metric Tons CO2e[6]**	**Total Metric Tons CO2e per Year**
Diesel Sources (On-road and Off-Road)	34	23	21					21
Water (Dust Control)				2.0	0.9	7.6	2.7	3
Total:	34	23	21					24

Summary

Construction Year	**Total Metric Tons CO2e per Year**	**Total Metric Tons CO2e Amortized over 30 years**	**% Statewide Emissions CO2e**
2012	294	10	0.0001%
2013	3,959	132	0.0008%
2014	2,675	89	0.0006%
2015	24	1	0.0000%
Total:	6,952	232	0.0015%

Notes:

1. Consistent with the criteria pollutant analysis, CO_2 emissions from construction sources were calculated using URBEMIS2007.
2. Annual construction emissions are based on maximum daily emissions for each phase and then corrected to account for an average annual daily rate (70%).
3. The conversion from CO_2 to CO2e for diesel is based on the following information: One gallon of diesel fuel burned produces 22.384 pounds of CO_2, 0.000534 pounds of CH_4, and 0.0001928 pounds N_2O (USEPA, Office of Transportation and Ai r Quality, Emission Facts: Average Carbon Dioxide Resulting from Gasoline and Diesel Fuel, 2005 and California Climate Action Registry General Reporting Protocol, v3.1, Table C.6 (January 2009). Based on the global warming potential of 21 for CH_4 and 310 for N_2O relative to CO_2, the total pounds of CO2e from diesel fuel is 22.455 CO2e/gallon, which is 99.6 percent of the total emissions. Therefore, the CO_2 estimate was multiplied by 100/99.6 to incorporate the contribution of the other greenhouse gases.
4. Gallons per year of water usage for dust control is calculated based on a minimum control efficiency of 60% with an application rate of 1,703 gal/acre/day (Air & Waste Management Association Air Pollution Engineering Manual (1992 Edition)) and average of 22 construction days per month.
5. California Energy Commission, California's Water--Energy Relationship, November 2005 (Each gallon of delivered potable water in Southern California is associated with 0.0085 kWhr of electrictiy).
6. CO2e/MWhr greenhouse gas emission factor (727.18 lbs of CO2e/MWh) is from the California Climate Action Registry General Reporting Protocol, v3.1 (January 2009). The emission factor is based on 724.12 lbs of CO_2/MWh, 0.03 lbs of CH_4/MWh, and 0.008 lbs of N_2O/MWh with a CO2e factor of 23 for CH_4 and 296 for N_2O.

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Urbemis 2007 Version 9.2.4

Summary Report for Annual Emissions (Tons/Year)

File Name: S:\Active Projects\Golden Oak Ranch\Technical Reports & Technical Issues\Air Quality & GHG\Golden Oak Ranch (ready for transfer)\Construction Revised for Night Haul\URBEMIS\Construction Phase 1 and2 combined.urb924

Project Name: Disney Golden Oak Ranch-Phase I and II Construction Buildout Year 2014

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	CO2
2012 TOTALS (tons/year unmitigated)	456.66
2013 TOTALS (tons/year unmitigated)	5,852.00
2014 TOTALS (tons/year unmitigated)	3,726.33
2015 TOTALS (tons/year unmitigated)	33.51

NOTE: CO2 emissions from offsite utilities is provided in Appendix E.1.1.

Appendix E.2.2

- GHG Operation Worksheets and URBEMIS Output Sheets for VMT/ADT
  - Soundstage Scenario
  - Office Scenario

Golden Oaks Ranch (Soundstage Scenario)
Operational Greenhouse Gas Emissions Inventory
January 2011

Business as Usual with State Mandates	mtons/yr
	CO_2e
Mobile Source	6,352
Electricity Usage	1,011
Natural Gas Usage	728
Water Usage / Wastewater Generation	113
Solid Waste	69
Carbon Sequestration (Trees)	13
Construction	232
Total	**8,518**
Comparison to 2008 Statewide Total of 473,790,000	0.0018%

Project with Project Features and State Mandates4	mtons/yr
	CO_2e
Mobile Source	5,147
Electricity Usage	870
Natural Gas Usage	626
Water Usage / Wastewater Generation	90
Solid Waste	69
Carbon Sequestration (Trees)	13
Construction	232
Total with GHG Reducing Features	**7,046**
Comparison to 2008 Statewide Total of 473,790,000	0.0015%

Increase/Decrease		
	CO_2e	
Mobile Source	(1,205)	-19%
Electricity Usage	(142)	-14%
Natural Gas Usage	(102)	-14%
Water Usage / Wastewater Generation	(23)	-20%
Solid Waste	0	0%
Construction	0	0%
Total with GHG Reducing Features	**(1,471)**	
	-17.3%	

Golden Oaks Ranch (Soundstage Scenario)
Electricity Usage Emissions
January 2011

Business as Usual with State Mandates						Emission Rate (mtons/year)[3]			
						CO_2	CH_4	NO_2	CO_2e
Land Use	Amount	Units	SCAQMD Electricity Usage Factor (kWh/Sq. Ft./Year)[1]	Electricity Usage with State Mandates and Title 24 (MWh/Year)	Emission Rate[2] (lbs/Mwh) --->	724.12	0.0302	0.0081	
Office	198.75	KSF	12.95	1,578		518	0.02	0.01	521
Retail	0.00	KSF	13.55	0		0	0.00	0.00	0
Hotel/Motel	0.00	KSF	9.95	0		0	0.00	0.00	0
Restaurant	0.00	KSF	47.45	0		0	0.00	0.00	0
Food Store	18.00	KSF	53.30	588		193	0.01	0.00	194
Warehouse	329.60	KSF	4.35	879		289	0.01	0.00	290
College/University	0.00	KSF	11.55	0		0	0.00	0.00	0
High School	0.00	KSF	10.50	0		0	0.00	0.00	0
Daycare/Library	0.00	KSF	5.90	0		0	0.00	0.00	0
Hospital	0.00	KSF	21.70	0		0	0.00	0.00	0
City Park	0.00	KSF	10.50	0		0	0.00	0.00	0
Residential (DU)	6.00	DU	5,626.50	21		7	0.00	0.00	7
Total Future Buildout:				**3,066**		**1,007**	**0.04**	**0.01**	**1,011**

Energy Reduction from State Mandates[4]		**33.0%**
Energy Reduction from Title 24[4]		**8.5%**
Energy Reduction Project Features[5]		**14%**

Project with Project Features and State Mandates						Emission Rate (mtons/year)[3]			
						CO_2	CH_4	NO_2	CO_2e
Land Use	Amount	Units	SCAQMD Electricity Usage Factor (kWh/Sq. Ft./Year)[1]	Electricity Usage with State Mandates, Title 24 and Project Features (MWh/Year)	Emission Rate[2] (lbs/Mwh) --->	724.12	0.0302	0.0081	
Office	198.75	KSF	12.95	1,357		446	0.02	0.00	448
Retail	0.00	KSF	13.55	0		0	0.00	0.00	0
Hotel/Motel	0.00	KSF	9.95	0		0	0.00	0.00	0
Restaurant	0.00	KSF	47.45	0		0	0.00	0.00	0
Food Store	18.00	KSF	53.30	506		166	0.01	0.00	167
Warehouse	329.60	KSF	4.35	756		248	0.01	0.00	249
College/University	0.00	KSF	11.55	0		0	0.00	0.00	0
High School	0.00	KSF	10.50	0		0	0.00	0.00	0
Daycare/Library	0.00	KSF	5.90	0		0	0.00	0.00	0
Hospital	0.00	KSF	21.70	0		0	0.00	0.00	0
City Park	0.00	KSF	10.50	0		0	0.00	0.00	0
Residential (DU)	6.00	DU	5,626.50	18		6	0.00	0.00	6
Total Future Buildout:				**2,637**		**866**	**0.04**	**0.01**	**870**

Notes:

1. Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.
2. Electricity Usage Rates from California Energy Commission Staff Report: California's Water - Energy Relationship. 2005
3. Emission factors for CO_2, CH_4, and N_2O were derived from the California Climate Action Registry General Reporting Protocol; Version 3.1, January 2009
4. Reduction from State Mandates: In 2004, SCE indicated that 18 percent of its electricity came from renewable resources. Therefore, in 2020 SCE will increase its electricity from renewable resources by an additional 15 percent to comply with the Renewables Portfolio Standard of 33 percent (California Energy Commission, Accelerated Renewable Energy Development, July 30, 2004). Title 24 2005 Standard resulted in a 8.5 percent electric demand saving compared to Title 24 2001 Standard for non-residential new construction (California Energy Commission, Impact Analysis-2005 Update to the California Energy Efficiency Standards (Table 3), June 2003).
5. Reduction from project features: Construction of new buildings would exceed Title 24 energy requirements by 14 percent.

Golden Oaks Ranch (Soundstage Scenario)
Natural Gas Usage Emissios
January 2011

Business as Usual with State Mandates							Emission Rate (mtons/year)[3]			
							CO_2	CH_4	NO_2	CO_2e
Land Use	**Amount**	**Units**	**SCAQMD Natural Gas Usage Factor (cubic feet/sq. feet/month)[1]**	**Natural Gas Usage with State Mandates (kscf/year)**	**Natural Gas Usage (MMBTU/year)**	**Emission Rate[2] (kg/MMBTU) --->**	**53**	**0.001**	**0.0001**	
Office	198.75	KSF	2.00	4,617	4,710		250	0.00	0.00	250
Retail	0.00	KSF	2.90	0	0		0	0.00	0.00	0
Hotel/Motel	0.00	KSF	4.80	0	0		0	0.00	0.00	0
Restaurant	0.00	KSF	4.80	0	0		0	0.00	0.00	0
Food Store	18.00	KSF	2.90	626	639		34	0.00	0.00	34
Warehouse	329.60	KSF	2.00	7,910	8,069		428	0.01	0.00	429
College/University	0.00	KSF	4.80	0	0		0	0.00	0.00	0
High School	0.00	KSF	2.90	0	0		0	0.00	0.00	0
Daycare/Library	0.00	KSF	2.00	0	0		0	0.00	0.00	0
Hospital	0.00	KSF	4.80	0	0		0	0.00	0.00	0
City Park	0.00	KSF	2.90	0	0		0	0.00	0.00	0
Residential (DU)	6.00	DU	4,011.50	280	285		15	0.00	0.00	15
Total Future Buildout:				**13,434**	**13,702**		**727**	**0.01**	**0.00**	**728**

Natural Gas State Mandates Percent Reduction[4]		**3.2%**
Natural Gas Project Features Percent Reduction[5]		**14.0%**

Project with Project Features and State Mandates							Emission Rate (mtons/year)[3]			
							CO_2	CH_4	NO_2	CO_2e
Land Use	**Amount**	**Units**	**SCAQMD Natural Gas Usage Factor (cubic feet/sq. feet/month)[1]**	**Natural Gas Usage with State Mandates and Project Features (kscf/year)**	**Natural Gas Usage (MMBTU/year)**	**Emission Rate[2] (kg/MMBTU) --->**	**53**	**0.001**	**0.0001**	
Office	198.75	KSF	2.00	3,971	4,050		215	0.00	0.00	215
Retail	0.00	KSF	2.90	0	0		0	0.00	0.00	0
Hotel/Motel	0.00	KSF	4.80	0	0		0	0.00	0.00	0
Restaurant	0.00	KSF	4.80	0	0		0	0.00	0.00	0
Food Store	18.00	KSF	2.90	539	549		29	0.00	0.00	29
Warehouse	329.60	KSF	2.00	6,803	6,939		368	0.01	0.00	369
College/University	0.00	KSF	4.80	0	0		0	0.00	0.00	0
High School	0.00	KSF	2.90	0	0		0	0.00	0.00	0
Daycare/Library	0.00	KSF	2.00	0	0		0	0.00	0.00	0
Hospital	0.00	KSF	4.80	0	0		0	0.00	0.00	0
City Park	0.00	KSF	2.90	0	0		0	0.00	0.00	0
Residential (DU)	6.00	DU	4,011.50	240	245		13	0.00	0.00	13
Total Future Buildout:				**11,553**	**11,784**		**625**	**0.01**	**0.00**	**626**

Notes:
1. Natural gas usage rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.
2. Natrual gas usage rates from California Energy Commission Staff Report: California's Water - Energy Relationship. 2005
3. Emission factors for CO_2, CH_4, and N_2O were derived from the California Climate Action Registry General Reporting Protocol; Version 3.1, January 2009.
4. Reduction from State Mandates: Title 24 2005 Standard resulted in a 3.2 percent natural gas savings compared to Title 24 2001 Standard for non-residential new construction (California Energy Commission, Impact Analysis-2005 Update to the California Energy Efficiency Standards (Table 4), June 2003).
5. Reduction from project features: Construction of new buildings would exceed Title 24 energy requirements by 14 percent.

Golden Oaks Ranch (Soundstage Scenario)
Solid Waste
January 2011

Solid Waste Reduction Projct Features Percent Reduction [3]	0%

Electricity Usage from Water and Wastewater Treatment/Conveyance [1]				
				Emission Rate
Land Use		Tons/Year[1]	Metric Tons/Year	CO_2e[2]
Business as Usual with State Mandates				
Solid Waste		331.52	301	69.16
Project with Project Features and State Mandates4				
Solid Waste		331.52	301	69.16

Notes:
1. Solid waste generation rates provided in Section IV.L, of the Draft EIR. Generation rates were reduced to account for the LA regional solid waste diverseion rate of 50 percent (http://www.lacsd.org/info/waste_by_rail/default.asp).
2. The solid waste stream stream was converted to GHG emisisons based on the generic emissions factor of 0.23 metric tons CO_2e per metric tons of waste (U.S. EPA's Waste Reduction Model (WARM).
3. The Golden Oaks Ranch is expected to achieve a 50 percent diversion rate consistent with the LA regional solid waste diversion rate of 50

Golden Oaks Ranch (Soundstage Scenario)
Water Usage / Wastewater Generation
January 2011

Energy Reduction Projct Features Percent Reduction		20%

Electricity Usage from Water and Wastewater Treatment/Conveyance [1]						Emission Rate (mtons/year)			
						CO_2	CH_4	NO_2	CO_2e[c]
Land Use		**MG/Year[1]**	**Electricity Usage Factor (kWh/MG)**	**Electricity Usage (MWh/year)**	**Emission Rate[2] (lbs/Mwh) --->**	**724.12**	**0.0302**	**0.0081**	
Business as Usual with State Mandates									
Water Usage		27.56	10,200	281.07		92.32	0.00	0.00	92.72
Wastewater Genreation Rate		24.38	2,500	60.96		20.02	0.00	0.00	20.11
Total				**342.02**		112.34	0.00	0.00	**112.83**
Project with Project Features and State Mandates4									
Water Usage		22.04	10,200	224.85		73.85	0.00	0.00	74.18
Wastewater Genreation Rate		19.51	2,500	48.76		16.02	0.00	0.00	16.09
Total				**273.62**		89.87	0.00	0.00	**90.26**

Notes:
1. Water usage and wasteater generation rates provided in Section IV.L, of the Draft EIR.
2. Emission factors for CO_2, CH_4, and N_2O were derived from the California Climate Action Registry General Reporting Protocol; Version 3.1, January 2009.

Golden Oaks Ranch (Soundstage Scenario)
Carbon Sequestration (Trees)
January 2011

Carbon Sequestration[1]			
Trees	**Number of Trees[2]**	**CO_2 Seq (lbs/yr)**	**CO_2 Seq (metric tons/yr)**
Removed			
Greater than 36" in Diameter	182	39,716	18.01
Planted[3]			
Acorns	200	0	0.00
Seedlings	250	0	0.00
1 gallon and 5 gallon	350	1,848	0.84
15 gallon	700	7,267	3.30
24-inch box	30	364	0.17
36-inch box	25	345	0.16
48-inch box	20	1,037	0.47
60-box	15	929	0.42
Total	**1590**	**11790**	**5.35**
Difference			12.67

Notes:
1. Estimates of tree carbon storage were based on a numerical benefits model (Tree Benefits Estimator) developed by the Sacramento Municipal Utility District (SMUD) in collaboration with the US Department of Agriculture Forest Service, Center for Urban Forest Research. The model is designed to provide results consistent with the California Climate Action Registry's Urban Forest Project Reporting Protocols. https://usage.smud.org/treebenefit/iDefault.aspx
2. Number of trees removed and planted are provided in Section IV.F, of the Draft EIR.
3. Only trees in 1-gallon conainers or greater were considered in the analysis and were assumed as "0" age when planted.

Golden Oaks Ranch (Soundstage Scenario)

Mobile Source (Vehicular) Emissions

January 2011

Business as Usual with State Mandates			Emission Factor for CO_2			CO_2	CO_2e[3]
Land Use	**Daily Trips[1]**	**Annual VMT[2]**	**Run (gram/mile)**	**Idle (gram/trip)**	**Start (gram/trip)**	**(tons/yr)**	**(mtons/yr)**
The Ranch	3,396	33,683	420	8	59	5,781	5,519
Truck Trips	32	1,282	1,660	1,241	0	872	833
Total Future Buildout:	**3,428**	**34,965**				**6,653**	**6,352**

Project with Project Features and State Mandates[4]			Emission Factor for CO_2			CO_2	CO_2e[3]
Land Use	**Daily Trips[1]**	**VMT[2]**	**(gram/mile)**	**(gram/trip)**	**(gram/trip)**	**(tons/yr)**	**(mtons/yr)**
The Ranch	3,256	32,084	411	8	57	5,391	5,147
Truck Trips	0	0	0	0	0	0	0
Total Future Buildout:	**3,256**	**32,084**				**5,391**	**5,147**

Notes:

1. Average daily trips are based on the traffic study.
2. Vehicle miles traveled were calculated using URBEMIS2007 consistent with the criteria pollutant analysis.
3. It is assumed that methane (CH_4), nitrous oxide (N_2O), and hydrofluocarbons (HFCs) account for five percent of the global warming potential, and therefore, the CO_2 estimate was multiplied by 100/95 to incorporate the contribution of the other greenhouse gases (CO_2e). United States Environmental Protection Agency, Emission Facts--Greenhouse Gas Emissions from a Typical Passenger Vehicle, 2005 (http://www.epa.gov/otaq/climate/420f05004.pdf).
4. The Project scenario inlcudes a reduction of 70 trips per day to account for the mix of uses versus stand alone uses. In addition, the URBEMIS mitigation measure algorthims were used to calculate the reduction in trips and VMT asscoaited with the comissary and implemenation of transportation demand measures (e.g., bike parking, preferential carpool parking). In addition, the Project would reduce the number of truck trips from outside productions which currently have to travel to production facilities and would not occur with the Project (45 days of outside production x 65 trucks x 4 trips per day x 40 miles round trip).

Estimated Trip Generation

LAND USE	Size	Units	ADT	URBEMIS Trip Rate		
Sound Stages	237.6	ksf	410	1.73	Light Industrial	72 additional trips for free-standing
Production Support (office)	168.75	ksf	1714	10.16	Office	
Mills & Ready-Storage	69	ksf	701	10.16	Warehouse	
Warehouse	23	ksf	175	7.61	Warehouse	
Writer/Producer Bunalows	6	du	18	3.00		
Headquarters/Media Office	30	ksf	305	10.17	Office	
Central Plant	20	ksf	0	0.00	Light Industrial	
Substation	46.3	ksf	0	0.00	Light Industrial	
			3323			
URBEMIS Input						
Light Industrial	303.9	ksf	410	1.35		
Warehouse	92	ksf	876	9.52		
Dwelling Units	6	du	18	3.00		
Office	198.75	ksf	2019	10.16		
Commissary	18	ksf	0	0		
			3323			

LAND USE	Size	Units	ADT	URBEMIS Trip Rate	
Sound Stages	158.4	ksf	270	1.70	Light Industrial
Production Support (office)	112.5	ksf	1127	10.02	Office
Mills & Ready-Storage	46	ksf	461	10.02	Warehouse
Warehouse	23	ksf	173	7.52	Warehouse
Writer/Producer Bunalows	6	du	18	3.00	
Headquarters/Media Office	142.5	ksf	1428	10.02	Office
Central Plant	20	ksf	0	0.00	Light Industrial
Substation	46.3	ksf	0	0.00	Light Industrial
			3477		
URBEMIS Input					
Light Industrial	224.7	ksf	270	1.20	
Warehouse	69	ksf	634	9.19	
Dwelling Units	6	du	18	3.00	
Office	255	ksf	2555	10.02	
Commissary	18	ksf	0	0	
			3477		

Urbemis 2007 Version 9.2.4

Detail Report for Winter Operational Mitigated Emissions (Pounds/Day)

File Name: L:\AQNOISE DIVISION\Active Projects\Disney Golden Oak Ranch\Operations\Ops 2014 Soundstage Option.urb924

Project Name: Disney Golden Oak Ranch-Operations Soundstage Option Buildout Year 2014

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Nonresidential Mitigation Measures

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Other Transportation Demand Measures Mitigation

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Percent Reduction in Trips is 2%

Note that the above percent is applied ONLY to worker trips.

Inputs Selected:

The 'Secure Bike Parking' measure was selected

The 'Showers/Changing Facilities Provided' measure was selected

The 'Car-Sharing Services Provided' measure was selected

The 'Information provided on Transportation Alternatives' measure was selected

The 'Dedicated Employee Transportation Coordinator' measure was selected

The 'Carpool Matching Programs' measure was selected

The 'Preferential Carpool/Vanpool Parking' measure was selected

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments low rise	0.38	2.81	dwelling units	6.00	16.85	170.25
Strip mall		0.01	1000 sq ft	18.00	0.18	1.58
General office building		9.96	1000 sq ft	198.75	1,978.91	19,956.16
Warehouse		9.33	1000 sq ft	92.00	858.32	7,697.17
General light industry		1.32	1000 sq ft	303.90	402.06	4,258.62
					3,256.32	32,083.78

Los Angeles County BURDEN 2020 (1976-2020 Fleet Mix)

					% of Total			CH4 (tons/day)				CO2 (tons/day)				CH4			CO2		
Vehicle Class	Catalyst	Vehicles	VMT/1000	Trips	Vehicles	VMT/1000	Trips	Run Exh	Idle Exh	Start Ex	Total Ex	Run Exh	Idle Exh	Start Ex	Total Ex	Run (g/mi)	Idle (g/trip)	Start (g/trip)	Run (g/mi)	Idle (g/trip)	Start (g/trip)
Vehicle Class	Catalyst	Vehicles	VMT/1000	Trips	Vehicles	VMT/1000	Trips	CH4 - Run Exh (tons/day)	CH4 - Idle Exh (tons/day)	CH4 - Start Ex (tons)	CH4 - Total Ex (tons)	CO2 - Run Exh (tons/1000)	CO2 - Idle Exh (tons/1000)	CO2 - Start Ex (tons/1000)	CO2 - Total Ex (tons/1000)	CH4 - Run (g/mi)	CH4 - Idle (g/trip)	CH4 - Start (g/trip)	CO2 - Run (g/mi)	CO2 - Idle (g/trip)	CO2 - Start (g/trip)
LDA	NCAT	8119	127	31203	0.1%	0.1%	0.1%	0.05	0	0.01	0.06	0.08	0	0.01	0.08	3.6E-01	0.0E+00	1.7E+00	5.7E+02	0.0E+00	2.9E+02
LDA	CAT	3682420	120327	23068200	55.0%	52.5%	50.8%	2.34	0	0.35	2.69	52.99	0	1.82	54.8	1.8E-02	0.0E+00	1.1E-01	4.0E+02	0.0E+00	7.2E+01
LDA	DSL	4015	81	19975	0.1%	0.0%	0.0%	0	0	0	0	0.03	0	0	0.03	0.0E+00	0.0E+00	0.0E+00	3.4E+02	0.0E+00	0.0E+00
LDA	TOT	3694550	120535	23119400	55.2%	52.6%	50.9%	2.39	0	0.36	2.76	53.09	0	1.83	54.92	1.8E-02	0.0E+00	1.1E-01	4.0E+02	0.0E+00	7.2E+01
LDT1	NCAT	3522	80	13482	0.1%	0.0%	0.0%	0.03	0	0.01	0.04	0.05	0	0	0.05	3.4E-01	0.0E+00	2.7E+00	5.7E+02	0.0E+00	0.0E+00
LDT1	CAT	445700	15628	2773630	6.7%	6.8%	6.1%	0.39	0	0.05	0.44	8.61	0	0.27	8.88	2.3E-02	0.0E+00	1.4E-01	5.0E+02	0.0E+00	8.8E+01
LDT1	DSL	7241	212	42384	0.1%	0.1%	0.1%	0	0	0	0	0.08	0	0	0.08	0.0E+00	0.0E+00	0.0E+00	3.4E+02	0.0E+00	0.0E+00
LDT1	TOT	456463	15919	2829500	6.8%	6.9%	6.2%	0.43	0	0.05	0.48	8.74	0	0.28	9.02	2.5E-02	0.0E+00	1.5E-01	5.0E+02	0.0E+00	9.0E+01
LDT2	NCAT	2745	63	10617	0.0%	0.0%	0.0%	0.03	0	0	0.03	0.04	0	0	0.04	4.3E-01	0.0E+00	2.6E+00	5.8E+02	0.0E+00	0.0E+00
LDT2	CAT	1461910	51485	9142480	21.8%	22.5%	20.1%	1.51	0	0.19	1.7	28.58	0	0.91	29.48	2.7E-02	0.0E+00	1.7E-01	5.0E+02	0.0E+00	9.0E+01
LDT2	DSL	1187	34	6651	0.0%	0.0%	0.0%	0	0	0	0	0.01	0	0	0.01	0.0E+00	0.0E+00	0.0E+00	2.7E+02	0.0E+00	0.0E+00
LDT2	TOT	1465850	51582	9159750	21.9%	22.5%	20.2%	1.54	0	0.2	1.73	28.63	0	0.91	29.54	2.7E-02	0.0E+00	1.7E-01	5.0E+02	0.0E+00	9.0E+01
MDV	NCAT	3487	69	14063	0.1%	0.0%	0.0%	0.03	0	0.01	0.04	0.05	0	0	0.06	3.9E-01	0.0E+00	2.6E+00	6.6E+02	0.0E+00	0.0E+00
MDV	CAT	642367	22432	4008310	9.6%	9.8%	8.8%	0.85	0	0.13	0.98	16.98	0	0.54	17.53	3.4E-02	0.0E+00	2.2E-01	6.9E+02	0.0E+00	1.2E+02
MDV	DSL	1380	39	8152	0.0%	0.0%	0.0%	0	0	0	0	0.01	0	0	0.01	0.0E+00	0.0E+00	0.0E+00	2.3E+02	0.0E+00	0.0E+00
MDV	TOT	647234	22539	4030520	9.7%	9.8%	8.9%	0.88	0	0.14	1.02	17.05	0	0.55	17.6	3.5E-02	0.0E+00	2.3E-01	6.9E+02	0.0E+00	1.2E+02
LHDT1	NCAT	456	12	15067	0.0%	0.0%	0.0%	0	0	0.01	0.01	0.01	0	0	0.01	0.0E+00	0.0E+00	6.0E-01	7.6E+02	0.0E+00	0.0E+00
LHDT1	CAT	80165	3836	2650800	1.2%	1.7%	5.8%	0.13	0	0.1	0.23	2.94	0.02	0.12	3.08	3.1E-02	0.0E+00	7.9E-02	7.0E+02	6.8E+00	4.1E+01
LHDT1	DSL	16260	840	204528	0.2%	0.4%	0.5%	0.01	0	0	0.01	0.48	0	0	0.48	1.1E-02	0.0E+00	4.4E-02	5.2E+02	0.0E+00	0.0E+00
LHDT1	TOT	96881	4688	2870390	1.4%	2.0%	6.3%	0.14	0	0.1	0.25	3.43	0.03	0.12	3.58	2.7E-02	0.0E+00	7.9E-02	6.6E+02	9.5E+00	3.8E+01
LHDT2	NCAT	56	1	1846	0.0%	0.0%	0.0%	0	0	0	0	0	0	0	0		0.0E+00	0.0E+00		0.0E+00	0.0E+00
LHDT2	CAT	17317	822	572626	0.3%	0.4%	1.3%	0.02	0	0.02	0.04	0.63	0	0.03	0.66	2.2E-02	0.0E+00	6.3E-02	7.0E+02	0.0E+00	4.8E+01
LHDT2	DSL	12294	587	154647	0.2%	0.3%	0.3%	0	0	0	0	0.34	0	0	0.34	0.0E+00	0.0E+00	0.0E+00	5.3E+02	0.0E+00	0.0E+00
LHDT2	TOT	29667	1410	729119	0.4%	0.6%	1.6%	0.02	0	0.02	0.04	0.97	0.01	0.03	1	1.3E-02	0.0E+00	5.0E-02	6.2E+02	1.2E+01	3.7E+01
MHDT	NCAT	455	4	20765	0.0%	0.0%	0.0%	0	0	0.01	0.02	0	0	0	0.01		0.0E+00	8.7E-01		0.0E+00	0.0E+00
MHDT	CAT	12061	625	550817	0.2%	0.3%	1.2%	0.03	0	0.03	0.06	0.47	0.01	0.02	0.5	4.4E-02	0.0E+00	9.9E-02	6.8E+02	1.6E+01	3.3E+01
MHDT	DSL	46089	2982	1292340	0.7%	1.3%	2.8%	0.03	0	0	0.03	4.95	0.02	0	4.97	9.1E-03	0.0E+00	2.1E-02	1.5E+03	1.4E+01	0.0E+00
MHDT	TOT	58605	3611	1863930	0.9%	1.6%	4.1%	0.05	0	0.05	0.1	5.42	0.03	0.03	5.47	1.3E-02	0.0E+00	4.9E-02	1.4E+03	1.5E+01	1.5E+01
HHDT	NCAT	60	1	2747	0.0%	0.0%	0.0%	0	0	0	0	0	0	0	0		0.0E+00	0.0E+00		0.0E+00	0.0E+00
HHDT	CAT	1741	151	79531	0.0%	0.1%	0.2%	0.04	0	0.02	0.05	0.11	0	0	0.12	2.4E-01	0.0E+00	5.7E-01	6.6E+02	0.0E+00	0.0E+00
HHDT	DSL	27982	6088	141601	0.4%	2.7%	0.3%	0.25	0.02	0	0.27	12.57	0.34	0	12.91	3.7E-02	1.3E-01	1.7E+00	1.9E+03	2.2E+03	0.0E+00
HHDT	TOT	29783	6240	223880	0.4%	2.7%	0.5%	0.28	0.02	0.02	0.33	12.68	0.34	0	13.03	4.1E-02	8.1E-02	1.3E+00	1.8E+03	1.4E+03	0.0E+00
OBUS	NCAT	15	0	703	0.0%	0.0%	0.0%	0	0	0	0	0	0	0	0		0.0E+00	0.0E+00		0.0E+00	0.0E+00
OBUS	CAT	2260	92	103224	0.0%	0.0%	0.2%	0	0	0	0.01	0.07	0	0	0.07	0.0E+00	0.0E+00	8.8E-02	6.9E+02	0.0E+00	0.0E+00
OBUS	DSL	3913	228	109713	0.1%	0.1%	0.2%	0	0	0	0	0.38	0	0	0.38	0.0E+00	0.0E+00	0.0E+00	1.5E+03	0.0E+00	0.0E+00
OBUS	TOT	6188	319	213641	0.1%	0.1%	0.5%	0.01	0	0.01	0.01	0.45	0	0	0.45	2.8E-02	0.0E+00	4.2E-02	1.3E+03	0.0E+00	0.0E+00
SBUS	NCAT	28	1	111	0.0%	0.0%	0.0%	0	0	0	0	0	0	0	0		0.0E+00	0.0E+00		0.0E+00	0.0E+00
SBUS	CAT	684	25	2735	0.0%	0.0%	0.0%	0	0	0	0	0.02	0	0	0.02	0.0E+00	0.0E+00	0.0E+00	7.3E+02	0.0E+00	0.0E+00
SBUS	DSL	5014	186	20055	0.1%	0.1%	0.0%	0	0	0	0	0.31	0.01	0	0.32	0.0E+00	0.0E+00	0.0E+00	1.5E+03	4.5E+02	0.0E+00
SBUS	TOT	5725	212	22901	0.1%	0.1%	0.1%	0.01	0	0	0.01	0.33	0.01	0	0.34	4.3E-02	0.0E+00	4.0E-01	1.4E+03	4.0E+02	0.0E+00
UB	NCAT	18	2	72	0.0%	0.0%	0.0%	0	0	0	0	0	0	0	0						
UB	CAT	1268	138	5072	0.0%	0.1%	0.0%	0.02	0	0	0.02	0.11	0	0	0.11	1.3E-01	0.0E+00	3.6E+00	7.2E+02	0.0E+00	0.0E+00
UB	DSL	3288	359	13152	0.0%	0.2%	0.0%	0.01	0	0	0.01	1.09	0	0	1.09	2.5E-02	0.0E+00	6.9E-01	2.8E+03	0.0E+00	0.0E+00
UB	TOT	4574	499	18297	0.1%	0.2%	0.0%	0.03	0	0	0.03	1.21	0	0	1.21	5.5E-02	0.0E+00	1.5E+00	2.2E+03	0.0E+00	0.0E+00
MH	NCAT	627	5	63	0.0%	0.0%	0.0%	0	0	0	0	0	0	0	0		0.0E+00	0.0E+00		0.0E+00	0.0E+00
MH	CAT	44108	521	4413	0.7%	0.2%	0.0%	0.02	0	0	0.02	0.39	0	0	0.39	3.5E-02	0.0E+00	4.1E+00	6.8E+02	0.0E+00	0.0E+00
MH	DSL	4548	54	455	0.1%	0.0%	0.0%	0	0	0	0	0.09	0	0	0.09	0.0E+00	0.0E+00	0.0E+00	1.5E+03	0.0E+00	0.0E+00
MH	TOT	49283	580	4930	0.7%	0.3%	0.0%	0.02	0	0	0.02	0.48	0	0	0.48	3.1E-02	0.0E+00	3.7E+00	7.5E+02	0.0E+00	0.0E+00
MCY	NCAT	74923	486	149832	1.1%	0.2%	0.3%	0.14	0	0.03	0.17	0.07	0	0.01	0.08	2.6E-01	0.0E+00	1.0E+00	1.3E+02	0.0E+00	6.1E+01
MCY	CAT	74753	617	149490	1.1%	0.3%	0.3%	0.13	0	0.02	0.15	0.13	0	0	0.14	1.9E-01	0.0E+00	9.1E-01	1.9E+02	0.0E+00	0.0E+00
MCY	DSL	0	0	0	0.0%	0.0%	0.0%	0	0	0	0	0	0	0	0						
MCY	TOT	149676	1103	299322	2.2%	0.5%	0.7%	0.27	0	0.05	0.31	0.2	0	0.02	0.21	2.2E-01	0.0E+00	9.4E-01	1.6E+02	0.0E+00	6.1E+01
ALL	TOT	6694480	229238	45385600	100.0%	100.0%	100.0%	6.08	0.03	1	7.11	132.67	0.42	3.76	136.85	2.4E-02	6.0E-04	1.4E-01	5.3E+02	8.4E+00	7.5E+01

Mitigation Measures / Rulemaking Reductions

	Emission Reduction Percentages					Total
Vehicle Class	Measure T-1	Measure T-2	Measures T-4&7	Misc 2	Misc 3	
Light Duty Auto	17.2%	7.2%	0.9%	0.0%	0.0%	25.4%
Light Duty Truck 1	17.2%	7.2%	0.9%	0.0%	0.0%	25.4%
Light Duty Truck 2	17.2%	7.2%	0.9%	0.0%	0.0%	25.4%
Medium Duty Truck	0.0%	7.2%	0.0%	0.0%	0.0%	7.2%
Light Heavy Duty Truck 1	0.0%	7.2%	2.8%	0.0%	0.0%	10.0%
Light Heavy Duty Truck 2	0.0%	7.2%	2.8%	0.0%	0.0%	10.0%
Medium Heavy Duty Truck	0.0%	7.2%	2.8%	0.0%	0.0%	10.0%
Heavy-Heavy Duty Truck	0.0%	7.2%	2.8%	0.0%	0.0%	10.0%
Other Bus	0.0%	7.2%	0.0%	0.0%	0.0%	7.2%
School Bus	0.0%	7.2%	0.0%	0.0%	0.0%	7.2%
Urban Bus	0.0%	7.2%	0.0%	0.0%	0.0%	7.2%
Motor Home	0.0%	7.2%	0.0%	0.0%	0.0%	7.2%
Motorcycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Scoping Plan

Measure T-1: Pavley I (AB 1493), page C-57, Approved Spetmeber 2004, Implementation date 2009-2016 and 2017, Reduction of 27.7+4.1 MMTCO2e.
Measure T-2: Low Carbon Fuel Standard, page C-64, Approved April 2009, Implementation date of 2010, Reduction of 16 MMTCO2e.
Measure T-4: Tire Pressure Program, page C-83, Approved March 2009, Implementation date of 2010, Reduction of 0.74 MMTCO2e of which 0.4 MMTCO2e is from HDT.
MeasureT-7: HD Vehcile Emisison Reduction (Aerodynamic Efficiency), page C-73, Approved December 2008, Implementation date 20010-2013, Reduction of 0.93 MMTCO2e

Emission Factor Calculations

BURDEN Summary - Totals by Vehicle Class[b] — **No State Mandates**

				CH4			CO2		
Vehicle Class	Vehicles	VMT/1000	Trips	Run (g/mi)	Idle (g/trip)	Start (g/trip)	Run (g/mi)	Idle (g/trip)	Start (g/trip)
Light Duty Auto	3,694,550	120,535	23,119,400	1.80E-02	0.00E+00	1.08E-01	400	0	72
Light Dut Truck 1	456,463	15,919	2,829,500	2.45E-02	0.00E+00	1.54E-01	498	0	90
Light Duty Truck 2	1,465,850	51,582	9,159,750	2.71E-02	0.00E+00	1.71E-01	504	0	90
Medium Duty Truck	647,234	22,539	4,030,520	3.54E-02	0.00E+00	2.30E-01	686	0	124
Light Heavy Duty Truck 1	96,881	4,688	2,870,390	2.71E-02	0.00E+00	7.90E-02	664	9	38
Light Heavy Duty Truck 2	29,667	1,410	729,119	1.29E-02	0.00E+00	4.98E-02	624	12	37
Medium Heavy Duty Truck	58,605	3,611	1,863,930	1.26E-02	0.00E+00	4.87E-02	1362	15	15
Heavy-Heavy Duty Truck	29,783	6,240	223,880	4.07E-02	8.10E-02	1.34E+00	1843	1378	0
Other Bus	6,188	319	213,641	2.84E-02	0.00E+00	4.25E-02	1280	0	0
School Bus	5,725	212	22,901	4.28E-02	0.00E+00	3.96E-01	1412	396	0
Urban Bus	4,574	499	18,297	5.45E-02	0.00E+00	1.49E+00	2200	0	0
Motor Home	49,283	580	4,930	3.13E-02	0.00E+00	3.68E+00	751	0	0
Motorcycle	149,676	1,103	299,322	2.22E-01	0.00E+00	9.40E-01	164	0	61
All	6,694,480	229,238	45,385,600	2.41E-02	6.00E-04	1.42E-01	525	8	75

BURDEN Summary - Totals by Vehicle Class — **State Mandates Considered in BAU**

				CH4			CO2			Emission	Percentage of Total	
Vehicle Class	Vehicles	VMT/1000	Trips	Run (g/mi)	Idle (g/trip)	Start (g/trip)	Run (g/mi)	Idle (g/trip)	Start (g/trip)	Reduction (%)	VMT/1000	Trips
Light Duty Auto	3,694,550	120,535	23,119,400	7.06E-03	0.00E+00	4.12E-02	1.57E+02	0.00E+00	2.73E+01	25.4%	52.6%	50.9%
Light Dut Truck 1	456,463	15,919	2,829,500	1.27E-03	0.00E+00	7.16E-03	2.58E+01	0.00E+00	4.18E+00	25.4%	6.9%	6.2%
Light Duty Truck 2	1,465,850	51,582	9,159,750	4.55E-03	0.00E+00	2.58E-02	8.46E+01	0.00E+00	1.36E+01	25.4%	22.5%	20.2%
Medium Duty Truck	647,234	22,539	4,030,520	3.23E-03	0.00E+00	1.89E-02	6.26E+01	0.00E+00	1.02E+01	7.2%	9.8%	8.9%
Light Heavy Duty Truck 1	96,881	4,688	2,870,390	4.99E-04	0.00E+00	4.50E-03	1.22E+01	5.40E-01	2.16E+00	10.0%	2.0%	6.3%
Light Heavy Duty Truck 2	29,667	1,410	729,119	7.13E-05	0.00E+00	7.20E-04	3.46E+00	1.80E-01	5.40E-01	10.0%	0.6%	1.6%
Medium Heavy Duty Truck	58,605	3,611	1,863,930	1.78E-04	0.00E+00	1.80E-03	1.93E+01	5.40E-01	5.40E-01	10.0%	1.6%	4.1%
Heavy-Heavy Duty Truck	29,783	6,240	223,880	9.98E-04	3.60E-04	5.94E-03	4.52E+01	6.12E+00	0.00E+00	10.0%	2.7%	0.5%
Other Bus	6,188	319	213,641	3.67E-05	0.00E+00	1.85E-04	1.65E+00	0.00E+00	0.00E+00	7.2%	0.1%	0.5%
School Bus	5,725	212	22,901	3.67E-05	0.00E+00	1.85E-04	1.21E+00	1.85E-01	0.00E+00	7.2%	0.1%	0.1%
Urban Bus	4,574	499	18,297	1.10E-04	0.00E+00	5.56E-04	4.44E+00	0.00E+00	0.00E+00	7.2%	0.2%	0.0%
Motor Home	49,283	580	4,930	7.34E-05	0.00E+00	3.71E-04	1.76E+00	0.00E+00	0.00E+00	7.2%	0.3%	0.0%
Motorcycle	149,676	1,103	299,322	1.07E-03	0.00E+00	6.20E-03	7.91E-01	0.00E+00	4.00E-01	0.0%	0.5%	0.7%
All	6,694,480	229,238	45,385,600	1.92E-02	3.60E-04	1.14E-01	4.20E+02	7.57E+00	5.89E+01		100.0%	100.0%

BURDEN Summary - Totals by Vehicle Class — **State Mandates Considered in BAU and Pavley II**

				CH4			CO2			Emission	Percentage of Total	
Vehicle Class	Vehicles	VMT/1000	Trips	Run (g/mi)	Idle (g/trip)	Start (g/trip)	Run (g/mi)	Idle (g/trip)	Start (g/trip)	Reduction (%)	VMT/1000	Trips
Light Duty Auto	3,694,550	120,535	23,119,400	6.83E-03	0.00E+00	3.98E-02	1.52E+02	0.00E+00	2.64E+01	27.8%	52.6%	50.9%
Light Dut Truck 1	456,463	15,919	2,829,500	1.23E-03	0.00E+00	6.92E-03	2.50E+01	0.00E+00	4.04E+00	27.8%	6.9%	6.2%
Light Duty Truck 2	1,465,850	51,582	9,159,750	4.40E-03	0.00E+00	2.50E-02	8.18E+01	0.00E+00	1.31E+01	27.8%	22.5%	20.2%
Medium Duty Truck	647,234	22,539	4,030,520	3.23E-03	0.00E+00	1.89E-02	6.26E+01	0.00E+00	1.02E+01	7.2%	9.8%	8.9%
Light Heavy Duty Truck 1	96,881	4,688	2,870,390	4.99E-04	0.00E+00	4.50E-03	1.22E+01	5.40E-01	2.16E+00	10.0%	2.0%	6.3%
Light Heavy Duty Truck 2	29,667	1,410	729,119	7.13E-05	0.00E+00	7.20E-04	3.46E+00	1.80E-01	5.40E-01	10.0%	0.6%	1.6%
Medium Heavy Duty Truck	58,605	3,611	1,863,930	1.78E-04	0.00E+00	1.80E-03	1.93E+01	5.40E-01	5.40E-01	10.0%	1.6%	4.1%
Heavy-Heavy Duty Truck	29,783	6,240	223,880	9.98E-04	3.60E-04	5.94E-03	4.52E+01	6.12E+00	0.00E+00	10.0%	2.7%	0.5%
Other Bus	6,188	319	213,641	3.67E-05	0.00E+00	1.85E-04	1.65E+00	0.00E+00	0.00E+00	7.2%	0.1%	0.5%
School Bus	5,725	212	22,901	3.67E-05	0.00E+00	1.85E-04	1.21E+00	1.85E-01	0.00E+00	7.2%	0.1%	0.1%
Urban Bus	4,574	499	18,297	1.10E-04	0.00E+00	5.56E-04	4.44E+00	0.00E+00	0.00E+00	7.2%	0.2%	0.0%
Motor Home	49,283	580	4,930	7.34E-05	0.00E+00	3.71E-04	1.76E+00	0.00E+00	0.00E+00	7.2%	0.3%	0.0%
Motorcycle	149,676	1,103	299,322	1.07E-03	0.00E+00	6.20E-03	7.91E-01	0.00E+00	4.00E-01	0.0%	0.5%	0.7%
All	6,694,480	229,238	45,385,600	1.88E-02	3.60E-04	1.11E-01	4.11E+02	7.57E+00	5.74E+01		100.0%	100.0%

Note: Mitigated case Includes Pavley II light-duty vehicle standards (4.1 MMTCO2E or an additional reduction of 2.49%)

[a] Pavely Standard….
[b] EMFAC2007, Los Angeles County BURDEN Mode, Year 2020.

Golden Oaks Ranch (Office Scenario)
Operational Greenhouse Gas Emissions Inventory
January 2011

Business as Usual with State Mandates	mtons/yr
	CO_2e
Mobile Source	6,643
Electricity Usage	1,127
Natural Gas Usage	752
Water Usage / Wastewater Generation	134
Solid Waste	69
Carbon Sequestration (Trees)	13
Construction	232
Total	**8,969**
Comparison to 2008 Statewide Total of 473,790,000	0.0019%

Project with Project Features and State Mandates4	mtons/yr
	CO_2e
Mobile Source	5,421
Electricity Usage	969
Natural Gas Usage	647
Water Usage / Wastewater Generation	107
Solid Waste	69
Carbon Sequestration (Trees)	13
Construction	232
Total with GHG Reducing Features	**7,458**
Comparison to 2008 Statewide Total of 473,790,000	0.0016%

Increase/Decrease		
	CO_2e	
Mobile Source	(1,222)	-18%
Electricity Usage	(158)	-14%
Natural Gas Usage	(105)	-14%
Water Usage / Wastewater Generation	(27)	-20%
Solid Waste	0	0%
Construction	0	0%
Total with GHG Reducing Features	**(1,512)**	
	-16.9%	

Golden Oaks Ranch (Office Scenario)
Electricity Usage Emissions
January 2011

Business as Usual with State Mandates						Emission Rate (mtons/year)[3]			
						CO_2	CH_4	NO_2	CO_2e
Land Use	**Amount**	**Units**	**SCAQMD Electricity Usage Factor (kWh/Sq. Ft./Year)[1]**	**Electricity Usage with State Mandates and Title 24 (MWh/Year)**	**Emission Rate[2] (lbs/Mwh) --->**	**724.12**	**0.0302**	**0.0081**	
Office	255.00	KSF	12.95	2,024		665	0.03	0.01	668
Retail	0.00	KSF	13.55	0		0	0.00	0.00	0
Hotel/Motel	0.00	KSF	9.95	0		0	0.00	0.00	0
Restaurant	0.00	KSF	47.45	0		0	0.00	0.00	0
Food Store	18.00	KSF	53.30	588		193	0.01	0.00	194
Warehouse	293.71	KSF	4.35	783		257	0.01	0.00	258
College/University	0.00	KSF	11.55	0		0	0.00	0.00	0
High School	0.00	KSF	10.50	0		0	0.00	0.00	0
Daycare/Library	0.00	KSF	5.90	0		0	0.00	0.00	0
Hospital	0.00	KSF	21.70	0		0	0.00	0.00	0
City Park	0.00	KSF	10.50	0		0	0.00	0.00	0
Residential (DU)	6.00	DU	5,626.50	21		7	0.00	0.00	7
Total Future Buildout:				**3,417**		**1,122**	**0.05**	**0.01**	**1,127**

Energy Reduction from State Mandates[4]		**33.0%**
Energy Reduction from Title 24[4]		**8.5%**
Energy Reduction Project Features[5]		**14%**

Project with Project Features and State Mandates						Emission Rate (mtons/year)[3]			
						CO_2	CH_4	NO_2	CO_2e
Land Use	**Amount**	**Units**	**SCAQMD Electricity Usage Factor (kWh/Sq. Ft./Year)[1]**	**Electricity Usage with State Mandates, Title 24 and Project Features (MWh/Year)**	**Emission Rate[2] (lbs/Mwh) --->**	**724.12**	**0.0302**	**0.0081**	
Office	255.00	KSF	12.95	1,741		572	0.02	0.01	574
Retail	0.00	KSF	13.55	0		0	0.00	0.00	0
Hotel/Motel	0.00	KSF	9.95	0		0	0.00	0.00	0
Restaurant	0.00	KSF	47.45	0		0	0.00	0.00	0
Food Store	18.00	KSF	53.30	506		166	0.01	0.00	167
Warehouse	293.71	KSF	4.35	674		221	0.01	0.00	222
College/University	0.00	KSF	11.55	0		0	0.00	0.00	0
High School	0.00	KSF	10.50	0		0	0.00	0.00	0
Daycare/Library	0.00	KSF	5.90	0		0	0.00	0.00	0
Hospital	0.00	KSF	21.70	0		0	0.00	0.00	0
City Park	0.00	KSF	10.50	0		0	0.00	0.00	0
Residential (DU)	6.00	DU	5,626.50	18		6	0.00	0.00	6
Total Future Buildout:				**2,938**		**965**	**0.04**	**0.01**	**969**

Notes:
1. Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.
2. Electricity Usage Rates from California Energy Commission Staff Report: California's Water - Energy Relationship. 2005
3. Emission factors for CO_2, CH_4, and N_2O were derived from the California Climate Action Registry General Reporting Protocol; Version 3.1, January 2009
4. Reduction from State Mandates: In 2004, SCE indicated that 18 percent of its electricity came from renewable resources. Therefore, in 2020 SCE will increase its electricity from renewable resources by an additional 15 percent to comply with the Renewables Portfolio Standard of 33 percent (California Energy Commission, Accelerated Renewable Energy Development, July 30, 2004). Title 24 2005 Standard resulted in a 8.5 percent electric demand saving compared to Title 24 2001 Standard for non-residential new construction (California Energy Commission, Impact Analysis-2005 Update to the California Energy Efficiency Standards (Table 3), June 2003).
5. Reduction from project features: Construction of new buildings would exceed Title 24 energy requirements by 14 percent.

Golden Oaks Ranch (Office Scenario)
Natural Gas Usage Emissios
January 2011

Business as Usual with State Mandates							Emission Rate (mtons/year)[3]			
							CO_2	CH_4	NO_2	CO_2e
Land Use	Amount	Units	SCAQMD Natural Gas Usage Factor (cubic feet/sq. feet/month)[1]	Natural Gas Usage with State Mandates (kscf/year)	Natural Gas Usage (MMBTU/year)	Emission Rate[2] (kg/MMBTU) --->	53	0.001	0.0001	
Office	255.00	KSF	2.00	5,924	6,043		321	0.01	0.00	321
Retail	0.00	KSF	2.90	0	0		0	0.00	0.00	0
Hotel/Motel	0.00	KSF	4.80	0	0		0	0.00	0.00	0
Restaurant	0.00	KSF	4.80	0	0		0	0.00	0.00	0
Food Store	18.00	KSF	2.90	626	639		34	0.00	0.00	34
Warehouse	293.71	KSF	2.00	7,049	7,190		382	0.01	0.00	382
College/University	0.00	KSF	4.80	0	0		0	0.00	0.00	0
High School	0.00	KSF	2.90	0	0		0	0.00	0.00	0
Daycare/Library	0.00	KSF	2.00	0	0		0	0.00	0.00	0
Hospital	0.00	KSF	4.80	0	0		0	0.00	0.00	0
City Park	0.00	KSF	2.90	0	0		0	0.00	0.00	0
Residential (DU)	6.00	DU	4,011.50	280	285		15	0.00	0.00	15
Total Future Buildout:				**13,879**	**14,157**		**751**	**0.01**	**0.00**	**752**

Natural Gas State Mandates Percent Reduction[4]		**3.2%**
Natural Gas Project Features Percent Reduction[5]		**14.0%**

Project with Project Features and State Mandates							Emission Rate (mtons/year)[3]			
							CO_2	CH_4	NO_2	CO_2e
Land Use	Amount	Units	SCAQMD Natural Gas Usage Factor (cubic feet/sq. feet/month)[1]	Natural Gas Usage with State Mandates and Project Features (kscf/year)	Natural Gas Usage (MMBTU/year)	Emission Rate[2] (kg/MMBTU) --->	53	0.001	0.0001	
Office	255.00	KSF	2.00	5,095	5,197		276	0.01	0.00	276
Retail	0.00	KSF	2.90	0	0		0	0.00	0.00	0
Hotel/Motel	0.00	KSF	4.80	0	0		0	0.00	0.00	0
Restaurant	0.00	KSF	4.80	0	0		0	0.00	0.00	0
Food Store	18.00	KSF	2.90	539	549		29	0.00	0.00	29
Warehouse	293.71	KSF	2.00	6,062	6,183		328	0.01	0.00	328
College/University	0.00	KSF	4.80	0	0		0	0.00	0.00	0
High School	0.00	KSF	2.90	0	0		0	0.00	0.00	0
Daycare/Library	0.00	KSF	2.00	0	0		0	0.00	0.00	0
Hospital	0.00	KSF	4.80	0	0		0	0.00	0.00	0
City Park	0.00	KSF	2.90	0	0		0	0.00	0.00	0
Residential (DU)	6.00	DU	4,011.50	240	245		13	0.00	0.00	13
Total Future Buildout:				**11,936**	**12,175**		**646**	**0.01**	**0.00**	**647**

Notes:
1. Natural gas usage rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.
2. Natrual gas usage rates from California Energy Commission Staff Report: California's Water - Energy Relationship. 2005
3. Emission factors for CO_2, CH_4, and N_2O were derived from the California Climate Action Registry General Reporting Protocol; Version 3.1, January 2009.
4. Reduction from State Mandates: Title 24 2005 Standard resulted in a 3.2 percent natural gas savings compared to Title 24 2001 Standard for non-residential new construction (California Energy Commission, Impact Analysis-2005 Update to the California Energy Efficiency Standards (Table 4), June 2003).
5. Reduction from project features: Construction of new buildings would exceed Title 24 energy requirements by 14 percent.

Golden Oaks Ranch (Office Scenario)
Water Usage / Wastewater Generation
January 2011

Energy Reduction Projct Features Percent Reduction		20%

Electricity Usage from Water and Wastewater Treatment/Conveyance[1]						Emission Rate (mtons/year)			
						CO_2	CH_4	NO_2	CO_2e[c]
Land Use		**MG/Year[1]**	**Electricity Usage Factor (kWh/MG)**	**Electricity Usage (MWh/year)**	**Emission Rate[2] (lbs/Mwh) --->**	**724.12**	**0.0302**	**0.0081**	
Business as Usual with State Mandates									
Water Usage		33.07	10,200	337.28		110.78	0.00	0.00	111.26
Wastewater Genreation Rate		27.56	2,500	68.89		22.63	0.00	0.00	22.73
Total				**406.17**		133.41	0.01	0.00	**133.99**
Project with Project Features and State Mandates4									
Water Usage		26.45	10,200	269.83		88.63	0.00	0.00	89.01
Wastewater Genreation Rate		22.04	2,500	55.11		18.10	0.00	0.00	18.18
Total				**324.94**		106.73	0.00	0.00	**107.19**

Notes:
1. Water usage and wasteater generation rates provided in Section IV.L, of the Draft EIR.
2. Emission factors for CO_2, CH_4, and N_2O were derived from the California Climate Action Registry General Reporting Protocol; Version 3.1, January 2009.

Golden Oaks Ranch (Office Scenario)
Solid Waste
January 2011

Solid Waste Reduction Projct Features Percent Reduction [3]	**0%**

Electricity Usage from Water and Wastewater Treatment/Conveyance [1]

				Emission Rate
Land Use		**Tons/Year[1]**	**Metric Tons/Year**	**CO_2e[2]**
Business as Usual with State Mandates				
Solid Waste		331.52	301	69.16
Project with Project Features and State Mandates4				
Solid Waste		331.52	301	69.16

Notes:
1. Solid waste generation rates provided in Section IV.L, of the Draft EIR. Generation rates were reduced to account for the LA regional solid waste diverseion rate of 50 percent (http://www.lacsd.org/info/waste_by_rail/default.asp).
2. The solid waste stream stream was converted to GHG emisisons based on the generic emissions factor of 0.23 metric tons CO_2e per metric tons of waste (U.S. EPA's Waste Reduction Model (WARM).
3. The Golden Oaks Ranch is expected to achieve a 50 percent diversion rate consistent with the LA regional solid waste diversion rate of 50

Golden Oaks Ranch (Office Scenario)
Carbon Sequestration (Trees)
January 2011

Carbon Sequestration[1]			
Trees	**Number of Trees[2]**	**CO_2 Seq (lbs/yr)**	**CO_2 Seq (metric tons/yr)**
Removed			
Greater than 36" in Diameter	182	39,716	18.01
Planted[3]			
Acorns	200	0	0.00
Seedlings	250	0	0.00
1 gallon and 5 gallon	350	1,848	0.84
15 gallon	700	7,267	3.30
24-inch box	30	364	0.17
36-inch box	25	345	0.16
48-inch box	20	1,037	0.47
60-box	15	929	0.42
Total	**1590**	**11790**	**5.35**
Difference			12.67

Notes:
1. Estimates of tree carbon storage were based on a numerical benefits model (Tree Benefits Estimator) developed by the Sacramento Municipal Utility District (SMUD) in collaboration with the US Department of Agriculture Forest Service, Center for Urban Forest Research. The model is designed to provide results consistent with the California Climate Action Registry's Urban Forest Project Reporting Protocols. https://usage.smud.org/treebenefit/iDefault.aspx
2. Number of trees removed and planted are provided in Section IV.F, of the Draft EIR.
3. Only trees in 1-gallon conainers or greater were considered in the analysis and were assumed as "0" age when planted.

Golden Oaks Ranch (Office Scenario)

Mobile Source (Vehicular) Emissions

January 2011

Business as Usual with State Mandates			Emission Factor for CO_2			CO_2	CO_2e[3]
Land Use	**Daily Trips[1]**	**Annual VMT[2]**	**Run (gram/mile)**	**Idle (gram/trip)**	**Start (gram/trip)**	**(tons/yr)**	**(mtons/yr)**
The Ranch	3,549	35,459	420	8	59	6,085	5,810
Truck Trips	32	1,282	1,660	1,241	0	872	833
Total Future Buildout:	**3,581**	**36,741**				**6,957**	**6,643**

Project with Project Features and State Mandates[4]			Emission Factor for CO_2			CO_2	CO_2e[3]
Land Use	**Daily Trips[1]**	**VMT[2]**	**(gram/mile)**	**(gram/trip)**	**(gram/trip)**	**(tons/yr)**	**(mtons/yr)**
The Ranch	3,407	33,795	411	8	57	5,678	5,421
Truck Trips	0	0	0	0	0	0	0
Total Future Buildout:	**3,407**	**33,795**				**5,678**	**5,421**

Notes:

1. Average daily trips are based on the traffic study.
2. Vehicle miles traveled were calculated using URBEMIS2007 consistent with the criteria pollutant analysis.
3. It is assumed that methane (CH_4), nitrous oxide (N_2O), and hydrofluocarbons (HFCs) account for five percent of the global warming potential, and therefore, the CO_2 estimate was multiplied by 100/95 to incorporate the contribution of the other greenhouse gases (CO_2e). United States Environmental Protection Agency, Emission Facts--Greenhouse Gas Emissions from a Typical Passenger Vehicle, 2005 (http://www.epa.gov/otaq/climate/420f05004.pdf).
4. The Project scenario inlcudes a reduction of 70 trips per day to account for the mix of uses versus stand alone uses. In addition, the URBEMIS mitigation measure algorthims were used to calculate the reduction in trips and VMT asscoaited with the comissary and implemenation of transportation demand measures (e.g., bike parking, preferential carpool parking). In addition, the Project would reduce the number of truck trips from outside productions which currently have to travel to production facilities and would not occur with the Project (45 days of outside production x 65 trucks x 4 trips per day x 40 miles round trip).

Urbemis 2007 Version 9.2.4

Detail Report for Winter Operational Mitigated Emissions (Pounds/Day)

File Name: L:\AQNOISE DIVISION\Active Projects\Disney Golden Oak Ranch\Operations\Ops 2014 Office GHG Option.urb924

Project Name: Disney Golden Oak Ranch-Operations Office Option Buildout Year 2014

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Nonresidential Mitigation Measures

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Other Transportation Demand Measures Mitigation

---

Percent Reduction in Trips is 2%

Note that the above percent is applied ONLY to worker trips.

Inputs Selected:

The 'Secure Bike Parking' measure was selected

The 'Showers/Changing Facilities Provided' measure was selected

The 'Car-Sharing Services Provided' measure was selected

The 'Information provided on Transportation Alternatives' measure was selected

The 'Dedicated Employee Transportation Coordinator' measure was selected

The 'Carpool Matching Programs' measure was selected

The 'Preferential Carpool/Vanpool Parking' measure was selected

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments low rise	0.38	2.81	dwelling units	6.00	16.85	170.25
Strip mall		0.01	1000 sq ft	18.00	0.18	1.58
General office building		9.82	1000 sq ft	255.00	2,504.00	25,251.32
Warehouse		9.01	1000 sq ft	69.00	621.43	5,572.77
General light industry		1.18	1000 sq ft	224.70	264.25	2,798.91
					3,406.71	33,794.83

Appendix F.1

Biological Resources Assessment

Biological Resources Assessment

Disney | ABC Studios at the Ranch

Los Angeles County, California

PCR

December 2010

Biological Resources Assessment

Disney | ABC Studios at the Ranch

Los Angeles County, California

Prepared for:

Golden Oak Ranch Properties
19802 Placerita Canyon Road
Newhall, California 91321

Contact:
Matrix Environmental
6701 Center Drive West, Suite 900
Los Angeles California 90045

Prepared by:

PCR Services Corporation
One Venture, Suite 150
Irvine, California 92618
Tel: 949.753.7001
Contact: Steve Nelson, Director of Biological Services

December 2010

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EXECUTIVE SUMMARY

BACKGROUND

This report presents the findings of a biological resources assessment conducted by **PCR Services Corporation (PCR)** of the 56.7-acre development area (Development Area) for Disney | ABC Studios at The Ranch (the Proposed Project), a motion picture and television studio to be located on the westernmost portion of the 890-acre Golden Oak Ranch (Ranch) in Placerita Canyon, Newhall, Los Angeles County, California. Additionally, the study area includes approximately 35 acres outside of the Development Area (approximately 5 acres on the Ranch and approximately 30 off the Ranch) where various utility lines, pump stations, and a water tank are proposed. Those portions of the study area outside of the Development Area include an area of the Ranch south of Placerita Canyon Road where a water tank, a water line and improvements to an existing access road would be constructed (Water Tank Area), a potentially 20-foot wide construction area on both sides of the utility centerlines to allow for access and placement of the utility lines, and a 40-foot buffer area around the limits of grading for proposed pump stations outside of the Ranch (Off-site Infrastructure Improvement Area).

The Proposed Project would provide up to twelve soundstages, production offices, six mills, a warehouse, talent bungalows, a commissary, an administration building, a central utility plant, a bridge over Placerita Creek, and an electrical distribution substation in the Development Area. As an alternative option, studio offices rather than four soundstages, production offices and two mills could be constructed on the northern portion of the Development Area.

The Development Area is located just east of the Antelope Valley Freeway, State Route 14 (SR-14), and north of Placerita Canyon Road (**Figure 1**, *Regional Map Disney | ABC Studios at The Ranch*). A substantial portion of the Development Area is located on two large, mostly barren fill pads created by Caltrans during the construction of SR-14 in the early 1970s. The Development Area is separated from the remainder of the Ranch by a 330-foot transmission corridor traversing the Ranch in a generally northwest to southeast direction and owned and operated by the Los Angeles Department of Water and Power (LADWP). The Development Area is located within Section 6 T. 3 N., R. 15 W., of the U.S. Geological Survey (USGS) 7.5-minute Mint Canyon, California topographic quadrangle as shown in **Figure 2**, *Vicinity Map Disney | ABC Studios at The Ranch*. The longitude and latitude of the approximate center of the Development Area is 34° 22’ 41.879” North and 118° 29’ 28.1399” West. UTM zone 11 (X, Y) 362903, 3805110.

SCOPE AND METHODOLOGY

The scope of this assessment includes a description of all methods employed, survey results, and documentation of existing biological resources within the project footprint, the determination of potential impacts on biological resources within the Development Area, the Water Tank Area and the Off-site Infrastructure Improvement Area associated with the Proposed Project, and a mitigation program to mitigate any potentially significant adverse impacts. Methods of study included a review of relevant literature, field surveys, and an impact analysis. This report is consistent with accepted scientific and technical standards and the requirements of the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG). While general biological resources are discussed in a summary

manner, the focus of this assessment is on those resources within the Development Area, the Water Tank Area and the Off-Site Infrastructure Improvement Area that are considered to be sensitive.

EXISTING CONDITIONS

The Development Area and Water Tank Area are located within Placerita Canyon in the unincorporated Santa Clarita Valley area of Los Angeles County, just east of the jurisdictional boundary of the City of Santa Clarita. Elevations within the Development Area range from approximately 1,400 feet above mean sea level (MSL) at the westernmost portion of Placerita Creek within the Development Area to approximately 1,590 feet above MSL at the top of the northern fill pad in the western portion of the Development Area. The elevation of the proposed Water Tank Area on the Ranch south of Placerita Canyon Road ranges from 1,470 feet above MSL at the bottom of the water tank access road to 1,682 feet above MSL at the highest point of the water tank pad. The Off-site Infrastructure Improvement Area is located generally west of SR-14, primarily within the City of Santa Clarita., with elevations ranging from 1,242 MSL to 1,766 MSL.

Vegetation communities within the Development Area, the Water Tank Area and the Off-site Infrastructure Improvement Area consist of coast live oak woodland, disturbed coast live oak woodland, southern willow scrub, mixed riparian willow woodland, coastal sage scrub, disturbed coastal sage scrub, coastal sage scrub/chamise chaparral, buckwheat scrub/chamise chaparral, disturbed buckwheat scrub/chamise chaparral, disturbed buckwheat scrub, non-native grasses, agricultural land, ornamental, and disturbed/developed areas. In addition, two large, mostly barren fill pads created by Caltrans during the construction of SR-14 in the early 1970s, cover over 23.6 acres of the western portion of the Development Area. Two sensitive plant communities, mixed riparian willow woodland and southern willow scrub, are present within the Development Area.

Field surveys to inventory plant and wildlife were conducted in May and June 2009. Incidental observations also occurred through September 2009 during the oak tree survey, jurisdictional delineation, and general biological surveys and habitat assessments. Additionally, for eight consecutive weeks from May 2008 through June 2008, six locations within the riparian corridor of Placerita Creek were monitored with motion-triggered cameras as part of a regional wildlife movement corridor study. Although not directly observed or detected within the Development Area, there are five CDFG-designated California Species of Special Concern (SSC) that have the potential to occur on-site. Focused surveys for least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), coastal California gnatcatcher (*Polioptila californica californica*), arroyo toad (*Bufo californicus*), and the western spadefoot toad (*Spea hammondi*) were conducted during the 2010 spring season, some of which began in February, according to species-specific protocols. In addition, focused surveys were conducted for the slender-horned spineflower (*Dodecahema leptoceras*) and the San Fernando valley spineflower (*Chorizanthe parryi* spp. *Fernandina*). None of these listed or highest concern species were observed or otherwise detected during the June 2010 surveys. In addition to the above, focused protocol surveys were conducted within the Water Tank Area and the Off-site Infrastructure Improvement Area during the spring season 2010, within suitable habitat, for least Bell's vireo, southwestern willow flycatcher, coastal California gnatcatcher, arroyo toad, western spadefoot toad, slender-horned spineflower, and San Fernando valley spineflower.

Placerita Creek, the primary drainage feature, and one small tributary have been delineated in the Development Area. Two small tributaries to the creek have been delineated within the portion of the study area on the Ranch south of Placerita Canyon Road. Only Placerita Creek has been delineated within that portion of the study area outside of the Ranch. These jurisdictional resources include a portion of the creek

and two tributary systems (Tributaries A and B), and total approximately 5,898 linear feet of streambed. The delineated jurisdictional areas within the creek and its tributaries total 0.57 acre of U.S. Army Corps of Engineers (ACOE)/Regional Water Quality Control Board (RWQCB) jurisdictional "waters of the U.S./waters of the State" (0.37 acre within the Development Area, 0.19 acre associated with the Water Tank Area, and 0.01 acre associated with the Off-site Infrastructure Improvement Area) and 4.43 acres of CDFG jurisdictional streambed and associated riparian habitat (3.79 acre within the Development Area, 0.59 acre associated with the Water Tank Area, and 0.05 acre associated with the Off-site Infrastructure Improvement Area).

IMPACTS AND MITIGATION

The Proposed Project would not impact State and/or federally-listed or otherwise sensitive plant or animal species.

The Proposed Project would permanently impact approximately 0.7 acre of southern willow scrub and 0.1 acre mixed willow riparian woodland. An additional 1.9 acres mixed willow riparian woodland would be impacted temporarily. However, a minimum of 0.7 acre would be revegetated with southern willow scrub and 2.0 acres would be revegetated with mixed willow riparian woodland after completion of grading for the Proposed Project. The southern willow scrub and mixed willow riparian woodland mitigation would be part of the Proposed Project's overall mitigation program, which includes a restored and enhanced riparian woodland within Placerita Creek that would blend with the native vegetation currently existing in the creek. Ultimately, the Proposed Project would result in no-net-loss of southern willow scrub and mixed willow riparian woodland habitat, with the potential of increasing both habitats.

The Proposed Project's construction could potentially impact nesting birds. However, the Proposed Project would incorporate mitigation measures, including the removal of vegetation outside of the nesting season or construction monitoring by a qualified biologist to avoid disturbance to active nests if construction were to occur during the nesting season to avoid any potentially significant impacts to nesting birds.

The Proposed Project would result in the permanent loss of 0.05 acre (1,149 linear feet) of ACOE/RWQCB jurisdictional "waters of the U.S./waters of the State", of which 0.04 acre is within the Development Area, less than 0.01 acre is associated with the Water Tank Area and 0.01 acre is associated with the Off-site Infrastructure Improvement Area. The Proposed Project would also result in the permanent loss of 0.74 acre of CDFG jurisdictional streambed and associated riparian habitat, of which 0.68 acre is within the Development Area, 0.01 acre is within the Water Tank Area, and 0.05 acre is within the Off-site Infrastructure Improvement Area. The Proposed Project would result in temporary impacts (within the Development Area only) to 0.13 acre (878 linear feet) of ACOE/RWQCB jurisdictional "waters of the U.S./waters of the State" and 1.92 acres of CDFG jurisdictional streambed and associated riparian habitat during construction of the Proposed Project in order to stabilize and revegetate the slopes of the fill pads. The Proposed Project would revegetate the areas temporarily impacted within Placerita Creek and the adjacent riparian habitat with mixed riparian willow woodland within the creek and buckwheat scrub/chamise chaparral along the re-enforced sides of the fill pads after completion of grading for the Proposed Project. Ultimately, the Proposed Project would result in an increase in streambed and associated riparian habitat. The Proposed Project also would mitigate for impacts to jurisdictional features through on-site (within the Development Area or other areas within the Ranch) or off-site (outside of the Ranch) creation, restoration, or enhancement of ACOE/RWQCB jurisdictional "waters of the U.S./waters of the State"

and CDFG jurisdictional streambed and associated riparian habitat or through purchase into an agency-approved in-lieu fee program or mitigation bank.

The Proposed Project would result in the removal of 159 oak trees and the encroachment within the protected zone of 77 oak trees. However, as discussed in more detail in the Oak Tree Mitigation Report prepared by Dudek, the Proposed Project would plant over 1,500 oak trees throughout the southeastern region of the Ranch. The areas will incorporate about 10-acres of oak tree restoration that were damaged by wildfire.

In summary, with the incorporation of the mitigation measures discussed above, the Proposed Project would not cause potentially significant impacts to sensitive plant communities, nesting birds, jurisdictional waters, or jurisdictional oak trees.

1.0 INTRODUCTION

1.1 BACKGROUND AND PURPOSE

This report presents the findings of a biological resources assessment conducted by **PCR Services Corporation (PCR)** of the 56.7-acre development area (Development Area) for Disney | ABC Studios at The Ranch (the Proposed Project), a motion picture and television studio to be located on the westernmost portion of the 890-acre Golden Oak Ranch (Ranch) in Placerita Canyon, Newhall, Los Angeles County, California. Additionally, the study area includes approximately 35 acres outside of the Development Area (approximately 5 acres on the Ranch and approximately 30 off the Ranch) where various utility lines and a water tank are proposed. Those portions of the study area outside of the Development Area include an area of the Ranch south of Placerita Canyon Road where a water tank, water line and improvements to an existing access road would be constructed (Water Tank Area), a potentially 20-foot wide construction area on both sides of water and sewer lines, and a 40-foot buffer area around the limits of grading for the proposed pump stations outside of the Ranch (Off-site Infrastructure Improvement Area).

The Proposed Project would provide up to twelve soundstages, production offices, six mills, a warehouse, talent bungalows, a commissary, an administration building, a central utility plant, a bridge over Placerita Creek, and an electrical distribution substation in the Development Area. As an alternative option, studio offices rather than four soundstages, production offices and two mills could be constructed on the northern portion of the Development Area.

1.2 DEVELOPMENT AREA LOCATION

1.2.1 Regional Location

The Development Area is located just east of the Antelope Valley Freeway, State Route 14 (SR-14), and north of Placerita Canyon Road (**Figure 1**, *Regional Map Disney | ABC Studios at The Ranch*). A substantial portion of the Development Area is located on two large, mostly barren fill pads created by Caltrans during the construction of SR-14 in the early 1970s. The Development Area is separated from the remainder of the Ranch by a 330-foot transmission corridor traversing the Ranch in a generally northwest to southeast direction and owned and operated by the Los Angeles Department of Water and Power (LADWP). The Development Area is located within Section 6 T. 3 N., R. 15 W., of the U.S. Geological Survey (USGS) 7.5-minute Mint Canyon, California topographic quadrangle as shown in **Figure 2**, *Vicinity Map Disney | ABC Studios at The Ranch*. The longitude and latitude of the approximate center of the Development Area is 34° 22’ 41.879” North and 118° 29’ 28.1399” West. UTM zone 11 (X, Y) 362903, 3805110.

1.2.2 Local Setting

The Proposed Project vicinity includes a variety of uses. New development within the recently approved 1,259-acre Golden Valley Ranch planned community is underway to the north of the Development Area. Residential subdivisions are also located to the northwest of the Development Area on the other side of SR-14. To the south of the Ranch are Angeles National Forest and State Park lands as well as residential subdivisions further to the southwest. To the east of the Development Area is a small residential subdivision

that is also separated from uses within the Ranch by steep ridgelines. The primarily undeveloped ridgelines are used as a backdrop for existing filming activities on the Ranch floor and are referred to as "Filming Backdrop." To the west of the Ranch and the Development Area across SR-14 are oil production wells and industrial uses, with The Master's College and residential subdivisions further to the west.

Land uses directly adjacent to the Development Area include mostly undeveloped land and oil drilling and pumping to the north and south, agricultural fields associated with the Ranch to the east, and SR-14 to the west. Placerita Creek, a USGS "blue line" stream flowing east to west, generally bisects the Development Area. A substantial portion of the Development Area is located on two large, mostly barren fill pads of approximately 23.6 acres created by Caltrans during the construction of SR-14 in the early 1970s. These fill pads, referred to in this assessment as the northern and southern fill pads are flat topped with steep side slopes. The top of each fill pad is accessible from the Ranch by dirt and gravel roads. The southern fill pad sits at approximately the same grade as Placerita Canyon Road to the south and the fill pads are located approximately 10 to 25 feet below the elevated SR-14 to the northwest. The northern fill pad is approximately 60 feet deep, while the southern fill pad is approximately 45 to 50 feet deep. The soils within the Development Area are mostly composed of the construction fill that created the two fill pads and alluvial deposits.

The Water Tank Area is located on the Ranch in hilly terrain south of the Development Area and Placerita Canyon Road. Elevations within the Water Tank Area range from approximately 1,470 feet above MSL at the bottom of the access road to the water tank and 1,682 feet above MSL at the highest point of the water tank pad. The footprint of the water tank and improvements to an existing access road mostly encompass areas previously disturbed by past and current oil operations. These disturbances include prior clearing and grading to create level pads which remain readily evident today and largely devoid of native vegetation.

West of the Ranch and SR-14, a variety of utility lines (Off-site Infrastructure Improvement Area) are proposed as part of the Proposed Project. The majority of these proposed alignments are located within existing road rights-of-way where conditions are either developed or disturbed by paved streets and/or existing residential development.

1.3 SCOPE OF STUDY

The scope of this assessment encompasses the documentation of existing biological resources in the Development Area, the Water Tank Area and the Off-site Infrastructure Improvement Area and an analysis of the potential impacts of the Proposed Project on those biological resources. The assessment included a review of relevant literature and numerous field investigations.

The results of the literature review provided information on species and habitat occurrences within the vicinity, laws and regulations pertaining to those resources, and additional background information. The field investigations included the development of a detailed map of the plant communities within the Development Area, a delineation of jurisdictional "waters", an oak (*Quercus*) tree survey, and a wildlife movement corridor study. During these field surveys, biologists also assessed the potential for the Development Area, the Water Tank Area and the Off-site Infrastructure Improvement Area (where there was suitable habitat) to support sensitive species and/or habitats and regulated resources. Focused surveys for least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), coastal

N

0 10 20 Miles

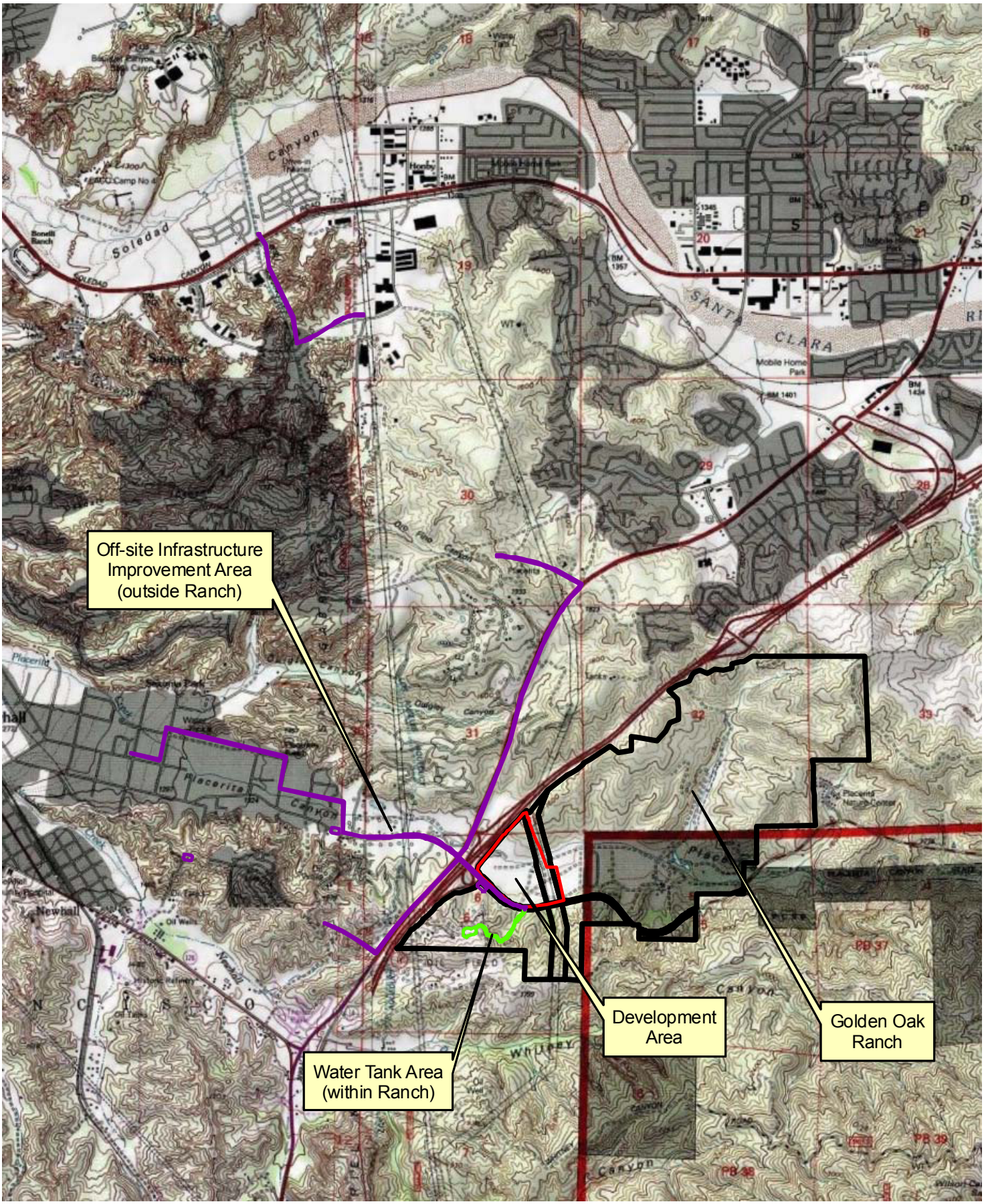
Regional Map
Disney | ABC Studios at The Ranch

Source: ESRI, 2010; PCR Services Corporation, 2010.

FIGURE

1

PCR



PCR

0 3,000 6,000 Feet

Vicinity Map
Disney | ABC Studios at The Ranch

Source: USGS Topographic Series (Mint Canyon, San Fernando, CA); PCR Services Corporation, 2010.

FIGURE
2

California gnatcatcher (*Polioptila californica californica*), arroyo toad (*Bufo californicus*), western spadefoot toad (*Spea hammondi*), slender-horned spineflower (*Dodecahema leptoceras*), and San Fernando valley spineflower (*Chorizanthe parryi* spp. *Fernandina*) were completed for these species during the 2010 spring season.

This assessment also addresses the Proposed Project's potential impacts on biological resources within the Development Area, the Water Tank Area and the Off-site Infrastructure Improvement Area and recommends measures to mitigate any potentially significant impacts on these resources. This assessment is consistent with accepted scientific, technical, and professional standards accepted by the USFWS, CDFG, ACOE, and RWQCB. While general biological resources are discussed in a comprehensive manner, the focus of this assessment is on those resources considered to be sensitive and/or regulated.

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2.0 METHODOLOGY

2.1 LITERATURE REVIEW

PCR reviewed relevant literature on the biological resources within the Development Area and the surrounding vicinity, including the Water Tank Area and the Off-site Infrastructure Improvement Area. The California Natural Diversity Database (CNDDB), a CDFG species account database, was reviewed for all pertinent information regarding known observations of sensitive species and habitats in the vicinity of the Development Area. Federal Register listings, species-specific survey protocols, as well as species data provided by the USFWS and CDFG were reviewed regarding federally- and State-listed species and sensitive plant communities potentially occurring within the vicinity. In addition, regional flora and fauna field guides were used in the identification of species and suitable habitats. These sources and other references reviewed provided a baseline from which to inventory the biological resources potentially occurring on the Development Area, the Water Tank Area and the Off-site Infrastructure Improvement Area, and are listed in Section 7.0, *References*.

2.2 FIELD INVESTIGATIONS

PCR biologists Chris Jones and Ezekiel Cooley conducted a corridor study for eight consecutive weeks from May 2008 through June 2008. Six locations within the riparian corridor of Placerita Creek were monitored with motion-triggered cameras as part of a regional wildlife movement corridor study. A jurisdictional delineation was conducted by PCR Senior Wetland Ecologist/ISA Certified Arborist Richard Haywood and PCR Associate Biologist Ezekiel Cooley on May 1, 2 and 28, 2008 to delineate the extent and distribution of ACOE, RWQCB, and CDFG jurisdictional streambed and associated riparian habitat. Steve Nelson, PCR Director of Biological Services, verified the assessment within the Development Area on August 21, 2009. On April 6, 2010, Nelson and Cooley completed the work by conducting an assessment of jurisdictional features within the Water Tank Area and the Off-site Infrastructure Improvement Area. PCR biologists Linda Robb and Maile Tanaka performed a general biological investigation of the Development Area on June 18, 2009. The purpose of the general survey was to identify potential habitat for any threatened, endangered, or otherwise sensitive species within the Development Area. In addition, an inventory of all plant and wildlife species observed was compiled during the field surveys. Special attention was paid to areas potentially supporting sensitive habitat, sensitive plant and wildlife species, and areas which were potentially jurisdictional under federal and State regulatory agencies. In addition to the above, focused protocol surveys were conducted within the Development Area, Water Tank Area, and the Off-site Infrastructure Improvement Area during the spring season 2010, within suitable habitat, for least Bell's vireo, southwestern willow flycatcher, coastal California gnatcatcher, arroyo toad, western spadefoot toad, slender-horned spineflower, and San Fernando valley spineflower. Because common names vary significantly between references to plants and wildlife, scientific names are employed upon initial mention of each species; common names are employed thereafter. Detailed descriptions of these focused surveys are provided below.

The field investigations encompassed approximately 35 acres outside of the Development Area (approximately 5 acres on the Ranch and approximately 30 acres off the Ranch), including the Water Tank Area and the Off-site Infrastructure Improvement Area. The areas outside of the Development Area were delineated to include a potential 20-foot wide construction area on both sides of utility centerline (to allow

for access and placement of the utility lines), and a 40-foot buffer area around the limits of grading for the proposed pump stations.

2.2.1 Plant Community Mapping

Plant communities were mapped with the aid of 1"=300' scale aerial photographs and a topographic map. Plant community boundaries were delineated directly onto the aerial photograph while in the field. Plant communities were then digitized using Geographic Information System (GIS) technology to calculate acreages. Plant community names and hierarchical structure follow the CDFG *List of California Terrestrial Natural Communities Recognized by the Natural Diversity Database* (2003). Plant community descriptions were based on PCR findings and descriptions contained in Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (1986) and Sawyer and Keeler-Wolf's, *A Manual of California Vegetation* (1995).

2.2.2 General Plant Inventory

All plant species observed during surveys were either identified in the field or collected and later identified using taxonomic keys. Plant taxonomy follows Hickman (1993). All plant species observed by PCR biologists are included in Appendix A, *Floral and Faunal Compendium*.

2.2.3 General Wildlife Inventory

All wildlife species observed during the field investigations by sight, call, tracks, nests, scat (fecal droppings), remains, or other sign were recorded. Binoculars and taxonomic keys were used in the field for the identification of wildlife, as necessary. In addition, as noted below, motion-triggered cameras were installed at six locations within the portion of Placerita Creek within the Development Area for eight consecutive weeks from May 2008 through June 2008. Additional wildlife captured on camera were included within the wildlife inventory. Wildlife taxonomy follows Stebbins (2003) for amphibians and reptiles, the American Ornithologists' Union (1998) for birds, and Jameson and Peeters (1988) for mammals. A complete list of wildlife species observed within the study area is provided in Appendix A, *Floral and Faunal Compendium*.

2.2.4 Regional Connectivity/Wildlife Movement Corridor Assessment

The analysis of wildlife movement corridors associated with the study area is based on information compiled from literature, an analysis of aerial photographs and topographic maps, detailed computer modeling, and field investigations.

A literature review was conducted that included documents on island biogeography (studies of fragmented and isolated habitat "islands"), reports on wildlife home range sizes and migration patterns, and studies on wildlife dispersal. Wildlife movement studies conducted in southern California were also reviewed (see References below). The relationship of the study area to large areas of vacant land in the immediate vicinity was also evaluated in terms of connectivity and habitat linkages. Relative to corridor issues, the discussions in this report are intended to focus on wildlife movement associated with the Development Area, the larger study area, and the immediate vicinity.

The analysis involved a two-step approach to determine the importance of the Development Area and specifically the large (approximately 25-foot diameter) culvert located under SR-14 at the western end of the

Development Area, for wildlife movement. The first step involved modeling of wildlife movement in the region using a suite of tools called Corridor Design (Beier, P., D. Majka, and J. Jenness, 2007). These tools are operated in conjunction with ArcGIS® to create movement linkages between blocks of open space which are expected to remain as open space in perpetuity. The model is based on the habitat preferences of a group of selected or focal species, which were selected based on their ability to represent a range of ecological niches, movement preferences and needs, and available data. The second step involved a local-scale wildlife study that included the use of motion-triggered cameras and area surveys for diagnostic sign, such as tracks, scat, remains, or other sign to document wildlife movement on the Development Area.

2.2.5 Sensitive Wildlife Surveys

Arroyo Toad

Surveys for the arroyo toad were conducted by PCR affiliated biologist Jason Berkley in accordance with the USFWS's *Survey Protocol for the Arroyo Toad*, issued May 19, 1999.[1] Six surveys were performed at least seven days apart, in March, April, and May, with daytime and nighttime surveys performed within the same 24 hours, within all portions of the study area containing suitable habitat. The daytime surveys consisted of a habitat assessment, presence or absence of arroyo toad larvae, eggs, and juveniles. The nighttime surveys consisted of walking the same area and looking and listening for adult breeding arroyo toads. Temperatures during surveys ranged between 50 and 74 degrees Fahrenheit. Weather conditions were suitable for surveys, with skies ranging from clear to 5 percent cloud cover, and winds ranging from 0-3 miles per hour (mph).

The field investigator slowly walked through all potentially suitable habitat, in accordance with USFWS protocol. Nighttime surveys were conducted between one hour after dusk and midnight when air temperatures were 55 degrees Fahrenheit or greater at the onset of the survey. Adverse weather conditions such as extreme winds and weather did not occur during the surveys. Surveys were conducted on March, 15, April, 13, and May 5, 2010. During the May 5 protocol survey, it was noted that the drainage dried up and all potentially suitable breeding habitat disappeared. The protocol surveys ceased and the lack of suitable breeding habitat continued until the survey window closed. Survey details are listed in **Table 1**, *Arroyo Toad Survey Data*, below.

Table 1

Arroyo Toad Survey Data

Date	Time (start-end)	Wind (mph) (start/end)	Temperature (F) (start/end)	Weather (start-end)	Results	Surveyors
03/15/10	1810-1930	3/2	74°-67°	clear-clear	None observed or otherwise detected	Berkley
03/15/1	1930-	3/0	67°-50°	clear-clear	None	Berkley

[1] *U.S. Fish and Wildlife Service. May 19, 1999. Survey Protocol for the Arroyo Toad. Unpublished paper. Sacramento, California.*

Table 1

Arroyo Toad Survey Data

Date	Time (start-end)	Wind (mph) (start/end)	Temperature (F) (start/end)	Weather (start-end)	Results	Surveyors
0	2110				observed or otherwise detected	
04/13/10	1820-1920	3/1	61°-57°	5% cloud cover-5% cloud cover	None observed or otherwise detected	Berkley
04/13/10	1940-2010	1/1	55°-50°	clear-clear	None observed or otherwise detected	Berkley
05/05/10	0720-0740	0/0	55°-60°	clear-clear	None observed or otherwise detected	Berkley
05/05/10	1940-2010	0/0	69°-62°	clear-clear	None observed or otherwise detected	Berkley

Source: PCR Services Corporation, 2010.

Western Spadefoot Toad

Surveys for the western spadefoot toad were conducted by PCR affiliated biologist Jason Berkley. Five focused surveys were performed in order to coincide with the western spadefoot toad breeding season. Surveys began in January and continued through May; daytime and nighttime surveys were performed within the same 24 hours; and all surveys were performed within all portions of the study area containing suitable habitat, specifically the Development Area. The daytime surveys consisted of a habitat assessment, presence or absence of western spadefoot toad larvae, eggs, and juveniles. The nighttime surveys consisted of walking the same area looking and listening for adult breeding western spadefoot toads. Temperatures during surveys ranged between 38 and 74 degrees Fahrenheit. Weather conditions were suitable for surveys, with skies ranging from clear to 20 percent cloud cover, and winds ranging from 0-3 mph.

The surveyor slowly walked through all potentially suitable habitat. Nighttime surveys were conducted between one hour after dusk and midnight. Adverse weather conditions such as extreme winds and weather did not occur during the surveys. Surveys were conducted on January, 19, February, 11, March, 15, April, 13, and May 5, 2010. During the May 5th survey it was noted that all potentially suitable breeding habitat had dried up and disappeared. The focused surveys ceased at that point due to a lack of suitable breeding habitat and the close of the breeding season. Survey details are listed in **Table 2**, *Western Spadefoot Toad Survey Data*, below.

Table 2

Western Spadefoot Toad Survey Data

Date	Time (start-end)	Wind (mph) (start/end)	Temperature (F) (start/end)	Weather (start-end)	Results	Surveyors
01/19/10	1430-1800	0/0	50°-38°	clear-rainy	None observed or otherwise detected	Berkley
02/11/10	1630-1900	0/0	57°-48°	20% cloud cover-20% cloud cover	None observed or otherwise detected	Berkley
03/15/10	1810-1930	3/2	74°-67°	clear-clear	None observed or otherwise detected	Berkley
03/15/10	1930-2110	3/0	67°-50°	clear-clear	None observed or otherwise detected	Berkley
04/13/10	1820-1920	3/1	61°-57°	5% cloud cover-5% cloud cover	None observed or otherwise detected	Berkley
04/13/10	1940-2010	1/1	54°-50°	clear-clear	None observed or otherwise detected	Berkley
05/05/10	0720-0740	0/0	54°-60°	clear-clear	None observed or otherwise detected	Berkley
05/05/10	1940-2010	0/0	69°-62°	clear-clear	None observed or otherwise detected	Berkley

Source: PCR Services Corporation, 2010.

Coastal California Gnatcatcher

Surveys for the coastal California gnatcatcher were conducted by permitted PCR biologist Crysta Dickson and permitted PCR affiliated biologist Jason Berkley in accordance with the USFWS's *Coastal California*

Gnatcatcher Presence/Absence Survey Guidelines, issued July 28, 1997.[2] Six surveys were performed at least one week apart, between 6:00 A.M. and 12:00 P.M., within all portions of the study area containing suitable habitat. The Water Tank Area is within coastal California gnatcatcher critical habitat. The area surveyed was extended outward from the off-site utilities footprint 200 feet to determine the presence or absence of gnatcatcher in nearby areas that potentially could be affected indirectly. Temperatures during surveys ranged between 43 and 89 degrees Fahrenheit. Weather conditions were suitable for surveys, with skies ranging from clear to 10 percent cloud cover, and winds ranging from 0-7 mph.

The field investigator slowly walked through all potentially suitable habitat, in accordance with USFWS protocol, uttering pishing sounds and playing recorded coastal California gnatcatcher vocalizations. The recording was played for several seconds at each interval, followed by a pause to listen for a response. Surveys were conducted on April 15, April 25, May 5, May 15, June 4, and June 13, 2010. Survey details are listed in **Table 3**, *Coastal California Gnatcatcher Survey Data*, below.

Table 3

Coastal California Gnatcatcher Survey Data

Date	Time (start-end)	Wind (mph) (start/end)	Temperature (F) (start/end)	Weather (start-end)	Results	Surveyors
04/15/10	0630-1100	0/0	43°-69°	10% cloud cover-clear	None observed or otherwise detected	Berkley/ Dickson
04/25/10	0820-1130	1/0	54°-78°	clear-clear	None observed or otherwise detected	Berkley
05/05/10	0740-1200	1/7	73°-80°	5% cloud cover-1% cloud cover	None observed or otherwise detected	Berkley
05/15/10	0750-1200	1/3	73°-82°	clear-clear	None observed or otherwise detected	Berkley
06/04/10	0730-1100	0/1	77°-88°	clear-clear	None observed or otherwise detected	Berkley
06/13/10	0720-1100	0/2	64°-89°	clear-clear	None observed or otherwise detected	Berkley

Source: PCR Services Corporation 2010.

[2] U.S. Fish and Wildlife Service. July 28, 1997. Coastal California Gnatcatcher (Polioptila californica californica): Presence/Absence Survey Guidelines. Unpublished paper. Sacramento, California.

Least Bell's Vireo

Surveys for the least Bell's vireo (LBV) were conducted by biologist Jason Berkley. Methods employed were in conformance with U.S. Fish and Wildlife Service *Least Bell's Vireo Survey Guidelines* issued January 19, 2001.[3] Eight surveys were performed between April 15 and June 24, 2010. Surveys were conducted no less than ten days apart, between dawn and 11:00 A.M., within all portions of the study area containing suitable riparian habitat and adjacent habitat potentially used for foraging. Weather conditions were suitable for surveys, with clear skies and winds below 5 mph. Temperatures during surveys ranged between 43 and 74 degrees Fahrenheit.

The field investigator slowly walked along or within the riparian habitat, stopping intermittently to look and listen for LBV. Surveys were conducted on April 15, April 25; May 5, May 15, May 25; June 4, June 14, and June 24, 2010. Survey details are listed in **Table 4**, *Least Bell's Vireo Survey Data*.

Table 4

Least Bell's Vireo Survey Data

Date	Time	Wind (mph) (start/end)	Temperature (F) (start/end)	Weather (start-end)	Results	Surveyors
04/15/10	0615-0700	0/0	44°-45°	clear-clear	None observed or otherwise detected	Berkley
04/25/10	0700-0820	1/0	46°-53°	clear-clear	None observed or otherwise detected	Berkley
05/05/10	0600-0720	0/0	46°-54°	clear-clear	None observed or otherwise detected	Berkley
05/15/10	0620-0750	0/0	59°-65°	clear-clear	None observed or otherwise detected	Berkley
05/25/10	0600-0700	0/0	43°-46°	clear-clear	None observed or otherwise detected	Berkley
06/04/10	0630-0730	0/0	67°-74°	clear-clear	None observed or otherwise detected	Berkley
06/14/10	0620-0720	0/0	54°-64°	clear-clear	None observed or otherwise detected	Berkley
06/24/10	0630-0730	0/0	58°-61°	clear-clear	None observed or otherwise detected	Berkley

Source: PCR Services Corporation, 2010.

[3] U.S. Department of the Interior, Fish and Wildlife Service, January 19, 2001. Least Bell's Vireo Survey Guidelines. Ecological Services. Carlsbad Fish and Wildlife Office.

Southwestern Willow Flycatcher

Surveys for the southwestern willow flycatcher (SWWF) were conducted by wildlife biologist Jason Berkley (USFWS Permit No. TE009015-3). Methods employed were in conformance with U.S. Fish and Wildlife Service *Southwestern Willow Flycatcher Presence/Absence Survey Guidelines*, issued June 1, 2010. Five surveys of all riparian habitat on-site were conducted within three survey periods. The first survey period occurred between May 15 and May 31, 2010; the second survey period occurred between June 1 and June 24, 2010; and the third survey period occurred between June 25 and July 17, 2010. All surveys were conducted at least five days apart and began at dawn and ended between 9:00 and 10:00 A.M. Temperatures during surveys ranged between 56 and 82 degrees Fahrenheit. Weather conditions were suitable for surveys, with clear skies and winds at or below Beaufort scale 1.

The field investigator slowly walked the suitable habitat, stopping at appropriate intervals, uttered pishing sounds, and played digitally recorded SWWF vocalizations. The call was played for several seconds at each interval, followed by a brief pause to listen for a response. Surveys were conducted on May 15, June 4, June 24, July 2, and July 16, 2010. Survey details are listed in **Table 5**, *Southwestern Willow Flycatcher Survey Data*.

Table 5

Southwestern Willow Flycatcher Survey Data

Date	Time	Wind (B/mph) (start/end)	Temperature (F) (start/end)	Weather (start-end)	Results	Surveyors
05/15/10	0620-0750	0/0	59°-65°	clear-clear	None observed or otherwise detected	Berkley
06/04/10	0630-0730	0/0	68°-74°	clear-clear	None observed or otherwise detected	Berkley
06/24/10	0630-0730	0/0	58°-61°	clear-clear	None observed or otherwise detected	Berkley
07/02/10	0600-0710	0/0	56°-57°	clear-clear	None observed or otherwise detected	Berkley
07/16/10	0630-0800	0/0	73°-82°	50% cloud cover-50%cloud cover	None observed or otherwise detected	Berkley

Source: PCR Services Corporation, 2010.

2.2.6 Sensitive Plant Survey

Several sensitive plant species were reported in the CNDDB as occurring within the vicinity of the study area, including Santa Susana tarplant (*Deinandra minthornii*), Los Angeles sunflower (*Helianthus nuttallii* ssp. parishii), chaparral ragwort (*Senecio aphanactis*), Greata's aster (*Symphyotrichum greatae*), Nevin's barberry (*Berberis nevinii*), Palmer's grappling-hook (*Harpagonella palmeri*), short-joint beavertail (*Opuntia basilaris* var. *brachyclada*), Peirson's morning-glory (*Calystegia peirsonii*), Braunton's milk-vetch (*Astragalus brauntonii*), round-leaved filaree (*Erodium macrophyllum*), Davidson's bush-mallow (*Malacothamnus*

davidsonii), San Fernando Valley spineflower, slender-horned spineflower, Moran's navarretia (*Navarretia fossalis*), slender mariposa lily (*Calochortus clavatus* var. *gracillis*), Plummer's mariposa-lily (*Calochortus plummerae*), and California Orcutt grass (*Orcuttia californica*). As noted above, these species are not expected to occur due to the presence of highly disturbed areas within the study area. However, USFWS guidance recommended that surveys for slender-horned spineflower and San Fernando valley spineflower be conducted within the study area.

As such, focused surveys for slender-horned spineflower and San Fernando valley spineflower were conducted by PCR biologists Crysta Dickson and Ezekiel Cooley on June 9, 2010. Surveys were conducted in accordance with accepted protocols (USFWS 2000; CDFG 2009; CNPS 2001). To confirm that the slender-horned spineflower and San Fernando valley spineflower were in bloom at the time of the survey, reference sites with known populations of slender-horned spineflower and San Fernando valley spineflower within the region were visited prior to the field investigation. Reference sites were visited along the Santa Ana River, Rancho Santa Ana Botanic Garden, and Las Virgenes Preserve.

All sensitive plant species observed were recorded during the focused survey. The location(s), extent(s), and number(s) of sensitive plant species (if present) within the study area were mapped with the aid of a 1" = 75' scale aerial photograph and Global Positioning System (GPS) device with up to a 3-meter accuracy.

2.2.7 Jurisdictional Delineation of Wetlands, "Waters of the U.S.," and "Waters of the State"

PCR biologists conducted a jurisdictional delineation to determine the presence of any areas subject to the jurisdiction of the ACOE, RWQCB, and/or CDFG within the Development Area, the Water Tank Area and the Off-site Infrastructure Improvement Area. All areas that were identified as being potentially subject to the jurisdiction of the ACOE, RWQCB, and/or the CDFG were field verified and mapped. The potential for "waters of the U.S." and "waters of the State" was investigated based on the absence or presence of an ordinary high water mark (OHWM), or if not clearly visible, as determined by erosion, the deposition of sediments or debris, and the establishment of and/or changes in vegetation. If any of these criteria were met, a series of transects were run to determine the extent of jurisdictional non-wetland "waters of the U.S." and "waters of the State." Identified non-wetland "waters of the U.S." and "waters of the State" were traversed within or along the channel, and the OHWM was measured. Where no accessible route led to the channel, the distance to the top of the channel was estimated by visually examining the terrain and density of vegetation. An estimated average OHWM width was then applied based on the last measurable channel width. Where channels diverged to form low, intermediate areas between the channels, the entire area between the outermost edges of each channel was considered within the OHWM. Where the intermediate area was equal to or above the height of the uppermost bank of either channel, the OHWM was recorded individually for each channel. The CDFG jurisdiction was defined to the bank of the stream/channels or to the limit of the adjacent riparian vegetation. ACOE jurisdictional wetlands were delineated using a routine determination according to the methods outlined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (Environmental Laboratory 2008) based on hydrologic and edaphic features of the study area and on the vegetation community composition of each area being investigated. In areas where jurisdictional wetlands were suspected, data on vegetation, hydrology, and soils was collected along transects as described below.

2.2.8 Regulated Tree Survey

An Oak Tree Report for the Development Area and the Water Tank Area, which are within the County's jurisdiction, and an Oak Tree Report for the Off-site Infrastructure Improvement Area, which is within the City of Santa Clarita's jurisdiction, were prepared by Dudek, dated November 2010 (Dudek 2010). Methodology associated with the oak tree surveys are documented in the above-referenced reports.

3.0 EXISTING CONDITIONS

3.1 CHARACTERISTICS OF THE DEVELOPMENT AREA AND IMMEDIATE VICINITY

The Proposed Project vicinity includes a variety of uses. New development within the recently approved 1,259-acre Golden Valley Ranch planned community is underway to the north of the Development Area. Residential subdivisions are also located to the northwest of the Development Area on the other side of SR-14. To the south of the Ranch are Angeles National Forest and State Park lands as well as residential subdivisions further to the southwest. To the east of the Development area is a small residential subdivision that is also separated from uses within the Ranch by steep ridgelines. The primarily undeveloped ridgelines are used as a backdrop for the filming activities on the Ranch floor and are referred to as "Filming Backdrop". To the west of the Development Area across SR-14 are oil production wells and industrial uses, with The Master's College and residential subdivisions further to the west.

The Development Area is bordered by generally undeveloped land and then the Golden Valley Ranch planned community and SR-14 to the north, Placerita Canyon Road to the south, SR-14 to the west, and the eastern side of the LADWP transmission corridor to the east. Steep ridgelines separate and preclude visibility of the Development Area from the Golden Valley Ranch planned community and other residential subdivisions to the east. The Angeles National Forest and state park lands are east of the Development Area.

The Water Tank Area is located on the Ranch in hilly terrain south of the Development Area and Placerita Canyon Road. The footprint of the water tank and improvements to an existing access road mostly encompass areas previously disturbed by past and current oil operations. These disturbances include prior clearing and grading to create level pads which remain readily evident today and largely devoid of native vegetation.

West of the Ranch and SR-14, a variety of utility lines (Off-site Infrastructure Improvement Area) are proposed as part of the Proposed Project. The majority of these proposed alignments are located within existing road rights-of-way where conditions are either developed or disturbed by paved streets and/or existing residential development.

3.2 PLANT COMMUNITIES

Descriptions of the plant communities mapped within the Development Area, the Water Tank Area and the Off-site Infrastructures Improvement Area (both on and off the Ranch), are included below. The locations of each of the plant communities are shown in **Figure 3**, *Plant Communities Disney | ABC Studios at The Ranch*, and acreages are summarized in **Table 6**, *Existing Plant Communities Disney | ABC Studios at The Ranch*. Representative photographs of the Development Area are included in **Figure 4**, *Development Area Photographs Disney | ABC Studios at The Ranch*.

3.2.1 Coast Live Oak Woodland

Coast live oak woodland is dominated by large, mature to overly mature coast live oak (*Quercus agrifolia*) with a poorly developed shrub layer. This plant community typically occurs on north-facing slopes and in

Table 6

Existing Plant Communities

Plant Community	Within Development Area (acres)	Outside the Development Area Within the Ranch (acres)	Outside the Ranch (acres)	Total (acres)
Coast Live Oak Woodland	4.7	0.2	<0.1	4.9
Disturbed Coast Live Oak Woodland	-	-	0.3	0.3
Mixed Willow Riparian Woodland	3.2	-	-	3.2
Southern Willow Scrub	0.7	-	-	0.7
Coastal Sage Scrub	-	-	1.1	1.1
Disturbed Coastal Sage Scrub	-	-	0.4	0.4
Coastal Sage Scrub / Chamise Chaparral	-	1.0	-	1.0
Buckwheat Scrub / Chamise Chaparral	5.7	<0.1	-	5.7
Disturbed Buckwheat Scrub / Chamise	4.6	-	-	4.6
Disturbed Buckwheat Scrub	-	0.6	0.1	0.7
Non-native Grassland	-	0.1	1.1	1.2
Agricultural Land	10.7	-	-	10.7
Ornamental	-	-	0.9	0.9
Disturbed/Developed	27.1	0.9	26.0	54.0
Total	**56.7**	**2.8**	**29.9**	**89.4**

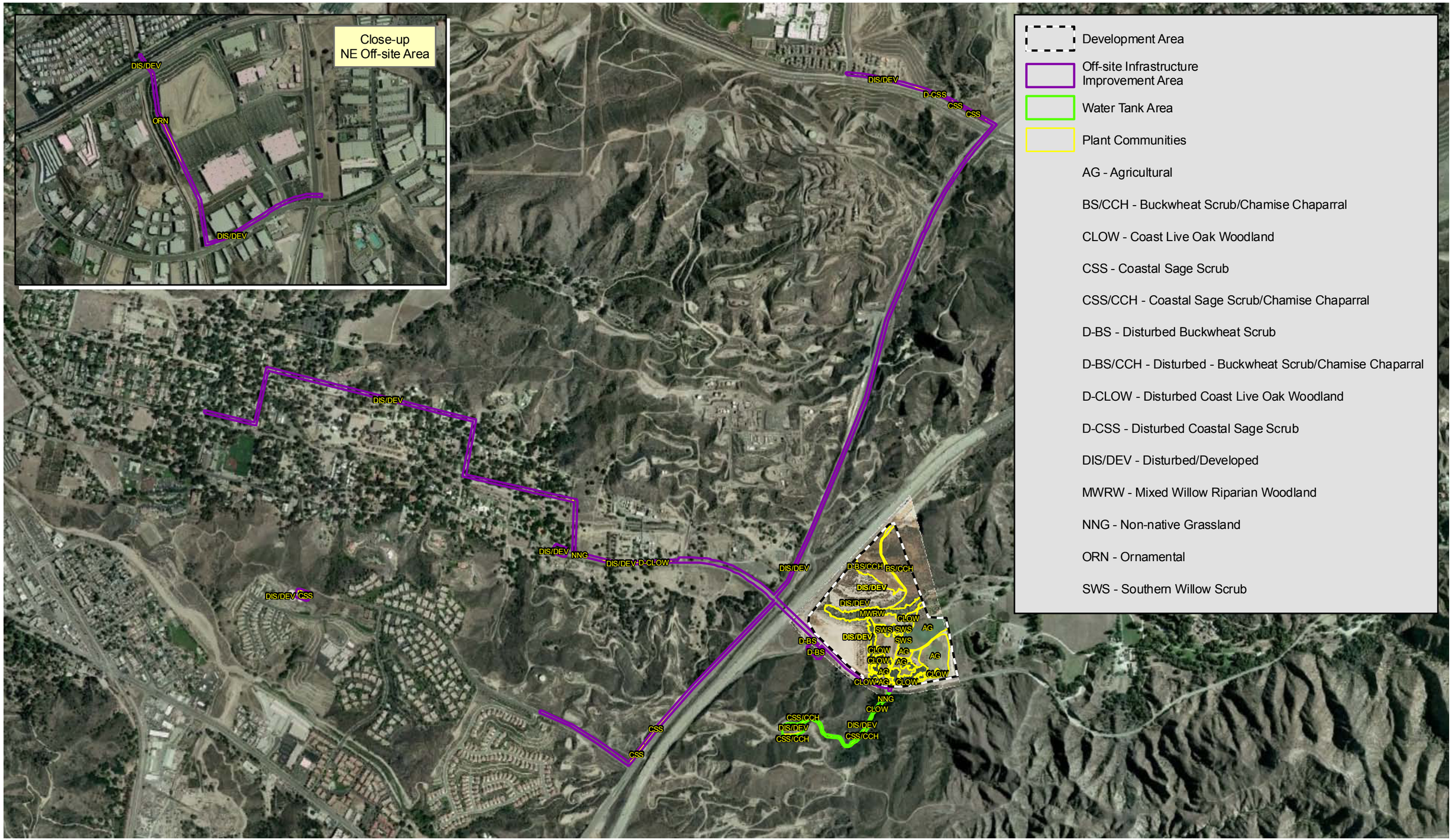
Source: PCR Services Corporation, 2010.

shaded ravines. Characteristic species of coast live oak woodland include coast live oak, toyon (*Heteromeles arbutifolia*), Mexican elderberry (*Sambucus mexicana*), poison oak (*Toxicodendron diversilobium*), ripgut grass (*Bromus diandrus*) and goose grass (*Galium aparine*).

The dominant plant species observed within the coast live oak woodland community present within the study area was coast live oak. Additional plant species observed included ripgut grass, foxtail chess (*Bromus madritensis*), Mexican elderberry, short-podded mustard (*Hirschfeldia incana*), wild oat (*Avena fatua*), California buckwheat (*Eriogonum fasciculatum*), and manzanita (*Arctostaphylos* sp.). Coast live oak woodland within the study area totals 4.9 acres. Of this total, 4.7 acres occur within the Development Area, 0.2 acre occurs within the Water Tank Area, and less than 0.1 acre occurs within the Off-site Infrastructure Improvement Area outside the Ranch.

3.2.2 Disturbed Coast Live Oak Woodland

There is 0.3 acre of disturbed coast live oak woodland associated with the Off-site Infrastructure Improvement Area outside the Ranch. These areas showed evidence of disturbance such as fire and/or human activities associated with residential/industrial development.



PCR

0 1,200 2,400 Feet

Plant Communities
Disney | ABC Studios at The Ranch

Source: DEA, 2009; PCR Services Corporation, 2010.

FIGURE
3

Photograph 1: View on top of southern fill pad looking west at Placerita Canyon Road and SR-14 overpass.

Photograph 2: View on top of southern fill pad looking north across mixed willow riparian woodland at the northern fill pad.

Photograph 3: View on top of the northern fill pad looking south at the oak woodlands and agricultural fields. Note the Ranch foreman's house on the left edge (center).

Photograph 4: View from an agricultural field looking southwest at the oak woodlands.

PCR

Development Area Photographs
Disney | ABC Studios at The Ranch

Source: PCR Services Corporation, 2010.

FIGURE
4

3.2.3 Mixed Willow Riparian Woodland

This community is typically dominated by mature willows (*Salix* spp.) forming a less than 100 percent canopy cover. This community occurs in habitats that are seasonally flooded such as floodplains and low gradient depositions along rivers and streams. Other species that may occur within this community include black cottonwood (*Populus balsamifera*), bigleaf maple (*Acer macrophyllum*), western sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), Mexican elderberry, and mulefat (*Baccharis salicifolia*).

Within the Development Area, the mixed willow riparian woodland supports a dominance of mature arroyo willow (*Salix lasiolepis*) and red willow (*Salix laevigata)*. Other species observed include mulefat, mugwort (*Artemesia douglasiana*), foxtail chess, ripgut brome, Mexican elderberry, deerweed (*Lotus scoparius*), a few Fremont cottonwood, and a few coast live oak trees. Within the Development Area, the mixed willow riparian woodland community occurs on 3.2 acres in the riparian corridor associated with Placerita Creek. This community does not occur elsewhere within the study area.

3.2.4 Southern Willow Scrub

This community is typically dominated by arroyo willow with lesser amounts of other willow species and mulefat. Characteristically, southern willow scrub occupies wet and moist soils and is restricted in its distribution to the edges of ponds and lakes and other areas where water impounds, such as drainages and seeps.

Within the Development Area, scattered patches of this community support a dominance of arroyo willow and red willow. Other species observed include mulefat, mugwort and foxtail chess that primarily occur around the outer margins of the willows. Within the Development Area, the southern willow scrub community occurs on approximately 0.7 acre along and up-gradient to ephemeral sub-tributary B1 along a swale that receives runoff from adjacent agricultural fields. This community does not occur elsewhere within the study area.

3.2.5 Coastal Sage Scrub

Coastal sage scrub contains low, soft-woody shrubs that are most active in winter and early spring. Many taxa are facultatively drought-deciduous. Within the study area this community is dominated by California sagebrush (*Artemesia californica*) and California buckwheat. Associated plant species included ripgut grass, foxtail chess, big sagebrush (*Artemesia tridentate*), storksbill (*Erodium botys*), short-podded mustard, black sage (*Salvia mellifera*), Russian thistle (*Salsola tragus*), chamise (*Adenostoma fasciculatum*), western sycamore, chaparral nightshade (*Solanum xanti),* deerweed, mulefat, tree tobacco (*Nicotiana glauca*), purple sage (*Salvia leucophylla*), Our Lord's candle (*Yucca whipplei*), toyon, and wild cucumber (*Marah macrocarpus*), There is approximately 1.1 acres of coastal sage scrub associated with the Off-site Infrastructure Improvement Area outside the Ranch.

3.2.6 Disturbed Coastal Sage Scrub

There is 0.4 acre of disturbed coastal sage scrub associated with the Off-site Infrastructure Improvement Area outside the Ranch. These areas are primarily located along Sierra Highway and are highly disturbed

due to human activities. This community supports a sparse cover of those species mentioned above in Section 3.2.5 Coastal Sage Scrub.

3.2.7 Coastal Sage Scrub/Chamise Chaparral

Coastal sage scrub/chamise chaparral contains components of both coastal sage scrub and chamise chaparral vegetation communities. This mixed community is dominated by California sagebrush, black sage, buckwheat and chamise. There is 1.0 acre of coastal sage scrub/chamise chaparral associated with the Water Tank Area.

3.2.8 Buckwheat Scrub/Chamise Chaparral

Buckwheat scrub/chamise chaparral contains components of both buckwheat scrub and chamise chaparral vegetation communities. This mixed community consists of low growing buckwheat and chamise and often occurs on xeric slopes and ridges and is adapted to frequent fires by crown sprouting. Associated species include California sagebrush, deerweed, Our Lord's candle, toyon, fasciculated tarweed (*Hemizonia fasciculata*), and white sage (*Salvia apiana*).

Plant species observed within the study area include California buckwheat, chamise, California sagebrush, toyon, scrub oak (*Quercus berberidifolia*), wild oat, ripgut grass, foxtail chess, wild mustard, and black mustard (*Brassica nigra*). There are approximately 5.7 acres of buckwheat scrub/chamise chaparral located in the northeastern corner of the Development Area, particularly on the hillsides to the northeast of the northern fill pad, and less than 0.1 acre associated with the Water Tank Area.

3.2.9 Disturbed Buckwheat Scrub/Chamise Chaparral

One area of disturbed buckwheat scrub/chamise chaparral occurs within the Development Area. This disturbed community occurs on a portion of the northern fill pad and is the result of the on-going natural re-establishment of this community on the completely disturbed fill pad. This area contains many of the buckwheat scrub/chamise chaparral species present on the surrounding hillsides with a large amount of unvegetated land and larger percentages of non-native species, including wild oat, ripgut grass, foxtail chess, and wild mustard and black mustard. This area encompasses 4.6 acres of the northern fill pad.

3.2.10 Disturbed Buckwheat Scrub

There is 0.7 acre of disturbed buckwheat scrub (0.6 acre associated with the Water Tank Area and 0.1 acre associated with the Off-site Infrastructure Improvement Area outside the Ranch). These areas are primarily located along Placerita Canyon Road and are highly disturbed due to human activities. This community supports a sparse cover of California buckwheat, chamise, California sagebrush, toyon, scrub oak wild oat, ripgut grass, foxtail chess, and black mustard.

3.2.11 Non-native Grassland

Non-native grassland is dominated by invasive, exotic grass species. A total of 0.1 acre of non-native grassland occurs within the northeastern portion of the Water Tank Area and 1.1 acres within a portion of the Off-site Infrastructure Improvement Area outside of the Ranch.

3.2.12 Agricultural Land

Portions of the Development Area characterized as agricultural lands include several well-defined fields previously planted with horse and cattle feed grasses. There are approximately 10.7 acres of agricultural fields located primarily on the southeastern part of the Development Area. While some of this area is used periodically for the production of grain hays and alfalfa, it also is used frequently for construction of filming sets and outdoor filming pursuant to the Ranch's Conditional Use Permit (CUP) No. 04-089-(5).

3.2.13 Ornamental

Ornamental areas are dominated by non-native, landscaped plantings. A total of 0.9 acre of ornamental areas occur within the northeastern portion of the Off-site Infrastructure Improvement Area outside of the Ranch.

3.2.14 Disturbed/Developed

Disturbed/developed areas consist of areas of bare ground (i.e., fill pads and dirt roads), which have little or no vegetation growing on them; areas of remnant (less than 20 percent) native vegetation that are now vegetated with predominantly non-native species, and also several areas planted with non-native tree species, including eucalyptus (*Eucalyptus* sp.) and Peruvian pepper (*Schinus molle*) tree groves. Developed areas include constructed building sites and associated structures, parking areas and grading. Disturbed/Developed areas within the study area were either barren or vegetated with a variety of non-native species, including wild oat, ripgut grass, foxtail chess, wild mustard, black mustard (*Brassica nigra*), fiddleneck (*Amsinckia* sp.), and red-stemmed filaree (*Erodium cicutarium*). Disturbed/developed areas comprise approximately 27.1 acres within the Development Area, 0.9 acre associated with the Water Tank Area, and 26.0 acres associated with the Off-site Infrastructure Improvement Area outside the Ranch.

3.3 GENERAL PLANT INVENTORY

The plant communities discussed above are composed of numerous plant species. These plant species observations were completed during the field visits to the Development Area and the remaining portions of the study area in May and June 2009 and again during the focused plant surveys in June 2010. Plant species actually observed within the study area are indicated in Appendix A, *Floral and Faunal Compendium*. Sensitive plant species occurring or potentially occurring within the study area are discussed in Section 3.7.3, Sensitive Plant Species.

3.4 GENERAL WILDLIFE INVENTORY

The plant communities in the study area provide habitat for wildlife. Wildlife species observed within the study area include western tiger swallow tail (*Papilio rutulus*), Pacific treefrog (*Hyla regilla*), western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), southern Pacific rattlesnake (*Crotalus viridis*), red-tailed hawk (*Buteo jamaicensis*), red-shoulder hawk (*Buteo lineatus*), song sparrow (*Melospiza melodia*), northern flicker (*Colaptes auratus*), oak titmouse (*Baeolophus inornatus*), turkey vulture (*Cathartes aura*), white-throated swift (*Aeronautes saxatalis*), Anna's hummingbird (*Anna calypte*), black phoebe (*Sayornis nigricans*), spotted towhee (*Pipilo maculatus*), Nuttall's woodpecker (*Picoides nuttallii*), Cooper's hawk (*Accipiter cooperii*), American crow (*Corvus brachyrhynchos*), bushtit (*Psaltriparus minimus*),

acorn woodpecker (*Melanerpes formicivorus*), common raven (*Corvus corax*), lesser goldfinch (*Carduelis psaltria*), house wren (*Troglodytes aedon*), ash throated flycatcher (*Myiarchus cinerascens*), northern mockingbird (*Mimus polyglottos*), western scrub-jay (*Aphelocoma californica*), house finch (*Carpodacus mexicanus*), California towhee (*Pipilo crissalis*), mourning dove (*Zenaida macroura*), California quail (*Callipepla californica*), gray fox (*Urocyon cinereoargenteus*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), mule deer (*Odocoileus hemionus*), desert cottontail (*Sylvilagus audubonii*), striped skunk (*Mephitis mephitis*), California ground squirrel (*Spermophilus beecheyi*), and raccoon (*Procyon lotor*).

All wildlife species observed within the Development Area, the Water Tank Area and the Off-site Infrastructure Improvement Area are included in Appendix A, *Floral and Faunal Compendium*. Sensitive wildlife species occurring or potentially occurring within the study area are discussed in Section 3.8.4, *Sensitive Wildlife Species*.

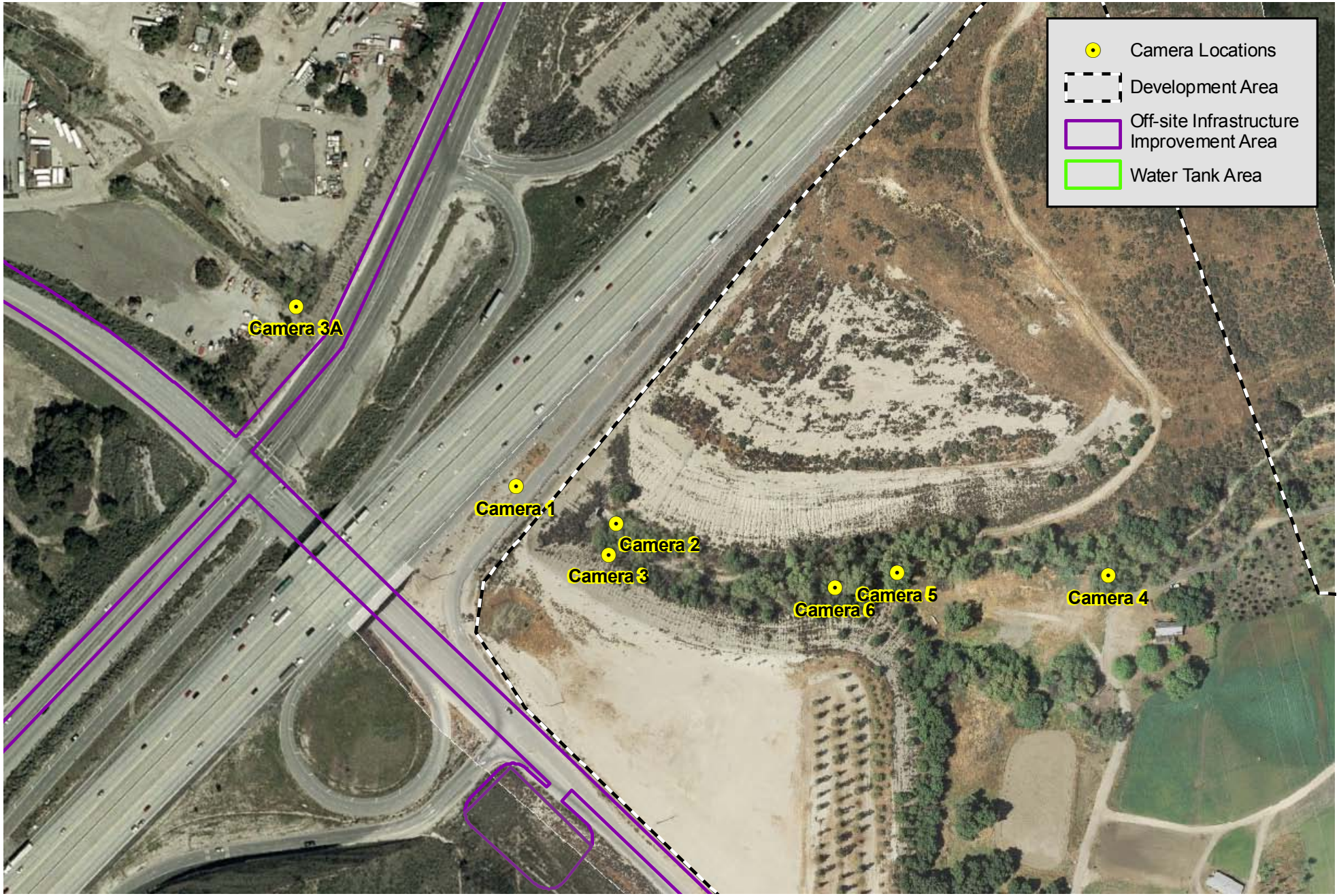
3.5 WILDLIFE MOVEMENT

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, or individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). Although the nature of these types of movement is species-specific, large open spaces will generally support a diverse wildlife community representing all types of movement. Each type of movement may also be represented at a variety of scales from non-migratory movement of amphibians, reptiles, and some birds, on a "local" level, to many square mile home ranges of large mammals moving at a "regional" level.

Movement on a smaller or "local" scale occurs throughout the surrounding vicinity as well as within the study area, primarily within Placerita Creek. Data gathered from biological surveys indicate the Development Area contains habitat that supports a variety of species of invertebrates, amphibians, reptiles, birds, and mammals. The home range and average dispersal distance of many of these species may be contained entirely within the Development Area and immediate vicinity. Populations of animals such as insects, amphibians, reptiles, small mammals, and a few bird species may find all their resource requirements without moving far or outside of the Development Area. Occasionally, individuals expanding their home range or dispersing from their parental range will attempt to move outside of the Development Area.

To determine the level of wildlife movement occurring on the study area, a local wildlife movement analysis was conducted. This analysis included the placement of six motion-triggered cameras within the portion of the creek lying within the Development Area for eight consecutive weeks from May through June 2008. The camera configuration was designed to allow PCR biologists to best monitor wildlife use of the creek and the culvert. Camera locations are shown in **Figure 5**, *Camera Locations Disney | ABC Studios at The Ranch*. In addition, diagnostic sign, including tracks, scat, hair, and feathers, were documented during the eight-week period.

From a "regional" perspective, the study area is situated east of the Santa Susana Mountains, west of the San Gabriel Mountains, and south of the Castaic Ranges. The Angeles National Forest is located to the south and east of the Development Area as well as further to the north with intervening development. The presence of



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0 250 500 Feet

Camera Locations
Disney | ABC Studios at The Ranch

Source: DEA, 2009; PCR Services Corporation, 2010.

FIGURE
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SR-14 and urbanized areas to the west of the study area inhibit the movement of larger mammals that require larger home range areas and dispersal distances or dense vegetative cover, e.g., mountain lion. However, several large culverted crossings under SR-14, including one at the western end of the Development Area, provide wildlife the potential to cross under SR-14 and allow movement between the open space blocks.

The One Valley One Vision (OVOV) draft Conservation and Open Space Element identifies key wildlife movement corridors. Within the OVOV, the Santa Clara River Enhancement and Management Plan Study, Santa Monica Mountains Conservancy, and the San Gabriel/Santa Susana Wildlife Corridor and Open Space Acquisition Project specifically identify significant corridors within the Santa Clarita Valley. These corridors include: Elsmere Canyon (an integral part of the Rim of the Valley Trail and Wildlife Corridor), Towsley Canyon, Weldon/Bee Canyon, crossings along the SR-14 near Whitney Canyon, crossings between Canyon Country and Sulphur Springs, and the Los Pinetos undercrossing. The culvert under SR-14 on the western side of the Development Area is not identified in these studies.

A regional wildlife movement model was created to predict how animals move between areas of open space within and surrounding the study area and the overall Ranch. The regional analysis used a suite of tools called Corridor Design (Beier, P., et.al, 2007). These tools are operated in conjunction with ArcGIS to create linkages between blocks of open space that will remain as open space in perpetuity. The model output is based on the habitat preferences of a group of selected or focal species. The focal species were determined based on their ability to represent a range of ecological niches, movement preferences and needs, and data availability. The modeled group of focal species was comprised of the American badger (*Taxidea taxus*), cougar (*Felis concolor*), mule deer, Pacific kangaroo rat (*Dipodomys agilis*), California quail, and western toad (*Bufo boreas*). These particular species were selected to represent a large range of species.

Corridor Design produces habitat suitability, habitat patch, and wildlife movement corridor models for each focal species based on parameters such as vegetation communities, distance to roads, and topographic position. These corridors for each species are combined to create an overall linkage design that serves as a predictive model for overall wildlife movement in the region surrounding the study area. The parameters and data used in this model are largely based on those employed by South Coast Missing Linkages Project for linkages within the vicinity of the study area (Penrod, K., et.al, 2004), (Penrod, K., et.al, 2006). Although the location of culverts and other road and highway undercrossings cannot be built into the model, PCR biologists determined the location of potential highway crossing opportunities after the model was created to ensure highways did not serve as impenetrable barriers for wildlife.

The individual species corridors and the overall linkage design results are intended to be interpreted by the ease with which wildlife species can move through a landscape. This ease of movement is given in decreasing levels of permeability by the model in the following increments: 99.9% permeability, 99% permeability, 98% permeability, 97% permeability, 90% permeability. "Relative permeability" refers to the ability of wildlife to pass through an area. Highly urbanized areas will have low permeability whereas areas with minimal disturbance would have high permeability. For the purposes of this analysis, permeability levels of 99.9%, 99%, 97%, and 95% were examined. These four permeability levels are appropriate because they provide a range of levels that clearly show the most important locations for wildlife movement within the vicinity of the study area. Permeability levels less than 95% were not examined because they essentially encompassed the entire valley region between the San Gabriel, Castaic, and Santa Susana Mountains and, therefore, were not relevant to identify and understand the best habitat linkages in the area.

Three main corridors emerged from the regional linkage model at permeability levels of 99.9%, 99%, 97%, and 95% (**Figure 6**, *Regional Scale Model Results Disney | ABC Studios at The Ranch*). Opportunities to cross SR-14 are present for each corridor within the linkage design.

3.5.1 Corridor #1

This corridor is located approximately 0.75 mile south of the study area. Portions of the 97% and 95% permeability level of this corridor are located on the central and eastern portions of the Ranch outside of the study area. It connects suitable habitat in the San Gabriel Mountains to suitable habitat in the Santa Susana and Castaic Ranges. The 99.9% and 99% permeability levels also occur in this corridor, but outside the Ranch and study area boundaries. Overall, this corridor spans a length of approximately 25 miles and affords opportunities for wildlife to connect to Santa Monica-Sierra Madre Linkage that was delineated by the South Coast Missing Linkages Project.

Potential barriers to wildlife movement along this corridor include SR-14, State Route 126, and Interstate 5 (I-5). The most viable undercrossing for Corridor #1 is located at the intersection of Refinery Road and SR-14, approximately 2 miles south of the study area. The Refinery Road under crossing is located within the 99% permeability portion of the corridor and is extremely close to the 99.9% portion. This undercrossing is a bridge and therefore open and viable for a large number of species. It is also connects suitable habitat on both sides of SR-14. Other, less viable, crossing opportunities are located at the I-5/ SR-14 interchange, the Newhall Road undercrossing at SR-14, and the Newhall Road undercrossing at the I-5. These less viable opportunities are subject to heavy vehicular traffic; however, they could be used during times of lower traffic volume.

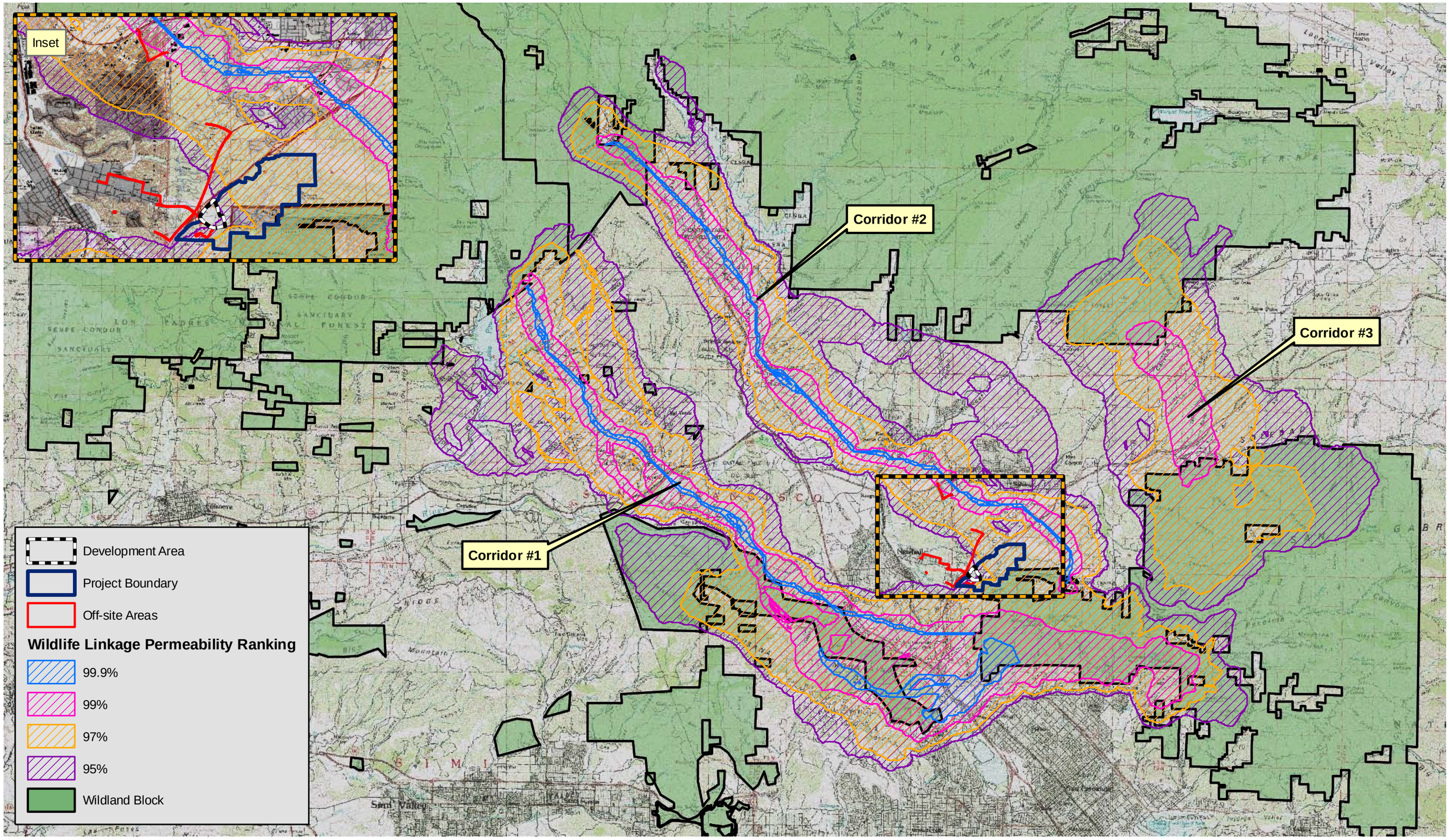
Corridor #1 encompasses portions of Whitney Canyon, Elsmere Canyon, and Towsley Canyon.

3.5.2 Corridor #2

Corridor #2 occurs less than 0.5 miles north of the study area. It connects the San Gabriel Mountains to the Castaic Range and runs between the City of Santa Clarita and Rancho Santa Clarita. This corridor has 99.9%, 99%, 97%, and 95% permeability levels. Portions of the 97% and 95% levels of permeability of this corridor occur within the central and eastern portions of the Ranch and the northern portion of the Off-site Infrastructure Improvement Area. Corridor #2 spans a length of approximately 21 miles.

Currently, wildlife can cross under SR-14at Via Princessa and a railroad undercrossing just north of Canyon Park Road. The railroad undercrossing is in a more natural state, affords access to the Santa Clara River, and it is located within the 97% and 95% permeability levels of this corridor. The Via Princessa undercrossing is a less desirable option because it connects open space to an urbanized area.

Corridor #2 encompasses portions of Whitney Canyon and Placerita Canyon as well as some of the crossings between Canyon Country, west of I-5 and Sulphur Springs, southwest of the study area.



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Regional Scale Model Results
Disney | ABC Studios at The Ranch

Source: PCR Services Corporation, 2010.

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3.5.3 Corridor #3

The northernmost corridor provides a fairly direct link between the San Gabriel Mountains and the Castaic Range with little current pressure from development. It is located approximately 6 miles north of the study area and spans a distance of approximately 5 miles. No portion of Corridor #3 touches either the study area or the Ranch. The 99%, 97%, and 95% permeability levels are included in this corridor. Even though the 99.9% permeability level is not included in this corridor, it may prove more biologically viable than Corridor #2 due to its distance from development and much shorter overall length.

Wildlife can cross under SR-14 at Soledad Canyon and Spring Canyon Roads. Spring Canyon Road lies within the 99% permeability level portion of Corridor #3. Spring Canyon Road also provides a connection between open space habitats, whereas the Soledad Canyon Road undercrossing would funnel wildlife into a housing subdivision.

Corridor #3 is north of Elsmere Canyon, Whitney Canyon, Placerita Canyon, and Sulphur Springs; northeast of Towsley Canyon, Weldon/Bee, and the crossings between Canyon Country and Sulphur Springs.

The results of the regional wildlife movement corridor modeling and local wildlife movement analysis suggest that the study area and the creek, in particular, support wildlife habitat for species on a local level that are less restricted in movement pathway requirements or are adapted to urban areas (e.g., deer, raccoon, skunk, coyote, and birds). However, because of its culverted crossing, physical obstructions, and urban development it is not likely to support preferential wildlife movement for larger mammals on a regional scale. Additional information is available in PCR's *Results of a Wildlife Movement Analysis for Disney's Golden Oak Ranch, Placerita Canyon, Los Angeles County, California,* dated September 2, 2008 (PCR 2008) (provided in Appendix B).

3.6 JURISDICTIONAL DELINEATION OF WETLANDS, "WATERS OF THE U.S.," AND "WATERS OF THE STATE"

Placerita Creek, the primary drainage feature, and one small tributary have been delineated in the Development Area. Two small tributaries to the creek have been delineated within the Water Tank Area. Only Placerita Creek has been delineated within the Off-site Infrastructure Improvement Area outside of the Ranch. These jurisdictional resources include a portion of the creek and two tributary systems (Tributaries A and B), and total approximately 5,898 linear feet of streambed. The delineated jurisdictional areas within the creek and its tributaries total 0.57 acre of ACOE/RWQCB jurisdictional "waters of the U.S./waters of the State" (0.37 acre within the Development Area, 0.19 acre within the Water Tank Area, and 0.01 acre associated with the Off-site Infrastructure Improvement Area outside the Ranch) and 4.43 acres of CDFG jurisdictional streambed and associated riparian habitat (3.79 acre within the Development Area, 0.59 acre within the Water Tank Area, and 0.05 acre associated with the Off-site Infrastructure Improvement Area outside the Ranch). (See **Figure 7**, *Jurisdictional Features Disney | ABC Studios at The Ranch*, and **Table 7**, *Existing Jurisdictional Features*).

Placerita Creek is confined within outer earthen banks, which define the creek's active floodplain and generally contain the wooded riparian corridor associated with the drainage throughout its extent within the study area. The stream channel is relatively straight, with vertical sandy inner banks, and a streambed composed of sands and cobble substrate. Within the Development Area, the creek flows between the two

Table 7

Existing Jurisdictional Features

Name	Length (feet)*	Average Width (feet)* ACOE/ RWQCB	Average Width (feet)* CDFG	Area (acres)* ACOE/ RWQCB	Area (acres)* CDFG	Nature
Placerita Creek	1,924	2-15	19-95	0.34	3.25	Ephemeral – Intermittent
			Tributaries			
A	1,082	2-5	4-10	0.09	0.17	Ephemeral
A1	112	3	9	0.01	0.02	Ephemeral
A1.1	45	5	10	0.01	0.01	Ephemeral
B	1,713	1-6	3-15	0.07	0.28	Ephemeral
B1	106	N/A	15	N/A	0.43	
B3	76	1-3	3-4	<0.01	<0.01	Ephemeral
B4	660	1-5	3-5	0.04	0.25	Ephemeral
B5	180	3	4	0.01	0.02	Ephemeral
TOTALS	**5,898**	-	-	**0.57**	**4.43**	

**The lengths widths, and acreages are a cumulative totals inclusive of the drainages within the Development Area, Water tank Area, and the Off-site Infrastructure Improvement Area.*

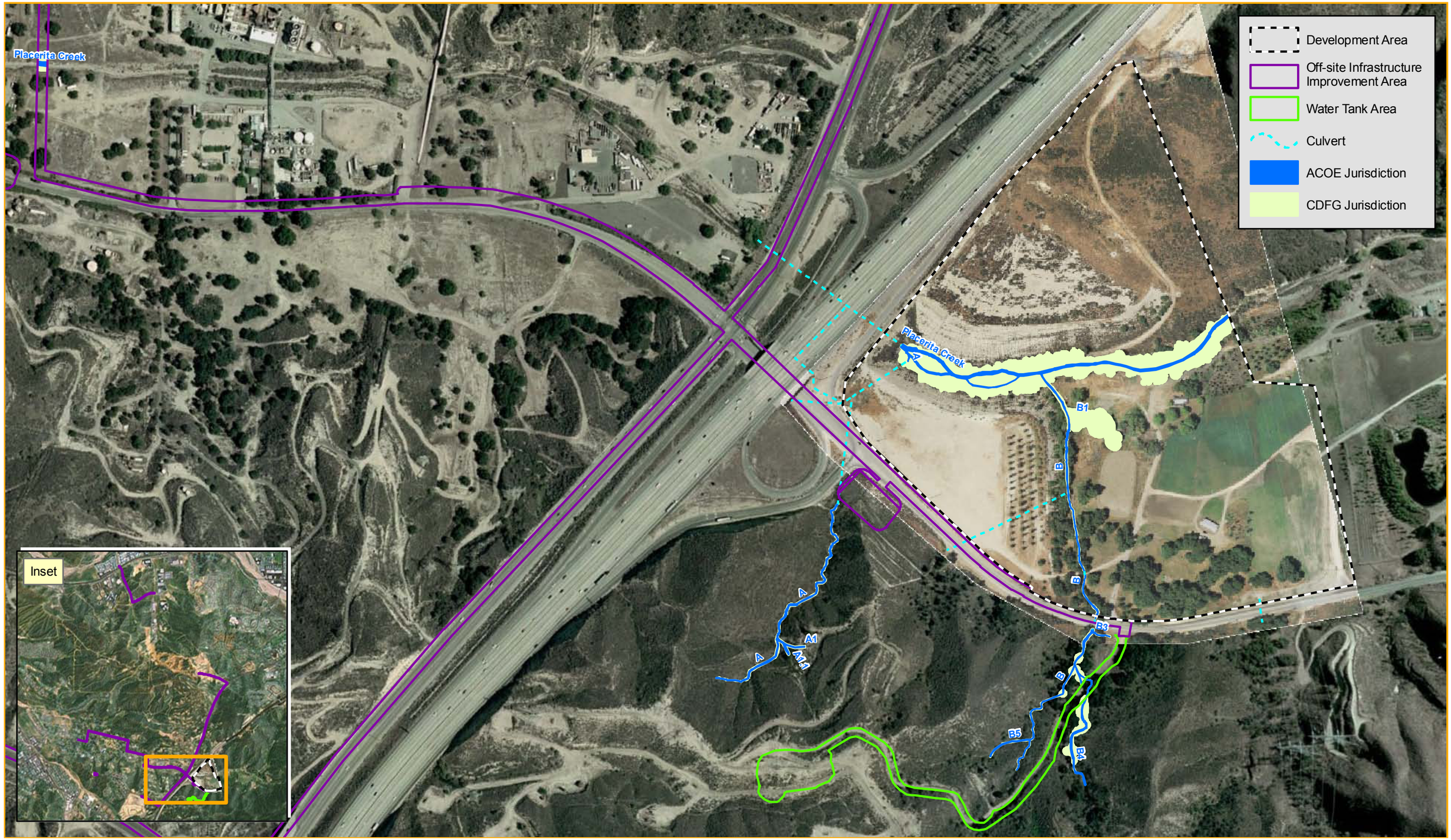
Source: PCR Services Corporation 2010.

gravel fill pads created by Caltrans during construction of SR-14 in the early 1970s and which further confine the riparian corridor of the creek. The creek then flows west of the Development Area through a large, 25-foot diameter, culvert underneath SR-14. Two high-flow channels or braids within the creek also have been mapped. These braids are generally small, sandy stream channels, which receive sufficiently frequent flows to maintain well-defined channels. Tributaries A and B are small earthen channels or swales that collect surface flows from the surrounding uplands and discharge them into the creek.

Flows in tributary B4, which lies south of Placerita Canyon Road, travel from upstream along an incised drainage and intersect with the existing access road, which is a foot or two above the grade of the streambed. Discharge then flows onto, down and across the road for a fairly short distance, whereupon it flows off of the road and back into its historic channel. The road does not sever the connection between flows upstream and downstream. As part of the Proposed Project, an Arizona crossing will be constructed to handle flows from tributary B4.

Placerita Creek and its tributaries are characterized generally as having ephemeral flows, meaning they carry flows only during and immediately following storm events and are typically only supported by precipitation and stormwater runoff. Due to this ephemeral hydrology, most of the on-site tributaries support upland plant communities and well drained soils. None of the drainage features in the study area support wetlands.

There is a culverted road crossing within the creek in the Development Area as well as some concrete debris and a small amount of trash within the creek and some of its tributaries. As part of the Proposed Project, the culverted road crossing will be replaced by a bridge, which will span the CDFG-jurisdictional area of the creek.



0 350 700 Feet

Jurisdictional Features
Disney | ABC Studios at The Ranch

Source: DEA, 2009; PCR Services Corporation, 2010.

FIGURE
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3.7 REGULATED TREES

A survey of oaks on the entire Ranch has identified over 3,000 oak trees, including approximately 115 heritage oak trees, which qualify for protection under the County's Oak Tree Ordinance. A total of 454 oak trees of ordinance-protected size exist and were inventoried, assessed and mapped throughout the Development Area, the Water Tank Area and within 200 feet of the grading required for the construction of the Proposed Project. All trees surveyed were native coast live oak. Of these 454 oak trees, 21 are heritage oaks (36-inch dbh or larger). A total of 183 of these trees, including 21 heritage oaks, occur within the Development Area of the Proposed Project, as shown in **Figure 8**, *Oak Tree Map Disney | ABC Studios at The Ranch*. An additional 65 of the inventoried trees occur within the Water Tank Area, while the remaining 206 trees are located within the 200-foot buffer area; no heritage oak trees exist in these areas. The Proposed Project would require removal of 159 oak trees, including 18 heritage oaks, and encroachment upon 77 oak trees, including one heritage oak. Additional details are provided in Dudek's *Oak Tree Report for the Disney | ABC Studios at The Ranch, Los Angeles County, California* dated November 2010.

The City of Santa Clarita Oak Tree Preservation Ordinance (Ord. 89-10, 1989) protects all tree species of the oak genus that measure six inches or more in circumference (two inches in diameter) as measured at a point 4.5 feet above natural grade (dbh). The Ordinance also strictly controls work activities within the "protected zone" of the jurisdictional oak trees, which extends to five feet outside of the dripline of the oak tree or 15 feet from the trunk(s) of a tree, whichever distance is greater. Oak trees with protected zones that may be encroached by the proposed sewer line and which meet the size criteria defined in the Ordinance were assessed, inventoried, and plotted on an oak tree location map. Of the 86 trees of Ordinance-protected size that may be encroached by the Oak Orchard Alignment, 31 are heritage oaks. The Ordinance defines a Heritage Oak Tree as any oak tree measuring 108 inches or more in circumference (34 inches in diameter), or in the case of a multiple trunk tree, two or more trunks measuring 72 inches (23 inches in diameter) each or greater in circumference, measured at 4.5 feet above the natural grade surrounding such tree. None of the 86 oak trees would be removed as a result of the proposed sewer line installation. Trenching for the Oak Orchard Alignment would require temporary encroachment[4] into the protected zones of all 86 oak trees, including 31 heritage oak trees, protected under the Ordinance. Additional details are provided in Dudek's *Oak Tree Report Oak Orchard Alignment Sewer Line City Of Santa Clarita, California* dated October 2010.

3.8 SENSITIVE BIOLOGICAL RESOURCES

Sensitive biological resources are habitats or individual species that have special recognition by federal, State, or local conservation agencies and organizations as endangered, threatened or rare. The USFWS, CDFG, and special groups such as the California Native Plant Society (CNPS) maintain watch lists of such resources, under the provisions of the Federal and State Endangered Species Acts.

Sensitive species that occur or could potentially occur within the study area are based on one or more of the following: (1) the direct observation of the species on the Development Area, Water Tank Area or Off-site Infrastructure Improvement Area during the field surveys; (2) a record reported in the CNDDB or CNPS (on-

[4] *Encroachment is defined as any intrusion into the protected zone of an oak tree, which includes, but is not limited to, pruning, grading, excavating, trenching, dumping of materials, parking of vehicles, placements of incompatible landscaping or animal corals, storage of materials or equipment, or the construction of structures, paving or other improvements.*

line Inventory of Rare and Endangered Plants of California) within the vicinity of these areas (Mint Canyon, Newhall, Oat Mountain, Sunland, Agua Dulce, Warm Springs Mountain, Green Valley, Sleepy Valley, and San Fernando USGS 7.5 minute quadrangles); and/or (3) these areas are within the known distribution of a species and contains habitat appropriate to support the species.

3.8.1 Sensitive Resource Classification

Federal Protection and Classifications

The Federal Endangered Species Act (FESA) defines an endangered species as "any species which is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to "take" any listed species. "Take" is defined in Section 3(18) of FESA as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the USFWS, through regulations, has interpreted the terms "harm" and "harass" to include certain types of habitat modification as forms of "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action that could affect a federally listed plant and animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

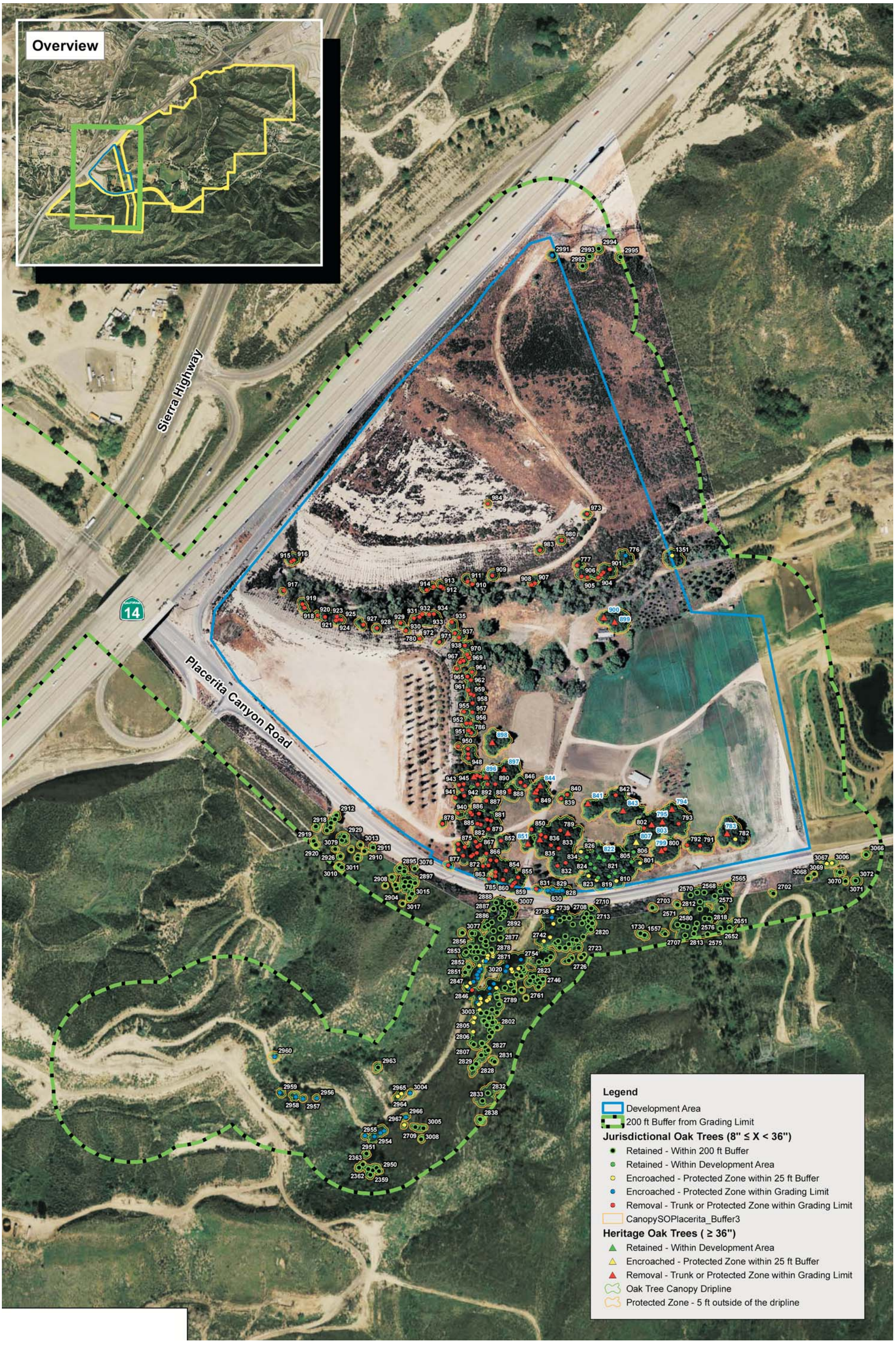
Within the last ten years, the USFWS instituted changes in the listing status of candidate species abandoning the "Category (C)" designations (i.e., C1 candidate species). Former C1 candidate species are now considered Federal Candidate Species (FCS). Some USFWS field offices (e.g., Sacramento) maintain lists of Federal Species of Concern (FSC). These species receive no legal protection and the use of the term does not mean that they will eventually be proposed for listing (http://sacramento.fws.gov/es/spp_concern.htm). The Carlsbad Fish and Wildlife Office does not maintain such a list for the geographic area under its jurisdiction, which includes Los Angeles, Orange, Riverside, San Bernardino, Imperial, and San Diego Counties. All references to federally-protected species in this report include the most current published status to which each species has been assigned by USFWS.

For purposes of this assessment, the following acronyms are used for federal status species:

- FE Federally listed as Endangered;
- FT Federally listed as Threatened;
- FPE Federally Proposed for listing as Endangered;
- FPT Federally Proposed for listing as Threatened;
- FPD Federally Proposed for delisting;
- FCS Federal Candidate Species.

State of California Protection and Classifications

California's Endangered Species Act (CESA) defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct



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Oak Tree Map
Disney | ABC Studios at The Ranch

Source: Dudek, 2010.

FIGURE
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throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." The State defines a Threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a Threatened species." Candidate species are defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of Endangered species or the list of Threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list." Candidate species may be afforded temporary protection as though they were already listed as Threatened or Endangered at the discretion of the Fish and Game Commission. Unlike the FESA, CESA does not include listing provisions for invertebrate species.

Article 3, Sections 2080 through 2085, of the CESA addresses the taking of Threatened or Endangered species by stating "No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided." Under the CESA, "take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Exceptions authorized by the state to allow "take" require permits or memoranda of understanding and can be authorized for "Endangered species, Threatened species, or candidate species for scientific, educational, or management purposes." Sections 1901 and 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

Additionally, some sensitive mammals and birds are protected by the State as Fully Protected Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. California Species of Special Concern are species designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. This list is primarily a working document for the CDFG's CNDDB project. Informally listed taxa are not protected *per se*, but warrant consideration in the preparation of biotic assessments. For some species, the CNDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites.

For the purposes of this assessment, the following acronyms are used for state status species:

- SE State listed as Endangered;
- ST State listed as Threatened;
- SR State listed as Rare;
- SCE State Candidate for listing as Endangered;
- SCT State Candidate for listing as Threatened;
- SFP State Fully Protected;
- SSC California Species of Special Concern.

California Native Plant Society

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of rare, threatened, or endangered plant species of California (CNPS 2001). The list serves as the candidate list for listing as threatened and endangered by CDFG. CNPS has developed five categories of rarity:

- List 1A Presumed extinct in California;
- List 1B Rare or Endangered in California and elsewhere;
- List 2 Rare or Endangered in California, more common elsewhere;
- List 3 Plants for which we need more information – Review list;
- List 4 Plants of limited distribution – Watch list.

The CNPS recently added "threat ranks" which parallel the ranks used by the CNDDB. These ranks are added as a decimal code after the CNPS List (e.g., List 1B.1). The threat codes are as follows:

- .1 – Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat);
- .2 – Fairly endangered in California (20-80% occurrences threatened);
- .3 – Not very endangered in California (<20% of occurrences threatened or no current threats known).

3.8.2 Sensitive Plant Communities

The study area supports two plant communities considered sensitive due to their decline in the region. These communities include mixed willow riparian woodland and southern willow scrub. Mixed willow riparian woodland is considered sensitive according to the resource agencies.

Mixed willow riparian woodland is a CNDDB high inventory priority community (CNDDB Code 61.207.00) (CNDDB 2003) and is considered sensitive due to its decline in the region and its ability to support sensitive species. Approximately 3.2 acres of mixed willow riparian woodland occur within the Development Area. This community does not occur elsewhere within the study area.

Southern willow scrub is a CNDDB high inventory priority community (CNDDB Code 61.208.00) (CNDDB 2003) and is considered sensitive due to its decline in the region and its ability to support sensitive species. Approximately 0.7 acre of Southern willow scrub occurs within the Development Area. This community does not occur elsewhere within the study area.

3.8.3 Sensitive Plant Species

Sensitive plants include those listed, or candidates for listing, by the USFWS and CDFG, and species considered sensitive by the CNPS (particularly Lists 1A, 1B, and 2). Several sensitive plant species were reported in the CNDDB and CNPS on-line inventory from the Mint Canyon and eight surrounding USGS 7.5 minute quadrangles.

Due to the highly disturbed conditions that exist over all but a small portion of the Development Area, the Water Tank Area and the Off-site Infrastructure Improvement Area, including disturbed understories in oak woodlands, no focused plant surveys were conducted during the field investigation. Of the seventeen sensitive plant species considered in this assessment and addressed in Table 8, *Sensitive Plant Species*, none are expected to occur in the Development Area, the Water Tank Area or the Off-site Infrastructure Improvement Area for one or more of the following reasons: (1) lack of suitable habitat; (2) perennials are readily identifiable year-round; (3) species were not observed during botanical surveys conducted in May and June 2009; and (4) lack of suitable elevation. A summary discussion of each sensitive plant species recorded within the general vicinity or with a known range within the vicinity (and its potential to occur within the Development Area, the Water Tank Area or the Off-site Infrastructure Improvement Area) is presented in **Table 8**, *Sensitive Plant Species*. However, as a result of a USFWS comment letter to the Notice of Preparation, focused surveys for slender-horned spineflower and San Fernando Valley spineflower were conducted within potential habitat during their known blooming periods. Neither of these species was observed within the study area and they are not expected. The study area is not within any known proposed or final critical habitat areas for listed plants.

3.8.4 Sensitive Wildlife Species

Sensitive wildlife species include those species listed as endangered or threatened under the FESA or CESA, candidates for listing by USFWS or CDFG, and special species of concern to the CDFG. Several sensitive wildlife species were reported in the CNDDB from the Mint Canyon, Newhall, Oat Mountain, and San Fernando quadrangles maps and are known to occur within the region.

Focused surveys for least Bell's vireo, southwestern willow flycatcher, coastal California gnatcatcher, arroyo toad, and the western spadefoot toad were conducted during the 2010 spring season. A summary discussion of each sensitive wildlife species recorded within the general vicinity or with a known range within the vicinity (and its potential to occur within the Development Area and Water Tank Area) is presented in **Table** 9, *Sensitive Wildlife Species*. The Development Area does clip the northern tip of the final critical habitat area designated for coastal California gnatcatcher (Unit 13: West Los Angeles and Ventura Counties). In addition, the Water Tank Area south of Placerita Canyon Road is within the final designated critical habitat for the coastal California gnatcatcher. However, no coastal California gnatcatcher were observed or otherwise detected during the focused surveys.

Table 8

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Preferred Habitat	Distribution	Occurrence On-site
ANGIOSPERMS (DICOTYLEDONS)								
Asteraceae	**Aster Family**							
Deinandra minthornii	Santa Susana tarplant	July – November	None	Rare	1B.2	Elevation 280-760m; Chaparral, coastal scrub	Los Angeles and Ventura Counties	NE
Helianthus nuttallii ssp. parishii	Los Angeles sunflower	August – October	None	None	1A	Elevation 10-1675m; Marshes and swamps	Los Angeles, Orange and San Bernardino Counties. Last seen in 1937	NE
Senecio aphanactis	chaparral ragwort	January – April	None	None	2.2	Elevation 15-800m; Chaparral, Cismontane woodland, Coastal scrub/sometimes alkaline	Central Western California, South Coast, Channel Islands	NE
Symphyotrichum greatae	Greata's aster	June-Oct	None	None	1B.3	Elevation 300-2010m; Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Riparian woodland/mesic	Los Angeles, San Bernardino and Ventura Counties	NE
Berberidaceae	**Barberry Family**							
Berberis nevinii	Nevin's barberry	March – June	FE	SE	1B.1	Elevation 274-825m; Chaparral, Cismontane woodland, Coastal scrub, Riparian scrub/sandy or gravelly	Los Angeles, Riverside, San Bernardino, and San Diego Counties	NE
Boraginaceae	**Borage Family**							
Harpagonella palmeri	Palmer's grappling-hook	March – May	None	None	4.2	Elevation 20-955m; Chaparral, Coastal scrub, Valley and foothill grassland/clay	Los Angeles, Orange, Riverside, , San Diego Counties, Santa Catalina Isl.	NE

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat, highly restricted distribution of species, and/or low likelihood of occurrence in limited habitat within the study area; P = species has the potential to occur on-site.

Table 8 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Preferred Habitat	Distribution	Occurrence On-site
Cactaceae	**Cactus Family**							
Opuntia basilaris var. *brachyclada*	short-joint beavertail	April - June	None	None	1B.2	Elevation 425-1800; Chaparral, Joshua tree "woodland", Mojavean desert scrub, Pinyon and juniper woodland	Los Angeles and San Bernardino Counties	NE
Convolvulaceae	**Morning-glory Family**							
Calystegia peirsonii	Peirson's morning-glory	April - June	None	None	4.2	Elevation 30-1500m; Chaparral, Chenopod scrub, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland	Los Angeles County	NE
Fabaceae	**Pea Family**							
Astragalus brauntonii	Braunton's milk-vetch	Jan.-Aug.	FE	None	1B.1	Elevation 4-640m; Chaparral, Coastal scrub, Valley and foothill grassland in recently burned or disturbed area. Usually occurs on sandstone with carbonate layers.	Los Angeles, Riverside, Orange, and Ventura Counties	NE

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat, highly restricted distribution of species, and/or low likelihood of occurrence in limited habitat within the study area; P = species has the potential to occur on-site.

Table 8 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Preferred Habitat	Distribution	Occurrence On-site
Geraniaceae	**Geranium Family**							
Erodium macrophyllum	round-leaved filaree	March – May	None	None	1B.1	Elevation 15-1200m; Cismontane woodland, Valley and foothill grassland/clay	Alameda, Butte, Contra Costa, Colusa, Fresno, Glenn, Kings, Kern, Lake, Lassen, Los Angeles, Merced, Monterey, Napa, Riverside, Santa Barbara, San Benito, Santa Clara, Santa Cruz Isl., San Diego, San Joaquin, San Luis Obispo, San Mateo, Solano, Sonoma, Stanislaus Tehama, Ventura, Yolo	NE
Malvaceae	**Mallow family**							
Malacothamnus davidsonii	Davidson's bush-mallow	June – January	None	None	1B.2	Elevation 185-855m; Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland	Los Angeles, Monterey, Santa Clara, San Luis Obispo, San Mateo	NE
Polygonaceae	**Buckwheat family**							
Chorizanthe parryi var. *ferandina*	San Fernando Valley spineflower	April – July	FC	SE	1B.1	Elevation 150-1220m; Coastal scrub (sandy), Valley and foothill grassland	Los Angeles, Orange, Ventura Counties	NE
Dodecahema leptoceras	slender-horned spineflower	April – June	FE	SE	1B.1	Elevation 200-760m; Chaparral, Cismontane woodland, Coastal scrub (alluvial fan)/sandy	Los Angeles, Riverside, and San Bernardino Counties	NE

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat, highly restricted distribution of species, and/or low likelihood of occurrence in limited habitat within the study area; P = species has the potential to occur on-site.

Table 8 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Preferred Habitat	Distribution	Occurrence On-site
Polemoniaceae	**Phlox family**							
Navarretia fossalis	Moran's navarretia	April – June	FT	None	1B.1	Elevation 30-1300m; Chenopod scrub, Marshes and swamps(assorted shallow freshwater), Playas, Vernal pools	Los Angeles, Riverside, San Diego, and San Luis Obispo Counties	NE
ANGIOSPERMS (MONOCOTYLEDONS)								
Liliaceae	**Lily family**							
Calochortus clavatus var. *gracillis*	slender mariposa lily	March – June	None	None	1B.2	Elevation 360-1000m; Chaparral, Coastal scrub, Valley and foothill grassland	Los Angeles and Ventura Counties	NE
Calochortus plummerae	Plummer's mariposa-lily	May – July	None	None	1B.2	Elevation 1000-1700m; Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland/granitic, rocky	Los Angeles, Orange, Riverside, , San Diego Counties	NE
Poaceae	**Grass family**							
Orcuttia californica	California Orcutt grass	April – August	FE	SE	1B.1	Elevation 15-660m; Vernal pools	Los Angeles, Riverside, San Diego, and Ventura Counties	NE

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat, highly restricted distribution of species, and/or low likelihood of occurrence in limited habitat within the study area; P = species has the potential to occur on-site.

Table 8 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Preferred Habitat	Distribution	Occurrence On-site

Key to Species Listing Status Codes

FE	*Federally Listed as Endangered*	*SE*	*State Listed as Endangered*	*SSC*	*California Special Concern Species*
FT	*Federally Listed as Threatened*	*ST*	*State Listed as Threatened*		
FPE	*Federally Proposed as Endangered*	*SCE*	*State Candidate for Endangered*		
FPT	*Federally Proposed as Threatened*	*SCT*	*State Candidate for Threatened*		
FPD	*Federally Proposed for Delisting*	*SR*	*State Rare*		
FC	*Federal Candidate Species*	*SFP*	*State Fully Protected*		

California Native Plant Society (CNPS)

List 1A: Presumed extinct in California.
List 1B: Rare, threatened, or endangered throughout their range.
List 2:Rare, threatened, or endangered in California, but more common in other states.
List 3:Plant species for which additional information is needed before rarity can be determined.
List 4:Species of limited distribution in California (i.e., naturally rare in the wild), but whose existence does not appear to be susceptible to threat.

CNPS Threat Codes

List .1: Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
List .2: Fairly endangered in California (20-80% occurrences threatened).
List .3: Not very endangered in California (<20% of occurrences threatened or no current threats known).

Source: PCR Services Corporation, 2010.

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat, highly restricted distribution of species, and/or low likelihood of occurrence in limited habitat within the study area; P = species has the potential to occur on-site.

Table 9

Sensitive Wildlife Species

VERTEBRATES

Scientific Name	Common Name	Federal	State	Preferred Habitat	Distribution	Occurrence On-site
			FISH			
Cyprinidae	**Minnows and Carp**					
Gila orcuttii	arroyo chub	NONE	SSC	Slow water sections of streams with mud or sand substrates, spawns in pools.	Larger rivers of southern California. Currently known from four locations within their native range: upper Santa Margarita River, De Luz Creek; Trabuco Creek; Malibu Creek; and the San Gabriel River. The Santa Clara River population is introduced.	NE
Comments: The arroyo chub is known to occur in the Santa Clara River north of the study area. This species is not expected to occur within the Development Area, the Water Tank Area or the Off-site Infrastructure Improvement Area due to the lack of perennial water.						
Catostromidae	**Suckers**					
Catostomus santaanae	Santa Ana sucker	FT	SSC	Small, shallow streams that are subject to periodic, severe flooding.	Currently known from three river systems; Los Angeles River (Big Tujunga Creek), San Gabriel River, and Santa Ana River. The Santa Clara River population is introduced.	NE
Comments: The Santa Ana sucker is not expected to occur within the Development Area, the Water Tank Area or the Off-site Infrastructure Improvement Area due to the lack of a perennial water source.						

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; N = For raptor species: if present, would utilize the site for nesting only; B = For raptor species: if present, would utilize the site for both foraging and nesting.

Table 9 (Continued)

Sensitive Wildlife Species

VERTEBRATES

Scientific Name	Common Name	Federal	State	Preferred Habitat	Distribution	Occurrence On-site
Gasterosteidae	**Sticklebacks**					
Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	FE	SE, SFP	Weedy pools, backwaters, and among emergent vegetation at the stream edge in small southern California streams. Needs cool, clear water with abundant vegetation.	Currently restricted to the upper Santa Clara River drainage in Los Angeles and Ventura counties, San Antonio Creek on Vandenburg Air Force Base, San Luis Obispo County, and an isolated population in San Felipe Creek in San Diego County.	NE

Comments: The unarmored threespine stickleback is known to occur in the Santa Clara River north of the study area. However, due to a lack of abundant vegetation and perennial water within the creek channel, this species is not expected to occur within the Development Area, the Water Tank Area or the Off-site Infrastructure Improvement Area.

AMPHIBIANS

Bufonidae	**True Toads**					
Bufo californicus	Arroyo toad	FE	SSC	Washes and streams with sandy banks, willows, cottonwoods, or sycamores; riparian habitats of semiarid areas, small cobbly streambeds. Requires clear, standing water for reproduction.	Southern part of the Coast Range from n San Luis Obispo Co. south to Baja, California.	NE

Comments: Focused surveys in 2010 did not detect this species within the Development Area; and this species is not expected to occur within the Water Tank Area or the Off-site Infrastructure Improvement Area due to lack of suitable habitat.

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; N = For raptor species: if present, would utilize the site for nesting only; B = For raptor species: if present, would utilize the site for both foraging and nesting.

Table 9 (Continued)

Sensitive Wildlife Species

VERTEBRATES

Scientific Name	Common Name	Federal	State	Preferred Habitat	Distribution	Occurrence On-site
Pelobatidae	**Spadefoot Toad Family**					
Spea hammondii	western spadefoot	NONE	SSC	Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Coastal ranges from Point Conception, Santa Barbara Co., south to Mexican border throughout Central Valley and adjacent foothills.	NE
Comments: Focused surveys in 2010 did not detect this species within the Development Area and the western spadefoot is not expected to occur within the Water Tank Area or the Off-site Infrastructure Improvement Area due to the lack of suitable habitat.						
Ranidae	**True Frog Family**					
Rana aurora draytonii	California red-legged frog	FT	SSC	Lowlands and foothills in or near permanent sources of deep water with dense shrubby or emergent vegetation.	West of the Sierra-Cascade crest and along the Coast Ranges the entire length of the State.	NE
Comments: The California red-legged frog is not expected to occur within the Development Area, the Water Tank Area or the Off-site Infrastructure Improvement Area due to the lack of suitable habitat.						
Rana muscosa	mountain yellow-legged frog	FE	SSC	Prefers rocky stream courses in mid- to upper-elevation, perennial streams, often in locations with bedrock pools.	Known from seven locations in the San Gabriel, San Bernardino, and San Jacinto mountains.	NE
Comments: The mountain yellow-legged frog is not expected to occur within the Development Area, the Water Tank Area or the Off-site Infrastructure Improvement Area due to a lack of suitable habitat.						
REPTILES						
Emydidae	**Box and Water Turtles**					
Emys (=Clemmys) marmorata pallida	southwestern pond turtle	NONE	SSC	Ponds, marshes, rivers, streams, irrigation ditches.	San Francisco Bay south to Baja California and west of the Sierra-Cascade crest.	NE
Comments: The southwestern pond turtle is not expected to occur within the Development Area, the Water Tank Area or the Off-site Infrastructure Improvement Area due to the lack of suitable habitat.						

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would use the site for foraging only; N = For raptor species: if present, would use the site for nesting only; B = For raptor species: if present, would use the site for both foraging and nesting.

Table 9 (Continued)

Sensitive Wildlife Species

VERTEBRATES

Scientific Name	Common Name	Federal	State	Preferred Habitat	Distribution	Occurrence On-site
Iguanidae	**Iguanid Lizards**					
Phrynosoma coronatum	coast horned lizard	NONE	SSC	Valley-foothill hardwood, conifer, and riparian habitats, pine-cypress, juniper and annual grassland habitats below 6,000 ft., open country, especially sandy areas, washes, flood plains, and windblown deposits.	Coastal ranges and foothills of Sierra Nevada from San Francisco Bay Area and northern Central Valley south to San Diego and Baja California.	P
Anniellidae	**Legless Lizard Family**					
Anniella pulchra pulchra	silvery legless lizard	NONE	SSC	Several habitats but especially in coastal dune, valley-foothill grassland, chaparral, and coastal scrub habitats. This species prefers soils with a high moisture content.	Coastal ranges from San Francisco Bay into Baja California.	P
Comments: The silvery legless lizard is not expected to occur within the Development Area, the Water Tank Area or the Off-site Infrastructure Improvement Area due to the lack of suitable habitat.						
Boidae	**Boas**					
Thamnophis hammondii	two-striped garter snake	NONE	SSC	Riparian and freshwater marshes with perennial water.	Ranges throughout much of California and is absent only from the desert areas of s CA, the s San Joaquin Valley, and NW California.	NE
Comments: The two-striped garter snake is not expected to occur within the Development Area, the Water Tank Area or the Off-site Infrastructure Improvement Area due to the lack of perennial water.						
BIRDS						

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; N = For raptor species: if present, would utilize the site for nesting only; B = For raptor species: if present, would utilize the site for both foraging and nesting.

Table 9 (Continued)

Sensitive Wildlife Species

VERTEBRATES

Scientific Name	Common Name	Federal	State	Preferred Habitat	Distribution	Occurrence On-site
Accipitridae	**Hawks**					
Aquila chrysaetos	golden eagle	NONE	SSC, SFP	Mountains, deserts, and open country; prefer to forage over grasslands, deserts, savannahs and early successional stages of forest and shrub habitats. Nesting sites are usually located in secluded cliffs with overhanging ledges or in large trees.	Throughout California with the exception of the center of the central valley.	P, F
Falconidae	**Falcons**					
Falco peregrinus anatum	American peregrine falcon	FD	SE, SFP	Open country, cliffs (mountains to coasts); nests in cliffs.	Throughout the U.S. and Canada.	NE
Cuculidae	**Cuckoos, Roadrunners, Anis**					
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FC	SE	Riparian thickets and forests dominated by willows abutting slow-moving watercourses, backwaters, or seeps. Occurs along the broad, lower flood-bottoms of larger river systems; nests in riparian jungles of willow, often mixed with cottonwoods with lower story of blackberry, nettles, or wild grape.	Rare summer visitant to riparian woodlands throughout California.	NE

Comments: The western yellow-billed cuckoo is not expected to occur within the Development Area, the Water Tank Area or the Off-site Infrastructure Improvement Area due to the lack of suitable habitat.

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would use the site for foraging only; N = For raptor species: if present, would use the site for nesting only; B = For raptor species: if present, would use the site for both foraging and nesting.

Table 9 (Continued)

Sensitive Wildlife Species

VERTEBRATES

Scientific Name	Common Name	Federal	State	Preferred Habitat	Distribution	Occurrence On-site
Strigidae	**True Owl Family**					
Athene cunicularia	burrowing owl	NONE	SSC	Dry grasslands, desert habitats, and open pinyon-juniper and ponderosa pine woodlands below 5,300 feet elevation. Prefers berms, ditches, and grasslands adjacent to rivers, agricultural, and scrub areas.	Year-round resident of lowlands of southern California.	NE
Comments: The burrowing owl is not expected to occur within the Development Area, the Water Tank Area or the Off-site Infrastructure Improvement Area due to the lack of suitable habitat.						
Tyrannidae	**Tyrant Flycatchers**					
Empidonax traillii extimus	southwestern willow flycatcher	FE	SE	Wet meadows, riparian woodlands that contain water and low growing willow thickets.	Southern California, from the Santa Ynez River south.	NE
Comments: Focused surveys in 2010 did not detect the southwestern willow flycatcher within the Development Area or the Water Tank Area. The southwestern willow flycatcher is not expected to occur in the Off-site Infrastructure Improvement Area due to the lack of suitable habitat.						
Laniidae	**Shrikes**					
Lanius ludovicianus	loggerhead shrike	NONE	SSC	Open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches.	Formerly a common resident throughout most of California, becoming increasingly scarce in many areas in recent years.	P
Vireonidae	**Vireos**					
Vireo bellii pusillus	least Bell's vireo	FE	SE	Perennial and intermittent streams with low, dense riparian scrub and riparian woodland habitats below 2,000 feet elevation; nests	A patchily distributed summer resident across southern California.	NE

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; N = For raptor species: if present, would utilize the site for nesting only; B = For raptor species: if present, would utilize the site for both foraging and nesting.

Table 9 (Continued)

Sensitive Wildlife Species

VERTEBRATES

Scientific Name	Common Name	Federal	State	Preferred Habitat	Distribution	Occurrence On-site
				primarily in willows and forages in the riparian and occasionally in adjoining upland habitats. Associated with willow, cottonwood, and mule fat.		
Comments: Focused surveys in 2010 did not detect the least Bells' vireo within the Development Area or the Water Tank Area. The least Bell's vireo is not expected to occur in the Off-site Infrastructure Improvement Area due to the lack of suitable habitat.						
Sylviidae	**Old World Warblers, Gnatcatchers**					
Polioptila californica californica	coastal California gnatcatcher	FT	SSC	Coastal sage scrub vegetation below 2,500 feet elevation in Riverside County and generally below 1,000 feet elevation along the coastal slope; generally avoids steep slopes and dense vegetation for nesting.	S Ventura Co., southward through Los Angeles, Orange, Riverside, San Bernardino Cos., and south through the coastal foothills of San Diego Co.	NE
Comments: Focused surveys in 2010 did not detect the coastal California gnatcatcher within the Development Area. The coastal California gnatcatcher is not expected to occur in the Water Tank Area or the Off-site Infrastructure Improvement Area due to the lack of suitable habitat; only a small amount of undisturbed scrub occurs on-site and this scrub is predominantly California buckwheat.						
Parulidae	**Wood-warblers**					
Dendroica petechia	yellow warbler	NONE	SSC	Riparian woodlands, montane chaparral, and mixed conifer habitats.	Throughout most of North America. In California, formerly bred nearly throughout in appropriate habitat; now restricted mostly to northern California and locally in southern California in Coast Ranges.	P

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would use the site for foraging only; N = For raptor species: if present, would use the site for nesting only; B = For raptor species: if present, would use the site for both foraging and nesting.

Table 9 (Continued)

Sensitive Wildlife Species

VERTEBRATES

Scientific Name	Common Name	Federal	State	Preferred Habitat	Distribution	Occurrence On-site
Icteria virens	yellow-breasted chat	NONE	SSC	Riparian woodlands with a thick understory.	Uncommon summer resident and migrant in coastal California and in foothills of the Sierra Nevada.	NE
Comments: The yellow-breasted chat is not expected to occur within the Development Area, the Water Tank Area or the Off-site Infrastructure Improvement Area due to the lack of suitable habitat; the mixed willow riparian woodland within the Development Area does not have a thick understory.						
Emberizidae	**Emberizids**					
Ammodramus savannarum	grasshopper sparrow	NONE	SSC	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes.	Central and eastern U.S.; portions of the Pacific northwest and coastal California; Baja California.	NE
Comments: The grasshopper sparrow is not expected to occur within the Development Area, the Water Tank Area or the Off-site Infrastructure Improvement Area due to the lack of suitable habitat.						
MAMMALS						
Vespertilionidae	**Evening Bats**					
Antrozous pallidus	pallid bat	NONE	SSC	Nests in dry, rocky habitats/caves, crevices in rocks, arid habitats including deserts, chaparral, and scrublands. Most common in open, dry habitats with rocky areas for roosting.	Common in low elevations throughout California except for the high Sierra Nevada from Shasta to Kern Co. and the nw corner of the State.	NE
Comments: The pallid bat may forage in the area but is not expected to roost or nest within the Development Area, the Water Tank Area or the Off-site Infrastructure Improvement Area due to the lack of suitable habitat.						
Euderma maculatum	spotted bat	NONE	SSC	Arid deserts and grasslands through mixed conifer forests; feeds over water and along washes, feeds almost entirely on moths. Needs rock crevices	Foothill, mountain, and desert regions of southern California.	NE

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; N = For raptor species: if present, would utilize the site for nesting only; B = For raptor species: if present, would utilize the site for both foraging and nesting.

Table 9 (Continued)

Sensitive Wildlife Species

VERTEBRATES

Scientific Name	Common Name	Federal	State	Preferred Habitat	Distribution	Occurrence On-site
				in cliffs or caves for roosting.		
Comments: The spotted bat may forage in the area but is not expected to roost or nest within the Development Area, the Water Tank Area or the Off-site Infrastructure Improvement Area due to the lack of suitable habitat.						
Molossidae	**Free-tailed Bats**					
Eumops perotis californicus	western mastiff bat	NONE	SSC	Primarily arid lowlands, especially deserts. Open, semiarid to arid habitats including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban. Roosts in crevices in cliff faces, high building, trees, and tunnels.	Uncommon resident of lower elevations in se San Joaquin Valley and Coastal Ranges from Monterey Co. southward through southern California from the coast eastward to the Colorado desert.	P
Leporidae	**Hares and Rabbits**					
Lepus californicus bennettii	San Diego black-tailed jackrabbit	NONE	SSC	Open brushlands and scrub habitats between sea level and 4,000 feet elevation.	Coastal southern California from Ventura Co. into northern Baja California.	NE
Muridae	**Mice, Rats, and Voles**					
Onychomys torridus ramona	southern grasshopper mouse	NONE	SSC	Desert areas, especially scrub habitats with friable soils for digging, prefers low to moderate shrub cover.	Coastal southern California.	NE
Comments: The southern grasshopper mouse is not expected to occur within the Development Area, the Water Tank Area or the Off-site Infrastructure Improvement Area due to the lack of suitable habitat.						
Neotoma lepida intermedia	San Diego desert woodrat	NONE	SSC	Chaparral, coastal sage scrub, and pinyon and juniper woodland.	Southern California.	P
Comments: The San Diego desert woodrat is not expected to occur within the Development Area, the Water Tank Area or the Off-site Infrastructure Improvement Area due to the lack of suitable habitat.						

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would use the site for foraging only; N = For raptor species: if present, would use the site for nesting only; B = For raptor species: if present, would use the site for both foraging and nesting.

Table 9 (Continued)

Sensitive Wildlife Species

VERTEBRATES

Scientific Name	Common Name	Federal	State	Preferred Habitat	Distribution	Occurrence On-site

Key to Species Listing Status Codes

FE	*Federally Listed as Endangered*	SE	*State Listed as Endangered*	SCD	*State Candidate for Delisting*
FT	*Federally Listed as Threatened*	ST	*State Listed as Threatened*	SFP	*State Fully Protected*
FPE	*Federally Proposed as Endangered*	SR	*State Rare*	SSC	*California Species of Special Concern*
FPT	*Federally Proposed as Threatened*	SCE	*State Candidate for Endangered*		
FPD	*Federally Proposed for Delisting*	SCT	*State Candidate for Threatened*		

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; N = For raptor species: if present, would utilize the site for nesting only; B = For raptor species: if present, would utilize the site for both foraging and nesting.

4.0 PROJECT RELATED IMPACTS

4.1 APPROACH TO THE ANALYSIS

The following discussion examines the potential impacts to plant and wildlife resources that may occur as a result of implementation of the Proposed Project. For the purpose of this assessment, project-related impacts take two forms: direct and indirect. Direct impacts are considered to be those that involve the loss, modification or disturbance of natural habitats (i.e., vegetation or plant communities), which in turn, directly affect plant and wildlife species dependent on that habitat. Direct impacts also include the destruction of individual plants or wildlife, which is typically the case in species of low mobility (i.e., plants, amphibians, reptiles, and small mammals). The collective loss of individuals may also directly affect regional population numbers of a species or result in the physical isolation of populations, thereby reducing genetic diversity and, hence, population stability.

Indirect impacts are considered to be those that involve the effects of increases in ambient levels of sensory stimuli (e.g., noise, light), unnatural predators (e.g., domestic cats and other non-native animals), and competitors (e.g., exotic plants, non-native animals). Indirect impacts may be associated with the construction and/or eventual operation of a project; therefore, these impacts may be both short-term and long-term in their duration. These impacts are commonly referred to as "edge effects" and may result in changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to the Development Area, the Water Tank Area and Off-site Infrastructure Improvement Area.

The biological values of resources within, adjacent to, and outside of the Development Area, the Water Tank Area and the Off-site Infrastructure Improvement Area potentially affected by the Proposed Project were determined by consideration of several factors. These included the overall size of habitats potentially affected, previous land uses and disturbance history, the surrounding environment and regional context, the biological diversity and abundance within the area, the potential for sensitive plant and wildlife species, the importance of the area to regional populations of these species, and the degree to which habitats within the area are limited or restricted in distribution on a regional basis and, therefore, are considered sensitive in themselves. Whereas this assessment is comprehensive, the focus is on sensitive plant communities/habitats, resources that play an important role in the regional biological systems, and sensitive wildlife species.

4.2 THRESHOLDS OF SIGNIFICANCE

The environmental impacts to biological resources are assessed using impact significance threshold criteria, which mirror the policy statement contained in CEQA, Section 21001(c) of the California Public Resources Code. Accordingly, the State Legislature has established it to be the policy of the State to:

> Prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities...

Determining whether a project may have a significant effect or impact plays a critical role in the CEQA process. CEQA provides guidance for evaluating impacts to biological resources in CEQA Guidelines Section 15065, Mandatory Findings of Significance, and the CEQA Guidelines, Appendix G, Environmental Checklist Form. Section 15065(a) states that a project may have a significant effect where:

> The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, reduce the number or restrict the range of an endangered, rare, or threatened species, ...

Appendix G of the CEQA Guidelines provides more specific questions that can be used as guidance in addressing biological resources and encompasses a broader range of resources to be considered, including the following: candidate, sensitive, or special status species; riparian habitat or other sensitive natural communities; federally protected wetlands; fish and wildlife movement corridors; local policies or ordinances protecting biological resources; and, adopted Habitat Conservation Plans (HCPs). Therefore, for the purpose of this analysis, impacts to biological resources are considered potentially significant (before considering offsetting mitigation measures) if one or more of the following conditions would result from implementation of the Proposed Project:

- 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 CDFG or USFWS?
- a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFG or USFWS?
- a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
- substantial interference 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?
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

For the purposes of this impact analysis, the following definitions apply:

- "Substantial adverse effect" means loss or harm of a magnitude which, based on current scientific data and knowledge would: (1) substantially reduce population numbers of a listed, candidate, sensitive, rare, or otherwise special status species; (2) substantially reduce the distribution of a sensitive natural community/habitat type; or (3) eliminate or substantially impair the functions and values of a biological resource (e.g., streams, wetlands, or woodlands) in a geographical area defined by interrelated biological components and systems. In the case of this analysis, the prescribed geographical area is considered to be the region including the southern San Gabriel Mountains.

- "Conflict" means contradiction of a magnitude, which based on foreseeable circumstances, would preclude or prevent substantial compliance.
- "Rare" means: (1) that the species exists in such small numbers throughout all, or a significant portion of, its range that it may become endangered if its environment worsens; or (2) the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the FESA.

4.3 PROJECT DESCRIPTION

The Proposed Project would entail the construction and operation of a motion picture and television studio to be located on the westernmost portion of the 890-acre Golden Oak Ranch (Ranch) in Placerita Canyon, Newhall, Los Angeles County, California. Additionally, the study area includes approximately 35 acres outside of the Development Area (approximately 5 acres on the Ranch and approximately 30 off the Ranch) where various utility lines and a water tank are proposed.

The Proposed Project would provide up to twelve soundstages, production offices, six mills, a warehouse, talent bungalows, a commissary, an administration building, a central utility plant, a bridge over Placerita Creek, and an electrical distribution substation in the Development Area. As an alternative option, studio offices rather than four soundstages, production offices and two mills could be constructed on the northern portion of the Development Area.

A significant feature incorporated in the project design is the restoration and expansion of riparian habitat along Placerita Creek following temporary impacts to stabilize the slopes of the fill pads. This is presented in more detail in Section 5.2.3.

In addition, the Proposed Project incorporates a number of project design features that will minimize indirect, or secondary, impacts to wildlife from noise and lighting during construction and over the course of the long-term operation of the studios. The Project would include the following features to minimize noise impacts during construction:

- To minimize construction noise, Project contractor(s) would equip all construction equipment, fixed or mobile, with properly operating and maintained noise mufflers, consistent with the equipment manufacturers' standards.
- The majority of Project construction-related truck trips would be scheduled outside of the a.m. (7:00 a.m. to 9:00 a.m.) and p.m. (4:00 p.m. to 6:00 p.m.) peak traffic hours to reduce both traffic levels and associated traffic noise during peak commute periods.
- Construction activities and related noise associated with the off-site infrastructure improvements would depend on the governing jurisdiction of the various segments of the water and sewer line alignments. Specifically, for segments within the jurisdiction of the County of Los Angeles or the City of Santa Clarita, construction would be permitted from 7:00 A.M. to 7:00 P.M. Monday through Friday and 8:00 A.M. to 6:00 P.M. on Saturday. For segments under Caltrans' jurisdiction, construction hours would be from 11:00 P.M. to 5:00 A.M. Monday through Friday.

The Project would include the following features to minimize noise impacts during operation of the Project:

- Building mechanical/electrical equipment would be designed to meet the noise limit requirements of Los Angeles County Code, Chapter 12.08 – Noise Control.
- Mechanical equipment buildings (e.g., the central plant) and the proposed booster pump station would be designed to meet the noise limit requirements of Los Angeles County Code, Chapter 12.08 – Noise Control.

A set of lighting guidelines has been developed to direct the design and implementation of lighting in the Development Area with construction of the Project. These are as follows:

- There will be minimal light trespass on adjacent native habitat areas, including groves of trees and Placerita Creek. Fixtures will be carefully placed and directed to reduce glare.
- The use of control devices on fixtures, such as lenses, louvers, barn doors, and snoots will provide optimum beam control and minimize glare. The locations of fixtures will be carefully selected based on desired angles of light and intended use.
- Along bridges, minor parking, and mill areas, the light will have a defined optical system to project lumens downward to minimize light trespass with no backlight on the creek below.
- Within the main parking area, post lights will have optimum beam control including sharp cut off with no uplight component. The fixtures will be located at the perimeters of parking areas. Beam patterns will be asymmetric with the majority of light aimed at parking, and reduced light falling behind post lights. A minimum amount of light will trespass on surrounding foliage.
- Only emergency lighting will be placed around the electrical substation and at the water tank. These will only be used in cases of emergency and not during normal operations.

4.4 STANDARD CONDITIONS

As part of the Proposed Project's review and approval, there are a number of performance criteria and standard conditions that must be met. Among these are those that relate to specific area plans and federal and State regulations regarding impacts to wetlands, riparian habitats, stream courses, and regulated plants.

4.4.1 State of California Fish and Game Code, Section 1602

Section 1602 of the California Fish and Game Code requires any entity (e.g., person, state or local government agency, or public utility) who proposes a project that will substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake to notify the CDFG of the proposed project. In the course of this notification process, the CDFG will review the proposed project as it affects streambed habitats within the project area. The CDFG may then place conditions on the Section 1602 clearance to avoid, minimize, and mitigate the potentially significant adverse impacts within CDFG jurisdictional limits.

4.4.2 Federal Clean Water Act, Section 404

Section 404 of the CWA regulates the discharge of dredged material, placement of fill material, or excavation within "waters of the U.S." and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. "Waters of the U.S." are defined by the CWA as "rivers, creeks, streams, and lakes

extending to their headwaters and any associated wetlands." Wetlands are defined by the CWA as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions." The permit review process entails an assessment of potentially adverse impacts to ACOE jurisdictional "waters of the U.S." and wetlands. In response to the permit application, the ACOE will also require conditions amounting to mitigation measures. Where a federally-listed species may be affected, they will also require an Endangered Species Act Section 7 consultation with the USFWS. Through this process, potentially significant adverse impacts within the federal jurisdictional limits could be mitigated to a level that is less than significant.

Over the years, the ACOE has modified its regulations, typically due to evolving policy or judicial decisions, through the issuance of Regulatory Guidance Letters, memorandum, or more expansive instruction guidebooks. These guidance documents help to update and define how jurisdiction is claimed, and how these "waters of the U.S" will be regulated. The most recent significant modification occurred on June 5, 2007, subsequently updated in December 2008 when the ACOE and the U.S. Environmental Protection Agency (EPA) issued a series of guidance documents outlining the requirements and procedures, effective immediately, to establish jurisdiction under Section 404 of the CWA and the Section 10 of the Rivers and Harbors Act 1899 (ACOE and EPA 2006). These documents are intended to be used for all jurisdictional delineations and provide specific guidance for the jurisdictional determination of potentially jurisdictional features affected by the United States Supreme Court rulings in *Rapanos v. the United States* and *Carabell v. the United States* 547U.S. 715 (2006) (jointly referred to as "*Rapanos*").

The *Rapanos* case outlines the conditions and criteria used by the ACOE to assess and claim jurisdiction over non-navigable, ephemeral tributaries. Under a plurality ruling, the Court noted that certain "not relatively permanent" (i.e. ephemeral), non-navigable tributaries must have a "significant nexus" to downstream traditional navigable waters to be jurisdictional. An ephemeral tributary has a significant nexus to downstream navigable "waters" when it has "more than a speculative or an insubstantial effect on the chemical, physical, and/or biological integrity of a TNW." A significant nexus is established through the consideration of a variety of hydrologic, geologic and ecological factors specific to the particular drainage feature in question.

4.4.3 Federal Clean Water Act, Section 401

The mission of the California RWQCB is to develop and enforce water quality objectives and implement plans that will best protect the beneficial uses of the State's waters, recognizing local differences in climate, topography, geology, and hydrology. Section 401 of the CWA requires that:

> any applicant for a Federal permit for activities that involve a discharge to waters of the State, shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act.

Therefore, before the ACOE will issue a Clean Water Act Section 404 permit, applicants must apply for and receive a Section 401 water quality certification from the RWQCB. A complete application for 401 Certification will include a detailed Water Quality Management Plan that addresses the key water quality features of the project to ensure the integrity of water quality in the area during and post-construction.

Under separate authorities granted by State law (i.e., the Porter-Cologne Water Quality Control Act), a RWQCB may choose to regulate discharges of dredge or fill materials by issuing or waiving (with or without conditions) Waste Discharge Requirements (WDRs), a type of State discharge permit, instead of taking a water quality certification action. Processing of a WDR is similar to that of a Section 401 certification; however, the RWQCB has slightly more discretion to add conditions to a project under Porter-Cologne than under the Federal CWA.

4.4.4 California Public Resources Code Section 21083.4

California Public Resources Code Section 21083.4 requires that a county determine whether a project within its jurisdiction may result in a conversion of oak woodlands that will have a significant effect on the environment. If the county determines that there may be a significant effect to oak woodlands, the county must require one or more oak woodlands mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands. As stated in Section 21083.4, these alternatives include the following:

1. Conserve oak woodlands, through the use of conservation easements;

2. Plant an appropriate number of trees, including maintaining plantings and replacing dead or diseased trees. The requirement to maintain trees terminates seven years after the trees are planted. This mitigation cannot account for more than one-half of the mitigation requirement for the project. This mitigation may be used to restore former oak woodlands;

3. Contribute funds to the Oak Woodlands Conservation Fund, as established under subdivision (a) of Section 1363 of the Fish and Game Code, for the purpose of purchasing oak woodlands conservation easements, as specified under paragraph (1) of subdivision (d) of that section and the guidelines and criteria of the Wildlife Conservation Board; or

4. Other mitigation measures developed by the county.

4.4.5 Los Angeles County Tree Preservation Guidelines

The County of Los Angeles Oak Tree Ordinance (Ord. 88-0157 § 2, 1988: Ord. 82-0168 § 2 (part), 1982), as outlined in Chapter 22.56.2050 et seq. of the Los Angeles County Code, mandates that no person shall cut, destroy, remove, relocate, inflict damage or encroach into a protected zone of any tree of the oak genus which is (a) 25 inches or more in circumference (eight inches in diameter) as measured four and one-half feet above mean natural grade; or (b) in the case of an oak with more than one truck, whose combined circumference of any two trunks is at least 38 inches (12 inches in diameter) as measured four and one half feet above mean natural grade unless an oak tree permit is first obtained.

4.4.6 City of Santa Clarita oak Tree Preservation Ordinance

The City of Santa Clarita Oak Tree Preservation Ordinance (Ord. 89-10, 1989) protects all tree species of the oak genus that measure six inches or more in circumference (two inches in diameter) as measured at a point 4.5 feet above natural grade (dbh). The Ordinance also strictly controls work activities within the "protected zone" of the jurisdictional oak trees, which extends to five feet outside of the dripline of the oak tree or 15 feet from the trunk(s) of a tree, whichever distance is greater.

As conditions of approval, the oak tree permit likely will require avoidance of jurisdictional trees to the maximum extent feasible, relocation, replacement with locally grown nursery stock, and mitigation measures intended to protect retained trees and to promote the survival of transplanted and planted trees.

4.4.7 Los Angeles County Significant Ecological Areas (SEAs)

The existing SEA overlay maps, which are a part of the County's General Plan, do not overlap with the Development Area, the Water Tank Area or the Off-site Infrastructure Improvement Area. Therefore, existing County policies regarding SEAs do not apply currently to the Proposed Project. The County, however, recently updated the SEA overlay maps for the Santa Clarita Valley as part of the One Valley One Vision (OVOV) Plan process, the update to the County's Santa Clarita Valley Area Plan. In the updated SEA overlay maps, portions of the Development Area, in particular the hillside above the northern pad and Placerita Creek, and the Water Tank Area have been proposed for designation within the Santa Clara River SEA (SEA 20). The proposed designation excludes most of the Ranch floor and the two large, mostly barren fill pads within the Development Area.

Projects within SEA boundaries undergo environmental and design review by the SEA Technical Advisory Committee (TAC), which in turn provides recommendations to the Regional Planning Commission, which makes the final determination regarding a project. However, projects with applications deemed complete prior to the County's adoption of OVOV would need to conform with the existing Santa Clarita Valley Area Plan and therefore not undergo review by the SEATAC. Therefore, it is anticipated that the Proposed Project will not need to undergo SEATAC review.

4.5 IMPACTS FOUND TO BE LESS THAN SIGNIFICANT

Those impacts determined to be less than significant include impacts to biological resources that are relatively common or exist in a degraded or disturbed state, rendering them less valuable as habitat, or impacts that do not meet or exceed the significance thresholds defined previously. Potential impacts found to be less than significant are summarized below.

4.5.1 Less than Significant Impacts to Plant Communities/Habitats

As shown in **Figure 9**, *Impacts to Plant Communities Disney | ABC Studios at The Ranch*, and **Table 10**, *Permanent Impacts to Plant Communities Disney | ABC Studios at The Ranch*, the Proposed Project would result in permanent impacts to 4.4 acres of coast live oak woodland, 5.2 acres of buckwheat scrub/chamise chaparral, 4.5 acres of disturbed buckwheat scrub/chamise chaparral, 9.9 acres of agricultural land, 51.4 acres of disturbed/developed areas, 1.2 acres coastal sage scrub/chamise chaparral, 0.8 acre disturbed buckwheat scrub, 1.2 acres non-native grassland, 1.1 acres coastal sage scrub, 0.3 acre disturbed coast live oak woodland, 0.4 acre disturbed coastal sage scrub, and 0.9 acre ornamental. The Proposed Project would temporarily impact less than 0.1 acre coast live oak woodland, 0.2 acre buckwheat scrub/chamise chaparral and 1.1 acres disturbed/developed areas. These communities/areas are not CNDDB sensitive plant communities; therefore, impacts to these plant communities/areas are considered less than significant. However, Public Resources Code Section 21083.4 requires analysis of impacts to oak woodlands under "potentially significant adverse impacts." Mixed willow riparian woodland and southern willow scrub are considered CNDDB sensitive plant communities. Impacts to sensitive plant communities are discussed in Section 4.6.1., *Potentially Significant Impacts to Sensitive Plant Communities/Habitats.*

Table 10

Permanent Impacts to Plant Communities

Plant Community	Within Development Area *	Within the Water Tank Area	Off-site Infrastructure Improvement Area	Total Permanent Impacts*
Coast Live Oak Woodland	4.2 (<0.1)	0.2	<0.1	4.4 (<0.1)
Mixed Willow Riparian Woodland	0.1 (1.9)	-	-	0.1 (1.9)
Southern Willow Scrub	0.7	-	-	0.7
Buckwheat Scrub/Chamise Chaparral	5.2 (0.2)	<0.1	-	5.2 (0.2)
Disturbed Buckwheat Scrub/Chamise Chaparral	4.5	-	-	4.5
Agricultural Land	9.9	-	-	9.9
Disturbed/Developed	24.5 (1.1)	0.9	26.0	51.4 (1.1)
Coastal Sage Scrub/Chamise Chaparral	-	1.2	-	1.0
Disturbed Buckwheat Scrub	-	0.7	0.1	0.8
Non-native Grassland	-	0.1	1.1	1.2
Coastal Sage Scrub	-	-	1.1	1.1
Disturbed Coast Live Oak Woodland	-	-	0.3	0.3
Disturbed Coastal Sage Scrub	-	-	0.4	0.4
Ornamental	-	-	0.9	0.9
Total	**49.1 (3.2)**	**3.1**	**29.9**	**82.1 (3.2)**

** Numbers in parenthesis represent total temporary impacts; they are not a subset of the total.*

Source: PCR Services Corporation, 2010.

0 250 500 Feet

Impacts to Plant Communities
Disney | ABC Studios at The Ranch

Source: DEA, 2009; PCR Services Corporation, 2010.

FIGURE
9

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4.5.2 Less than Significant Impacts to Common Plant Species

The Proposed Project would result in the direct removal of numerous common plant species within the study area. However, the common plant species present within the Development Area occur in large numbers throughout the region and impacts to these plants do not meet the significance thresholds defined above. Therefore, impacts to common plant species are considered to be less than significant.

4.5.3 Less than Significant Impacts to Common Wildlife Species

The primary impacts of the Proposed Project on wildlife resources are the removal and disruption of habitat and the loss and displacement of wildlife, resulting in a less diverse and less abundant local faunal population. Adverse impacts to wildlife are generally associated with the degree of habitat loss and fragmentation from the standpoint of physical character, quality, diversity, and abundance of vegetation. The Proposed Project could cause the mortality of some common wildlife species and the displacement of more mobile species to suitable habitat areas nearby. These impacts by themselves would not be expected to reduce general wildlife populations below self-sustaining levels within the region and impacts to common wildlife species are considered less than significant.

4.5.4 Less than Significant Impacts to Wildlife Movement

As previously stated in Section 3.5, *Wildlife Movement*, a regional wildlife movement analysis model identified three main linkages, identified as Corridor #1, Corridor #2, and Corridor #3 that provide wildlife the opportunity to move across SR-14 and to move between suitable habitat in the San Gabriel Mountains to suitable habitat in the Santa Susana and Castaic Ranges, respectively. Because SR-14 acts as a barrier to this movement, these linkages are closely associated with undercrossings (e.g., bridges and culverts) under SR-14. The identification of suitable linkages is also influenced by the presence or lack of suitable habitat, the extent and configuration of the suitable habitat, and the presence and extent of human development and disturbance, among other factors. While a culvert does exist to allow the Creek to flow under SR-14, the length of the culvert, which for the purposes of this analysis was assumed to be 700 feet, and the extent of development downstream (generally west) of the Development Area limit this undercrossing's suitability to function as part of a regional linkage. In addition, three corridors that are identified as more suitable are located in close proximity to the Development Area; Corridor #1 is located approximately 0.75 mile to the south, Corridor #2 occurs less than 0.5 miles to the north, and Corridor #3 occur less than 3 miles to northeast of the Development Area.

Therefore, although the study area may provide an area of local-level movement, and live-in habitat for a variety of species, as well as habitat that may contribute to widespread regional movement, it is not a main "wildlife corridor" for the region. In this context, impacts to local and regional movement would be considered incremental and are not anticipated to be significant.

4.5.5 Less than Significant Impacts to Sensitive Biological Resources

Sensitive Plant Species

A few of the sensitive plant species mentioned in Section 3.8.3, *Sensitive Plant Species*, of this document may occur within the region but are not expected to occur within the Development Area, Water Tank Area and Off-site Infrastructure Improvement Area due to their not being observed during focused surveys, the lack of

suitable habitat or considerations of known distributions and/or the very limited extent of suitable habitat on site. Of the seventeen sensitive plant species considered in this assessment and addressed in Table 8, *Sensitive Plant Species*, none are expected to occur in the Development Area, Water Tank Area and Off-site Infrastructure Improvement Area for one or more of the following reasons: (1) lack of suitable habitat; (2) perennials are readily identifiable year-round; (3) species were not observed during botanical surveys conducted in May and June 2009; and (4) lack of suitable elevation. Therefore, the Proposed Project would not have a potentially significant impact on sensitive plant species.

Sensitive Wildlife Species

Several of the sensitive wildlife species mentioned in Section 3.8.4, *Sensitive Wildlife Species*, of this assessment may occur within the region but are not expected to occur within the Development Area, Water Tank Area and Off-site Infrastructure Improvement Area due to their not being observed or otherwise detected during focused surveys and/or lack of suitable habitat. Those species not expected to occur due to the negative findings of focused surveys and/or lack of suitable habitat include arroyo chub, Santa Ana sucker, unarmored threespine stickleback, arroyo toad, western spadefoot, California red-legged frog, mountain yellow-legged frog, southwestern pond turtle, , two-striped garter snake, American peregrine falcon, western yellow-billed cuckoo, burrowing owl, southwestern willow flycatcher, least Bell's vireo, coastal California gnatcatcher, yellow-breasted chat, grasshopper sparrow, pallid bat, spotted bat, San Diego black-tailed jackrabbit, and southern grasshopper mouse. As such, no impacts are expected to occur to these species. However, portions of the Proposed Project are located within the critical habitat area designated for coastal California gnatcatcher. Additionally, several sensitive wildlife species have a potential to occur within the Development Area and Water Tank Area, as previously mentioned in Section 3.8.4, *Sensitive Wildlife Species*. Sensitive wildlife species that have a potential to occur within the Development Area and Water Tank Area include: coast horned lizard, silvery legless lizard, golden eagle, loggerhead shrike, yellow warbler, western mastiff bat, and San Diego desert woodrat.

The coast horned lizard, silvery legless lizard, loggerhead shrike, yellow warbler, western mastiff bat, and San Diego desert woodrat are considered sensitive (CDFG and/or USFWS) but are not protected as threatened or endangered. It is assumed that potential impacts would not threaten the regional populations; therefore, the Proposed Project would not have a potentially significant impact on these species.

The golden eagle is a State fully protected species and may use the Development Area and vicinity for foraging. Although this species is protected during nesting, it is not expected to use the Development Area or Water Tank Area for nesting activities. Project implementation would not threaten the regional population; therefore, the Proposed Project's removal of potential foraging habitat of the golden eagle would not have a potentially significant impact on this species.

Indirect, or secondary, impacts to sensitive wildlife are potentially associated with construction noise and lighting in the short-term, as well as noise and lighting in the long-term. A detailed assessment of the potential impacts to wildlife due to noise and lighting associated with the Proposed Project was completed by Dudek (November 2010) under separate cover. A summary of Dudek's findings follows.

Construction noise may affect essential behavioral activities (roosting, breeding, foraging, etc.) in several ways, depending on the level and duration of construction. Most commonly, excessive noise may disturb

nesting birds leading to nest failure and may interfere with acoustic communication during periods of breeding. According to a Noise Analysis prepared by Acoustical Engineering Services (2010), noise levels associated with project construction could produce maximum noise levels of 76 dBA to 101 dBA at up to 50 feet from the noise source. However, Dudek concluded impacts from construction noise would not be significant due to several factors, including: existing noise levels in the Development area and surrounding up to 70 dBA; the relatively rapid rate at which noise levels decline the farther you get away from the noise source (6 dBA per doubling of distance from the source); best management practices to be applied during project construction; and the temporary and intermittent nature of anticipated maximum noise levels.

The affects of night lighting during construction are also expected to be less than significant due to: the limited use of lighting (most construction will occur during the day); the temporary use of lighting during construction; and existing night light levels from street lights and automobile headlights in areas where night lighting may be necessary.

Long-term increases in noise related to the Proposed Project primarily result from increased traffic volumes, landscape maintenance equipment, and other studio-related operations. As with construction noise, however, long-term impacts from noise are expected to be less than significant. Many species of wildlife can and do habituate and adapt to chronic noise levels. In addition, sensitive wildlife are absent from the area to be affected by the Proposed Project. Finally, the Proposed Project incorporates project design features that will minimize potential impacts from long-term noise.

Similarly, potential long-term impacts from li8ghting will be minimized and reduced to a level less than significant as the result of implementing project design features incorporated into the Proposed Project specifically for this purpose. In addition, based on a lighting plan designed by LightVision, LLC (2010), very little light would trespass beyond the perimeter landscape plantings.

4.6 IMPACTS FOUND TO BE POTENTIALLY SIGNIFICANT

The following is a discussion of impacts to biological resources which do meet the thresholds of significance outlined above and are, therefore, considered potentially significant impacts, which require mitigation.

4.6.1 Potentially Significant Impacts to Plant Communities/Habitats

The Development Area supports 0.7 acre of southern willow scrub and 3.2 acres of mixed willow riparian woodland, plant communities that are considered sensitive by the CDFG. These communities do not occur within the Water Tank Area or Off-site Infrastructure Improvement Area. Southern willow scrub is a CNDDB high inventory priority community (CNDDB Code 61.208.00) and is considered sensitive due to its decline in the region and its ability to support sensitive species. Mixed willow riparian woodland scrub is a CNDDB high inventory priority community (CNDDB Code 61.207.00) and is considered sensitive due to its decline in the region and its ability to support sensitive species. The Proposed Project would permanently impact 0.7 acre of southern willow scrub that is associated with ephemeral sub-tributary B1 and an upland swale that carries runoff from an adjacent agricultural field; and permanently impact 0.1 acre mixed willow riparian woodland (temporarily impacting an additional 1.9 acres) that is associated with Placerita Creek. See **Figure 10**, *Impacts to Sensitive Plant Communities Disney | ABC Studios at The Ranch*. Mitigation provided below in Section 5.2.1, *Measures to Mitigate Potentially Significant Impacts to Sensitive Plant Communities/Habitats*,

would be part of the overall mitigation program that would restore a riparian woodland within Placerita Creek. Therefore, mitigation measures provided below would reduce this impact to a less than significant level.

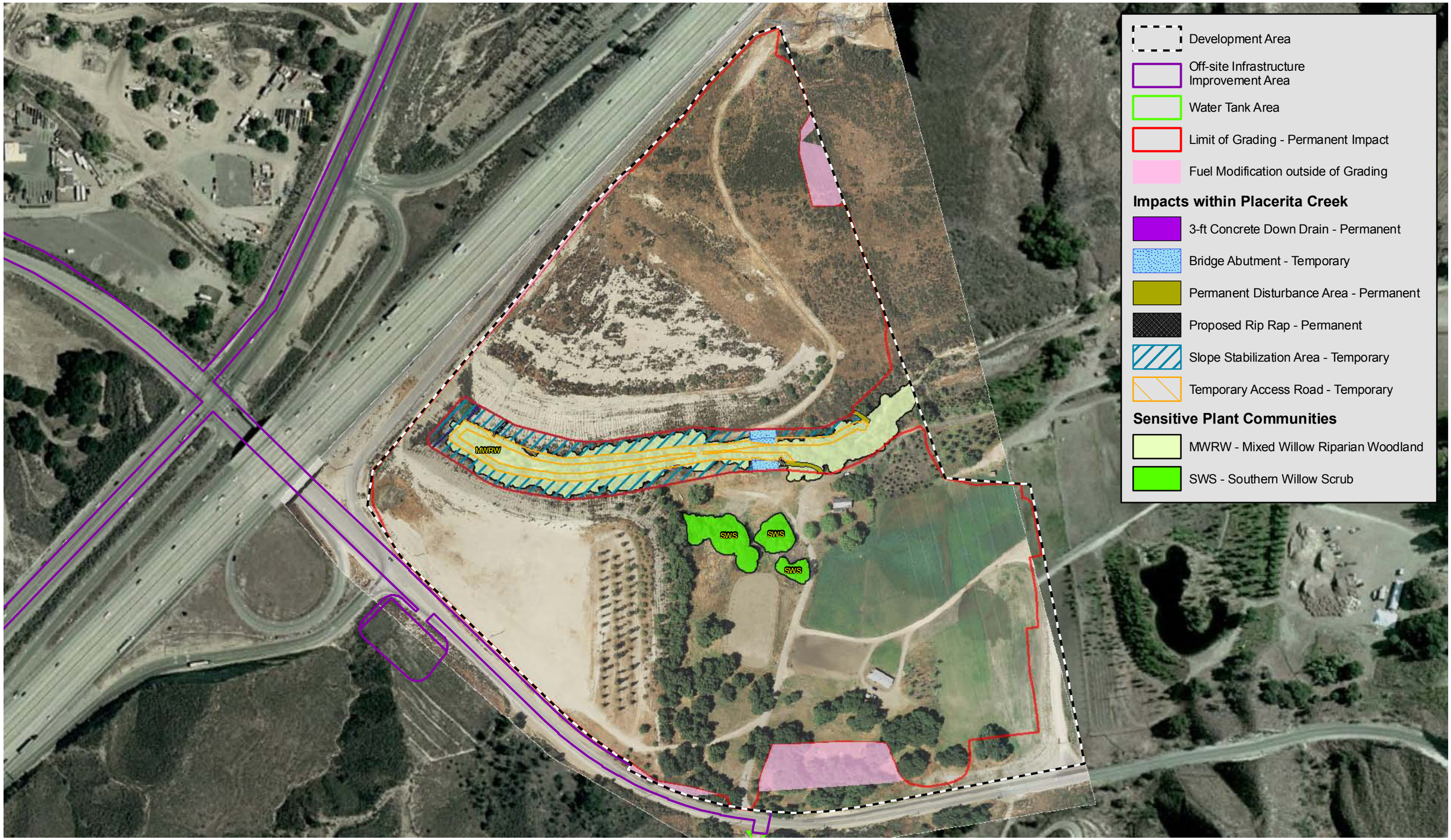
Although the CNDDB does not consider coast live oak woodlands a sensitive community (CNDDB Code 71.060.02), its analysis as a potentially significant impact is warranted under PRC Section 21083.4. The Proposed Project would require the removal of 159 Ordinance-protected oak trees, including 18 heritage oak trees, and the encroachment upon an additional 77 oak trees, including one heritage oak tree. These 236 oak trees (159 removals and 77 encroachments) provide 244,895 ft^2 (5.62 acres) of canopy coverage. Many of these removals are located within oak woodlands. The Proposed Project would require the removal of 5.62 acres of canopy cover.[5] See **Figure 11**, *Tree Species Impact Map Disney | ABC Studios at The Ranch*.

The replacement standards provided in the Ordinance require a 2:1 replacement with 15-gallon container oak trees. The simple, straightforward replacement of a targeted tree by two or more 15-gallon or larger trees is generally best suited to scenarios where the impacted oaks are easily viewable by or accessible to the public and aesthetic concerns are paramount. In this case, the replacement of a tree's aesthetic contribution by provision of some number of container stock is achievable, especially over time, on the Ranch. However, mitigation for the loss of oak woodland in the Development Area requires a different approach. The locations and physical attributes of the oaks and other native trees and plants in Placerita Canyon make them less of an aesthetic or public benefit and almost exclusively a wildlife resource. This wildlife resource cannot be replaced by planting container stock in a park or urban setting. Rather, replacement of woodland habitat requires restoration of the community, in this case oak woodland, riparian woodland, and other native plant communities. Consequently, the replacement of the oak woodland should include varied sizes of replacement oak trees, ranging from acorns to larger specimens, in association with planting of other native plant species known to naturally coexist with coast live oak trees on hillsides, in woodlands, and in open space areas. Larger specimens are appropriate where immediate visual statements of the woodland landscape are appropriate. Smaller-sized container stock, including seedlings, one-gallon, and five-gallon stock, is appropriate in less visually critical areas, such as slope plantings and oak woodland rehabilitation areas. Direct seeding of acorns is most appropriate in either non-irrigated or limited access sites where habitat enhancement is the key concern. Most, if not all, of these plantings would be associated with other native plant restoration efforts. The goal of the mitigation program is to create a landscape that maximizes the compensation for lost habitat values while fully addressing the need to provide a landscape that reflects the natural habitat of Placerita Canyon. The Oak Tree mitigation program would mitigate impacts to jurisdictional oak trees and oak woodland to levels of less than significance. The Oak Tree Mitigation and Monitoring Plan prepared by Dudek details the proposed Oak tree mitigation (Dudek 2010).

4.6.2 Potentially Significant Impacts to Nesting Birds

The Development Area has the potential to support both raptor and songbird nests due to the presence of trees, shrubs, and ground cover. Nesting activity typically occurs from mid-February to mid-August. Disturbing or destroying active nests is a violation of the Migratory Bird Treaty Act. In addition, nests and eggs are protected under Fish and Game Code Section 3503. The removal of vegetation during the breeding season is considered a potentially significant impact of the Proposed Project. However, mitigation measures provided below would reduce this impact to a less than significant level.

[5] *Dudek's 5.62 acres is based on mapping the individual oak trees where as PCR's 4.4 acres is based on the mapped oak woodland communities .*



PCR

0 250 500 Feet

Impacts to Sensitive Plant Communities
Disney | ABC Studios at The Ranch

Source: DEA, 2009; PCR Services Corporation, 2010.

FIGURE
10

PCR

N

0 300 Feet

Tree Species Impact Map
Disney | ABC Studios at The Ranch

Source: Dudek, 2010.

FIGURE
11

4.6.3 Potentially Significant Impacts to Jurisdictional Features

Placerita Creek and ephemeral tributaries A, B, and B1, total approximately 5,898 linear feet (3,024 linear feet within the Development Area, 2,834 linear feet within the Water tank Area, and 40 linear feet within the off-site Infrastructure Improvement Area) of streambed. The delineated jurisdictional area supported within these three areas totals 0.57 acre of ACOE/RWQCB jurisdictional "waters of the U.S./waters of the State," and 4.43 acres of CDFG jurisdictional streambed.

The Proposed Project would permanently impact 0.05 acre (1,174 linear feet) of ACOE/RWQCB jurisdictional "waters of the U.S./waters of the State," of which 0.04 acre is within the Development Area, less than 0.01 acre is within the Water Tank Area and 0.01 acre is associated with the Off-site Infrastructure Improvement Area outside the Ranch. The Proposed Project would also permanently impact 0.74 acre of CDFG jurisdictional streambed and associated riparian habitat, of which 0.68 acre is within the Development Area, 0.01 acre is within the Water Tank Area, and 0.05 acre is associated with the Off-Site Infrastructure Improvement Area outside the Ranch. The Proposed Project would result in temporary impacts (within the Development Area only) to 0.13 acre (878 linear feet) of ACOE/RWQCB jurisdictional "waters of the U.S./waters of the State" and 1.92 acres of CDFG jurisdictional streambed and associated riparian habitat in order to recontour and stabilize the slopes of the fill pads on either side of the creek and construct a temporary road to stabilize those slopes. The permanent and temporary impact areas are shown in **Figure** 12*, Impacts to Jurisdictional Features Disney | ABC Studios at The Ranch.* Impacts to ACOE/RWQCB and CDFG jurisdiction are considered potentially significant.

Mitigation is required by CEQA for significant impacts, and the regulatory agencies (ACOE, RWQCB and CDFG) would require the Applicant to obtain regulatory permits for impacts to jurisdictional features as outlined in Section 4.4, *Standard Conditions*, of this document. Permits would include conditions to ensure that any loss in the functions and values of the tributary and associated habitat would be restored. Any development associated impacts to ACOE/RWQCB jurisdictional "waters of the U.S."/"waters of the State" would require a CWA Section 404 Nationwide or Individual Permit issued by the ACOE and a CWA Section 401 Water Quality Certification issued by the RWQCB. Any impacts to CDFG jurisdictional streambed and associated riparian habitat would require a Streambed Alteration Agreement pursuant to Section 1602 of the Fish and Game Code. The proposed mitigation plan includes a restored and enhanced riparian woodland within Placerita Creek that would blend with the vegetation that currently exists in the creek. The impacts which could not be mitigated within Placerita Creek within the Development Area would be mitigated (by means of preservation, creation, restoration, and/or enhancement) at an agency-approved location off-site (outside the Ranch), or by purchase into an agency-approved in-lieu fee program or mitigation bank to meet the replacement requirements of the regulatory agencies. Therefore, the mitigation measures provided below would reduce this impact to a less than significant level

4.6.4 Potentially Significant Impacts to Jurisdictional Trees

Results of the oak tree survey of the Development Area and the Water Tank Area are documented in the Dudek November 2010 Oak Tree Report (Dudek 2010). Results of the oak tree survey of the Off-site Infrastructure Improvement Area within the City of Santa Clarita are documented in a second Oak Tree Report (Dudek 2010). In addition, mitigation to address oak trees impacts is addressed in the Draft Oak Tree Mitigation and Monitoring Plan, prepared by Dudek, dated November 2010 (Dudek 2010).

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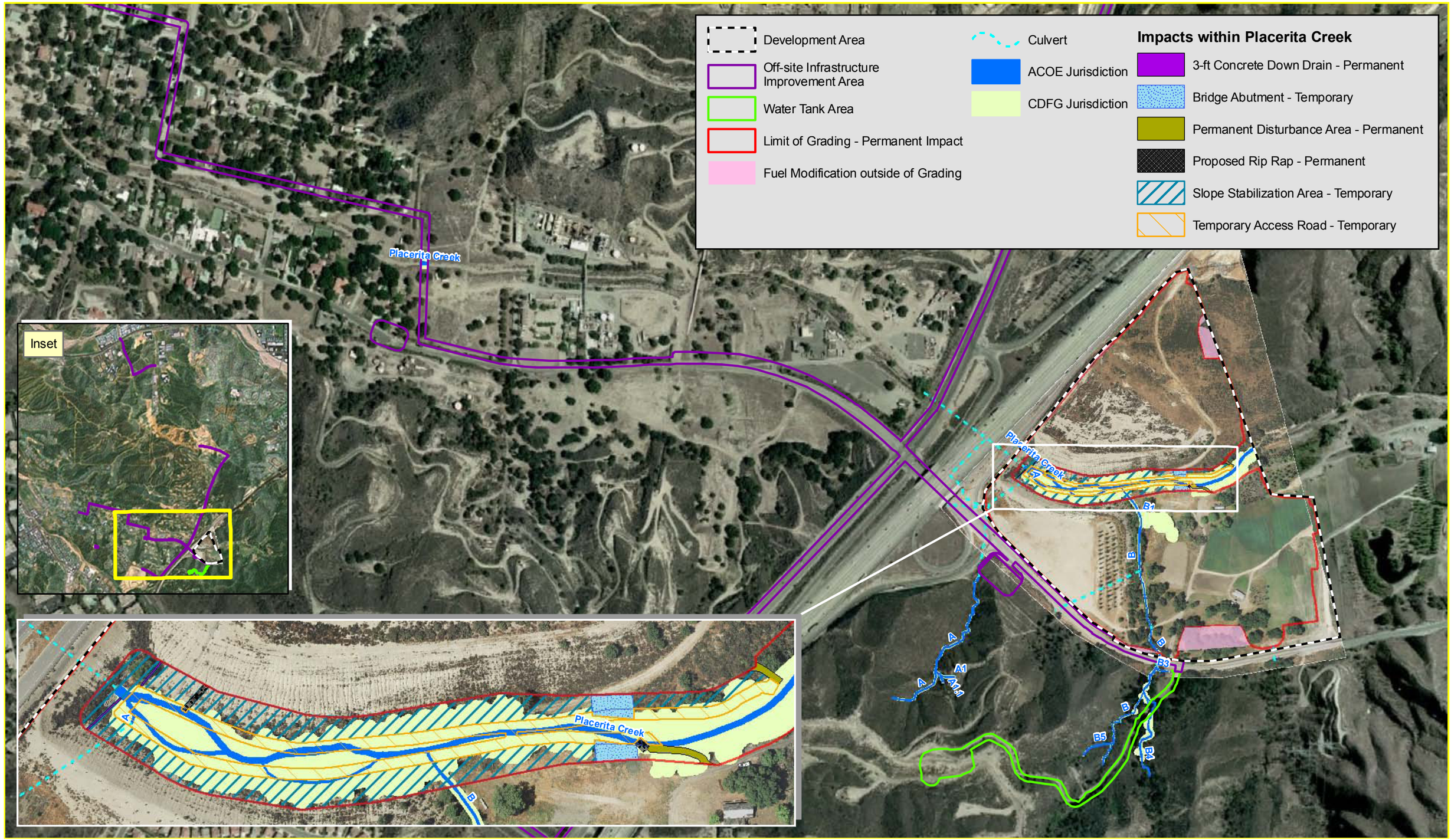

0 500 1,000 Feet

Impacts to Jurisdictional Features
Disney | ABC Studios at The Ranch

Source: DEA, 2009; PCR Services Corporation, 2010.

FIGURE
12

PCR

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5.0 MITIGATION MEASURES

5.1 APPROACH

Mitigation measures for impacts considered to be "potentially significant" were developed in an effort to reduce such impacts to a level of "less than significant," while still achieving the objectives of the Proposed Project. As stated in CEQA Guidelines Section 15370, mitigation includes:

- Avoiding the impact altogether by not taking a certain action or parts of an action;
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment;
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- Compensating for the impact by replacing or providing substitute resources or environments.

5.2 MITIGATION MEASURES FOR SIGNIFICANT IMPACTS

The following mitigation measures address potentially significant impacts from implementation of the Proposed Project.

5.2.1 Measures to Mitigate Potentially Significant Impacts to Plant Communities/ Habitats

The Proposed Project would mitigate for the impact to the 0.7 acre of southern willow scrub community and the 0.1 acre of mixed willow riparian woodland in the Development Area at a 1:1 mitigation to impact ratio as part of the mitigation program which entails the restoration and expansion of riparian habitat along Placerita Creek following temporary impacts to stabilize the slopes of the fill pads. The monitoring and maintenance for this restored habitat is included in the Habitat Mitigation and Monitoring Program (HMMP) for impacts to ACOE/RWQCB "waters of the U.S./waters of the State" and CDFG jurisdictional streambed.

5.2.2 Measures to Mitigate Potentially Significant Impacts to Nesting Birds

The Proposed Project would implement the following mitigation measures to avoid the take of migratory birds. Project related activities likely to have the potential of disturbing nesting birds either directly (e.g., removal of habitat supporting active nests) or indirectly (e.g., proximity of human activity, excessive noise, night lighting) will be prohibited from February 1 through August 31, unless a biological monitor acceptable to the Director of Regional Planning conducts a nesting bird survey prior to initiating activities constituting such disturbance. The pre-construction nesting bird survey will encompass the area of direct disturbance and all habitat areas within 300 feet of direct disturbance areas (500 feet for potential raptor nesting sites) and will be conducted no earlier than seven (7) days prior to the commencement of disturbance activities. If an active nest is discovered or can be reasonably deduced to exist within the survey area, the monitoring biologist will demarcate a buffer area around the active nest to be avoided by construction activity until the nest is determined to be vacated (e.g., the young have fledged) and there is no evidence of further nesting attempts. In determining an appropriate buffer distance, the monitoring biologist will consider such factors

as lines of sight and intervening topography and vegetation between the nest and the disturbance area, as well as the potential for anticipated construction noise and night-lighting spillover to reach the nest at levels that could disrupt nesting behavior. As needed, the limits of such buffer areas will be marked with staking, flagging and/or fencing. Following the completion of pre-construction surveys and nest monitoring efforts, a record of the results of surveys and any recommended protective measures will be submitted to the Department of Regional Planning to document compliance with applicable State and federal laws pertaining to the protection of native birds.

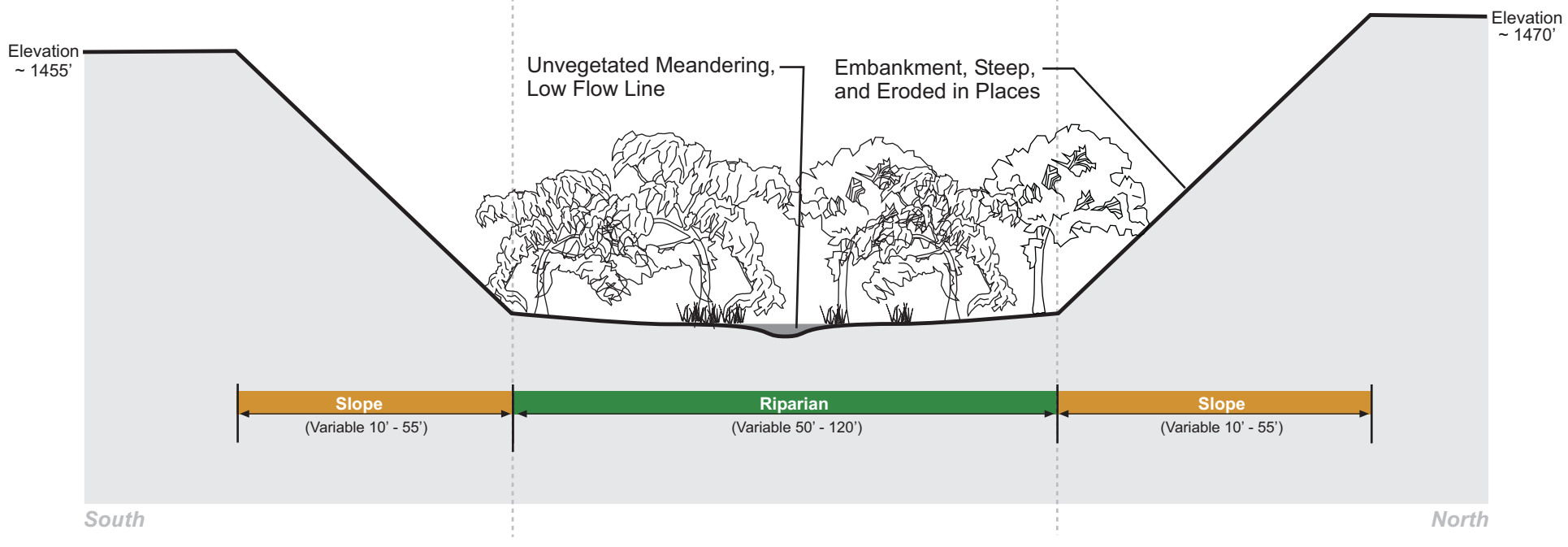
5.2.3 Measures to Mitigate Potentially Significant Impacts to Jurisdictional Features

The Proposed Project would be subject to the regulations set forth by the agencies as outlined in Section 4.5, *Standard Conditions*, of this document. The ACOE, RWQCB, and CDFG would require the Applicant to implement alternatives to avoid or reduce impacts and would also require mitigation for all unavoidable impacts. Mitigation for unavoidable impacts would be provided through preserving, creating, restoring, and/or enhancing ACOE, RWQCB, and CDFG jurisdictional features (on- and off-site) at a 1:1 mitigation-to-impact ratio for temporary impacts and a 2:1 mitigation-to-impact ratio for permanent impacts. The Proposed Project would permanently impact 0.05 acre (1,174 linear feet) of ACOE/RWQCB jurisdictional "waters of the U.S./waters of the State," of which 0.04 acre is within the Development Area, less than 0.01 acre is within the Water Tank Area, and 0.01 acre is associated with the Off-site Infrastructure Improvement Area outside the Ranch. The Proposed Project would also result in the permanent loss of 0.74 acre of CDFG jurisdictional streambed and associated riparian habitat, of which 0.68 acre is within the Development Area, 0.01 acre is within the Water Tank Area, and 0.05 acre is associated with the Off-site Infrastructure Improvement Area outside the Ranch. The Proposed Project would result in temporary impacts (within the Development Area only) to 0.13 acre (878 linear feet) of ACOE/RWQCB jurisdictional "waters of the U.S./waters of the State" and 1.92 acres of CDFG jurisdictional streambed and associated riparian habitat within Placerita Creek in order to recontour and stabilize the slopes within the creek and construct a temporary road to stabilize those slopes. A significant feature incorporated in the project design is the restoration and expansion of riparian habitat along Placerita Creek following temporary impacts to stabilize the slopes of the fill pads. The ultimate mitigation program would increase the size of the corridor by "laying back the slopes," restabilizing the slopes, and restoring habitat dominated by willows, cottonwoods, and scattered sycamores and coast live oak as opportunities arise in order to blend with the vegetation present today.

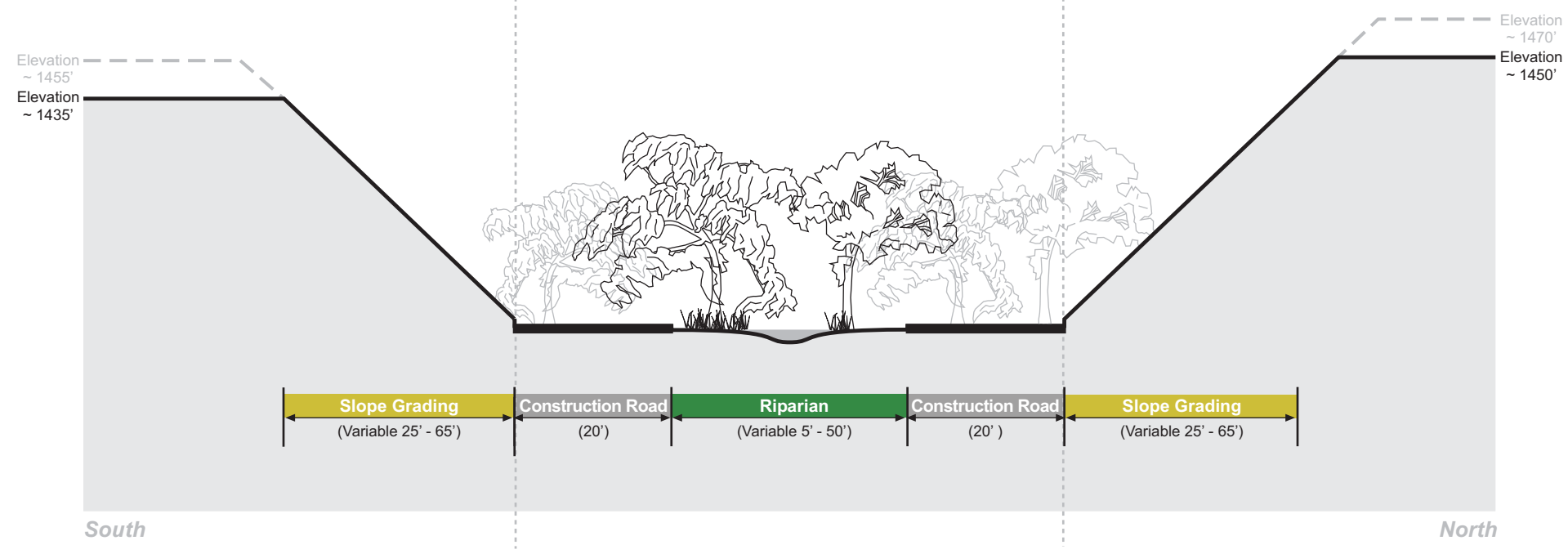
In addition, the RWQCB would add requirements to address construction and post-construction runoff, impacts to beneficial uses, on-site treatment of project-generated runoff prior to discharging off-site, and impose best management practices (BMPs) to prevent impacts to water quality and beneficial uses. The project-specific Stormwater Pollution Prevention Plan (SWPPP), Standard Urban Stormwater Mitigation Plan (SUSMP), and Low Impact Development (LID) requirements would detail the features and BMPs that would address water quality.

As part of the Proposed Project's design, the restoration and expansion of riparian habitat along Placerita Creek would include grading and recontouring the existing slopes immediately adjacent to Placerita Creek within the Development Area, and the revegetation of native riparian species by planting and seeding, as illustrated in **Figure 13**, *Cross-Sections Disney | ABC Studios at The Ranch* and **Figure 14**, *Proposed Restoration Disney | ABC Studios at The Ranch*. A Habitat Mitigation and Monitoring Plan will be prepared to

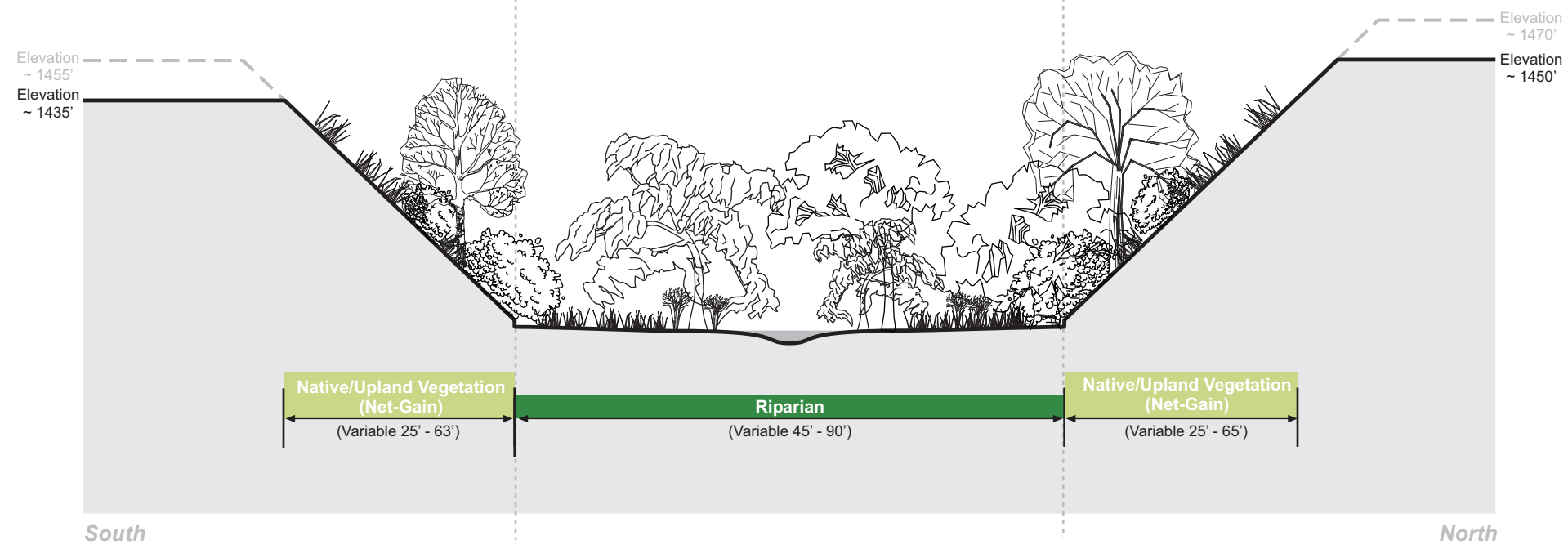
A - Existing Conditions



B - During Construction



C - Proposed Restoration

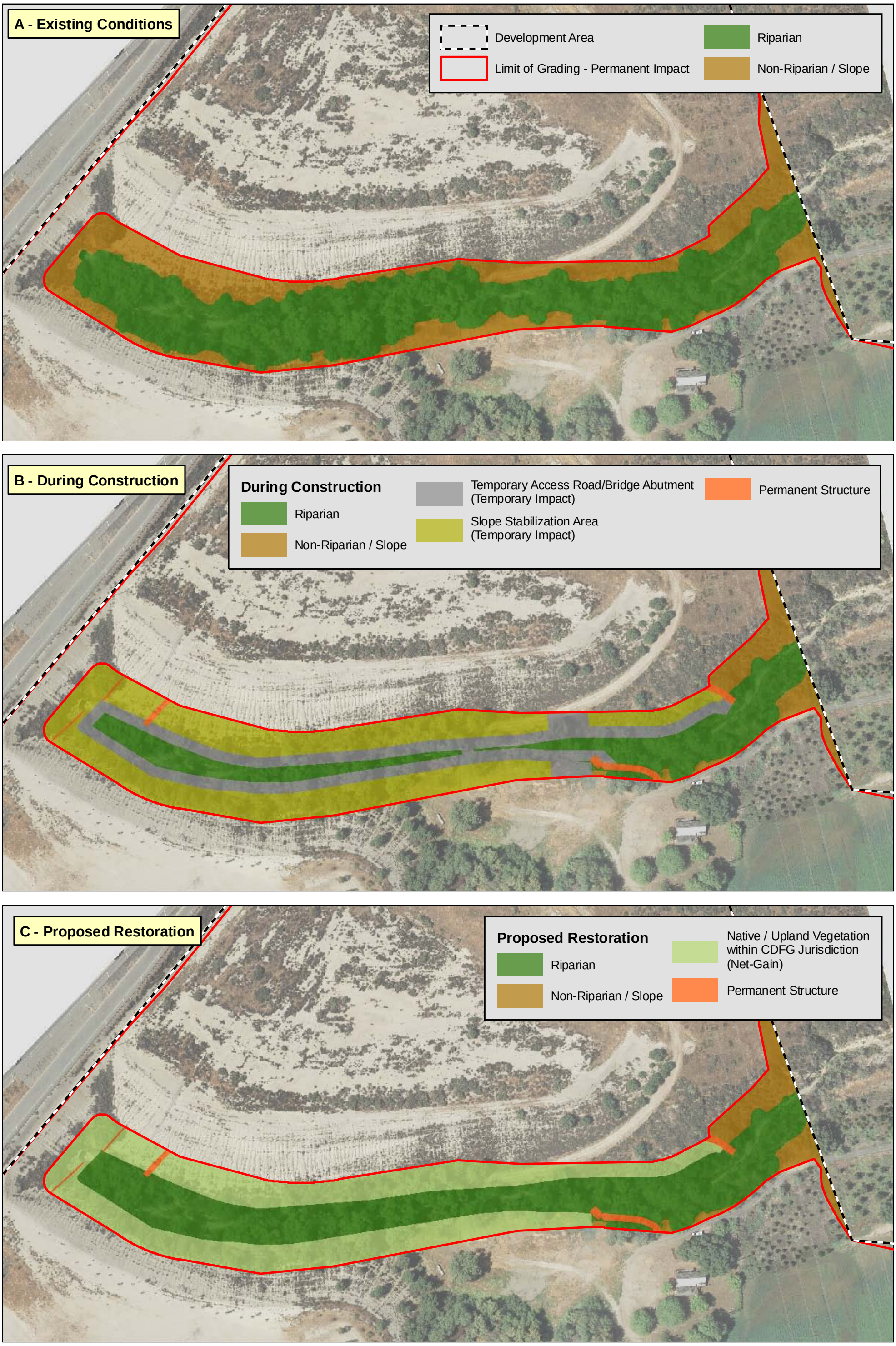


PCR

Cross-Sections
Disney | ABC Studios at The Ranch

Source: PCR Services Corporation, 2010.

FIGURE
13



PCR

N

0 150 300 Feet

Proposed Restoration
Disney | ABC Studios at The Ranch

Source: DEA, 2010; PCR Services Corporation, 2010.

FIGURE
14

address the planting and monitoring requirements to ensure successful restoration and enhancement of the mitigation area. A total of 3.41 acres of riparian habitat would be created, restored, and/or enhanced. Refer to **Table 11**, *Proposed Mitigation*, for a summary of the requisite mitigation. In addition, 0.06 acre of native/upland vegetation will be created, restored, and/or enhanced within CDFG jurisdiction. The impacts which could not be mitigated within Placerita Creek within the Development Area would be mitigated (by means of preservation, creation, restoration, and/or enhancement) outside of the Development Area at an agency-approved location. Temporary fencing would be installed to protect those areas of existing mixed willow riparian woodland (approximately 3.1 acres) within Placerita Creek that would be avoided by the Proposed Project; no grading or irrigation would occur within these avoided areas.

Table 11

Proposed Mitigation

Jurisdictional Agency	Permanent Impacts (Acres)	Needed Mitigation For Permanent Impacts (2:1 Ratio) (Acres)	Temporary Impacts (Acres)	Needed Mitigation For Temporary Impacts (1:1 Ratio) (Acres)	Total Needed Mitigation (Acres)
ACOE	0.06	0.12	0.13	0.13	0.25
RWQCB	0.06	0.12	0.13	0.13	0.25
CDFG	0.74	1.48	1.92	1.92	3.40
Total	0.86	**1.72**	2.18	**2.18**	**3.90**

Source: PCR Services Corporation, 2010.

Prior to initiating grading for the Proposed Project within Placerita Creek, all native organic material would be salvaged and trees and shrubs (excluding non-native species) would be chipped to be used for mulch in the restoration phase. In addition, prior to grading, the top four to six inches of topsoil would be salvaged to be used in the revegetation of the slopes. The slopes would be scarified and native topsoil would be replaced after completion of grading. A temporary irrigation system would be installed and erosion control measures would be implemented pursuant to the Proposed Project's SWPPP and SUSMP prior to planting and seeding. Once the Proposed Project's restoration specialist approves the mitigation site preparation, mulch from the salvaged organic material would be replaced, container plants would be installed, and native seed would be hydroseeded.

Maintenance (i.e., weeding, pest control, irrigation system maintenance, trash removal) and monitoring of the mitigation area would be conducted for three to five years to ensure success of the proposed mitigation.

5.2.4 Measures to Mitigate Potentially Significant Impacts to Jurisdictional Trees

Upon the completion of the initial restoration planting, at least a seven-year monitoring and reporting period would begin, during which time trees would be mapped, monitored, and quantified, with data presented in annual reports. Once trees survive the seven-year establishment period, they would be certified by the County Forester and would qualify as a credit toward necessary mitigation totals. Complete details for the proposed oak tree mitigation are detailed in the Oak Tree Mitigation and Monitoring Plan (Dudek 2010).

5.2.5 Cumulative Impacts

The intent of a cumulative impacts analysis and discussion is to understand the cumulative project impacts in a regional context. CEQA Guidelines § 15130(a)(1) states that "a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts." A significant cumulative impact, for example, may occur when individual projects each have a small and insignificant effect on a resource, but when viewed as whole, the additive effects of multiple projects in a region can have a marked effect on that same resource. Examples regarding biological resources include effects on the distribution or population numbers of plants or animals, the extent of vegetation communities, or the movement of wildlife populations.

This section discusses the added effects on resources when and other planned developments in the vicinity are considered along with recently developed areas. This section presents a "worst case" scenario regarding impacts to biological resources.

For the cumulative impacts analysis, provided by this technical Biological Resources Assessment a two-fold approach entailing two geographic scopes was used. In compliance with CEQA, the first approach involved the cumulative analysis of the project in combination with 11 related projects identified for use in the preparation of the project EIR. A summary of these related projects and the biological resources they affect is provided in **Table 12**, *Summary of Biological Resources Affected by Related Projects.*

Because, however, biological systems such as those associated with a large river system are also important to consider, the second approach involved an assessment of impacts included the consideration of cumulative impacts to biological resources throughout the Santa Clara River upper watershed. As such, an approximately 300,000-acre area was reviewed as the region of biological relevance to resources within the

Table 12

Summary of Biological Resources Affected by Related Projects

Map ID	Project	Address	Description / Land Use	Size (square feet)	Site Conditions/Habitats	Biological Context
1.	Sierra Crossing	Sierra Highway & Newhall Avenue	Campus-style Office	99,000	Mostly disturbed; limited riparian and sage scrub.	Isolated/infill; adjacent to SR 14.
2.	Redmond Project 2 / Chinque Terra	Southeast corner of Sierra Highway & Newhall Avenue	Retail Restaurant Hotel	36,704 7,000 55,200	Mostly disturbed; limited riparian and sage scrub.	Isolated/infill; adjacent to SR 14.
3.	Kellstrom Project	Southwest corner of Sierra Highway & Placerita Canyon Road	Office Fast-food Restaurant Mixed-use Office	30,000 7,700 65,000	Disturbed by oil operations; oak trees and patches of sage scrub.	Isolated and fragmented habitat; busy roads on two sides.
4.	Needham Ranch/Gate King	Pine Street to the north, San Fernando Road to the east, and Sierra Highway on the south	Industrial Business Park	4,400,000	Disturbed by oil operations; oak trees and patches of sage scrub.	Isolated and fragmented habitat.
5.	Vista Canyon (VCR)	SR 14 & Lost Canyon Road	Office Commercial Space Hotel Residential	646,000 164,000 200 Rooms 1,117 DU	Disturbed sage scrub and non-native grassland.	Above Santa Clara River between SR 14 and Sierra Hwy.
6.	PM068934	26839 Triumph Avenue	Single-family Homes	2 DU	Non-native grassland with some oak trees.	Infill by 2 dwelling units within rural residential area.
7.	R2007-01655	16480 Pine view Road	Single-family Homes	1 DU	Non-native grassland with some oak trees.	Infill by 1 dwelling unit within rural residential area.
8.	Golden Valley Ranch	19233 Golden Valley Road	Retail	631,000	Graded, mostly built-out commercial center.	Within existing development.
9.	92075	25660 The Old Road	Change from Retail to Restaurant	-	Existing land use.	Within developed area.
10.	R2006-01908	16164 Sierra Highway	Office	-	Existing land use.	Within developed area.
11.	TR070070	-	Single-family Homes	15 DU	-	Infill by 15 dwelling units within rural residential area.

Source: Matrix Environmental, 2010; PCR Services Corporation, 2010.

Development Area, the Water Tank Area and the Off-site Infrastructure Improvement Area. The cumulative impact area reviewed incorporates the Santa Clarita Valley Area Plan,[6] which includes the Santa Clarita Valley, and which also forms much of the eastern Santa Clara River subbasin. Within the Santa Clarita Valley Area Plan are 196 pending, approved, and recorded parcel and tract maps, as shown in **Figure 15,** *Cumulative Impacts Analysis Disney | ABC Studios at The Ranch*.[7] Also contained within the Santa Clarita Valley Area Plan are portions of the Angeles National Forest within which no development is planned for the foreseeable future, and therefore, is expected to be preserved. Additionally, much of these protected lands are upslope from the developed areas along the Santa Clara River and would therefore be protected from indirect development effects such as regional changes in hydrological function. This more regional cumulative impact area also encompasses several existing SEAs, including the Santa Clara River SEA.

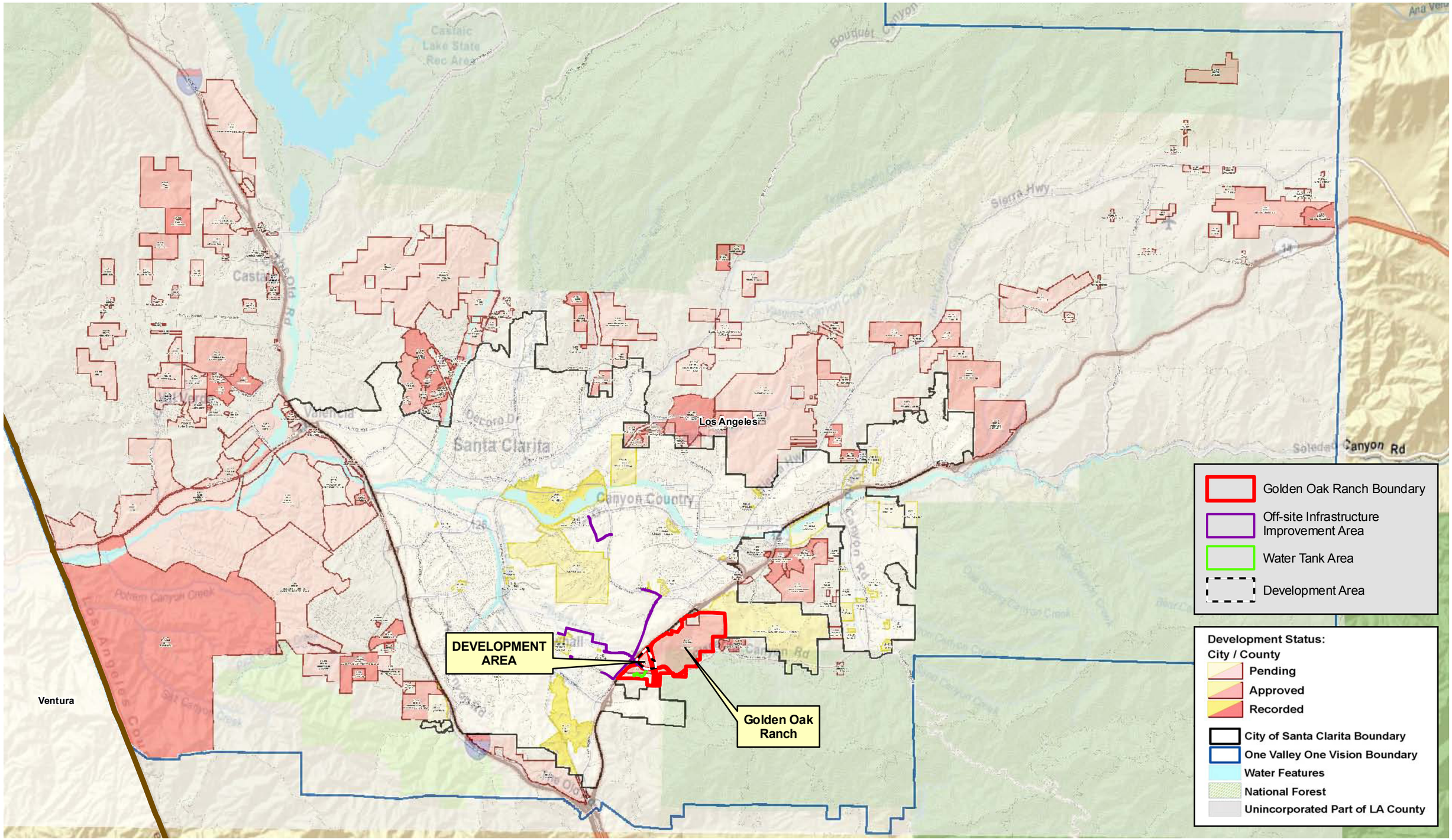
Cumulative Impacts to Vegetation Communities

As summarized in Table 12, *Summary of Biological Resources Affected by Related Projects*, the related projects include mostly infill developments that contain limited native vegetation, are mostly disturbed, fragmented and isolated, and/or are relatively small in scale. In other words, these project sites do not contribute to the long-term sustainability of natural communities in the general area of the Proposed Project and, therefore, would not significantly impact biological resources on a cumulative basis. It should be noted that some of the related projects support regulated resources, such as limited riparian areas and/or oak trees. Impacts to such resources will be mitigated through existing local, State, and federal statutes such as the County Oak Tree Ordinance, Section 1602 of the California State Fish and Game Code, and Section 404 of the federal Clean Water Act, and significant impacts to regulated resources are not expected to result on a cumulative basis.

Similarly, of the 300,000-acre regional cumulative impact analysis area reviewed, impacts to plant communities within the Development Area, Water Tank Area and Off-site Infrastructure Improvement Area do not present an overall cumulatively significant impact. As an example, the Southern California Association of Governments (SCAG) RTP Transportation Model projects the number of households (assumed to be single-family or multi-family dwelling units) in the upper Santa Clara River watershed to grow from what it is in 2008, 2011, to 3496 in 2035. Although this represents a 74 percent increase in households, it does not represent a scale of urbanization that will substantially reduce natural open space and vacant lands. Moreover, in each case of new development, local, State, and federal laws concerning resource regulation and conservation will be applied thereby avoiding and/or minimizing the loss of biological components important to the viability of region-wide biological systems. Also, because the open space areas within the Angeles National Forest will be preserved, much of the diversity of plant communities native to the Santa Clarita Valley is well-represented within these areas that will be protected. Furthermore, it is expected that impacts to more common plant communities would not substantially diminish or threaten to eliminate these communities on a regional basis due to their lack of sensitivity status, and given that these communities occur in abundance throughout the region. Two CNDDB sensitive plant communities, southern willow scrub and mixed willow riparian woodland are within the Development Area and will be impacted by the Proposed Project. Although coast live oak woodland is not considered a CNDDB sensitive community, the Proposed Project would impact oak woodland within the Development Area. Public Resources Code Section 21083.4 requires analysis of impacts to oak woodlands under "potentially significant adverse impacts." Taking into

6. *Los Angeles County Department of Regional Planning. 2009. Draft Santa Clarita Valley Area Plan. One Valley One Vision.*

7 *City of Santa Clarita. 2004. Santa Clarita Valley Subdivision Activity Map. City of Santa Clarita GIS Department.*



0 1.75 3.5 Miles

Cumulative Impacts Analysis
Disney | ABC Studios at The Ranch

FIGURE
15

Source: City of Santa Clarita, Planning and County of Los Angeles, Regional Planning, August 2010; ESRI, 2010; PCR Services Corporation, 2010.

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consideration the cumulative impact of these three plant communities within the Development Area, of the existing 4.9 acres of coast live oak woodland, 0.7 acres of southern willow scrub, and 3.2 acres of mixed willow riparian woodland, impacts would occur to 4.4 acres[8] (4.4 acres permanent, less than 0.1 acre temporary) of coast live oak woodland, 0.7 acres (all permanent) of southern willow scrub, and 2.0 acres (0.1 acre permanent, 1.9 acres temporary) of mixed willow riparian woodland with implementation of the Proposed Project. However, impacts to these three plant communities would be mitigated through regulatory requirements for areas deemed under the jurisdiction of CDFG under California Fish and Game Code Section 1602. Enforcement of this statute effectively serves as a programmatic vehicle to keep cumulative impacts below a level of significance, with CDFG typically requiring mitigation through preservation, restoration or enhancement at a one-to-one or greater ratio. Therefore, impacts to these riparian communities within the cumulative impact analysis area reviewed would not substantially diminish or threaten to eliminate any these communities on a regional basis, and as a result, are not cumulatively significant.

In addition, a portion of the Development Area is within the Santa Clara River SEA. As previously mentioned, although SEAs are not fully protected, proposed development impacts within them require a thorough review by the SEATAC and County of Los Angeles. As discussed above, the project is not expected to result in cumulatively significant impacts to the integrity and functioning of the Santa Clara River SEA which is consistent with the County General and Area Plans' conservation goals and objectives.

Cumulative Impacts to Plants and Wildlife

The Santa Clarita Valley is an area marked by significant plant and wildlife diversity. Much of this diversity is protected in perpetuity within the Angeles National Forest, which contains most of the vegetation communities (and therefore, plant and wildlife habitats) characteristic of the rest of the valley.

Cumulatively, the 11 related projects in combination with the Proposed Project and in combination with projects at a more regional scale, it is expected that impacts to more common plant communities, which support plant and wildlife species, would not substantially diminish or threaten to eliminate these communities on a regional basis due to their lack of sensitivity status, the small amount of impacts proposed within the Development Area, the Water Tank Area and the Off-site Infrastructure Improvement Area, and given that these communities occur in abundance throughout the region. For sensitive plant communities, project-related mitigation would be implemented to ensure impacts of the Proposed Project would not substantially diminish or threaten to eliminate these communities on a regional basis; therefore, impacts to these sensitive plant communities, and the plant and wildlife species which use these habitats, would not represent a cumulatively significant impact and are considered less than significant. It is also important to note that local, State, and federal laws will be used to regulate the development of the related projects such that limited resources such as oak trees, waters and wetlands, listed or otherwise sensitive species, and riparian habitats will be protected and preserved. In this manner, cumulative impacts will be minimized.

[8] *PCR's acreage is based on the mapped oak woodland communities whereas Dudek's oak tree survey maps individual trees for a total canopy of 5.62 acres to be impacted.*

Special Status Plant Species

One Federally- and state-endangered plant species, slender-horned spineflower, and the federal candidate San Fernando Valley spineflower have potential to occur within the study area however, focused surveys were conducted for the slender-horned spineflower and the San Fernando Valley spineflower in June 2010 and neither species was observed. Furthermore, there is not suitable habitat for the slender-horned spineflower within the study area, and the few locations in the San Fernando Valley where spineflowers are known to exist are not near the study area. Because the Proposed Project would not have an adverse impact on special status plant species, the Proposed Project would not contribute to any potentially significant cumulative impact at any scale of analysis.

Special Status Wildlife Species

Based on protocol surveys conducted in the Development Area, the Water Tank Area and the Off-site Infrastructure Improvement Area, the Proposed Project is not expected to result in direct or indirect impacts to any state- or Federally-listed wildlife species. Focused surveys for the least Bell's vireo, southwestern willow flycatcher, coastal California gnatcatcher, arroyo toad, and western spadefoot toad were conducted in spring of 2010, according to species-specific protocol. None of these sensitive wildlife species were observed within the Development Area, the Water Tank Area and the Off-site Infrastructure Improvement Area. Because the Proposed Project would not have an adverse impact on special status wildlife species, the Proposed Project would not contribute to any potentially significant cumulative impact at any scale of analysis.

Wildlife Movement

As discussed previously, although the Proposed Project may impact local-level movement and live-in habitat for a variety of species, the Proposed Project would not have a significant adverse effect on any known or suspected wildlife movement corridors and would retain existing habitat linkages for migrating waterfowl and other mobile wildlife species using the riparian corridor. As a result, the Proposed Project's contribution to cumulative impacts on wildlife movement corridors is not cumulatively considerable. Within the general area considering the 11 related projects and within the regional cumulative impact study area, proposed developments in the Santa Clarita Valley would expand the urbanized zone of the City of Santa Clarita and nearby portions of Los Angeles County to fill much of the open space between the northern and southern units of the Angeles National Forest, and therefore, would further restrict wildlife movement from north to south through an area already highly disturbed by Interstate 5 and surrounding development. Maintenance of buffer zones along the Santa Clara River and continued preservation of land within the Angeles National Forest will maintain existing corridors for most wildlife species moving from east to west; thus, cumulative impacts to wildlife movement corridors are expected to be less than significant at both the area-wide and regional scales of analysis. Of note, the general absence of urban sprawl projected from the present to 2035 combined with mitigation requirements of local, State and federal statutes regulating biological resources will further ensure the persistence of movement corridors into the foreseeable future.

6.0 IMPACTS AFTER MITIGATION

6.1 UNAVOIDABLE SIGNIFICANT IMPACTS

With implementation of the above mitigation measures, the Proposed Project would mitigate all potentially significant impacts to sensitive plant communities, nesting birds, jurisdictional features, and jurisdictional trees to a less than significant level.

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Appendix A: Floral and Faunal Compendium

GYMNOSPERMS

	SCIENTIFIC NAME	COMMON NAME
	Pinaceae	**Pine Family**
	Pinus sp.	pine

ANGIOSPERMS (DICOTYLEDONS)

	SCIENTIFIC NAME	COMMON NAME
	Aceraceae	**Maple Family**
	Acer saccharinum	silver maple
	Anacardiaceae	**Sumac or Cashew Family**
*	*Schinus molle*	Peruvian pepper
	Toxicodendron diversilobum	poison oak
	Asteraceae	**Sunflower Family**
	Ambrosia psilostachya	western ragweed (sandbur)
	Artemisia californica	California sagebrush
	Artemisia douglasiana	mugwort
	Baccharis salicifolia	mule fat
*	*Carduus pycnocephalus*	Italian thistle
*	*Centaurea melitensis*	tocalote
*	*Cirsium vulgare*	bull thistle
	Conyza canadensis	horseweed
	Corethrogyne filaginifolia	cudweed aster
	Filago sp.	filago
	Hemizonia fasciculata	fascicled tarweed
	Heterotheca grandiflora	telegraph weed
	Heterotheca sessiliflora	hairy golden-aster
*	*Hypochaeris glabra*	smooth cat's-ear
*	*Lactuca serriola*	prickly lettuce
	Stephanomeria virgata	twiggy wreathplant
	Verbascum thapsus	woolly mullein
	Xanthium strumarium	cocklebur
	Boraginaceae	**Borage Family**
	Amsinckia sp.	fiddleneck

? Potential to occur.

** Non-native species.*

ANGIOSPERMS (DICOTYLEDONS)

	SCIENTIFIC NAME	COMMON NAME
	Cryptantha sp.	cryptantha
	Brassicaceae	**Mustard Family**
*	*Brassica nigra*	black mustard
*	*Hirshfeldia incana*	short-podded mustard
	Caprifoliaceae	**Honeysuckle Family**
	Sambucus mexicana	Mexican elderberry
	Chenopodiaceae	**Goosefoot Family**
*	*Chenopodium album*	lamb's quarters
	Convolvulaceae	**Morning-Glory Family**
	Calystegia macrostegia	western bindweed
	Cucurbitaceae	**Gourd Family**
	Marah macrocarpus	wild cucumber
	Cuscutaceae	**Dooder Family**
	Cuscuta californica	California dodder
	Ericaceae	**Heath Family**
	Arctostaphylos sp.	manzanita
	Euphorbiaceae	**Spurge Family**
	Eremocarpus setigerus	dove weed
	Fabaceae	**Legume Family**
	Astragalus sp.	locoweed
	Lotus scoparius	deerweed
	Lupinus sp.	lupine
*	*Medicago polymorpha*	bur clover
*	*Melilotus* sp..	sweetclover
	Fagaceae	**Oak Family**
	Quercus agrifolia	coast live oak
	Quercus berberidifolia	scrub oak
	Geraniaceae	**Geranium Family**
*	*Erodium botrys*	broad-lobed filaree
*	*Erodium cicutarium*	red-stemmed filaree
	Hydrophyllaceae	**Waterleaf Family**
	Emmenanthe penduliflora	whispering bells
	Eriodictyon trichocalyx	thick-leaved yerba santa
	Phacelia cicutaria	caterpillar phacelia
	Lamiaceae	**Mint Family**
*	*Marrubium vulgare*	horehound
	Trichostema lanceolatum	vinegar weed
	Malvaceae	**Mallow Family**

ANGIOSPERMS (DICOTYLEDONS)

	SCIENTIFIC NAME	COMMON NAME
*	*Malva parviflora*	cheeseweed
	Moraceae	**Mulberry Family**
*	*Morus* sp.	mulberry
	Myrtaceae	**Myrtle Family**
*	*Eucalyptus* sp.	eucalyptus
	Onagraceae	**Evening Primrose Family**
	Clarkia unguiculata	elegant clarkia
	Plantaginaceae	**Plantain Family**
	Plantago sp.	plantain
	Platanaceae	**Sycamore Family**
	Platanus racemosa	western sycamore
	Polygonaceae	**Buckwheat Family**
	Eriogonum fasciculatum	California buckwheat
	Polygonum sp.	knotweed
	*Rumex crispus**	curly dock
	Primulaceae	**Primrose Family**
*	*Anagallis arvensis*	scarlet pimpernel
	Rosaceae	**Rose Family**
	Adenostoma fasciculatum	chamise
	Heteromeles arbutifolia	toyon
	Salicaceae	**Willow Family**
	Populus fremontii	Fremont cottonwood
	Salix laevigata	red willow
	Salix lasiolepis	arroyo willow
	Solanaceae	**Nightshade Family**
	Datura wrightii	jimson weed
*	*Nicotiana glauca*	tree tobacco
	Tamaricaceae	**Tamarisk Family**
*	*Tamarix ramosissima*	tamarisk
	Ulmaceae	**Elm Family**
	Ulmus sp.	elm
	Vitaceae	**Grape Family**
	Vitis sp.	grape

? Potential to occur.

** Non-native species.*

ANGIOSPERMS (MONOCOTYLEDONS)

	SCIENTIFIC NAME	COMMON NAME
	Agavaceae	**Agave Family**
	Agave sp.	agave
	Liliaceae	**Lily Family**
	Yucca whipplei	Our Lord's candle
	Poaceae	**Grass Family**
*	*Avena fatua*	wild oat
*	*Bromus diandrus*	ripgut grass
*	*Bromus hordeaceus*	soft chess
*	*Bromus madritensis*	foxtail chess
	Distichlis spicata	saltgrass
	Hordeum sp.	barley
	Lolium sp.	ryegrass
*	*Lamarckia aurea*	goldentop
*	*Paspalum dilatatum*	dallis grass
	Piptatherum miliaceum	smilo grass
*	*Polypogon monspeliensis*	annual beard grass
*	*Vulpia myuros*	fescue

INVERTEBRATES

SCIENTIFIC NAME	COMMON NAME
Order Lepidoptera	**Butterflies and Moths**
Papilionidae	**Swallowtails**
Papilio rutulus	western tiger swallowtail
Pieridea	**Whites & Orangetips**
Pieris rapae	cabbage white

AMPHIBIANS

SCIENTIFIC NAME	COMMON NAME
Hylidae	**Treefrogs**
Pseudacris regilla	Pacific treefrog

REPTILES

SCIENTIFIC NAME	COMMON NAME
Iguanidae	**Iguanis Lizards**
? *Phrynosoma coronatum*	coast horned lizard

REPTILES

	SCIENTIFIC NAME	COMMON NAME
	Phrynosomatidae	**Zebra-tailed, Fringe-toed, Spiny Lizards, etc.**
	Sceloporus occidentalis	western fence lizard
	Uta stansburiana	side-blotched lizard
	Viperiidae	**Vipers**
	Crotalus viridis helleri	southern pacific rattlesnake

BIRDS

	SCIENTIFIC NAME	COMMON NAME
	Cathartidae	**New World Vultures**
	Cathartes aura	turkey vulture
	Accipitridae	**Hawks**
	Accipiter cooperii	Cooper's hawk
	Buteo lineatus	red-shouldered hawk
	Buteo jamaicensis	red-tailed hawk
?	*Aquila chrysaetos*	golden eagle
	Odotophoridae	**Quails**
	Callipepla californica	California quail
	Columbidae	**Pigeons and Doves**
	Zenaida macroura	mourning dove
	Apodidae	**Swifts**
	Aeronautes saxatalis	white-throated swift
	Trochilidae	**Hummingbirds**
	Calypte anna	Anna's hummingbird
	Picidae	**Woodpeckers**
	Colaptes auratus	northern flicker
	Melanerpes formicivorus	acorn woodpecker
	Picoides nuttallii	Nuttall's woodpecker
	Tyrannidae	**Tyrant Flycatchers**
	Myiarchus cinerascens	ash-throated flycatcher
	Sayornis nigricans	black phoebe
	Laniidae	**Shrikes**
?	*Lanius ludovicianus*	loggerhead shrike
	Corvidae	**Jays and Crows**
	Aphelocoma californica	western scrub-jay
	Corvus brachyrhynchos	American crow

? Potential to occur.

** Non-native species.*

BIRDS

SCIENTIFIC NAME	COMMON NAME
Corvus corax	common raven
Paridae	**Titmice**
Baeolophus inornatus	oak titmouse
Aegithalidae	**Bushtits**
Psaltriparus minimus	bushtit
Troglodytidae	**Wrens**
Troglodytes aedon	house wren
Mimidae	**Thrashers**
Mimus polyglottos	northern mockingbird
Parulidae	**Wood-warblers**
? *Dendroica petechia*	yellow warbler
Emberizidae	**Emberizids**
Pipilo crissalis	California towhee
Pipilo maculatus	spotted towhee
Melospiza melodia	song sparrow
Fringillidae	**Finches**
Carpodacus mexicanus	house finch
Carduelis psaltria	lesser goldfinch

MAMMALS

SCIENTIFIC NAME	COMMON NAME
Molossidae	**Free-tailed Bats**
? *Eumops perotis californicus*	western mastiff bat
Leporidae	**Hares and Rabbits**
Sylvilagus audubonii	desert cottontail
Muridae	**Mice, Rats, and Voles**
? *Neotoma lepida intermedia*	San Diego desert woodrat
Sciuridae	**Squirrels**
Spermophilus beecheyi	California ground squirrel
Canidae	**Wolves and Foxes**
Canis latrans	coyote
Urocyon cinereoargenteus	gray fox
Procyonidae	**Raccoons**
Procyon lotor	raccoon
Mustelidae	**Weasels, Skunks, and Otters**
Mephitis mephitis	striped skunk

MAMMALS

SCIENTIFIC NAME	COMMON NAME
Felidae	**Cats**
Lynx rufus	bobcat
Cervidae	**Deer**
Odocoileus hemionus	mule deer

? Potential to occur.

** Non-native species.*

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Appendix B: Wildlife Movement Letter Report

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September 2, 2008

Mr. Dan McBrearty and Ms. Marissa Christiansen
THE WALT DISNEY COMPANY
Disney CORE Services
500 South Buena Vista Street
Burbank, California 91521-2670

Re: RESULTS OF A WILDLIFE MOVEMENT ANALYSIS FOR DISNEY'S GOLDEN OAK RANCH, PLACERITA CANYON, LOS ANGELES COUNTY, CALIFORNIA

Dear Mr. McBrearty:

This report presents the findings of a wildlife movement analysis conducted by **PCR Services Corporation (PCR)** for the Golden Oak Ranch Property ("the Property") located in Placerita Canyon, Los Angeles County, California. The Property is comprised of 21 parcels that, together, encompass an area over 800 acres. The Property is found on the east side of Antelope Valley Freeway (State Route 14), north of Placerita Canyon Road, generally south of Placerita Mountain Way, and generally west of a small residential development along Running Horse Road (Figure 1, *Regional Map*, attached). The Property is located within Section 6 T. 3 N., R. 15 W., of the U.S. Geological Survey (USGS) 7.5-minute Mint Canyon, California topographic quadrangle, as shown in Figure 2, *Vicinity Map*, attached. Surrounding land use includes the Angeles National Forest and Placerita Canyon State Park to the south and east, and a mix of residential development and vacant land to the north and west.

PROJECT UNDERSTANDING

The Property was purchased by The Walt Disney Company ("Disney") in 1959 and has since been used for a variety of film production uses. Currently, Disney is evaluating the development of new studio-related uses within the westernmost portion of the Property located adjacent to the State Route 14. As part of this proposed project, a portion of Placerita Creek (the "Creek") would be culverted, filled, and graded to provide a suitable construction site for several sound stages. Currently, this portion of Placerita Canyon is occupied by two relatively large, manufactured pads composed of aggregate, previously filled and graded in conjunction with the construction of State Route 14. The Creek currently flows between these two fill areas under State Route 14 via an approximately 25-foot diameter, corrugated culvert (the "Culvert"). The Culvert has an earthen bottom and light can be seen by an observer looking from one end to the other.

METHODOLOGY

The purpose of this analysis was to determine the importance of the Property and, specifically the Culvert, for wildlife movement. A dual-faceted study was implemented to do this. First, a regional wildlife movement model was created to predict how animals move between areas of open space within and surrounding Golden Oak Ranch. Second, a local-scale study was conducted utilizing motion triggered cameras and surveys for diagnostic signs, such as tracks and scat, to document wildlife movement on the Property and in the Culvert.

The regional analysis utilized a suite of tools called Corridor Design.[1] These tools are operated in conjunction with ArcGIS to create linkages between blocks of open space that will remain as open space in perpetuity. The model output is based on the habitat preferences of a group of selected or focal species. The focal species were determined based on their ability to represent a range of ecological niches, movement preferences and needs, and data availability. The modeled group of focal species was comprised of the American badger (*Taxidea taxus*), cougar (*Felis concolor*), mule deer (*Odocoileus hemionus*), Pacific kangaroo rat (*Dipodomys agilis*), California quail (*Callipepla californica*), and western toad (*Bufo boreas*).

Corridor Design produces habitat suitability, habitat patch, and wildlife movement corridor models for each focal species based on various parameters, such as vegetation communities, distance to roads, and topographic position. These individual species' corridors are combined to create an overall linkage design that serves as a predictive model for overall wildlife movement in the region including and surrounding the Property. The parameters and data used in this model are largely based on those employed by the South Coast Missing Linkages Project for linkages within the vicinity of the Property and State.[2,3] Although the location of culverts and other road and highway undercrossings can not be built into the model, PCR biologists determined the location of potential highway crossing opportunities after the model was created to ensure highways did not serve as impenetrable barriers for wildlife.

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[1] *Beier, P., D. Majka, and J. Jenness. 2007. Designing Wildlife Corridors with ArcGIS. Corridordesign.org*

[2] *Penrod, K., C. Cabanero, P. Beier, C. Luke, W. Spencer, and E. Rubin. 2004. South Coast Missing Linkages Project: A Linkage Design for the San Gabriel-Castaic Connection. South Coast Wildlands, Idyllwild, CA. www.scwildlands.org.*

[3] *Penrod, K., C. Cabanero, P. Beier, C. Luke, W. Spencer, E. Rubin, R. Sauvajot, S. Riley, and D. Kamradt. 2006. South Coast Missing Linkages Project: A Linkage Design for the Santa Monica-Sierra Madre Connection. Produced by South Coast Wildlands, Idyllwild, CA. www.scwildlands.org, in cooperation with National Park Service, Santa Monica Mountains Conservancy, California State Parks, and The Nature Conservancy.*

The individual species corridors and the overall linkage design results are meant to be interpreted by the ease with which wildlife species can move through a landscape. This ease of movement is given in decreasing levels of permeability by the model in the following increments: 99.9 percent permeability, 99 percent permeability, 98 percent permeability, 97 percent permeability, and so on, to a low of 90 percent permeability. For the purposes of this analysis, permeability levels of 99.9 percent, 99 percent, 97 percent, and 95 percent were examined (Figure 3, *Regional Scale Model Results*, attached). These four permeability levels are appropriate because they provide a range of levels that clearly show the most important locations for wildlife movement within the Property and its surrounding area. Permeability levels less than 95 percent were not examined because they essentially encompassed the entire valley region between the San Gabriel, Castaic, and Santa Susana Mountains and, therefore, were not relevant to understanding how to best conserve habitat linkages in the area.

The local wildlife movement analysis was conducted to examine wildlife movement occurring on the Property. It also served to validate, in part, the regional model described above. Motion triggered cameras were placed and operated at six locations along the Creek bed for eight consecutive weeks during May and June 2008. The camera configuration was designed to allow PCR biologists to best monitor wildlife utilization of the Creek and the Culvert. Camera locations are shown in Figure 4, *Camera Locations*, attached. A full list of photographs taken by the cameras can be viewed in Appendix A. Diagnostic signs including tracks, scat, hair, and feathers were documented during the eight week camera trap period. The results of the local and regional analyses were then examined to evaluate the overall role the Property plays in wildlife movement.

REGIONAL ANALYSIS

Three main corridors emerged from the regional linkage model at permeability levels of 99.9 percent, 99 percent, 97 percent, and 95 percent (Figure 3, *Regional Scale Model Results*, attached). Opportunities to cross State Route 14 are present for each corridor within the linkage design. The linkage design results and State Route 14 undercrossing opportunities are described below:

Corridor #1

This corridor is located approximately 0.75 mile south of the Culvert. Portions of the 97 percent and 95 percent permeability level of this corridor are located on the central and eastern portions of the Property. The area where the proposed sound stage construction is planned is not encompassed by this corridor. It connects suitable habitat in the San Gabriel Mountains to suitable

habitat in the Santa Susana and Castaic Ranges. The 99.9 percent and 99 percent permeability levels also occur in this corridor, but outside the property boundary. Overall, this corridor spans a length of approximately 25 miles and affords opportunities for wildlife to connect to Santa Monica-Sierra Madre Linkage that was delineated by the South Coast Missing Linkages Project.

Potential barriers to wildlife movement along this corridor include State Route 14. The most viable undercrossing for Corridor #1 is located at the intersection of Refinery Road and State Route 14, approximately two miles south of the Property. The Refinery Road undercrossing is located within the 99 percent permeability portion of the corridor and is extremely close to the 99.9 percent portion. This undercrossing is a bridge and, therefore, far more open and viable for a greater number of species than the Culvert on the Property. It also connects suitable habitat on both sides of State Route 14. Other, less viable, crossing opportunities are located at the Interstate 5/State Route 14 interchange, the San Fernando Road undercrossing at State Route 14, and the San Fernando Road undercrossing at Interstate 5. These less viable opportunities are subject to vehicular traffic; however, they could be utilized during times of low vehicular traffic.

Corridor #2

Corridor #2 occurs less than 0.5 miles north of the Culvert. It connects the San Gabriel Mountains to the Castaic Range and runs between the City of Santa Clarita and Rancho Santa Clarita. This corridor has 99.9 percent, 99 percent, 97 percent, and 95 percent permeability levels. Portions of the 97 percent and 95 percent levels of permeability of this corridor occur within the central and eastern portions of the Property. Corridor #2 does not encompass the Culvert or the proposed sound stage construction site in the westernmost portion of the Property. Corridor #2 spans a length of approximately 21 miles.

Currently, wildlife have the opportunity to cross underneath State Route 14 at Via Princessa and a railroad undercrossing just north of Canyon Park Road. The railroad undercrossing appears to occur in a more natural state, affords access to the Santa Clara River, and it is located within the 97 percent and 95 percent permeability levels of this corridor. The Via Princessa undercrossing is considered a less desirable option due to the fact that it connects open space to an urbanized area.

Corridor #3

This northernmost corridor provides a fairly direct link between lands administered by the United States Forest Service in the San Gabriel Mountains and the Castaic Range with little current pressure from development. It is located approximately six miles north of the Culvert and spans a

distance of approximately five miles. No portion of Corridor #3 touches the Property. The 99 percent, 97 percent, and 95 percent permeability levels are included in this corridor. Even though the 99.9 percent permeability level is not included in this corridor, it may prove more biologically viable than Corridor #2 due to its distance from development and much shorter overall length. Of note, Corridor #3 is also located in nearly the same location as the San Gabriel-Castaic Linkage that was created by the South Coast Missing Linkages Project.

Within this corridor, wildlife have the opportunity to cross under State Route 14 at Soledad Canyon and Spring Canyon Roads. Spring Canyon Road, which lies within the 99 percent permeability level, provides a connection from open space habitat to open space habitat, whereas the Soledad Canyon Road undercrossing, which is encompassed by the 97 percent permeability level, would funnel wildlife into a housing subdivision.

LOCAL ANALYSIS

At the local level the Property and, in particular the Creek, appears to be used regularly by a variety of wildlife species. A sample of photographs revealing these species can be viewed on Figure 5, *Remotely Triggered Camera Photographs*, attached. Sixteen wildlife species were recorded by the cameras and additional bird, amphibian, and reptile species were documented as using the Creek through various signs. The most commonly recorded species were mule deer, bobcat (*Felis rufus*), coyote (*Canis latrans*), domestic dog (*Canis familiaris*), raccoon (*Procyon lotor*), gray fox (*Urocyon cinereoargenteus*), striped skunks (*Mephitis mephitis*), desert cottontail (*Sylvilagus auduboni*), and western fence lizard (*Sceloporus occidentalis*). Bobcats, coyotes, skunks, raccoons, lizards, and gray fox were photo-documented to actually utilize the Culvert. In some cases, and not surprisingly, coyotes and bobcats that chose to move through the Culvert did so more quickly than they did along other stretches of the Creek. This is apparent when observing the time stamps of the photographs. For example, a bobcat took approximately seven minutes to traverse the approximately 1,000 foot length of the Culvert and then approximately five minutes to travel the approximately 200 feet between cameras 4 and 5. The proclivity of wildlife to move more rapidly through marginal habitats has also been documented in similar studies.[4] The Culvert, however, may not be suitable for utilization by all species that encounter it. For example, mule deer were observed approaching the east entrance of the Culvert, but they were never documented in the Culvert or exiting the opposite side.

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[4] *Dickson, B.G., J.S. Jenness, and P. Beier. 2005. Influence of vegetation, topography, and roads on cougar movement in Southern California. Journal of Wildlife Management 69(1) 264-276.*

Analysis of the regional movement model and local movement study suggest portions of the Property do have importance for wildlife movement. The location of the proposed sound stages, however, avoids the most important areas for wildlife movement based on the regional wildlife movement model (Figure 6, *Local Scale Model Results*, attached). The model suggests wildlife would preferentially traverse the wildland matrix between the existing open space of the San Gabriel, Castaic, and Santa Susana Mountains via Corridors #1, #2, and #3.

SUMMARY

The Property is utilized by wildlife species representing a wide range of taxonomic groups. Species known to occur and thrive in the urban-wildland fringe utilize the Culvert on a regular basis. The Culvert and westernmost portion of the Property are near, but are not situated within the most significant areas for regional wildlife movement according the Corridor Design model results. The results indicate more suitable areas to the north and south of the Property. Undercrossings of State Route 14 are present within each corridor of the linkage design. Corridors #1 and #3 have undercrossings that are located within the 99 percent permeability level. These corridors provide the most biologically viable options for regional-scale wildlife movement between the San Gabriel, Santa Susana, and Castaic Mountains.

Locally, the Property, and in particular the Creek, is utilized by a number of species on a regular basis. This utilization is likely to be associated with routine movements for foraging and watering. Species that are characterized as good dispersers or have been proven to persist on the fringe of the urban-wildland interface such as the bobcat, coyote, and striped skunk have demonstrated the ability to utilize the Culvert. At this point it is speculated that documented utilization of the Creek and Culvert by wildlife was for routine, local scale movements such as foraging.

In summary, the Culvert is utilized for local scale wildlife movement. The most biologically viable locations for regional wildlife movement occur in Corridors #1 and #3, located south and north of the site, respectively.

Should you have any questions concerning the methodology or findings in this report please contact Steve Nelson or Chris Jones at (949) 753-7001.

Sincerely,
PCR SERVICES CORPORATION

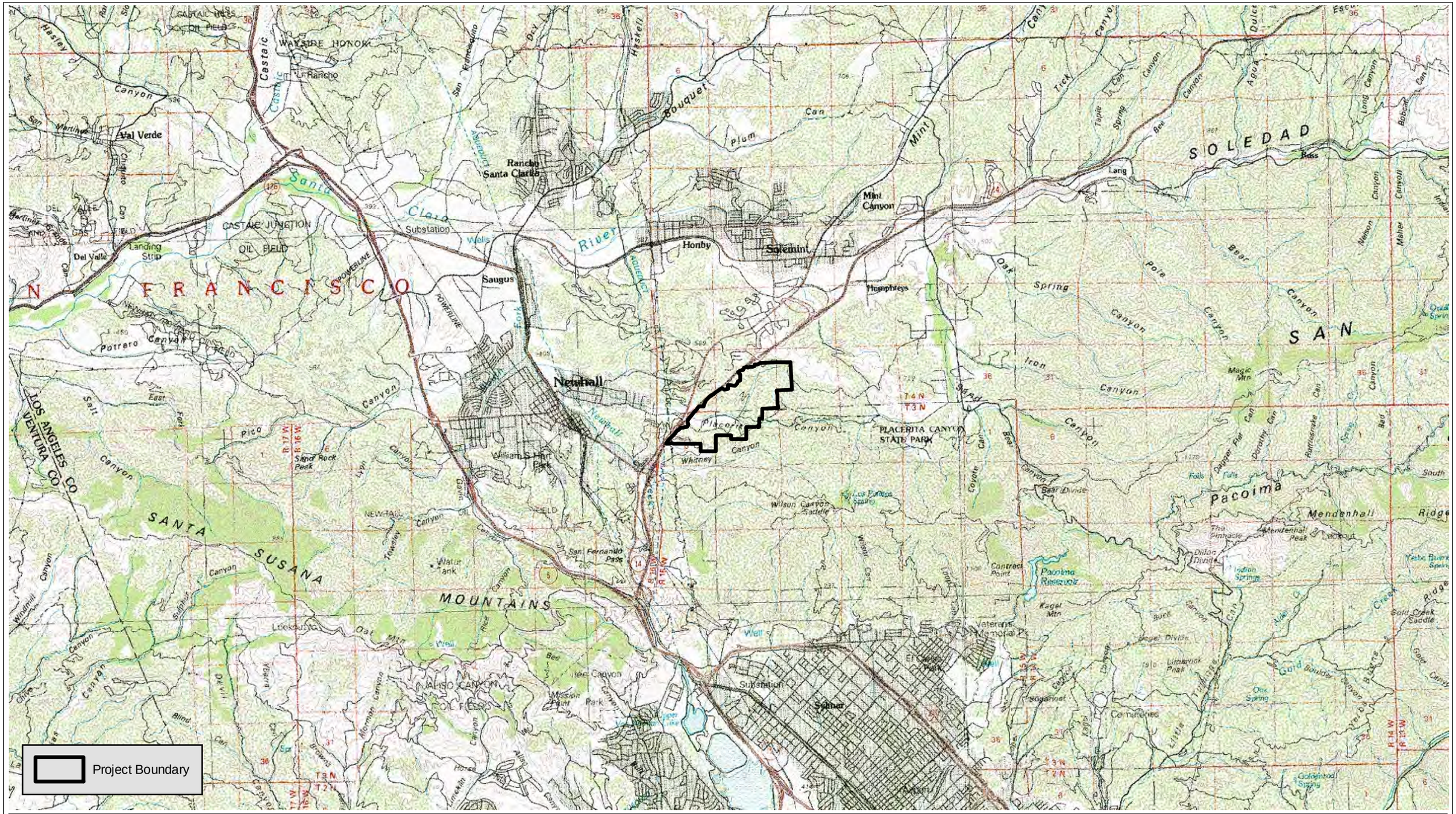
Steve Nelson
Principal/Director of Biological Services

Chris Jones
Associate Biologist

Attachments:
Figure 1 Regional Map
Figure 2 Vicinity Map
Figure 3 Regional Scale Model Results
Figure 4 Camera Locations
Figure 5 Remotely Triggered Camera Photographs
Figure 6 Local Scale Model Results

Source: PCR Services Corporation, 2008.

Figure 1
Golden Oak Ranch Regional Map

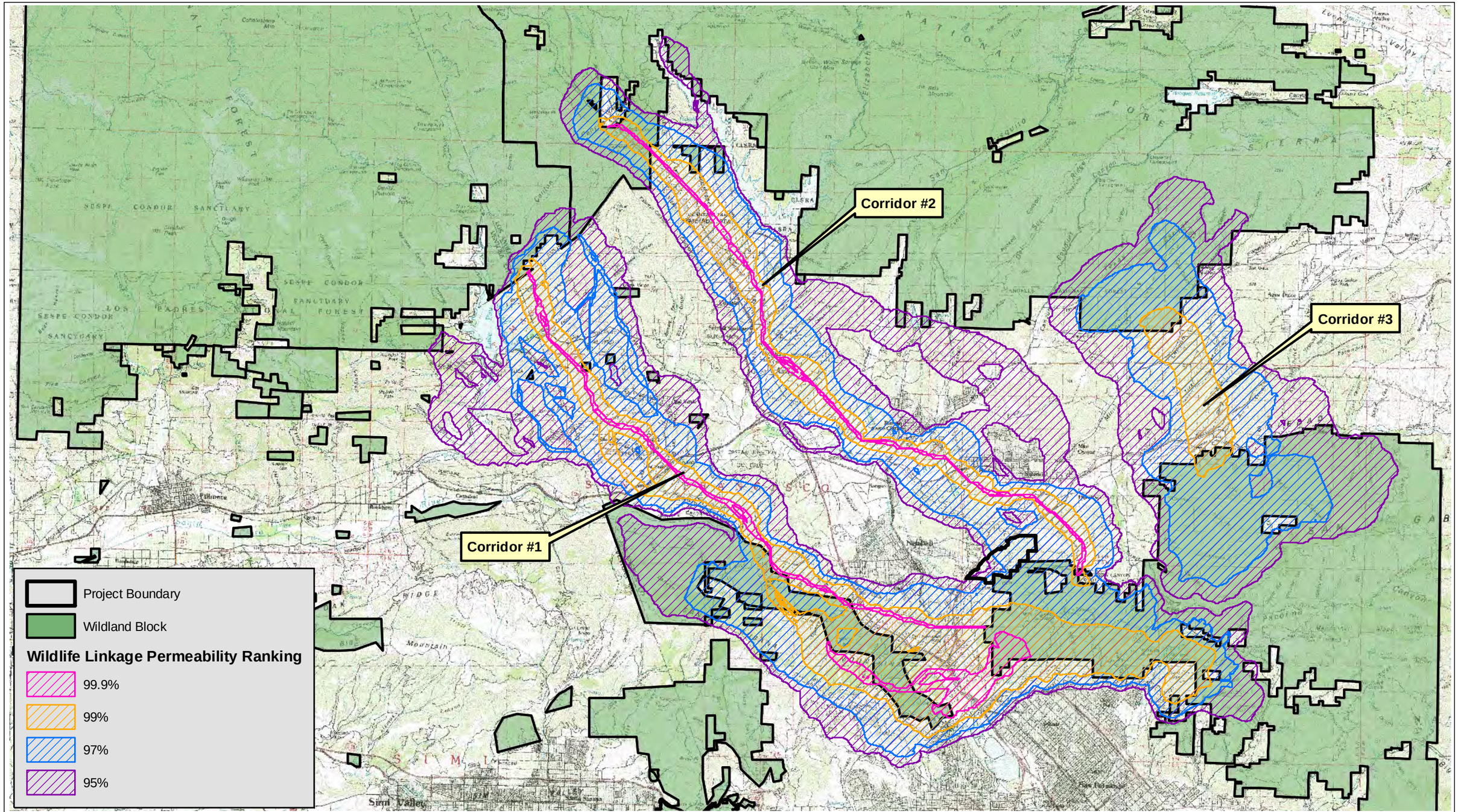


N

1.5 0 1.5 Miles

Source: PCR Services Corporation, 2008.

Figure 2
Golden Oak Ranch Vicinity Map



Source: PCR Services Corporation, 2008.

Figure 3
Golden Oak Ranch
Regional Scale Model Results

PCR

N

300 0 300 Feet

Source: Google Earth (Aerial); PCR Services Corporation, 2008.

Figure 4

Golden Oak Ranch
Camera Locations

Photograph 1: Bobcat moving through culvert.

Photograph 2: Bobcat exiting culvert.

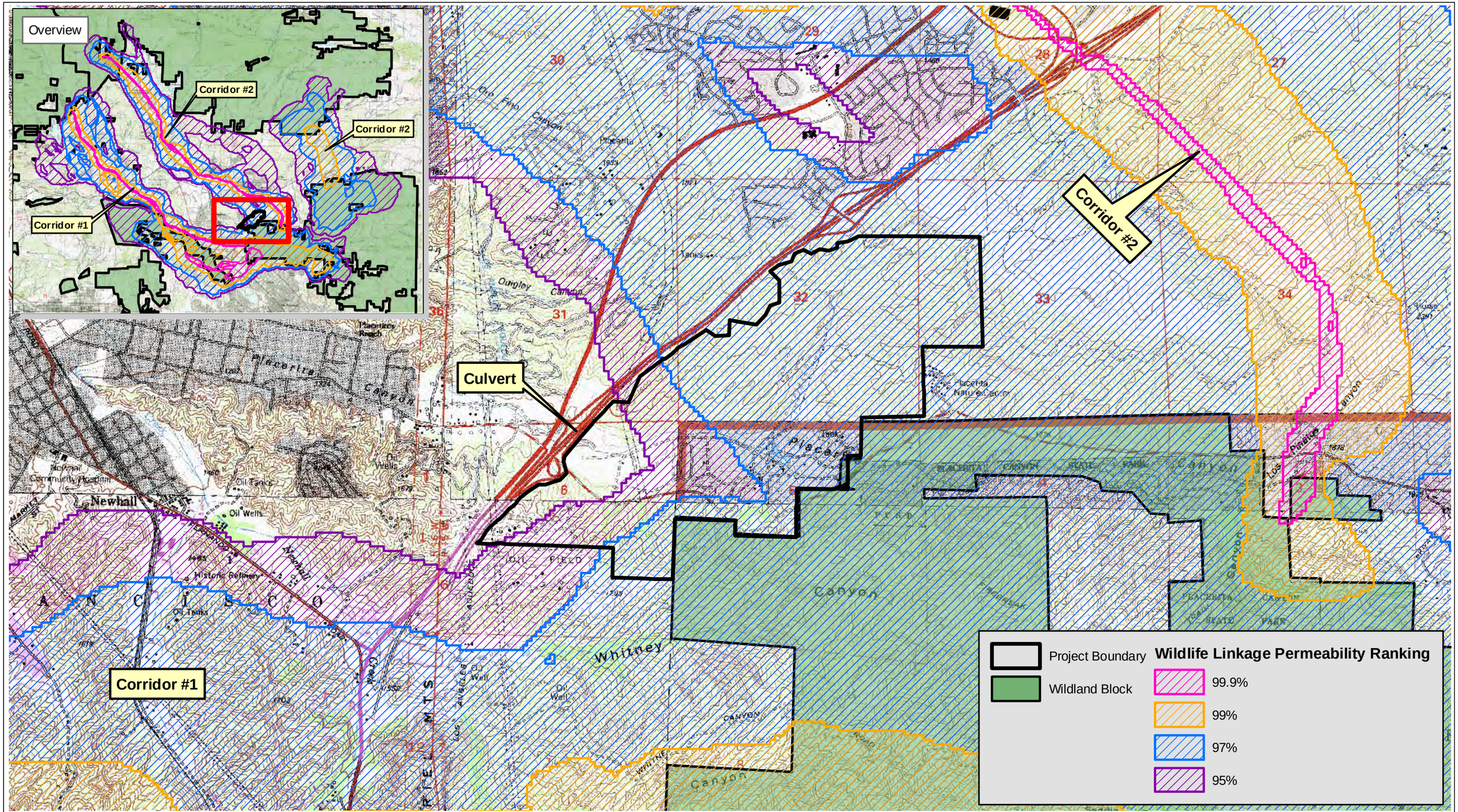
Photograph 3: Gray fox moving towards culvert on Property.

Photograph 4: Coyote exiting culvert towards Property.

PCR

Figure 5
Golden Oak Ranch
Remotely Triggered Camera Photographs

Source: PCR Services Corporation, 2008.



PCR

N

2,000 0 2,000 Feet

Source: PCR Services Corporation, 2008.

Figure 6

Golden Oak Ranch
Local Scale Model Results

APPENDIX A

DISNEY GOLDEN OAK RANCH CAMERA TRAPS

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
1	5/3/2008	3:43 AM	C1	5	None	None	N/A
2	5/4/2008	3:07 AM	C1	5	None	None	N/A
3	5/6/2008	4:30 AM	C1	5	None	None	N/A
4	5/1/2008	11:35 AM	C2	4	White	White	N/A
5	5/1/2008	11:50 AM	C2	4	White	White	N/A
6	5/1/2008	11:52 AM	C2	4	White	White	N/A
7	5/1/2008	2:02 PM	C2	4	White	White	N/A
8	5/2/2008	3:03 AM	C2	4	Bobcat	Felis rufus	Upstream
9	5/2/2008	5:57 PM	C2	4	None	None	N/A
10	5/6/2008	9:17 AM	C2	4	PCR	PCR	N/A
11	5/1/2008	11:50 AM	C3	4	PCR	PCR	N/A
12	5/1/2008	1:49 AM	C3	4	None	None	N/A
13	5/1/2008	3:03 AM	C3	4	Bobcat	Felis rufus	Upstream
14	5/1/2008	3:11 AM	C3	4	Bobcat	Felis rufus	Upstream

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
15	5/2/2008	2:13 AM	C3	4	Racoon	Procyon lotor	Downstream
16	5/2/2008	3:45 AM	C3	4	None	None	N/A
17	5/3/2008	3:29 PM	C3	4	None	None	N/A
18	5/4/2008	1:49 PM	C3	4	None	None	N/A
19	5/4/2008	2:35 PM	C3	4	None	None	N/A
20	5/5/2008	4:31 AM	C3	4	Racoon	Procyon lotor	Upstream
21	5/5/2008	4:41 AM	C3	4	None	None	N/A
22	5/5/2008	9:42 AM	C3	4	PCR	PCR	N/A
23	5/1/2008	12:35 PM	C4	1	PCR	PCR	N/A
24	5/1/2008	12:59 PM	C4	1	PCR	PCR	N/A
25	5/1/2008	1:22 PM	C4	1	PCR	PCR	N/A
26	5/1/2008	1:32 PM	C4	1	PCR	PCR	N/A
27	5/1/2008	1:33 PM	C4	1	PCR	PCR	N/A
28	5/1/2008	1:56 PM	C4	1	PCR	PCR	N/A
29	5/2/2008	2:07 AM	C4	1	Gray fox	Urocyon cinereoargenteus	Upstream

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
30	5/2/2008	3:31 AM	C4	1	Bobcat	Felis rufus	Upstream
31	5/2/2008	3:34 AM	C4	1	Bobcat	Felis rufus	Upstream
32	5/2/2008	3:36 AM	C4	1	Bobcat	Felis rufus	Upstream
33	5/2/2008	8:55 AM	C4	1	Desert cottontail	Sylvilagus audubonii	Upstream
34	5/2/2008	8:18 PM	C4	1	Bobcat	Felis rufus	Upstream
35	5/2/2008	4:01 AM	C4	1	Bobcat	Felis rufus	Upstream
36	5/4/2008	6:44 PM	C4	1	Mule deer	Odocoileus hemionus	Downstream
37	5/4/2008	11:47 PM	C4	1	None	None	N/A
38	5/6/2008	10:30 AM	C4	1	PCR	PCR	N/A
39	5/9/2008	12:28 AM	C1	5	Bobcat	Felis rufus	Upstream
40	5/9/2008	12:41 AM	C1	5	Bobcat	Felis rufus	Downstream
41	5/9/2008	12:42 AM	C1	5	None	None	N/A
42	5/11/2008	2:10 AM	C1	5	None	None	N/A
43	5/11/2008	2:15 AM	C1	5	Bobcat	Felis rufus	Downstream
44	5/11/2008	3:23 AM	C1	5	None	None	N/A
45	5/11/2008	8:18 PM	C1	5	None	None	N/A

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
46	5/13/2008	3:17 AM	C1	5	Racoon	Procyon lotor	Downstream
47	5/19/2008	1:42 PM	C1	5	PCR	PCR	N/A
48	5/6/2008	9:42 AM	C2	4	None	None	N/A
49	5/6/2008	10:10 AM	C2	4	None	None	N/A
50	5/9/2008	12:31 AM	C2	4	Bobcat	Felis rufus	Upstream
51	5/9/2008	12:39 AM	C2	4	Bobcat	Felis rufus	Downstream
52	5/10/2008	8:17 PM	C2	4	Mule deer	Odocoileus hemionus	Downstream
53	5/10/2008	8:18 PM	C2	4	Mule deer	Odocoileus hemionus	Downstream
54	5/10/2008	10:01 PM	C2	4	Coyote	Canis latrans	Downstream
55	5/11/2008	2:14 AM	C2	4	Bobcat	Felis rufus	Downstream
56	5/11/2008	3:05 AM	C2	4	Gray fox	Urocyon cinereoargenteus	Upstream
57	5/13/2008	1:33 AM	C2	4	Racoon	Procyon lotor	North
58	5/13/2008	3:17 AM	C2	4	None	None	N/A
59	5/16/2008	11:15 AM	C2	4	None	None	N/A
60	5/16/2008	12:47 PM	C2	4	None	None	N/A

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
61	18-May	8:40 PM	C2	4	Bobcat	Felis rufus	Downstream
62	5/6/2008	11:03 AM	C4	1	PCR	PCR	N/A
63	5/6/2008	6:05 PM	C4	1	Coyote	Canis latrans	Downstream
64	5/6/2008	6:19 PM	C4	1	Coyote	Canis latrans	Downstream
65	5/7/2008	11:12 PM	C4	1	None	None	N/A
66	5/8/2008	9:52 AM	C4	1	California quail	Callipepla californica	Downstream
67	5/8/2008	6:35 PM	C4	1	Coyote	Canis latrans	Downstream
68	5/9/2008	4:20 AM	C4	1	Undetermined	Undetermined	Upstream
69	5/10/2008	2:14 AM	C4	1	None	None	N/A
70	5/10/2008	3:43 AM	C4	1	None	None	N/A
71	5/10/2008	9:48 AM	C4	1	Mule deer	Odocoileus hemionus	Downstream
72	5/11/2008	2:54 AM	C4	1	Gray fox	Urocyon cinereoargenteus	Downstream
73	5/11/2008	4:44 AM	C4	1	None	None	N/A
74	5/11/2008	8:09 PM	C4	1	Bobcat	Felis rufus	Downstream
75	5/12/2008	6:50 PM	C4	1	Mule deer	Odocoileus hemionus	Downstream

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
76	5/13/2008	12:15 AM	C4	1	Gray fox	Urocyon cinereoargenteus	Downstream
77	5/13/2008	2:24 AM	C4	1	Racoon	Procyon lotor	Upstream
78	5/13/2008	8:41 AM	C4	1	Common raven or America crow	Corvus sp.	N/A
79	5/13/2008	11:56 AM	C4	1	California quail	Callipepla californica	N/A
80	5/13/2008	8:08 PM	C4	1	None	None	N/A
81	5/14/2008	12:33 AM	C4	1	None	None	N/A
82	5/14/2008	2:52 AM	C4	1	None	None	N/A
83	5/14/2008	12:39 PM	C4	1	Mule deer	Odocoileus hemionus	N/A
84	5/15/2008	8:44 PM	C4	1	Bobcat	Felis rufus	Downstream
85	5/16/2008	8:41 AM	C4	1	Mule deer	Odocoileus hemionus	Downstream
86	5/16/2008	8:37 PM	C4	1	Mule deer	Odocoileus hemionus	Upstream
87	16-May	8:38 PM	C4	1	Mule deer	Odocoileus hemionus	Downstream
88	17-May	7:21 AM	C4	1	Coyote	Canis latrans	Upstream
89	5/18/2008	12:45 PM	C4	1	Coyote	Canis latrans	Upstream
90	5/6/2008	1:46 PM	C3	4	None	None	N/A

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
91	5/10/2008	12:20 PM	C3	4	None	None	Shifted
92	5/20/2008	9:27 PM	C1	5	Coyote	Canis latrans	Upstream
93	5/23/2008	9:44 PM	C1	5	Coyote	Canis latrans	Upstream
94	5/26/2008	4:41 AM	C1	5	Coyote	Canis latrans	Downstream
95	5/28/2008	9:37 AM	C1	5	PCR	PCR	N/A
96	5/28/2008	9:38 AM	C1	5	PCR	PCR	N/A
97	5/28/2008	9:48 AM	C1	5	PCR	PCR	N/A
98	5/31/2008	8:21 PM	C1	5	Coyote	Canis latrans	Downstream
99	5/31/2008	9:33 PM	C1	5	None	None	N/A
100	6/2/2008	10:50 AM	C1	5	None	None	N/A
101	6/2/2008	11:11 AM	C1	5	Domestic dog	Canis familiaris	Downstream
102	6/3/2008	7:35 PM	C1	5	None	None	N/A
103	6/3/2008	8:00 PM	C1	5	Motorcycle	None	Downstream
104	6/4/2008	6:39 PM	C1	5	Non-PCR	None	Upstream
105	6/4/2008	6:52 PM	C1	5	Non-PCR	None	Downstream
106	6/5/2008	12:21 PM	C1	5	PCR	PCR	N/A

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
107	5/19/2008	2:26 PM	C2	4	PCR	PCR	N/A
108	5/24/2008	2:51 AM	C2	4	None	None	N/A
109	5/26/2008	4:41 AM	C2	4	None	None	N/A
110	5/31/2008	3:24 AM	C2	4	None	None	N/A
111	5/31/2008	9:17 PM	C2	4	None	None	N/A
112	6/1/2008	4:11 AM	C2	4	Bobcat	Felis rufus	Upstream
113	6/2/2008	10:52 AM	C2	4	Domestic dog	Canis familiaris	Downstream
114	6/2/2008	11:11 AM	C2	4	Domestic dog	Canis familiaris	Downstream
115	6/3/2008	7:36 PM	C2	4	Motorcycle	None	Upstream
116	6/3/2008	7:37 PM	C2	4	None	None	N/A
117	6/4/2008	6:41 PM	C2	4	Non-PCR	None	N/A
118	6/4/2008	6:52 PM	C2	4	Non-PCR	None	N/A
119	6/5/2008	12:21 PM	C2	4	PCR	None	N/A
120	5/19/2008	9:28 PM	C3	4	None	None	N/A
121	5/21/2008	3:19 PM	C3	4	Mule deer	Odocoileus hemionus	Upstream
122	5/22/2008	9:44 PM	C3	4	Racoon	Procyon lotor	Upstream

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
123	25-May	8:24 PM	C3	4	None	None	N/A
124	5/26/2008	4:30 PM	C3	4	None	None	N/A
125	5/27/2008	9:35 AM	C3	4	None	None	N/A
126	5/27/2008	9:36 AM	C3	4	Non-PCR	None	N/A
127	5/27/2008	9:37 AM	C3	4	None	None	N/A
128	5/27/2008	9:39 AM	C3	4	White	White	N/A
129	5/30/2008	1:43 AM	C3	6	Racoon	Procyon lotor	Upstream
130	5/30/2008	5:28 PM	C3	6	None	None	N/A
131	5/30/2008	9:25 PM	C3	6	None	None	N/A
132	5/31/2008	5:05 AM	C3	6	Bobcat	Felis rufus	Downstream
133	6/1/2008	2:21 AM	C3	6	None	None	N/A
134	6/1/2008	7:53 AM	C3	6	None	None	N/A
135	6/1/2008	10:46 AM	C3	6	None	None	N/A
136	6/1/2008	11:12 AM	C3	6	Domestic dog	Canis familiaris	Downstream
137	2-Jun	7:30 PM	C3	6	Non-PCR	None	N/A
138	6/2/2008	7:32 PM	C3	6	Non-PCR	None	N/A

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
139	6/4/2008	12:35 PM	C3	6	White	White	N/A
140	5/19/2008	5:31 PM	C4	1	Mule deer	Odocoileus hemionus	Upstream
141	5/21/2008	8:47 PM	C4	1	Bobcat	Felis rufus	Upstream
142	5/22/2008	12:48 AM	C4	1	Bobcat	Felis rufus	Downstream
143	5/22/2008	2:49 PM	C4	1	Mule deer	Odocoileus hemionus	Downstream
144	5/23/2008	10:34 PM	C4	1	Racoon	Procyon lotor	Upstream
145	5/23/2008	11:56 PM	C4	1	Gray fox	Urocyon cinereoargenteus	Upstream
146	5/26/2008	8:51 AM	C4	1	Coyote	Canis latrans	Downstream
147	5/26/2008	10:47 PM	C4	1	Gray fox	Urocyon cinereoargenteus	Downstream
148	5/27/2008	3:43 PM	C4	1	None	None	N/A
149	5/28/2008	9:27 AM	C4	1	PCR	PCR	N/A
150	5/28/2008	9:28 PM	C4	1	Bobcat	Felis rufus	N/A
151	5/29/2008	7:30 AM	C4	1	None	None	N/A
152	6/1//2008	3:56 AM	C4	1	Gray fox	Urocyon cinereoargenteus	Upstream

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
153	6/1/2008	3:57 AM	C4	1	Gray fox	Urocyon cinereoargenteus	Downstream
154	6/2/2008	1:59 AM	C4	1	Racoon	Procyon lotor	Downstream
155	6/2/2008	6:27 AM	C4	1	Gray fox	Urocyon cinereoargenteus	Upstream
156	6/2/2008	10:58 AM	C4	1	Domestic dog	Canis familiaris	Upstream
157	6/2/2008	11:07 AM	C4	1	Domestic dog	Canis familiaris	Downstream
158	6/3/2008	2:03 AM	C4	1	Gray fox	Urocyon cinereoargenteus	Downstream
159	6/3/2008	10:18 AM	C4	1	PCR	PCR	N/A
160	6/4/2008	3:39 AM	C4	1	Bobcat	Felis rufus	Downstream
161	6/4/2008	11:37 AM	C4	1	Coyote	Canis latrans	Upstream
162	6/4/2008	10:38 PM	C4	1	Racoon	Procyon lotor	Upstream
163	6/4/2008	11:06 PM	C4	1	Gray fox	Urocyon cinereoargenteus	Downstream
164	6/4/2008	12:59 AM	C4	1	Gray fox	Urocyon cinereoargenteus	Downstream
165	6/5/2008	9:34 AM	C4	1	None	None	N/A

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
166	N/A	N/A	C4	1	PCR	PCR	N/A
167	5/19/2008	2:32 PM	C5	2	PCR	PCR	N/A
168	5/20/2008	11:46 AM	C5	2	Red-shouldered hawk	Buteo lineatus	N/A
169	5/21/2008	9:55 AM	C5	2	None	None	N/A
170	5/21/2008	11:54 AM	C5	2	None	None	N/A
171	5/21/2008	12:46 PM	C5	2	None	None	N/A
172	5/21/2008	12:48 PM	C5	2	None	None	N/A
173	5/23/2008	10:46 PM	C5	2	Racoon	Procyon lotor	Upstream
174	5/26/2008	10:50 PM	C5	2	Gray fox	Urocyon cinereoargenteus	Downstream
175	5/28/2008	10:16 AM	C5	2	None	None	N/A
176	5/28/2008	11:27 AM	C5	2	None	None	N/A
177	5/30/2008	11:40 AM	C5	2	Red-shouldered hawk	Buteo lineatus	N/A
178	5/31/2008	11:09 AM	C5	2	None	None	N/A
179	6/2/2008	12:30 PM	C5	2	None	None	N/A

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
180	6/5/2008	11:49 AM	C5	2	PCR	PCR	N/A
181	5/19/2008	2:42 PM	C6	3	PCR	PCR	N/A
182	5/19/2008	6:54 PM	C6	3	Red-shouldered hawk	Buteo lineatus	N/A
183	5/20/2008	2:04 PM	C6	3	None	None	N/A
184	5/23/2008	10:21 PM	C6	3	Racoon	Procyon lotor	Downstream
185	5/23/2008	10:26 PM	C6	3	Racoon	Procyon lotor	Upstream
186	5/26/2008	3:28 AM	C6	3	None	None	N/A
187	5/26/2008	4:38 AM	C6	3	None	None	N/A
188	5/28/2008	3:41 PM	C6	3	Western Fence Lizard	Sceloporus occidentalis	N/A
189	5/28/2008	9:18 PM	C6	3	None	None	N/A
190	5/29/2008	7:29 AM	C6	3	None	None	N/A
191	5/30/2008	1:22 PM	C6	3	None	None	N/A
192	5/30/2008	8:24 PM	C6	3	None	None	N/A
193	5/31/2008	2:04 AM	C6	3	Racoon	Procyon lotor	N/A
194	6/1/2008	5:45 AM	C6	3	Mule deer	Odocoileus hemionus	Upstream

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
195	6/1/2008	7:16 AM	C6	3	Coyote	Canis latrans	Upstream
196	6/2/2008	2:03 AM	C6	3	Racoon	Procyon lotor	Downstream
197	6/2/2008	10:33 AM	C6	3	None	None	N/A
198	6/2/2008	10:56 AM	C6	3	Domestic dog	Canis familiaris	Upstream
199	6/2/2008	11:08 AM	C6	3	Domestic dog	Canis familiaris	Downstream
200	6/4/2008	11:35 AM	C6	3	Coyote	Canis latrans	Upstream
201	6/4/2008	6:48 PM	C6	3	Non-PCR	None	N/A
202	6/1/2008	12:46 PM	C1	5	PCR	PCR	N/A
203	5/19/2008	1:49 PM	C2	4	PCR	PCR	N/A
204	6/5/2008	12:48 PM	C2	4	PCR	PCR	N/A
205	6/6/2008	8:38 AM	C2	4	Coyote	Canis latrans	Downstream
206	6/8/2008	8:05 AM	C2	4	Coyote	Canis latrans	Upstream
207	6/8/2008	8:14 AM	C2	4	Coyote	Canis latrans	Upstream
208	6/8/2008	10:14 PM	C2	4	None	None	N/A
209	6/8/2008	10:16 PM	C2	4	None	None	N/A
210	6/8/2008	10:57 PM	C2	4	Bobcat	Felis rufus	Upstream

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
211	6/9/2008	3:18 AM	C2	4	None	None	N/A
212	6/9/2008	9:13 AM	C2	4	Domestic dog	Canis familiaris	Upstream
213	6/9/2008	9:23 AM	C2	4	Domestic dog	Canis familiaris	Upstream
214	6/9/2008	11:47 AM	C2	4	Domestic dog	Canis familiaris	Upstream
215	6/9/2008	12:03 PM	C2	4	Domestic dog	Canis familiaris	Upstream
216	6/5/2008	8:40 AM	C3	6	Coyote	Canis latrans	Upstream
217	6/5/2008	8:41 AM	C3	6	Coyote	Canis latrans	Upstream
218	6/5/2008	9:36 PM	C3	6	None	None	N/A
219	6/6/2008	12:13 AM	C3	6	Coyote	Canis latrans	Upstream
220	6/6/2008	10:09 PM	C3	6	None	None	N/A
221	6/6/2008	10:16 PM	C3	6	None	None	N/A
222	6/7/2008	8:05 PM	C3	6	Coyote	Canis latrans	Downstream
223	6/7/2008	8:09 PM	C3	6	Coyote	Canis latrans	Upstream
224	6/7/2008	10:04 PM	C3	6	Coyote	Canis latrans	Upstream
225	6/7/2008	10:05 PM	C3	6	None	None	N/A
226	6/7/2008	10:59 PM	C3	6	Insect	Insect	N/A

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
227	6/8/2008	9:09 AM	C3	6	Domestic dog	Canis familiaris	Upstream
228	6/8/2008	11:41 AM	C3	6	Domestic dog	Canis familiaris	Upstream
229	6/8/2008	12:04 PM	C3	6	Domestic dog	Canis familiaris	Downstream
230	6/6/2008	8:27 AM	C4	1	Coyote	Canis latrans	Downstream
231	6/6/2008	8:30 AM	C4	1	California towhee	Pipilo crissalis	N/A
232	6/6/2008	7:47 PM	C4	1	Desert cottontail	Sylvilagus audubonii	Upstream
233	6/7/2008	4:10 AM	C4	1	Bobcat	Felis rufus	Upstream
234	6/7/2008	9:48 AM	C4	1	Bobcat	Felis rufus	Downstream
235	6/7/2008	10:13 PM	C4	1	Bobcat	Felis rufus	Upstream
236	6/8/2008	9:05 AM	C4	1	Desert cottontail	Sylvilagus audubonii	Upstream
237	6/8/2008	3:06 PM	C4	1	Coyote	Canis latrans	Downstream
238	6/8/2008	8:18 PM	C4	1	Coyote	Canis latrans	Upstream
239	6/9/2008	9:16 AM	C4	1	Domestic dog	Canis familiaris	Upstream
240	6/9/2008	9:20 AM	C4	1	None	None	N/A
241	6/9/2008	11:55 AM	C4	1	Domestic dog	Canis familiaris	Downstream
242	6/9/2008	11:58 AM	C4	1	None	None	N/A

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
243	6/10/2008	3:36 AM	C4	1	Bobcat	Felis rufus	Downstream
244	6/5/2008	8:29 PM	C5	2	Coyote	Canis latrans	Upstream
245	6/5/2008	8:31 PM	C5	2	None	None	N/A
246	6/6/2008	8:26 AM	C5	2	Coyote	Canis latrans	Downstream
247	6/7/2008	4:05 AM	C5	2	Bobcat	Felis rufus	Upstream
248	6/7/2008	9:48 AM	C5	2	Bobcat	Felis rufus	Downstream
249	6/7/2008	10:07 PM	C5	2	Bobcat	Felis rufus	Upstream
250	6/8/2008	3:05 PM	C5	2	Coyote	Canis latrans	Downstream
251	6/8/2008	8:15 PM	C5	2	Coyote	Canis latrans	Upstream
252	6/9/2008	9:18 AM	C5	2	Domestic dog	Canis familiaris	Downstream
253	6/9/2008	11:47 AM	C5	2	Domestic dog	Canis familiaris	Upstream
254	6/9/2008	11:56 AM	C5	2	None	None	N/A
255	6/10/2008	3:37 AM	C5	2	Bobcat	Felis rufus	Downstream
256	6/5/2008	12:05 PM	C5	2	PCR	PCR	N/A
257	6/5/2008	12:51 PM	C6	3	PCR	PCR	N/A
258	6/5/2008	8:29 PM	C6	3	None	None	N/A

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
259	6/5/2008	8:31 PM	C6	3	Coyote	Canis latrans	Upstream
260	6/7/2008	12:38 PM	C6	3	None	None	N/A
261	6/7/2008	12:54 PM	C6	3	None	None	N/A
262	6/7/2008	1:16 PM	C6	3	None	None	N/A
263	6/7/2008	1:18 PM	C6	3	None	None	N/A
264	6/7/2008	1:19 PM	C6	3	None	None	N/A
265	6/7/2008	1:27 PM	C6	3	None	None	N/A
266	6/7/2008	1:31 PM	C6	3	None	None	N/A
267	6/7/2008	1:32 PM	C6	3	None	None	N/A
268	6/7/2008	1:34 PM	C6	3	None	None	N/A
269	6/7/2008	1:36 PM	C6	3	None	None	N/A
270	6/7/2008	10:20 PM	C6	3	Mule deer	Odocoileus hemionus	Downstream
271	6/7/2008	10:22 PM	C6	3	Mule deer	Odocoileus hemionus	Upstream
272	6/7/2008	11:13 PM	C6	3	Mule deer	Odocoileus hemionus	Downstream
273	6/8/2008	1:27 PM	C6	3	None	None	N/A
274	6/8/2008	1:35 PM	C6	3	None	None	N/A

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
275	6/8/2008	11:44 PM	C6	3	Mule deer	Odocoileus hemionus	Upstream
276	6/9/2008	11:59 AM	C6	3	Domestic dog	Canis familiaris	Downstream
277	6/10/2008	10:11 AM	C6	3	White	White	N/A
278	6/10/2008	11:13 AM	C1	5	PCR	PCR	N/A
279	6/12/2008	12:51 AM	C1	5	Striped skunk	Mephitis mephitis	Downstream
280	6/12/2008	12:55 AM	C1	5	Striped skunk	Mephitis mephitis	Upstream
281	6/12/2008	7:18 PM	C1	5	None	None	N/A
282	6/12/2008	11:12 PM	C1	5	None	None	N/A
283	6/12/2008	11:43 PM	C1	5	None	None	N/A
284	6/15/2008	5:13 AM	C1	5	None	None	N/A
285	6/15/2008	9:43 PM	C1	5	None	None	N/A
286	6/15/2008	10:35 PM	C1	5	Coyote	Canis latrans	Downstream
287	6/16/2008	6:14 AM	C1	5	None	None	N/A
288	6/16/2008	6:18 AM	C1	5	None	None	N/A
289	6/10/2008	11:07 AM	C2	4	None	None	N/A
290	6/10/2008	11:10 AM	C2	4	None	None	N/A

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
291	6/10/2008	11:11 AM	C2	4	None	None	N/A
292	6/10/2008	11:12 AM	C2	4	None	None	N/A
293	6/12/2008	12:57 AM	C2	4	Striped skunk	Mephitis mephitis	N/A
294	6/12/2008	7:19 AM	C2	4	Coyote	Canis latrans	Downstream
295	6/15/2008	4:27 PM	C2	4	None	None	N/A
296	6/15/2008	10:24 PM	C2	4	Coyote	Canis latrans	Downstream
297	6/15/2008	10:35 PM	C2	4	Coyote	Canis latrans	Downstream
298	6/16/2008	6:14 AM	C2	4	Coyote	Canis latrans	Upstream
299	6/16/2008	6:16 AM	C2	4	Coyote	Canis latrans	Downstream
300	6/16/2008	6:18 AM	C2	4	Coyote	Canis latrans	Upstream
301	6/11/2008	3:39 AM	C3	6	Coyote	Canis latrans	Upstream
302	6/11/2008	11:04 PM	C3	6	Bobcat	Felis rufus	Upstream
303	6/14/2008	9:33 PM	C3	6	Coyote	Canis latrans	Upstream
304	6/14/2008	10:36 PM	C3	6	None	None	N/A
305	6/15/2008	2:48 AM	C3	6	Bobcat	Felis rufus	Downstream
306	6/10/2008	10:43 AM	C4	1	PCR	PCR	N/A

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
307	6/10/2008	1:20 PM	C4	1	None	None	N/A
308	6/10/2008	5:44 PM	C4	1	Coyote	Canis latrans	Downstream
309	6/11/2008	2:41 AM	C4	1	None	None	N/A
310	6/11/2008	10:50 AM	C4	1	Mule deer	Odocoileus hemionus	Upstream
311	6/13/2008	7:49 PM	C4	1	None	None	N/A
312	6/14/2008	9:23 AM	C4	1	Desert cottontail	Sylvilagus audubonii	N/A
313	6/15/2008	11:25 AM	C4	1	Bobcat	Felis rufus	Upstream
314	6/16/2008	12:13 AM	C4	1	Desert cottontail	Sylvilagus audubonii	N/A
315	6/16/2008	4:22 PM	C4	1	Coyote	Canis latrans	Downstream
316	6/10/2008	10:36 AM	C5	2	PCR	PCR	N/A
317	6/10/2008	5:42 PM	C5	2	Coyote	Canis latrans	Downstream
318	6/13/2008	8:51 PM	C5	2	Racoon	Procyon lotor	Upstream
319	6/14/2008	2:43 AM	C5	2	White	White	N/A
320	6/15/2008	11:22 AM	C5	2	Bobcat	Felis rufus	Upstream
321	6/15/2008	9:06 PM	C5	2	Unknown	None	N/A
322	6/16/2008	4:21 PM	C5	2	Unknown	None	N/A

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
323	6/16/2008	7:27 PM	C5	2	Unknown	None	N/A
324	6/16/2008	8:49 PM	C5	2	Unknown	None	N/A
325	6/10/2008	11:23 AM	C6	3	PCR	None	N/A
326	6/11/2008	11:03 AM	C6	3	Mule deer	Odocoileus hemionus	Downstream
327	6/11/2008	11:05 AM	C6	3	Mule deer	Odocoileus hemionus	Downstream
328	6/12/2008	7:24 PM	C6	3	Coyote	Canis latrans	Upstream
329	6/19/2008	2:34 PM	C1	5	PCR	PCR	N/A
330	6/20/2008	6:36 AM	C1	5	None	None	N/A
331	6/20/2008	6:37 AM	C1	5	Unknown	Unknown	Upstream
332	6/22/2008	2:01 AM	C1	5	None	None	N/A
333	6/24/2008	1:16 AM	C1	5	Unknown	Unknown	Downstream
334	6/24/2008	2:16 AM	C1	5	None	None	N/A
335	6/25/2008	9:18 PM	C1	5	Bobcat	Felis rufus	Upstream
336	6/25/2008	10:25 PM	C1	5	Bobcat	Felis rufus	Downstream
337	6/26/2008	10:18 AM	C1	5	PCR	PCR	N/A
338	6/20/2008	12:44 AM	C2	4	None	None	N/A

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
339	6/20/2008	6:37 AM	C2	4	Coyote	Canis latrans	Downstream
340	6/20/2008	6:38 AM	C2	4	Coyote	Canis latrans	Downstream
341	6/20/2008	8:11 AM	C2	4	None	None	N/A
342	6/24/2008	2:18 AM	C2	4	Bobcat	Felis rufus	Upstream
343	6/26/2008	4:49 AM	C2	4	None	None	N/A
344	6/26/2008	10:16 AM	C2	4	PCR	PCR	N/A
345	6/19/2008	4:31 AM	C3	6	Bobcat	Felis rufus	Downstream
346	6/19/2008	10:12 PM	C3	6	Bobcat	Felis rufus	Upstream
347	6/21/2008	1:54 AM	C3	6	Racoon	Procyon lotor	Upstream
348	6/21/2008	2:13 AM	C3	6	None	None	N/A
349	6/23/2008	1:17 AM	C3	6	None	None	N/A
350	6/23/2008	2:13 AM	C3	6	None	None	N/A
351	6/23/2008	2:28 AM	C3	6	Coyote	Canis latrans	Upstream
352	6/24/2008	9:04 PM	C3	6	Bobcat	Felis rufus	N/A
353	6/24/2008	10:16 PM	C3	6	Person	Person	Downstream
354	6/24/2008	10:18 PM	C3	6	None	None	N/A

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
355	6/24/2008	10:32 PM	C3	6	Bobcat	Felis rufus	Downstream
356	6/25/2008	4:22 AM	C3	6	Racoon	Procyon lotor	Downstream
357	6/25/2008	9:27 AM	C3	6	Person	Person	Upstream
358	6/25/2008	9:31 AM	C3	6	Person	Person	Downstream
359	6/26/2008	10:20 AM	C3	6	PCR	PCR	N/A
360	6/20/2008	4:54 AM	C4	1	Bobcat	Felis rufus	Upstream
361	6/20/2008	9:55 PM	C4	1	Bobcat	Felis rufus	Downstream
362	6/21/2008	11:00 AM	C4	1	Mule deer	Odocoileus hemionus	Downstream
363	6/21/2008	11:08 AM	C4	1	Mule deer	Odocoileus hemionus	N/A
364	6/21/2008	11:09 AM	C4	1	Mule deer	Odocoileus hemionus	N/A
365	6/21/2008	11:11 AM	C4	1	Mule deer	Odocoileus hemionus	N/A
366	6/21/2008	12:18 PM	C4	1	Mule deer	Odocoileus hemionus	N/A
367	6/21/2008	12:20 PM	C4	1	Mule deer	Odocoileus hemionus	N/A
368	6/21/2008	12:21 PM	C4	1	Mule deer	Odocoileus hemionus	N/A
369	6/21/2008	12:23 PM	C4	1	Mule deer	Odocoileus hemionus	N/A
370	6/21/2008	12:26 PM	C4	1	Mule deer	Odocoileus hemionus	N/A

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
371	6/21/2008	12:27 PM	C4	1	Mule deer	Odocoileus hemionus	N/A
372	6/21/2008	1:29 PM	C4	1	Mule deer	Odocoileus hemionus	N/A
373	6/21/2008	1:31 PM	C4	1	Mule deer	Odocoileus hemionus	N/A
374	6/21/2008	1:41 PM	C4	1	Mule deer	Odocoileus hemionus	N/A
375	6/21/2008	2:56 PM	C4	1	Mule deer	Odocoileus hemionus	N/A
376	6/21/2008	2:59 PM	C4	1	Mule deer	Odocoileus hemionus	N/A
377	6/21/2008	3:42 PM	C4	1	Mule deer	Odocoileus hemionus	N/A
378	6/21/2008	5:41 PM	C4	1	Mule deer	Odocoileus hemionus	N/A
379	6/21/2008	6:41 PM	C4	1	Mule deer	Odocoileus hemionus	N/A
380	6/21/2008	7:47 PM	C4	1	Mule deer	Odocoileus hemionus	N/A
381	6/21/2008	8:40 PM	C4	1	Mule deer	Odocoileus hemionus	Downstream
382	6/21/2008	8:51 PM	C4	1	Mule deer	Odocoileus hemionus	Downstream
383	6/24/2008	8:58 AM	C4	1	None	None	N/A
384	6/24/2008	9:37 PM	C4	1	Bobcat	Felis rufus	Upstream
385	6/25/2008	9:08 PM	C4	1	Opossum	Didelphis virginiana	N/A
386	6/20/2008	4:50 AM	C5	2	Bobcat	Felis rufus	Upstream

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
387	6/20/2008	5:53 PM	C5	2	Anna's hummingbird	Calypte anna	N/A
388	6/20/2008	6:34 PM	C5	2	Anna's hummingbird	Calypte anna	N/A
389	6/20/2008	9:50 PM	C5	2	Striped skunk	Mephitis mephitis	Downstream
390	6/20/2008	9:56 PM	C5	2	Bobcat	Felis rufus	Downstream
391	6/21/2008	2:03 AM	C5	2	Bobcat	Felis rufus	Upstream
392	6/21/2008	10:46 PM	C5	2	Mule deer	Odocoileus hemionus	Upstream
393	6/22/2008	10:00 AM	C5	2	White	White	N/A
394	6/22/2008	10:01 AM	C5	2	White	White	N/A
395	6/22/2008	10:02 AM	C5	2	White	White	N/A
396	6/22/2008	4:48 PM	C5	2	White	White	N/A
397	6/22/2008	4:49 PM	C5	2	Mule deer	Odocoileus hemionus	Upstream
398	6/22/2008	4:50 PM	C5	2	Mule deer	Odocoileus hemionus	Upstream
399	6/22/2008	5:03 PM	C5	2	None	None	N/A
400	6/22/2008	5:39 PM	C5	2	None	None	N/A
401	6/22/2008	8:01 PM	C5	2	Mule deer	Odocoileus hemionus	Upstream

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
402	6/22/2008	8:05 PM	C5	2	None	None	N/A
403	6/23/2008	12:16 PM	C5	2	White	White	N/A
404	6/23/2008	1:46 PM	C5	2	White	White	N/A
405	6/23/2008	2:08 PM	C5	2	White	White	N/A
406	6/23/2008	3:36 PM	C5	2	White	White	N/A
407	6/23/2008	9:44 PM	C5	2	Mule deer	Odocoileus hemionus	N/A
408	6/23/2008	9:45 PM	C5	2	Mule deer	Odocoileus hemionus	N/A
409	6/23/2008	9:47 PM	C5	2	Mule deer	Odocoileus hemionus	N/A
410	6/23/2008	9:48 PM	C5	2	Mule deer	Odocoileus hemionus	N/A
411	6/23/2008	9:49 PM	C5	2	Mule deer	Odocoileus hemionus	N/A
412	6/24/2008	10:26 AM	C5	2	None	None	N/A
413	6/24/2008	10:32 AM	C5	2	None	None	N/A
414	6/25/2008	12:03 PM	C5	2	California quail	Callipepla californica	N/A
415	6/26/2008	10:31 AM	C5	2	PCR	PCR	N/A
416	6/19/2008	2:46 PM	C6	3	None	None	N/A
417	6/20/2008	4:50 AM	C6	3	Bobcat	Felis rufus	Upstream

ID	Date	Time	Camera	Camera Order (Upstream to Downstream)	Common Name	Scientific Name	Direction of Travel
418	6/20/2008	9:54 PM	C6	3	Striped skunk	Mephitis mephitis	Downstream
419	6/20/2008	10:10 PM	C6	3	Mule deer	Odocoileus hemionus	Upstream
420	6/21/2008	10:45 AM	C6	3	None	None	N/A
421	6/22/2008	11:38 AM	C6	3	None	None	N/A
422	6/22/2008	12:59 PM	C6	3	None	None	N/A
423	6/22/2008	1:56 PM	C6	3	Mule deer	Odocoileus hemionus	Upstream
424	6/22/2008	4:49 PM	C6	3	Mule deer	Odocoileus hemionus	Upstream
425	6/25/2008	4:41 AM	C6	3	Mule deer	Odocoileus hemionus	Upstream
426	6/26/2008	10:30 AM	C6	3	PCR	PCR	N/A

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Appendix F.2

Biological Resources Assessment Supplement

DUDEK

621 CHAPALA STREET
SANTA BARBARA, CALIFORNIA 93101
T 805.963.0651 F 805.963.2074

July 8, 2011 6450-06

Ms. Stephanie Eyestone-Jones
Matrix Environmental
6701 Center Drive, Suite 900
Los Angeles, California 90045

Subject: Disney | ABC Studios at The Ranch: Supplement to Biological Resources Assessment

Dear Ms. Eyestone-Jones:

This letter report supplements the December 2010 Biological Resources Assessment for Disney | ABC Studios at The Ranch prepared by PCR Services Corporation. This letter report presents the findings of a biological resources assessment conducted by Dudek of the two conditional parking areas and two potential relocation areas for the Ranch foreman's mobile home, as shown in Figure 1, on Golden Oak Ranch.

METHODS AND RESULTS

Conditional Parking Areas

We understand the conditional parking areas would be paved and striped if the Los Angeles Department of Water and Power (LADWP) were to revoke the parking license agreement that would allow parking for approximately 560 vehicles within the LADWP transmission corridor, which runs in a generally northwest to southeast direction just east of the Development Area. As indicated on Figure 1, Conditional Parking Area 1 lies east of Pine Lake, a man-made set east of the current main entrance road, and Conditional Parking Area 2 lies north of Pine Lake and just east of the LADWP transmission corridor. The main entrance road passes by Pine Lake to the west.

On June 22, 2011, Dudek biologist Traci Caddy conducted a field investigation of the conditional parking areas. The purpose of the biological surveys was to note existing conditions and map vegetation types. No protocol-level surveys or focused species surveys were conducted as part of the field effort.

These areas are heavily disturbed. Conditional Parking Area 1 is a compacted dirt area currently used as a parking and staging area for filming crews. Dirt piles and disturbed lands covered with black mustard (*Brassica nigra*) surround the area to the west, south and east. There is also a Peruvian pepper tree (*Schinus molle*) in the northeast corner. The corner of a Christmas tree farm

and fallow agricultural field are to the north. Conditional Parking Area 1 also includes an existing storage facility. Conditional Parking Area 2 has been used and continues to be used intermittently for agricultural fields and filming sets. Currently, alfalfa covers the majority of the area; however, black mustard is prevalent in the eastern portion of the parking area. Impacts to the existing vegetation communities and land covers are presented in Table 1.

Table 1
A Summary of Potential Impacts to Vegetation Communities and Land Covers at the Conditional Parking Areas

Vegetation Community and Land Covers	Impact
Agriculture	2.6 acres
Black mustard (Disturbed/Developed)	0.7 acre
Developed	2.9 acre
Peruvian pepper tree (Ornamental)	<0.1 acre
TOTAL	**6.2 acre**

No sensitive plant species, sensitive plant communities or sensitive wildlife were observed in the conditional parking areas. The long-term disturbance associated with the existing parking area and film sets, and the intensive annual row crop type agricultural, greatly reduces the potential that special-status species would occur within the parking areas. Additionally, the conditional parking areas are not within designated critical habitat, nor do they contain oak trees or ephemeral tributaries to Placerita Creek.

Potential Relocation Areas for the Ranch Foreman's Mobile home

Two locations have been identified as potential relocation areas for the Ranch foreman's mobile home, which would be relocated from the Development Area. As indicated on Figure 1, the first potential relocation area lies just south of the existing Ranch office and the second potential relocation area lies east of the Ranch office.

On June 22, 2011, Dudek biologist Traci Caddy conducted a field investigation of the mobile home areas. The purpose of the biological surveys was to note existing conditions and map vegetation types. No protocol-level surveys or focused species surveys were conducted as part of the field effort.

These areas are heavily disturbed. The western potential location currently contains cultivated feed and black mustard and is used as a pasture for livestock and as a location for outdoor filming. The eastern potential location is a compressed dirt area used as a staging area for filming crews and as a location for outdoor filming. The vegetation in this area is primarily English plantain (*Plantago*

lanceolata), but also contains black mustard and deerweed (*Lotus scoparius*). Impacts to the existing vegetation communities and land covers are presented in Table 2.

Table 2
A Summary of Potential Impacts to Vegetation Communities and Land Covers at the Potential Relocation of the Ranch Farmers Mobile Home

Vegetation type	Potential Impact
Agriculture	0.1 acre
Disturbed land	0.1 acre
TOTAL	**0.2 acre**

No sensitive plant species, sensitive plant communities or sensitive wildlife were observed potential relocation areas for the Ranch foreman's mobile home. The long-term disturbance associated with intensive annual row crop type agricultural and disturbed lands greatly reduces the potential that special-status species would occur proposed mobile home relocation. Additionally, the relocation areas are not within designated critical habitat, nor do they contain oak trees or ephemeral tributaries to Placerita Creek.

CONCLUSION

Based on our field investigation and knowledge of Ranch operations, neither the use of the proposed conditional parking areas nor the potential relocation areas for the Ranch foreman's mobile home would result in a significant impact to biological resources. No mitigation measures are recommended. These project components are part of the continued operation and maintenance of filming activity at Disney ABC Studios of the Ranch.

Should you have any questions regarding this biological assessment, please do not hesitate to give me a call at 963-0651, ext. 3524 (office) or 252.7996 (cell). I may also be reached by email at jdavis@dudek.com.

Sincerely,

John H. Davis IV, MS, CE
Senior Ecologist

Att: Figure 1: Vegetation Map

DUDEK

6450-01

JULY 2011

SOURCE: Bing Maps 2011.

FIGURE 1

Conditional Parking Areas and Ranch Foreman's Mobile Home Relocation Areas

Disney ABC Studios at The Ranch: Supplement to Biological Resources Assessment

DRAFT

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Appendix F.3

Biological Resources Assessment Addendum

DUDEK

621 CHAPALA STREET
SANTA BARBARA, CALIFORNIA 93101
T 805.963.0651 F 805.963.2074

April 12, 2012 7018-02

Ms. Ashley Rogers
Matrix Environmental
6701 Center Drive, Suite 900
Los Angeles, California 90045

Subject: Disney│ABC Studios at The Ranch: Addendum to Biological Resources Assessment

Dear Ms. Rogers:

This letter report serves as an addendum to the December 2010 Biological Resources Assessment (BRA) prepared by PCR Services Corporation (PCR) for Disney │ ABC Studios at The Ranch (Project) located in an unincorporated area of Los Angeles County, California. The Project is proposed within a 58.5-acre Development Area in the westernmost portion of Golden Oak Ranch (the Ranch), with additional Project elements proposed within areas referred to herein as the Water Tank Area, the Trail Area, the Potential Mobile Home Relocation Areas, the Conditional Parking Areas, and the Traffic Signal Retaining Wall Area, all located within the Ranch. Additional components located off the Ranch include the Off-Site Infrastructure Improvement Areas and the State Route 14 (SR-14) Interchange Improvements (Figures 1 and 2; figures are provided as Attachment A to this letter report). Collectively, these areas are referred to as the Project site.

This letter report provides an updated analysis of special-status species with the potential to occur on the Project site or in the surrounding vicinity, an updated analysis of impacts to vegetation communities and jurisdictional waters based on changes in the Project description, and clarifications regarding the potential for significant impacts to biological resources, including indirect effects from noise and lighting, effects of the Project on wildlife movement, and cumulative impacts on biological resources.

1.0 METHODOLOGY

Existing technical studies reviewed and utilized for the analysis in this report include the BRA (PCR 2010), a letter report prepared by Dudek dated July 6, 2011, and entitled "Analysis of Potential Impacts to Wildlife due to Noise and Lighting Associated with Disney │ ABC Studios at The Ranch, Newhall, California" (Dudek 2011a), and a letter report prepared by Dudek dated July 8, 2011 entitled "Disney │ ABC Studios at The Ranch: Supplement to Biological Resources Assessment" (Dudek 2011b). The analysis is also based on information provided by various noise and lighting consultants working on the Project.

Vegetation mapping and jurisdictional delineation results are presented on Figures 3A–3K. Two areas were added that were not analyzed in the previous biological reports, the Traffic Signal Retaining Wall Area and SR-14 Interchange Improvement Areas. Additionally, the Conditional Parking Areas footprint has been modified. The footprint of these areas was reviewed on a topographic base map and on aerial photography to determine the presence/absence of natural vegetation communities. The Traffic Signal Retaining Wall Area was determined to support disturbed/developed and coastal sage scrub/chamise chaparral (Figure 3A). The vegetation communities within the revised Conditional Parking Areas footprint are consistent with the communities mapped previously and consist of disturbed/developed and agricultural areas (Figure 3B). For the SR-14 Interchange Improvement Areas, the majority of the proposed roadway improvements are contained within existing pavement of SR-14. Construction activities associated with the SR-14 Interchange Improvements that would extend beyond the existing pavement and outside the limits mapped in the BRA are limited to an existing engineered slope. This engineered slope does not support any vegetation and was classified as disturbed/developed in the vegetation community map (Figure 3E).

Modifications were also made to the vegetation community map provided in the BRA. A change was made in the vegetation mapping within the Water Tank Area (Figure 3C). The vegetation map in the BRA showed portions of the Water Tank Area as coastal sage scrub/chamise chaparral within the existing dirt access road and within the proposed water tank location. The existing dirt access road is essentially devoid of vegetation, with coastal sage scrub/chamise chaparral occurring on either side of the road. The unvegetated dirt access road was reclassified to disturbed/developed. The coastal sage scrub/chamise chaparral community within the proposed pad in the Water Tank Area is located on a slope between two access roads near an area used for oil production activities. The vegetation on this slope is disturbed by the oil production activities in this area and surrounding access roads. This patch of coastal sage scrub/chamise chaparral was reclassified to disturbed coastal sage scrub/chamise chaparral.

The oak woodland vegetation community also was reviewed and the acreage refined. The state's definition of an oak woodland in the Oak Woodland Conservation Act (California Fish and Game Code, Section 1361 (h)) is "an oak stand with a greater than 10 percent canopy cover or that may have historically supported greater than 10 percent canopy cover." Impacts to oak woodland must be assessed for significance and mitigated in accordance with California Public Resources Code Section 21083.4, which requires a county to determine whether a project within its jurisdiction may result in a conversion of oak woodlands that will have a significant effect on the environment. As part of the impact assessment conducted for this letter report, the oak woodland vegetation community was verified with the data from the oak tree survey to confirm all areas that meet the 10% [oak tree] canopy cover threshold were mapped as oak woodland. As

part of the BRA (PCR 2010) prepared for the Project, vegetation communities were mapped by PCR directly onto a 1"=300'-scale aerial photograph while in the field and then digitized using geographic information system (GIS) technology. For the oak tree survey (Dudek 2012a), tree locations were plotted using a hand-held Trimble GeoXT GPS unit. In addition, jurisdictional oak trees located near the Project's limit of grading were also surveyed by Clemons Land Surveying, a licensed surveying company. As part of the oak tree mapping, the diameter of each tree's canopy plus 5 feet was documented to establish each tree's "protected zone."

For the assessment in this letter report, GIS was utilized to compare the oak tree canopy mapped for the Project's tree inventory with the Project's oak woodland vegetation community mapping. The oak tree inventory includes oak trees located outside of areas mapped as oak woodland. In those locations, the oak tree canopy was assessed to confirm if the area met the 10% canopy cover threshold and should be designated an oak woodland. It was confirmed oak trees within the mixed willow riparian woodland and disturbed/developed areas did not contribute more than 10% canopy cover and no changes were made to these vegetation community classifications. In one area, at the southeast end of the Development Area, oak trees were mapped as oak woodland with interstitial areas mapped as agricultural. In this area, the oak tree canopy comprised more than 40% of the total canopy cover; therefore, the interstitial agricultural areas in this location were reclassified as oak woodland. In those areas where oak trees were within mapped oak woodland community, the extent of the oak woodland was compared with the mapped oak tree canopy to ensure the oak woodland extends at least to the limit of oak tree canopy.

1.1 Field Survey

Dudek biologists and restoration scientists Brock Ortega, Traci Caddy, and John Minchin visited the site in 2011 to conduct reconnaissance-level surveys to confirm the findings of the BRA (PCR 2010) and to confirm there were no significant changes to site conditions.

A field survey of the proposed Placerita Canyon Connector Trail, staging area, and 20-foot buffer (Trail Area) was conducted on December 7, 2011, by Dudek biologist Dave Compton and oak specialist/International Society of Arboriculture (ISA) Certified Arborist Christopher Kallstrand. The proposed public, multiuse trail for hiking, mountain biking, and equestrian use and the associated trailhead/staging area (collectively referred to as the Trail Area) were surveyed on foot. Vegetation mapping was completed on a 1-inch = 100-foot-scale aerial map and later digitized using GIS software. Vegetation communities were qualitatively assessed for suitability for coastal California gnatcatcher (*Polioptila californica californica*). Oak trees occurring within the alignment were verified to have been mapped and assessed during the previous oak tree survey. The potential for the trail to encroach upon existing oak trees was assessed. A list of species observed during the survey was compiled.

1.2 Terminology

For purposes of this report, listed species are those plant or wildlife species that are listed as Threatened or Endangered by either the California or federal Endangered Species Act. Special-status plants also include candidates for listing and species with a California Rare Plant Rank (CRPR) by the California Department of Fish and Game (CDFG). Special-status wildlife species also include candidates for listing and species with a designation from CDFG of Watch List, Fully Protected, or Species of Concern.

2.0 EXISTING CONDITIONS

2.1 Trail Area Existing Conditions

The proposed Placerita Creek Trail Area extends from the SR-14 northbound off-ramp, traverses east–west adjacent to Placerita Canyon Road, proceeds southwest on the west side of the water tank access road, crosses the access road, and continues southeast until it connects to the Firebreak Trail located at the Ranch's southern property boundary. The Trail Area also includes a trailhead/staging area of approximately 19,000 square feet located at the base of the water tank access road on the south side of Placerita Canyon Road across from an existing access road to the main Ranch. Elevations within the Trail Area range from approximately 1,455 feet above mean sea level (MSL) at the SR-14 off-ramp to approximately 1,755 feet above MSL at the crest of the proposed trail alignment. The Trail Area comprises generally undisturbed land containing native vegetation. The southern half of the trail is within an approximate 35-foot-wide swath of disturbed vegetation that runs north–south along the ridgeline from Placerita Canyon Road to the Firebreak Trail and is assumed to be a firebreak. The staging area has also been previously disturbed to create access to past and current oil production uses in the southern areas of the Ranch.

The Trail Area includes portions of two ephemeral tributaries to Placerita Creek mapped as B4 and B5 in the BRA. Vegetation communities within the Trail Area consist of coast live oak woodland, chamise chaparral, coastal sage scrub/chamise chaparral, and disturbed buckwheat scrub with species composition consistent with the descriptions in the BRA. A list of all species observed during the site visit is provided as Attachment B to this letter report. A portion of the trail is located within U.S. Fish and Wildlife Service (USFWS)–designated critical habitat for the coastal California gnatcatcher (Figure 6). The disturbed buckwheat scrub vegetation community provides marginally suitable habitat for coastal California gnatcatcher. The chamise chaparral is densely vegetated and dominated by chamise; based on the density of the vegetation and species composition, coastal California gnatcatcher would not be expected to utilize this habitat. The coastal sage scrub/chamise chaparral is variable with some areas dominated by more chamise and containing dense vegetation and other areas being more open with a higher percentage of California sagebrush (*Artemisia californica)* and California buckwheat (*Eriogonum fasciculatum*). The more open areas of the coastal sage

scrub/chamise chaparral could be used by coastal California gnatcatcher, although none were observed during protocol surveys for coastal California gnatcatcher in 2010.

2.2 Vegetation Communities

Table 1 summarizes acreages of vegetation communities within each Project component. Figures 3A–3I depict the vegetation communities within the Project.

Table 1
A Summary of Vegetation Communities and Land Covers within the Project

Vegetation Community	Development Area	Water Tank Area	Trail Area[1] (outside Water Tank Area)	Mobile Home Relocation Area	Conditional Parking Area	Traffic Signal Retaining Wall Area	Off-Site Infrastructure Improvements	Total
*Coast Live Oak Woodland	4.79	0.15	0.02	—	—	—	0.01	**4.97**
*Disturbed Coast Live Oak Woodland	—	—	0.19	—	—	—	0.19	**0.38**
*Mixed Willow Riparian Woodland	3.01	—	—	—	—	—	—	**3.01**
*Southern Willow Scrub	0.75	—	—	—	—	—	—	**0.75**
Coastal Sage Scrub	—	—	—	—	—	—	0.38	**0.38**
Disturbed Coastal Sage Scrub	—	—	—	—	—	—	0.04	**0.04**
Disturbed Buckwheat Scrub	—	—	0.21	—	—	—	0.12	**0.33**
Coastal Sage Scrub / Chamise Chaparral	—	0.58	0.45	—	—	0.09	—	**1.12**
Disturbed Coastal Sage Scrub / Chamise Chaparral	—	0.29	0.25	—	—	—	—	**0.54**
Buckwheat Scrub / Chamise Chaparral	6.56	—	—	—	—	—	0.26	**6.82**
Disturbed Buckwheat Scrub / Chamise Chaparral	4.59	—	—	—	—	—	—	**4.59**
Chamise Chaparral	—	—	0.91	—	—	—	—	**0.91**
Non-Native Grassland	—	0.06	—	—	—	—	0.76	**0.82**
Agricultural Land	11.32	—	—	0.1	2.84	—	—	**14.26**
Ornamental	—	—	—	—	0.04	—	—	**0.04**
Disturbed/Developed	27.45	1.44	—	0.10	4.39	0.05	23.67	**57.10**
Total	**58.47**	**2.52**	**2.03**	**0.20**	**7.27**	**0.14**	**25.43**	**96.06**

[1] The Trail Area and Water Tank Area overlap; these acreages represent those areas that are not within the Water Tank Area.
* Indicates sensitive plant community.

3.0 SPECIAL-STATUS SPECIES

A "9-quad" query was conducted of the California Natural Diversity Database (CNDDB) and California Native Plant Society (CNPS) of the Mint Canyon and San Fernando U.S. Geologic Survey (USGS) 7.5-minute quadrangles (CDFG 2011; CNPS 2011). A 9-quad query includes the subject quadrangle and the eight USGS quadrangles surrounding the subject quadrangle. As Mint Canyon and San Fernando quadrangles are adjacent to each other, the 9-quad queries had overlapping quadrangles, resulting in a total of 12 quadrangles queried. The quadrangles included in the query were:

- Mint Canyon
- Warm Springs Mountain
- Newhall
- Oat Mountain
- Green Valley
- Sleepy Valley
- Agua Dulce
- Sunland
- San Fernando
- Canoga Park
- Van Nuys
- Burbank.

The results of these queries were combined with the species provided in Tables 8 and 9 of the BRA (PCR 2010) to obtain a complete list of special-status species documented in the vicinity of the Project site.

Field investigations conducted for the Project are described in the BRA. General surveys were conducted to determine suitability of habitat on the Project site for special-status species. Focused protocol surveys were conducted for coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, arroyo toad, western spadefoot, slender-horned spineflower, and San Fernando valley spineflower. Focused surveys are typically conducted for listed species or special-status species for which CDFG or USFWS have adopted protocols. Presence/absence of special-status species for which there are no established survey protocols is generally determined by assessing the potential for that species to occur. If the Project is within the species' range, the

site contains suitable habitat, and the species has been documented in the vicinity of the Project site, it is considered to have a potential to occur on the site. The potential for each species documented in the queries to occur on site was determined based on the results of the field investigations provided in the BRA and is summarized below.

3.1 Special-Status Plants

The literature review resulted in a total of 43 special-status plant species. Of these 43 species, 17 were addressed in Table 8 of the BRA (PCR 2010). Our assessment of the potential for these 17 special-status species to occur within the Project site concurred with the assessment in the PCR report; therefore, there are no changes in the findings for these 17 species. Table 2 provides a summary of the potential for all 43 species to occur within the Project site. Of the 43 species, 42 are not expected to occur on site either due to a lack of suitable habitat or based on negative results from the field investigations. One species, white rabbit-tobacco (*Pseudognaphalium leucocephalum*), has a low potential to occur due to the presence of suitable habitat but the lack of observation during field investigations.

Table 2
Special-Status Plant Species Detected or Potentially Occurring in Project Site

Scientific Name	Common Name	Status Federal/ State	CRPR	Primary Habitat Associations / Life Form / Blooming Period / Elevation Range (feet)	Status On Site or Potential to Occur	Source
Allium howellii var. *clokeyi*	Mt. Pinos onion	None/None	1B.3	Great Basin scrub, Pinyon and juniper woodland / perennial bulbiferous herb / Apr–Jun / 4,270–6,070	Not expected to occur. The study area is not within elevation range of species and does not support suitable plant communities for this species.	Dudek 2012*
Astragalus brauntonii	Braunton's milk-vetch	FE/None	1B.1	Chaparral, Coastal scrub, Valley and foothill grassland/recent burns or disturbed areas, usually sandstone with carbonate layers / perennial herb / Jan–Aug / 10–2,100	Not expected to occur. The study area does not contain soils typically associated with this species; species not observed during field investigations.	Dudek 2012; PCR 2010
Atriplex parishii	Parish's brittlescale	None/None	1B.1	Chenopod scrub, Playas, Vernal pools / alkaline / annual herb / Jun–Oct / 80–6,230	Not expected to occur. The study area does not support suitable habitat for this species; there are no alkaline soils, vernal pools, or suitable plant communities for this species.	Dudek 2012
Berberis nevinii	Nevin's barberry	FE/SE	1B.1	Chaparral, Cismontane woodland, Coastal scrub, Riparian scrub/sandy or gravelly / perennial evergreen shrub / Mar–Jun / 900–2,710	Not expected to occur. The study area contains suitable habitat for this species; however, field investigations, including focused plant surveys, did not document this species. This species is an evergreen shrub and is easily visible year-round. Plant surveys focused on slender-horned spineflower and San Fernando Valley spineflower were conducted in suitable habitat for this species and within its blooming period, but the species was not observed.	Dudek 2012; PCR 2010
California macrophylla	round-leaved filaree	None/None	1B.1	Cismontane woodland, Valley and foothill grassland/clay / annual herb / Mar–May / 50–3,940	Not expected to occur. Species has a high affinity with clay soils; the study area does not contain clay soils or suitable plant communities for this species.	Dudek 2012

Table 2
Special-Status Plant Species Detected or Potentially Occurring in Project Site

Scientific Name	Common Name	Status Federal/ State	CRPR	Primary Habitat Associations / Life Form / Blooming Period / Elevation Range (feet)	Status On Site or Potential to Occur	Source
Calochortus clavatus var. *gracilis*	slender mariposa lily	None/None	1B.2	Chaparral, Coastal scrub, Valley and foothill grassland / perennial bulbiferous herb / Mar–June / 1,180–3,280	Not expected to occur on site due to the lack of suitable habitat, highly restricted distribution of species, and/or low likelihood of occurrence in limited habitat within the study area.	PCR 2010
Calochortus plummerae	Plummer's mariposa lily	None/None	1B.2	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland/granitic, rocky / perennial bulbiferous herb / May–Jul / 3,280–5,580	Not expected to occur on site due to marginal suitable habitat, highly restricted distribution of species, and low likelihood of occurrence in limited habitat within the study area. Not observed during field investigations conducted during the blooming period for this species and within suitable habitat.	PCR 2010
Calystegia peirsonii	Peirson's morning-glory	None/None	4.2	Chaparral, Chenopod scrub, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland/ perennial rhizomatous herb / Apr–Jun / 100–4,920	Not expected to occur on site due to the marginal suitable habitat, highly restricted distribution of species, and low likelihood of occurrence in limited habitat within the study area. Not observed during field investigations conducted during the blooming period for this species and within suitable habitat	PCR 2010
Camissonia lewisii	Lewis' evening-primrose	None/None	3	Coastal bluff scrub, Cismontane woodland, Coastal dunes, Coastal scrub, Valley and foothill grassland/sandy or clay / annual herb / Mar–May (Jun)/ 0–980	Not expected to occur. The study area is not within elevation range of species and does not support suitable plant communities for this species.	Dudek 2012
Canbya candida	white pygmy-poppy	None/None	4.2	Joshua tree "woodland," Mojavean desert scrub, Pinyon and juniper woodland/gravelly, sandy, granitic / annual herb / Mar–Jun / 1,970–4,790	Not expected to occur. The study area does not support suitable plant communities for this species.	Dudek 2012

Table 2
Special-Status Plant Species Detected or Potentially Occurring in Project Site

Scientific Name	Common Name	Status Federal/ State	CRPR	Primary Habitat Associations / Life Form / Blooming Period / Elevation Range (feet)	Status On Site or Potential to Occur	Source
Centromadia parryi ssp. *australis*	southern tarplant	None/None	1B.1	Marshes and swamps (margins), Valley and foothill grassland (vernally mesic), Vernal pools / annual herb / May–Nov / 0–1,400	Not expected to occur. The study area does not support suitable habitat for this species, including wetlands, marshes, or vernal pools.	Dudek 2012
Chorizanthe parryi var. *parryi*	Parry's spineflower	None/None	1B.1	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/sandy or rocky, openings / annual herb / Apr–Jun / 900–4,000	Not expected to occur. The study area does contain suitable habitat for this species; however, focused plant surveys did not document this species. Plant surveys focused on slender-horned spineflower and San Fernando Valley spineflower were conducted in suitable habitat for this species, within its blooming period, and employing the same methodology (i.e., similar life form visible from similar distances), but the species was not observed.	Dudek 2012
Chorizanthe parryi var. *fernandina*	San Fernando Valley spineflower	FC/SE	1B.1	Coastal scrub (sandy), Valley and foothill grassland / annual herb / Apr–Jul / 490–4,000	Not expected to occur. Species was not observed during focused plant surveys targeting this species.	Dudek 2012; PCR 2010
Chorizanthe xanti var. *leucotheca*	white-bracted spineflower	None/None	1B.2	Mojavean desert scrub, Pinyon and juniper woodland, Coastal scrub (alluvial fans)/sandy or gravelly / annual herb / Apr–Jun / 980–3,940	Not expected to occur. The study area does not support suitable plant communities for this species.	Dudek 2012
Deinandra minthornii	Santa Susana tarplant	None/SR	1B.2	Chaparral, Coastal scrub / perennial deciduous shrub / Jul–Nov / 920–2,490	Not expected to occur on-site due to the marginal suitable habitat, highly restricted distribution of species, and low likelihood of occurrence in limited habitat within the study area. Not observed during field investigations conducted during blooming period and within marginal suitable habitat.	PCR 2010

Table 2
Special-Status Plant Species Detected or Potentially Occurring in Project Site

Scientific Name	Common Name	Status Federal/ State	CRPR	Primary Habitat Associations / Life Form / Blooming Period / Elevation Range (feet)	Status On Site or Potential to Occur	Source
Dodecahema leptoceras	slender-horned spineflower	FE/SE	1B.1	Chaparral, Cismontane woodland, Coastal scrub (alluvial fan)/sandy / annual herb / Apr–Jun / 660–2,490	Not expected to occur. This species is typically associated with alluvial channels with broad flood plains; Project site is marginally suitable. Species was not observed during focused plant surveys targeting this species.	Dudek 2012; PCR 2010
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	None/None	1B.1	Coastal bluff scrub, Chaparral, Coastal scrub, Valley and foothill grassland/rocky, often clay or serpentinite / perennial herb / Apr–Jun / 20–1,480	Not expected to occur. Although the study area supports chaparral and coastal scrub communities, it contains sandy and alluvial soils rather than clay soils with which this species is typically associated. Additionally, this species was not documented during plant surveys conducted within suitable habitat for this species and during its blooming period.	Dudek 2012
Dudleya multicaulis	many-stemmed dudleya	None/None	1B.2	Chaparral, Coastal scrub, Valley and foothill grassland/often clay / perennial herb / Apr–Jul / 50–2,590	Not expected to occur. Although the study area supports chaparral and coastal scrub communities, it contains sandy and alluvial soils rather than clay soils with which this species is typically associated. Additionally, this species was not documented during plant surveys conducted within suitable habitat for this species and during its blooming period.	Dudek 2012
Erodium macrophyllum	round-leaved filaree	None/None	1B.1	Cismontane woodland, Valley and foothill grassland/clay / annual herb / Mar–May / 50–3,940	Not expected to occur on site. Species has high affinity for clay soils, which do not occur on site.	PCR 2010

Table 2
Special-Status Plant Species Detected or Potentially Occurring in Project Site

Scientific Name	Common Name	Status Federal/ State	CRPR	Primary Habitat Associations / Life Form / Blooming Period / Elevation Range (feet)	Status On Site or Potential to Occur	Source
Galium grande	San Gabriel bedstraw	None/None	1B.2	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest / perennial deciduous shrub/ Jan–Jul / 1,390–4,920	Not expected to occur. The study area does not support suitable plant communities for this species. Additionally, it is a perennial shrub that would have been visible during field investigations, but the species was not observed during field investigations.	Dudek 2012
Harpagonella palmeri	Palmer's grapplinghook	None/None	4.2	Chaparral, Coastal scrub, Valley and foothill grassland/clay / annual herb / Mar–May / 70–3,130	Not expected to occur on-site due to the marginal suitable habitat, highly restricted distribution of species, and low likelihood of occurrence in limited habitat within the study area. Not observed during field investigations conducted within blooming period and within marginal suitable habitat.	PCR 2010
Helianthus inexpectatus	Newhall sunflower	None/None	1B.1	Marsh and swamp, Riparian woodland/freshwater, seeps / perennial rhizomatous herb / Aug–Oct / 1,000	Not expected to occur. The study area does not support suitable habitat for this species, including wetlands, marshes, or seeps.	Dudek 2012
Helianthus nuttallii ssp. *parishii*	Los Angeles sunflower	None/None	1A	Marsh and swamp (coastal salt and fresh water) / perennial rhizomatous herb / Aug–Oct / 30–5,500	Not expected to occur on site due to the lack of suitable habitat.	PCR 2010
Heuchera caespitosa	urn-flowered alumroot	None/None	4.3	Cismontane woodland, Lower montane coniferous forest, Riparian forest (montane), Upper montane coniferous forest/rocky / perennial rhizomatous herb / May–Aug / 3,790–8,690	Not expected to occur. The study area is not within elevation range of species and does not support suitable plant communities for this species.	Dudek 2012

Table 2
Special-Status Plant Species Detected or Potentially Occurring in Project Site

Scientific Name	Common Name	Status Federal/ State	CRPR	Primary Habitat Associations / Life Form / Blooming Period / Elevation Range (feet)	Status On Site or Potential to Occur	Source
Horkelia cuneata ssp. *puberula*	mesa horkelia	None/None	1B.1	Chaparral (maritime), Cismontane woodland, Coastal scrub/sandy or gravelly / perennial herb / Feb–Jul (Sep) / 230–2,660	Not expected to occur. The study area does contain suitable habitat for this species; however, focused plant surveys did not document this species. Plant surveys focused on slender-horned spineflower and San Fernando Valley spineflower were conducted in suitable habitat for this species, within its blooming period, and employing the same methodology (i.e., similar life form visible from similar distances), but the species was not observed.	Dudek 2012
Hulsea vestita ssp. *gabrielensis*	San Gabriel Mountains sunflower	None/None	4.3	Lower montane coniferous forest, Upper montane coniferous forest/rocky / perennial herb / May–Jul / 4,920–8,200	Not expected to occur. The study area is not within elevation range of species and does not support suitable plant communities for this species.	Dudek 2012
Hulsea vestita ssp. *parryi*	Parry's sunflower	None/None	4.3	Lower montane coniferous forest, Pinyon and juniper woodland, Upper montane coniferous forest/granitic or carbonate, rocky, openings / perennial herb / Apr–Aug/ 4,500–9,500	Not expected to occur. The study area is not within elevation range of species and does not support suitable plant communities for this species.	Dudek 2012
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None/None	1B.1	Marshes and swamps (coastal salt), Playas, Vernal pools / annual herb / Feb–Jun / 3–4,000	Not expected to occur. The study area does not support suitable habitat for this species, including marshes, swamps, playas, or vernal pools.	Dudek 2012
Lepechinia fragrans	fragrant pitcher sage	None/None	4.2	Chaparral / perennial shrub / Mar–Oct / 70–4,300	Not expected to occur. The study area does contain suitable habitat for this species; however, focused plant surveys did not document this species. Plant surveys focused on slender-horned spineflower and	Dudek 2012

Table 2
Special-Status Plant Species Detected or Potentially Occurring in Project Site

Scientific Name	Common Name	Status Federal/ State	CRPR	Primary Habitat Associations / Life Form / Blooming Period / Elevation Range (feet)	Status On Site or Potential to Occur	Source
					San Fernando Valley spineflower were conducted in suitable habitat for this species, within its blooming period, but the species was not observed. Additionally, it is a perennial shrub that would have been visible during field investigations.	
Lepechinia rossii	Ross' pitcher sage	None/None	1B.2	Chaparral / perennial shrub / May–Sep / 1,000–2,590	Not expected to occur. The study area does contain suitable habitat for this species; however, focused plant surveys did not document this species. Plant surveys were conducted in suitable habitat for this species, within its blooming period, but the species was not observed. Additionally, it is a perennial shrub that would have been visible during field investigations.	Dudek 2012
Lilium humboldtii ssp. *ocellatum*	ocellated Humboldt lily	None/None	4.2	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Riparian woodland/openings / perennial bulbiferous herb / Mar–Jul (Aug) / 100–5,910	Not expected to occur. The study area does contain suitable habitat for this species; however, focused plant surveys did not document this species. Plant surveys focused on slender-horned spineflower and San Fernando Valley spineflower were conducted in suitable habitat for this species, within its blooming period, and employing the same methodology (i.e., similar life form visible from similar distances), but the species was not observed.	Dudek 2012

Table 2
Special-Status Plant Species Detected or Potentially Occurring in Project Site

Scientific Name	Common Name	Status Federal/ State	CRPR	Primary Habitat Associations / Life Form / Blooming Period / Elevation Range (feet)	Status On Site or Potential to Occur	Source
Linanthus concinnus	San Gabriel linanthus	None/None	1B.2	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest/rocky, openings / annual herb / Apr–Jul / 4,990–9,190	Not expected to occur. The study area is not within elevation range of species and does not support suitable plant communities for this species.	Dudek 2012
Malacothamnus davidsonii	Davidson's bush-mallow	None/None	1B.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland / perennial deciduous shrub / Jun–Jan / 610–2,810	Not expected to occur on site due to the marginally suitable habitat, highly restricted distribution of species, and low likelihood of occurrence in limited habitat within the study area. Not observed during field investigations conducted within marginal suitable habitat for this species.	PCR 2010
Navarretia fossalis	spreading navarretia	FT/None	1B.1	Chenopod scrub, Marshes and swamps (assorted shallow freshwater), Playas, Vernal pools / annual herb / Apr–Jun/ 100–2,150	Not expected to occur. The study area does not support suitable habitat for this species.	Dudek 2012; PCR 2010
Navarretia setiloba	Piute Mountains navarretia	None/None	1B.1	Cismontane woodland, Pinyon and juniper woodland, Valley and foothill grassland / annual herb / Apr–Jul / 1,000–6,890	Not expected to occur. The study area does not support suitable plant communities for this species.	Dudek 2012
Opuntia basilaris var. *brachyclada*	Short-joint beavertail	None/None	1B.2	Chaparral, Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland / perennial stem succulent / Apr–Aug / 1,390–5,910	Not expected to occur on site due to the lack of suitable habitat.	PCR 2010
Orcuttia californica	California Orcutt grass	FE/SE	1B.1	Vernal pools / annual herb / Apr–Aug / 50–2,170	Not expected to occur. The study area does not support suitable plant communities for this species.	Dudek 2012; PCR 2010

Table 2
Special-Status Plant Species Detected or Potentially Occurring in Project Site

Scientific Name	Common Name	Status Federal/ State	CRPR	Primary Habitat Associations / Life Form / Blooming Period / Elevation Range (feet)	Status On Site or Potential to Occur	Source
Phacelia hubbyi	Hubby's phacelia	None/None	4.2	Chaparral, Coastal scrub, Valley and foothill grassland / annual herb / Apr–Jun / 0–3,280	Not expected to occur. The study area does contain suitable habitat for this species; however, focused plant surveys did not document this species. Plant surveys focused on slender-horned spineflower and San Fernando Valley spineflower were conducted in suitable habitat for this species, within its blooming period, and employing the same methodology (i.e., similar life form visible from similar distances), but the species was not observed.	Dudek 2012
Phacelia mohavensis	Mojave phacelia	None/None	4.3	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Pinyon and juniper woodland/sandy or gravelly / annual herb / Apr–Aug / 4,590–8,200	Not expected to occur. The study area is not within elevation range of species and does not support suitable plant communities for this species.	Dudek 2012
Pseudognaphalium leucocephalum	white rabbit-tobacco	None/None	2.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland/sandy, gravelly / perennial herb / (Jul)Aug–Nov(Dec)/ 0–6,890	Low potential to occur. The study area does contain suitable habitat for this species; however, it was not documented during field investigations during which it would have been readily visible (including the jurisdictional delineation conducted in August 2009 and oak tree surveys in August 2010). Since it is a perennial herb, it would have been readily visible year-round to at least a genus level.	Dudek 2012
Quercus durata var. *gabrielensis*	San Gabriel oak	None/None	4.2	Chaparral, Cismontane woodland / perennial evergreen shrub / Apr–May / 1,480–3,280	Not expected to occur. This species is affiliated with granitic soils and is documented only from the San Gabriel Mountains. Additionally, it is a perennial	Dudek 2012

Table 2
Special-Status Plant Species Detected or Potentially Occurring in Project Site

Scientific Name	Common Name	Status Federal/ State	CRPR	Primary Habitat Associations / Life Form / Blooming Period / Elevation Range (feet)	Status On Site or Potential to Occur	Source
					evergreen shrub that would have been readily visible during field investigations. Not observed during field investigations.	
Senecio aphanactis	chaparral ragwort	None/None	2.2	Chaparral, Cismontane woodland, Coastal scrub/ sometimes alkaline / annual herb / Jan–Apr / 50–2,620	Not expected to occur on site due to the marginally suitable habitat, highly restricted distribution of species, and low likelihood of occurrence in limited habitat within the study area. Not observed during field investigations.	PCR 2010
Symphyotrichum greatae	Greata's aster	None/None	1B.3	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Riparian woodland/ mesic / perennial rhizomatous herb / Jun–Oct / 980–6,590	Not expected to occur on site due to marginally suitable habitat, highly restricted distribution of species, and low likelihood of occurrence in marginal habitat within the study area. Not observed during field investigations.	PCR 2010

Note: *In this table, Dudek 2012 refers to this letter report.

Key to Species Listing Status Codes

FE Federally Listed as Endangered
SE State Listed as Endangered
SSC California Special Concern Species
FT Federally Listed as Threatened
FPE Federally Proposed as Endangered
FPT Federally Proposed as Threatened FPD Federally Proposed for Delisting
FC Federal Candidate Species
CRPR California Rare Plant Rank
ST State Listed as Threatened
SCE State Candidate for Endangered
SCT State Candidate for Threatened
SR State Rare
SFP State Fully Protected

1A: Presumed extinct in California.
1B: Rare, threatened, or endangered throughout their range.
2: Rare, threatened, or endangered in California, but more common in other states.
3: Plant species for which additional information is needed before rarity can be determined.
4: Species of limited distribution in California (i.e., naturally rare in the wild), but whose existence does not appear to be susceptible to threat.

CRPR Threat Codes

.1: Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2: Fairly endangered in California (20%–80% occurrences threatened).
.3: Not very endangered in California (<20% of occurrences threatened or no current threats known).

3.2 Special-Status Wildlife

The literature review resulted in a total of 47 special-status wildlife species documented in the vicinity of the Project. Of these 47 species, 28 species were addressed in Table 9 of the BRA (PCR 2010). Our assessment of the potential for these special-status species to occur within the Project site concurred with the assessment in the BRA (PCR 2010); therefore, there are no changes in the findings for these 28 species. Table 3 provides a summary of the potential for all 47 species to occur within the Project site.

Of the total 47 species, 2 were observed on site (Cooper's hawk and yellow warbler) and 17 additional species have the potential to occur on site, including 4 reptile species (coast horned lizard, silvery legless lizard, coastal western whiptail, and rosy boa), 3 raptor species (golden eagle, white-tailed kite, and prairie falcon), 3 passerine species (Bell's sage sparrow, Southern California rufous-crowned sparrow, and loggerhead shrike), and 7 mammal species (western mastiff bat, hoary bat, spotted bat, pallid bat, San Diego desert woodrat, Los Angeles pocket mouse, and American badger). Although none of these species were detected during surveys conducted on site, these species would not necessarily be observed during the types of surveys conducted even though they may use on-site habitats based on the habitats present and the geographic location of the site relative to the species' ranges.

Table 3
Special-Status Wildlife Species Detected or Potentially Occurring in Project Site

Scientific Name	Common Name	Listing Status[1]	Primary Habitat Associations	Status On Site or Potential to Occur	Source
			Fish		
Catostomus santaanae	Santa Ana sucker	AFS:TH DFG:SSC FT IUCN:VU	Small, shallow streams that are subject to periodic severe flooding.	The Santa Ana sucker is not expected to occur within the Project site due to the lack of a perennial water source. Not observed during field investigations.	PCR 2010
Gasterosteus aculeatus williamsoni	Unarmored threespine stickleback	AFS:EN DFG:FP FE SE	Weedy pools, backwaters, and among emergent vegetation at the stream edge in small Southern California streams. Needs cool, clear water with abundant vegetation.	The unarmored threespine stickleback is known to occur in the Santa Clara River north of the study area. However, due to a lack of abundant vegetation and perennial water within the creek channel, this species is not expected to occur within the Project site. Not observed during field investigations.	PCR 2010
Gila orcuttii	Arroyo chub	AFS:VU DFG:SSC	Slow water sections of streams with mud or sand substrates, spawns in pools.	The arroyo chub is known to occur in the Santa Clara River north of the study area. This species is not expected to occur within the Project site due to the lack of perennial water.	PCR 2010

Table 3
Special-Status Wildlife Species Detected or Potentially Occurring in Project Site

Scientific Name	Common Name	Listing Status[1]	Primary Habitat Associations	Status On Site or Potential to Occur	Source
				Not observed during field investigations.	
Rhinichthys osculus ssp. 3	Santa Ana speckled dace	AFS:TH DFG:SSC	Permanent streams with cool, flowing rocky-bottomed washes, shallow cobble and gravel riffles	Not expected to occur. No suitable habitat occurs within the Project site. Not observed during field investigations.	Dudek 2012*
Amphibians and Reptiles					
Actinemys marmorata	Pacific pond turtle	DFG:SSC IUCN:VU	Ponds, marshes, rivers, streams, and irrigation ditches.	This species is not expected to occur within the Project site due to the lack of suitable habitat. Not observed during field investigations.	PCR 2010
Anniella pulchra pulchra	Silvery legless lizard	DFG:SSC	Loose soils (sand, loam, humus) in coastal dune, coastal sage scrub, woodlands, and riparian habitats.	Moderate potential to occur. Suitable habitat occurs within the Project site and documented occurrences occur in the vicinity. Not observed during field investigations.	Dudek 2012; PCR 2010
Aspidoscelis tigris stejnegeri	Coastal whiptail	None	Found in deserts and semiarid areas with sparse vegetation and open areas. Also found in woodland and riparian areas.	Moderate potential to occur. Suitable habitat within the Project site and several documented occurrences in vicinity. Not documented during field investigations.	Dudek 2012
Anaxyrus californicus	Arroyo toad	DFG:SSC FE IUCN:EN	Washes and streams with sandy banks; willows, cottonwoods, or sycamores; riparian habitats of semiarid areas; small, cobbly streambeds. Requires clear standing water for reproduction.	Not expected to occur. Focused surveys in 2010 did not detect this species within the Development Area; this species is not expected to occur within the Water Tank Area, Trail Area, or the Off-Site Infrastructure Improvement Area due to lack of suitable habitat.	PCR 2010
Charina trivirgata	Rosy boa	IUCN:LC	Desert and chaparral from the coast to the Mojave and Colorado deserts. Prefers moderate to dense vegetation and rocky cover.	Low potential to occur. Limited suitable habitat on site. Not observed during field investigations.	Dudek 2012
Phrynosoma blainvillii	Coast horned lizard	DFG:SSC IUCN:LC	Valley-foothill hardwood, conifer, and riparian habitats; pine-cypress, juniper, and	Moderate potential to occur on-site. Not observed during field investigations.	PCR 2010

Table 3
Special-Status Wildlife Species Detected or Potentially Occurring in Project Site

Scientific Name	Common Name	Listing Status[1]	Primary Habitat Associations	Status On Site or Potential to Occur	Source
			annual grassland habitats below 6,000 feet; open country, especially sandy areas, washes, floodplains, and windblown deposits.		
Rana draytonii	California red-legged frog	DFG:SSC FT IUCN:VU	Lowlands and foothills in or near permanent sources of deep water with dense shrubby or emergent vegetation.	Not expected to occur due to the lack of suitable habitat. Not observed during field investigations.	PCR 2010
Rana muscosa	Mountain yellow-legged frog	DFG:SSC FE IUCN:EN SCE	Prefers rocky stream courses in middle to upper elevations, perennial streams, often in locations with bedrock pools.	Not expected to occur due to a lack of suitable habitat. Not observed during field investigations.	PCR 2010
Spea hammondii	Western spadefoot	DFG:SSC IUCN:NT	Occurs primarily in grassland habitats, but can also be found in valley foothill hardwood woodlands. Vernal pools are essential for breeding and egg laying.	Focused surveys in 2010 did not detect this species within the Development Area and the western spadefoot is not expected to occur within the Water Tank Area, the Trail Area, or the Off-Site Infrastructure Improvement Area due to the lack of suitable habitat.	PCR 2010
Thamnophis hammondii	Two-striped garter snake	DFG:SSC IUCN:LC	Riparian and freshwater marshes with perennial water.	Not expected to occur due to the lack of perennial water. Not observed during field investigations.	PCR 2010
Birds					
Accipiter cooperii (nesting)	Cooper's hawk	DFG:WL IUCN:LC	Riparian and oak woodlands, montane canyons, suburban woodlots.	Present. Observed to be foraging during field investigations. Moderate potential to nest within Project site.	Dudek 2012
Agelaius tricolor (nesting colony)	Tricolored blackbird	ABC: WLBCC DFG:SSC IUCN:EN USFWS: BCC	Nests near fresh water, emergent wetland with cattails or tules; forages in grasslands, woodland, agriculture.	Not expected to occur for either nesting or foraging. No freshwater or emergent wetland and low potential to occur within agricultural areas. Not observed during field investigations.	Dudek 2012
Amphispiza belli belli	Bell's sage sparrow	ABC: WLBCC DFG: WL USFWS:	Nests in chaparral dominated by fairly dense stands of chamise. Found in	Low potential to occur. Suitable habitat present; one documented occurrence in vicinity. Not documented during field investigations.	Dudek 2012

Table 3
Special-Status Wildlife Species Detected or Potentially Occurring in Project Site

Scientific Name	Common Name	Listing Status[1]	Primary Habitat Associations	Status On Site or Potential to Occur	Source
		BCC	coastal sage scrub in south of range.		
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	DFG:WL	Grass-covered hillsides, coastal sage scrub, chaparral with boulders and outcrops	Moderate potential to occur. Suitable habitat present; several documented occurrences in vicinity. Not documented during field investigations.	Dudek 2012
Ammodramus savannarum	Grasshopper sparrow	DFG:SSC IUCN:LC	Grasslands on rolling hills, lowland plains, valleys, and lower mountain slopes.	Not expected to occur due to the lack of suitable habitat. Not observed during field investigations.	PCR 2010
Aquila chrysaetos	Golden eagle	BGEPA CDF:S DFG:FP DFG:WL IUCN:LC USFWS: BCC	Mountains, deserts, and open country. Prefers to forage over grasslands, deserts, savannas, and early successional stages of forest and shrub habitat. Usually nests in secluded cliffs with overhanding ledges or in large trees.	Potential to forage on site only. Not observed during field investigations.	PCR 2010
Athene cunicularia	Burrowing owl	DFG:SSC IUCN:LC USFWS: BCC	Dry grasslands, desert habitats, and open pinyon-juniper and ponderosa pine woodlands below 5,300 feet. Prefers berms, ditches, and grasslands adjacent to rivers and agricultural, and scrub areas.	Not expected to occur due to the lack of suitable habitat. Not observed during field investigations.	PCR 2010
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	FC ST USFWS: BCC	Riparian thickets and forests dominated by willows abutting slow-moving watercourses, backwaters, or seeps. Occurs along the broad, lower flood bottoms of large river systems; nests in riparian jungles of willows, often mixed with cottonwoods with understory of blackberry, nettles, or wild grape.	Not expected to occur due to the lack of suitable habitat. Not observed during field investigations.	PCR 2010

Table 3
Special-Status Wildlife Species Detected or Potentially Occurring in Project Site

Scientific Name	Common Name	Listing Status[1]	Primary Habitat Associations	Status On Site or Potential to Occur	Source
Elanus leucurus (nesting)	White-tailed kite	DFG:FP DFG:WL IUCN:LC	Forages in open grasslands, savanna-like habitats, agriculture, wetlands. Nests in oak woodlands, riparian habitats, and ornamental trees adjacent to foraging habitat.	Moderate potential to occur for foraging. Low potential to nest on site due to levels of current activity and limited habitat availability. One documented occurrence in vicinity; not documented during field investigations. No nests documented.	Dudek 2012
Empidonax traillii extimus	Southwestern willow flycatcher	ABC: WLBCC FE SE	Willow riparian habitats with a multistoried canopy, dense understory, and low-flowing or still water or damp ground.	Not expected to occur. Not detected during focused surveys in 2010 within the Development Area or the Water Tank Area and Trail Area. Not expected to occur in the Off-Site Infrastructure Improvement Area due to the lack of suitable habitat.	PCR 2010
Eremophila alpestris actia	California horned lark	DFG:WL IUCN:LC	Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Not expected to occur due to lack of suitable habitat within Project site. Not observed during field investigations.	Dudek 2012
Falco mexicanus (nesting)	Prairie falcon	DFG:WL IUCN:LC USFWS: BCC	Grassland, savannas, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs	Low potential to occur for foraging. Not expected to occur for nesting due to lack of suitable cliff or bluff habitat. Not observed during field investigations.	Dudek 2012
Falco peregrinus anatum	American peregrine falcon	CDF:S DFG:FP FD SD USFWS: BCC	Nests on cliffs, buildings, bridges; forages in wetlands, riparian habitats, meadows, and croplands, especially where waterfowl are present.	Not expected to occur. No suitable foraging habitat and not documented in the vicinity. No suitable nesting habitat within Project site.	Dudek 2012
Icteria virens	Yellow-breasted chat	ABC: WLBCC DFG:SSC IUCN:LC USFWS: BCC	Riparian woodlands with a dense understory.	Not expected to occur due to the lack of suitable habitat; the mixed willow riparian woodland within the Development Area does not have a thick understory. Not observed during field investigations.	PCR 2010
Lanius ludovicianus	Loggerhead shrike	DFG:SSC IUCN:LC USFWS: BCC	Open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches.	Potential to occur on site. Not observed during field investigations.	PCR 2010

Table 3
Special-Status Wildlife Species Detected or Potentially Occurring in Project Site

Scientific Name	Common Name	Listing Status[1]	Primary Habitat Associations	Status On Site or Potential to Occur	Source
Polioptila californica californica	Coastal California gnatcatcher	ABC: WLBCC DFG:SSC FT	Coastal sage scrub vegetation below 2,500 feet elevation in Riverside County and generally below 1,000 feet along the coastal slope. Generally avoids steep slopes and dense vegetation for nesting.	Not expected to occur. Not detected during focused surveys in 2010 within the Development Area, Water Tank Area, and Off-Site Infrastructure Improvement Area. Low potential to occur within portion of Trail Area not surveyed based on negative surveys of adjacent areas and lack of nearby current or historical occurrences of the species.	PCR 2010
Setophaga petechia	Yellow warbler	DFG:SSC USFWS: BCC	Riparian woodland habitats, montane chaparral, and mixed conifer habitats.	Present. Observed to be foraging during field investigations. Moderate potential to nest within Project site.	Dudek 2012; PCR 2010
Vireo bellii pusillus	Least Bell's vireo	ABC: WLBCC FE IUCN:NT SE	Perennial and intermittent streams with low, dense riparian scrub and riparian woodland habitats below 2,000 feet elevation; nests primarily in willows and forages in riparian habitat, and occasionally in adjoining upland habitats. Associated with willow, cottonwood, and mulefat.	Not expected to occur. Not detected during focused surveys in 2010 within the Development Area or the Water Tank Area and Trail Area. Not expected to occur in the Off-Site Infrastructure Improvement Area due to the lack of suitable habitat.	PCR 2010
Mammals					
Antrozous pallidus	Pallid bat	DFG:SSC IUCN:LC WBWG:H	Nests in dry, rocky habitats/caves, crevices in rocks, arid habitats including deserts, chaparral, and scrublands. Most common in open, dry habitats with rocky areas for roosting.	The pallid bat may forage in the area, but is not expected to roost or nest within the Project site due to the lack of suitable habitat. Not observed during field investigations.	PCR 2010
Euderma maculatum	Spotted bat	DFG:SSC IUCN:LC WBWG:H	Arid deserts and grasslands through mixed conifer forests; feeds over water and along washes, feeds	The spotted bat may forage in the area, but is not expected to roost or nest within the Project site due to the lack of suitable habitat. Not observed during field investigations.	PCR 2010

Table 3
Special-Status Wildlife Species Detected or Potentially Occurring in Project Site

Scientific Name	Common Name	Listing Status[1]	Primary Habitat Associations	Status On Site or Potential to Occur	Source
			almost entirely on moths. Needs rock crevices in cliffs or caves for roosting.		
Eumops perotis californicus	Western mastiff bat	DFG:SSC WBWG:H	Primarily arid lowlands, especially deserts. Open, semiarid to arid habitats including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban. Roosts in crevices in cliff faces, high building, trees, and tunnels.	Species has the potential to forage on the Project site. No roosting habitat occurs on the Project site. Not observed during field investigations.	PCR 2010
Lasionycteris noctivagans	Silver-haired bat	IUCN:LC WBWG:M	Primarily a coastal and montane forest dweller feeding over streams, ponds, and open brushy areas. Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes and rarely under rocks. Needs drinking water.	Not expected to occur. No suitable habitat and no open water. Not observed during field investigations.	Dudek 2012
Lasiurus cinereus	Hoary bat	IUCN:LC WBWG:M	Prefers open habitats or habitat mosaics with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Low potential to occur for foraging based on marginally suitable habitat. Not expected to occur for roosting due to lack of suitable habitat. Not observed during field investigations.	Dudek 2012

Table 3
Special-Status Wildlife Species Detected or Potentially Occurring in Project Site

Scientific Name	Common Name	Listing Status[1]	Primary Habitat Associations	Status On Site or Potential to Occur	Source
Lasiurus xanthinus	Western yellow bat	DFG:SSC IUCN:LC WBWG:H	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon-juniper woodland. Roosts in trees, particularly palms. Forages over water and among trees.	Not expected to occur. No roosting habitat or suitable habitat on site. Not observed during field investigations.	Dudek 2012
Lepus californicus bennettii	San Diego black-tailed jackrabbit	DFG:SSC	Open brushlands and scrub habitats between sea level and 4,000 feet elevation.	Not expected to occur on the Project site due to the lack of suitable habitat. Not observed during field investigations.	PCR 2010
Macrotus californicus	California leaf-nosed bat	DFG:SSC IUCN:LC WBWG:H	Desert riparian, desert wash, desert scrub, desert succulent shrub, alkali desert scrub, and palm oasis. Needs rocky, rugged terrain with mines or caves for roosting.	Not expected to occur. No suitable habitat, no suitable roosting habitat. Not observed during field investigations.	Dudek 2012
Nyctinomops macrotis	Big free-tailed bat	DFG:SSC IUCN:LC WBWG:MH	Low-lying arid areas in Southern California. Need high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths.	Not expected to occur. No roosting habitat present. Not observed during field investigations.	Dudek 2012
Neotamias speciosus speciosus	Lodgepole chipmunk	None	Summits of isolated Piute, San Bernardino, and San Jacinto Mountains. Usually found in open-canopy forests.	Not expected to occur. No suitable habitat present. Not observed during field investigations.	Dudek 2012
Neotoma lepida intermedia	San Diego desert woodrat	DFG:SSC	Coastal sage scrub, chaparral, pinyon-juniper woodland with rock outcrops, cactus thickets, dense undergrowth.	Low potential to occur based on marginal habitat within Project site. Not observed during field investigations.	Dudek 2012; PCR 2010

Table 3
Special-Status Wildlife Species Detected or Potentially Occurring in Project Site

Scientific Name	Common Name	Listing Status[1]	Primary Habitat Associations	Status On Site or Potential to Occur	Source
Onychomys torridus ramona	Southern grasshopper mouse	DFG:SSC	Desert areas, especially scrub habitats with friable soils for digging, prefers low to moderate shrub cover.	Species not expected to occur on the Project site due to the lack of suitable habitat. Not observed during field investigations.	PCR 2010
Perognathus longimembris brevinasus	Los Angeles pocket mouse	DFG:SSC	Grassland, coastal sage scrub, disturbed habitats; fine, sandy soils.	Low potential to occur. Marginal habitat on site; no documented occurrences in vicinity. Not observed during field investigations.	Dudek 2012
Taxidea taxus	American badger	DFG:SSC IUCN:LC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Moderate potential to occur. Suitable habitat, but no recorded occurrences in immediate vicinity. Area would not function as a primary movement corridor due to bottlenecks. Not observed during field investigations.	Dudek 2012
Invertebrates					
Danaus plexippus	Monarch butterfly	None	Overwinters in eucalyptus groves.	Low potential to overwinter based on lack of suitable habitat. Not observed during field investigations.	Dudek 2012

*In this table, Dudek 2012 refers to this letter report.
[1]The listing status of species is based on the Special Animals List (January 2011), California Department of Fish and Game.
ABC:WLBCC American Bird Conservancy - U. S. Watch List of Birds of Conservation Concern
AFS:EN American Fisheries Society - Endangered
AFS:TH American Fisheries Society - Threatened
AFS:VU American Fisheries Society – Vulnerable
BGEPA Bald and Golden Eagle Protection Act
CDF:S California Department of Forestry & Fire Protection - Sensitive
DFG:FP California Department of Fish & Game - Fully Protected
DFG:SSC California Department of Fish & Game - Species of Special Concern
DFG:WL California Department of Fish & Game - Watch List
FC Federal candidate species (former Category 1 candidates)
FD Federally Delisted
FE Federally listed as Endangered
FT Federally listed as Threatened
IUCN The World Conservation Union
IUCN:EN IUCN - Endangered
IUCN:LC IUCN - Least Concern
IUCN:NT IUCN - Near Threatened
IUCN:VU IUCN - Vulnerable
SCE State candidate for listing as Endangered
SD State Delisted
SE State-listed as Endangered
ST State-listed as Threatened
USFWS:BCC U. S. Fish & Wildlife Service Birds of Conservation Concern
WBWG:H Western Bat Working Group - High Priority
WBWG:M Western Bat Working Group - Medium Priority
WBWG:MH Western Bat Working Group - Medium-High Priority
Note: Habitat information came from the CNDDB GenHab column in many cases.

4.0 DIRECT IMPACTS

Since completion of the BRA (PCR 2010), modifications have been made to the Project, including:

- Modifications to the Off-Site Infrastructure Improvement Areas, including the elimination of the off-site sewer alignment option referred to as the Force Main System;
- Provision of additional detail regarding the Southern California Edison (SCE) power pole replacements;
- Modification of the Conditional Parking Areas;
- Modification of proposed grading and bank stabilization within Placerita Creek in the Development Area; and
- Provision of a public, multiuse trail on the Ranch south of Placerita Canyon Road.

Additionally, Project components assessed for the potential to impact biological resources not addressed previously include:

- A revised fuel modification zone;
- Traffic signal retaining wall; and
- SR-14 on-ramp and off-ramp improvements.

Analysis of impacts to biological resources, including special-status species, is divided into Project components located within the Ranch and those located outside the Ranch. Project components located within the Ranch include the Development Area, the Water Tank Area, the Trail Area, Potential Mobile Home Relocation Areas, Conditional Parking Areas, and the Traffic Signal Retaining Wall Area. Components located outside the Ranch consist of the Off-Site Infrastructure Improvements Areas, including the SCE power pole replacements and the SR-14 Interchange Improvements. The Off-Site Infrastructure Improvement Areas include two potential water main alignments, each with a separate booster pump site (two alternatives) and a gravity sewer line. The SCE power pole replacements would replace existing overhead distribution poles with galvanized tubular steel poles and taller wood poles to support the proposed electrical substation on the Ranch. The SR-14 Interchange Improvements would modify the SR-14/Placerita Canyon Road off-ramp and on-ramp.

Other Project elements affecting biological resources are considered in the impacts analysis. The Project objectives include retaining 195 acres currently used for outdoor filming and 637 acres of existing filming backdrop areas within the Ranch; therefore, the Project would preserve existing conditions for 832 acres within the Ranch. The Project also includes a mitigation program within Placerita Creek, which is described in more detail in Section 4.3.1 of this letter report. The

mitigation program includes restoration, establishment, and enhancement of approximately 4 acres of riparian and riparian transitional habitat primarily within Placerita Creek. The Project would also establish new oak woodlands to mitigate for impacts to oak trees. The total number of mitigation oak tree plantings would be at least 1,600. Approximately 7.5 acres of potential oak receiver sites are identified for the expansion of oak woodlands and approximately 13.5 acres of existing oak woodland are identified for potential restoration plantings, for a total of 21 acres of potential mitigation planting area (Dudek 2012b).

4.1 On the Ranch

Table 4 summarizes impacts to vegetation communities and land covers on the Ranch, including the Development Area, Water Tank Area, Trail Area, Potential Mobile Home Relocation Areas, Conditional Parking Areas, and the Traffic Signal Retaining Wall Area, based on the current Project footprint. These impacts are also depicted on Figures 4A and 4B. Acreages and graphics provided herein supersede those provided in previous reports including the BRA (PCR 2010). Figures illustrating biological resources within the Potential Mobile Home Relocation Areas and Conditional Parking Areas are provided in a letter report prepared by Dudek dated July 8, 2011, entitled "Disney │ ABC Studios at The Ranch: Supplement to Biological Resources Assessment" (Dudek 2011b).

Permanent impacts include the full extent of the grading limits for the Project and fuel modification zones. Temporary impacts include areas where grading is necessary to stabilize slopes or for construction, but where native vegetation conditions can be re-established following construction. Impacts related to the construction of the Placerita Canyon Connector Trail were calculated based on permanent impacts resulting from grading a 6-foot-wide trail and temporary impacts within the 20-foot easement to account for construction-related activities.

Table 4
A Summary of Impacts to Vegetation Communities and Land Covers on the Ranch[1]

Vegetation Community and Land Covers	Development Area Permanent (Temporary)	Water Tank Area Permanent (Temporary)	Trail Area Permanent (Temporary)	Mobile Home Relocation Area Permanent (Temporary)	Conditional Parking Area Permanent (Temporary)	Traffic Signal Retaining Wall Area (Temporary)	Total Impact Permanent (Total Temporary)
*Coast Live Oak Woodland	4.37 (0.01)	0.02	—	—	—	—	**4.39 (0.01)**
*Disturbed Coast Live Oak Woodland	—	—	0.05[2] (0.14[2])	—	—	—	**0.05[2] (0.14[2])**
*Mixed Willow Riparian Woodland	0.08 (2.03)	—	—	—	—	—	**.08 (2.03)**
*Southern Willow Scrub	0.75	—	—	—	—	—	**0.75**
Disturbed Buckwheat Scrub	—	—	0.05 (0.16)	—	—	—	**0.05 (0.16)**
Coastal Sage Scrub/ Chamise Chaparral	—	0.58	0.12 (0.33)	—	—	0.09	**0.79 (0.33)**
Disturbed Coastal Sage Scrub/ Chamise Chaparral	—	0.29	0.07 (0.18)	—	—	—	**0.36 (0.18)**
Buckwheat Scrub/ Chamise Chaparral	5.40 (0.19)	—	—	—	—	—	**5.40 (0.19)**
Disturbed Buckwheat Scrub/Chamise Chaparral	4.59	0.37	—	—	—	—	**4.96**
Chamise Chaparral	—	—	0.23 (0.68)	—	—	—	**0.23 (0.68)**
Non-Native Grassland	—	0.06	—	—	—	—	**0.06**
Agricultural Land	10.93	—	—	0.10	2.84	—	**13.87**
Ornamental	—	—	—	—	0.04	—	**0.04**
Disturbed/Developed	25.03 (1.56)	1.44	—	0.10	4.39	0.05	**31.01 (1.56)**
Total	**51.15 (3.79)**	**2.76**	**0.52 (1.49)**	**0.20**	**7.27**	**0.14**	**62.04 (5.28)**

[1]Totals may not sum due to rounding.
[2]No oak trees would be removed or encroached upon; this number accounts for the disturbance of vegetation between oak trees within oak woodlands.
*Indicates sensitive plant community.

4.1.1 Sensitive Plant Communities

The Ranch components of the Project support two plant communities considered sensitive by the CDFG, southern willow scrub and mixed willow riparian woodland. Impacts to these communities would be mitigated as described in Section 4.3.1, Mitigation Program, of this letter report.

Although CDFG does not designate oak woodlands as a sensitive community, oak trees are protected by various local ordinances that require mitigation for impacts to oak trees. Additionally, California Public Resources Code Section 21083.4 requires a county to determine whether a project within its jurisdiction may result in a conversion of oak woodlands that will have a significant effect on the environment. If the county determines that there may be a significant effect on oak woodlands, the county must require one or more oak woodlands mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands. Therefore, oak woodlands are considered a sensitive community for purposes of compliance with the California Environmental Quality Act (CEQA). Impacts to and mitigation for oak trees and oak woodlands are described in the Oak Tree Report (Dudek 2012a) and the Oak Tree and Woodland Mitigation and Monitoring Plan (OTWMMP, Dudek 2012b). Avoidance and minimization measures for encroached[1] oak trees have been developed for the Project to avoid impacts to these trees from grading and construction activities. These measures are detailed in the Oak Tree Report and include fencing of the avoidance area, pruning of roots for encroached trees, and maintenance of encroached trees after construction. Avoidance measures within the Trail Area include maintaining existing conditions where the trail would go under or within the protective zone of oak trees. Grading of the trail would stop and resume outside the oak's protective zone.

Impacts to oak woodlands would occur within the Development Area, the Water Tank Area, and the Trail Area. Within the Water Tank Area, oak woodland spans the access road to the proposed water tank location. The oak woodland in this area consists of oak tree canopy cover overhanging the existing dirt road. The Project has been designed to avoid impacts to the majority of oak trees along the access road and would result in removal of one oak tree for a total of 0.02 acre of impact to oak woodlands within the Water Tank Area.

Within the Trail Area, the proposed trail alignment crosses through oak woodland areas (see Figure 4D); however, in most instances, the trail avoids oak canopy. In the instances where the trail is aligned beneath oak canopy, the trail would remain unimproved in order to avoid grading

[1] Jurisdictional oak trees with protected zones located within the 25-foot buffer zone are categorized for encroachment due to the presence of the either their trunk or canopy within the 25-foot buffer zone. However, if suitable actions can be taken during the construction phase to protect and avoid encroaching upon any of these trees within the 25-foot buffer zone, they will be protected and retained (Dudek 2012a).

beneath any oak tree canopies. Light and selective canopy raising (pruning lower branches according to American National Standards Institute (ANSI) A300 standards, where necessary) may occur along the alignment, only in areas where horizontal or vertical clearance is necessary. Based on the avoidance of oak trees, the lack of grading or soil removal beneath oak canopy, and the minimal canopy pruning expected for the proposed trail alignment, no oaks are considered to be impacted by encroachment from the proposed Trail. This conclusion is supported by the County Forester based on his review of field conditions, the proposed trail alignment, and expertise in oak impact analysis in Los Angeles County. The trail would impact 0.19 acre of disturbed oak woodland due to grading of the trail between avoided oak trees.

Oak Tree Mitigation

Mitigation for oak trees and oak woodlands is described in the OTWMMP (Dudek 2012b). The proposed mitigation for oak woodlands complies with California Public Resources Code Section 21083.4, which provides the following alternatives for mitigation for impacts to oak woodlands:

1. Conserve oak woodlands through the use of conservation easements;
2. Plant an appropriate number of trees, including maintaining plantings and replacing dead or diseased trees. The requirement to maintain trees terminates 7 years after the trees are planted. This mitigation cannot account for more than one half of the mitigation requirement for the project. This mitigation may be used to restore former oak woodlands;
3. Contribute funds to the Oak Woodlands Conservation Fund, as established under subdivision (a) of Section 1363 of the California Fish and Game Code, for the purpose of purchasing oak woodlands conservation easements, as specified under paragraph (1) of subdivision (d) of that section and the guidelines and criteria of the Wildlife Conservation Board; or
4. Other mitigation measures developed by the county.

The OTWMMP considers the extent of oak woodland impacts and mitigates for them through the following measures:

- Planting of at least 1,600 oak trees within or adjacent to existing oak woodlands on the Ranch;
- Minimization of impacts by avoiding approximately 95% of the oak trees and oak woodlands on the Ranch;
- Restoration of fire-damaged oak woodlands through oak tree seedling planting;

- Enhancement of oak woodland regeneration through oak seedling planting in areas with limited natural recruitment;
- Enhancement of oak woodlands through the planting of native understory species;
- Increased habitat connectivity through oak tree planting in areas between existing woodlands and along Placerita Creek;
- Implementation of a 7-year monitoring, documentation, and reporting program; and
- Recordation of a use restriction over the mitigation areas in which planting occurs to protect the mitigation planting areas in perpetuity while recognizing the Applicant's ability to allow filming within these areas provided the planted oaks are protected.

Based on the quantity of oak woodlands avoided on the Ranch, the oak woodland preservation-to-impact ratio is 21:1. The 1,144 mitigation plantings required to survive the monitoring period would occupy approximately 10.5 acres of oak woodland expansion and enhancement area, resulting in a 2.4:1 oak woodland mitigation to impact ratio. Implementation of the OTWMMP in proportion to Project-related impacts would reduce the level of impacts to oak woodlands to a less-than-significant level, consistent with the requirements of California Public Resources Code Section 21083.4.

4.1.2 Listed Plant and Wildlife Species

There are no listed species with the potential to occur within the Development Area or Water Tank Area. The Trail Area contains vegetation communities suitable for coastal California gnatcatcher. No changes to USFWS-designated critical habitat designations relevant to the Project site have occurred since the BRA (PCR 2010). The Development Area overlaps with a small portion of the final critical habitat area designated for coastal California gnatcatcher (Unit 13: West Los Angeles and Ventura Counties) (Figure 6); however, the Project grading footprint would not overlap critical habitat and impacts to critical habitat from the Development Area would be avoided. The Water Tank Area and portions of the Trail Area are within the final designated critical habitat for the coastal California gnatcatcher. The Water Tank Area encompasses areas disturbed by past and current oil operations, including prior clearing and grading to create level pads for oil wells, which remain readily evident today, and a dirt access road to the pads. Within the proposed pad in the Water Tank Area is a small patch of vegetation mapped as disturbed coastal sage scrub/chamise chaparral, which is a vegetation community that can be used by coastal California gnatcatcher. No coastal California gnatcatchers were observed or otherwise detected during the focused surveys conducted in this area. Given the disturbed quality of this habitat, its fragmentation by existing roads to the north and south, and the absence of coastal California gnatcatcher during focused surveys, the habitat within the Water Tank Area is considered to be of low quality and not expected to support coastal California gnatcatcher.

The coastal sage scrub/chamise chaparral community within the Trail Area and adjacent to the water tank access road is marginally suitable for coastal California gnatcatcher. Most of the vegetation structure within this community is much denser than typical coastal California gnatcatcher habitat; open patches are present but are a small portion of the area mapped as this community type. A large portion of the Trail Area was encompassed by the coastal California gnatcatcher focused survey conducted for the Water Tank Area. The portion of the Trail Area outside the survey area is within the disturbed vegetation believed to be a firebreak and is not expected to support coastal California gnatcatcher. Also, given the proximity of the Trail Area to the coastal California gnatcatcher focused survey area, it is highly likely if gnatcatcher were present in the Trail Area it would have been detected during the surveys. Due to the marginal suitability of the habitat within the Trail Area and adjacent to the water tank access road, the absence of coastal California gnatcatcher during focused surveys, and the distance of the nearest recorded occurrence (6 miles southeast and 9 miles northeast from the Project site), the Trail Area is not expected to support coastal California gnatcatcher.

Based on the marginal suitability of habitat within the Water Tank Area and Trail Area for coastal California gnatcatcher, the small amount of habitat removed (1.06 acres), and the absence of coastal California gnatcatcher during focused surveys, the Project would not diminish the ability of coastal California gnatcatcher to occupy the area and impacts to elements critical to the coastal California gnatcatcher within designated critical habitat would not occur.

4.1.3 Special-Status Plants

There are no special-status plants with a moderate or greater potential to occur within the disturbance limits of the Ranch components; therefore, significant impacts on special-status plants would not occur and mitigation is not required.

4.1.4 Special-Status Wildlife

The Potential Mobile Home Relocation Areas and Conditional Parking Areas do not support habitat for special-status wildlife species (Dudek 2011b).

Special-status species with the potential to occur within the Development Area, Water Tank Area, Trail Area, and Traffic Signal Retaining Wall Area include the coast horned lizard, silvery legless lizard, coastal western whiptail, rosy boa, golden eagle (foraging only), loggerhead shrike, yellow warbler, Cooper's hawk, Bell's sage sparrow, Southern California rufous-crowned sparrow, white-tailed kite, prairie falcon, western mastiff bat, hoary bat, San Diego desert woodrat, Los Angeles pocket mouse, and American badger.

4.1.4.1 Reptiles

The coast horned lizard, silvery legless lizard, and coastal western whiptail have the potential to occur in the natural communities located within the Development Area, Water Tank Area, Trail Area, and Traffic Signal Retaining Wall Area, including sage scrub, chaparral, and riparian communities, while the rosy boa has the potential to occur in the riparian communities and disturbed/developed land cover in the Development Area and Water Tank Area. Because of the regular disturbance of the disturbed/developed areas and the lack of rocky and vegetative cover, the likelihood of rosy boa individuals to be present within these areas is low; therefore, impacts to rosy boa due to the loss of disturbed/developed areas would be less than significant.

The Project would result in permanent impacts to 0.83 acre of riparian habitat, approximately 22% of the 3.8 acres occurring within the Project site on the Ranch. The Project would also result in temporary impacts to approximately 2.03 acres of riparian habitat on the Ranch. All areas temporarily impacted would be revegetated as part of the mitigation program. The Project would also establish or enhance an additional 1.77 acres of riparian and riparian buffer habitat, resulting in a net gain in the functions and services provided by riparian habitat in the Development Area. The establishment and enhancement would occur along Placerita Creek adjacent to preserved riparian habitat, providing increased functions and values to this habitat. Due to the avoidance, minimization and enhancement of riparian habitat, impacts to these plant communities would not appreciably reduce the populations of special-status reptile species within the Ranch and, therefore, would not result in a significant impact to special-status reptile species.

The sage scrub/chaparral communities that would be impacted in the Development Area are located along the northeastern edge of the Project footprint and adjacent to a large swath of similar habitat in the undeveloped area of the Ranch. Similarly, impacts to these communities within the Water Tank Area, Trail Area, and Traffic Signal Retaining Wall Area consist of a small disturbed patch and small strips within a larger patch of this habitat. Existing conditions would be preserved within approximately 832 acres of the Ranch, which supports similar habitat to the portion of the Project site within the Ranch. In the context of the Ranch, impacts to approximately 11.7 acres of sage scrub and chaparral communities would not significantly diminish the available suitable habitat for reptile species within the Ranch.

Due to the marginal suitability of the disturbed/developed areas, avoidance and enhancement of the riparian areas, and minimal impacts to sage scrub/chaparral communities relative to the availability of these communities within undeveloped areas of the Ranch, loss of habitat for special-status reptile species as a result of the Project would not contribute to the decline of the local population.

Potential direct impacts to individuals during construction activities are expected to be minimal because individuals that may be within the Project footprint would have the ability to move into adjacent suitable habitat. Mortality of individuals would not adversely affect the local population of this species. Impacts to special-status reptiles as a result of the Project would be less than significant.

4.1.4.2 Birds

There are four special-status raptor species (golden eagle (foraging), Cooper's hawk, white-tailed kite, and prairie falcon) and four special-status bird species (loggerhead shrike, yellow warbler, Southern California rufous-crowned sparrow, and Bell's sage sparrow) with a potential to occur within the Ranch components of the Project site. Raptor foraging[2] is discussed further in a separate section below, and impacts on raptor foraging would be less than significant.

Yellow warbler has been observed within the riparian woodland habitat within the Development Area. The Project would result in permanent impacts to 0.83 acre of riparian habitat, approximately 22% of the 3.8 acres occurring within the Project site on the Ranch. The Project would also result in temporary impacts to approximately 2.03 acres of riparian habitat on the Ranch. All areas temporarily impacted would be revegetated as part of the mitigation program. The Project would also establish or enhance an additional 1.77 acres of riparian and riparian buffer habitat, resulting in a net gain in the function and services provided by riparian habitat in the Development Area. The establishment and enhancement would occur along Placerita Creek adjacent to preserved riparian habitat, providing increased functions and values to this habitat. Due to the avoidance, minimization, and enhancement of riparian habitat, impacts to these plant communities as a result of the Project would not result in an appreciable decline of the local population of this species.

Southern California rufous-crowned sparrow and Bell's sage sparrow have the potential to occur in the sage scrub and chaparral communities within the Development Area, Water Tank Area, and Trail Area. Existing conditions would be preserved within approximately 832 acres of the Ranch, which support similar habitat as the impact area. Due to the presence of this habitat and additional suitable vegetation communities within undeveloped portions of the Ranch, impacts to approximately 11.7 acres of these communities would not significantly diminish the available suitable habitat for these species.

Construction of the Project has the potential to result in impacts to nesting special-status birds. The proposed mitigation measure for nesting birds requires surveys to be conducted for nesting birds if construction activities take place during the breeding season. In general, if nesting birds

[2] Loggerhead shrike would utilize the same habitat within the Project site as foraging raptors; therefore, discussion on potential impacts to raptor foraging also applies to loggerhead shrike.

occur within 300 feet of the disturbance area, a buffer would be implemented and the nest monitored by a biologist to ensure activities do not result in nest failure. With implementation of the mitigation measure, construction would not result in impacts on nesting birds.

4.1.4.3 Mammals

There are seven special-status mammals with a potential to occur within the disturbance limits: pallid bat, spotted bat, hoary bat, western mastiff bat, Los Angeles pocket mouse, San Diego desert woodrat, and American badger.

The pallid bat, spotted bat, hoary bat, and western mastiff bat have the potential to forage within the disturbance limits. Foraging habitat for these bat species is similar to raptor foraging habitat within the disturbance limits; therefore, this impact is discussed in Section 4.1.5, below. Impacts on bat foraging would be less than significant. As described in Table 3, there is no suitable bat roosting habitat for any of these species within the disturbance limits; therefore, there would be no impacts on bat roosting habitat. As there would be no impacts on roosting habitat and less-than-significant impacts on foraging habitat, overall impacts on these species would be less than significant.

Los Angeles pocket mouse has the potential to occur within the bed of Placerita Creek. Construction of drainage structures, bank stabilization, and a temporary access road in close proximity to the bed creek have the potential to result in vibrational disturbance that could temporarily effect Los Angeles pocket mouse in the immediate area. These effects, however, would be temporary during construction and given the availability of suitable habitat for the species upstream of the construction area and the unobstructed movement corridor along Placerita Creek in an upstream direction from the construction area, impacts to the species would be less than significant. Furthermore, enhancement of Placerita Creek as described in Section 4.3.1 of this report, would result in an overall benefit to the habitat for this species by providing native riparian buffer habitats and stabilizing the channel geomorphology within this section of Placerita Creek.

San Diego desert woodrat and American badger have the potential to occur within the scrub and chaparral communities within the Development Area, Water Tank Area, Trail Area, and Traffic Signal Retaining Wall Area. Existing conditions would be preserved within approximately 832 acres of the Ranch, which support similar habitat as the impact area. In the context of the habitat available within the Ranch, impacts to approximately 11.7 acres of these communities would not significantly diminish the available suitable habitat for these species within the Ranch and, therefore, would not contribute to the decline of the local population. Potential direct impacts to individuals during construction activities are expected to be minimal as individuals that may be within the Project footprint would have the ability to move into adjacent suitable habitat. Mortality

of individuals would not adversely affect the local population of this species. Impacts to San Diego desert woodrat and American badger as a result of the Project would be less than significant.

4.1.5 Raptor Foraging Habitat

The Project site provides suitable foraging habitat for raptors within the natural vegetation communities (including scrub, chaparral, woodland, and riparian habitat) and within the disturbed/developed and agricultural land covers. Raptor foraging opportunities within the disturbed/developed land cover (approximately half of the Project footprint) are presently limited given the marginal quality of this habitat for prey species. The Project would preserve the existing conditions on 832 acres of the Ranch. Total permanent impacts would occur to approximately 61.9 acres within the Ranch, including the Development Area, Water Tank Area, Trail Area, Potential Mobile Home Relocation Areas, Conditional Parking Areas, and Traffic Signal Retaining Wall Area. The Project would result in direct impacts to approximately 7% of habitat available within the Ranch for raptor foraging. This estimate is conservative because the undisturbed areas (637 acres) within the Ranch are expected to provide greater opportunities for foraging in comparison with the more marginal disturbed habitat located within the Development Area. In the context of the available foraging habitat within the Ranch, the loss of marginal foraging areas within the Project site of up to 7% of available foraging habitat within the Ranch would not be significant.

4.1.6 Wildlife Movement

The BRA includes a wildlife corridor analysis to determine whether the Project would impact a wildlife corridor, as required under Appendix G of the CEQA Guidelines. A regional wildlife movement model was created to predict how animals move between areas of open space within and surrounding the study area and the overall Ranch. The regional analysis used a suite of tools called Corridor Design. The results of the regional wildlife movement corridor modeling and local wildlife movement analysis suggest that the study area and Placerita Creek, in particular, support wildlife habitat for species on a local level that are less restricted in movement pathway requirements or are adapted to urban areas (e.g., deer, raccoon, skunk, coyote, and birds). However, because of its culverted crossing, physical obstructions, and surrounding urban development, Placerita Creek is not likely to support preferential wildlife movement for larger mammals on a regional scale and the Project site does not support a regional wildlife corridor (PCR 2010).

The regional wildlife movement analysis model identified three main linkages in the vicinity and outside the Project site that provide wildlife the opportunity to move across SR-14 and to move between suitable habitat in the San Gabriel Mountains to suitable habitat in the Santa Susana and Castaic Ranges, respectively. Because SR-14 acts as a barrier to this movement, these linkages are closely associated with undercrossings (e.g., bridges and culverts) under SR-14. While a

culvert exists within the Development Area to allow the creek to flow under SR-14, the length of the culvert and the extent of development downstream (generally west) of the Development Area limit this undercrossing's suitability to function as part of a regional linkage (PCR 2008).

The three wildlife corridors identified in the Wildlife Movement Analysis have a permeability ranking of 99% and above. The majority of the Project site has a permeability ranking less than 95% (i.e., not conducive for wildlife movement), with the southern portion of the Development Area having a permeability ranking of 97%. Many factors play into defining movement corridors, including resources present, adjacent uses, on-the-ground obstacles (e.g., 10-lane freeways, aqueducts, deep fissures, walls or fences), and other factors. The software Corridor Design used in the Wildlife Movement Analysis to model the least-cost path wildlife corridor only takes a few of these factors into account (habitats, elevation, roads, topographic position, slope, soils, distance to streams) but not the other factors that might physically impede wildlife movement. These factors must be evaluated on a case-by-case review of the ground conditions. Because the life history of the focal species is taken into account (maximum movement distance, territory size, etc.), it is assumed within the model that the 95% least-cost result will provide the best movement area for a given species. That is not to say that areas with less permeability will not be used for wildlife movement. The Wildlife Movement Analysis found Placerita Creek provides for local movement of wildlife for foraging/watering but does not function as a regional wildlife movement corridor. Placerita Creek would continue to provide opportunities for foraging/watering and local wildlife movement upon Project implementation. Improvements within the creek, including slope stabilization and establishment of native vegetation along the slopes (increasing the total area of native vegetation) would improve the functions of the creek for local wildlife. Therefore, the Project would not result in significant impacts to local wildlife movement within Placerita Creek.

The oak woodland at the southern end of the Development Area is within a permeability ranking of 95%–97% (PCR 2008). This permeability ranking includes not only the oaks but the surrounding and adjacent habitats. Due to the number of factors that contribute to the permeability ranking of any particular pixel (the smallest unit of area in a raster GIS map—typically 30 x 30 meters. Each pixel is associated with attributes, such as vegetation class, topographic position, elevation, and distance from paved road) and by extension, the connected group or cluster of pixels that make up a modeled corridor, it is unlikely that the presence of the sparse group of oak trees affected the outcome of the permeability percentage. The oak woodland is currently highly constrained by Placerita Canyon Road to the south, the fill pad to the west, and agricultural uses to the east. This oak woodland supports few native understory species and does not constitute a complete band of oak habitat through which species could move. This area may provide cover for wildlife to move from the undeveloped areas to the south into Placerita Creek for foraging/watering; however, this constitutes movement on a local level

rather than an established wildlife movement corridor. The wildlife corridor analysis identified portions of the Ranch east of the Development Area with higher permeability rankings. These portions of the Ranch would be unaffected by the Project and would continue to provide opportunity for local wildlife movement. Implementation of the Project would not result in significant impacts to a local wildlife movement corridor.

4.2 Off the Ranch

The Project includes two components located off the Ranch, the Off-Site Infrastructure Improvement Areas, which includes the SCE power pole replacement, and the SR-14 Interchange Improvements. Potential impacts to biological resources from the off-site components are discussed below.

4.2.1 Off-Site Infrastructure Improvement Areas

Impacts associated with the Off-Site Infrastructure Improvement Areas were quantified using a 40-foot-wide temporary construction corridor centered on the conceptual alignment of the water and gravity sewer pipelines and a 40-foot temporary impact radius around the conceptual location of the booster pumps. Additional impacts would occur in portions of the Off-Site Infrastructure Improvement Areas as a result of replacement of an estimated nine existing overhead distribution poles along public road rights-of-way on Sierra Highway and possibly Placerita Canyon Road with galvanized tubular steel poles and taller wood poles. The exact location of the replacement poles has not been determined by SCE, but the poles are expected to be placed in approximately the same locations as the existing poles. The area to be disturbed is estimated at less than 1,000 square feet per pole, including space for the staging of vehicles and equipment, for a total of approximately 9,000 square feet and is expected to occur within areas mapped as disturbed/developed. A summary of impacts to vegetation communities from Off-Site Infrastructure Improvements is provided in Tables 5 and 6.

Table 5
A Summary of Impacts to Vegetation Communities and Land Covers within the Off-Site Infrastructure Improvement Areas – Alternative A[1]

Vegetation Community and Land Covers	Permanent (Booster Pump Station)	Temporary (Water and Sewer)	Temporary (Booster Pump Station)	Temporary (SCE Pole Replacement)	Total Temporary
Coast Live Oak Woodland	—	0.01	—	—	**0.01**
Disturbed Coast Live Oak Woodland	—	0.19	—	—	**0.19**
Coastal Sage Scrub	0.11	0.01	0.25	—	**0.37**
Disturbed Coastal Sage Scrub	—	0.04	—	—	**0.04**
Non-Native Grassland	—	0.70	0.01	—	**0.71**
Disturbed/Developed	0.02	13.19	0.17	0.21[2]	**13.59**
Total	***0.13***	***14.14***	***0.43***	***0.21***	**14.91**

1 Totals may not sum due to rounding.
2 It is possible for the SCE pole replacement to occur in one of the native vegetation communities that occur adjacent to the roadway including coastal sage scrub, chamise chaparral, coastal sage scrub/chamise chaparral, and disturbed variations of these communities.

Table 6
A Summary of Impacts to Vegetation Communities and Land Covers within the Off-Site Infrastructure Improvement Areas – Alternative B[1]

Vegetation Community and Land Covers	Permanent (Booster Pump Station)	Temporary (Water and Sewer)	Temporary (Booster Pump Station)	Temporary (SCE Pole Replacement)	Total Temporary
Coast Live Oak Woodland	—	0.01	—	—	**0.01**
Disturbed Coast Live Oak Woodland	—	0.19	—	—	**0.19**
Coastal Sage Scrub	—	0.01	—	—	**0.01**
Disturbed Coastal Sage Scrub	—	0.04	—	—	**0.04**
Coastal Sage Scrub/ Chamise Chaparral	—	—	—	—	**—**
Non-Native Grassland	—	0.75	—	—	**0.75**
Disturbed/Developed	0.14	11.34	0.42	0.21[2]	**12.11**
Total	***0.14***	***12.34***	***0.42***	***0.21***	**13.11**

1 Totals may not sum due to rounding.
2 It is possible for the SCE pole replacement to occur in one of the native vegetation communities that occur adjacent to the roadway including coastal sage scrub, chamise chaparral, coastal sage scrub/chamise chaparral, and disturbed variations of these communities.

The majority of the off-site infrastructure improvements are located within existing road rights-of-way, which support limited natural communities. There are no sensitive plant communities within the Off-Site Infrastructure Improvement Areas. The off-site infrastructure improvements are located within the City of Santa Clarita and, therefore, are not subject to California Public Resources Code Section 21083.4(b), which applies to unincorporated county areas. While coast

live oak woodland within the Off-Site Infrastructure Improvement Areas is not considered a sensitive community, the off-site infrastructure improvements would not impact any oak woodlands and would require no removal of oak trees. Remnant patches of sage scrub occur along Sierra Highway that could be temporarily impacted by the placement of the water and sewer lines and within the Alternative A booster pump station location. Due to the isolated and disturbed nature of these patches, they do not provide habitat value to special-status wildlife species. For the SCE pole replacement, it is possible that impacts could occur within areas mapped as coastal sage scrub, chamise chaparral, or some combination of these vegetation communities that occur along portions of the roadway segments. These communities are not CNDDB sensitive plant communities and provide marginal habitat given their location adjacent to a major roadway. Should the maximum 0.21 acre of impact occur in one or more of these native vegetation communities, impacts to these plant communities and wildlife they may support would be considered less than significant due to the marginal quality and small area of impact. Significant impacts would not occur to sensitive biological resources, including sensitive vegetation communities, special-status plants or wildlife, wildlife movement, or jurisdictional waters, as a result of the off-site infrastructure improvements.

4.2.2 SR-14 Interchange Improvements

Impacts associated with the SR-14 Interchange Improvements are based on a conceptual grading limit and are considered permanent impacts. A summary of impacts to vegetation communities from SR-14 Interchange Improvements is provided in Table 7 and Figure 4D.

Table 7
A Summary of Impacts to Vegetation Communities and Land Covers within the SR-14 Interchange Improvements[1]

Vegetation Community and Land Covers	SR-14 Interchange Improvements (Permanent)
Coast Live Oak Woodland	—
Disturbed Coast Live Oak Woodland	—
Coastal Sage Scrub	—
Disturbed Coastal Sage Scrub	—
Non-native Grassland	—
Buckwheat Scrub/Chamise Chaparral	0.26
Disturbed Buckwheat Scrub	0.12
Disturbed/Developed	1.02
Total	**1.40**

[1] Totals may not sum due to rounding.

The SR-14 interchange improvements include modifications to both the on-ramp and off-ramp at Sierra Highway and Placerita Canyon Road. Modifications to the SR-14 on-ramp include addition of a right-turn pocket on the north-bound lane of Placerita Canyon Road at Sierra Highway and a right-turn pocket on the east-bound lane of Sierra Highway entering the south-bound SR-14 on-ramp. These improvements would occur within existing pavement and right-of-way. Improvements associated with the SR-14 off-ramp at Placerita Canyon Road would involve cutting into an existing engineered slope adjacent to the northbound off-ramp. This engineered slope is essentially devoid of vegetation and does not have the potential to support any special-status species. Additionally, removal of disturbed buckwheat scrub and buckwheat scrub/chamise chaparral would occur due to the widening at the end of the off-ramp. Due to this habitat occurring immediately adjacent to the SR-14 off-ramp, it is not expected to support special-status species. The off-ramp improvements would also avoid Tributary A, a jurisdictional drainage course that crosses under the off-ramp via a culvert. No impacts to biological resources would occur, including impacts to sensitive vegetation communities, special-status plants or wildlife, wildlife movement, or jurisdictional waters, as a result of the SR-14 interchange improvements.

4.3 Jurisdictional Waters

Impacts to jurisdictional waters/streambed have changed slightly since completion of the original BRA (PCR 2010) due to modifications to the Project. The Project would result in impacts to jurisdictional waters/streambed, including creek bottom under the jurisdiction of the U.S. Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB), and CDFG (referred to as ACOE/CDFG jurisdiction), and riparian habitat under the jurisdiction of CDFG (referred to as CDFG-only jurisdiction). Table 8 details impacts to jurisdictional waters for vegetated and unvegetated areas. Table 9 provides these impacts broken down by Project component and drainage course type. Figure 5 depicts impacts to jurisdictional waters/streambed.

Table 8
Impacts to Vegetation Communities within Jurisdictional Waters[1]

Vegetation Community and Unvegetated Areas by Jurisdiction	Permanent Impacts	Temporary Impacts	No Impacts	TOTAL
ACOE/CDFG Jurisdictional Drainage				
Coast Live Oak Woodland	0.03	—	—	0.03
Mixed Willow Riparian Woodland	0.01	0.12	0.19	0.32
Unvegetated stream	0.04	0.01	—	0.05
ACOE/CDFG Subtotal	**0.08**	**0.13**	**0.19**	**0.40**
CDFG-Only Jurisdictional Streambed				
Coast Live Oak Woodland	0.11	0.01	—	0.12
Mixed Willow Riparian Woodland	0.07	1.90	0.71	2.68
Southern Willow Scrub	0.43	—	—	0.43
Unvegetated stream	0.02	0.05	—	0.07
Additional CDFG Only Subtotal	***0.63***	***1.96***	***0.71***	***3.30***
Total	**0.71**	**2.09**	**0.90**	**3.70**

[1] Total acreages for impacts to jurisdictional waters may not match exactly with Table 9 due to rounding.

Table 9
A Summary of Impacts to Jurisdictional Waters by Project Component[1]

Project Component	Permanent acres (linear feet)	Temporary acres (linear feet)	No Impact (linear feet)	Total (linear feet)
ACOE/CDFG Jurisdictional Drainage				
Development Area: Intermittent Drainage (Placerita Creek)	0.02 (72)	0.12 (787)	0.19 (1,040)	0.33 (1,899)
Development Area: Ephemeral Tributary (Drainages A, B)	0.05 (1,011)	—	—	0.05 (1,011)
Water Tank Area (Ephemeral Tributary B4)	<0.01 (98)	—	—	<0.01 (98)
Trail Area (Ephemeral Tributary B4 and B5)[2]	—	—	< 0.01 (79)	< 0.01 (79)
Off-Site Infrastructure Improvements (Placerita Creek)	—	0.01 (40)	—	0.01 (40)
ACOE/CDFG Subtotal	***0.08 (1,181)***	***0.13 (827)***	***0.19 (1,119)***	***0.40 (3,127)***
CDFG-Only Jurisdictional Streambed				
Development Area: Intermittent Drainage (Placerita Creek)	0.07	1.91	0.71	**2.69**
Development Area: Ephemeral Tributary (Drainages A, B)	0.55	—	—	**0.55**

Table 9
A Summary of Impacts to Jurisdictional Waters by Project Component[1]

Project Component	Permanent acres (linear feet)	Temporary acres (linear feet)	No Impact (linear feet)	Total (linear feet)
Water Tank Area (Ephemeral Tributary B4)	0.01	—	—	**0.01**
Trail Area (Ephemeral Tributary B4 and B5)	—	—	—	**—**
Off-Site Infrastructure Improvements (Placerita Creek)	—	0.05	—	**0.05**
Additional CDFG-Only Subtotal	***0.63***	***1.96***	***0.71***	***3.30***
Total	**0.71**	**2.09**	**0.90**	**3.70**

1 Total acreages for impacts to jurisdictional waters may not match exactly with Table 8 due to rounding.
2 Although the trail crosses over ephemeral tributaries, no construction activities would take place within the drainages.

4.3.1 Mitigation Program

As discussed previously, the Project would result in impacts to jurisdictional waters. Permits from the regulating resource agencies and mitigation measures required by CEQA would require mitigation for impacts to jurisdictional waters. The Project's proposed mitigation is a program that includes a combination of establishment, restoration, enhancement, and preservation (Figure 7). Establishment would create riparian habitat/jurisdictional waters where they do not occur under existing conditions. Restoration is defined as returning areas that have been temporarily impacted by construction activities to pre-construction conditions and providing appropriate revegetation. Enhancement would rehabilitate areas that have become degraded from past disturbance and/or from invasive species infestation, and improve the functions and values of existing habitat/jurisdictional waters. Preservation is defined as preserving existing waters and habitat in place. The establishment, restoration, and enhancement areas are collectively referred to as the "mitigation areas." Together with the Project's bank stabilization improvements, this mitigation program would provide a net gain in functions and services for the ACOE/CDFG–jurisdictional creek bottom and CDFG-only jurisdictional riparian and upland buffer zone area in terms of geomorphic stability, nutrient processing/recycling, and wildlife habitat.

Under current conditions, Placerita Creek within the Project site is subject to erosion and sedimentation because the slopes adjacent to the channel are unstable and eroding into the creek. Furthermore, native riparian buffer habitat is very limited and invasive species are present in several locations. These adverse conditions would be improved through implementation of the Project, including installation of bank stabilization. Together with the proposed revegetation of the stabilized slopes, the overall functions and services would be improved to a degree such that impacts to jurisdiction resources from the entire Project, including tributaries, would be adequately mitigated to below a level of significance.

All jurisdictional waters that would be temporarily impacted (2.09 acres) would be revegetated as part of the mitigation program.

A total of 0.11 acre of enhancement of ACOE/CDFG–jurisdictional and CDFG-only jurisdictional areas would occur within Placerita Creek. Enhancement would include removal of exotic plant species and revegetation with native species.

Establishment would create combined ACOE/CDFG–jurisdictional areas and CDFG-only jurisdictional areas. ACOE/CDFG establishment would occur in several locations along the edges of the creek: new braided flow lines would be established where there has been significant erosion due to slope undercutting and where the existing channels would be permanently removed due to the required creek slope re-contouring; a new channel would be graded to convey flows around the location where the proposed drainage outfall structure and access ramp are required. A total of 0.08 acre of ACOE/CDFG establishment credit would be provided.

CDFG-only establishment would occur on the slopes of Placerita Creek following re-contouring and installation of bank stabilization (i.e., buried soil cement) with revegetation of the stabilized slopes. A portion of the plantings (up to approximately 6 feet in vertical height above the toe of slope) would consist of typical CDFG-jurisdictional riparian scrub habitat. The remainder of the slope above that elevation would consist of native transitional sage scrub buffer plantings. During development of the Placerita Creek Habitat Mitigation and Monitoring Plan, the Applicant consulted with CDFG staff, who concurred that the new native transitional buffer zone (sage scrub species) would be considered a CDFG-jurisdictional area. A total of 1.58 acres of CDFG-only establishment credit would be provided.

Existing jurisdictional communities would also be preserved as part of the Project. Preservation is an important component of the mitigation program because these existing communities within Placerita Creek would be managed and protected in combination with the adjacent mitigation areas, resulting in increased functions and values for the preserved areas and mitigation areas. Table 10 summarizes the mitigation areas by treatment type and jurisdiction.

Table 10
A Summary of Mitigation within Placerita Creek within the Development Area

	ACOE and CDFG[1]	Additional CDFG-Only[1]	TOTAL
Establishment	0.08	1.58	**1.66**
Enhancement	0.06	0.05	**0.11**
Restoration[2]	0.08	1.82	**1.90**
Subtotal Mitigation	**0.22**	**3.45**	**3.67**
Preservation[3]	0.09	0.38	**0.47**
Total Jurisdictional Mitigation	**0.31**	**3.83**	**4.14**

[1] An additional 0.02 acre of ACOE/CDFG jurisdiction and 0.05 acre of CDFG-only jurisdiction would be returned to pre-existing conditions within the Trail Area and the Off-Site Infrastructure Improvements. Additionally, 0.10 acres of CDFG-only would be established and restored within the Los Angeles Department of Water and Power (LADWP) corridor. As these areas are outside the Placerita Creek mitigation program, they are not included in this mitigation totals above.
[2] Restoration includes temporary impact areas and a portion of the additional transitional buffer areas on creek banks.
[3] Preservation acreage indicated above does not include jurisdictional waters avoided/preserved within the LADWP easement, which total 0.32 acre, since this area would not be subject to the use restriction.

Implementation of this mitigation program within Placerita Creek would provide adequate mitigation to offset permanent impacts to jurisdictional waters as summarized in Table 11. A total of 1.21 acres of mitigation is required for permanent impacts to jurisdictional waters and a total of 1.66 acres is provided. The mitigation program includes a minimum mitigation ratio of 1:1 for sensitive plant communities (southern willow scrub and mixed willow riparian woodland) occurring within jurisdictional waters. The Project would impact 0.32 acre of southern willow scrub located outside of jurisdictional waters. The mitigation program provides an additional 0.45 acre of mitigation above the requirement for jurisdictional waters. This additional acreage provides mitigation for impacts to 0.32 acre of southern willow scrub located outside of jurisdictional waters; therefore, the mitigation program provides adequate mitigation for impacts to sensitive riparian plant communities.

Temporary impacts to jurisdictional waters, including the sensitive vegetation communities of mixed willow riparian woodland and southern willow scrub, would be mitigated through restoration and enhancement as summarized in Table 12.

Table 11
A Summary of Mitigation for Permanent Impacts to Jurisdictional Features and Sensitive Vegetation Communities

Vegetation Community and Unvegetated Areas by Jurisdiction	Permanent Impacts	Mitigation Ratio	Mitigation Requirement	Mitigation Provided
ACOE/CDFG				
Coast Live Oak Woodland[1]	0.03	1:1	0.03	0.08 acre – ACOE waters establishment
Mixed Willow Riparian Woodland	0.01	1:1	0.01	
Unvegetated Stream	0.04	1:1	0.04	
ACOE/CDFG Subtotal	***0.08***	**—**	***0.08***	**0.08 acre – total**
CDFG-Only				0.20 acre – CDFG establishment (riparian) 1.38 acres – CDFG establishment (transitional buffer zone)
Coast Live Oak Woodland[1]	0.11	1:1	0.11	
Mixed Willow Riparian Woodland	0.07	2:1	0.14	
Southern Willow Scrub	0.43	2:1	0.86	
Unvegetated Stream	0.02	1:1	0.02	
CDFG-Only Subtotal	***0.63***	**—**	***1.13***	**1.58 acres – total**
Total	**0.71**	**—**	**1.21**	**1.66[2] total**

[1] This Plan provides mitigation for the jurisdictional waters/streambed component of the Coast Live Oak Woodland. Additional mitigation for Coast Live Oak Woodland is provided through the separate Oak Tree and Woodland Mitigation program.
[2]A portion of the excess mitigation acreage provided helps mitigate for permanent impacts to non-jurisdictional Southern Willow Scrub habitat (i.e., 0.32 acre) as required by County of Los Angeles requirements.

Table 12
A Summary of Mitigation for Temporary Impacts to Jurisdictional Features and Sensitive Vegetation Communities

Vegetation Community and Unvegetated Areas by Jurisdiction	Temporary Impacts	Mitigation Ratio	Mitigation Requirement	Mitigation Provided[1]
ACOE/CDFG				
Mixed Willow Riparian Woodland	0.12	1:1	0.12	0.08 acre – ACOE waters restoration (Placerita Creek) 0.06 acre – ACOE waters enhancement (Placerita Creek)
Unvegetated Stream	0.01	1:1	0.01	0.01 acre – ACOE restoration (Ephemeral Tributaries)
ACOE/CDFG Subtotal	***0.13***	**—**	***0.13***	***0.15 acre – total***

Table 12
A Summary of Mitigation for Temporary Impacts to Jurisdictional Features and Sensitive Vegetation Communities

Vegetation Community and Unvegetated Areas by Jurisdiction	Temporary Impacts	Mitigation Ratio	Mitigation Requirement	Mitigation Provided[1]
CDFG-Only				
Coast Live Oak Woodland[2]	0.01	1:1	0.01	1.10 acre – CDFG restoration (riparian) 0.72 acres – CDFG restoration (transitional buffer zone) 0.05 acre – CDFG enhancement 0.05 acre – CDFG Restoration (Ephemeral Tributaries)
Mixed Willow Riparian Woodland	1.90	1:1	1.90	
Unvegetated Stream	0.05	1:1	0.05	
CDFG-Only Subtotal	***1.96***	**—**	***1.96***	***1.92 acres – total***
TOTAL	**2.09**	—	**2.09**	**2.07**

[1] All temporary impact areas are incorporated into the mitigation program; however, mitigation treatment has been selected for each area to maximize success rate based on modified drainage patterns resulting from the bank grading and drainage inlets and outlets. As a result, some temporary impact areas are not being restored to their existing condition but receiving different mitigation treatments. Therefore, there is not a direct correlation between the temporary impact acreage and the restoration acreage.
[2] Additional mitigation for Coast Live Oak Woodland impacts is provided through the separate Oak Tree and Woodland Mitigation and Monitoring Plan (Dudek 2012b).

4.3.2 Cumulative Impacts to Jurisdictional Waters

Cumulative impacts to jurisdictional waters were assessed based on the cumulative impact analysis area and Related Projects described in the BRA (PCR 2010). The Related Projects include mostly infill developments that would either avoid jurisdictional waters or impact minimal areas (i.e., in the order of square feet for outlets, riprap, etc.). If impacts were to occur to jurisdictional waters, they would be mitigated through regulatory requirements enforced by the ACOE and RWQCB for jurisdictional waters protected by the Clean Water Act and by CDFG for streambeds protected under the California Fish and Game Code, Section 1602. Enforcement of these regulations effectively serves as a programmatic vehicle to keep cumulative impacts below a level of significance, with these agencies typically requiring mitigation through preservation, restoration, or enhancement at a one-to-one or greater ratio. Therefore, impacts to jurisdictional waters within the cumulative impact analysis area reviewed would not substantially diminish or threaten to eliminate any of these resources on a regional basis, and as a result, are not cumulatively significant.

5.0 INDIRECT IMPACTS

5.1 Noise Analysis

Indirect impacts related to noise are analyzed in the letter report prepared by Dudek dated July 6, 2011, entitled "Analysis of Potential Impacts to Wildlife due to Noise and Lighting Associated with Disney │ ABC Studios at The Ranch, Newhall, California." This addendum provides additional clarification and details regarding the potential significance of indirect impacts on wildlife species related to noise.

5.1.1 Construction Noise Analysis

5.1.1.1 Development Area

Measurements of ambient noise levels were taken in 2008 at three locations within the Development Area (Figure 8) and are summarized in Table 13.

Table 13
Summary of Ambient Noise Measurements

Measurement Locations	Overall Noise Levels (Over Entire Measurement Period), Range, Leq, dBA	
	Daytime (7 A.M. to 10 P.M.) Hourly L_{eq}	*Nighttime (10 P.M. to 7 A.M.) Hourly L_{eq}*
Location 1	60–72	57–70
Location 2	52	43–53
Location 3	49–64	46–69

Source: PCR 2008

Potential effects on special-status wildlife are discussed below for the various construction activities within the Development Area.

Daytime Activities: Earth Moving/Grading

To accommodate the Project, the entire Development Area would be cleared and mass graded at one time. A maximum of 10 acres would be actively graded on any given day. Earthwork associated with Project development within the Ranch would occur over a period of approximately 6 months during the initial phase of construction. The majority of construction activities within the Development Area would be limited to 7:00 a.m. to 7:00 p.m. Monday through Friday and 8:00 a.m. to 6:00 p.m. on Saturday, in accordance with Los Angeles County's Noise Control ordinance. No construction activities would occur on Sundays and holidays. Typical weekday construction

hours would be from 7:00 a.m. to 3:00 p.m. Noise levels related to construction within the Ranch could produce maximum noise levels of 76 to 101 A-weighted decibels (dBA) at up to 50 feet from the noise source (Dudek 2011a). The upper end of this range is associated with short-term, intermittent activity, such as a pile driver, with the majority of the construction equipment noise levels ranging from 78 to 84 dBA. Based on the existing minimum ambient noise level of approximately 50 dBA within the Development Area and a maximum construction noise level of approximately 100 dBA, construction noise would drop off to 70 dBA within 100 feet and 60 dBA within 300 feet of the construction noise source (Engineering Page 2011), which would be comparable to the mid-range noise levels that currently occur on-site.

The Development Area represents approximately 6.8% of habitat within the Ranch that is available to wildlife species with the potential to occur within the Development Area. Due to the presence of undeveloped suitable habitat immediately adjacent to the Development Area within other areas of the Ranch, species present within the Development Area would be expected to move to these adjacent undeveloped areas.

It is possible for birds to nest in habitat left undisturbed within Placerita Creek during construction, and construction noise has the potential to result in indirect impacts to nesting birds. The proposed mitigation measure for nesting birds (PCR 2010) requires surveys to be conducted for nesting birds if construction activities take place during the breeding season. If nesting birds occur within 300 feet (500 feet for raptors) of the disturbance area, a suitable buffer would be implemented (typically 300 feet for most birds and 500 feet for raptors) and the nest monitored by a biologist to ensure activities do not result in nest failure. With implementation of the mitigation measure, construction noise would not result in impacts on nesting birds.

Special-status wildlife species utilizing habitat within or near the Development Area would continue to have the opportunity for uninterrupted movement away from the Development Area, as under existing conditions. Given the short range of increased noise from the Development Area, the opportunity for wildlife to move into adjacent undeveloped areas, and the range of existing ambient noise levels of up to 72 dBA, potential affects to special-status species located within, adjacent to, and off site from the Development Area would be less than significant.

Nighttime Activities: Soil Hauling

The Project may include nighttime hauling for soil export activities. Activities scheduled during this night shift would be limited to loading trucks with soil and hauling off site. If implemented, this work shift would occur from approximately 7:00 or 8:00 p.m. to approximately 2:00 or 3:00 a.m., which is roughly similar to the California Department of Transportation (Caltrans) construction hours for roadway construction.

If night work occurs, soil materials would be concentrated in the central portions of the site, south of and away from Placerita Creek and adjacent habitat. Haul trucks would be traveling from the southern portion of the Development Area to Placerita Canyon Road, and thus distance traveled on site would be relatively short. Soil hauling would occur in the same timeframe as grading activities within the Development Area; therefore, wildlife species would only be present in those areas of the site not yet graded and in undeveloped areas adjacent to the Development Area. Haul truck noise levels would be approximately 76 dBA at 50 feet from the source. At 200 feet, levels would drop to approximately 64 dBA, well within the range of existing nighttime ambient noise levels of 43 to 70 dBA experienced within the Development Area. Both Placerita Creek and adjacent undeveloped areas are greater than 200 feet from the approximate location of the haul route. Because there are no listed species present and the other special-status species that do or may occur within the vicinity are well distributed in the region and have unimpeded access to adjacent suitable habitat, any impact would be temporary. Much of the projected noise would fall within ambient limits. Therefore, potential effects to special-status wildlife as a result of nighttime truck hauling activities would be less than significant.

5.1.1.2 Trail Area Construction

Construction of the trail would be conducted with hand tools and small equipment, including a Caterpillar D-4 grader, compaction equipment, and augers on a mini-excavator. Noise levels would be approximately 83 dBA at 50 feet from the source. Construction of the trail would take place during the daytime and is expected to last approximately 12 weeks. Due to the narrow, linear nature of the trail alignment located within a large undeveloped area consisting of native vegetation, wildlife species present within or adjacent to the Trail Area would be expected to move to these adjacent undeveloped areas. Due to the short duration of elevated noise at any one location, the short range of increased noise from the Trail Area, and the opportunity for wildlife to move into adjacent undeveloped areas, potential affects to special-status species located within, adjacent to, and near the Trail Area would be less than significant.

5.1.1.3 Off-Site Infrastructure Improvement Areas

The Off-Site Infrastructure Improvement Areas are located primarily within existing roadways or rights-of-way within developed, residential, and industrial areas, where average ambient noise levels are frequently greater than within the Ranch. Daytime ambient noise levels within the Off-Site Infrastructure Improvement Areas range from approximately 54.5 to 72.5 dBA, and nighttime ambient noise levels range from approximately 49 to 67 dBA.

Construction of the off-site utility improvements would last approximately 9 to 12 months. Construction hours for the off-site infrastructure improvements would depend on the governing

jurisdiction of the different segments of the water and sewer line alignments, as well as the power pole replacements. Specifically, for segments within the jurisdiction of the County of Los Angeles or the City of Santa Clarita, construction would be permitted from 7:00 a.m. to 7:00 p.m. Monday through Friday and 8:00 a.m. to 6:00 p.m. on Saturday. No construction activities would occur on Sundays and holidays. For segments under Caltrans' jurisdiction, construction hours would be from 11:00 p.m. to 5:00 a.m. Monday through Friday.

Installation of the off-site utility lines would result in noise levels of up to 86 dBA during peak construction periods, with reduced levels of 74 dBA at 100 feet from the source and 51 dBA at a distance of 1,500 feet. This construction noise would be temporary since construction of the water and sewer lines would move quickly along each alignment at approximately 75–100 linear feet per day, with construction in any given location along the pipeline route lasting only a few days. Similarly, the power pole replacement activities are anticipated to last several weeks, with the installation of wood poles lasting approximately 1 day and the installation of steel poles lasting 1–2 weeks due to the need for concrete foundations, plus a few weeks to remove the old poles and move the power lines. Due to the short duration of elevated noise at any one location, the general lack of habitat in these areas, and the ability of wildlife species that might occur in these areas to adapt to urban situations, potential indirect effects to special-status wildlife would be less than significant.

Roadway improvements would be completed toward the end of Phase 1 and would last approximately 6 months. Construction activities for the roadway improvements within the Caltrans right-of-way around the SR-14/Placerita Canyon Road on-ramps and off-ramps would occur from 11:00 p.m. to 5:00 a.m. Monday through Friday per Caltrans requirements. This work would occur in proximity to the Placerita Creek culvert, which extends under SR-14 and is used for local-scale wildlife movement (PCR 2008) by urban-tolerant species. Construction activities would be located more than 300 feet away from the culvert, which would reduce the noise levels to between 70 and 60 dBA (Leq). This range is within the typical levels experienced by urban-tolerant species. Additionally, the concrete nature of the culvert would provide a buffer from construction noise. Due to this being only a local corridor without regional import, there would be no indirect impacts to a regional wildlife corridor. The culvert provides for local movement of urban-tolerant species; however, due to the distance of the construction activity from the culvert, the noted use of the culvert by urban-tolerant species, and the buffering nature of concrete and soil, potential indirect effects to local wildlife movement would be less than significant.

5.1.2 Operational Noise Analysis

Upon completion of construction of the Project, there would be new noise levels associated with operations of the facilities. Wildlife that may be affected by the Project would be most likely to

occur within Placerita Creek and adjacent undeveloped areas elsewhere within the Ranch or off site. Operational noise impacts are discussed below.

5.1.2.1 Electrical Substation

The Project includes a new electrical substation, located within the northern portion of the Development Area. Analysis completed by Acoustical Engineering Services Inc. determined that the power transformer proposed within the substation is estimated to generate a noise level of approximately 77 dBA at a distance of 50 feet. At 300 feet, noise levels would attenuate to approximately 61 dBA, well within both the daytime and nighttime ambient noise levels at Noise Measurement Location 1 (Figure 8), located in the northern portion of the Development Area. Operation of the electrical substation would not result in indirect impacts to wildlife.

5.1.2.2 Building Mechanical Equipment

Operation of the Project would require building services mechanical equipment to condition and ventilate the indoor air environment. The central utility plant would be designed such that exterior noise levels would not exceed 82 dBA at a distance of 50 feet. This equipment would be located in the southern area of the Development Area, approximately 300 feet from Placerita Creek and 800 feet from undeveloped areas of the Ranch to the east. At a distance of 300 feet, noise levels would attenuate to approximately 64 dBA, within both the day and night ambient noise levels at Noise Measurement Location 3 (Figure 8), located in the southern portion of the Development Area. The building mechanical equipment would not result in indirect noise impacts to wildlife.

5.1.2.3 Soundstages and Mills

The Project's buildings include soundstages where film productions would take place and mills for set construction. The soundstage shell structures would be designed to provide sound insulation required to meet the Project-intended functions. Sound generation within the interior of the soundstages (including amplified sound) would be contained within the shell structures. Similarly, the shell structures of the mills would be designed with a minimum sound insulation of STC 35, to contain set construction-related noise within each building. Additionally, noise levels within the sound stages and mills would be similar to noise levels at similar uses within the Ranch. Due to the insulation of the shell structures and the similarity to existing noise levels to which local wildlife species would be acclimated, the soundstages and mills would not result in indirect noise impacts to wildlife species.

5.1.2.4 Parking

Parking for the Project would be provided within on-site surface lots adjacent to the soundstages and office buildings and within the eastern portion of the Development Area. Sources of noise associated with these surface parking areas would include automobile movements, which would generate a noise level of approximately 65 dBA at a distance of 25 feet. Car alarm and horn noise (intermittent events) would generate maximum noise levels of as high as 75 dBA at a reference distance of 25 feet. Noise levels associated with parking uses would fall within the range of existing ambient noise levels. Additionally, noise from parking would be similar to existing noise levels to which local wildlife species have already acclimated. Parking would not result in indirect noise impacts to wildlife species.

5.1.2.5 Loading Dock/Trash Compactor

The Project would include loading docks and trash compactors to be located at various locations within the Development Area. Based on measured noise levels from such operations, loading dock facilities and trash compactors would generate noise levels of approximately 71 and 65 dBA at a distance of 50 feet. These noise levels are within the ambient daytime noise levels at Noise Measurement Location 1 located in the north of the Development Area and slightly higher than the ambient daytime noise levels at Noise Measurement Location 2 located in the south of the Development Area. The nearest location would be a minimum of 100 feet from Placerita Creek; at 100 feet, noise levels would attenuate to approximately 65 to 59 dBA, well within both the day and night ambient noise levels at Noise Measurement Locations 1 and 2. The loading docks/trash compactors would not result in indirect noise impacts to wildlife.

5.2 Lighting Analysis

5.2.1 Construction Lighting Analysis

Potential indirect effects to wildlife species could occur from nighttime lighting associated with construction. Nighttime lighting would occur under two scenarios: soil hauling activities, if conducted at night, and the SR-14 interchange improvements. Lighting for soil hauling is expected to include lighting at the soil stockpile site(s) and headlights from the trucks. The soil stockpile site(s) would be located in the Development Area south of Placerita Creek, and haul trucks would exit the Development Area via Placerita Canyon Road and proceed to the nearby SR-14 on-ramps at Placerita Canyon Road or Sierra Highway. The only habitat present nearby would be habitat within Placerita Creek and retained oak woodlands along a portion of the Development Area's southern boundary. Project measures to reduce lighting impacts on wildlife would include situating lighting at least 50 feet away from the creek and the retained oak

woodlands to the south, as well as shielding and directing lighting internally and away from adjacent native habitat. Due to the absence of habitat adjacent to the on-site soil stockpile area(s) and the on-site haul route, the implementation of minimization measures to shield nearby habitat from night lighting, and the unimpeded access to adjacent undeveloped habitat should wildlife be present, indirect impacts resulting from vehicle night lighting are not considered significant.

The SR-14 interchange improvements would take place within the SR-14 right-of-way, where lighting currently exists from street lamps and headlights. Any required visibility or security lighting would be temporary and would focus on equipment and not on the surrounding habitat. Given these Project features and the lack of special-status wildlife species adjacent to the freeway ramps, the Project's potential short-term secondary lighting impacts on wildlife in areas surrounding the construction zone during construction would be less than significant.

5.2.2 Operational Lighting Analysis

An analysis of potential effects of the Project resulting from operational lighting was provided in a letter report dated July 6, 2011 (Dudek 2011a). This analysis concluded that approximately 0.46 acre would experience light trespass beyond the landscape components of the Project, with virtually no trespass in Placerita Creek, less than 0.1 acre within the retained oak woodland, and the remainder within agriculture and disturbed/developed areas. In no case would areas beyond the Development Area footprint be subject to light levels exceeding twilight, and in most cases the levels would be far less, closely mirroring a night under full moon to quarter-moon phases (0.01 to 0.001 foot-candle). Due to the minimal light encroachment area, minimal light encroachment levels, and measures employed to minimize light pollution, the Project would not result in long-term significant indirect impacts to special-status species from lighting.

6.0 MITIGATION MEASURES

In order to avoid or minimize impacts to biological resources, the following mitigation measure would be implemented.

Sensitive Plant Communities

Impacts to southern willow scrub and mixed willow riparian woodland are mitigated as part of the mitigation program for jurisdictional waters discussed below.

To compensate for impacts to oak woodland, the following mitigation measure would be implemented:

The Project shall implement the requirements of the approved Oak Tree and Woodland Mitigation and Monitoring Program, to mitigate impacts to oak trees protected under the Los Angeles County Oak Tree Ordinance and impacts to oak woodlands protected under California Public Resources Code 21083.4. As part of the Oak Tree and Woodland Mitigation and Monitoring Program, which shall restore and expand existing oak woodlands on the Project site, the Project shall mitigate for the impact to oak woodlands with at least a 2.4 acre to 1 acre mitigation-to-impact ratio.

- The Project's Oak Tree and Woodland Mitigation and Monitoring Program shall include the following components:
- Planting of at least 1,600 oak trees within or adjacent to existing oak woodlands on the Ranch;
- Minimization of impacts by avoiding approximately 95 percent of the oak trees and oak woodlands on the Ranch;
- Restoration of fire-damaged oak woodlands through oak tree seedling planting;
- Enhancement of oak woodland regeneration through oak seedling planting in areas with limited natural recruitment;
- Increased habitat connectivity through oak tree planting in areas between existing woodlands and along Placerita Creek;
- Planting of native understory species within oak woodland restoration areas in order to provide a more complete suite of oak woodland values apart from those provided by trees alone; and
- Implementation of a seven-year monitoring, documentation, and reporting program.

In addition, prior to the issuance of a building permit, the Applicant shall record a use restriction over the mitigation areas in which oak woodland planting, restoration, and enhancement occurs to protect these areas in perpetuity. The use restriction shall recognize the Applicant's ability to allow filming within these areas, provided the planted oaks are protected. The use restriction language shall be submitted to the County of Los Angeles Department of Regional Planning for review and approval prior to recordation.

To minimize impacts to oak trees, the following mitigation measure would be implemented:

> During Project construction, the Applicant shall implement all measures to protect the oak trees that are encroached upon, as indicated in the approved Oak Tree and Woodland Mitigation and Monitoring Program.

Special-Status Wildlife

To minimize the potential for direct impacts to special-status plant and wildlife species, the following mitigation measure would be implemented:

> Prior to issuance of a grading permit, a qualified biologist shall be retained by the Applicant as the biological monitor, subject to the approval of the County of Los Angeles Department of Regional Planning. The biological monitor shall conduct pre-grading field surveys for special-status plant and animal species that may be affected and/or eliminated as a result of grading and/or site preparation activities no more than one week prior to ground-disturbing activities. During earthmoving activities, the biological monitor shall be present to relocate any vertebrate species potentially impacted by Project construction to an appropriate off-site location of similar habitat. The biological monitor shall be authorized to stop specific grading activities if he or she suspects violations of biological mitigation measures or any local, state, or federal laws regarding biological resources.

To minimize the potential for mortality of individuals of special-status reptile species, the following mitigation measure would be implemented:

> Work areas shall be surveyed for special-status reptile species prior to and during construction activities. Any special-status reptiles occurring within the work area prior to the start of work shall be collected and relocated to areas outside of the designated work zones. If ongoing biological monitoring of construction activities reveals the presence of any special-status reptiles within an active work area, then work shall be temporarily halted within that area until the animals can be collected and relocated to areas outside of the designated work zone(s).

To minimize the potential for indirect impacts to special-status species, the following mitigation measure would be implemented:

> Nighttime construction lighting, if needed, shall be situated at least 50 feet away from Placerita Creek and any retained oak woodlands, shielded, and directed towards the interior of the Development Area, away from native habitat.

Nesting Birds

To avoid impacts to nesting birds, in compliance with the Migratory Bird Treaty Act, the following mitigation measure would be implemented:

> Project construction-related activities likely to have the potential of disturbing suitable bird nesting habitat shall be prohibited from February 1 through August 31, unless a biological monitor acceptable to the Director of the County of Los Angeles Department of Regional Planning surveys the Project area prior to disturbance to confirm that disturbance to habitat will not result in the failure of active nests on site or immediately adjacent to the area of disturbance. Disturbance shall be defined as any activity that physically removes and/or damages vegetation or habitat, any action that may cause disruption of nesting behavior such as noise exceeding 90dB from equipment, or direct artificial night lighting. Surveys shall be conducted on the subject property within 300 feet of disturbance areas (500 feet for raptors) no earlier than three days prior to the commencement of disturbance. If ground disturbance activities are delayed, then additional pre-disturbance surveys shall be conducted such that no more than three days will have elapsed between the survey and ground disturbance activities. The Applicant or the Project's Construction Manager shall provide the biologist with plans detailing the extent of proposed ground disturbance prior to the survey effort.
>
> If active nests are found, clearing and construction shall be postponed or halted within a buffer area established by the biological monitor that is suitable to the particular location of the nest (typically 300 feet for most birds and 500 feet for raptors) and acceptable to the Director of the County of Los Angeles Department of Regional Planning, until the nest is vacated and juveniles have fledged, as determined by the biologist, and there is no evidence of a second attempt at nesting. Limits of construction to avoid an active nest shall be established in the field with highly visible construction fencing, and construction personnel shall be instructed on the sensitivity of nest areas. Occupied nests within the buffer established by the biological monitor and adjacent to the construction site shall also be avoided to ensure nesting success. A qualified biologist shall serve as a construction monitor during those periods when construction activities will occur near active nest areas to ensure that no inadvertent impacts on these nests occur. The results of the surveys, including graphics showing the locations of any active nests detected, and documentation of any avoidance measures taken, shall be submitted to the County of Los Angeles Department of Regional Planning and California Department of Fish and Game within 14 days of completion of the pre-construction surveys or construction monitoring to document compliance with applicable state and federal laws pertaining to the protection of native birds.

Jurisdictional Waters

The following measure would be implemented to mitigate for impacts to jurisdictional waters:

Prior to issuance of a grading permit, the Project shall prepare and submit to the U.S. Army Corps of Engineers for verification a "Preliminary Delineation Report for Waters of the U.S." and a Streambed Alteration Notification package to the California Department of Fish and Game for alterations to Placerita Creek and its on-site jurisdictional tributaries. A Clean Water Act Section 404 permit shall be obtained from the U.S. Army Corps of Engineers, and the Applicant shall comply with the permit conditions. A Streambed Alteration Agreement shall be entered into with the California Department of Fish and Game under Section 1602 of the California Fish and Game Code, and the Applicant shall comply with the associated conditions. A Clean Water Act Section 401 Water Quality Certification shall be obtained from the Regional Water Quality Control Board, and the Applicant shall comply with the certification conditions. Mitigation for unavoidable impacts shall be provided through conservation or restoration of U.S. Army Corps of Engineers and California Department of Fish and Game jurisdictional features (on and off site) at a minimum of a 1:1 mitigation-to-impact ratio.

The Project shall implement the requirements of the final approved Habitat Mitigation and Monitoring Program to mitigate impacts to U.S. Army Corps of Engineers/Regional Water Quality Control Board "waters of the U.S./waters of the State" and California Department of Fish and Game jurisdictional streambeds. As part of the Habitat Mitigation and Monitoring Program, which shall restore and expand the riparian habitat along Placerita Creek following temporary impacts to stabilize the fill pad slopes, the Project shall mitigate for the impact to the southern willow scrub community and the mixed willow riparian woodland in the Development Area at a minimum of a 1:1 mitigation-to-impact ratio.

The Habitat Mitigation and Monitoring Program restoration efforts shall include the grading and recontouring of the existing fill pad slopes along Placerita Creek within the Development Area and the revegetation with native riparian species by planting and seeding. The Habitat Mitigation and Monitoring Program shall identify appropriate mitigation objectives, performance standards, planting and monitoring/reporting requirements to ensure successful restoration and enhancement of the mitigation area. The Habitat Mitigation and Monitoring Program shall also contain contingency measures identifying corrective actions required in the event that the performance standards are not met. A minimum of 4.14 acres of riparian habitat shall be established, restored, enhanced, and/or preserved, resulting in a net gain in California Department of Fish and Game jurisdictional area. Maintenance (i.e., weeding, pest control, irrigation system maintenance, trash removal, etc.) and monitoring of the mitigation area shall be conducted for five years or until such time as the Habitat Mitigation and Monitoring

Program performance standards are achieved to ensure success of the plan. The final Habitat Mitigation and Monitoring Program shall be submitted to and approved by the County of Los Angeles Department of Regional Planning, the U.S. Army Corps of Engineers, the Regional Water Quality Control Board, and the California Department of Fish and Game, in compliance with Clean Water Act Sections 401 and 404 and California Fish and Game Code Section 1602 and supporting regulations, prior to issuance of a grading permit.

7.0 CONCLUSION

Based on our review of special-status species in the area and the revised Project description, no new significant impacts to biological resources would occur.

Should you have any questions regarding this biological assessment, please do not hesitate to contact me at 760.479.4284 or at vjoshi@dudek.com.

Sincerely,

Vipul Joshi
Senior Ecologist/Project Manager

Att A: Figures 1–8
Att B: List of Wildlife Species Observed on Site
Att C: List of Plant Species Observed on Site

8.0 REFERENCES CITED

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PCR. 2010. *Biological Resources Assessment, Disney │ ABC Studios at The Ranch, Los Angeles County, California*. Prepared for Golden Oak Ranch Properties. Irvine, California: PCR. December 2010.

ATTACHMENT A

Figures 1–8

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FIGURE 1

Regional Map

Disney | ABC Studios at The Ranch - Addendum to Biological Resources Assessment

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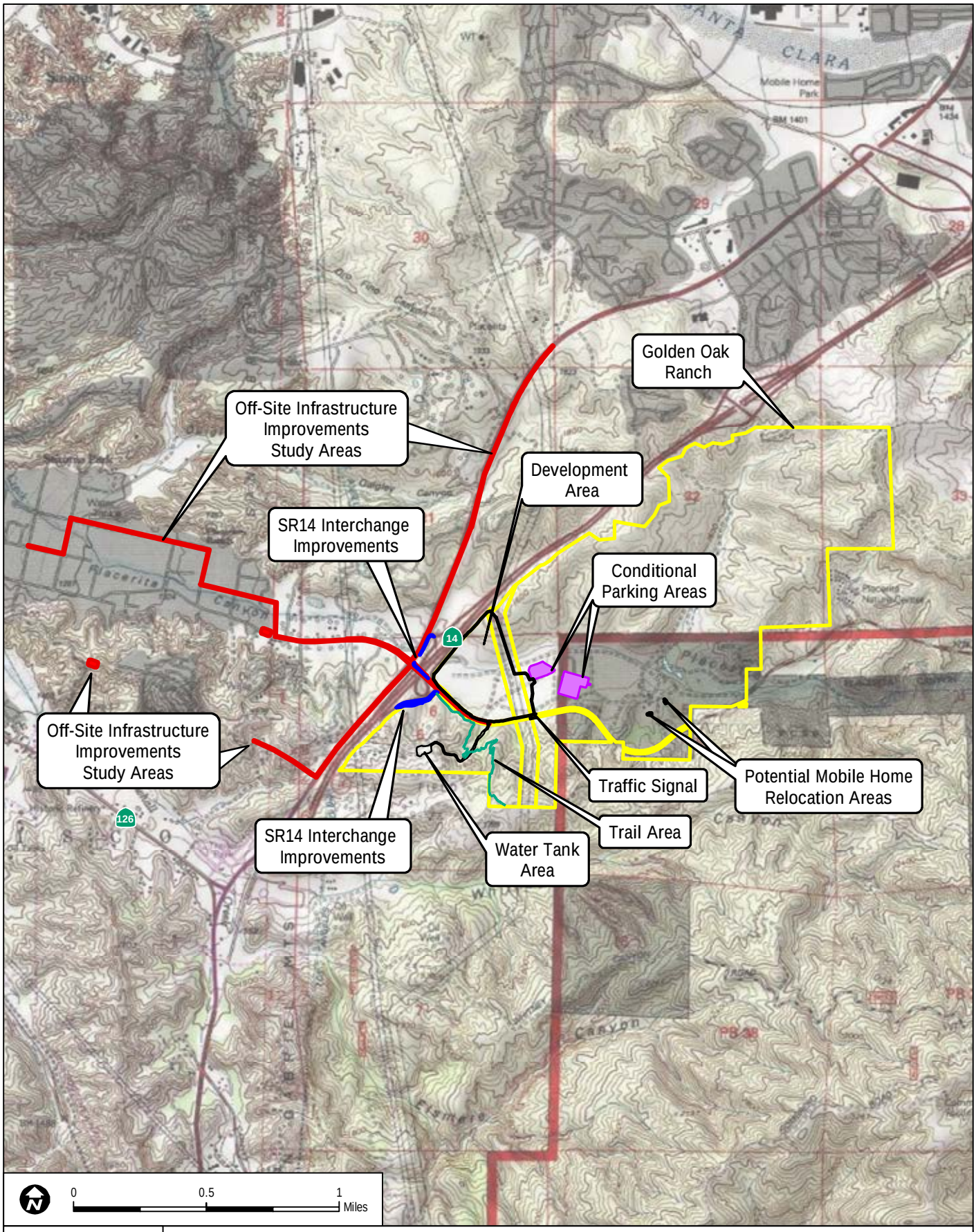

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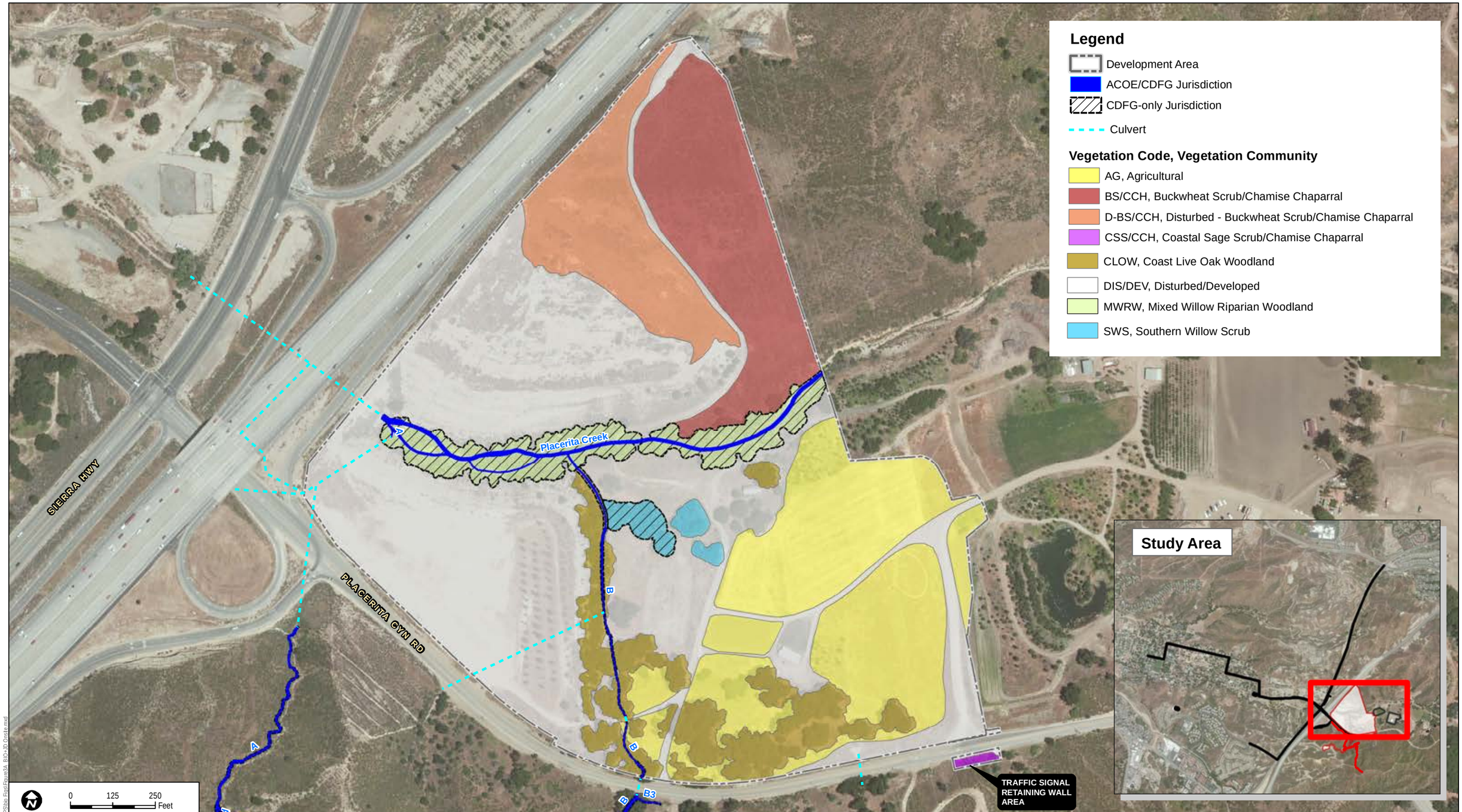
SOURCE: USGS 7.5 Minute Series Quadrangle.

FIGURE 2
Vicinity Map

Disney | ABC Studios at The Ranch - Addendum to Biological Resources Assessment



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AERIAL SOURCE: BING MAPPING SERVICE

FIGURE 3A

Biological Resources and Jurisdictional Delineation Map - Development Area

Disney | ABC Studios at The Ranch - Addendum to Biological Resources Assessment

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AERIAL SOURCE: BING MAPPING SERVICE

FIGURE 3B

Biological Resources Map - Conditional Parking Areas and Potential Mobile Home Relocation Areas

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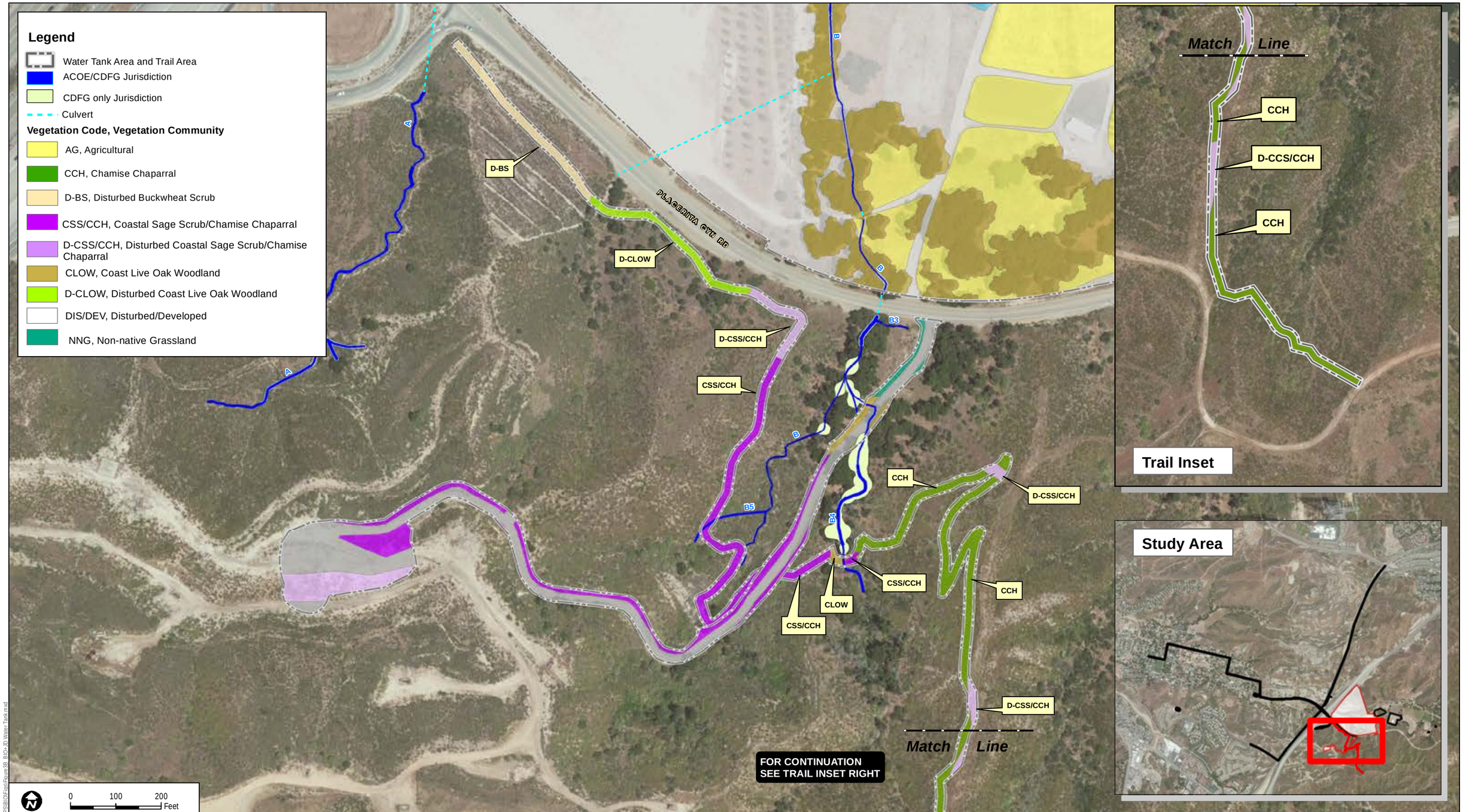

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SOURCES: AERIAL, BING MAPPING SERVICE; TRAIL, CRC ENTERPRISES 2011; WATER TANK, DEA, INC. 2010

FIGURE 3C

Biological Resources and Jurisdictional Delineation Map - Water Tank and Placerita Canyon Connector Trail

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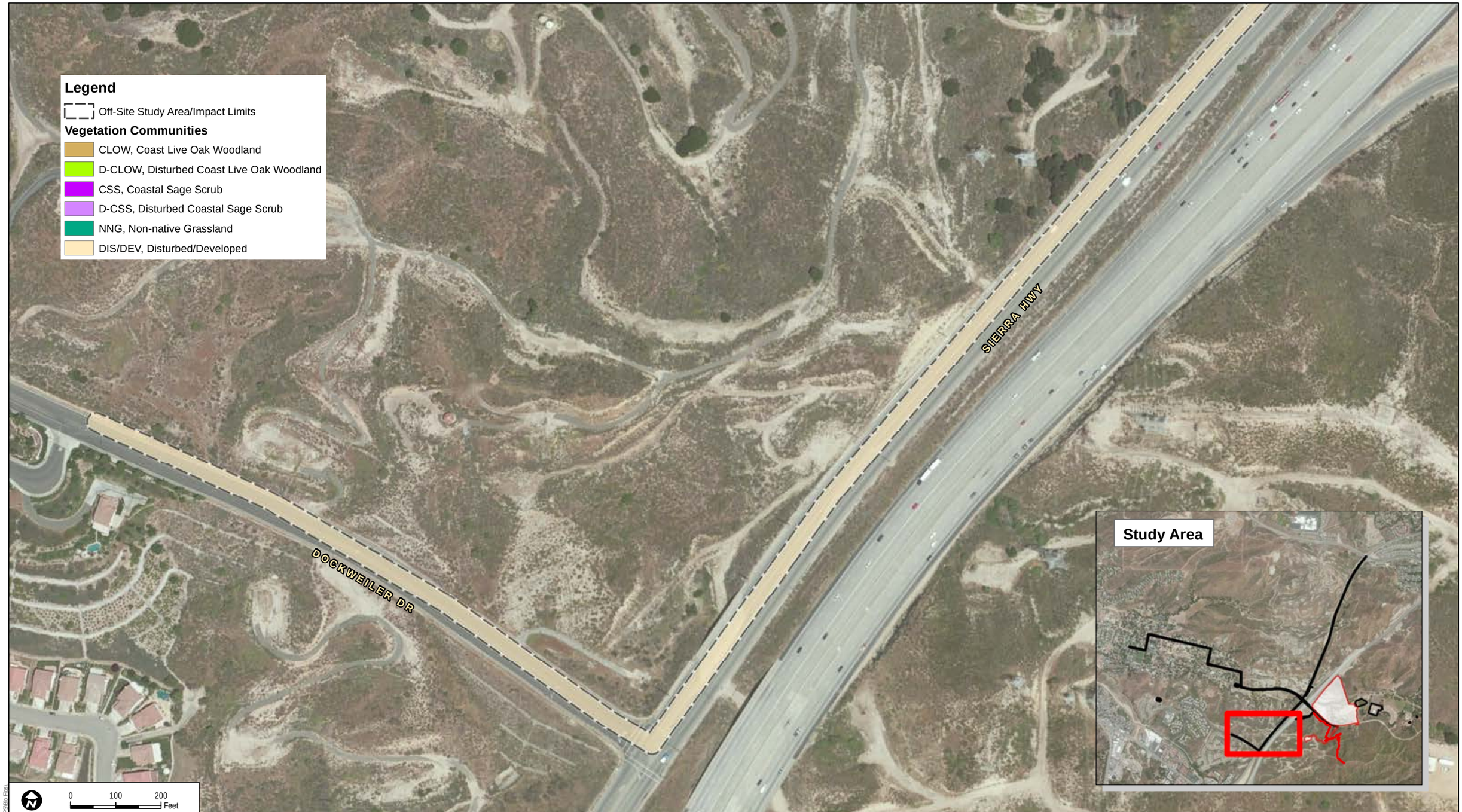
Z:\Projects\7018\01\MAPDOC\MAPS\BIO\Figs\Figure3B_BIO-JD Water Tank.mxd



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SOURCE: AERIAL, BING MAPPING SERVICE; OFF-SITE INFRASTRUCTURE IMPROVMENTS VEGETATION MAPPING, PCR 2010

FIGURE 3D

Biological Resources Map - Off-Site Infrastructure Improvement Area (West of Development Area)

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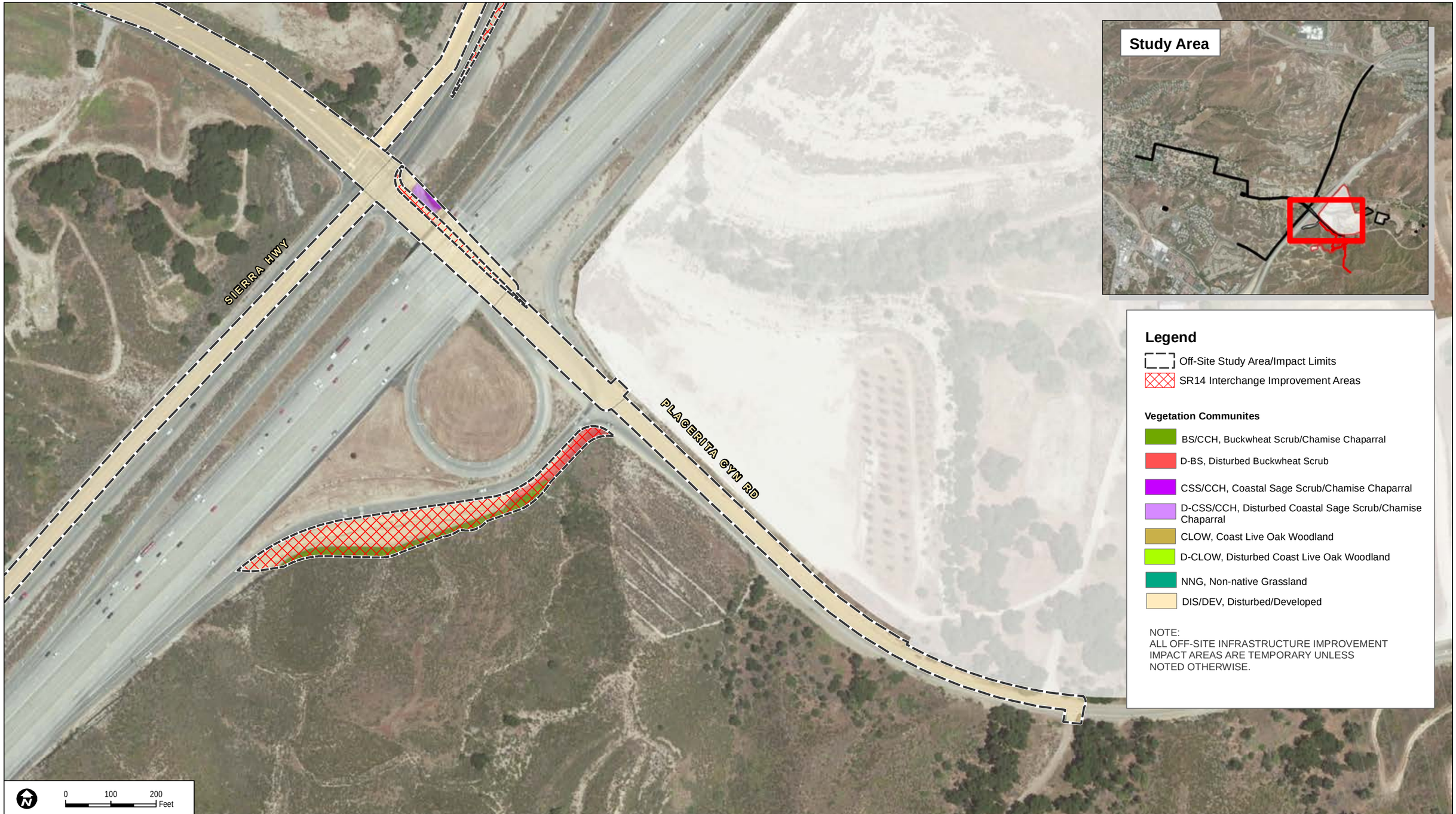

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SOURCE: AERIAL, BING MAPPING SERVICE; OFF-SITE INFRASTRUCTURE IMPROVMENTS VEGETATION MAPPING, PCR 2010

FIGURE 3E

Biological Resources Map - Off-Site Infrastructure Improvement Area (West of Development Area)

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SOURCE: AERIAL, BING MAPPING SERVICE; OFF-SITE INFRASTRUCTURE IMPROVMENTS VEGETATION MAPPING, PCR 2010

FIGURE 3F

Biological Resources Map - Off-Site Infrastructure Improvement Area (West of Development Area)

Disney | ABC Studios at The Ranch - Addendum to Biological Resources Assessment

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SOURCE: AERIAL, BING MAPPING SERVICE; OFF-SITE INFRASTRUCTURE IMPROVMENTS VEGETATION MAPPING, PCR 2010

FIGURE 3G

Biological Resources Map - Off-Site Infrastructure Improvement Area (West of Development Area)

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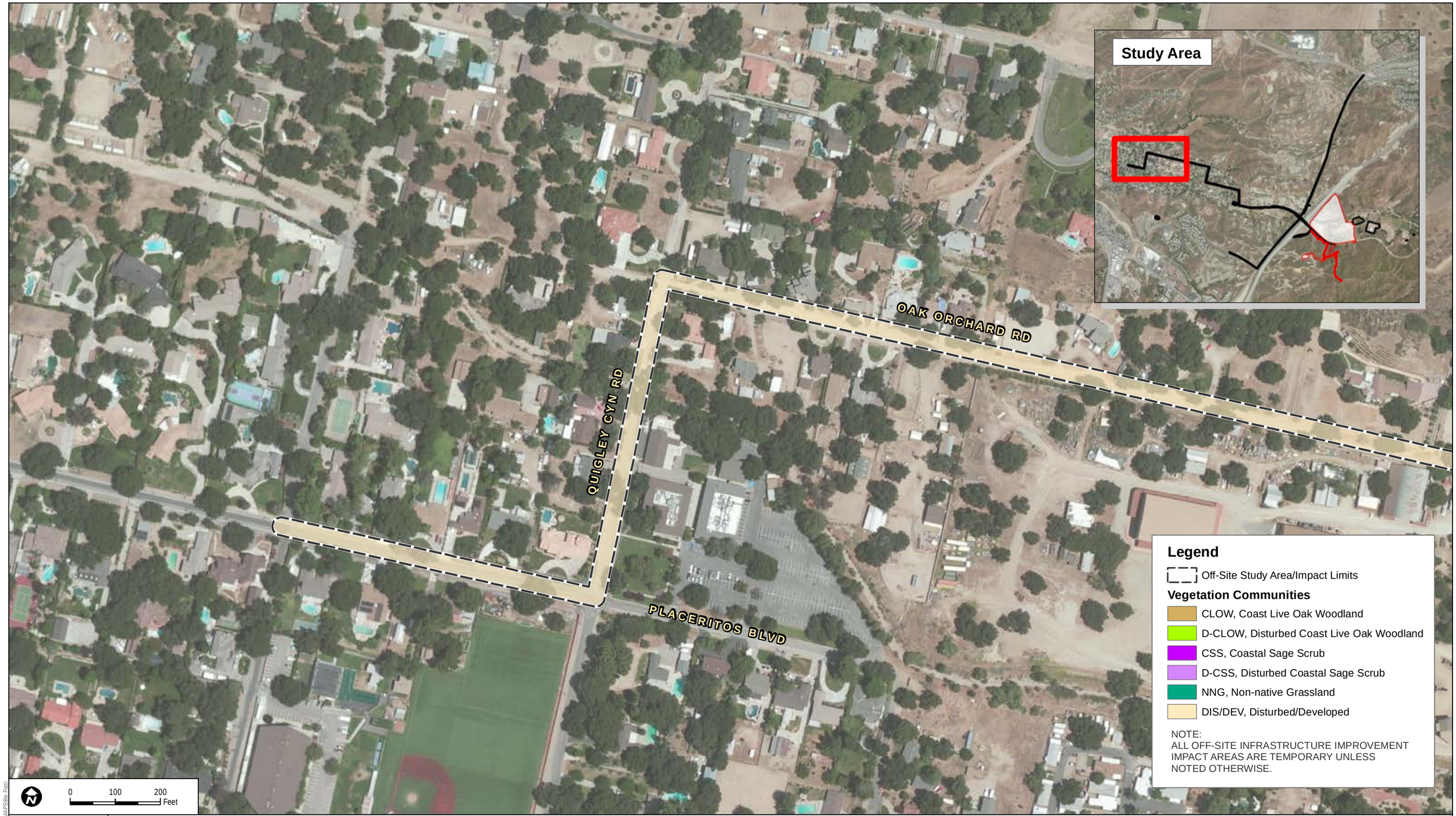

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SOURCE: AERIAL, BING MAPPING SERVICE; OFF-SITE INFRASTRUCTURE IMPROVMENTS VEGETATION MAPPING, PCR 2010

FIGURE 3H

Biological Resources Map - Off-Site Infrastructure Improvement Area (West of Development Area)

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SOURCE: AERIAL, BING MAPPING SERVICE; OFF-SITE INFRASTRUCTURE IMPROVMENTS VEGETATION MAPPING, PCR 2010

FIGURE 3I

Biological Resources Map - Off-Site Infrastructure Improvement Area (North of Development Area)

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SOURCE: AERIAL, BING MAPPING SERVICE; OFF-SITE INFRASTRUCTURE IMPROVMENTS VEGETATION MAPPING, PCR 2010

FIGURE 3J

Biological Resources Map - Off-Site Infrastructure Improvement Area (North of Development Area)

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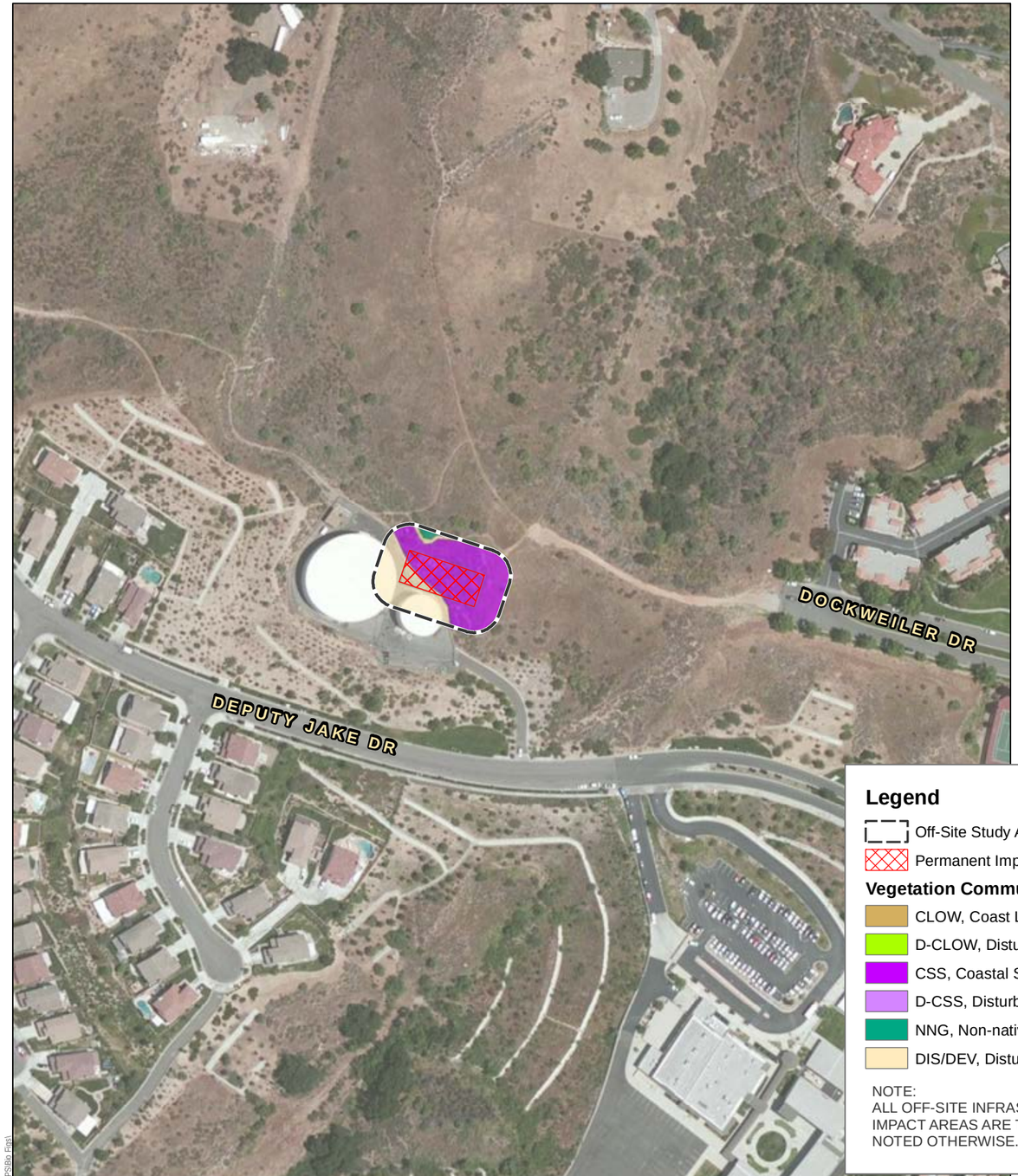

Legend

- Off-Site Study Area/Impact Limits
- Permanent Impact

Vegetation Communities

- CLOW, Coast Live Oak Woodland
- D-CLOW, Disturbed Coast Live Oak Woodland
- CSS, Coastal Sage Scrub
- D-CSS, Disturbed Coastal Sage Scrub
- NNG, Non-native Grassland
- DIS/DEV, Disturbed/Developed

NOTE:
ALL OFF-SITE INFRASTRUCTURE IMPROVEMENT IMPACT AREAS ARE TEMPORARY UNLESS NOTED OTHERWISE.

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SOURCE: AERIAL, BING MAPPING SERVICE; OFF-SITE INFRASTRUCTURE IMPROVMENTS VEGETATION MAPPING, PCR 2010

FIGURE 3K

Biological Resources Map - Off-Site Infrastructure Improvement Areas

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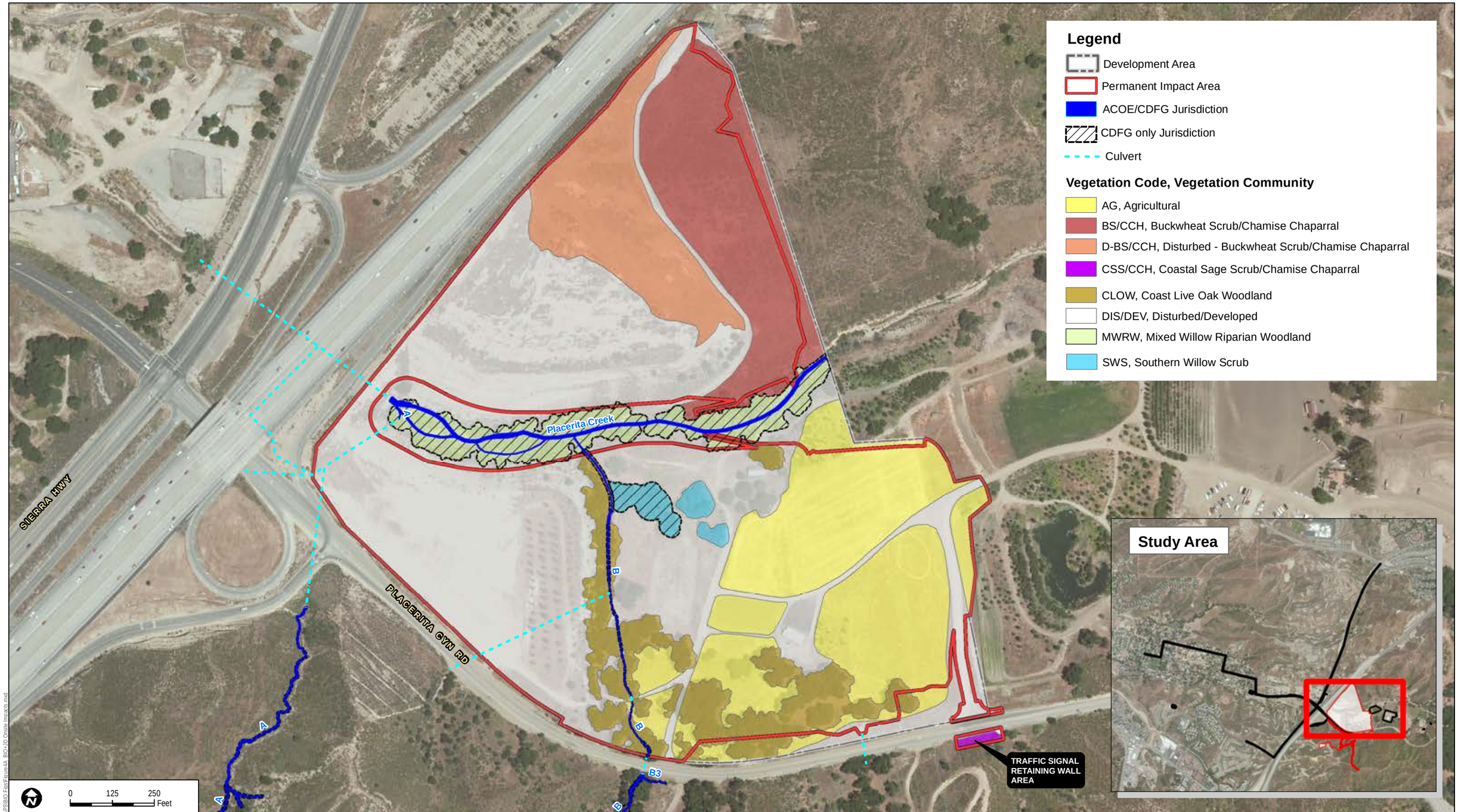

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AERIAL SOURCE: BING MAPPING SERVICE

FIGURE 4A

Biological Resources and Jurisdictional Delineation Map - Development Area Impacts

Disney | ABC Studios at The Ranch - Addendum to Biological Resources Assessment

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AERIAL SOURCE: BING MAPPING SERVICE

FIGURE 4B

Biological Resources Map - Conditional Parking Areas and Potential Mobile Home Relocation Areas Impacts

Disney | ABC Studios at The Ranch - Addendum to Biological Resources Assessment

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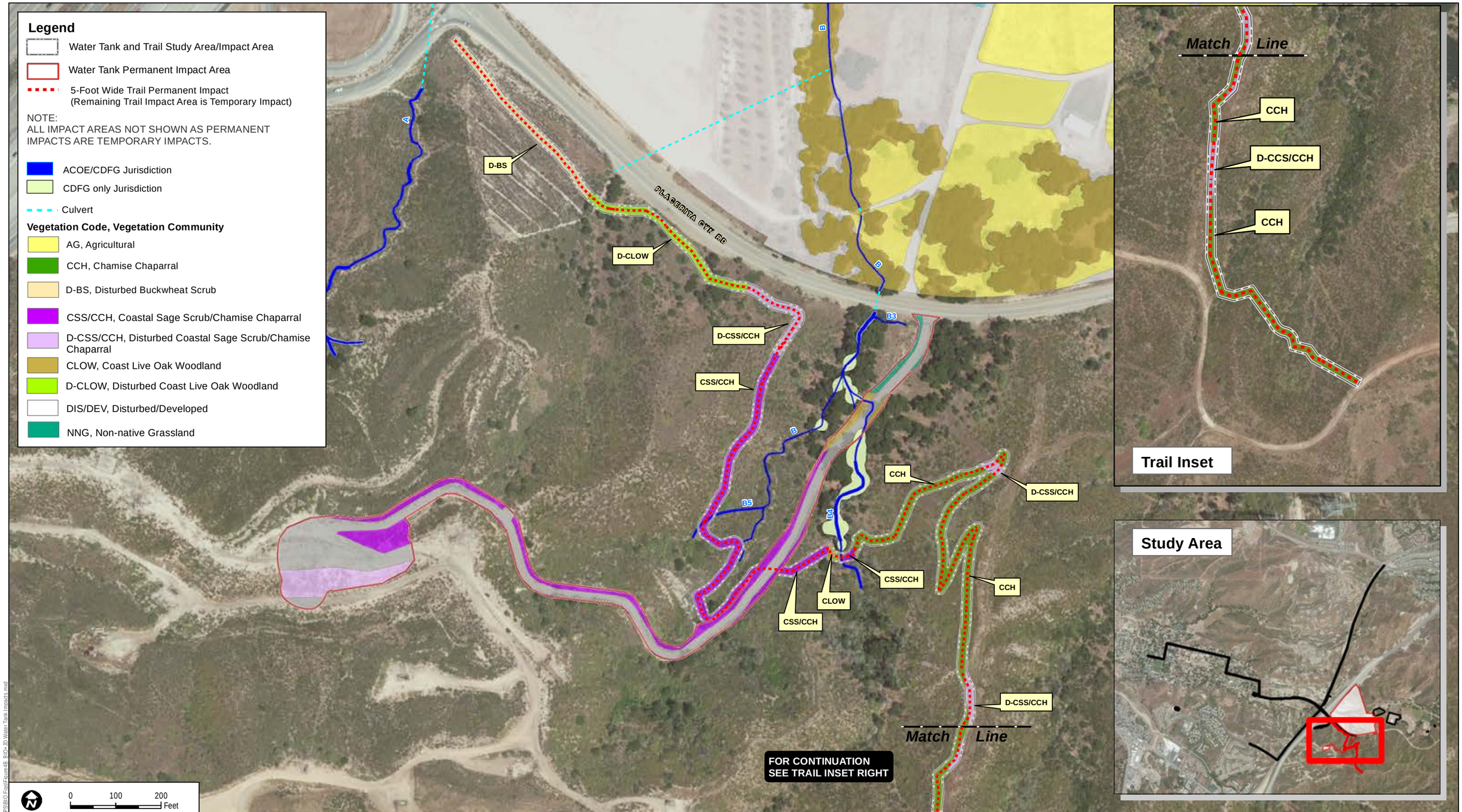

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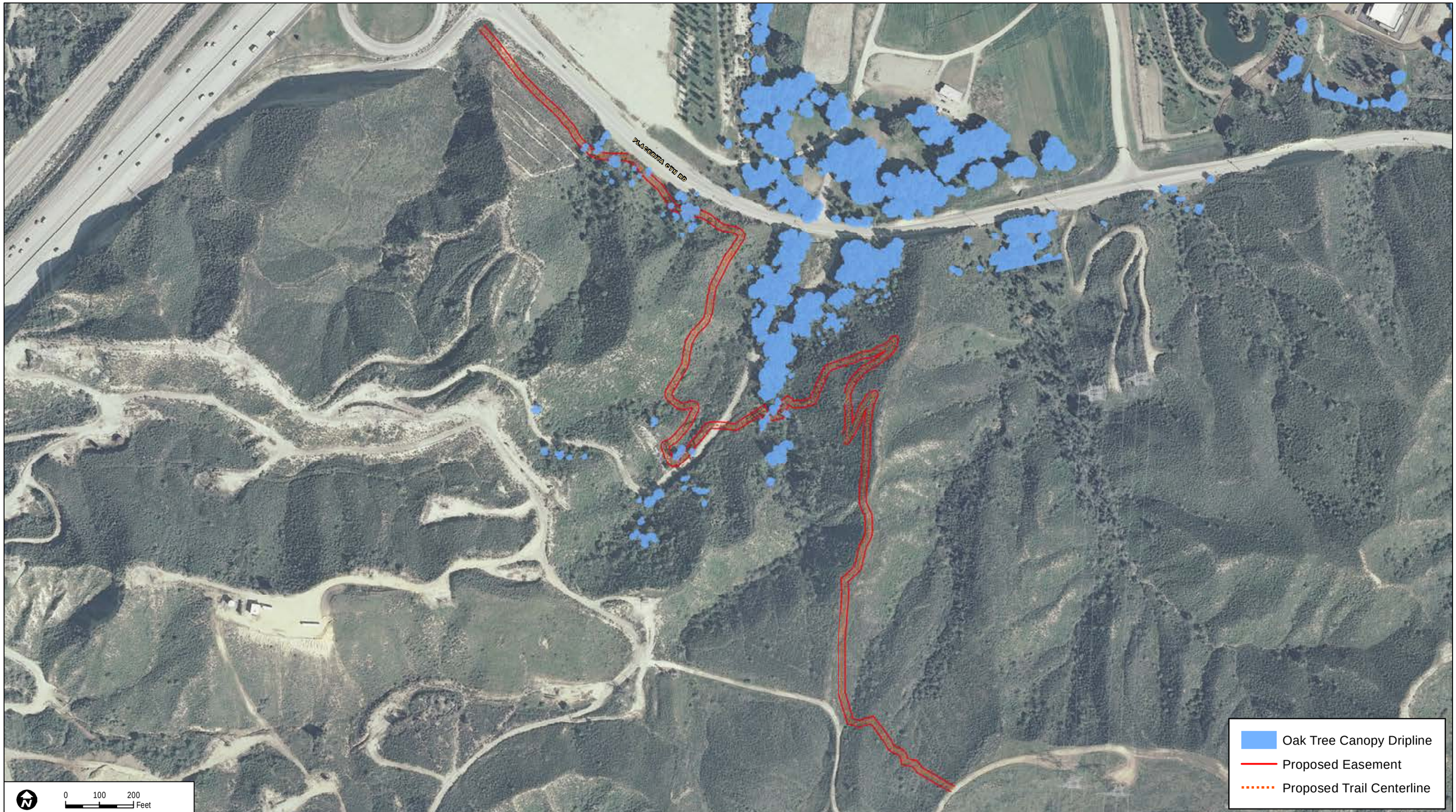
SOURCES: AERIAL, BING MAPPING SERVICE; TRAIL, CRC ENTERPRISES 2011; WATER TANK, DEA, INC. 2010

FIGURE 4C

Biological Resources and Jurisdictional Delineation Map - Water Tank and Placerita Canyon Connector Trail Impacts



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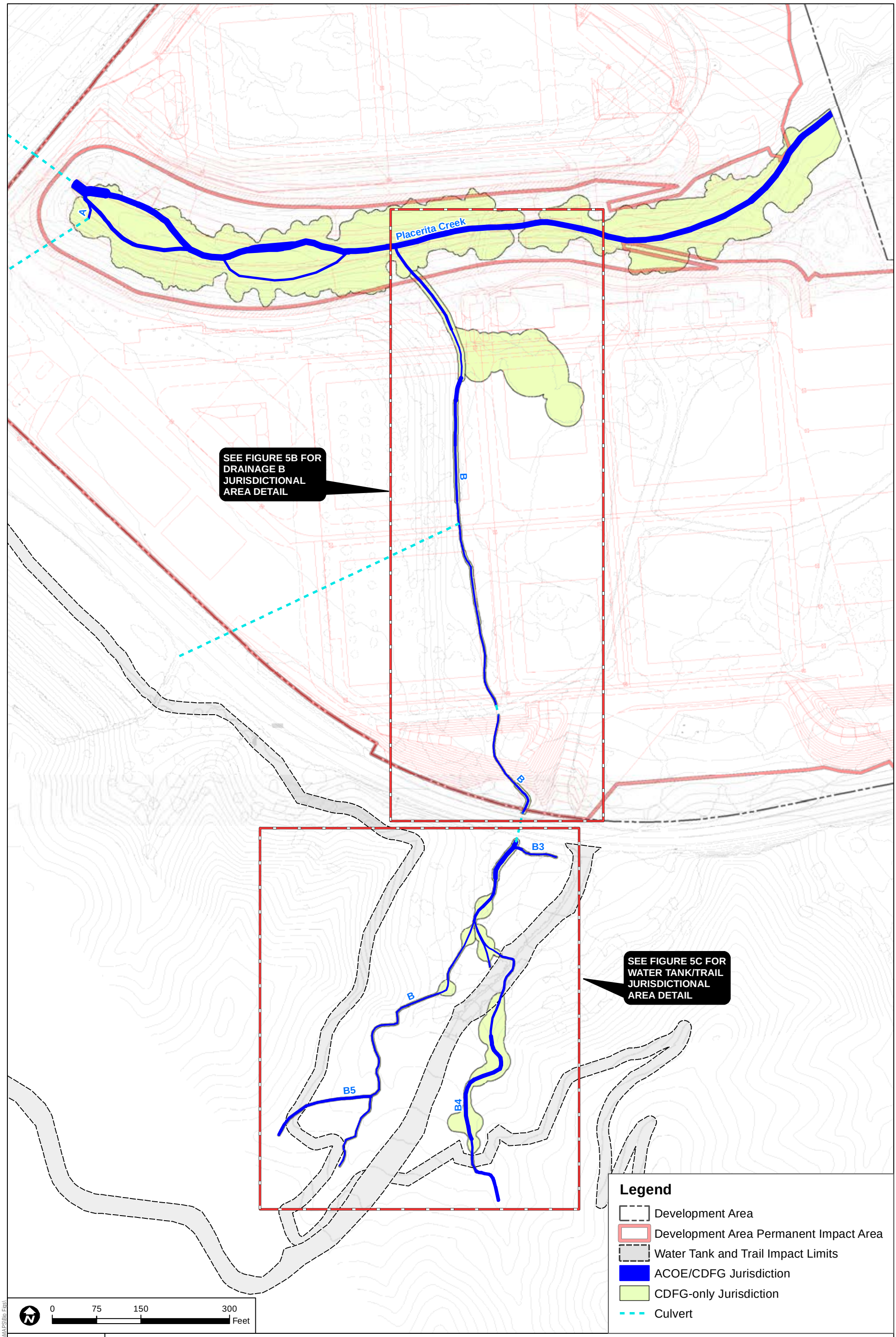
SOURCE: Aerial, ESRI World Imagery; Trail, CRC Enterprises 2011

FIGURE 4D

Placerita Canyon Connector Trail - Oak Assessment



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SITE PLAN SOURCE: DEA, INC. 2012

FIGURE 5A

Jurisdictional Delineation Map with Site Development Plan

Disney | ABC Studios at The Ranch - Addendum to Biological Resources Assessment

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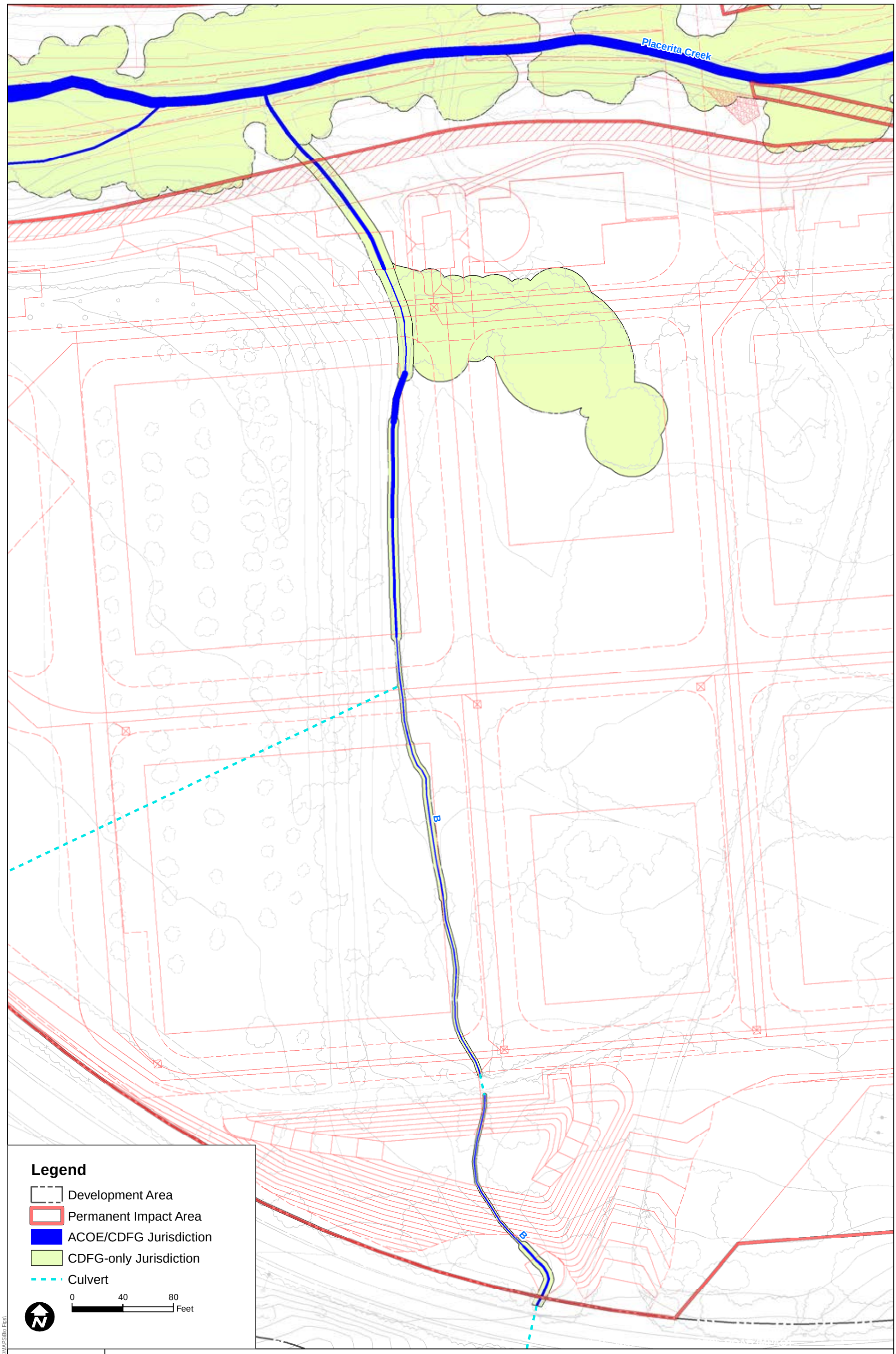

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APRIL 2012

SITE PLAN SOURCE: DEA, INC. 2010

FIGURE 5B

Jurisdictional Delineation - Drainage B Detail Area with Site Development Plan

Disney | ABC Studios at The Ranch - Addendum to Biological Resources Assessment

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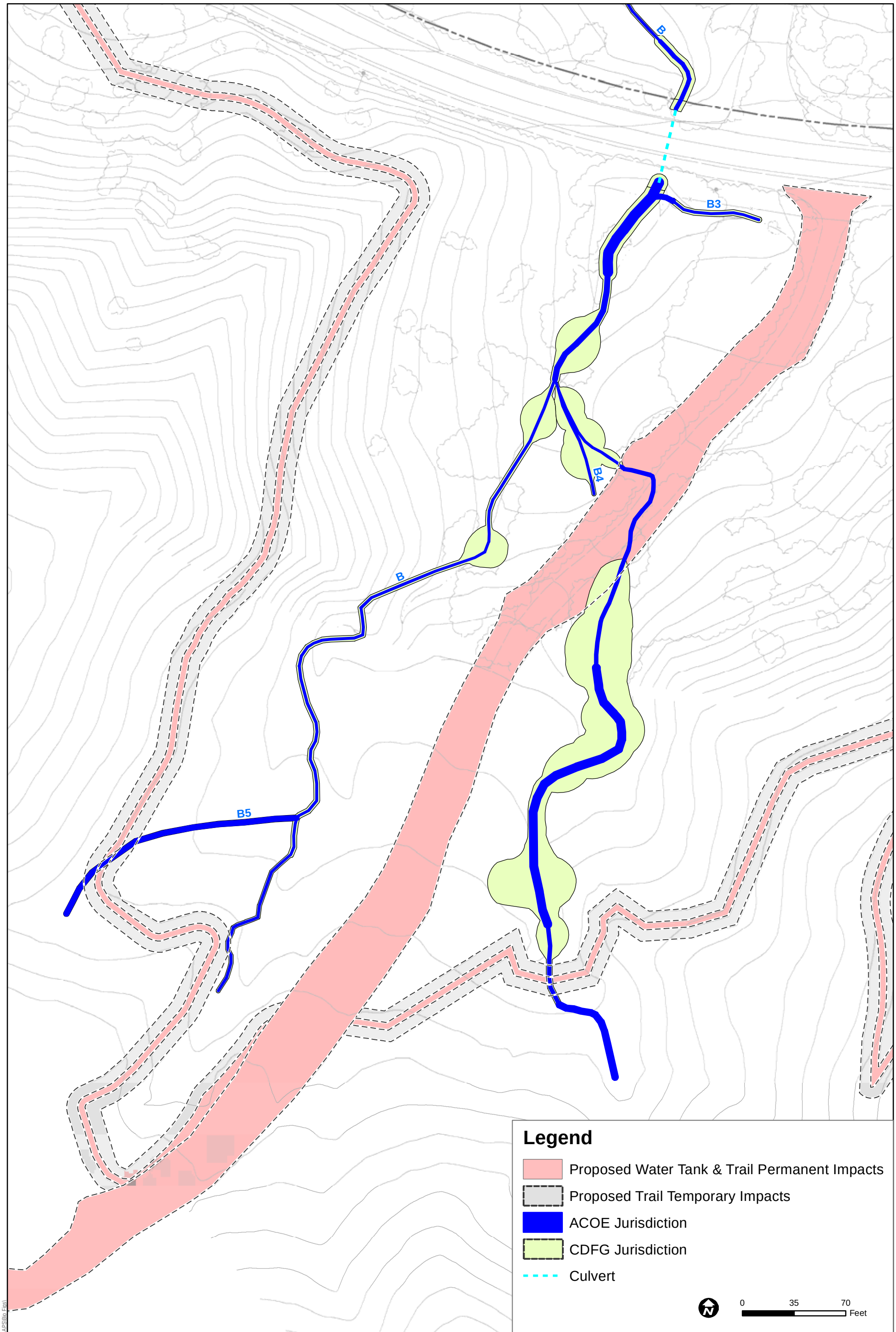

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SITE PLAN SOURCE: DEA, INC. 2010

FIGURE 5C

Jurisdictional Delineation - Water Tank and Trail Detail Area

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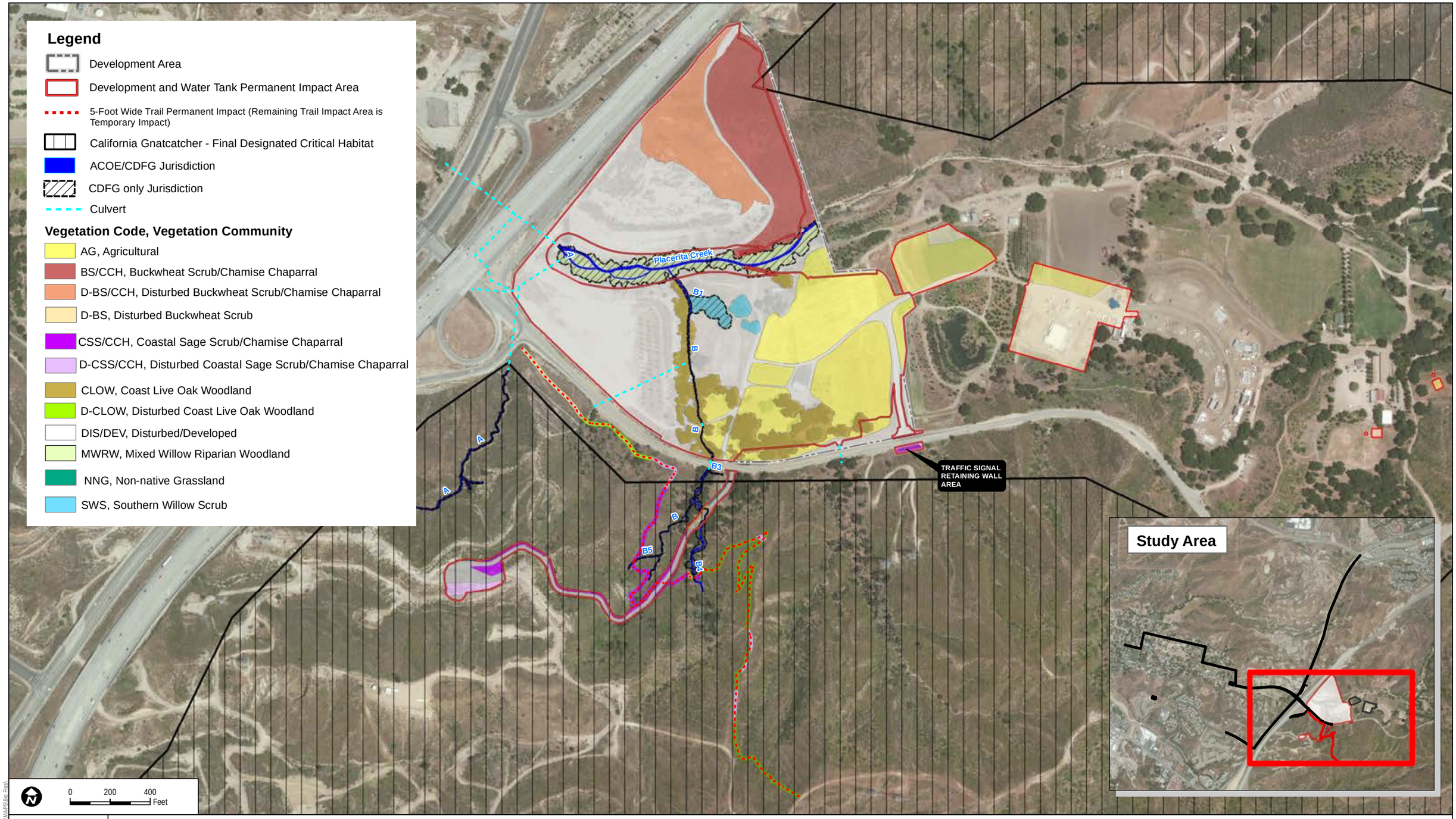

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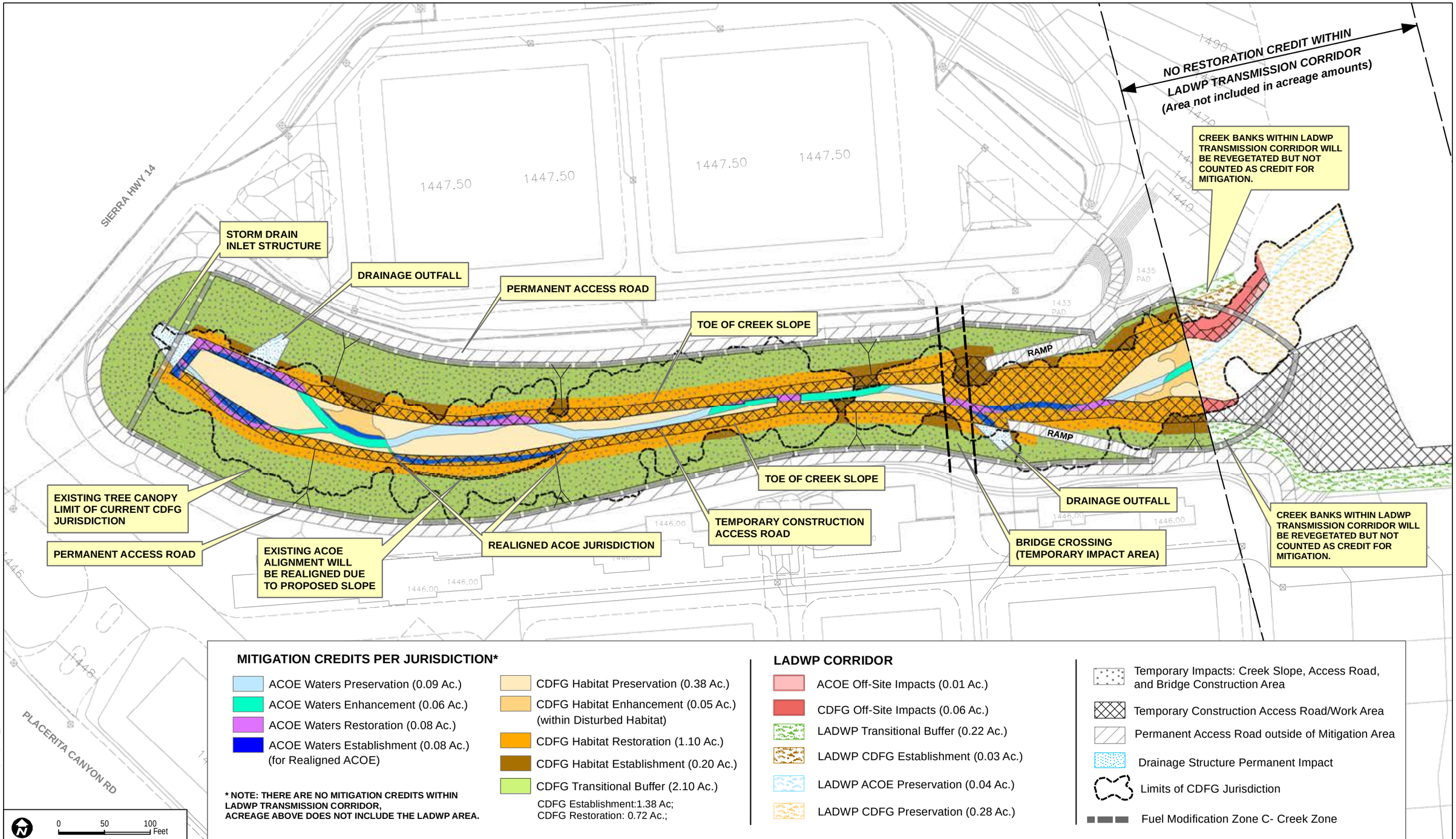
AERIAL SOURCE: BING MAPPING SERVICE

FIGURE 6

Biological Resources and Jurisdictional Delineation Map with California Gnatcatcher Final Designated Critical Habitat

Disney | ABC Studios at The Ranch - Addendum to Biological Resources Assessment



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SOURCE: Development Plan-DEA Inc. 2012: Creek Design- JLC Engineering March 2012

FIGURE 7

Placerita Creek Corridor Restoration/Mitigation (Mitigation Credits Per Jurisdiction)

Disney | ABC Studios at The Ranch - Addendum to Biological Resources Assessment

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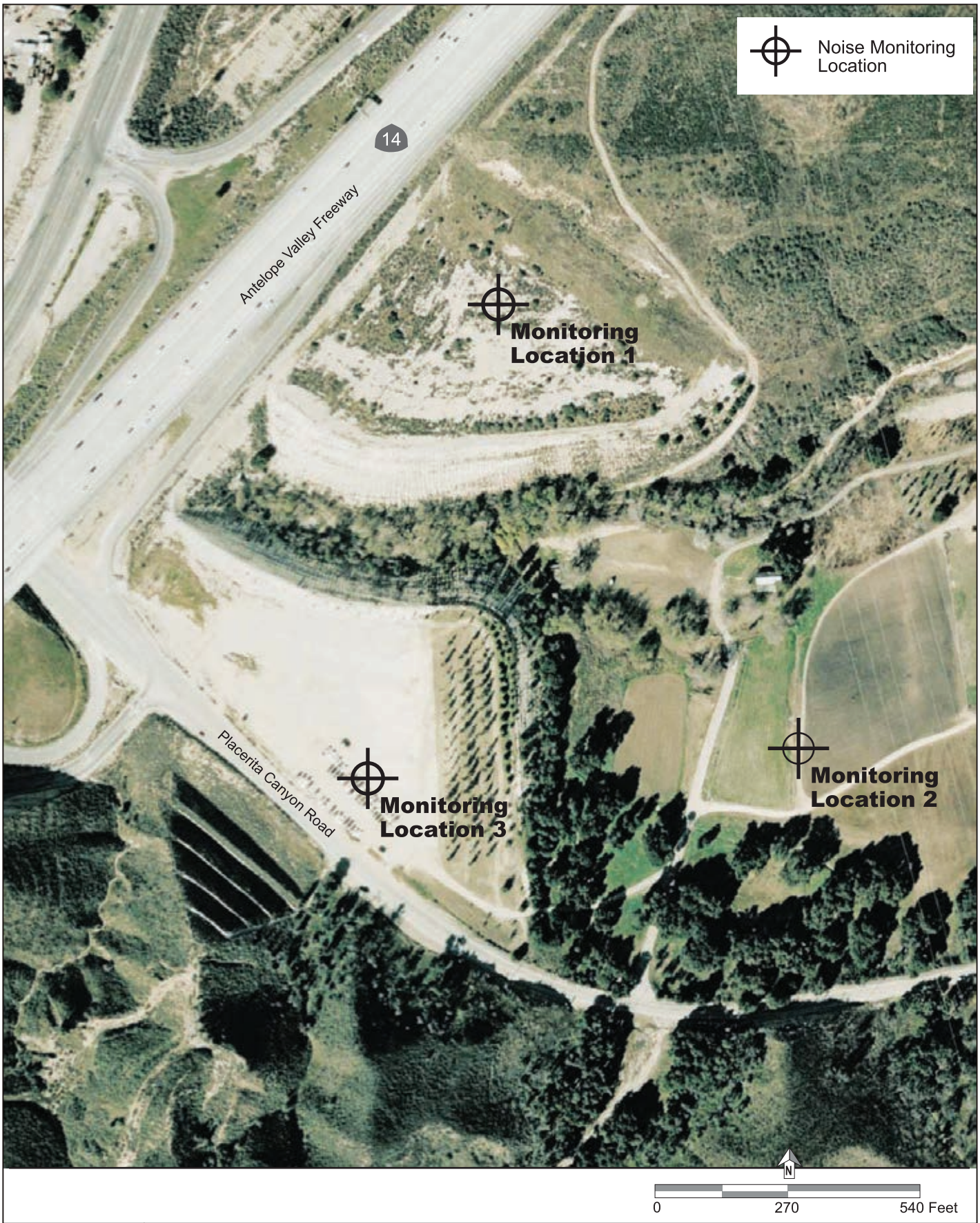

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SOURCE: PCR 2008

FIGURE 8
Existing Noise Measurement Locations

Disney | ABC Studios at The Ranch - Addendum to Biological Resources Assessment

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ATTACHMENT B

Wildlife Species Observed on Site

ATTACHMENT B
Wildlife Species Observed on the Project Site

WILDLIFE SPECIES – BIRDS

***ACCIPITRIDAE* – HAWKS**

* *Buteo jamaicensis* – red-tailed hawk

***CATHARTIDAE* – NEW WORLD VULTURES**

* *Cathartes aura* – turkey vulture

***CORVIDAE* – JAYS, MAGPIES, AND CROWS**

* *Aphelocoma californica* – western scrub-jay

* *Corvus corax* – common raven

***EMBERIZIDAE* – EMBERIZINES**

* *Melozone crissalis* – California towhee

* *Pipilo maculatus* – spotted towhee

*,† *Zonotrichia leucophrys* – white-crowned sparrow

***FRINGILLIDAE* – FINCHES**

* *Carpodacus mexicanus* – house finch

* *Spinus psaltria* – lesser goldfinch

***MIMIDAE* – MOCKINGBIRDS AND THRASHERS**

*,† *Toxostoma redivivum* – California thrasher

***ODONTOPHORIDAE* – NEW WORLD QUAIL**

* *Callipepla californica* – California quail

***PARIDAE* – TITMICE**

* *Baeolophus inornatus* – oak titmouse

***PICIDAE* – WOODPECKERS**

* *Melanerpes formicivorus* – acorn woodpecker

***REGULIDAE* – KINGLETS**

*,† *Regulus calendula* – ruby-crowned kinglet

***TIMALIIDAE* – WRENTITS**

*,† *Chamaea fasciata* – wrentit

***TROCHILIDAE* – HUMMINGBIRDS**

* *Calypte anna* – Anna's hummingbird

***TROGLODYTIDAE* – WRENS**

*,† *Thryomanes bewickii* – Bewick's wren

WILDLIFE SPECIES – MAMMALS

***CANIDAE* – CANIDS**

* *Canis latrans* – coyote

* Signifies native species

† Not included in BRA Appendix A

ATTACHMENT C

Plant Species Observed on Site

ATTACHMENT C
Plant Species Observed on the Project Site

VASCULAR SPECIES

DICOTS

***ADOXACEAE* – MUSKROOT FAMILY**

Sambucus nigra – black elderberry

***ASTERACEAE* – ASTER FAMILY**

Artemisia californica – California sagebrush
Baccharis pilularis – coyote brush
Baccharis salicifolia – mulefat
* *Carduus pycnocephalus* – Italian thistle
* *Centaurea melitensis* – Tocalote
Corethrogyne filaginifolia – common sandaster
† *Hazardia squarrosa* – saw-toothed goldenbush

***BRASSICACEAE* – MUSTARD FAMILY**

* *Brassica nigra* – black mustard

***CUCURBITACEAE* – GOURDE FAMILY**

Marah macrocarpa – Chilicothe

***FABACEAE* – LEGUME FAMILY**

Acmispon glaber – deerweed

***FAGACEAE* – OAK FAMILY**

Quercus agrifolia – coast live oak
Quercus berberdifolia – scrub oak

***LAMIACEAE* – MINT FAMILY**

* *Marrubium vulgare* – Horehound
† *Salvia leucophylla* – purple sage
† *Salvia mellifera* – black sage

***POLYGONACEAE* – BUCKWHEAT FAMILY**

Eriogonum fasciculatum – California buckwheat

***ROSACEAE* – ROSE FAMILY**

Adenostoma fasciculatum – Chamise
† *Cercocarpus* sp. – mountain mahogany
Heteromeles arbutifolia – toyon

MONOCOTS

***AGAVACEAE* – AGAVE FAMILY**

Hesperoyucca whipplei – Quixote plant

***POACEAE* – GRASS FAMILY**

* *Avena* sp. – wild oats

* *Bromus diandrus* – ripgut brome

* *Hordeum sp.* –barley sp.

* Signifies introduced (non-native) species

† Not included in BRA Appendix A

Appendix F.4

County Oak Tree Report

Oak Tree Report

Disney | ABC Studios at The Ranch
Los Angeles County, California

Prepared For:
GOLDEN OAK RANCH PROPERTIES
19802 Placerita Canyon Road
Newhall, California 91321

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Prepared By:

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Michael Huff, ISA Certified Arborist

APRIL 2012

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OAK TREE REPORT
DISNEY | ABC STUDIOS AT THE RANCH

1.0 INTRODUCTION

This report presents the findings of an oak tree survey conducted by PCR Services Corporation and technical review conducted by Dudek of all native trees of the genus *Quercus* (oaks) within the 58-acre development area (Development Area), an area south of Placerita Canyon Road in which a water tank and water line would be installed (Water Tank Area), two Conditional Parking Areas east of the Development Area, and two Potential Mobile Home Relocation Areas for Disney | ABC Studios at The Ranch (the Proposed Project), a project to be located on the westernmost portion of Golden Oak Ranch (Ranch) in Placerita Canyon, Los Angeles County, California.

The Proposed Project would provide up to twelve soundstages, production offices, six mills, a warehouse, talent bungalows, a commissary, an administration building, a central utility plant, and an electric distribution substation in the Development Area. As an alternative option, studio offices rather than four soundstages and two mills could be constructed on the northern portion of the Development Area. The Proposed Project also would construct a water tank on the Ranch south of Placerita Canyon Road and a water line from the water tank down an existing dirt road to Placerita Canyon Road, ultimately connecting with Newhall County Water District's existing water storage system. Additionally, two Conditional Parking Areas and two Potential Mobile Home Relocation Areas are included as part of the Proposed Project. The Conditional Parking Areas would be developed only if the Los Angeles Department of Water and Power (LADWP) were to revoke the parking license for the proposed main parking lots under its transmission towers. The Potential Mobile Home Relocation Areas also were included as the Ranch foreman's living quarters would be relocated as part of the Proposed Project. The Proposed Project also would improve the current main Ranch entrance road, requiring construction of a retaining wall on the south side of Placerita Canyon Road.

The Development Area is comprised of approximately 58 acres located in the westernmost portion of the 890-acre Ranch, just east of the Antelope Valley Freeway (SR-14), and north of Placerita Canyon Road (Figure 1). A substantial portion of the Development Area is located on two large, mostly barren fill pads created by Caltrans during construction of SR-14 in the early 1970s. The Development Area is separated from the remainder of the Ranch by a 330-foot strip of land traversing the Ranch in a generally northwest to southeast direction and owned by the LADWP. The Conditional Parking Areas and Potential Mobile Home Relocation Areas are east of the LADWP property. The Development Area is located within Section 6 T. 3

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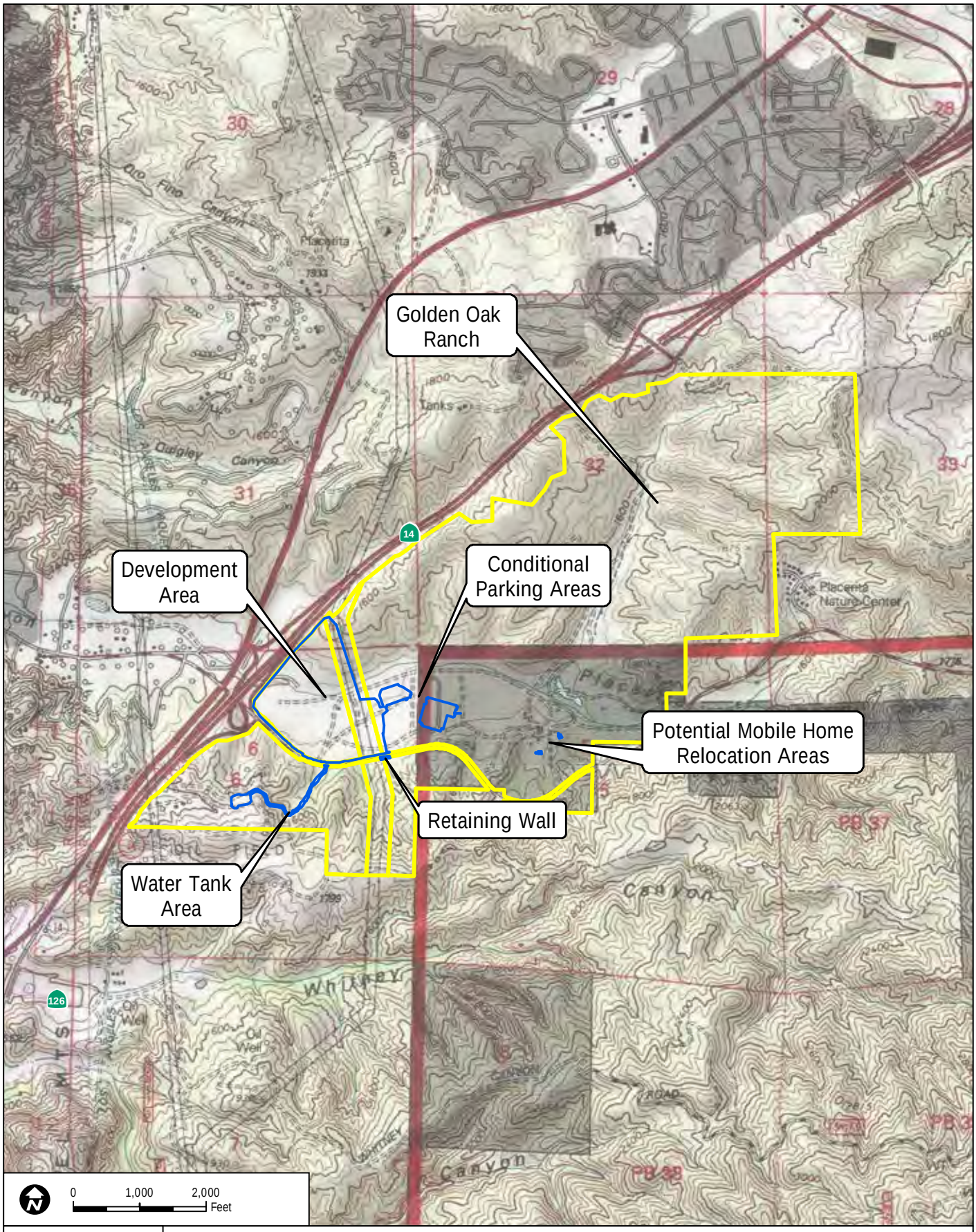
FIGURE 1

Regional Map

DISNEY | ABC STUDIOS AT THE RANCH



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SOURCE: USGS 7.5 Minute Series Quadrangle.

FIGURE 2

Vicinity Map

DISNEY | ABC STUDIOS AT THE RANCH

N., R. 15 W., of the U.S. Geological Survey (USGS) 7.5-minute Mint Canyon, California topographic quadrangle (Figure 2). The longitude and latitude of the approximate center of the Development Area is 34° 22' 41.879" North and 118° 29' 28.1399" West. UTM zone 11 (X, Y) 362903, 3805110.

The Ranch is situated in Placerita Canyon with relatively steep hillsides and ridgelines to the north and south. The bottom of the canyon is relatively flat with topography descending gently toward the west. The eastern portion of the Ranch includes private in-holdings within the Angeles National Forest.

The vicinity of the Development Area and the Ranch includes a variety of uses. New development within the Golden Valley Ranch planned community is underway to the north of the Ranch. Steep ridgelines separate and preclude visibility of this development from the Ranch. Residential subdivisions are also located to the northwest of the Ranch on the other side of SR-14 and are not visible from the Ranch due to distance and topography. To the south of the Ranch are Angeles National Forest and state park lands. To the east of the Ranch approximately 1.5 miles from the Development Area is a small residential subdivision that also is separated from the Development Area by steep ridgelines. The primarily undeveloped ridgelines of the Ranch are used as backdrop for existing filming activities on the Ranch floor. To the west of the Ranch and the Development Area across SR-14 are oil production wells and industrial uses, with The Master's College and a residential subdivision further to the west.

The purpose of this report is to satisfy the County of Los Angeles Oak Tree Ordinance (Ord. 88-0157 § 2, 1988; Ord. 82-0168 § 2 (part), 1982) as outlined in Chapter 22.56.2050, et seq., of the Los Angeles County Code. This report is consistent with the Ordinance as well as the accepted scientific and professional standards of the International Society of Arboriculture (ISA) 9th Edition *Guide for Plant Appraisal* (Council of Tree & Landscape Appraisers 2000). The scope of the oak tree report encompasses the existing site conditions, methodology, and survey results for all Ordinance-protected oak trees located both in and within 200 feet of the grading required for the Proposed Project in the Development Area, the Water Tank Area, the Conditional Parking Areas, the Potential Mobile Home Relocation Areas, and improvements to the current Ranch main entrance on the south side of Placerita Canyon Road.

2.0 EXISTING SITE CONDITIONS

The western portion of the Development Area is comprised of two large, mostly barren gravel pads of approximately 23.6 acres, which were created during the construction of SR-14 in the early 1970s. The eastern portion of the Development Area is dominated by agricultural fields and pastures associated with Ranch agricultural operations. These fields are interspersed with an area of oak woodlands in the south and bordered by Placerita Creek with its associated southern willow scrub/riparian woodland to the north. North of the creek and east of the northern gravel pad is a small, steeply sloped area covered by a mixed buckwheat scrub community. An unoccupied building is located in the northeastern corner of the southern portion of the

Development Area, a caretaker's residence is located in the southeastern corner, and the area is crossed by several gravel roads.

Local topography across the Development Area ranges from the nearly flat areas found on the agricultural fields and pastures and the tops of the gravel pads to steep gravelly slopes on the sides of the man-made fill pads. The elevations found on the Development Area range from approximately 1,398 feet above mean sea level (msl) in the downstream end of the creek to approximately 1,540 feet above msl within the northern portion of the Development Area.

The Water Tank Area is mostly disturbed and contains an existing dirt road with pockets of coast live oak along the sides of the road. The area proposed for the water tank is mostly disturbed from prior oil drilling operations, and both active and inactive oil wells exist nearby.

The Conditional Parking Areas are located just east of the Development Area. Conditional Parking Area 1 is a graded and compressed earth lot that is currently being used as a parking lot and staging area. Conditional Parking Area 2 is currently used intermittently for agriculture. It is located just east of the main Development Area and south of Placerita Creek. An elevated earthen access road cuts through the proposed lot.

The two Potential Mobile Home Relocation Areas are located east of the Development Area. The first potential relocation area lies just south of the existing Ranch office and the second lies east of the Ranch office. Both areas have been used for ranching and farming. Finally, use of a small area across Placerita Canyon Road may be required for a retaining wall for a proposed stoplight.

Vegetation communities within the Development Area consist of coast live oak woodland, disturbed coast live oak woodland, southern willow scrub, mixed riparian willow woodland, coastal sage scrub, disturbed coastal sage scrub, coastal sage scrub/chamise chaparral, buckwheat scrub/chamise chaparral, disturbed buckwheat scrub/chamise chaparral, disturbed buckwheat scrub, non-native grasses, agricultural land, ornamental, and disturbed/developed areas. The Water Tank Area contains non-native grasses, coast live oak woodland, coastal sage scrub/chamise chaparral, and disturbed/developed areas. The Conditional Parking Areas contain maintained agricultural or nursery land, developed or graded roadways and pads, structures, and non-native exotic mustard. The Potential Mobile Home Relocation Areas contain fallow agricultural land and non-native exotic mustard.

The remainder of the Ranch supports a variety of vegetation communities as well as stands of coast live oak woodland. These woodlands are found throughout many of the canyons and hillsides that dominate the landscape of the Ranch. A survey of oaks on the Ranch has identified over 3,000 oak trees, including approximately 130 heritage oak trees, which qualify for protection under the Ordinance.

3.0 METHODOLOGY

In accordance with the Ordinance, this oak tree survey report is based on information compiled through field reconnaissance, previous documentation, and appropriate reference materials. Reference materials include aerial photography, USGS topographic maps, digital ortho-quarter quadrangle data, and the Ordinance. In compliance with the Ordinance, oak tree surveys throughout the Development Area, Water Tank Area, Conditional Parking Areas, and Potential Mobile Home Relocation Areas were conducted from March 2009 through June 2011 by an ISA Certified Arborist. Data from a previous tree survey compiled by the Ranch staff in 2006, and subsequently field verified in 2009, is also incorporated within this report.

The Ordinance protects all tree species of the oak genus that measure 25 inches or more in circumference (eight inches in diameter) for trees with a single trunk, and 38 inches of combined circumference (12 inches in diameter) for any two trunks of trees with multiple stems, as measured at breast height, or 4.5 feet above natural grade (i.e., diameter at breast height (dbh)). The Ordinance also covers the "protected zone" of the jurisdictional oak trees, which extends to five feet outside of the dripline of the oak tree or 15 feet from the trunk(s) of a tree, whichever distance is greater. Additionally, the Ordinance requires identification of all oak trees that fall within 200 feet of project construction or grading.

Oak trees within the Development Area, Water Tank Area, Conditional Parking Areas, Potential Mobile Home Relocation Areas, current Ranch main entrance area and within 200 feet of grading required for the Proposed Project in these areas, and which meet the size criteria defined in the Ordinance, were assessed, tagged, inventoried, and plotted on an oak tree location map. Tree locations were plotted using a hand-held Trimble GeoXT Global Positioning System (GPS) unit. In addition, jurisdictional oak trees located near the Proposed Project's limit of grading were also surveyed by Clemons Land Surveying, a licensed surveying company. Oak trees with the potential to become Ordinance-sized trees before the start of the Proposed Project also were identified during the survey.

For each inventoried tree, the trunk diameter, circumference, height, and physical condition were recorded, and the health, aesthetics, and balance of the trees were assessed and ranked by grade (A = excellent, B = good, C = fair, D = poor, and E = nearly dead. Appendix A, *Tree Health Ratings*, provides a general outline on the health grading system. Additionally, the diameter of each tree's canopy plus five feet was documented to establish each tree's "protected zone". Many of the trees have connected canopies. In these circumstances, only the outer canopy boundary has been defined.

4.0 RESULTS

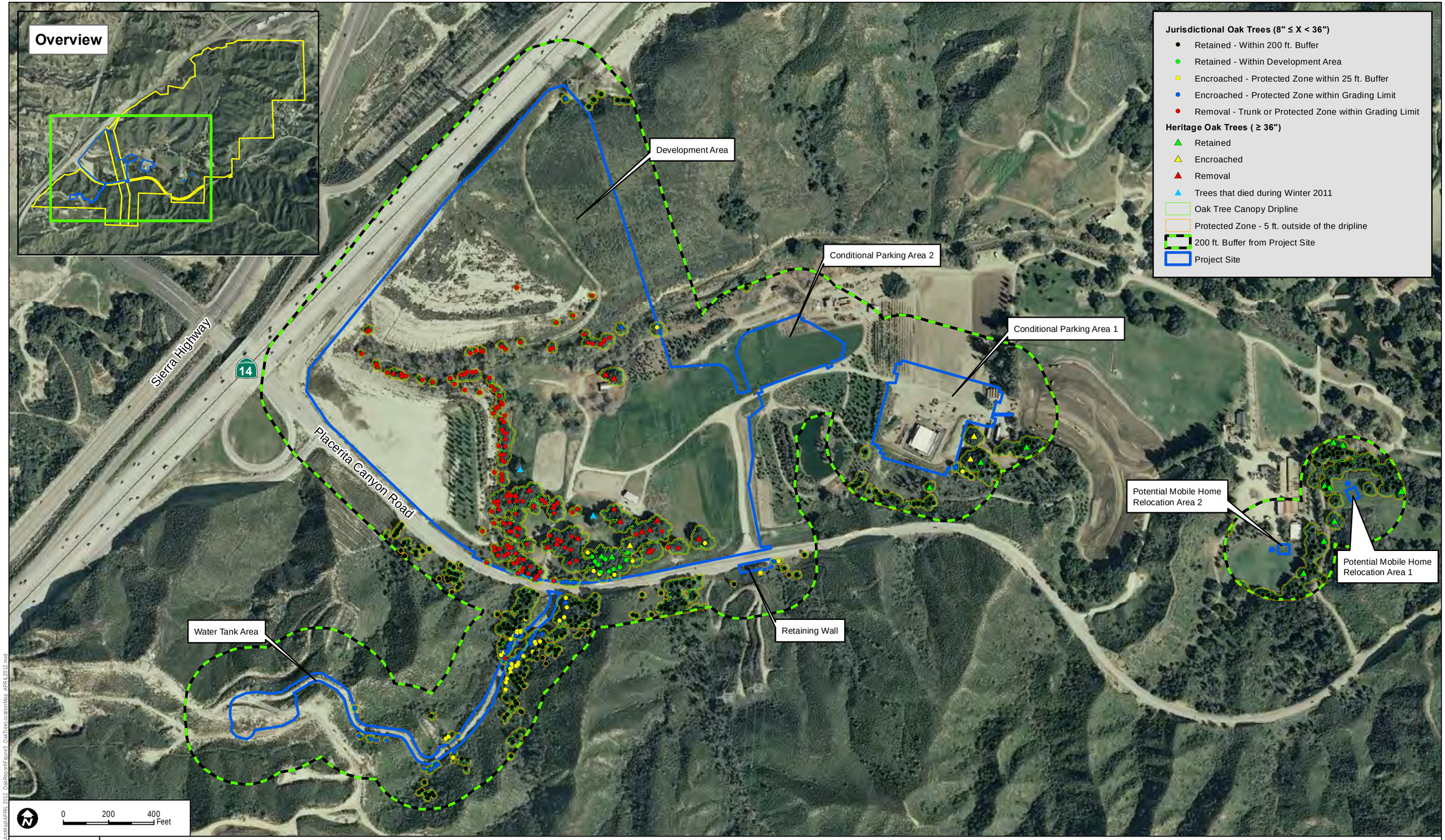
A total of 563 oak trees of Ordinance-protected size exist and were inventoried, assessed and mapped throughout the Development Area, Water Tank Area, the Conditional Parking Areas, the Potential Mobile Home Relocation Areas, the current Ranch main entrance area, and

within 200 feet of the grading required for construction of the Proposed Project. (Appendix B, *Oak Tree Survey Data*). All trees surveyed are native coast live oak. Of the 563 trees of Ordinance-protected size within the Development Area, Water Tank Area, the Conditional Parking Areas, the Potential Mobile Home Relocation Areas, the current Ranch main entrance area, and 200-foot buffer zone, 32 are heritage oaks (36-inch dbh or larger). A total of 250 of these trees, including 21 heritage oaks, occur within the Development Area, Water Tank Area, the Conditional Parking Areas, the Potential Mobile Home Relocation Areas, and the current Ranch main entrance area. Table 1 presents the general location of these oak trees based on trunk diameter. The location of each tree surveyed is shown in the *Oak Tree Location Map* (Figure 3). Figure 3 also identifies each tree categorized as a heritage tree as well as the tree canopy, indicated by a green line, and the five foot protected zone for each tree of Ordinance-protected size, indicated by an orange line around the green line.

Table 1
Tree Assessment Summary

Tree Location	Trunk Diameter (dbh)		Total
	8 – 35 inches	≥ 36 inches (Heritage)	
Development Area	163	19	182
Water Tank Area	63	0	63
Conditional Parking Areas	2	2	4
Potential Mobile Home Relocation Areas	0	0	0
Current Ranch Main Entrance Area	4	0	4
200 ft Buffer Zone	299	11	310
Total	**531**	**32**	**563**

The summary of tree quantities presented in Table 1 excludes two heritage oak trees, originally identified as No. 841 and No. 898 in the prior version of this report (February 2011). These two trees were lost to storm damage during the 2011 winter season.



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SOURCE: DigitalGlobe 2005-2008

FIGURE 3

Oak Tree Location Map

DISNEY | ABC STUDIOS AT THE RANCH

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5.0 IMPACTS

In assessing impacts related to the Proposed Project, a conservative approach was taken to ensure all oak trees within the vicinity of the proposed limit of grading would be protected to the maximum extent possible. This conservative assessment used a 25-foot buffer zone outside of the limit of grading to identify those trees requiring removal or encroachment. Jurisdictional oak trees with protected zones located within the 25-foot buffer zone, as identified in Appendix B under the column entitled "Project Status", are categorized for encroachment due to the presence of the either their trunk or canopy within the 25-foot buffer zone. Trees within the 25-foot buffer zone that are categorized for encroachment are counted as such in this report. However, if suitable actions can be taken during the construction phase of the Proposed Project to protect and avoid encroaching upon any of these trees within the 25-foot buffer zone, they will be protected and retained by measures described in Section 6.3 below. Tables 2 through 5 present the Project Status and Location of the trees within the 200-ft buffer, the Development Area, the Conditional Parking Areas, the Potential Mobile Home Relocation Areas, the Water Tank Area, and the current Ranch main entrance area.

Table 2
All Jurisdictional Trees (≥ 8") Trees Within the Development Area, the Conditional Parking Areas, the Potential Mobile Home Relocation Areas, the Water Tank Area, the Current Ranch Main Entrance Area and the 200 ft. Buffer Area

Location	Project Status			Total
	Encroached	Removed	Retained	
Within 200 ft Buffer			311	311
Within Development Area			12	12
Protected Zone within 25 ft Buffer	45			45
Protected Zone within Grading Limit	37	4		41
Trunk within Grading Limit		154		154
Total	**82**	**158**	**323**	**563**

Table 3
All Jurisdictional Trees (≥ 8") Within the Development Area, Conditional Parking Areas, Potential Mobile Home Relocation Areas, Water Tank Area, and Current Ranch Main Entrance Area

Location	Project Status			Total
	Encroached	Removed	Retained	
Within Development Area			12	12
Protected Zone within 25 ft Buffer	45			45
Protected Zone within Grading Limit	37	4		41
Trunk within Grading Limit		154		154
Total	**82**	**158**	**12**	**252**

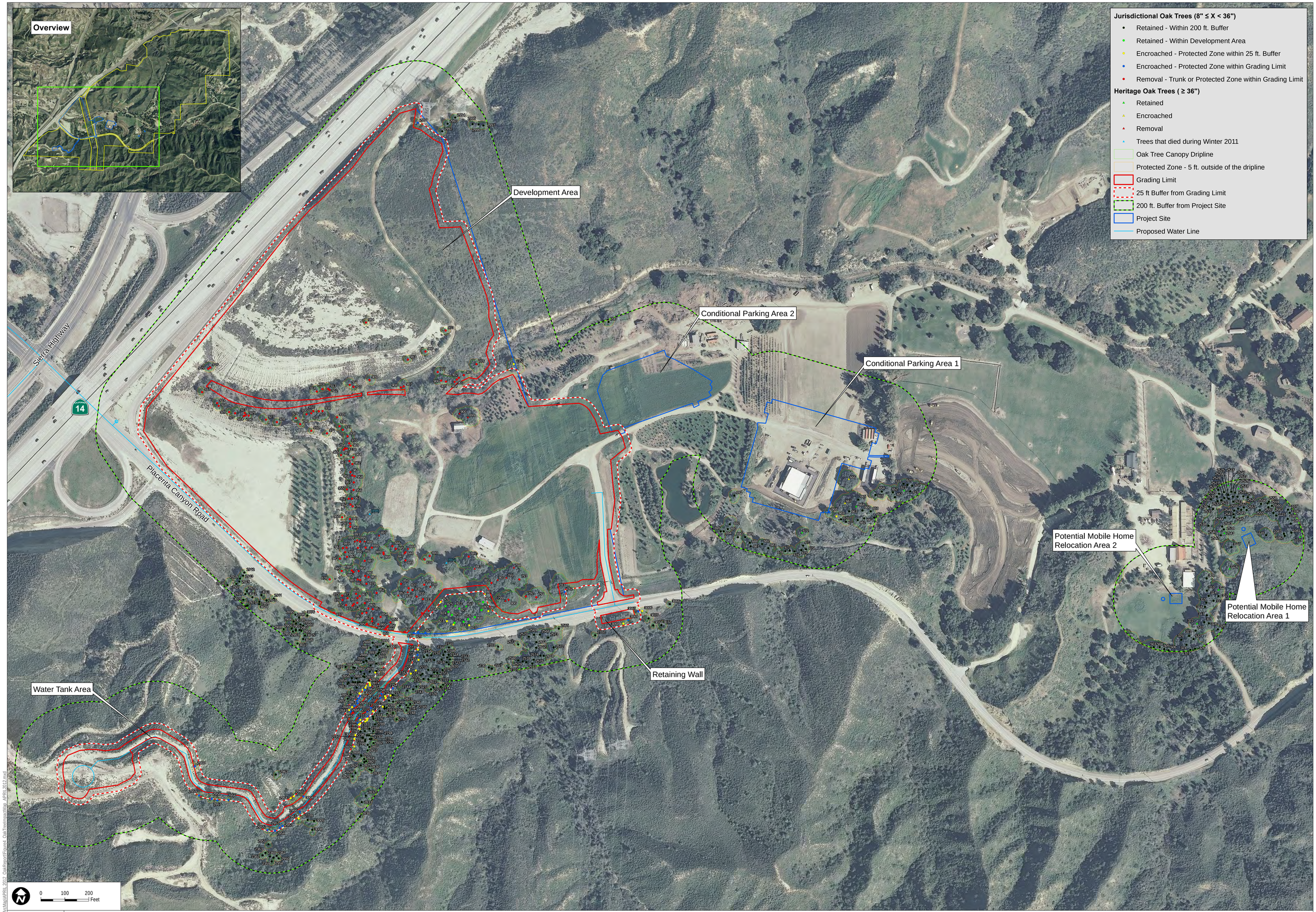
Table 4 Jurisdictional Trees (8" ≤ X < 36") Within the Development Area, the Conditional Parking Areas, the Potential Mobile Home Relocation Areas, Water Tank Area, and Current Ranch Main Entrance Area				
Location	**Project Status**			**Total**
	Encroached	**Removed**	**Retained**	
Within Development Area			10	10
Protected Zone within 25 ft Buffer	42			42
Protected Zone within Grading Limit	37	3		40
Trunk within Grading Limit		139		139
Total	**79**	**142**	**10**	**231**

Table 5 Heritage Trees (≥ 36") Within the Development Area, the Conditional Parking Areas, the Potential Mobile Home Relocation Areas, Water Tank Area, and Current Ranch Main Entrance Area				
Location	**Project Status**			**Total**
	Encroached	**Removed**	**Retained**	
Within Development Area			2	2
Protected Zone within 25 ft Buffer	3			3
Protected Zone within Grading Limit		1		1
Trunk within Grading Limit		15		15
Total	**3**	**16**	**2**	**21**

Grading for the Proposed Project will require the removal of 158 oak trees, including 16 heritage oak trees, protected under the Ordinance. The grading will require encroachment[1] upon 82 trees, including 3 heritage oaks. The area within 200 feet of the grading required for the Proposed Project (i.e., outside the Development Area, the Conditional Parking Areas, the Potential Mobile Home Relocation Areas, the Water Tank Area, and the current Ranch main entrance area) contains an additional 311 trees. These trees will be avoided and retained. Figure 4, *Oak Tree Impact Map,* below, presents the impact status of the trees in the Development Area, the Conditional Parking Areas, the Potential Mobile Home Relocation Areas, the Water Tank Area, the current Ranch main entrance area, and within the 200-foot buffer. Figure 5, *Oak Tree Impact & Site Plan Map*, depicts the Site Plan and its relation to the impact status of the trees.

The impact totals presented herein include trees adjacent to the Conditional Parking Areas, the Potential Mobile Home Relocation Areas, and the current Ranch main entrance area. The construction of the Conditional Parking Areas would result in encroachment upon 4 oak trees, including 2 heritage trees, as defined in this Oak Tree Report. Should the Conditional Parking Areas not be required, the encroachment totals presented herein would be reduced by 4, including 2 heritage trees. The improvement of the current Ranch main entrance area, requiring construction of a retaining wall would result in encroachment upon 3 oak trees.

[1] Encroachment is defined as impacts occurring within 25 feet of the five-foot protected zone of a tree or impacts within a tree's dripline where the tree's survival can be reasonably assured through suitable mitigation measures.



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APRIL 2012

SOURCE: DigitalGlobe 2005-2008

DISNEY | ABC STUDIOS AT THE RANCH

FIGURE 4

Oak Tree Impact Map

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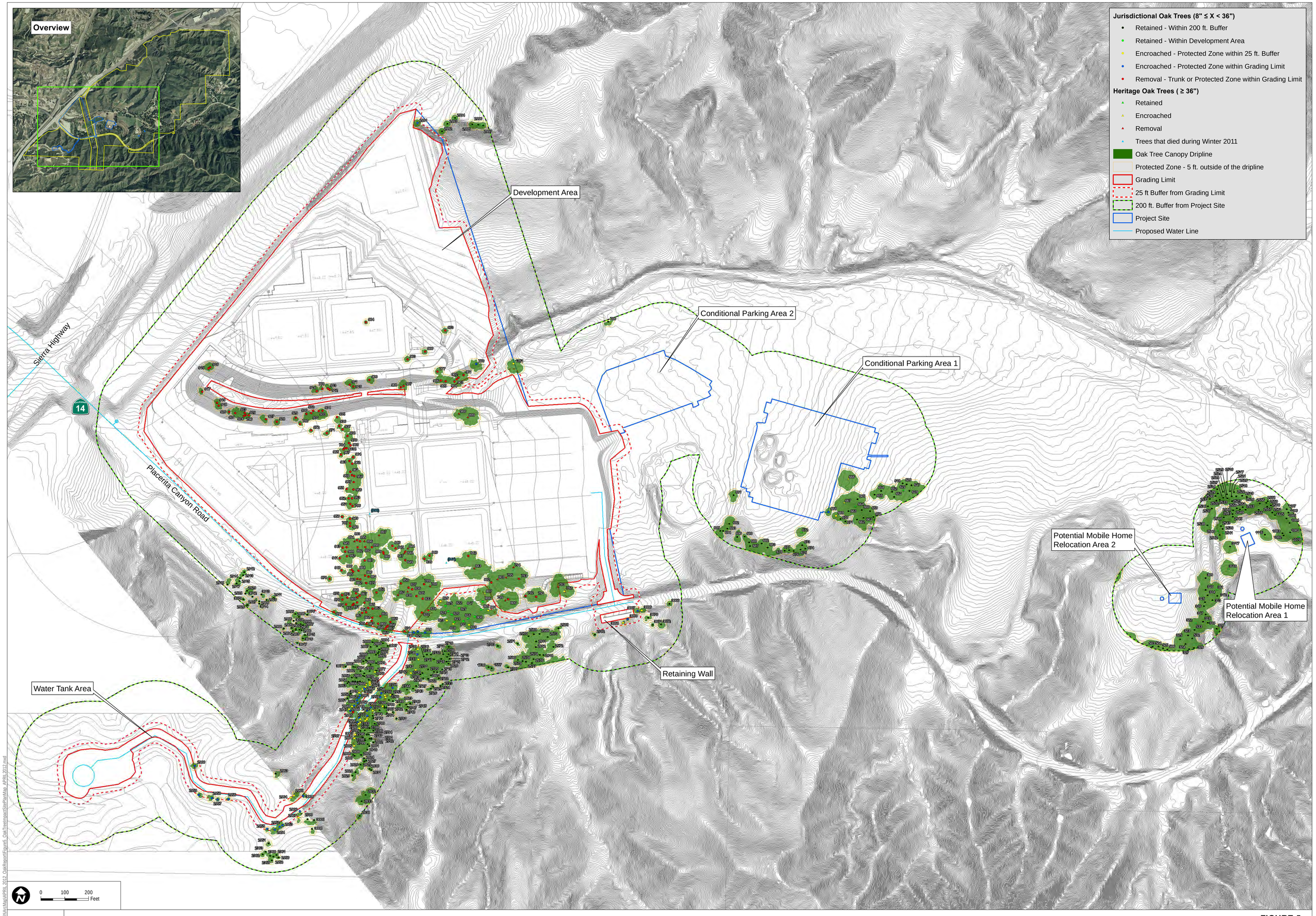

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APRIL 2012

SOURCE: DigitalGlobe 2005-2008

DISNEY | ABC STUDIOS AT THE RANCH

FIGURE 5

Oak Tree Impact & Site Plan Map

Z:\6450_Golden_Oak_Ranch\ArcMap\APRIL 2012_OakReport\Figure5_OakTreeImpactSitePlanMap_APRIL2012.mxd

6.0 RECOMMENDED MITIGATION MEASURES

6.1 Oak Tree Removal/Encroachment Permit

The Proposed Project will require the removal of 158 Ordinance-protected oak trees, including 16 heritage oak trees, and the encroachment upon 82 oak trees, including 3 heritage oak trees. As a result, the Applicant is applying for an oak tree permit

6.2 Oak Tree Mitigation and Monitoring Plan

The Applicant has prepared an Oak Tree and Woodland Mitigation and Monitoring Plan (OTWMMP). The intent of the OTWMMP is to mitigate impacts to Ordinance-protected oaks and oak woodlands on Golden Oak Ranch. The OTWMMP identifies the location(s) of the potential mitigation planting areas (i.e., receptor sites) to be established on the Ranch. All replacement oak trees will be grown from local seed sources.

The replacement standards provided in the County of Los Angeles Oak Tree Ordinance require a 2 to1 replacement with 15-gallon container oak trees and at a minimum 10 to 1 ratio for heritage oak trees with 15-gallon container oak trees. The simple, straightforward replacement of a targeted tree by two or more 15-gallon or larger trees is generally best suited to scenarios where the impacted oaks are easily viewable by or accessible to the public and aesthetic concerns are paramount. In this case, the replacement of a tree's aesthetic contribution by provision of some number of container stock would be achievable, especially over time, on the Ranch. However, mitigation for the loss of oak woodland in the Development Area requires a different approach. The locations and physical attributes of the existing oaks, other native trees and plants in Placerita Canyon make them less of an aesthetic or public benefit, while the use of varied sizes is more representative of native oak woodlands and helps provides a balance to the mitigation program. This wildlife resource cannot be replaced by planting container stock in a park or urban setting. Rather, replacement of woodland habitat requires restoration of the community, in this case oak woodland, riparian woodland, and other native plant communities. Consequently, the replacement of the oak woodland should include varied sizes of replacement oaks, ranging from seedlings to larger specimens, in association with planting of other native plant species known to naturally coexist with coast live oaks on hillsides, in woodlands, and in open space areas. Larger specimens are appropriate where immediate visual statements of the woodland landscape are conspicuous. Smaller-sized container stock, including seedlings, one-gallon, and five-gallon stock, is appropriate in less visually critical areas, such as slope plantings and oak woodland rehabilitation areas. Direct planting of oak seedlings is most appropriate in either non-irrigated or limited access sites where habitat enhancement is the key concern. Most, if not all, of these types of plantings would be associated with other native plant restoration efforts. The goal of the mitigation program is to create a landscape that maximizes the compensation for lost habitat values and reflects the natural habitat of Placerita Canyon.

The replacement of tree canopy using 20-year growth projections is a method of tree valuation. With this approach, the total area of impacted tree canopy is used as a target for the replacement container stock growth after 20 years. The 158 trees to be removed provide approximately 184,260 ft^2 (4.23 acres) of canopy cover. Many of the removals are located within oak woodlands, but some removals include isolated individual trees located outside oak woodlands.

The Proposed Project would incorporate a strong oak tree mitigation program to mitigate for the loss of 158 oak trees and to protect the 82 encroached upon trees in the Development Area and Water Tank Area. The County's Oak Tree Ordinance and the County's current practices would require replanting of oaks at a minimum 2 to 1 ratio for jurisdictional oak trees and at a minimum 10 to 1 ratio for heritage oak trees. Accordingly, the Ordinance and practices would require the planting of 444 new oak trees of 15-gallon size with a tree of one-inch diameter at one foot above the base of the trunk to mitigate for the removal of 158 oak trees.

In order to better replace the community of the oak woodland habitat and the oak tree canopy impacted in the Development Area and Water Tank Area, the Proposed Project's mitigation program would plant at least 1,600 oak trees of a variety of sizes on the Ranch east of the Development Area, thereby exceeding mitigation requirements. Under the mitigation plan, 444 trees will be established to satisfy the County's Ordinance requirements, while the additional plantings will further mitigate the Project's impacts on oak trees and oak woodlands. A high standard of restoration design, implementation, and maintenance would be imposed for successful establishment of the planted oak trees. Additionally, a seven-year monitoring period will be implemented following the initial planting.

As discussed in the OTWMMP, in an effort to proactively address Project-related impacts and initiate mitigation efforts, the Ranch's natural resource staff started propagating oak trees from Ranch-harvested acorns in 2009. Field planting of 460 seedlings commenced in November 2010 under the supervision of the County Forester. The intent of planting smaller stock (less than 15-gallon size) was to increase the likelihood of site adaptation and seedling survival. These planted trees would be counted toward the overall mitigation planting totals discussed herein when they reach the appropriate size (one inch in diameter at one foot above the base of the trunk), unless slightly smaller trees were otherwise acceptable to the County Forester.

In addition, the Ranch's natural resource staff has an additional 2,381 seedlings propagated from Ranch-harvested acorns on the Ranch and an additional 1,837 Ranch-harvested acorns planted in containers during the fall of 2011. These seedlings and acorns would be used to mitigate the Project's impacts on oaks and oak woodlands.

The OTWMMP also includes the following:

- Diagrams indicating the mitigation planting areas;

- A schedule for proposed planting activities;
- Planting specifications where appropriate, including soil amendments, plant treatments, the use of insect and/or fungal controls, and mulching;
- Suitable irrigation and watering schedule for each receptor site;
- Monitoring and reporting schedule; and
- Success and replacement criteria.

6.3 Oak Tree Protection Measures

Several mitigation measures are recommended to reduce impacts to oak trees that will not be removed (e.g., encroachments and avoided trees). All protective and mitigation activities will be conducted in accordance with ANSI A300 standards where applicable. The following measures will only apply to encroached trees within 25 feet of the grading limits.

6.3.1 Tree Protection Measures Prior to Construction

Throughout the construction period, any retained tree (or tree group) adjacent to the grading limits will be protected by a barrier of chain link fencing not less than four feet high, installed along the edge of the tree's "protected zone", and facing the construction.[2] On-site trees to be protected (fenced) will be identified and marked in the field by a Consulting Arborist. The fencing will be installed at the maximum distance feasible from the trunks of the encroached trees. The fencing will be secured to 6-foot tall nominal 2-inch, 2.375 inch O.D. galvanized pipe, pounded in the ground a minimum of 18 inches and spaced a minimum of 15 feet on-center. Terminal posts will have additional bracing. Tree protection signs will be attached to every fourth post. The fencing will be inspected by a Consulting Arborist prior to the start of any work on the construction site. The intent of protection fencing is to prevent root damage and/or compaction by grading equipment. All contractors will be made aware of the tree protection measures. A Consulting Arborist may be required on-site if grading activities occur within the oak tree protected zone to ensure minimal impact. The contractor will maintain the fence to keep it upright, taut and aligned at all times. Fencing will be removed only after all construction activities are complete and approval from the County Forester.

Communication: All construction work potentially impacting any retained oak trees will be approved by, performed under the supervision of, and inspected by a Consulting Arborist. The arborist will oversee all maintenance work on the oak trees, including irrigation, pruning and spraying. A pre-construction meeting will be held between all contractors (including for grading, tree removal/pruning, builders, etc.) and a Consulting Arborist. The meeting will focus

[2] The "protected zone" is defined as five feet beyond the dripline of the oak tree or 15 feet from the trunk(s) of a tree, whichever distance is greater (Los Angeles County Code, § 22.56.2060).

on instructing the contractors on tree protection practices and answering any questions. All contractors, equipment operators, spotters, assistants, or those directing operations in the area will provide written acknowledgement of their receiving tree protection training. This training will include information on the "protected zone," the necessity of preventing damage, and the discussion of protective work practices.

6.3.2 Recommended Protection Measures and Maintenance During Construction

Once construction activities have begun, the following measures are recommended in order to best maintain any preserved trees in the Development Area:

Equipment Operation and Storage: Contractors will avoid heavy equipment operation around any retained tree. Operating heavy machinery around the root zones of trees will increase soil compaction, which decreases soil aeration and subsequently reduces water penetration in the soil. All heavy equipment and vehicles should, at a minimum, stay out of the "protected zone" of all trees, unless where specifically approved in writing and under supervision of a Consulting Arborist.

Storage and Disposal: Contractors will not store or discard any supply or material, including paint, lumber, concrete overflow, etc. within any oak tree's "protected zone" and will remove all foreign debris within the "protected zone." However, the contractors will leave the duff, mulch, chips, and leaves around the retained trees for water retention and nutrient supply. In addition, the contractor will avoid draining or leakage of equipment fluids near retained trees. Fluids, such as gasoline, diesel, oils, hydraulics, brake and transmission fluids, paint, paint thinners, and glycol (anti-freeze), will be disposed of properly. The contractors will park equipment at least 50 feet away from the "protected zone" of all retained trees to avoid the possibility of leakage of equipment fluids into the soil. The effect of toxic equipment fluids on the retained trees could result in tree decline and/or mortality.

Grade Changes*:* Contractors will ensure that grade changes, including adding fill material, not be permitted within the "protected zone" of encroached trees without written authorization from a Consulting Arborist. Lowering the grade within the "protected zone" would necessitate cutting main support and feeder roots, thus jeopardizing the health and structural integrity of the tree(s). Adding soil, even temporarily, on top of the existing grade would compact the soil further, and decrease both water and air availability to the tree roots. Contractors will ensure that grade changes made outside of the "protected zone" not create conditions that allow water to pond at the base of the tree. Water trapped at the base of a tree could lead to root rot and other detrimental tree impacts.

Moving Construction Materials: Contractors will ensure that care be exercised when moving equipment or supplies near retained trees, especially overhead. Contractors will ensure that damage to the trees be avoided when transporting or moving construction materials and working around the trees (even outside of the "protected zone"). Contractors will flag above-

ground tree parts that could be damaged (e.g., low limbs, scaffold branches, trunks) with high visibility flagging, such as fluorescent red or orange tape. If contact with the tree crown is unavoidable, conflicting branch(es) will be pruned by an ISA Certified Tree Worker under the supervision of a Consulting Arborist and will adhere to ISA and ANSI A300 standards.

Pruning: The contractor will not prune trees until all construction is completed, unless standard pruning would reduce conflict between canopy and equipment. This will help protect the tree canopy from damage. All pruning will be conducted by an ISA Certified Tree Worker under the supervision of Consulting Arborist and will adhere to ISA and ANSI A300 standards.

Root Pruning: Unless specifically approved in writing before construction, all trenching should be outside of the fenced "protected zone". Roots primarily extend in a horizontal direction, forming a support base for the tree similar to the base of a wineglass. Where trenching is necessary in protected areas that contain roots from retained trees, contractors will use trenching techniques that will limit root impacts. A L.A County approved ISA Certified Arborist will ensure that all pruning cuts will be performed to meet industry standards. Use of appropriate tools will be accompanied only by hand tools to ensure roots are properly pruned and protected.

Irrigation: Approximately 48-hours before root pruning, the soil should be irrigated to a depth of three feet. Add a liquid root stimulant to the irrigation water prior to root pruning. This product helps the tree to regenerate root growth. Application of this product is best achieved in a dilution state via the use of a water truck or dedicated spray unit.

For any trees that have been substantially root pruned (thirty percent or more of the total root zone), irrigation will be required for the first twelve months. The first irrigation will occur within 48 hours of root pruning and also contain a liquid root stimulant. For the first twelve months following root pruning, the soil should be deep watered every two weeks during the summer and once a month during the winter (adjust accordingly with rainfall). One irrigation cycle should thoroughly hydrate the root zones of the tree to a depth of approximately three feet. The soil should dry out between watering; avoid keeping a consistently wet soil.

Irrigation of retained oaks will seek to mimic natural rainfall patterns in Southern California. Supplemental irrigation for trees adjacent to construction activity may be necessary during winter or spring months. Summer and fall irrigation may be necessary based on variable climatic and site conditions, but should be conducted judiciously to avoid over-watering. One irrigation cycle will thoroughly soak the root zones of the trees to a depth of three feet. The soil should be allowed to dry out between watering to avoid keeping a consistently wet soil. The contractor will be responsible for irrigating (deep watering) the trees. Soil moisture will be checked with a soil probe before irrigating. Irrigation is best accomplished by installing a temporary aboveground micro-spray system that would distribute water slowly (to avoid runoff) and evenly throughout the fenced "protected zone". Overwatering of native oaks trees may promote the growth of tree-damaging agents, such as Oak Root Fungus, so proper soil moisture monitoring is critical to prolonged tree health.

Washing: Following construction activities, which create a significant increase in airborne particulates, the contractor, on the recommendation of the supervising arborist, will wash the foliage of trees adjacent to construction activity with a strong water stream every two weeks in early hours before 10:00 a.m. to control mite and insect populations. Washing should include the upper and lower leaf surfaces and the tree bark.

Spraying: Following root pruning, a preventative spray is recommended for insect control. Insects and other damaging organisms are attracted to and will proliferate in trees under stress. The spraying should be performed by a licensed applicator under the direction of a licensed pest control advisor.

Inspection: A Consulting Arborist will inspect the retained trees adjacent to grading and construction activity on a monthly basis for the duration of the Proposed Project's construction period. A report summarizing site conditions, observations, tree health, and recommendations for minimizing tree damage will be submitted by the Consulting Arborist following each inspection.

6.3.3 Recommended Maintenance After Construction

Following the completion of the construction activity within 25 feet of the "protected zones" of retained oaks, the tree protection fencing may be removed and the following measures performed to sustain and enhance the vigor of the retained trees.

Mulch: The contractors will ensure that the natural duff layer under all trees be maintained. This would stabilize soil temperatures in root zones, conserve soil moisture, and reduce erosion. The contractors will ensure that the mulch be kept clear of the trunk base to avoid creating conditions favorable to the establishment and growth of decay-causing fungal pathogens. Should it be necessary to add organic mulch beneath retained oak trees, the supervising arborist will approve the quality and type of mulch used.

Pruning: Regular pruning of the trees is not required. An ISA Certified Tree Worker, under the supervision of a Consulting Arborist, will only prune trees to maintain clearance and remove broken, dead or diseased branches. Pruning will only take place following a recommendation by a Consulting Arborist. No more than fifteen percent of the canopy will be removed at any one time. All pruning will conform to ISA ANSI A300 standards.

Irrigation: The encroachment trees should not require regular irrigation, other than within the twelve months following substantial root pruning, if applicable. However, soil probing will be necessary to accurately monitor moisture levels. Especially in years with low winter rainfall, supplemental irrigation for the trees that sustained root pruning and any newly planted trees may be necessary.

Chemical Applications*:* If the encroachment trees are maintained in a healthy state, regular spraying for insect or disease control is not necessary. If a problem does develop, a Consulting Arborist will be consulted as the trees may require application of insecticides to prevent the intrusion of bark-boring beetles and other invading pests. All chemical spraying will be performed by a licensed applicator under the direction of a licensed pest control advisor.

Monitoring*:* A L.A County approved ISA Certified Arborist will inspect the encroached trees retained on-site for a period of two years following the completion of construction activity. Monitoring visits will be completed quarterly, totaling eight visits. Following each monitoring visit, a report summarizing site conditions, observations, tree health, and recommendations for promoting tree health will be prepared and submitted to the Ranch manager responsible for the oak tree monitoring program. Additionally, any tree mortality will be noted and any tree dying during the two year monitoring period will be replaced according to County standards at a ratio of 2:1 for jurisdictional oak trees and 10:1 for heritage oak trees using 15 gallon oaks of the same species being replaced, unless slightly smaller trees are otherwise acceptable to the County Forester.

7.0 REFERENCES

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APPENDIX A: TREE HEALTH RATINGS

Tree Health Assessment Ratings

Health Rating[1]	Description
A = Excellent	Tree has excellent health and strong vigor. No visible physical damage or cavities present. Tree is disease free. Flowering and fruiting expected. Tree is structurally sound, and well balanced. Canopy full and well balanced. Typically only given to larger specimens (>14" dbh).
B = Good	Tree has good health and vigor. Any trunk and branch physical damage is very localized or minimal, and generally of a physical nature (i.e. not insect infestation or disease [fungal or microorganism] related). Tree is structurally sound, and well balanced. Cavities may be present; however, they tend to be small and healed over, with no exposed heartwood. Flowering and fruiting expected. Canopy is full and in good condition, any twig dieback limited to shaded understory. Foliage is healthy with little to no necrotic tissue.
C = Fair	Tree health is average. Some stressors or physical damage possible, damage is minimal to moderate. Cavities or hollow trunk may be present, but are usually healed and with limited exposed deadwood. Dead/broken branches limited to small secondary branches[2] and twigs, not major scaffolding branches. Flowering and fruiting likely. Canopy may have signs of decline, including small broken branches, leaf drop, leaf margin or spot necrosis. Included bark is common. Insect damage or disease (fungal or microorganism related) is common but not excessive. Tree lean possible. Exposed roots possible.
D = Poor	Tree is under stress, and overall health is in decline, or tree has significant physical damage on the trunk and/or major branches. Broken or dead branches or main stem likely present. Cavities and hollow trunks likely present and substantial in size. Exposed heartwood and deadwood likely. Included bark likely present. Insect damage or disease (fungal or microorganism related) likely, and may be significant. Some canopy loss (10% to 25%) likely, and canopy beginning to decline. Tree is structurally flawed, including excessive lean or a significant amount of exposed roots. Risk of additional structural failure present. Mortality likely unless stressors relieved, and/or conditions change.
E = Nearly Dead	Tree is in extreme decline. Tree has taken significant physical and structural damage. Hollow trunks, and large cavities with exposed deadwood present. Multiple major branches and/or main stem are broken or dead. Extensive Canopy loss (at least 25% to 50%). Insect infestation and disease (fungal or microorganism) related damage is likely present and excessive. Risk of additional structural failure likely. Mortality expected.

[1] When the condition of a given tree is determined to be intermediate a combined score (e.g. B/C) is assigned to that tree.

[2] Please note that no specific branch size is discussed. The size and age of the tree is important when considering the relative size of any dead or broken branches.

Source: Dudek 2009

APPENDIX B: OAK TREE SURVEY DATA

Tree ID Number	Trunk Diameter (in)	Height	Canopy Extent (ft)				Health	Aesthetics	Balance	Heritage	Project Status	Location
			North	South	East	West						
309	24, 22	45	15	25	28	25	B	B	D	No	Retained	Within 200 ft Buffer
310	18, 20	40	30	18	15	30	C	C	C	No	Retained	Within 200 ft Buffer
311	36, 12	35	20	18	20	18	B	B	B	Yes	Retained	Within 200 ft Buffer
312	18	28	15	18	18	18	B	C	C	No	Retained	Within 200 ft Buffer
313	14	22	6	12	18	6	D	D	D	No	Retained	Within 200 ft Buffer
314	20, 18, 14, 12	35	20	24	22	22	C	B	B	No	Retained	Within 200 ft Buffer
315	10, 9, 9	20	10	12	20	18	C	C	C	No	Retained	Within 200 ft Buffer
316	24, 14	30	12	20	20	22	C	C	C	No	Retained	Within 200 ft Buffer
317	24, 20	35	26	25	18	25	B	B	B	No	Retained	Within 200 ft Buffer
318	26, 22, 20	40	25	22	18	24	B	B	C	No	Retained	Within 200 ft Buffer
319	24, 18, 18	40	20	30	10	20	B	C	C	No	Retained	Within 200 ft Buffer
320	18, 16	35	15	20	25	10	B	C	C	No	Retained	Within 200 ft Buffer
322	38	30	25	30	15	20	B	B	A	Yes	Retained	Within 200 ft Buffer
323	18, 12	35	20	20	18	25	C	C	C	No	Retained	Within 200 ft Buffer
324	12, 9	30	15	10	18	16	B	C	C	No	Retained	Within 200 ft Buffer
325	24, 16,10	30	20	18	15	20	C	B	C	No	Retained	Within 200 ft Buffer
326	16	35	24	20	8	22	C	C	D	No	Retained	Within 200 ft Buffer
327	12, 12	30	25	10	26	10	D	C	D	No	Retained	Within 200 ft Buffer
503	16, 14	40	20	8	18	8	C	C	C	No	Retained	Within 200 ft Buffer
504	18	40	20	18	20	10	B	C	C	No	Retained	Within 200 ft Buffer
505	18, 10	25	20	6	20	6	C	C	C	No	Retained	Within 200 ft Buffer
506	15	35	24	10	14	10	A	B	C	No	Retained	Within 200 ft Buffer
532	14, 12, 10, 10, 9	30	20	15	25	20	C	B	B	No	Retained	Within 200 ft Buffer
533	30	30	24	20	15	25	C	C	C	No	Retained	Within 200 ft Buffer
617	24, 24	50	28	30	20	25	A	B	B	No	Retained	Within 200 ft Buffer
618	30	30	20	6	5	30	C	D	D	No	Retained	Within 200 ft Buffer
619	14	25	0	42	0	6	B	D	D	No	Retained	Within 200 ft Buffer
620	22	25	15	20	0	6	B	C	C	No	Retained	Within 200 ft Buffer
621	48	50	24	35	20	35	B	C	C	Yes	Retained	Within 200 ft Buffer
651	18, 14	30	6	15	25	10	C	B	B	No	Retained	Within 200 ft Buffer
652	24, 24, 22, 14	35	25	22	20	20	C	B	B	No	Retained	Within 200 ft Buffer
654	20, 14	40	25	22	10	15	B	B	B	No	Retained	Within 200 ft Buffer
655	24, 20	35	18	20	8	10	B	B	B	No	Retained	Within 200 ft Buffer
658	14	28	8	8	20	5	D	D	D	No	Retained	Within 200 ft Buffer
659	20	45	115	25	20	10	D	C	D	No	Retained	Within 200 ft Buffer
660	25, 18	40	15	25	25	28	B	B	B	No	Retained	Within 200 ft Buffer
661	18	35	8	35	20	10	D	D	D	No	Retained	Within 200 ft Buffer
662	24, 20	35	25	25	25	30	B	A	B	No	Retained	Within 200 ft Buffer
663	28	40	26	30	20	25	B	B	C	No	Retained	Within 200 ft Buffer
664	36	50	25	20	30	30	C	C	D	Yes	Retained	Within 200 ft Buffer
665	30, 30	45	35	25	30	35	B	A	A	No	Retained	Within 200 ft Buffer
666	70	50	38	40	38	35	A	A	A	Yes	Encroached	Protected Zone within 25 ft Buffer
667	65	45	35	40	44	35	B	A	A	Yes	Encroached	Protected Zone within 25 ft Buffer
668	20, 18	30	20	18	18	20	A	A	A	No	Encroached	Protected Zone within Grading Limit
669	24	30	20	15	20	15	C	C	C	No	Encroached	Protected Zone within 25 ft Buffer
670	24	35	25	10	24	20	D	B	C	No	Retained	Within 200 ft Buffer
671	10, 9	20	15	20	15	15	A	B	B	No	Retained	Within 200 ft Buffer
672	48	35	20	26	20	26	B	A	A	Yes	Retained	Within 200 ft Buffer
673	28, 18	30	18	22	16	20	B	C	C	No	Retained	Within 200 ft Buffer

APPENDIX B: OAK TREE SURVEY DATA

Tree ID Number	Trunk Diameter (in)	Height	Canopy Extent (ft)				Health	Aesthetics	Balance	Heritage	Project Status	Location
			North	South	East	West						
674	20	25	15	15	25	6	C	B	D	No	Retained	Within 200 ft Buffer
675	20, 18, 12	28	15	20	24	30	C	B	C	No	Retained	Within 200 ft Buffer
676	9	20	8	6	6	10	A	B	B	No	Retained	Within 200 ft Buffer
677	14	24	18	10	12	12	A	B	B	No	Retained	Within 200 ft Buffer
678	12	20	6	6	6	8	A	C	B	No	Retained	Within 200 ft Buffer
682	16, 16	30	20	12	30	28	B	A	B	No	Retained	Within 200 ft Buffer
683	14, 14, 12	30	24	20	18	16	B	B	B	No	Retained	Within 200 ft Buffer
687	24	40	15	18	25	15	B	C	C	No	Retained	Within 200 ft Buffer
688	26	20	10	15	12	12	C	C	C	No	Retained	Within 200 ft Buffer
689	20	20	5	5	5	5	F	D	F	No	Retained	Within 200 ft Buffer
690	22	18	6	6	6	6	F	F	D	No	Retained	Within 200 ft Buffer
691	26	50	28	20	20	18	A	A	B	No	Retained	Within 200 ft Buffer
692	28	30	25	20	22	20	B	B	B	No	Retained	Within 200 ft Buffer
693	30, 30, 10	30	15	20	15	15	D	F	D	No	Retained	Within 200 ft Buffer
694	18, 16	25	15	20	10	20	C	B	C	No	Retained	Within 200 ft Buffer
695	12	20	6	15	5	18	B	C	C	No	Retained	Within 200 ft Buffer
700	30, 24	35	28	30	30	25	A	A	A	No	Retained	Within 200 ft Buffer
776	27	45	12	10	11	10	C	C	C	No	Removed	Trunk within Grading Limit
777	9, 9, 9, 8	30	8	8	8	8	C	C	C	No	Removed	Trunk within Grading Limit
778	6, 6	20	12	12	10	10	C	C	C	No	Removed	Trunk within Grading Limit
780	8, 5, 5	25	8	10	8	8	C	C	C	No	Removed	Trunk within Grading Limit
782	29, 20, 15	35	27	37	33	22	C	C	C	No	Encroached	Protected Zone within Grading Limit
783	55	60	54	46	48	35	C	B	B	Yes	Removed	Protected Zone within Grading Limit
784	10	40	18	14	14	14	C	C	C	No	Removed	Trunk within Grading Limit
785	7, 5	25	30	30	18	24	C	C	C	No	Removed	Trunk within Grading Limit
786	8	18	10	8	8	10	C	C	C	No	Removed	Trunk within Grading Limit
787	8	25	6	6	8	5	B	B	B	No	Removed	Trunk within Grading Limit
788	41	55	35	38	40	22	B/C	B	C	Yes	Removed	Trunk within Grading Limit
789	30, 29, 26, 14	55	38	40	35	18	B	B	C	No	Removed	Trunk within Grading Limit
791	22, 23, 19	40	39	23	26	23	C	C	C	No	Removed	Trunk within Grading Limit
792	30	40	18	28	24	18	C	C	C	No	Removed	Trunk within Grading Limit
793	35, 35, 23	55	26	42	43	30	C	C	C	No	Removed	Trunk within Grading Limit
794	52, 57	60	39	54	38	47	C	B	C	Yes	Removed	Trunk within Grading Limit
795	45	60	41	47	52	51	C	B	C	Yes	Removed	Trunk within Grading Limit
796	8	25	8	12	10	8	C	C	C	No	Removed	Trunk within Grading Limit
799	46 @ 3' 4"	45	30	27	50	40	C	B	C	Yes	Removed	Trunk within Grading Limit
800	33	50	41	35	39	28	C	C	C	No	Removed	Trunk within Grading Limit
801	24	30	28	17	18	3	C	C	D	No	Encroached	Protected Zone within 25 ft Buffer
802	29, 29	60	31	27	53	41	C	C	C	No	Removed	Trunk within Grading Limit
803	48, 30	50	42	29	55	57	C	C	C	Yes	Removed	Trunk within Grading Limit
805	19	30	11	20	27	27	C	C	C	No	Retained	Within Development Area
806	19	40	14	35	30	20	C	C	C	No	Retained	Within Development Area
807	40, 26, 13	45	31	39	35	41	C	C	C	Yes	Encroached	Protected Zone within 25 ft Buffer
808	17	25	23	22	18	19	C	C	C	No	Retained	Within Development Area
810	14	45	12	21	26	17	C	C	C	No	Encroached	Protected Zone within 25 ft Buffer
811	26	50	14	14	21	16	C	C	C	No	Retained	Within Development Area
816	12	35	4	16	4	18	C	C	C/D	No	Retained	Within Development Area
817	75 @ 2' or (26,28,23,46)	80	48	60	50	32	B/C	B/C	C	Yes	Retained	Within Development Area
818	19	45	6	20	12	18	C	C	C	No	Encroached	Protected Zone within 25 ft Buffer

APPENDIX B: OAK TREE SURVEY DATA

Tree ID Number	Trunk Diameter (in)	Height	Canopy Extent (ft)				Health	Aesthetics	Balance	Heritage	Project Status	Location
			North	South	East	West						
819	22	45	20	18	22	14	C	C	C	No	Retained	Within Development Area
820	19	45	8	20	18	0	C	C	D	No	Retained	Within Development Area
821	25, 17	65	9	23	44	14	C	C	C	No	Retained	Within Development Area
822	40, 14	70	47	25	26	46	B/C	B/C	C	Yes	Retained	Within Development Area
823	34	50	27	30	38	41	B/C	C	B/C	No	Encroached	Protected Zone within 25 ft Buffer
824	23	70	16	31	28	23	B/C	C	C	No	Retained	Within Development Area
825	33 @ 2' 2"	60	37	30	38	39	C	C	B/C	No	Retained	Within Development Area
826	27	30	26	31	22	23	C	C	C	No	Encroached	Protected Zone within 25 ft Buffer
828	20	30	13	10	12	15	B	B	B	No	Encroached	Protected Zone within Grading Limit
829	8, 6, 6, 7, 4, 4	20	10	10	12	12	C	C	C	No	Encroached	Protected Zone within Grading Limit
830	7, 7, 6, 6, 6	20	15	10	20	15	C	C	C	No	Encroached	Protected Zone within Grading Limit
831	12, 9	20	18	12	12	12	B	C	C	No	Removed	Trunk within Grading Limit
832	35 @ 4.5'	40	30	50	35	25	B	B	B	No	Removed	Trunk within Grading Limit
833	27, 21	45	34	60	20	42	C	B	C	No	Removed	Trunk within Grading Limit
834	16, 20, 20, 23, 25, 19	40	35	30	25	40	C	B	C	No	Removed	Protected Zone within Grading Limit
835	29.5, 10	40	20	40	35	15	C	C	C	No	Removed	Trunk within Grading Limit
836	33	40	30	10	0	32	C/D	D	D	No	Removed	Trunk within Grading Limit
837	32	45	12	25	18	20	C	B	C	No	Removed	Trunk within Grading Limit
838	47, 24	45	25	55	35	40	C	B	D	Yes	Removed	Trunk within Grading Limit
839	12	20	11	18	16	16	B	B	B	No	Removed	Trunk within Grading Limit
840	13	20	18	15	16	16	B	B	B	No	Removed	Trunk within Grading Limit
842	34, 30	45	45	30	18	40	B	B	C	No	Removed	Trunk within Grading Limit
843	59	50	45	50	50	48	C	A	C	Yes	Removed	Trunk within Grading Limit
844	45	45	30	18	45	30	D	C	D	Yes	Removed	Trunk within Grading Limit
845	18, 17	35	15	20	20	12	B	B	B	No	Removed	Trunk within Grading Limit
846	16	30	15	20	12	20	C/D	C	C/D	No	Removed	Trunk within Grading Limit
847	39, 17	45	42	36	60	20	C	C	C	Yes	Removed	Trunk within Grading Limit
848	24	45	40	12	48	12	C	C	D	No	Removed	Trunk within Grading Limit
849	29	25	12	30	20	18	D	D	D	No	Removed	Trunk within Grading Limit
850	30	40	30	30	20	18	C/D	C	C	No	Removed	Trunk within Grading Limit
851	40	40	20	30	12	35	C/D	C	C	Yes	Removed	Trunk within Grading Limit
852	23, 24	35	25	40	30	25	C	C	C	No	Removed	Trunk within Grading Limit
853	16	35	20	15	20	15	C	C	C	No	Removed	Trunk within Grading Limit
854	19, 21	40	40	46	35	25	C	C	C	No	Removed	Trunk within Grading Limit
855	12, 16	35	20	16	25	20	C	C	C	No	Removed	Trunk within Grading Limit
856	15	35	10	40	48	16	C	C	C	No	Removed	Trunk within Grading Limit
857	12	25	0	25	12	18	C	C	C	No	Removed	Trunk within Grading Limit
858	14, 8	30	12	20	12	14	C	C	C	No	Removed	Trunk within Grading Limit
859	12, 11	35	20	20	12	20	C	C	C	No	Removed	Trunk within Grading Limit
860	18, 13, 13	35	25	30	12	35	C	C	C	No	Removed	Trunk within Grading Limit
861	11	20	10	18	12	14	C	D	C/D	No	Removed	Trunk within Grading Limit
862	17	35	30	25	14	16	C	C	C	No	Removed	Trunk within Grading Limit
863	30,13	45	25	45	25	15	C	B	D	No	Removed	Trunk within Grading Limit
864	13	35	8	25	25	10	C	C	D	No	Removed	Trunk within Grading Limit
865	17, 9, 12	35	25	20	30	25	C	C	C/D	No	Removed	Trunk within Grading Limit
866	15, 11	20	12	18	12	16	C/D	C	D	No	Removed	Trunk within Grading Limit
867	22, 19.5, 18	40	25	33	40	9	B	C	C	No	Removed	Trunk within Grading Limit
868	23	35	35	10	14	25	C	C	C/D	No	Removed	Trunk within Grading Limit
869	17	32	14	18	12	18	C	C	C	No	Removed	Trunk within Grading Limit

Tree ID Number	Trunk Diameter (in)	Height	Canopy Extent (ft)				Health	Aesthetics	Balance	Heritage	Project Status	Location
			North	South	East	West						
870	14	30	12	12	20	9	C	C	C	No	Removed	Trunk within Grading Limit
871	16, 12	30	20	20	20	16	C	C	C	No	Removed	Trunk within Grading Limit
872	14	30	5	20	10	30	C	C	C/D	No	Removed	Trunk within Grading Limit
873	18	35	30	10	10	25	B	C	C	No	Removed	Trunk within Grading Limit
874	22	40	14	30	25	20	B	B	C	No	Removed	Trunk within Grading Limit
875	9	18	9	10	8	12	B	C	C	No	Removed	Trunk within Grading Limit
876	8, 9	18	8	14	6	12	B	C	C	No	Removed	Trunk within Grading Limit
877	7, 6, 6, 7, 9	16	12	12	12	12	B	B	B	No	Removed	Trunk within Grading Limit
878	10, 10, 6	22	16	14	14	12	B	B	B	No	Removed	Trunk within Grading Limit
879	16, 16	30	12	30	25	20	C	C	C	No	Removed	Trunk within Grading Limit
880	35, 25	50	45	25	40	40	B	B	C	No	Removed	Trunk within Grading Limit
881	12	20	10	18	20	15	C	C	C	No	Removed	Trunk within Grading Limit
882	20	35	12	30	26	16	B	C	C	No	Removed	Trunk within Grading Limit
883	14, 18	20	8	18	8	20	D	D	D	No	Removed	Trunk within Grading Limit
884	11	18	6	18	10	15	D	D	D	No	Removed	Trunk within Grading Limit
885	23, 20	45	30	20	25	30	C	C	C	No	Removed	Trunk within Grading Limit
886	16	25	40	0	15	12	C	C	D	No	Removed	Trunk within Grading Limit
887	33, 20	45	30	30	40	2	B	B	C	No	Removed	Trunk within Grading Limit
888	19	30	8	25	30	10	D	D	D	No	Removed	Trunk within Grading Limit
889	18, 17	35	15	27	15	20	C	D	D	No	Removed	Trunk within Grading Limit
890	24, 21	45	25	35	20	30	C	C	C	No	Removed	Trunk within Grading Limit
891	21	25	8	30	15	20	B	C	C	No	Removed	Trunk within Grading Limit
892	26	40	10	30	25	36	B	B	C	No	Removed	Trunk within Grading Limit
893	18, 19, 17, 17	40	20	30	30	35	D	D	D	No	Removed	Trunk within Grading Limit
894	40	45	20	30	0	35	C	D	D	Yes	Removed	Trunk within Grading Limit
895	14	25	8	12	10	12	D	D	D	No	Removed	Trunk within Grading Limit
896	63 @ 44"	45	40	35	35	35	B	B	C	Yes	Removed	Trunk within Grading Limit
897	41	45	30	30	40	30	B	B	B	Yes	Removed	Trunk within Grading Limit
899	41	40	40	40	50	35	C	B	B	Yes	Removed	Trunk within Grading Limit
900	44	40	20	35	40	40	C	B	B	Yes	Removed	Trunk within Grading Limit
901	8, 9	20	15	15	12	12	B	C	C	No	Removed	Trunk within Grading Limit
902	30	40	30	30	30	35	B	B	B	No	Removed	Trunk within Grading Limit
903	13 @ 3.5'	14	8	12	10	8	D	D	D	No	Removed	Trunk within Grading Limit
904	19, 14	40	25	20	20	30	B	C	C	No	Removed	Trunk within Grading Limit
905	13, 14, 23 @ 2.5'	40	25	30	30	30	C	C	C	No	Removed	Trunk within Grading Limit
906	13, 11, 18, 22	45	25	35	18	40	C	C	C	No	Removed	Trunk within Grading Limit
907	15, 9	40	35	20	18	15	B	C	C	No	Removed	Protected Zone within Grading Limit
908	10	35	30	10	8	15	B	C	C	No	Removed	Protected Zone within Grading Limit
909	19	35	20	20	20	20	B	B	B	No	Removed	Trunk within Grading Limit
910	11	35	25	15	15	20	B	C	C	No	Removed	Trunk within Grading Limit
911	12	20	30	0	15	20	C	C	C	No	Removed	Trunk within Grading Limit
912	9	30	20	8	15	15	C	C	C	No	Removed	Trunk within Grading Limit
913	8	35	20	15	12	15	C	C	C	No	Removed	Trunk within Grading Limit
914	13, 7	45	30	10	25	15	C	C	B	No	Removed	Trunk within Grading Limit
915	15, 8, 13	45	15	12	15	15	B	B	B	No	Removed	Trunk within Grading Limit
916	10, 6, 11, 15	35	12	14	18	14	C	C	C	No	Removed	Trunk within Grading Limit
917	12	35	14	10	8	14	C	C	C	No	Removed	Trunk within Grading Limit
918	11	20	8	10	10	8	C	C	C	No	Removed	Trunk within Grading Limit
919	9	30	10	12	8	10	C	C	C	No	Removed	Trunk within Grading Limit

APPENDIX B: OAK TREE SURVEY DATA

Tree ID Number	Trunk Diameter (in)	Height	Canopy Extent (ft)				Health	Aesthetics	Balance	Heritage	Project Status	Location
			North	South	East	West						
920	10	18	10	10	10	8	B	C	C	No	Removed	Trunk within Grading Limit
921	8, 6, 7, 11	25	8	6	8	10	C	C	C	No	Removed	Trunk within Grading Limit
923	12	15	14	12	10	14	C	D	C	No	Removed	Trunk within Grading Limit
924	9	20	6	8	8	6	C	D	C	No	Removed	Trunk within Grading Limit
925	9, 7	20	6	4	810	0	C	C	C	No	Removed	Trunk within Grading Limit
927	9, 11	35	12	6	8	10	C	C	C	No	Removed	Trunk within Grading Limit
928	9, 5, 6	30	10	12	14	8	C	C	C	No	Removed	Trunk within Grading Limit
929	12	35	14	10	12	12	C	C	C	No	Removed	Trunk within Grading Limit
930	10, 10	30	8	10	14	10	C	C	C	No	Removed	Trunk within Grading Limit
931	9, 7	35	10	10	8	10	C	B	C	No	Removed	Trunk within Grading Limit
932	13	35	8	12	10	14	B	C	C	No	Removed	Trunk within Grading Limit
933	13 @ 3.5'	35	8	12	6	10	C	C	C	No	Removed	Trunk within Grading Limit
934	13, 12	40	10	8	6	12	C	C	C	No	Removed	Trunk within Grading Limit
935	16, 14	40	10	12	10	8	C	C	C	No	Removed	Trunk within Grading Limit
936	14	40	15	10	12	15	B	C	C	No	Removed	Trunk within Grading Limit
937	16	45	15	20	22	15	B	C	C	No	Removed	Trunk within Grading Limit
938	19 @ 3'	20	25	20	25	30	C	C	C	No	Removed	Trunk within Grading Limit
940	8, 5, 4	20	8	12	8	12	C	C	C	No	Removed	Trunk within Grading Limit
941	7, 9	20	12	12	10	12	C	C	C	No	Removed	Trunk within Grading Limit
942	7, 5, 4	20	8	10	14	12	B	C	C	No	Removed	Trunk within Grading Limit
943	8, 4	30	14	12	14	10	B	C	C	No	Removed	Trunk within Grading Limit
944	9	20	8	12	14	12	C	C	C	No	Removed	Trunk within Grading Limit
945	6, 6	20	8	8	8	8	C	C	C	No	Removed	Trunk within Grading Limit
948	8	20	8	8	8	10	C	C	C	No	Removed	Trunk within Grading Limit
949	7, 5	25	10	9	14	6	C	C	C	No	Removed	Trunk within Grading Limit
950	8, 5, 7	30	14	14	8	12	B	C	C	No	Removed	Trunk within Grading Limit
951	10, 7, 6	25	14	12	14	18	C	C	C	No	Removed	Trunk within Grading Limit
952	8, 5	35	8	14	10	12	B	C	C	No	Removed	Trunk within Grading Limit
953	11, 13, 10	20	12	20	8	20	C	C	C	No	Removed	Trunk within Grading Limit
955	7, 8, 6, 5	30	14	12	12	14	B	C	C	No	Removed	Trunk within Grading Limit
956	8, 10, 10	40	16	14	12	18	C	B	B	No	Removed	Trunk within Grading Limit
957	20, 13 @ 3.5'	40	20	20	25	12	B	C	B	No	Removed	Trunk within Grading Limit
958	18	40	20	20	20	20	B	C	C	No	Removed	Trunk within Grading Limit
959	15, 14	20	20	12	16	20	C	C	C	No	Removed	Trunk within Grading Limit
961	9, 6	40	12	12	12	14	B	C	C	No	Removed	Trunk within Grading Limit
962	18, 15, 15, 11, 11	25	14	20	24	25	C	C	C	No	Removed	Trunk within Grading Limit
963	18, 7	35	14	10	10	16	C	C	B	No	Removed	Trunk within Grading Limit
964	8	18	8	8	8	8	B	C	C	No	Removed	Trunk within Grading Limit
965	7, 5	18	8	8	8	8	C	C	C	No	Removed	Trunk within Grading Limit
967	10, 5	25	10	10	10	12	C	C	C	No	Removed	Trunk within Grading Limit
969	8	30	10	10	10	10	C	C	C	No	Removed	Trunk within Grading Limit
970	9	20	10	2	18	10	B	C	C	No	Removed	Trunk within Grading Limit
971	8, 7	20	10	8	10	10	C	C	C	No	Removed	Trunk within Grading Limit
972	8, 7	0	10	10	10	10	C	C	C	No	Removed	Trunk within Grading Limit
973	7, 5, 8, 6	16	14	16	12	14	C	C	C	No	Removed	Trunk within Grading Limit
980	8, 5, 5, 5, 7	16	10	14	14	14	B	C	C	No	Removed	Trunk within Grading Limit
983	7, 7, 12 @ 3.5'	16	14	14	14	12	B	C	C	No	Removed	Trunk within Grading Limit
984	7, 6, 6, 4	14	10	10	10	12	C	C	C	No	Removed	Trunk within Grading Limit
1079	38	40	28	24	25	24	B	B	B	Yes	Retained	Within 200 ft Buffer

APPENDIX B: OAK TREE SURVEY DATA

Tree ID Number	Trunk Diameter (in)	Height	Canopy Extent (ft)				Health	Aesthetics	Balance	Heritage	Project Status	Location
			North	South	East	West						
1081	26	35	25	24	24	24	C	B	B	No	Retained	Within 200 ft Buffer
1082	12, 8	30	24	22	22	24	A	B	B	No	Retained	Within 200 ft Buffer
1083	10, 10	35	22	18	20	20	A	B	B	No	Retained	Within 200 ft Buffer
1084	14, 14, 12	25	15	8	12	15	D	D	C	No	Retained	Within 200 ft Buffer
1085	28	45	22	20	12	24	B	B	C	No	Retained	Within 200 ft Buffer
1106	24, 24, 20, 20	55	30	25	32	26	B	A	A	No	Retained	Within 200 ft Buffer
1107	32	48	22	24	12	24	C	B	C	No	Retained	Within 200 ft Buffer
1115	14, 12	25	20	25	20	20	A	B	B	No	Retained	Within 200 ft Buffer
1116	26, 20	40	24	28	24	22	B	A	A	No	Retained	Within 200 ft Buffer
1351	24, 32, 35	45	23	24	30	20	B	B	B	No	Encroached	Protected Zone within 25 ft Buffer
1557	12	35	8	6	6	8	C	C	C	No	Retained	Within 200 ft Buffer
1730	12	35	6	10	5	6	C	C	C	No	Retained	Within 200 ft Buffer
2358	25	28	12	10	15	10	C	C	C	No	Retained	Within 200 ft Buffer
2359	19	22	10	10	8	6	C	D	D	No	Retained	Within 200 ft Buffer
2360	24, 21	20	12	10	15	10	C	C	D	No	Retained	Within 200 ft Buffer
2361	13	28	14	10	8	6	C	C	C	No	Retained	Within 200 ft Buffer
2362	17	25	10	10	8	6	C	C	C	No	Retained	Within 200 ft Buffer
2363	12, 12	25	9	12	13	14	C	B	B	No	Retained	Within 200 ft Buffer
2516	65	60	35	30	30	30	A	A	B	Yes	Retained	Within 200 ft Buffer
2517	16	45	15	25	25	15	B	C	C	No	Retained	Within 200 ft Buffer
2518	40	50	30	30	30	20	B	A	A	Yes	Retained	Within 200 ft Buffer
2519	20, 20	45	20	30	25	25	D	C	C	No	Retained	Within 200 ft Buffer
2520	30	50	10	35	40	15	A	B	C	No	Retained	Within 200 ft Buffer
2521	14	30	18	15	12	20	A	C	C	No	Retained	Within 200 ft Buffer
2522	11	35	10	15	20	20	A	C	C	No	Retained	Within 200 ft Buffer
2523	9, 9	20	6	8	8	10	B	C	C	No	Retained	Within 200 ft Buffer
2524	9, 9, 4	25	6	6	6	6	C	C	C	No	Retained	Within 200 ft Buffer
2525	12, 9	35	15	15	20	15	A	B	B	No	Retained	Within 200 ft Buffer
2526	12, 10	35	12	20	15	20	A	C	C	No	Retained	Within 200 ft Buffer
2527	12	30	8	16	15	12	C	C	C	No	Retained	Within 200 ft Buffer
2528	10	30	15	12	8	15	C	D	C	No	Retained	Within 200 ft Buffer
2529	9	35	10	8	15	12	C	C	C	No	Retained	Within 200 ft Buffer
2530	8	30	8	12	15	18	C	C	C	No	Retained	Within 200 ft Buffer
2531	24	35	20	20	22	18	B	B	C	No	Retained	Within 200 ft Buffer
2532	18, 12	30	12	18	12	20	B	C	C	No	Retained	Within 200 ft Buffer
2533	14	35	25	20	15	30	B	B	C	No	Retained	Within 200 ft Buffer
2534	24, 10, 9	40	28	24	20	22	B	B	B	No	Retained	Within 200 ft Buffer
2536	18	25	15	12	15	20	D	D	C	No	Retained	Within 200 ft Buffer
2537	24	38	15	30	10	12	B	C	C	No	Retained	Within 200 ft Buffer
2538	24	35	20	26	20	24	B	C	C	No	Retained	Within 200 ft Buffer
2539	18, 18	25	25	22	28	30	C	D	D	No	Retained	Within 200 ft Buffer
2540	38, 18	50	30	28	20	18	C	B	B	Yes	Retained	Within 200 ft Buffer
2541	36, 12, 10, 8	36	20	16	20	24	C	C	C	Yes	Retained	Within 200 ft Buffer
2542	12, 12, 10, 10	32	16	35	18	24	B	B	C	No	Retained	Within 200 ft Buffer
2543	9	25	16	12	10	12	C	D	D	No	Retained	Within 200 ft Buffer
2544	12, 10, 8	28	15	10	20	12	C	D	D	No	Retained	Within 200 ft Buffer
2545	22, 16	30	20	12	15	18	C	C	C	No	Retained	Within 200 ft Buffer
2547	18, 16, 14, 12	30	22	18	8	28	B	B	C	No	Retained	Within 200 ft Buffer
2548	30	35	20	24	22	18	A	B	B	No	Retained	Within 200 ft Buffer

APPENDIX B: OAK TREE SURVEY DATA

Tree ID Number	Trunk Diameter (in)	Height	Canopy Extent (ft)				Health	Aesthetics	Balance	Heritage	Project Status	Location
			North	South	East	West						
2549	32	30	12	6	12	10	B	C	C	No	Retained	Within 200 ft Buffer
2550	18	35	20	25	18	15	B	B	B	No	Retained	Within 200 ft Buffer
2551	9	20	10	5	10	6	C	C	C	No	Retained	Within 200 ft Buffer
2553	20, 16	40	22	24	20	20	B	B	B	No	Retained	Within 200 ft Buffer
2555	24, 18	40	25	25	24	26	A	A	A	No	Retained	Within 200 ft Buffer
2556	24, 24	35	24	28	20	20	B	B	B	No	Retained	Within 200 ft Buffer
2557	34	50	32	22	30	25	B	C	B	No	Retained	Within 200 ft Buffer
2558	34	40	28	26	30	20	B	B	C	No	Retained	Within 200 ft Buffer
2559	18, 16, 14, 14	38	25	24	6	35	B	B	C	No	Retained	Within 200 ft Buffer
2560	34	30	15	12	20	15	C	D	D	No	Retained	Within 200 ft Buffer
2561	10	20	15	18	12	18	A	A	B	No	Retained	Within 200 ft Buffer
2565	10	40	16	18	18	14	C	C	C	No	Retained	Within 200 ft Buffer
2566	16	0	18	16	18	16	D	C	C	No	Retained	Within 200 ft Buffer
2568	35, 21	0	24	20	20	28	C	B	C	No	Retained	Within 200 ft Buffer
2569	23	0	18	18	16	18	C	C	C	No	Retained	Within 200 ft Buffer
2570	21	0	18	16	14	18	C	C	C	No	Retained	Within 200 ft Buffer
2571	22	0	14	14	8	17	D	D	D	No	Retained	Within 200 ft Buffer
2572	35	40	16	16	16	16	D	C	C	No	Retained	Within 200 ft Buffer
2573	28, 29	0	26	20	24	22	C	B	C	No	Retained	Within 200 ft Buffer
2574	34	45	20	20	16	20	C	C	C	No	Retained	Within 200 ft Buffer
2576	28	45	20	16	18	20	C	C	C	No	Retained	Within 200 ft Buffer
2577	29	45	18	20	20	20	C	C	C	No	Retained	Within 200 ft Buffer
2578	11	40	12	10	8	8	C	C	C	No	Retained	Within 200 ft Buffer
2579	11, 10, 10, 8, 7	40	14	17	18	16	C	C	C	No	Retained	Within 200 ft Buffer
2580	14	35	16	16	12	14	C	C	C	No	Retained	Within 200 ft Buffer
2702	22	28	6	16	8	10	C	D	D	No	Retained	Within 200 ft Buffer
2703	17	30	14	14	14	16	D	D	D	No	Retained	Within 200 ft Buffer
2707	10	10	14	8	6	6	D	D	D	No	Retained	Within 200 ft Buffer
2708	16	25	15	0	5	9	C	C	D	No	Retained	Within 200 ft Buffer
2709	11, 2, 2	20	10	10	10	11	D	D	D	No	Retained	Within 200 ft Buffer
2710	14, 13, 12	25	9	12	7	16	C	C	C	No	Retained	Within 200 ft Buffer
2711	14	0	0	0	0	0	D	F	F	No	Retained	Within 200 ft Buffer
2712	16	25	15	0	5	9	D	D	D	No	Retained	Within 200 ft Buffer
2713	17	25	10	0	0	15	C	D	D	No	Retained	Within 200 ft Buffer
2714	12, 16	28	14	14	8	16	B	C	C	No	Retained	Within 200 ft Buffer
2715	8	0	0	0	0	0	D	F	F	No	Retained	Within 200 ft Buffer
2716	14, 15	25	9	11	12	9	D	D	D	No	Retained	Within 200 ft Buffer
2717	20, 20	35	10	9	20	7	C	D	C	No	Retained	Within 200 ft Buffer
2719	11	22	4	6	2	10	D	D	D	No	Retained	Within 200 ft Buffer
2720	16, 9	20	10	20	20	15	D	D	D	No	Retained	Within 200 ft Buffer
2721	12, 9, 13	20	6	2	2	20	D	D	F	No	Retained	Within 200 ft Buffer
2722	14	30	10	8	8	8	D	D	D	No	Retained	Within 200 ft Buffer
2723	10	22	8	10	6	6	C	C	C	No	Retained	Within 200 ft Buffer
2724	8	15	6	4	3	2	C	C	C	No	Retained	Within 200 ft Buffer
2725	14	20	8	10	7	6	D	D	D	No	Retained	Within 200 ft Buffer
2726	10	10	4	4	4	4	D	D	D	No	Retained	Within 200 ft Buffer
2727	16, 14	20	14	16	7	12	C	C	C	No	Retained	Within 200 ft Buffer
2728	13	12	4	2	2	2	D	D	D	No	Retained	Within 200 ft Buffer
2729	15, 14, 12	28	5	18	12	10	C	C	C	No	Retained	Within 200 ft Buffer

APPENDIX B: OAK TREE SURVEY DATA

Tree ID Number	Trunk Diameter (in)	Height	Canopy Extent (ft)				Health	Aesthetics	Balance	Heritage	Project Status	Location
			North	South	East	West						
2730	13, 15, 21	30	12	5	8	18	C	D	C	No	Retained	Within 200 ft Buffer
2731	21, 21, 12	60	20	10	25	15	D	D	D	No	Retained	Within 200 ft Buffer
2732	16, 17	30	22	0	10	5	C	C	D	No	Retained	Within 200 ft Buffer
2734	20	30	20	12	10	5	C	C	D	No	Retained	Within 200 ft Buffer
2736	18	32	10	5	5	10	C	C	C	No	Retained	Within 200 ft Buffer
2737	21, 10, 12, 16	28	5	20	10	20	C	C	C	No	Encroached	Protected Zone within 25 ft Buffer
2738	20, 18, 19, 15	30	20	10	10	20	C	C	C	No	Encroached	Protected Zone within Grading Limit
2739	24, 20	30	20	5	10	24	C	D	D	No	Encroached	Protected Zone within 25 ft Buffer
2741	29, 18	25	15	22	10	22	C	C	C	No	Encroached	Protected Zone within 25 ft Buffer
2742	22, 14, 16, 14	25	10	18	20	20	C	C	C	No	Encroached	Protected Zone within 25 ft Buffer
2743	22, 25	40	25	20	18	20	B	C	C	No	Retained	Within 200 ft Buffer
2744	22	45	15	25	20	15	B	C	C	No	Retained	Within 200 ft Buffer
2745	17, 16, 18, 16	40	20	25	20	18	C	C	C	No	Retained	Within 200 ft Buffer
2746	14, 16	28	25	5	15	5	E	D	D	No	Retained	Within 200 ft Buffer
2747	6, 6, 15, 25, 12, 14	43	20	12	15	10	B	C	C	No	Retained	Within 200 ft Buffer
2748	11	18	2	2	4	2	D	D	D	No	Retained	Within 200 ft Buffer
2749	15	20	5	4	2	4	D	D	D	No	Retained	Within 200 ft Buffer
2750	13, 10	25	4	16	2	2	C	D	D	No	Retained	Within 200 ft Buffer
2751	19, 14, 10	36	18	12	16	8	B	C	B	No	Retained	Within 200 ft Buffer
2752	19	22	2	2	2	2	D	F	F	No	Retained	Within 200 ft Buffer
2753	18	20	12	6	6	18	C	C	D	No	Retained	Within 200 ft Buffer
2754	25 @ 4'	35	30	0	4	85	B	B	C	No	Encroached	Protected Zone within Grading Limit
2755	12	28	10	4	4	6	D	F	F	No	Encroached	Protected Zone within 25 ft Buffer
2756	23	35	22	10	12	5	A	B	B	No	Encroached	Protected Zone within 25 ft Buffer
2757	10	22	4	0	0	12	D	D	D	No	Encroached	Protected Zone within 25 ft Buffer
2758	16 @ 3.5'	36	25	15	12	20	B	B	C	No	Encroached	Protected Zone within Grading Limit
2759	32	55	15	25	18	22	B	B	B	No	Encroached	Protected Zone within Grading Limit
2760	27	45	12	18	12	16	B	A	A	No	Retained	Within 200 ft Buffer
2761	20	50	12	11	15	10	D	D	D	No	Retained	Within 200 ft Buffer
2762	13	28	6	18	8	5	B	C	C	No	Retained	Within 200 ft Buffer
2763	22, 15, 16	50	25	25	20	15	B	B	B	No	Retained	Within 200 ft Buffer
2764	10	14	5	4	4	0	C	D	D	No	Retained	Within 200 ft Buffer
2766	10	19	3	20	5	5	D	D	D	No	Retained	Within 200 ft Buffer
2767	12	20	2	15	10	10	D	D	D	No	Retained	Within 200 ft Buffer
2768	14	18	10	5	15	5	D	C	D	No	Encroached	Protected Zone within 25 ft Buffer
2769	27, 18, 12	55	35	18	18	26	D	C	C	No	Retained	Within 200 ft Buffer
2770	23, 16	40	22	25	18	28	B	B	B	No	Encroached	Protected Zone within Grading Limit
2771	8	0	0	0	0	0	D	F	F	No	Encroached	Protected Zone within 25 ft Buffer
2772	10	18	9	12	0	8	D	C	C	No	Encroached	Protected Zone within Grading Limit
2773	21	45	16	15	10	14	B	B	C	No	Encroached	Protected Zone within Grading Limit
2774	14	20	15	4	4	6	C	D	D	No	Retained	Within 200 ft Buffer
2775	17	25	12	10	0	12	C	C	C	No	Retained	Within 200 ft Buffer
2776	11	25	4	12	8	0	C	C	D	No	Retained	Within 200 ft Buffer
2777	16	55	25	15	18	10	C	C	C	No	Encroached	Protected Zone within 25 ft Buffer
2778	11, 8	36	4	6	17	0	B	C	C	No	Encroached	Protected Zone within 25 ft Buffer
2779	12	26	0	0	24	0	C	C	D	No	Encroached	Protected Zone within 25 ft Buffer
2780	19, 17	34	20	8	20	20	B	B	B	No	Encroached	Protected Zone within Grading Limit
2781	18, 9	28	4	18	6	20	B	B	C	No	Encroached	Protected Zone within 25 ft Buffer
2782	19	48	15	10	20	10	C	B	C	No	Encroached	Protected Zone within 25 ft Buffer

APPENDIX B: OAK TREE SURVEY DATA

Tree ID Number	Trunk Diameter (in)	Height	Canopy Extent (ft)				Health	Aesthetics	Balance	Heritage	Project Status	Location
			North	South	East	West						
2783	13	40	15	10	15	8	B	C	C	No	Encroached	Protected Zone within 25 ft Buffer
2784	11	18	2	6	0	18	B	C	D	No	Encroached	Protected Zone within Grading Limit
2785	15, 16	30	12	6	8	22	B	B	C	No	Encroached	Protected Zone within 25 ft Buffer
2786	19	30	15	14	8	20	B	C	C	No	Encroached	Protected Zone within 25 ft Buffer
2787	10, 14, 11	28	10	5	20	18	D	C	C	No	Retained	Within 200 ft Buffer
2788	13, 13, 12, 9	40	15	0	25	20	D	D	D	No	Retained	Within 200 ft Buffer
2789	10, 8	20	8	8	10	8	B	B	C	No	Retained	Within 200 ft Buffer
2790	12	18	8	0	0	10	C	C	D	No	Retained	Within 200 ft Buffer
2791	13, 11, 12	22	8	10	8	15	D	D	D	No	Retained	Within 200 ft Buffer
2792	11	7	2	1	2	3	D	D	F	No	Retained	Within 200 ft Buffer
2793	11, 11	25	8	6	4	2	D	C	B	No	Retained	Within 200 ft Buffer
2794	11	25	6	4	6	5	D	C	D	No	Retained	Within 200 ft Buffer
2795	14	8	0	0	0	2	E	E	E	No	Retained	Within 200 ft Buffer
2796	14	25	4	15	12	8	C	C	C	No	Retained	Within 200 ft Buffer
2797	13	22	20	2	8	8	D	C	D	No	Retained	Within 200 ft Buffer
2798	16	40	15	8	6	8	C	C	C	No	Retained	Within 200 ft Buffer
2799	12	20	2	2	2	2	D	D	D	No	Retained	Within 200 ft Buffer
2800	15	28	8	2	4	4	D	D	D	No	Retained	Within 200 ft Buffer
2801	17	30	15	15	16	15	C	C	C	No	Retained	Within 200 ft Buffer
2802	16	14	15	0	5	5	D	D	D	No	Retained	Within 200 ft Buffer
2804	18	32	20	10	4	12	B	D	C	No	Encroached	Protected Zone within 25 ft Buffer
2805	25, 21	32	12	16	18	18	C	C	D	No	Encroached	Protected Zone within 25 ft Buffer
2806	12, 15	28	15	15	5	20	C	C	D	No	Retained	Within 200 ft Buffer
2807	29	38	15	15	12	10	C	C	C	No	Retained	Within 200 ft Buffer
2808	11	20	0	2	2	2	C	D	D	No	Retained	Within 200 ft Buffer
2809	9	9	2	3	4	2	D	D	F	No	Retained	Within 200 ft Buffer
2810	16	12	4	3	3	3	D	D	D	No	Retained	Within 200 ft Buffer
2811	24 @ 3.5'	0	14	12	16	14	C	D	C	No	Retained	Within 200 ft Buffer
2812	20	45	18	14	14	20	C	C	C/D	No	Retained	Within 200 ft Buffer
2818	17	40	14	16	16	12	C	C	C	No	Retained	Within 200 ft Buffer
2820	19	25	15	14	10	18	D	D	D	No	Retained	Within 200 ft Buffer
2821	16, 20	40	40	22	28	12	C	C	C	No	Retained	Within 200 ft Buffer
2822	19, 15	35	10	14	20	22	C	C	C	No	Retained	Within 200 ft Buffer
2823	8	0	0	0	0	0	D	F	F	No	Retained	Within 200 ft Buffer
2824	12, 8, 10	23	10	9	5	8	C	C	C	No	Retained	Within 200 ft Buffer
2825	7, 7, 15, 15	45	25	25	20	17	C	C	C	No	Retained	Within 200 ft Buffer
2826	13	28	8	8	4	8	D	D	D	No	Retained	Within 200 ft Buffer
2827	9, 12	15	12	4	4	12	C	C	D	No	Retained	Within 200 ft Buffer
2828	15	30	10	8	6	9	C	C	C	No	Retained	Within 200 ft Buffer
2829	18	35	10	15	11	20	C	C	D	No	Retained	Within 200 ft Buffer
2830	15, 15, 15	20	12	15	10	20	C	B	D	No	Retained	Within 200 ft Buffer
2831	12	10	10	2	4	10	D	D	D	No	Retained	Within 200 ft Buffer
2832	28	28	17	10	9	15	D	F	F	No	Retained	Within 200 ft Buffer
2833	21, 16	30	20	24	28	24	B	B	C	No	Retained	Within 200 ft Buffer
2838	13, 12	20	12	3	4	10	D	D	F	No	Retained	Within 200 ft Buffer
2845	20, 12, 13	88	15	18	18	22	B	B	C	No	Removed	Trunk within Grading Limit
2846	17, 13, 11	26	10	20	15	12	C	C	C	No	Encroached	Protected Zone within Grading Limit
2847	10, 12	25	10	4	6	12	C	C	C	No	Encroached	Protected Zone within 25 ft Buffer
2848	12, 15	36	15	4	4	8	C	C	D	No	Encroached	Protected Zone within 25 ft Buffer

APPENDIX B: OAK TREE SURVEY DATA

Tree ID Number	Trunk Diameter (in)	Height	Canopy Extent (ft)				Health	Aesthetics	Balance	Heritage	Project Status	Location
			North	South	East	West						
2849	13	22	3	3	4	2	D	D	D	No	Encroached	Protected Zone within Grading Limit
2850	20	35	16	12	20	18	C	C	C	No	Encroached	Protected Zone within Grading Limit
2851	16	28	12	14	13	12	D	D	D	No	Retained	Within 200 ft Buffer
2852	14	25	10	12	13	9	D	D	D	No	Retained	Within 200 ft Buffer
2853	13, 15, 14	38	8	15	30	12	C	C	D	No	Retained	Within 200 ft Buffer
2854	10	15	3	4	4	2	D	D	D	No	Retained	Within 200 ft Buffer
2855	17, 11	40	25	20	12	10	C	B	C	No	Retained	Within 200 ft Buffer
2856	11, 18	16	2	2	8	2	D	F	B	No	Retained	Within 200 ft Buffer
2857	13	36	8	8	6	4	B	C	B	No	Retained	Within 200 ft Buffer
2858	17	38	14	6	6	12	C	C	C	No	Retained	Within 200 ft Buffer
2859	13	44	12	8	8	6	B	B	B	No	Retained	Within 200 ft Buffer
2860	17	40	14	12	3	8	B	C	B	No	Retained	Within 200 ft Buffer
2861	17	48	25	12	15	10	C	C	D	No	Encroached	Protected Zone within Grading Limit
2862	23	28	18	25	20	0	C	D		No	Encroached	Protected Zone within Grading Limit
2863	9, 8	12	4	2	6	4	C	C	D	No	Encroached	Protected Zone within Grading Limit
2864	15	26	12	15	29	0	C	C	D	No	Encroached	Protected Zone within Grading Limit
2865	18, 13	42	23	18	21	13	C	C	D	No	Encroached	Protected Zone within 25 ft Buffer
2866	12, 12	22	2	15	15	6	D	D	D	No	Retained	Within 200 ft Buffer
2867	12, 12	50	4	16	15	8	B	C	C	No	Encroached	Protected Zone within 25 ft Buffer
2868	20	42	10	15	14	11	D	C	D	No	Encroached	Protected Zone within 25 ft Buffer
2869	18, 11	35	15	4	2	2	C	C	C	No	Retained	Within 200 ft Buffer
2870	19	50	14	25	20	20	B	B	A	No	Retained	Within 200 ft Buffer
2871	14	25	2	24	14	4	B	C	C	No	Encroached	Protected Zone within Grading Limit
2872	12	35	18	6	12	12	B	B	C	No	Encroached	Protected Zone within 25 ft Buffer
2873	11	12	2	2	14	2	D	D	F	No	Encroached	Protected Zone within 25 ft Buffer
2874	12	38	6	4	2	2	C	D	D	No	Encroached	Protected Zone within 25 ft Buffer
2875	25, 19	50	35	6	25	40	C	B	B	No	Retained	Within 200 ft Buffer
2876	12	40	6	16	6	4	C	C	D	No	Encroached	Protected Zone within 25 ft Buffer
2877	12, 18, 15, 17, 15	45	20	20	20	14	C	C	C/D	No	Retained	Within 200 ft Buffer
2878	16	40	16	16	20	10	C	C	C/D	No	Retained	Within 200 ft Buffer
2879	24, 13	45	18	8	20	6	C	C	C/D	No	Retained	Within 200 ft Buffer
2880	25	45	20	20	20	24	C	C	C	No	Retained	Within 200 ft Buffer
2881	18, 15	30	8	14	14	18	C	C	C	No	Retained	Within 200 ft Buffer
2882	14	35	6	14	10	14	C	C	C	No	Retained	Within 200 ft Buffer
2883	18	35	14	8	10	6	C	C	C	No	Retained	Within 200 ft Buffer
2884	10, 10, 11	35	14	14	14	16	C/D	C/D	C/D	No	Retained	Within 200 ft Buffer
2885	29 @ 3'	40	10	14	10	12	C/D	C/	C/D	No	Retained	Within 200 ft Buffer
2886	24	40	16	10	20	14	C	C	C	No	Retained	Within 200 ft Buffer
2887	20, 17, 17	40	18	16	10	18	C	C	C	No	Retained	Within 200 ft Buffer
2888	16, 18, 19, 19	45	20	16	20	24	C	C/B	C	No	Retained	Within 200 ft Buffer
2889	22	40	16	12	18	18	C	C	C/D	No	Retained	Within 200 ft Buffer
2890	15	35	20	6	18	8	C	C	C	No	Retained	Within 200 ft Buffer
2891	16 @ 4'	16	6	4	18	0	D	F	F	No	Retained	Within 200 ft Buffer
2892	23	40	20	8	24	4	C	C	C/D	No	Retained	Within 200 ft Buffer
2893	33, 20	50	10	20	20	20	C	B/C	C	No	Retained	Within 200 ft Buffer
2894	15 @ 4'	30	16	14	16	16	C	C	C	No	Retained	Within 200 ft Buffer
2895	23	40	20	16	18	18	C/D	C	C/D	No	Retained	Within 200 ft Buffer
2896	13	30	6	14	12	14	C	C	C	No	Retained	Within 200 ft Buffer
2897	21	40	20	6	18	16	C	C	C/D	No	Retained	Within 200 ft Buffer

APPENDIX B: OAK TREE SURVEY DATA

Tree ID Number	Trunk Diameter (in)	Height	Canopy Extent (ft)				Health	Aesthetics	Balance	Heritage	Project Status	Location
			North	South	East	West						
2898	18	40	20	14	16	18	C	C	C/D	No	Retained	Within 200 ft Buffer
2900	19	40	18	12	18	18	C	C	C	No	Retained	Within 200 ft Buffer
2901	9, 4	30	10	8	12	8	B	B	B	No	Retained	Within 200 ft Buffer
2902	13	35	16	4	10	10	C	C	C/D	No	Retained	Within 200 ft Buffer
2903	14	40	12	14	12	14	C/D	C/D	C/D	No	Retained	Within 200 ft Buffer
2904	15	20	10	12	12	14	C/D	C/D	C/D	No	Retained	Within 200 ft Buffer
2905	20	20	8	12	8	12	D	D	D	No	Retained	Within 200 ft Buffer
2906	12	14	20	10	12	14	D	D	D	No	Retained	Within 200 ft Buffer
2908	20	16	10	10	10	12	C	C	C	No	Retained	Within 200 ft Buffer
2909	18	352	14	12	8	10	C/D	C/D	C/D	No	Retained	Within 200 ft Buffer
2910	14	25	12	10	10	10	D	D	D	No	Retained	Within 200 ft Buffer
2911	19	35	14	16	16	16	C/D	C/D	C/D	No	Retained	Within 200 ft Buffer
2912	20	35	16	16	17	14	C/D	C/D	C/D	No	Retained	Within 200 ft Buffer
2913	21	40	12	16	16	14	C	C	C	No	Retained	Within 200 ft Buffer
2914	17	40	12	14	12	16	C	C	C	No	Retained	Within 200 ft Buffer
2915	13	25	12	12	12	12	C/D	C/D	C/D	No	Retained	Within 200 ft Buffer
2917	17	30	12	14	14	14	D	D	D	No	Retained	Within 200 ft Buffer
2918	22	40	16	14	14	16	C/D	C/D	C/D	No	Retained	Within 200 ft Buffer
2926	17	35	8	10	6	6	D	D	D	No	Retained	Within 200 ft Buffer
2927	16	12	4	2	5	4	E	E	F	No	Retained	Within 200 ft Buffer
2928	29 @ 3.5'	40	16	16	18	18	C	C	C	No	Retained	Within 200 ft Buffer
2929	15	30	10	8	8	8	D	D	D	No	Retained	Within 200 ft Buffer
2930	10	8	1	0	0	0	D	D	D	No	Retained	Within 200 ft Buffer
2950	23	38	14	15	15	18	B	B	B	No	Retained	Within 200 ft Buffer
2951	24	29	18	12	10	10	C	D	C	No	Retained	Within 200 ft Buffer
2952	20	40	20	18	18	24	A	A	A	No	Encroached	Protected Zone within Grading Limit
2953	15, 15	32	20	25	28	28	B	A	A	No	Encroached	Protected Zone within Grading Limit
2954	10	18	5	5	4	8	C	C	D	No	Encroached	Protected Zone within Grading Limit
2955	8	14	8	7	7	8	C	C	C	No	Encroached	Protected Zone within Grading Limit
2956	18	23	11	12	9	14	B	B	C	No	Encroached	Protected Zone within Grading Limit
2957	14	28	12	10	8	6	B	C	C	No	Encroached	Protected Zone within Grading Limit
2958	14	28	9	15	15	12	B	C	C	No	Encroached	Protected Zone within Grading Limit
2959	15	25	12	15	15	12	B	C	C	No	Encroached	Protected Zone within Grading Limit
2960	13	22	13	10	10	9	B	C	C	No	Encroached	Protected Zone within Grading Limit
2963	12, 12	25	9	12	13	14	C	B	B	No	Retained	Within 200 ft Buffer
2964	18, 11	30	15	15	14	12	B	B	A	No	Encroached	Protected Zone within 25 ft Buffer
2965	8	22	6	5	8	8	B	B	B	No	Encroached	Protected Zone within 25 ft Buffer
2966	13	26	10	8	6	6	B	C	C	No	Encroached	Protected Zone within Grading Limit
2967	14	15	8	6	8	6	B	C	C	No	Encroached	Protected Zone within 25 ft Buffer
2991	15, 16	35	15	16	14	12	B	B	B	No	Encroached	Protected Zone within Grading Limit
2992	19	0	15	12	14	14	C	C	C	No	Retained	Within 200 ft Buffer
2993	15	0	14	14	14	14	C	C	C	No	Retained	Within 200 ft Buffer
2994	12, 9	0	14	14	14	14	C	C	C	No	Retained	Within 200 ft Buffer
2995	16	35	16	14	14	14	C	C	C	No	Retained	Within 200 ft Buffer
3003	10	10	4	4	2	4	D	D	F	No	Encroached	Protected Zone within 25 ft Buffer
3004	8, 4, 4, 3, 2, 2	15	5	5	8	3	B	B	C	No	Encroached	Protected Zone within Grading Limit
3005	33	23	12	15	10	18	D	D	D	No	Retained	Within 200 ft Buffer
3006	10	24	12	8	6	6	B	B	B	No	Encroached	Protected Zone within 25 ft Buffer
3007	8	0	0	0	0	0	B	B	B	No	Retained	Within 200 ft Buffer

APPENDIX B: OAK TREE SURVEY DATA

Tree ID Number	Trunk Diameter (in)	Height	Canopy Extent (ft)				Health	Aesthetics	Balance	Heritage	Project Status	Location
			North	South	East	West						
3008	15, 8, 7, 6, 4	16	10	12	8	8	D	D	D	No	Retained	Within 200 ft Buffer
3012	15	16	4	3	4	4	D	D	D	No	Retained	Within 200 ft Buffer
3013	8	12	6	8	10	8	C	C	C	No	Retained	Within 200 ft Buffer
3014	12	18	3	4	3	5	D	D	D	No	Retained	Within 200 ft Buffer
3015	14	8	4	0	3	0	D	D	D	No	Retained	Within 200 ft Buffer
3016	14	8	3	4	4	3	D	D	D	No	Retained	Within 200 ft Buffer
3017	8	10	3	3	4	4	C	C	C	No	Retained	Within 200 ft Buffer
3018	8	9	1	1	1	1	D	D	D	No	Retained	Within 200 ft Buffer
3019	9,6	25	6	7	4	5	D	D	D	No	Encroached	Protected Zone within 25 ft Buffer
3020	9	7	1	0	1	0	D	D	D	No	Encroached	Protected Zone within Grading Limit
3066	15	25	13	8	9	16	B	C	C	No	Retained	Within 200 ft Buffer
3067	11, 5	22	14	12	9	12	C	C	B	No	Encroached	Protected Zone within Grading Limit
3068	21, 15, 9	30	14	17	10	6	D-	F	F	No	Encroached	Protected Zone within 25 ft Buffer
3069	17	25	10	10	20	6	D	F	D	No	Encroached	Protected Zone within Grading Limit
3070	18, 17	30	19	12	23	20	D	D	C	No	Retained	Within 200 ft Buffer
3071	12, 11	25	8	9	10	9	D-	D-	D	No	Retained	Within 200 ft Buffer
3072	11, 11, 11, 15	30	15	12	4	14	D	D-	C	No	Retained	Within 200 ft Buffer
3076	8, 5, 4	16	12	8	10	10	C	C	C	No	Retained	Within 200 ft Buffer
3077	16, 14, 5	6	6	10	12	12	D/E	D/E	D/E	No	Retained	Within 200 ft Buffer
3078	7, 6	18	4	8	6	6	C	B	B	No	Retained	Within 200 ft Buffer
3079	14	15	4	4	3	4	D	D	D	No	Retained	Within 200 ft Buffer
3116	40, 18, 18, 16, 14	45	20	22	20	22	A	A	A	Yes	Retained	Within 200 ft Buffer
3117	30, 28, 12	35	24	20	25	25	B	A	A	No	Retained	Within 200 ft Buffer
4138	8	35	10	10	10	12	B	C	B	No	Removed	Trunk within Grading Limit

APPENDIX C: LOS ANGELES COUNTY FORESTER REVIEW LETTERS

COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294
(323) 890-4330

DARYL L. OSBY
FIRE CHIEF
FORESTER & FIRE WARDEN

December 16, 2011

Kim Szalay, Principal Regional Planner
Department of Regional Planning
Special Projects
320 West Temple Street
Los Angeles, CA 90012

Dear Mr. Szalay:

OAK TREE PERMIT NUMBER 2009-00041
PROJECT NUMBER TR 071216-(5)
19802 PLACERITA CANYON ROAD, NEWHALL

We have reviewed the "Request for Oak Tree Permit #2009-00041." The project is located at 19802 Placerita Canyon Road in the unincorporated area of Newhall. The Oak Tree Report is accurate and complete as to the location, size, condition and species of the Oak trees on the site. The term "Oak Tree Report" refers to the document on file by Dudek, the consulting arborist, dated January 2011.

We recommend the following as conditions of approval:

OAK TREE PERMIT REQUIREMENTS:

1. This grant shall not be effective until the permittee and the owner of the property involved (if other than the permittee), have filed at the office of the Department of Regional Planning their affidavit stating that they are aware of and agree to accept all conditions of this grant. Unless otherwise apparent from the context, the term "permittee" shall include the applicant and any other person, corporation or other entity making use of this grant.

2. The permittee shall, prior to commencement of the use authorized by this grant, deposit with the County of Los Angeles Fire Department a sum of $1000 into an escrow account. This account will be billed against each month to compensate the County Forester to cover

expenses incurred while inspecting the project to determine the permittee's compliance with the conditions of approval. The applicant will be required to replenish the escrow account when funds have reached $400. The Director of Regional Planning and the County Forester shall retain the right to make regular and unannounced site inspections.

3. Before commencing work authorized or required by this grant, the consulting arborist shall submit a letter to the Director of Regional Planning and the County of Los Angeles Fire Department, Forestry Division, stating that he or she has been retained by the permittee to perform or supervise the work, and that he or she agrees to report to the Director of Regional Planning and the County Forester, any failure to fully comply with the conditions of the grant. The arborist shall also submit a written report on permit compliance upon completion of the work required by this grant. The report shall include a diagram showing the exact number and location of all mitigation trees planted as well as planting dates.

4. The permittee shall arrange for the consulting arborist or a similarly qualified person to maintain all remaining Oak trees on the subject property that are within the zone of impact, as determined by the County Forester for the life of the Oak Tree Permit.

5. The permittee shall install temporary chain link fencing, not less than four (4) feet in height, to secure the protected zone of all remaining Oak trees on site, as necessary. The fencing shall be installed prior to grading or tree removal, and shall not be removed without approval of the County Forester. The term "protected zone" refers to the area extending five (5) feet beyond the dripline of the Oak tree (before pruning), or fifteen (15) feet from the trunk, whichever is greater.

6. Copies of the Oak Tree Report, Oak tree map, mitigation planting plan, and conditions of approval, shall be kept on the project site and available for review. All individuals associated with the project as it relates to the Oak resource shall be familiar with the Oak Tree Report, Oak tree map, mitigation planting plan, and conditions of approval.

PERMITTED OAK TREE REMOVAL AND ENCROACHMENT:

7. This grant allows the removal of one hundred fifty seven (140 non-heritages + **17 heritage**) trees of the Oak genus (*Quercus agrifolia*) identified as Tree Numbers:

777, 778, 780, ***783***, 784, 785, 786, 787, ***788***, 789,
791, 792, 793, ***794***, ***795***, 796, ***799***, 800, 802, ***803***,
831, 832, 833, 834, 835, 836, 837, ***838***, 839, 840,
841, 842, ***843***, ***844***, 845, 846, ***847***, 848, 849, 850,
851, 852, 853, 854, 855, 856, 857, 858, 859, 860,
861, 862, 863, 864, 865, 866, 867, 868, 869, 870,
871, 872, 873, 874, 875, 876, 877, 878, 879, 880,
881, 882, 883, 884, 885, 886, 887, 888, 889, 890,
891, 892, 893, ***894***, 895, ***896***, ***897***, ***899***, ***900***,901,
902, 903, 904, 905, 906, 907, 908, 909, 910, 911,
912, 913, 914, 915, 916, 917, 918, 919, 920, 921,

923, 924, 925, 927, 928, 929, 930, 931, 932, 933,
934, 935, 936, 937, 938, 940, 941, 942, 943, 944,
945, 948, 949, 950, 951, 952, 953, 955, 956, 957,
958, 959, 961, 962, 963, 964, 965, 967, 969, 970,
971, 972, 973, 980, 983, 984, & 4138.

Due to the size and complexity of this project the County Forester is recommending that an additional 10% tree removal is approved to address any unforeseeable removals due to the projects approval.

on the applicant's site plan and Oak Tree Report. This grant allows encroachment within the protected zone of seventy seven (77) of the Oak genus identified as tree numbers:

776, 782, 801, 807, 810, 818, 823, 826, 828, 829,
830, 1351, 2737, 2738, 2739, 2741, 2742, 2754, 2755, 2756,
2757, 2758, 2759, 2768, 2770, 2771, 2772, 2773, 2777, 2778,
2779, 2780, 2781, 2782, 2783, 2784, 2785, 2786, 2804, 2805,
2846, 2847, 2848, 2849, 2850, 2861, 2862, 2863, 2864, 2865,
2867, 2868, 2871, 2872, 2873, 2874, 2876, 2952, 2953, 2954,
2955, 2956, 2957, 2958, 2959, 2960, 2964, 2965, 2966, 2967,
2991, 3003, 3004, 3006, 3019, 3020, & 3067.

on the applicant's site plan and Oak Tree Report. Trenching, excavation, or clearance of vegetation within the protected zone of an Oak tree shall be accomplished by the use of hand tools or small hand-held power tools. Any major roots encountered shall be conserved to the extent possible and treated as recommended by the consulting arborist.

8. In addition to the work expressly allowed by this permit, remedial pruning intended to ensure the continued health of a protected Oak tree or to improve its appearance or structure may be performed. Such pruning shall include the removal of deadwood and stubs and medium pruning of branches two-inches in diameter or less in accordance with the guidelines published by the National Arborist Association. Copies of these guidelines are available from the County of Los Angeles Fire Department, Forestry Division. In no case shall more than 20% of the tree canopy of any one tree be removed.

9. Except as otherwise expressly authorized by this grant, the remaining Oak trees shall be maintained in accordance with the principles set forth in the publication, "Oak Trees: Care and Maintenance," prepared by the County of Los Angeles Fire Department, Forestry Division. A copy of the publication is enclosed with these conditions.

MITIGATION TREES:

10. The permittee shall provide mitigation trees of the Oak genus at a rate of two to one (2:1) for each tree non-heritage tree removed and at a rate of ten to one (10:1) for each ***Heritage Tree*** removed for a total of four hundred fifty (450) trees. The permittee shall provide mitigation trees of the Oak genus at a rate of two to one (2:1) for any tree specified above,

that dies as a result of the approved encroachments for non-heritage trees and at a rate of ten to one (10:1) for heritage trees.

11. Each mitigation tree shall be at least a 15-gallon specimen in size and measure one (1) inch or more in diameter one (1) foot above the base. Free form trees with multiple stems are permissible provided the combined diameter of the two (2) largest stems of such trees measure a minimum of one (1) inch in diameter one (1) foot above the base. Planting oak seedlings smaller than this is permissible but the required mitigation start date will be when the seedlings measure the 1" caliber as stated above for the 15 gallon tree.

12. Mitigation trees shall consist of indigenous varieties of *Quercus agrifolia*, grown from a local seed source.

13. Mitigation trees shall be planted within one (1) year of the permitted Oak tree removals. Mitigation trees shall be planted either on site or at an off-site location approved by the County Forester. Alternatively, a contribution to the County of Los Angeles Oak Forest Special Fund may be made in the amount equivalent to the Oak resource loss. The contribution shall be calculated by the consulting arborist and approved by the County Forester according to the most current edition of the International Society of Arboriculture's "Guide for Plant Appraisal."

14. The permittee shall properly maintain each mitigation tree and shall replace any tree failing to survive due to a lack of proper care and maintenance with a tree meeting the specifications set forth above. The seven-year maintenance period will begin upon receipt of a letter from the permittee or consulting arborist to the Director of Regional Planning and the County Forester, indicating that the mitigation trees have been planted. The maintenance period of the trees failing to survive seven (7) years will start anew with the new replacement trees. Subsequently, additional monitoring fees shall be required. All "in growth trees" or any unforeseeable removals will be mitigated at the rates set forth in these conditions.

15. All mitigation Oak trees planted as a condition of this permit shall be protected in perpetuity by the Los Angeles County Oak Tree Ordinance once they have survived the required maintenance period.

NON-PERMITTED ACTIONS AND VIOLATIONS:

16. Encroachment within the protected zone of any additional tree of the Oak genus on the project site is prohibited.

17. Should encroachment within the protected zone of any additional tree of the Oak genus on the project site not permitted by this grant result in its injury or death within two (2) years, the permittee shall be required to make a contribution to the Los Angeles County Oak Forest Special Fund in the amount equivalent to the Oak resource damage/loss. Said contribution shall be calculated by the consulting arborist and approved by the County

Forester according to the most current edition of the International Society of Arboriculture's "Guide for Plant Appraisal."

18. No planting or irrigation system shall be installed within the dripline of any Oak tree that will be retained.

19. Utility trenches shall not be routed within the protected zone of an Oak tree unless the serving utility requires such locations.

20. Equipment, materials and vehicles shall not be stored, parked, or operated within the protected zone of any Oak tree. No temporary structures shall be placed within the protected zone of any Oak tree.

21. Violations of the conditions of this grant shall result in immediate work stoppage or in a notice of correction depending on the nature of the violation. A time frame within which deficiencies must be corrected will be indicated on the notice of correction.

22. Should any future inspection disclose that the subject property is being used in violation of any one of the conditions of this grant, the permittee shall be held financially responsible and shall reimburse the County of Los Angeles Fire Department, Forestry Division, for all enforcement efforts necessary to bring the subject property into compliance.

If you have any additional questions, please contact this office at (818) 890-5758.

Very truly yours,

MICHAEL Y. TAKESHITA, ASSISTANT CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

MYT: jl

Enclosure

COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294
(323) 890-4330

DARYL L. OSBY
FIRE CHIEF
FORESTER & FIRE WARDEN

December 19, 2011

Kim Szalay, Principal Regional Planner
Department of Regional Planning
Special Projects
320 West Temple Street
Los Angeles, CA 90012

Dear Mr. Szalay:

TRAIL CONSTRUCTION PROJECT # TR 071216-(5)
19802 PLACERITA CANYON ROAD, NEWHALL

Per your request with Deputy Forester William Romo of the Environmental Review Unit, a site inspection of the proposed Disney Trail site was performed on December 6, 2011. This project site is located on the south side of Placerita Canyon in the unincorporated area of Newhall. This proposed trail will not impact the oak resources since no construction activities will be performed within their protected zones. This activity does not require an Oak Tree Permit.

If you have any additional questions, please contact this office at (818) 890-5758.

Very truly yours,

MICHAEL Y. TAKESHITA, ASSISTANT CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

MYT: jl

Appendix F.5

City Oak Tree Report

OAK TREE REPORT

OAK ORCHARD ALIGNMENT SEWER LINE
CITY OF SANTA CLARITA, CALIFORNIA

Prepared for:

City of Santa Clarita
Department of Public Works
23920 Valencia Boulevard
Santa Clarita, California 91355

Prepared by:

DUDEK
31878 Camino Capistrano #200
San Juan Capistrano, California 92675
949.450.2525
Contact: Michael Huff, ISA-Certified Arborist

DECEMBER 2011

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Appendix A Oak Tree Survey Data

1.0 INTRODUCTION

This report presents the findings of an oak tree survey conducted by Dudek of all native trees of the genus *Quercus* (oaks) within the vicinity of the proposed gravity sewer line (Oak Orchard Alignment), which would service the 56-acre development area (Development Area) for Disney | ABC Studios at The Ranch, a project to be located on the westernmost portion of Golden Oak Ranch in Placerita Canyon, Los Angeles County, California. Because the Oak Orchard Alignment is part of the sewer master plan for the City of Santa Clarita and would allow an existing residential area and other existing development in the area to convert from septic tanks to a public sewer system, the City of Santa Clarita would install the portion of the Oak Orchard Alignment within its jurisdictional limits. The Oak Orchard Alignment would run from Golden Oak Ranch to the southeastern portion of the City of Santa Clarita, just west of the Antelope Valley Freeway (SR-14), to join an existing local sewer system. The Oak Orchard Alignment is shown in a regional and local context in Figures 1 and 2, respectively.

The Oak Orchard Alignment would convey flows westerly from the Development Area for approximately two miles to the City of Santa Clarita's existing local wastewater collection system. The point of connection is tentatively identified at the intersection of Placeritos Boulevard and Meadview Avenue. This proposed alignment would allow for gravity flow and is described as follows:

> From the sewer collection system at Disney | ABC Studios at The Ranch, the proposed gravity sewer line would run westerly along Placerita Canyon Road to the west side of the AES Pacific Inc. property, north along a proposed easement thereon to Placeritos Boulevard, west on Placeritos Boulevard to Golden Oak Lane, north on Golden Oak Lane to Oak Orchard Road, west on Oak Orchard Road to Quigley Canyon Road, south on Quigley Canyon Road to rejoin Placeritos Boulevard, and then west on Placeritos Boulevard to join the City of Santa Clarita's existing local sewer system at Meadview Avenue. As the sewer line travels north from Placerita Canyon Road within the AES Pacific Inc. property, it would travel along un-paved streets until it reaches the intersection of Quigley Road and Placeritos Boulevard. The total distance of the sewer line would be approximately 9,800 feet (1.86 miles).

The sewer trenches necessary for installation would be a maximum of four feet wide. However, the trench depth for the sewer line would vary along its extent from 12 to 14 feet deep depending on the system ultimately selected and final alignment. The sewer line would be encased where it crosses the Los Angeles Department of Water and Power (LADWP) aqueduct (constructed above ground) and Placerita Creek (two crossings). For the creek crossings, tunnels would be

created using a jack and bore process and would be located a minimum of four feet below the creek bed with no disturbance to the creek bed or adjacent banks. A maximum of 100 feet would be excavated/installed per day (average of 75 feet; less for the deeper trenches). The maximum area disturbed per day would be 0.2 acres.

Dudek's Urban & Community Forestry Division's International Society of Arboriculture (ISA) certified arborists, working under the supervision of an American Society of Consulting Arborist (ASCA), performed various functions associated with inventorying and evaluating the condition of selected trees along the Oak Orchard Alignment, as described in the following sections. The purpose of this report is to present the physical characteristics and mapped locations of trees protected by the City of Santa Clarita Oak Tree Preservation Ordinance (Ord. 89-10, 1989). The scope of the oak tree report encompasses the methodology, survey results, and mitigation recommendations for all Ordinance-protected oak trees that may be encroached by the Oak Orchard Alignment.

2.0 METHODOLOGY

The Ordinance protects all tree species of the oak genus that measure six inches or more in circumference (two inches in diameter) as measured at a point 4.5 feet above natural grade (dbh). The Ordinance also strictly controls work activities within the "protected zone" of the jurisdictional oak trees, which extends to five feet outside of the dripline of the oak tree or 15 feet from the trunk(s) of a tree, whichever distance is greater. Oak trees with protected zones that may be encroached by the proposed sewer line and which meet the size criteria defined in the Ordinance were assessed, inventoried, and plotted on an oak tree location map. For each inventoried tree, the trunk diameter, height, canopy dimensions, and physical condition were recorded, and the health, aesthetics, and balance of the trees were assessed and ranked by grade (A = Outstanding, B = Above Average, C = Average, D = Below Average/Poor, and F = Dead). Tree diameter was measured using a diameter tape providing adjusted figures[1] for diameter measurements when wrapping the tape around an object's circumference. Diameter measurements were taken using the protocol provided in the "Guide for Plant Appraisal," published by the International Society of Arboriculture (Council of Tree and Landscape Appraisers, 2000). Tree height was visually estimated. Tree canopy diameters were typically estimated by "pacing-off" the measurement based on the investigator's knowledge of his stride length or by visually estimating the canopy width.

[1] Circumference measurement (inches) divided by 3.14 (π) provides diameter measurement in inches.

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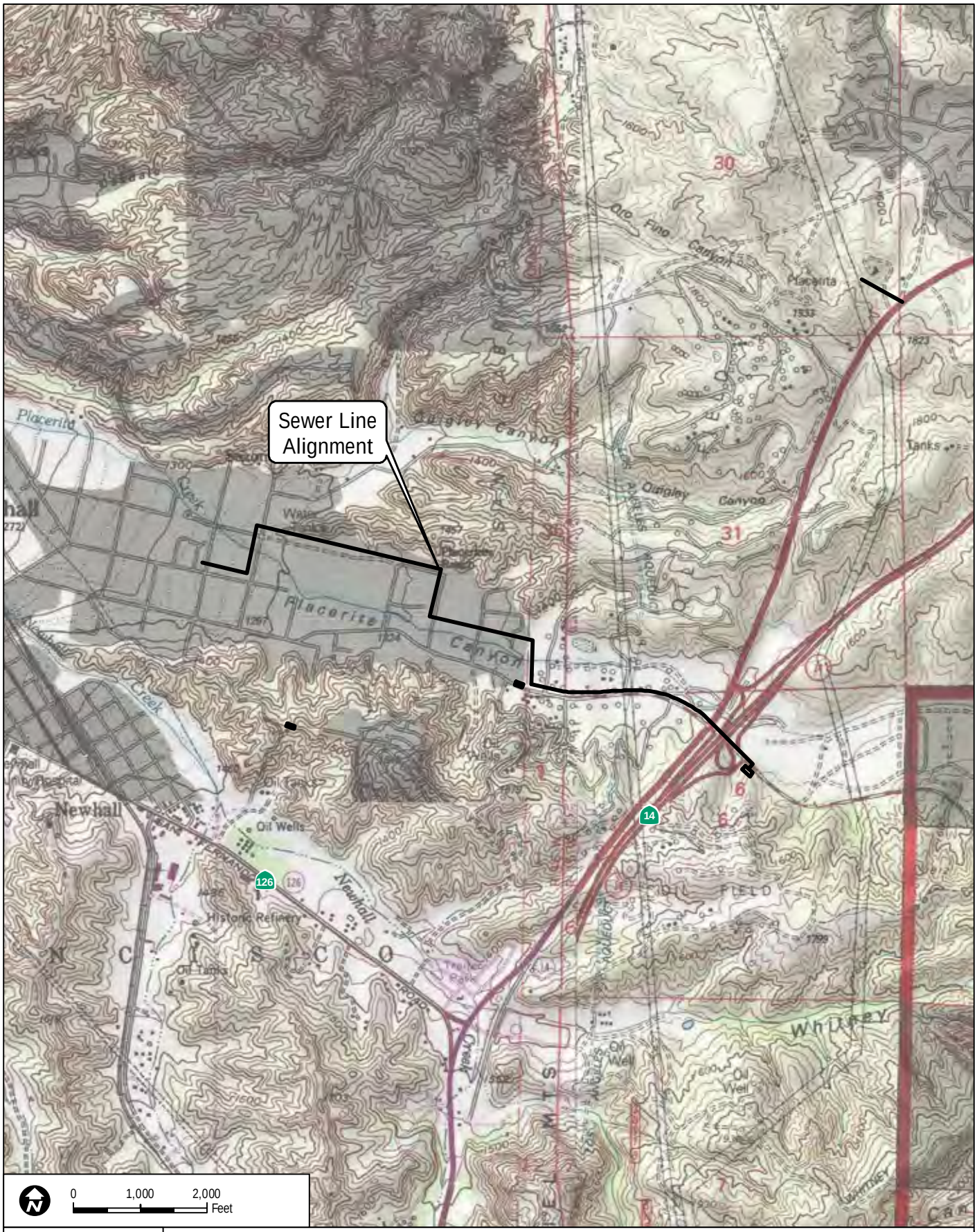
FIGURE 1

Regional Map

OAK ORCHARD ALIGNMENT SEWER LINE



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SOURCE: USGS 7.5 Minute Series Quadrangle.

FIGURE 2

Vicinity Map

OAK ORCHARD ALIGNMENT SEWER LINE

3.0 RESULTS

A total of 86 oak trees of Ordinance-protected size exist and were inventoried, assessed and mapped. (Appendix A, *Oak Tree Survey Data*). All trees surveyed are native coast live oak. The trees range from poor to good condition with varying maladies affecting their overall rating, common to landscape trees subject to irregular or reactive maintenance. Of the 86 trees of Ordinance-protected size that may be encroached by the Oak Orchard Alignment, 31 are heritage oaks. The Ordinance defines a Heritage Oak Tree as any oak tree measuring 108 inches or more in circumference (34 inches in diameter), or in the case of a multiple trunk tree, two or more trunks measuring 72 inches (23 inches in diameter) each or greater in circumference, measured at 4.5 feet above the natural grade surrounding such tree. The location of each tree surveyed is shown in Figure 3, *Oak Tree Location Map,* on page 6 and subsequent larger scale sheets on subsequent pages. Figure 3 also identifies each tree categorized as a heritage tree.

4.0 ENCROACHMENTS

None of the 86 oak trees would be removed as a result of the proposed sewer line installation. Trenching for the Oak Orchard Alignment would require temporary encroachment[1] into the protected zones of all 86 oak trees, including 31 heritage oak trees, protected under the Ordinance.

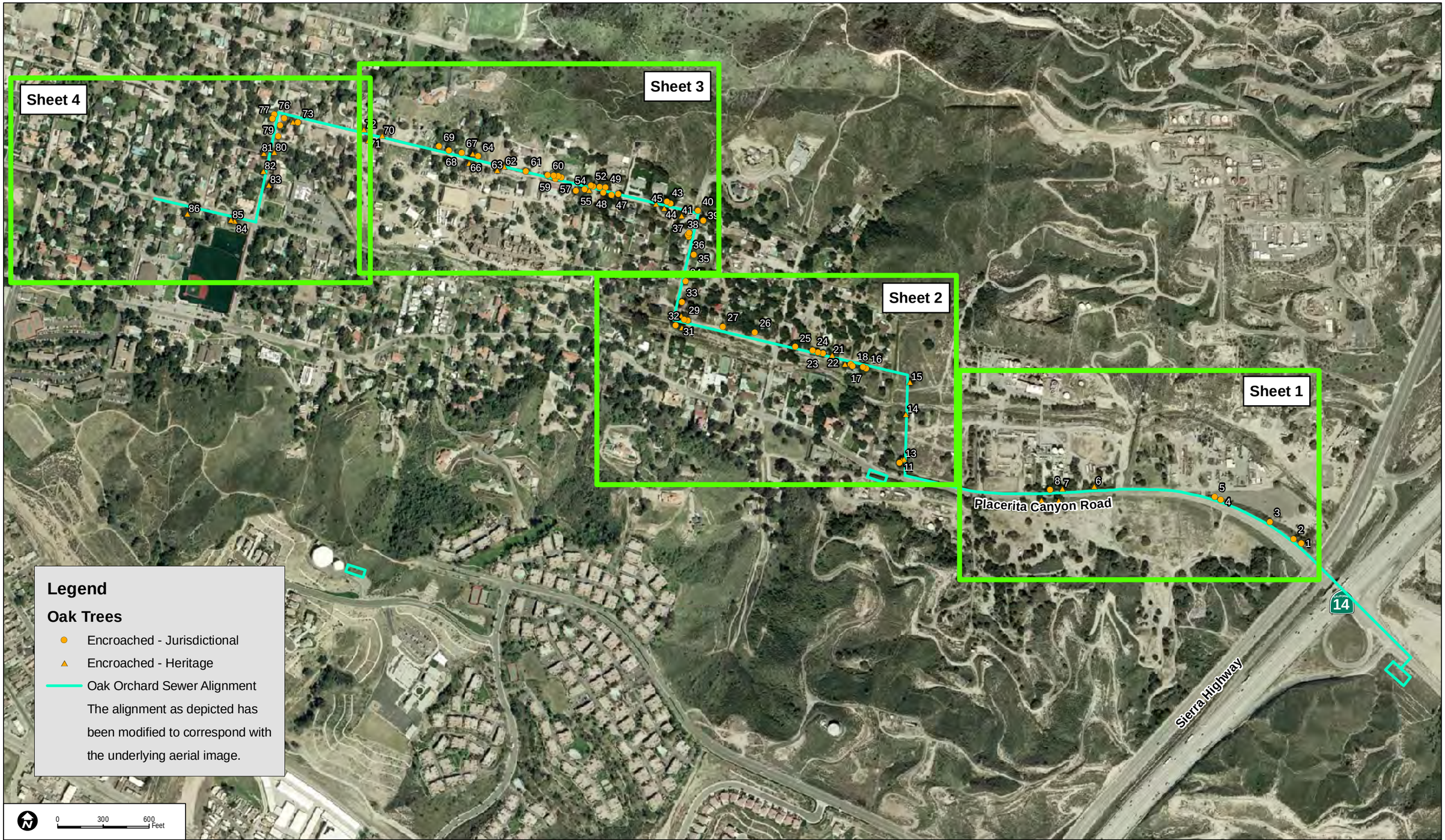
Table 1 presents the trunk diameter and encroachment status of the oak trees that may be encroached by the trenching required for the Oak Orchard Alignment.

Table 1 - Tree Assessment Summary

Encroachment Status	Trunk Diameter (dbh)		Total
	2 – 33 inches	≥ 34 inches (Heritage)	
Encroached	55	31	86

The proposed encroachments are part of a conservative analysis illustrating the "worst-case" scenario. Although these trees are catalogued as encroached in this analysis, actual tree encroachment numbers may be lower than anticipated and presented in this report. The encroached and retained trees would be avoided and protected by mitigation measures described in Section 5.0 below.

[1] Encroachment is defined as any intrusion into the protected zone of an oak tree, which includes, but is not limited to, pruning, grading, excavating, trenching, dumping of materials, parking of vehicles, placements of incompatible landscaping or animal corals, storage of materials or equipment, or the construction of structures, paving or other improvements.



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SOURCE: David Evans & Associates, Inc.

OAK ORCHARD ALIGNMENT SEWER LINE

FIGURE 3.0

Oak Tree Location Map

Note: See Sheets 1 - 4 for enlarged view

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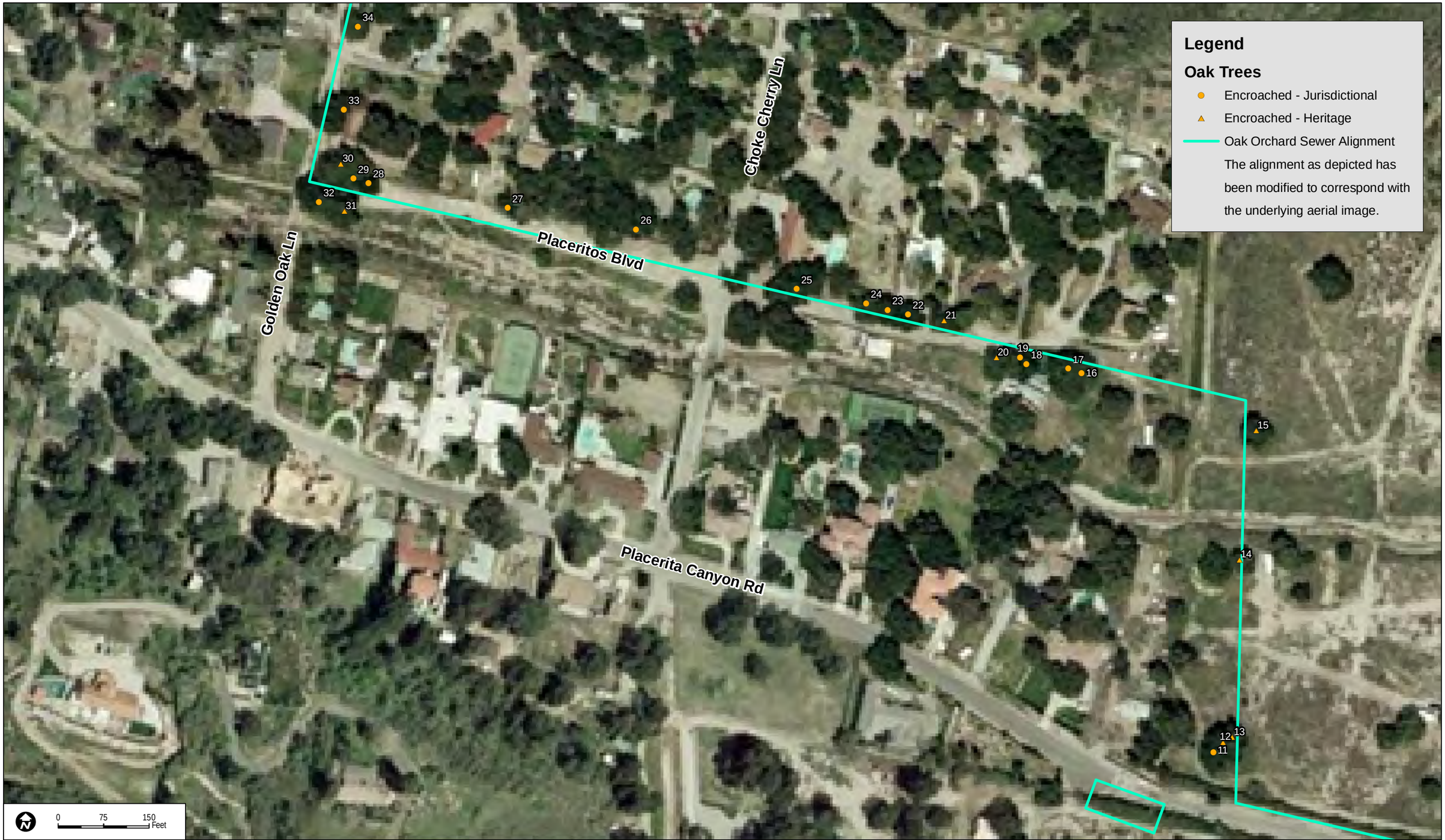
SOURCE: David Evans & Associates, Inc.

FIGURE 3.1

Oak Tree Location Map - Sheet 1

OAK ORCHARD ALIGNMENT SEWER LINE



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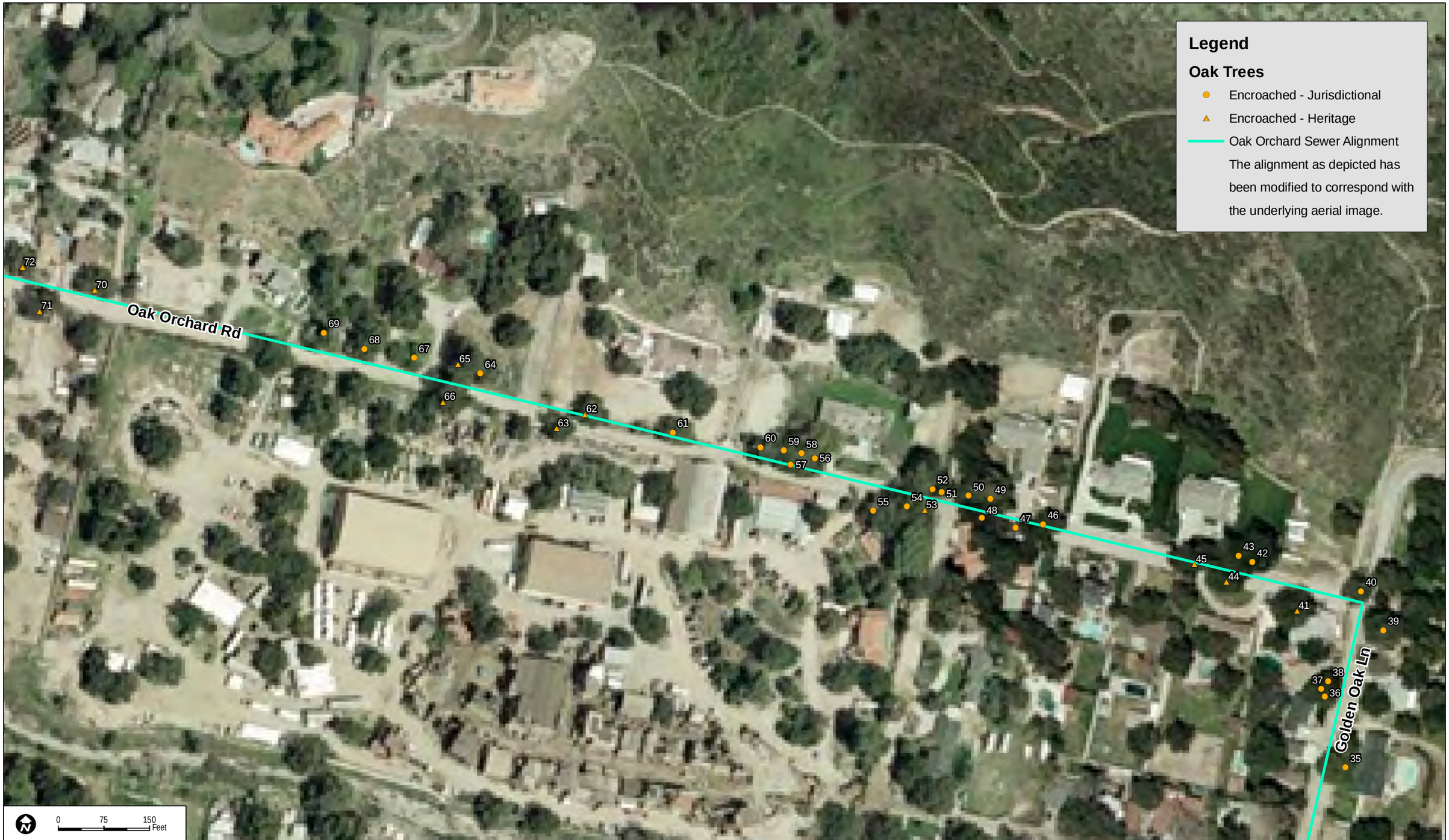
SOURCE: David Evans & Associates, Inc.

FIGURE 3.2

Oak Tree Location Map - Sheet 2

OAK ORCHARD ALIGNMENT SEWER LINE



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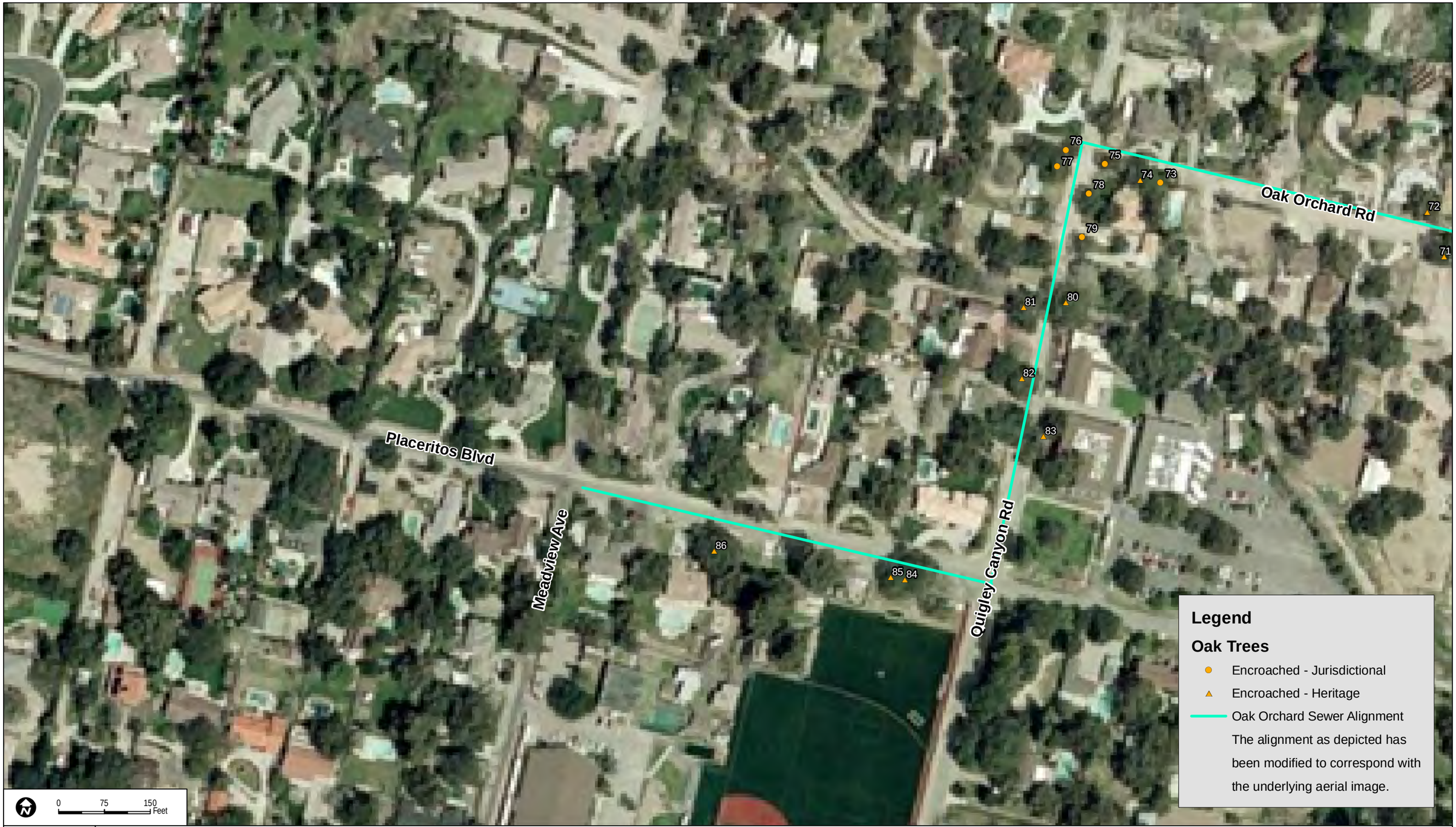
SOURCE: David Evans & Associates, Inc.

FIGURE 3.3

Oak Tree Location Map - Sheet 3

OAK ORCHARD ALIGNMENT SEWER LINE



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6450-01

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SOURCE: David Evans & Associates, Inc.

FIGURE 3.4

Oak Tree Location Map - Sheet 4

OAK ORCHARD ALIGNMENT SEWER LINE

5.0 RECOMMENDED MITIGATION MEASURES

Trenching for the proposed Oak Orchard Alignment would require encroachment into the canopy and/or protected zone of 86 trees. This trenching would occur at distances ranging from 5 to 45 feet from the trunks of the trees. The encroached trees would be avoided and protected by measures described below.

5.1 Oak Tree Protection Measures

Several mitigation measures are recommended to reduce impacts to the oak trees. All protective and mitigation activities would be conducted in accordance with ANSI A300 standards where applicable. The following measures would only apply to trees described within this report.

5.1.1 Tree Protection Measures Prior to Construction

Prior to commencement of trenching operations within the protected zones of the oak trees, fencing or temporary barriers shall be placed around the trunks of the oak trees as the alignment of the streets and vehicular safety allows. The fencing or barriers shall remain in place until the phase of trenching within the protected zone is complete so as to insure that diverted traffic or project equipment will not inadvertently impact the trunks of the protected trees. If fencing or barriers are required, signs (minimum of two-foot by two-foot) must be installed on the fence in four equidistant locations around the tree and must include the language outlined in Section VII.(C)(1.1)(c) of the City of Santa Clarita's Oak Tree Preservation and Protection Guidelines. All contractors shall be made aware of the tree protection measures. The presence of a Consulting Arborist may be required if trenching activities occur within the oak tree protected zone. The contractor shall maintain the fence to keep it upright, taut and aligned at all times. As construction of the sewer line proceeds, fencing shall be removed only after all construction activities in the vicinity of each protected oak tree are complete and approval from the City's Oak Tree Specialist is received.

Communication: All construction work potentially impacting oak trees shall be approved by, performed under the supervision of, and inspected by a Consulting Arborist. Furthermore, all work performed within the protected zones of the trees, except for dead-wooding and pruning of limbs which are six inches or less in circumference, shall be preceded by not less than 48 hours advance notice to the City's Oak Tree Specialist. The project arborist shall oversee all maintenance work on the oak trees, including irrigation, pruning and spraying. A pre-construction meeting shall be held between all contractors and a Consulting Arborist. The meeting shall focus on instructing the contractors on tree protection practices and answering any questions. All contractors, equipment operators, spotters, assistants, or those directing operations

in the area shall provide written acknowledgement of their receiving tree protection training. This training shall include information on the "protected zone," the necessity of preventing damage, and the discussion of protective work practices.

5.1.2 Recommended Protection Measures and Maintenance During Construction

Once construction activities have begun, the following measures are recommended in order to best protect and maintain trees that may be encroached by the proposed sewer line:

Equipment Operation and Storage: Contractors shall avoid to the extent feasible heavy equipment operation around any oak tree. Operating heavy machinery around the root zones of trees can increase soil compaction, which decreases soil aeration and subsequently reduces water penetration in the soil. All heavy equipment and vehicles should, at a minimum, stay out of the "protected zone" of all trees, unless where specifically approved in writing and under supervision of a Consulting Arborist.

Storage and Disposal: Contractors shall not store or discard any supply or material, including paint, lumber, concrete overflow, etc. within any oak tree's "protected zone" and shall remove all foreign debris within the "protected zone." The contractors shall leave existing duff, mulch, chips, and leaves around the retained trees for water retention and nutrient supply where applicable. In addition, the contractor shall avoid draining or leakage of equipment fluids near retained trees. Fluids, such as gasoline, diesel, oils, hydraulics, brake and transmission fluids, paint, paint thinners, and glycol (anti-freeze), shall be disposed of properly. The contractors shall park equipment at least 50 feet away from the "protected zone" of all retained trees to avoid the possibility of equipment fluids leaking into the soil, which could result in tree decline and/or mortality.

Grade Changes: With the exception of the trench required for the Oak Orchard Alignment, contractors shall ensure that grade changes, including adding fill material, not be permitted within the "protected zone" of encroached trees without written authorization from a Consulting Arborist. Lowering the grade within the "protected zone" would necessitate cutting main support and feeder roots, thus jeopardizing the health and structural integrity of the tree(s). Adding soil, even temporarily, on top of the existing grade could compact the soil further and decrease both water and air availability to the tree roots. Contractors shall ensure that grade changes made outside of the "protected zone" not create conditions that allow water to pond at the base of the tree. Water trapped at the base of a tree could lead to root rot and other detrimental tree impacts.

Moving Construction Materials: Contractors shall ensure that care be exercised when moving equipment or supplies near retained trees, especially overhead. Contractors shall ensure that damage to the trees be avoided when transporting or moving construction materials and working around the trees (even outside of the "protected zone"). Contractors shall flag above-ground tree parts that could be damaged (e.g., low limbs, scaffold branches, trunks) with high visibility flagging, such as fluorescent red or orange tape. If contact with the tree crown is unavoidable, conflicting branch(es) shall be pruned by an ISA Certified Tree Worker under the supervision of a Consulting Arborist and shall adhere to ISA and ANSI A300 standards.

Pruning: The contractor shall not prune trees until all construction is completed, unless standard pruning would reduce conflict between canopy and equipment. This will help protect the tree canopy from damage. All pruning shall be conducted by an ISA Certified Tree Worker under the supervision of a Consulting Arborist and shall adhere to ISA and ANSI A300 standards. Smaller limbs should be tied back out of the way to avoid unnecessary pruning for equipment clearance.

Root Pruning: Given the depth of excavation required for the sewer line trench, 12 to 14 feet below ground surface (bgs), mechanized equipment would be used to excavate those portions of the trench deeper than 3 feet. Any excavation deeper than 3 feet bgs would occur under the supervision of the Project's oak tree specialist and, to the extent possible, the mechanized equipment would be set up outside the protected zone of nearby oak trees and would reach in under the canopies to avoid damage to the overhanging limbs. Unless otherwise approved, trenching work within the protected zone of the trees approved for encroachment shall be done using hand and approved mechanical root pruning tools only within the protected root zone. A Consulting Arborist shall ensure that all pruning cuts be clean and sharp, to minimize ripping, tearing, and fracturing of the root system. All roots shall be cut at a 45 degree angle with the cut surface facing downward. Use of Air-Spade equipment accompanied only by approved root pruning tools and equipment should be used to remove soil from trench locations within protected zones. The trench should be made no deeper than necessary. Prior to the use of an Air-Spade, the soil should be irrigated to a 40% moisture content to reduce dust during excavation. Dirt shields should be used around the excavation site to capture rock and dirt clod fragments.

Where absolutely necessary and as approved by the City's Oak Tree Specialist, limited mechanized equipment may be used as follows: an excavator or other mechanized equipment may be set up outside the protected zone of the trees (where feasible) and permitted to reach in under the canopies to avoid damage to the overhanging limbs. In such cases, the following guidelines shall be followed to minimize tearing or shattering of roots: within the protected zone, the excavator should carefully work in 2" vertical sections and, where roots 2" or greater in

diameter are encountered, root pruning with sharp hand saws, pruning shears, or small handheld equipment should be conducted to provide clean cuts to the roots. All roots pruned shall consist of clean 90-degree angle cuts and shall not be sealed unless directed by the Consulting Arborist or the City's Oak Tree Specialist.

Irrigation: Where dry soils exists, according to the Consulting Arborist, approximately 48 hours before root pruning, the soil should be irrigated to a depth of three feet. A liquid root stimulant should be added to the irrigation water prior to root pruning. This product helps the tree to regenerate root growth. Application of this product is best achieved in a dilution state via the use of a water truck.

For any trees that have been substantially root pruned (30 percent or more of the total root zone), irrigation shall be required for the first 12 months. The first irrigation shall occur within 48 hours of root pruning and also contain a liquid root stimulant. For the first 12 months following root pruning, soil moisture levels will be monitored by the Consulting Arborist. Soils with inadequate moisture levels will be irrigated to an appropriate moisture level, which will be determined by the Consulting Arborist. Irrigation of retained oaks shall seek to mimic natural rainfall patterns in Southern California. Supplemental irrigation for trees adjacent to construction activity may be necessary during winter or spring months. Summer and fall irrigation may be necessary based on variable climatic and site conditions, but should be conducted judiciously to avoid over-watering. One irrigation cycle shall thoroughly soak the root zones of the trees to a depth of three feet. The soil should be allowed to dry out between watering to avoid keeping a consistently wet soil. The contractor shall be responsible for irrigating (deep watering) the trees. Soil moisture shall be checked with a soil probe before irrigating. Irrigation is best accomplished by installing a temporary aboveground micro-spray system that would distribute water slowly (to avoid runoff) and evenly throughout the fenced protected zone. Overwatering of native oaks trees may promote the growth of tree-damaging agents, such as Oak Root Fungus, so proper soil moisture monitoring is critical to prolonged tree health.

Washing: Based on the Consulting Arborist's observations and judgment, heavy deposition accumulated on foliage from trenching activities will be washed off by the contractor at the completion of trenching and backfilling work. The contractor shall wash the foliage of trees adjacent to construction activity with a strong water stream in early hours before 10:00 a.m. Washing should include the upper and lower leaf surfaces and the tree bark. If winter rains are adequate, this task may not be necessary.

Spraying: Based on the degree of root pruning, a preventative spray may be necessary for insect control. Insects and other damaging organisms are attracted to and will proliferate in trees

under stress. Spraying will be determined by the Consulting Arborist, and should it be necessary, it will be performed by a licensed applicator under the direction of a licensed pest control advisor.

Cultural Resources: Should cultural resources be unearthed during project construction, all earth disturbing work shall be temporarily suspended or redirected until an archeologist has evaluated the nature of and significance of the find and suggested mitigative action.

Inspection: A Consulting Arborist shall inspect the retained trees adjacent to grading and construction activity on a monthly basis for the duration of the proposed sewer line installation. A report summarizing site conditions, observations, tree health, and recommendations for minimizing tree damage shall be submitted by the Consulting Arborist following each inspection.

5.1.3 Recommended Maintenance After Construction

Following the completion of construction activity within the "protected zones" of protected oaks, the tree protection fencing may be removed and the following measures performed to sustain and enhance the vigor of the retained trees.

Mulch: If natural duff or compost is present, the contractors shall ensure this mulch layer be preserved and maintained under all trees within the limits of work. The mulch layer helps stabilize soil temperatures in root zones, conserve soil moisture, and reduce erosion. The contractors shall ensure that the mulch be kept 18 inches clear of the trunk base to avoid creating conditions favorable to the establishment and growth of decay-causing fungal pathogens. Should it be necessary to add organic mulch beneath retained oak trees, packaged or commercial oak leaf mulch shall not be used as it may contain Oak Root Fungus. Also, the use of non-composted material shall be avoided as certain inhibitive chemicals may be present in the wood. Fully composted and stabilized organic mulch can be used, but the best mulch providing a source of nutrients for the tree is its own leaf litter. Any organic mulch added by the contractor shall be applied to a maximum depth of four inches where possible.

Pruning: Regular pruning of the trees is not required. An ISA Certified Tree Worker, under the supervision of a Consulting Arborist, shall only prune trees to maintain clearance and remove broken, dead or diseased branches. Pruning shall only take place following a recommendation by a Consulting Arborist. No more than 15 percent of the canopy shall be removed at any one time. All pruning shall conform to ISA ANSI A300 standards.

Irrigation: The trees should not require regular irrigation, other than within the 12 months following substantial root pruning, if applicable. However, soil probing will be necessary to accurately monitor moisture levels. Especially in years with low winter rainfall, supplemental irrigation for the trees that sustained root pruning may be necessary.

Chemical Applications: If the trees are maintained in a healthy state, regular spraying for insect or disease control is not necessary. If a problem does develop, a Consulting Arborist shall be consulted as the trees may require application of insecticides to prevent the intrusion of bark-boring beetles and other invading pests. All chemical spraying shall be performed by a licensed applicator under the direction of a licensed pest control advisor.

Monitoring: A Consulting Arborist shall inspect the trees retained along the proposed sewer line for a period of two years following the completion of construction activity. Monitoring visits shall be completed quarterly, totaling eight visits. Following each monitoring visit, a report summarizing site conditions, observations, tree health, and recommendations for promoting tree health shall be submitted. Additionally, any tree mortality shall be noted and any tree dying during the two year monitoring period shall be replaced according to City standards.

6.0 CONCLUSIONS

The Oak Orchard Alignment could potentially encroach upon the canopy and/or protected zone of 86 oak trees that meet the City of Santa Clarita Oak Tree Preservation Ordinance definition of a protected tree. Of the 86 trees of Ordinance-protected size that may be encroached by trenching for the Oak Orchard Alignment, 31 are heritage oaks (34-inch dbh or larger). The trenching would take place mostly within the current road right-of-way.

Tree protection measures and construction monitoring would protect and maintain oak trees that may be encroached by the Oak Orchard Alignment. All such oaks would be subject to protection measures that, when implemented, would minimize the possibility that trees would be damaged inadvertently during the construction process.

Appendix A - Oak Tree Survey Data
Oak Tree Report - Oak Orchard Alignment Sewer Line

Tree ID#	Trunk Diameter (in.)	Height (ft.)	Canopy (ft.)				Health	Aesthetics	Balance	Heritage Status	Comments
			North	South	East	West					
1	10, 5	19	11	12	12	11	B	B	B	No	Within 50 ft. of sewer line
2	6, 3, 3	15	10	10	12	10	B	B	B	No	Within 45 ft. of sewer line
3	4, 2	16	8	8	6	10	B	B	B	No	Within 45 ft. of sewer line
4	10	16	8	7	8	8	B	B	B	No	Within 20 ft. of sewer line
5	14, 13	20	10	9	10	10	B	B	B	No	Within 30 ft. of sewer line
6	55	65	25	40	35	30	D	C	C	Yes	Within 45 ft. of sewer line
7	39	55	20	35	40	40	C	B	C	Yes	Within 40 ft. of sewer line
8	24	60	20	35	30	40	B	B	D	No	Within 20 ft. of sewer line
9	43	70	35	40	50	50	B	B	B	Yes	Within 35 ft. of sewer line
10	38	55	30	45	40	50	C	C	B	Yes	Within 18 ft. of sewer line
11	17, 15, 14, 12	28	20	22	24	8	B	B	B	No	Within 40 ft. of sewer line
12	23, 23, 18	28	25	28	20	25	B	B	B	Yes	Within 25 ft. of sewer line
13	54 @ 2'	38	20	20	24	26	B	B	B	Yes	Within 10 ft. of sewer line
14	40 @ 4'	36	16	18	14	12	C	C	C	Yes	Within 5 ft. of sewer line
15	39	40	28	26	28	25	B	B	B	Yes	Within 15 ft. of sewer line
16	21, 19	50	30	15	30	15	B	B	C	No	Within 40 ft. of sewer line
17	19	38	28	8	15	16	B	B	C	No	Within 40 ft. of sewer line
18	19	23	15	5	30	35	B	C	D	No	Within 40 ft. of sewer line; 40% lean
19	26	38	30	30	30	32	C	C	C	No	Within 40 ft. of sewer line
20	23, 23	36	18	28	30	25	B	B	D	Yes	Within 35 ft. of sewer line
21	46	35	22	20	28	29	C	B	C	Yes	Within 25 ft. of sewer line; Basal cavities
22	29	35	30	30	32	30	B	B	B	No	Within 20 ft. of sewer line
23	24	38	35	20	19	18	B	B	B	No	Within 20 ft. of sewer line
24	23	35	25	20	25	21	B	B	C	No	Within 15 ft. of sewer line
25	22	40	29	22	20	30	B	B	B	No	Within 15 ft. of sewer line
26	19, 18, 17, 15, 13, 12, 11, 10	38	40	40	38	45	C	C	C	No	Within 45 ft. of sewer line; Private (residential tree), ocular assessment
27	24	30	15	19	18	16	B	B	C	No	Within 30 ft. of sewer line; Private (residential tree), ocular assessment
28	33	26	18	20	18	21	B	B	B	No	Within 20 ft. of sewer line
29	9, 8, 8, 7, 7	16	2	15	16	5	D	D	D	No	Within 20 ft. of sewer line
30	36	43	45	35	40	40	B	B	B	Yes	Within 35 ft. of sewer line
31	33, 25, 17	40	42	35	30	32	B	B	B	Yes	Within 30 ft. of sewer line
32	23, 21, 13, 9	42	40	35	25	30	B	B	B	No	Within 25 ft. of sewer line
33	22, 21, 20, 16	42	40	38	35	40	B	B	B	No	Within 15 ft. of sewer line
34	28	37	26	28	30	26	B	B	B	No	Within 20 ft. of sewer line
35	18, 16, 16, 16	38	40	40	40	42	B	B	B	No	Within 20 ft. of sewer line
36	21	40	35	30	30	25	B	B	B	No	Within 25 ft. of sewer line; Private (residential tree)
37	19	40	12	12	24	18	B	B	C	No	Within 30 ft. of sewer line; Private (residential tree), ocular assessment
38	19	40	19	8	13	15	B	C	C	No	Within 25 ft. of sewer line; Private (residential tree), ocular assessment
39	22, 21, 18, 18, 14, 14	50	50	50	45	48	B	B	B	No	Within 45 ft. of sewer line; Private (residential tree)
40	31, 19	39	25	25	27	28	C	C	B	No	Within 20 ft. of sewer line
41	36	45	40	35	40	40	B	B	B	Yes	Within 35 ft. of sewer line; Private (residential tree), ocular assessment
42	22, 17	41	40	12	30	0	C	C	D	No	Within 25 ft. of sewer line
43	25	41	48	15	25	0	C	C	C	No	Within 30 ft. of sewer line; Open canopy
44	29, 29, 16, 15	60	50	50	50	50	B	B	B	Yes	Within 5 ft. of sewer line; Middle of road
45	36	60	38	42	39	38	B	B	B	Yes	Within 5 ft. of sewer line; Middle of road
46	23, 21	41	24	23	30	18	B	B	C	No	Within 10 ft. of sewer line; Close to road
47	15, 14, 13, 11	29	19	15	21	8	D	D	D	No	Within 25 ft. of sewer line; Private (residential tree), ocular assessment
48	17, 17, 15, 11	41	18	20	22	21	C	B	C	No	Within 20 ft. of sewer line
49	17	30	0	30	0	0	D	D	D	No	Within 20 ft. of sewer line; Erratic lean to the south
50	15	40	5	10	0	20	C	C	D	No	Within 15 ft. of sewer line; Erratic lean

Appendix A - Oak Tree Survey Data
Oak Tree Report - Oak Orchard Alignment Sewer Line

Tree ID#	Trunk Diameter (in.)	Height (ft.)	Canopy (ft.)				Health	Aesthetics	Balance	Heritage Status	Comments
			North	South	East	West					
51	15, 11	38	15	16	14	19	D	D	C	No	Within 15 ft. of sewer line
52	20, 11	25	20	18	18	19	D	D	D	No	Within 10 ft. of sewer line
53	27, 24, 16	41	20	30	28	22	C	C	C	Yes	Within 25 ft. of sewer line
54	12, 7	25	25	14	12	18	D	D	D	No	Within 25 ft. of sewer line
55	19, 18, 13, 12	40	25	28	18	22	D	D	D	No	Within 40 ft. of sewer line; Private (residential tree), ocular assessment
56	20, 18	32	8	20	35	5	D	D	D	No	Within 30 ft. of sewer line
57	19, 19, 15	39	12	20	4	20	C	C	D	No	Within 25 ft. of sewer line
58	25	42	15	19	0	21	C	C	D	No	Within 30 ft. of sewer line; Private (residential tree), ocular assessment
59	22, 19, 16	43	20	12	25	9	C	C	D	No	Within 30 ft. of sewer line; Private (residential tree), ocular assessment
60	28	40	18	20	18	20	C	B	B	No	Within 30 ft. of sewer line
61	30, 21	36	18	19	24	26	B	B	B	No	Within 25 ft. of sewer line
62	33, 24	38	25	30	30	30	B	B	B	Yes	Within 25 ft. of sewer line
63	34	30	20	22	23	24	B	B	B	Yes	Within 20 ft. of sewer line; Private (inside block wall), ocular assessment
64	30	39	20	28	30	12	C	C	D	No	Within 40 ft. of sewer line; Private (residential tree), ocular assessment
65	38	58	25	30	32	32	B	B	B	Yes	Within 50 ft. of sewer line
66	27, 27	60	30	40	35	38	B	B	B	Yes	Within 30 ft. of sewer line
67	17	24	12	14	12	15	B	B	B	No	Within 40 ft. of sewer line
68	31	36	25	21	23	29	C	C	C	No	Within 40 ft. of sewer line; Private (residential tree), ocular assessment
69	14	20	14	18	4	8	B	B	D	No	Within 50 ft. of sewer line; Leaning on fence
70	31, 28	38	20	28	30	28	C	B	B	Yes	Within 35 ft. of sewer line; Private (residential tree), ocular assessment
71	28, 26	41	26	28	29	30	C	C	C	Yes	Within 30 ft. of sewer line; Private (residential tree), ocular assessment
72	36	40	40	38	40	39	B	B	B	Yes	Within 50 ft. of sewer line; Private (residential tree), ocular assessment
73	20	39	23	15	24	19	B	B	D	No	Within 25 ft. of sewer line
74	25, 24, 23	42	21	28	20	25	B	B	C	Yes	Within 30 ft. of sewer line; Private (inside wall), ocular assessment
75	18	44	23	13	19	16	B	B	B	No	Within 15 ft. of sewer line
76	19	22	18	18	14	16	D	D	D	No	Within 25 ft. of sewer line; Large basal cavity
77	19	20	20	0	15	20	D	D	D	No	Within 20 ft. of sewer line; Extensive basal cavities
78	19, 18	38	25	23	20	21	B	B	B	No	Within 25 ft. of sewer line
79	19	22	15	18	17	12	D	D	D	No	Within 20 ft. of sewer line
80	54	58	50	50	50	50	C	B	B	Yes	Within 15 ft. of sewer line
81	40	60	40	44	38	38	C	C	C	Yes	Within 40 ft. of sewer line; Private (residential tree), ocular assessment
82	44	39	40	44	22	21	D	D	D	Yes	Within 25 ft. of sewer line
83	38	42	32	28	33	30	C	C	C	Yes	Within 20 ft. of sewer line
84	47, 29	43	40	38	30	38	C	B	B	Yes	Within 30 ft. of sewer line; Several lateral branch cavities
85	34	40	28	30	23	30	B	B	B	Yes	Within 30 ft. of sewer line; Private (residential tree), ocular assessment
86	37, 34	58	60	60	60	60	B	B	B	Yes	Within 50 ft. of sewer line

Appendix F.6

Oak Tree and Woodland Mitigation and Monitoring Plan

OAK TREE AND WOODLAND MITIGATION AND MONITORING PLAN
DISNEY | ABC STUDIOS AT THE RANCH
LOS ANGELES COUNTY, CALIFORNIA

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DEPT. OF REGIONAL PLANNING
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APRIL 2012

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1.0 INTRODUCTION

This Oak Tree and Woodland Mitigation and Monitoring Plan (OTWMMP) details the oak tree restoration planting efforts for Disney | ABC Studios at The Ranch (Project) on the 890-acre Golden Oak Ranch. The intent of this OTWMMP is to provide guidelines for the establishment, maintenance, monitoring, and reporting of successful oak tree restoration planting efforts on the Ranch as mitigation for impacts to oak trees and oak woodlands within the Project's 58-acre Development Area on the westernmost portion of the Ranch adjacent to the Antelope Valley Freeway (SR-14) and the Water Tank Area on the Ranch south of Placerita Canyon Road. The Project's impacts on oak trees and oak woodlands are discussed in the *Oak Tree Repor*t (Dudek 2012). The goals of the OTWMMP are to satisfy oak tree mitigation requirements under the County of Los Angeles Oak Tree Ordinance (Ordinance) (County of Los Angeles 1988), to provide additional oak plantings above and beyond the Ordinance requirements to mitigate impacts to oaks and oak woodlands to satisfy oak woodland mitigation requirements under California Public Resources Code Section 21083.4(b), and to further enhance the Ranch's existing oak woodlands and wildlife habitat.

While the mitigation measures described in this OTWMMP are designed to satisfy Ordinance requirements and further mitigate oak and oak woodland impacts to satisfy oak woodland mitigation requirements under California Public Resources Code Section 21083.4(b), they are also consistent with the Ranch's long-term oak woodland management objectives to improve oak woodland diversity and value on a long-term basis on the Ranch. The planting and management recommendations included in this OTWMMP are intended for use by the Ranch's natural resource staff to promote successful adaptation of the oak trees to the restoration areas. In addition, this OTWMMP outlines monitoring and reporting protocols for the planted oak trees that are designed to guide tree management efforts, satisfy County of Los Angeles Fire Department Forestry Division and County Regional Planning reporting requirements, and track oak tree establishment in a manner consistent with the County's requirements to mitigate the Project's impacts to oak trees and oak woodlands.

1.1 Project Location and Description

Unlike other projects without sufficient areas to plant oaks on-site, this Project would plant mitigation oaks on the 890-acre Ranch owned by the Applicant. The potential restoration areas are located within suitable habitat on the Ranch. (Figure 1 – Project Site; Figure 2 – Potential Oak Woodland Restoration Areas). Located east of SR-14 and north of Placerita Canyon Road, the proposed potential restoration areas are situated within or adjacent to existing oak woodlands. The non-woodland areas selected for oak restoration are adjacent to existing oak woodlands, provide connectivity between oak woodland stands, have suitable topography, and have

irrigation infrastructure currently in place or in the vicinity, which is critical for providing irrigation for the establishment of mitigation oaks. (Figure 3 – Potential Oak Woodland Expansion and Restoration Locations). The potential expansion and restoration areas collectively comprise approximately 21 acres.

1.2 Mitigation Concept and Framework

The goal of this OTWMMP is successful establishment of oak trees and oak woodlands to mitigate the Project's impacts on oak trees and oak woodlands. The primary purpose of this OTWMMP is to provide methods and procedures to facilitate the establishment and growth of mitigation oak trees and to provide guidelines for monitoring and reporting to mitigate the Project's impacts on oak trees and oak woodlands. This OTWMMP outlines specific restoration area preparation, tree planting, and tree management measures and monitoring, documenting, and reporting standards for the purposes of satisfying County Regional Planning, the County Forester, Ordinance requirements, and oak woodland mitigation requirements under California Public Resources Code Section 21083.4(b).

A successful establishment of mitigation trees requires a high standard of restoration design, implementation, monitoring and maintenance. Additionally, as required by the County Forester and as proposed under this OTWMMP, a monitoring period is outlined following the period when mitigation trees reach minimum size requirements. This OTWMMP proposes quarterly site monitoring by qualified Oak Restoration Specialists (including ISA Certified Arborists, Registered Professional Foresters, or Registered Consulting Arborists with documented experience managing oak woodland restoration projects in California) coupled with regular monitoring by the Ranch's natural resource staff to identify and address challenges and promote overall tree health. Further, this OTWMMP addresses annual reporting to the County Forester and County Regional Planning on the status of mitigation oaks and documentation of survival and mortality rates.

2.0 MITIGATION FRAMEWORK AND APPROACH

2.1 Regulatory Framework

2.1.1 County of Los Angeles Oak Tree Ordinance

The Ordinance requires mitigation for a project's impacts on oak trees that meet the Ordinance-size criteria. (For a more detailed discussion of the Ordinance's requirements, please see *Oak Tree Report* (Dudek 2012)). This OTWMMP addresses the Project's oak tree mitigation, which exceeds the Ordinance's mitigation requirements.

The Ordinance requires an applicant for an Oak Tree Permit to replace each oak tree approved for removal with a minimum of two oak trees. It reads:

> Required replacement trees shall consist exclusively of indigenous oak trees and shall be in the ratio of at least two to one. Each replacement tree shall be at least a 15-gallon size specimen and measure at least one inch in diameter one foot above the base. The hearing officer…may, in lieu of this requirement, require the substitution of one larger container specimen for each oak tree to be replaced….

Unless otherwise approved by the County Forester, mitigation oak trees planted under this OTWMMP would not count toward the Ordinance-required mitigation until they reach one inch in diameter at one foot above the base of the trunk. While not addressed in the current Ordinance, the County's standard practice requires the replacement of heritage oak trees (defined as "any oak tree measuring 36 inches or more in diameter, measured four and one-half feet above the natural grade") at a ratio of 10:1.

2.1.2 State Policy

California Public Resources Code (PRC) Section 21083.4 requires a county to determine whether a project within its jurisdiction may result in a conversion of oak woodlands that will have a significant effect on the environment. If the county determines that there may be a significant effect on oak woodlands, the county must require one or more oak woodlands mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands. As stated in Section 21083.4(b), these alternatives include the following:

> (1) Conserve oak woodlands, through the use of conservation easements;
>
> (2) Plant an appropriate number of trees, including maintaining plantings and replacing dead or diseased trees. The requirement to maintain trees terminates seven years after the trees are planted. This mitigation cannot account for more than one-half of the mitigation requirement for the project. This mitigation may be used to restore former oak woodlands;
>
> (3) Contribute funds to the Oak Woodlands Conservation Fund, as established under subdivision (a) of Section 1363 of the Fish and Game Code, for the purpose of purchasing oak woodlands conservation easements, as specified under paragraph (1) of subdivision (d) of that section and the guidelines and criteria of the Wildlife Conservation Board; or
>
> (4) Other mitigation measures developed by the county.

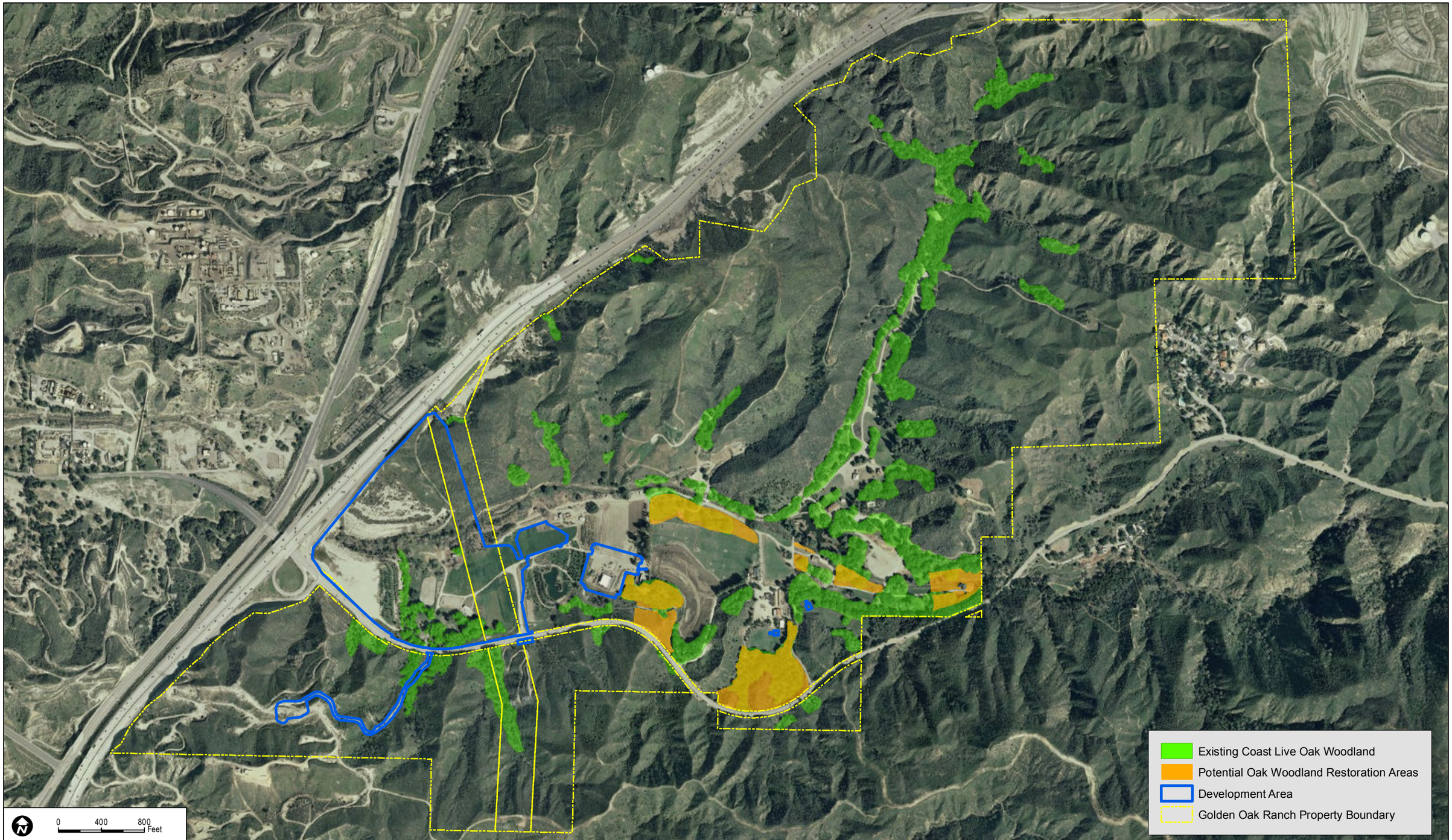
This OTWMMP considers the extent of oak woodland impacts and is designed to compensate for them by providing the following mitigation measures:

- Planting of at least 1,600 oak trees within or adjacent to existing oak woodlands on the Ranch;
- Minimization of impacts by avoiding approximately 95% of the oak trees and oak woodlands on the Ranch;
- Restoration of fire-damaged oak woodlands through oak tree seedling planting;
- Enhancement of oak woodland regeneration through oak seedling planting in areas with limited natural recruitment;
- Enhancement of oak woodlands through the planting of native understory species;
- Increased habitat connectivity through oak tree planting in areas between existing woodlands and along Placerita Creek;
- Implementation of a seven-year monitoring, documentation, and reporting program; and
- Recordation of a use restriction over the mitigation areas in which planting occurs to protect the mitigation planting areas in perpetuity while recognizing the Applicant's ability to allow filming within these areas provided the planted oaks are protected.

Implementation of this OTWMMP in proportion to Project-related impacts would reduce the level of impacts to oak woodlands to a less than significant level, consistent with the requirements of PRC Section 21083.4.

2.2 Oak Tree and Oak Woodlands Impact Summary

This OTWMMP addresses oak tree mitigation for the Project's impacts on oak trees and oak woodlands. In assessing the Project's impacts, a conservative approach was taken to ensure all oak trees near the proposed limit of grading would be protected to the maximum extent possible. This conservative assessment used a 25-foot buffer zone outside of the limit of grading to identify those trees subject to construction-related impacts. Jurisdictional oak trees with protected zones located within the 25-foot buffer zone were categorized as encroachment impacts due to the presence of either their trunk or canopy within the 25-foot buffer zone. If suitable actions can be taken during the construction phase of the Project to protect and avoid encroaching upon any of the trees within the 25-foot buffer zone, they will be protected and retained by measures described in Section 6.3 of the *Oak Tree Report* (Dudek 2012).



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APRIL 2012

SOURCE: ESRI World Imagery 2011

FIGURE 1

Project Site

DISNEY | ABC STUDIOS AT THE RANCH

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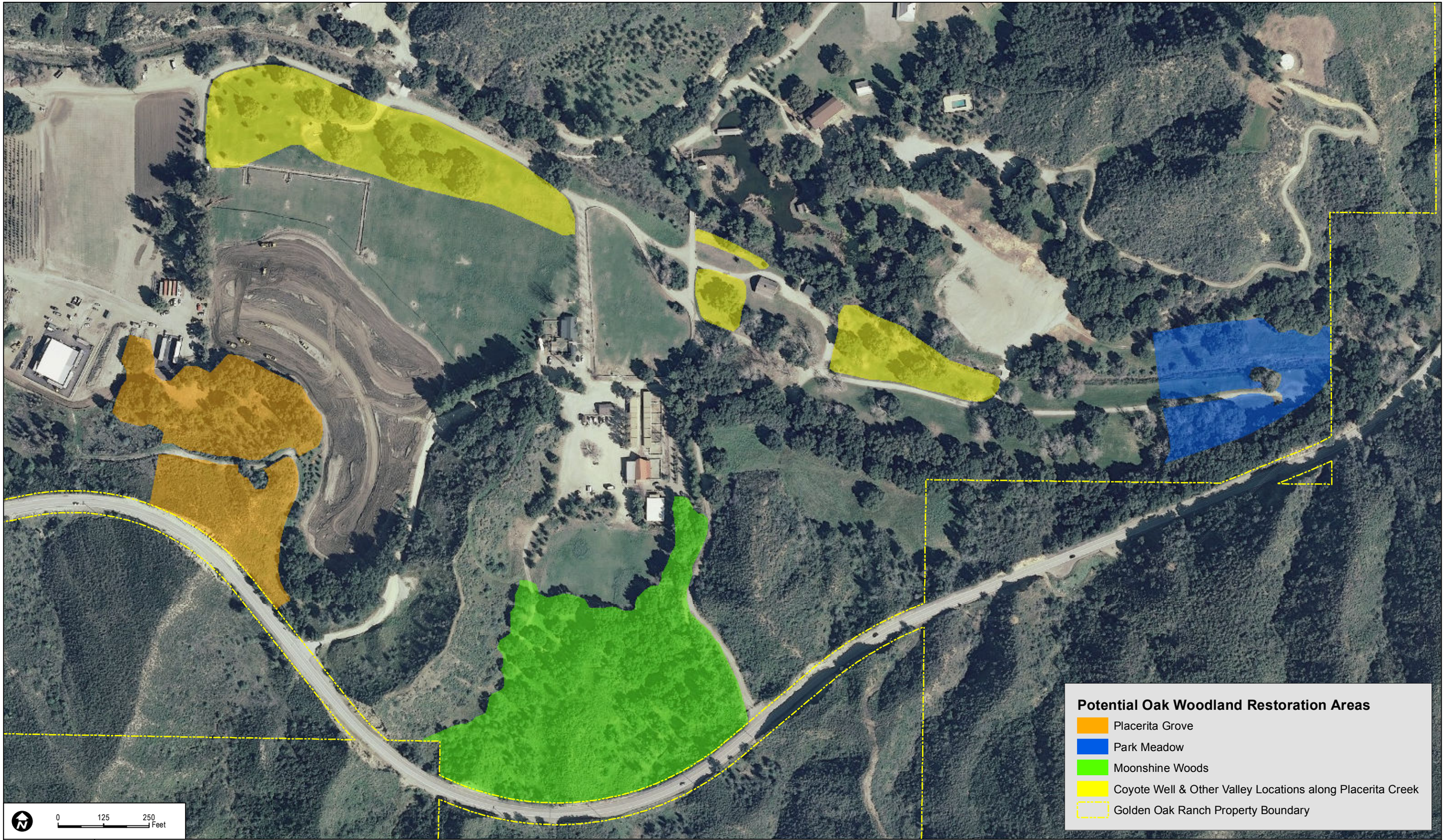

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SOURCE: ESRI World Imagery 2011

FIGURE 2

Potential Oak Woodland Restoration Areas

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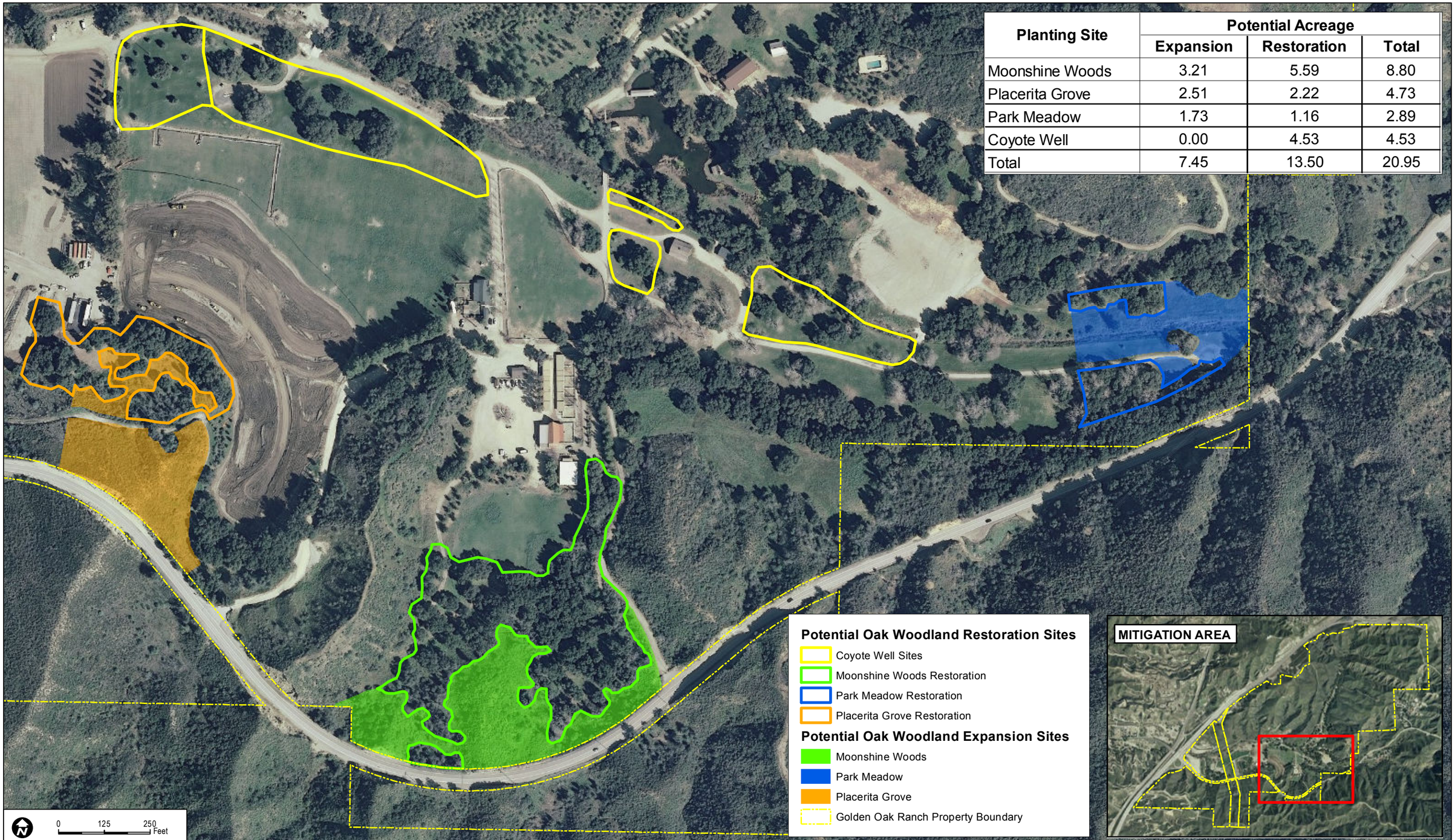

Planting Site	Potential Acreage		
	Expansion	Restoration	Total
Moonshine Woods	3.21	5.59	8.80
Placerita Grove	2.51	2.22	4.73
Park Meadow	1.73	1.16	2.89
Coyote Well	0.00	4.53	4.53
Total	7.45	13.50	20.95

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APRIL 2012

SOURCE: ESRI World Imagery 2011

FIGURE 3

Potential Oak Woodland Expansion and Restoration Locations

DISNEY | ABC STUDIOS AT THE RANCH

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The Project would require the removal of 158 Ordinance-protected oak trees, including 16 heritage oak trees, and encroachment upon an additional 82 oak trees, including 3 heritage oaks. The 158 removals provide 184,260 square feet (ft^2) (4.23 acres) of canopy coverage. Permanent oak woodland impacts for the Project would total 4.44 acres within the Ranch.

Oak trees on site occur within oak woodlands and within other vegetation communities (e.g. mixed willow riparian woodland, agriculture, disturbed/developed areas), which, despite the presence of oak trees, are not classified as oak woodlands because they do not meet the 10% canopy cover requirement for oak woodland classification. However, the canopies of all jurisdictional oak trees are included in the oak tree canopy calculations discussed herein regardless of vegetation community classification.

The Project could not incorporate and transform the approximately 24 acres of mostly barren fill pads created by Caltrans during construction of SR-14 in the early 1970s without impacting the 240 oak trees (158 removals and 82 encroachments). Many of the impacted oak trees are located at the toe of the eastern slope of the southern fill pad. The Project would require grading of the eastern slope of the southern fill pad and the placement of fill next to this slope in order to prepare the building pads for construction of eight soundstages and four mills. An alternative design for the Project avoiding most of the impacted oak trees would not work for the proposed studio use, as a studio's layout must allow for typical movement of large trucks around the soundstages. The Project's design as currently planned would lay out the soundstages in an efficient manner to allow movement of large trucks and sets around the soundstages. Further, the Project was carefully designed to avoid impacts to Placerita Creek and to avoid building in the floodplain on the eastern side of the 58-acre Development Area. The impacted oak trees would impede the street layout within the Project, and no reasonable alternative to such interference exists for the proposed uses without impacting other sensitive areas of the site. An alternative layout that does not incorporate grading of the fill pads would leave a sharp (approximately 60-foot) drop on the eastern end of the southern fill pad that would not allow internal circulation between soundstages.

2.3 Project Approach

The replacement standards provided in the Ordinance require a 2:1 replacement with 15-gallon container oak trees. The simple, straightforward replacement of a targeted tree by two or more 15-gallon or larger trees is generally best suited to scenarios where the impacted oaks are easily viewable by or accessible to the public and aesthetic concerns are paramount. In this case, the replacement of a tree's aesthetic contribution by provision of some number of container stock is achievable, especially over time, on the Ranch. However, mitigation for the loss of oak woodland in the Development Area requires a different approach. The locations and physical

attributes of the oaks and other native trees and plants in Placerita Canyon make them less of an aesthetic or public benefit and almost exclusively a wildlife resource. This wildlife resource cannot be replaced by planting container stock in the same manner as in a park or urban setting. Rather, replacement of woodland habitat requires restoration of the plant community, in this case oak woodland, riparian woodland, and other native plant communities. Consequently, the replacement of the impacted oak woodland should include multiple sizes and ages of oak trees (achieved through the use of various sizes of container stock, or through staggered tree planting efforts occurring over multiple years), in association with planting of other native plant species known to naturally coexist with coast live oak trees on hillsides, in woodlands, and in open space areas. Larger specimens could be used to improve immediate visual statements of the woodland landscape near major thoroughfares. Smaller-sized container stock, including seedlings, one-gallon stock, and five-gallon stock, is appropriate in less visually critical areas, such as slope plantings and oak woodland rehabilitation areas. Direct seeding of acorns is most appropriate in either non-irrigated or limited access sites where habitat enhancement is the key concern. Most, if not all, of these plantings would be associated with other native plant restoration efforts. The goal of the mitigation program is to create a landscape that would maximize the compensation for lost habitat values while fully addressing the need to provide a landscape that reflects the natural habitat of Placerita Canyon.

3.0 MITIGATION PLAN

The restoration recommendations presented in this OTWMMP rely on proven methods to ensure a high likelihood of tree establishment, adaptation to the planting site, and continued growth into subsequent age classes. The Ranch's natural resource staff, with a combined 50 years of experience with establishing and maintaining oak trees, other trees, shrubs and crops on the Ranch, would be responsible for the supervision and management of all necessary planting efforts, including acorn collection, seedling propagation, site preparation, irrigation installation, tree planting, and tree mapping. The Ranch holds a tree nursery license (License No. B1242.001) from the County, and the Ranch's natural resource staff has maintained a strong working relationship with the County Forester over the last two decades during implementation of the Ranch's robust oak tree planting program to enhance the beauty of the Ranch and honor its heritage and the Ranch's oak tree protection program during filming on the Ranch, which often occurs near oak trees. Furthermore, the Ranch has supported the neighboring Placerita Nature Center with donations of oak trees. The Ranch's natural resource staff currently manages all facets of the 890-acre Ranch, including agricultural operations, a tree nursery, multiple ponds and waterfalls, extensive irrigation systems and wells, horses, and filming production sets. The Ranch's natural resource staff has a proven record of stewardship by preserving the Ranch's resources through the promotion of natural processes, allowing the habitat to self-perpetuate in

perpetuity. All trees planted would be grown from seed collected from existing trees on the Ranch and propagated by the Ranch's natural resource staff, or under their guidance.

3.1 Avoidance and Minimization of Impacts

Several mitigation measures are recommended to reduce impacts to oak trees that would not be removed (e.g., encroachments and avoided trees). All protection and mitigation activities would be conducted in accordance with ANSI A300 standards, where applicable. Oak Tree Protection Measures outlined in Section 6.3 of the *Oak Tree Report* (Dudek 2012) would be implemented for retained and encroached trees.

The Project would remove 158 trees of the over 3,000 oak trees on the Ranch and 4.44 acres of the approximately 92.5 acres of oak woodlands on the Ranch. This equates to 19:1 oak tree preservation to impact ratio and 21:1 oak woodland preservation to impact ratio. The 82 trees subject to encroachment impacts would not be removed, but would be protected and retained on site.

3.1.1 Root Pruning

As part of the minimization of impacts to oak trees within the Project's 58-acre Development Area, the Applicant would make every effort to retain trees that would be encroached upon by grading activities. One proven method of impact minimization includes the pre-construction pruning of roots that may be affected by grading equipment. Root damage caused by backhoes, earthmovers, dozers, or graders can be severe and can ultimately result in tree mortality.

Encroached trees would be root pruned according to the specifications outlined in Section 6.3.2 of the *Oak Tree Report* (Dudek 2012). Contractors would use either a root pruner (Dosko root pruner or equivalent) or an Air-Spade to limit root impacts. An ISA Certified Arborist or Registered Consulting Arborist would be on site to ensure that all pruning cuts be clean and sharp and to minimize ripping, tearing, and fracturing of the root system.

3.2 Relocation

The selection of trees for relocation must involve a comprehensive inspection of the tree and relocation site to determine the likelihood of it surviving and thriving following relocation. A successful candidate tree for relocation must be a healthy and vigorous specimen. The tree should not exhibit any signs of stress or lack of vitality. Trees must be thoroughly inspected for the signs and symptoms of significant insect pests and diseases. Structural integrity is also critical because of the potential of the relocation process to exacerbate structural defects that may result in limb or total tree

failure. Structural problems, such as included bark, girdling roots, cracks, cavities and decay in the trunk and branches, must be evaluated.

Relocation of trees from the Development Area would be considered and evaluated prior to construction activity. Consistent with the Ordinance, tree relocation is a voluntary alternative and any relocated trees would require the same mitigation as removed trees. If candidate relocation trees were identified and feasible to relocate, they would be moved to areas where they would receive the maintenance and care necessary to sustain transplanted oaks. Generally, this would not include existing oak woodlands, but might include transition areas on the periphery of oak woodlands and in landscape areas in the Development Area.

3.3 Acorn Harvesting and Propagation

In an effort to propagate oak trees with the same genetic strains as the native oak trees on the Ranch, the Ranch's natural resource staff has and would continue to harvest acorns from native oak trees on the Ranch to plant within the oak woodland restoration areas. These acorns would either be directly planted in the restoration areas or germinated and grown to seedlings and saplings at a native plant nursery before planting within the restoration areas. The Ranch's natural resource staff would be responsible for managing the selection and propagation of acorns. The following criteria for individual tree conditions would be met prior to planting:

- All trees would be coast live oak (*Quercus agrifolia*);
- Trees would be grown in a native plant nursery from local acorn stock (collected on the Ranch);
- Trees would be healthy, sound, vigorous, and free from disease, insects, or pests;
- Trees would not be root bound or exhibit girdling roots;
- Trees would exhibit natural branching characteristics of woodland trees; and
- Trees would not have been topped.

The Ranch's natural resource staff has collected acorns from genetically superior specimens on the Ranch in October 2009, 2010, and 2011. This on-site acorn collection ensures that replacement plantings maintain local genetic strains. Additional on-site annual acorn collection would be conducted in future years to propagate trees for future planting efforts. Coast live oak is the only black oak in California whose acorns develop in one year. Acorn production is variable within and among years, but coast live oak is productive relative to other California oak species.

3.4 Mitigation Planting Quantities, Sizes, Locations, and Densities

3.4.1 Quantities

Based on the 2:1 (Ordinance-sized Tree) and 10:1 (Heritage Tree) ratio requirements, the County Ordinance would require 444 oaks (160 for the 16 heritage trees and 284 for the 142 jurisdictional trees) to be planted, reach minimum size requirements, and survive for the seven-year monitoring period in order to satisfy mitigation requirements.

In addition to the 444 Ordinance-required oak trees, to satisfy the requirements under PRC 21083.4, the Project also would plant an additional 1,000 oak trees to further mitigate the Project's impacts on removed oak trees and to mitigate for loss of oak woodland under PRC 21083.4. These trees would be planted, reach minimum size requirements, and have at least 70% survival at the conclusion of the seven-year monitoring period to satisfy mitigation requirements.

To proactively address potential mortality of planted mitigation trees during the seven-year monitoring period, the Project would over-plant, resulting in a minimum of 1,600 planted mitigation trees. The Applicant could elect to plant more than 1,600 trees, depending on observations of tree health and survival during the seven-year monitoring period. The completed oak mitigation effort would result in the planting and survival for seven years of 1,144 oak trees (444 oak trees required by the Ordinance and 700 additional mitigation trees). If mortality rates or actual tree impact totals exceed the totals used in determining the mitigation quantities presented in this OTWMMP, additional oaks would be planted using the guidelines discussed in this OTWMMP.

3.4.2 Sizes

Smaller stock has often been found to outperform larger five and 15-gallon trees in field plantings under favorable site and management conditions. The larger trees often require much longer periods of intense maintenance and have a lower survival rate. The smaller stock trees may surpass the growth of a five or 15-gallon tree over the life of the monitoring schedule. Therefore, this OTWMMP would allow for the planting of approximately the same amount of smaller stock as the larger, required 15-gallon trees to increase long-term sustainability and replace the diversity of sizes found in oak woodland habitat.

In an effort to proactively address Project-related impacts and initiate mitigation efforts, the Ranch's natural resource staff started propagating oak trees from Ranch-harvested acorns in 2009. Field planting of 460 seedlings in the Moonshine Woods mitigation site, discussed below, commenced in November 2010 under the supervision of the County Forester. The intent of planting smaller stock (less than 15-gallon size) was to increase the likelihood of site adaptation

and seedling survival. These planted trees would be counted toward the overall mitigation planting totals discussed herein when they reach the appropriate size (one inch in diameter at one foot above the base of the trunk), unless slightly smaller trees were otherwise acceptable to the County Forester.

In addition, the Ranch's natural resource staff has an additional 2,381 seedlings propagated from Ranch-harvested acorns on the Ranch and an additional 1,837 Ranch-harvested acorns planted in containers during the fall of 2011. These seedlings and acorns would be used to mitigate the Project's impacts on oaks and oak woodlands.

3.4.3 Planting Locations

The potential oak tree mitigation areas identified in this OTWMMP have appropriate soils known to support oaks, are adjacent to or within existing oak woodlands or oak savannah on the Ranch, and are easily accessible for planting, maintenance, and monitoring. The oak tree mitigation plantings would expand and restore fire-damaged oak woodlands on the Ranch, increase habitat connectivity between existing oak woodlands and along Placerita Creek, and enhance oak woodland regeneration in areas with limited natural seedling recruitment. Approximately 7.5 acres of potential receiver sites for the expansion of oak woodlands and approximately 13.5 acres of existing oak woodland for potential restoration plantings have been identified on the Ranch, for a total of 21 acres of potential mitigation planting area. (Figure 3 – Potential Oak Woodland Expansion and Restoration Locations).

Assuming mitigation oak trees are planted at an average spacing of 20-feet on-center, approximately 109 trees can be planted per acre. Utilizing this planting density value, the 1,144 mitigation plantings required to survive the 7-year monitoring period would occupy approximately 10.5 acres of oak woodland expansion and enhancement area, resulting in a 2.4:1 oak woodland mitigation to impact ratio.

Mitigation within the potential restoration areas would create and restore oak woodland and wildlife habitat and harmoniously integrate with the existing agricultural and film production uses in the southeastern portions of the Ranch. Any filming within the proposed restoration areas would comply with the Ranch's established oak tree protection program during filming on the Ranch, which has been approved by the County Forester. The mitigation trees would not be planted on cut or fill slopes, within fuel modification zones (see the *Fuel Modification Plan*, Dudek 2011), or in other marginal locations.

3.4.3.1 Moonshine Woods

The Moonshine Woods potential mitigation site is located on the southern portion of the Ranch, north of and immediately adjacent to Placerita Canyon Road. The location of Moonshine Woods is shown in Figure 2. The site is approximately nine acres in size and is partially occupied by existing oak woodland. The topography in the northern part of the site is flat, while the southern part of the site is generally bisected by a ridge with east and west facing slopes. Elevations on this site range from 1,500 feet above mean sea level (MSL) at its northern end to approximately 1,595 feet above MSL on the top of the ridge. The use of this site is limited to filming backdrop with some film production. The northern part of the mitigation site is dominated by mature coast live oak trees. The Canyon Fire of 2004 damaged the oak woodlands along the north side of Placerita Canyon Road. Some oaks suffered severe fire damage and have been slow to recover. The site has two two-inch irrigation lines that extend into the canyon areas of the site, as illustrated in Figure 2.

3.4.3.2 Park Meadow

The Park Meadow potential mitigation site is located in the easternmost portion of the Ranch, north of Placerita Canyon Road and west of and adjacent to the Placerita Nature Center. The Park Meadow site is approximately three acres, with one acre occupied by existing oak woodland and two acres of flat grassland, as illustrated in Figure 2. The site is located on the valley floor with an elevation of 1,500 feet above MSL. The use of this site is limited to film production. The northern and southern parts of the site are dominated by mature coast live oak trees. The site is generally bisected by Placerita Creek and a road that is often used during film production. The site is serviced by a six-inch irrigation line south of Placerita Creek and a four inch line north of the creek. As part of the Ranch's existing oak tree planting program, twenty 15-gallon valley oak trees (*Quercus lobata*) were planted along the southern margin of Placerita Creek at the west end of the Park Meadow site in the spring of 2010.

3.4.3.3 Placerita Grove

The Placerita Grove potential mitigation site is located along the southern portion of the Ranch, north of Placerita Canyon Road. Placerita Grove is approximately five acres in size, with half of the site dominated by existing oak woodland. The topography in the northernmost part of the site is flat, while the southern part of the site has north and east facing slopes. Elevations on the site range from 1,480 feet above MSL at its northern end to approximately 1,590 feet above MSL on the top of the ridge at the southern end. Use of this site is limited to filming backdrop. The northern part of the site is dominated by mature coast live oak trees that were also damaged in

the 2004 Canyon Fire. The site is serviced by a four inch irrigation line that runs adjacent to the road and bisects the northern oak woodlands from the slopes in the southern portion of the site.

3.4.3.4 Coyote Well & Other Valley Locations along Placerita Creek

The Coyote Well potential mitigation site is approximately four and one half acres and is located on the valley floor near Placerita Creek. The topography in this area is flat and the land is primarily used for film production. The portions of the site along Placerita Creek have been identified as ideal locations for larger-sized mitigation trees, should they be included in the mitigation planting effort, due to the ease of accessibility for care and maintenance. The Ranch's natural resource staff has successfully planted large oak trees in these areas in the past. Adequate irrigation lines are in place.

3.4.4 Planting Densities

The tree density factor used for coast live oak planting areas was 109 trees per acre (TPA). Coast live oak is a shade-tolerant species which allows for higher-density plantings. This OTWMMP recommends a non-uniform or non-grid-type planting layout for all mitigation areas. Specifically, planting locations within the planting areas would mimic natural oak and savannah distributions, with tree clusters and openings scattered randomly throughout the planting area. Individual planting locations would be flagged in the field by an Oak Restoration Specialist prior to tree planting efforts, using the density and location information included in this OTWMMP.

3.5 Native Understory Plantings

Planting oak tree-associated understory plants is an important part of restoration design. Understory components of coast live oak woodland include toyon (*Heteromeles arbutifolia*), Mexican elderberry (*Sambucus mexicana*), California bromegrass (*Bromus carinatus*) and goose grass (*Galium aparine*). The native vegetation associated with oak woodland provides wildlife habitat and promotes species diversity. These understory plantings also play an important part in regeneration and overall sustainability of the oak woodland. Recruitment is best among germinants growing in shade, where herbivory protection and water availability are higher. Common understory plants are California heathgoldenrod (*Ericameria ericoides*), chamise (*Adenostoma fasciculatum)*, coyote bush (*Baccharis pilularis*), purple sage (*Salvia leucophylla*), orange bush monkeyflower (*Diplacus aurantiacus* ssp. *aurantiacus*), chamisso bush lupine (*Lupinus chamissonis*), and California sagebrush (*Artemisia californica*). Establishment is generally greater in coastal sage scrub than in other types of chaparral. With implementation of the Project, a variety of understory species would be incorporated into the mitigation planting sites concurrent with oak tree planting. However, some flexibility would be necessary in order to

plant understory species during the appropriate season which might not occur at the same time as oak tree plantings.

3.6 Mitigation Planting Specifications

3.6.1 Site and Planting Pit Preparation

All weeds, debris, wood chips, and rocks over two inches in diameter would be removed from the planting area to a radius of three feet from each planting hole. Additionally, all clods over one inch in diameter and all rocks over two inches in diameter would be removed from the planting pit. The planting pit would be excavated to a minimum of two times the diameter of the root ball, and to a depth adequate to allow the root ball to rest on firm soil. The sides and bottom of the planting pit would be scarified prior to installation of the tree. Where possible, native soil from impacted oak woodlands or beneath oak trees removed for the Project would be used in planting hole preparation. A mixture of suitable commercial potting soil and/or sand may be added to comprise 1/3 of the total soil returned to the planting pit.

3.6.2 Tree Planting

The Ranch's natural resource staff would use a variety of planting techniques developed during years of planting oaks and other trees on the Ranch. The planting technique would be chosen based on each receptor site's hydrology, soils, topography, and known herbivory. The staff would supervise all planting activities to ensure the technique used would provide for the best survival and growth rate. The following recommendations are provided to improve tree survival.

Depth. Check the depth of the planting pit so that the top of the root ball extends one to two inches above the natural grade of the surrounding soil upon completion of planting. This would allow for settling of the tree over time, and would prevent the root ball from resting below grade where it would be susceptible to moisture, fungal pathogens, and other soil organisms. This can be accomplished by placing the tree, while still in the container, in the planting pit and laying a pole across at the original grade. The top of the root ball would be one to two inches higher than the original grade level.

Container and roots. Remove the tree from the container and trim the root ball according to the following criteria. Locate any thick circling roots and either straighten them or cut them cleanly. Make three to four vertical cuts 0.5 inch deep around the root ball in order to thin the roots. Spread the bottom roots out, as necessary. A mixture of commercially prepared Vitamin B-1 solution and a root stimulant also may be considered.

Tree placement and backfilling. Place the tree in the pit, making sure planting depth is appropriate. Backfill the native soil into the planting pit. Place a 12-inch-high by 24-inch-diameter soil watering basin around each oak tree at planting. Water the trees thoroughly immediately following planting.

Timing. Plant trees in the fall of each year, soon after the first fall rains have moistened the soil. Preferably, plant containerized trees by mid-December. (McCreary 2009). However, the Ranch's natural resource staff could accommodate tree plantings during other seasons.

3.6.3 Irrigation

Mitigation oak trees would be supplied with irrigation water during the dry season for a period of five years. Irrigation would be supplied from on-site water sources. The Ranch's natural resource staff would be responsible for irrigating the oak trees, as well as for the installation and maintenance of irrigation lines. Ranch staff would use different irrigation systems to best suit each unique mitigation site. Irrigation would be supplied to keep the trees vigorous and encourage healthy growth, typically every two weeks throughout the summer. The irrigation schedule would be changed throughout the year to accommodate changing water needs. The irrigation system would be kept off as long as possible during the winter rainy season, unless continued drought results in the need to provide supplemental irrigation.

3.6.4 Mulching

The floor of oak woodlands is blanketed with dead leaves, acorns, twigs and branches. This organic matter breaks down overtime and provides nutrients to the trees. The natural duff layer under the canopies of impacted oak trees in the Project's Development Area would be collected, where possible, for use as mulch with the new mitigation plantings. This duff layer would provide valuable organic matter and microclimatic conditions for the mitigation trees and the existing mature oaks.

3.6.5 Exclusionary Fencing and Protection

Fencing and other protective measures are recommended, where appropriate, to protect oak trees from animal damage. The Ranch's natural resource staff may use these protective measures where necessary. Fencing may be critical to the overall survival of mitigation plantings. Damage associated with rodent and grazing animals is the primary concern addressed in this OTWMMP. Several options exist for oak seedling protection:

- **Planting cages.** These cages are circular structures designed to protect acorns to small plantings. The cages are secured to the ground with a stake wire fastened to the top,

middle, and bottom of the cage. These cages reduce damage from gophers, ground squirrels and grazing animals.

- **Tree shelters.** Tree shelters (e.g., Tubex) are plastic, translucent protectors that fit over seedlings. When needed, four-foot shelters are recommended and will be attached to the manufacturer-provided stakes with wire, leaving the top of the post several inches below the lip of the shelter. Shelters have also proven to stimulate aboveground growth, limit foliage exposure to herbicides, and make it easier to locate field plantings. (McCreary 2009). Shelters would be left in place for at least three years after the seedlings have emerged from the tops.

All fencing, cages, or shelters would be maintained in place until trees reach the end of the seven-year monitoring period, or until otherwise noted by the Project monitor, as defined in Section 4.2.

3.6.6 Tree Mapping and Tagging

Following planting, oak trees would be mapped using generalized polygons as location identifiers. Polygons representing no more than 50 individual tree locations would be mapped on 200-scale field maps and would reference tree identification number ranges corresponding to the trees contained in that polygon. Trees of smaller sizes would not be mapped until at least one inch in trunk diameter.

The mitigation oak trees would be tagged with a Golden Oak Ranch tree tag bearing a unique identification number once they have reached one and one-half inches in trunk diameter, measured four and one-half feet above the natural grade. A stake bearing the tree number may be used until trees are of suitable size for tagging. Concurrent with tagging, tag numbers would be recorded, along with tree species and general location information (planting area number). The tree mapping and tagging efforts would provide an information baseline to the Project Applicant and the County Forester critical for tracking establishment success and failure throughout the monitoring program.

3.7 Maintenance

Focused maintenance efforts are recommended for the oak tree plantings addressed in this OTWMMP rather than an intensive site-wide method. Maintenance would provide an appropriate growing environment for the oak tree plantings and would include an integrated pest management plan. The following recommendations are provided to guide the Ranch’s natural resource staff in properly managing the trees and their growing environment:

- Trees would be pruned back only to remove broken limbs. Otherwise, pruning should not be performed. No more than one-fourth to one-third of the leaf area would be removed at any pruning. International Society of Arboriculture (ISA) pruning specifications would be followed.
- Fertilization would be performed only if soil analysis results indicate that amendments were required. If required, fertilization would occur twice a year, in March and October. Only a slow-release product would be used. High soil salt levels associated with fertilizer applications can present several problems and must be managed accordingly.
- Removal of weeds and competitive plants would be recommended within four feet of individual tree planting locations, leaving only bare soil in order to remove existing weeds and to reduce the available weed seed bank in the upper inch or so of soil. Manual removal would be recommended twice annually, in spring and late summer, for a period of two to three years after planting to reduce competition with trees for available soil moisture and nutrients. Chemical control would not be recommended.
- Fencing, caging, or tree shelters would be inspected regularly and repaired/replaced as necessary.
- Insect or disease outbreaks that threaten the successful establishment of oak trees would be addressed by determining the cause of the outbreak. Chemical control may be considered as a last resort, if other practices do not achieve desired results.
- Every year, after winter/spring rains and before irrigation controllers were turned on, the entire irrigation system would be thoroughly evaluated and all damaged equipment repaired or replaced. Irrigation system pressure would be checked and adjusted, if necessary, no more than weekly and no less than monthly, to ensure efficient operation of the irrigation system.
- Observations of frost or storm damage would be noted. If plants exhibit signs of frost damage, affected foliage would not be removed until after the threat of further frost damage has passed. Further, any limbs that have been broken as a result of storm damage would be removed.
- Evidence of erosion would be noted during scheduled monitoring visits. Erosion control methods may be necessary, including sandbagging water run channels to slow down water movement or applying erosion controlled mulch or specialized material such as jute netting or Geo-Mesh.

4.0 MONITORING PLAN

Monitoring is critical to the overall success of the oak tree mitigation program. While necessary for documenting establishment success and quantifying mitigation totals, monitoring is also an avenue for early problem detection. Effective monitoring of the oak trees discussed in this OTWMMP will facilitate early identification of problems that can lead to failure. Early detection allows immediate correction or examination of problems, thereby minimizing tree mortality, required tree replacement, or progressive impacts incurred by delays in site establishment.

The following recommended monitoring protocols are provided to guide mitigation oak management efforts as well as to provide a basis for reporting. Reporting would be provided to the Applicant following all monitoring visits. Additionally, one monitoring report would be submitted annually by the Applicant to the County Forester and to County Regional Planning.

The monitoring program includes the following basic components:

- County Forester requirements;
- Monitoring schedule;
- Establishment standards;
- Documentation and reporting;
- Observations/recommendations.

4.1 County of Los Angeles Forester Requirements

The following County Forester requirements are included in this OTWMMP:

- Monitoring of the 444 required mitigation plantings would occur for a period of seven years after trees reach the County-minimum size for inclusion (one-inch in diameter as measured at one-foot above the base of the trunk), unless slightly small trees are otherwise acceptable to the County Forester . Monitoring visits under this requirement would be conducted at least annually.
- One monitoring report would be submitted annually to the County Forester. The duration of this reporting period would be subject to the amount of time necessary for successful tree establishment and growth to countable size. Annual reports would address mitigation oak survival, mortality, and planting totals, as well as general site conditions and any trees deemed to have qualified toward mitigation credit.

- As necessary, the County Forester may inspect the oak mitigation planting areas to verify report findings. Coordination of monitoring visits and County Forester site inspections is recommended to streamline efforts and address questions/problems in the field.

4.2 Monitoring Schedule

Exclusive of County Forester requirements, it is recommended that monitoring of mitigation oaks be conducted quarterly. Monitoring would focus on plant health, mortality rates, presence of pests or diseases, competition levels from non-native species, and other factors that might affect establishment or growth of the planted oaks. Monitoring would occur from planting through the seven-year period after minimum size requirements were met. Monitoring would be conducted by an Oak Restoration Specialist. The monitor would be selected by the Applicant and approved by the County Forester. The monitor would visit the site to ensure that planting practices were followed and quarterly each year throughout the monitoring period to track the progress of the oak mitigation.

The Ranch's natural resource staff would be responsible for the day to day monitoring and maintenance of oak mitigation plantings.

4.3 Establishment Standards

The goal of this mitigation program is to successfully establish oaks within pre-determined mitigation areas. In order for individual oak plantings to be credited toward mitigation totals for the Project's impacts, minimum tree sizes must be obtained and trees must survive for a period of seven years after reaching minimum size. As outlined above, once individual trees grow to measure one-inch in diameter at one-foot above the base of the trunk, the seven-year establishment period begins. In order to meet the survival criteria (1,144 oak trees surviving the seven-year establishment period), this mitigation program plants approximately 40% more trees to allow for some mortality without resetting the seven-year establishment period.

4.4 Documentation and Reporting

A key component to the success of the oak mitigation program would be database creation and management to allow for tracking of tree conditions and quantities. Tree data would be stored in a spreadsheet database and maintained throughout the planting and monitoring period. This database would serve as the overall documentation and tracking device used to manage mitigation efforts, track project success, and quantify mitigation totals for reporting to the County Forester and to County Regional Planning. The following information would be recorded for each mitigation oak tree and updated during each monitoring visit:

- Tree tag number;
- Species;
- Planting date;
- Planting area;
- Monitoring visit dates;
- Notes (indicating general health condition and other notable attributes);
- Date reaching minimum County size requirements;
- Annual reporting dates following achievement of minimum size (Years 1 to 6);
- Final establishment date (Year 7).

Quarterly monitoring reports would be submitted to the Applicant and would address the following:

- Tree survival/mortality totals;
- General field observations related to tree health and survivability;
- Recommended maintenance (as needed) to be completed by the Ranch's natural resource management staff.

Annual reports would be submitted to the County Forester and to County Regional Planning and would include discussions of tree health and mortality, adaptation success of trees on the Ranch's mitigation sites, maintenance practices affecting tree health, and overall success of tree establishment on the Ranch. The annual report also would document individual tree quantities reaching minimum size requirements, so that the seven-year monitoring period could commence when appropriate. Annual reports would be completed prior to the end of each calendar year.

4.5 Observations/Recommendations

Observations made during quarterly monitoring visits would be recorded and included in the monitoring reports. Observations would include survival and mortality totals, a commentary on general site conditions, documentation of any pest/disease problems, and other factors associated with tree survival and mortality. Further, any recommendations for corrective actions or maintenance necessary for promoting tree health and survival would be made during the reporting process.

4.6 Success Performance Measures

4.6.1 Mitigation Program

In the event the monitor determines that the mitigation program might not achieve its objectives, the monitor would recommend corrective measures. In the event of potential destructive processes or agents, the monitor would recommend remedial actions. These actions may include:

- Increased monitoring efforts;
- Focused insect control;
- Weed control;
- Tree pruning;
- Tree removal;
- Development of supplemental irrigation;
- Enhancement of soils;
- Supplemental planting of acorns or oak seedlings; and/or
- Other measures as needed.

4.6.2 Mitigation Program Success

Once the seven-year monitoring period is over and all success performance standards were met, the Applicant would review the final monitoring report with the County Forester and County Regional Planning for release from further mitigation efforts and recognition that this OTWMMP has achieved its goals and objectives of mitigating for the Project's impacts on oak trees and oak woodlands. As this OTWMMP is intended to satisfy both Ordinance and non-Ordinance mitigation requirements, the following summarizes the requirements for mitigation program success:

1. To satisfy the Ordinance requirements, a minimum of 444 oak trees must survive for a period of seven years after reaching minimum size, unless slightly smaller trees were otherwise acceptable to the County Forester.

2. To satisfy PRC Section 21083.4, a minimum of 700 oak trees (70% survival of the additional 1,000 planted trees) must survive for a period of seven years after reaching minimum size (one-inch in diameter as measured at one-foot above the base of the trunk, unless slightly smaller trees were otherwise acceptable to the County Forester) and the oak woodlands on the remainder of the Ranch outside the Development Area would be preserved.

4.7 Approval

The County Forester and County Regional Planning would provide final approval of established oak quantities and mitigation of the Project's impacts on oaks. The database outlined in Section 4.4 would be used as the basis for mitigation tree credit allocation, in combination with the final annual report for trees reaching the seven-year establishment milestone. Further, it is expected that the County Forester and County Regional Planning staff would conduct a site visit to verify documentation presented in the database and final report. Once verified, a list of tree numbers meeting establishment criteria would be submitted to the County for approval and sign-off. It is expected that the County Forester would sign-off on established oak quantities associated with the Project Oak Tree Permit (444 trees) and that County Regional Planning staff would sign-off on established oak quantities associated with the remaining mitigation oaks (700 trees). The first 444 trees to reach the seven-year establishment threshold would be approved and signed-off by the County Forester to complete the requirements associated with the Oak Tree Permit. The next 700 trees that reach the seven-year establishment threshold would be approved and signed-off by County Regional Planning staff. This process may occur several times as mitigation trees reach the seven-year establishment threshold and will be dependent on the tree planting intervals.

5.0 CONCLUSIONS

The goal of this OTWMMP is to provide the framework for successfully establishing, monitoring, and documenting a significant number of oak trees within undeveloped portions of the Ranch. The mitigation would create and restore oak woodland and wildlife habitat and harmoniously integrate with the Ranch's agriculture and film production operations. Mitigation planting totals presented in this OTWMMP reflect more than the County required 2:1 replacement ratio for Ordinance-size trees and a 10:1 replacement ratio for heritage trees, as well as additional trees to account for potential tree mortality during the establishment period and achieve habitat replacement goals. The total number of mitigation oak tree plantings would be at least 1,600, resulting in a 10:1 mitigation ratio for heritage trees and a 9:1 mitigation ratio for jurisdictional trees. Based on planting density assumptions, the oak woodland expansion and enhancement mitigation ratio would be approximately 2.4:1. Based on the quantity of oak trees and oak woodlands avoided on the Ranch, the oak tree preservation to impact ratio is 19:1 and the oak woodland preservation to impact ratio is 21:1. All mitigation oak trees would be grown from locally collected acorns. Tree planting and irrigation installation and management would be conducted by the Ranch's natural resource staff, with annual reporting to the County Forester and County Regional Planning. Further, the mitigation monitoring program described herein provides for quarterly monitoring to evaluate tree health and make recommendations on management actions to promote tree survival.

Once mitigation trees reach minimum size criteria for mitigation oaks, the seven-year monitoring and reporting period would begin, during which time trees would be mapped, monitored, and quantified, with data presented in annual reports. Once such trees have survived the seven-year establishment period, they would be certified by the County Forester and County Regional Planning and would qualify as a credit toward necessary mitigation totals.

6.0 REFERENCES

Dudek. 2012. *Oak Tree Report. Disney | ABC Studios at the Ranch.* Prepared for Golden Oak Ranch Properties. April 2012.

Dudek. 2011. *Preliminary Fuel Modification Plan. Disney | ABC Studios at the Ranch.* Prepared for Golden Oak Ranch Properties. February 2011.

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Appendix F.7

Jurisdictional Waters Report

Investigation of Jurisdictional Waters of the U.S., Waters of the State, and Wetlands

Disney | ABC Studios at the Ranch

Los Angeles County, California

PCR

November 2010

Investigation of Jurisdictional Waters of the U.S., Waters of the State, and Wetlands

Disney | ABC Studios at the Ranch

Los Angeles County, California

Prepared for:

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November 2010

Investigation of Jurisdictional Waters of the U.S., Waters of the State, and Wetlands

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Investigation of Jurisdictional Waters of the U.S., Waters of the State, and Wetlands

Disney | ABC Studios at The Ranch
Los Angeles, California

The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a jurisdictional determination for the above-referenced project.

PCR Services Corporation

Steve Nelson, Director of Biological Services

November 2010

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Investigation of Jurisdictional Waters of the U.S., Waters of the State, and Wetlands for Disney | ABC Studios at The Ranch

1.0 INTRODUCTION

This report presents the findings of an investigation conducted by **PCR Services Corporation (PCR)** of jurisdictional "waters of the U.S.", "waters of the State", and wetlands within the 56.7-acre development area (Development Area) for Disney | ABC Studios at The Ranch (the Proposed Project), a motion picture and television studio to be located on the westernmost portion of the 890-acre Golden Oak Ranch (Ranch) in Placerita Canyon, Newhall, Los Angeles County, California. Additionally, the study area includes approximately 35 acres outside of the Development Area (approximately 5 acres on the Ranch and approximately 30 off the Ranch) where various utility lines and a water tank are proposed. Those portions of the study area outside of the Development Area include an area of the Ranch south of Placerita Canyon Road where a water tank, a water line and improvements to an existing access road would be constructed (Water Tank Area), a potentially 20-foot wide construction area on both sides of water and sewer lines, and a 40-foot buffer area around the limits of grading for proposed pump stations outside of the Ranch (Off-site Infrastructure Improvement Area).

The Proposed Project would provide up to twelve soundstages, production offices, six mills, a warehouse, talent bungalows, a commissary, an administration building, a central utility plant, and an electrical distribution substation in the Development Area. As an alternative option, studio offices rather than four soundstages, production offices and two mills could be constructed on the northern portion of the Development Area.

The Development Area is located just east of the Antelope Valley Freeway, State Route 14 (SR-14), and north of Placerita Canyon Road (**Figure 1**, *Regional Map Disney | ABC Studios at The Ranch*). A substantial portion of the Development Area is located on two large, mostly barren fill pads created by Caltrans during the construction of SR-14 in the early 1970s. The Development Area is separated from the remainder of the Ranch by a 330-foot transmission corridor traversing the Ranch in a generally northwest to southeast direction and owned and operated by the Los Angeles Department of Water and Power (LADWP). The Development Area is located within Section 6 T. 3 N., R. 15 W., of the U.S. Geological Survey (USGS) 7.5-minute Mint Canyon, California topographic quadrangle as shown in **Figure 2**, *Vicinity Map Disney | ABC Studios at The Ranch*. The longitude and latitude of the approximate center of the Development Area is 34° 22' 41.879" North and 118° 29' 28.1399" West. UTM zone 11 (X, Y) 362903, 3805110.

An assessment of jurisdictional "waters of the U.S.", "waters of the State", and wetlands in the Development Area was conducted by PCR Senior Wetland Ecologist Richard Haywood and Associate Biologist Zeke Cooley on May 1, May 2, and May 28, 2008. Steve Nelson, PCR Director of Biological Services, verified the assessment within the Development Area on August 21, 2009. On April 6, 2010, Nelson and Cooley completed the work by conducting an assessment of jurisdictional features within the Water Tank Area and Off-site Infrastructure Improvement Area. The assessment was conducted to determine whether or not the drainage features within the Development Area and larger study area are subject to the jurisdiction of the U.S. Army Corps of Engineers (ACOE), the Regional Water Quality Control Board (RWQCB), and/or the

California Department of Fish and Game (CDFG) and to delineate and map the extent of such regulated resources.

The opinions presented in this report are a reflection of the best professional judgment of PCR staff and are tentative until verified by Agency (i.e., ACOE, RWQCB and CDFG) personnel. Steve Nelson conducted a site visit with ACOE representative Ken Wong on September 3, 2009 and CDFG representatives Jeff Humble and Dave Blankenship on September 8, 2009. The representatives from both agencies verified and concurred with the jurisdictional delineation findings. The jurisdictional delineation has not yet been reviewed or verified by the RWQCB.

2.0 EXISTING SITE CONDITIONS

The Development Area is bordered by generally undeveloped land and the Golden Valley Ranch planned community and SR-14 to the north, Placerita Canyon Road to the south, SR-14 to the west, and the eastern side of the LADWP transmission corridor to the east. Steep ridgelines separate and preclude visibility of the Development Area from the Golden Valley Ranch planned community and other residential subdivisions to the east. The Angeles National Forest and state park lands are east of the Development Area.

The western half of the Development Area is comprised of two large, mostly barren gravel pads, created during the construction of SR-14 in the early 1970s. The eastern portion of the Development Area is dominated by several agricultural fields and pastures associated with Ranch agricultural operations. These fields are interspersed with an area of oak woodlands in the south, and bordered by Placerita Creek, with its associated southern willow scrub/western sycamore riparian woodland, to the north. North of the creek and east of the northern gravel fill pad is a small, steeply sloped area covered by a buckwheat scrub/chamise chaparral community. An unoccupied building is located on the eastern edge of the southern portion of the Development Area, the Ranch foreman's mobile home is located in the southeastern corner, and the area is crossed by several gravel roads.

Local topography across the Development Area ranges from the flat areas found on the agricultural fields and pastures and the tops of the gravel pads to steep, gravelly slopes on the sides of the man-made gravel pads. Elevations within the Development Area range from approximately 1,400 feet above mean sea level (MSL) at the westernmost portion of Placerita Creek within the Development Area to approximately 1,590 feet above MSL at the top of the northern fill pad in the western portion of the Development Area.

Due to the heavy gravel content of the fill pads, minimal vegetation exists within the fill pad areas of the Development Area. The remainder of the Development Area is vegetated with non-native grassland communities, non-native and ruderal plant communities, and ornamental plantings on and around the two gravel pads, including bush sunflower (*Encelia californica*), yellow star thistle (*Centuarea melitensis*), foxtail brome (*Bromus madritensis*), eucalyptus (*Eucalyptus* sp.), pine (*Pinus* sp.), and areas of buckwheat scrub that include California buckwheat (*Eriogonum fasciculatum*), deerweed (*Lotus scoparius*), Chamise (*Adenostoma fasciculatum*), and California sagebrush (*Artemisia californica*). The Development Area also includes pockets of coast live oak (*Quercus agrifolia*), primarily around the southern fill pad, and a small riparian woodland community associated with Placerita Creek, which is characterized as a mixed riparian woodland/southern willow scrub community that includes red willow (*Salix laevigata*), arroyo willow

PCR

N

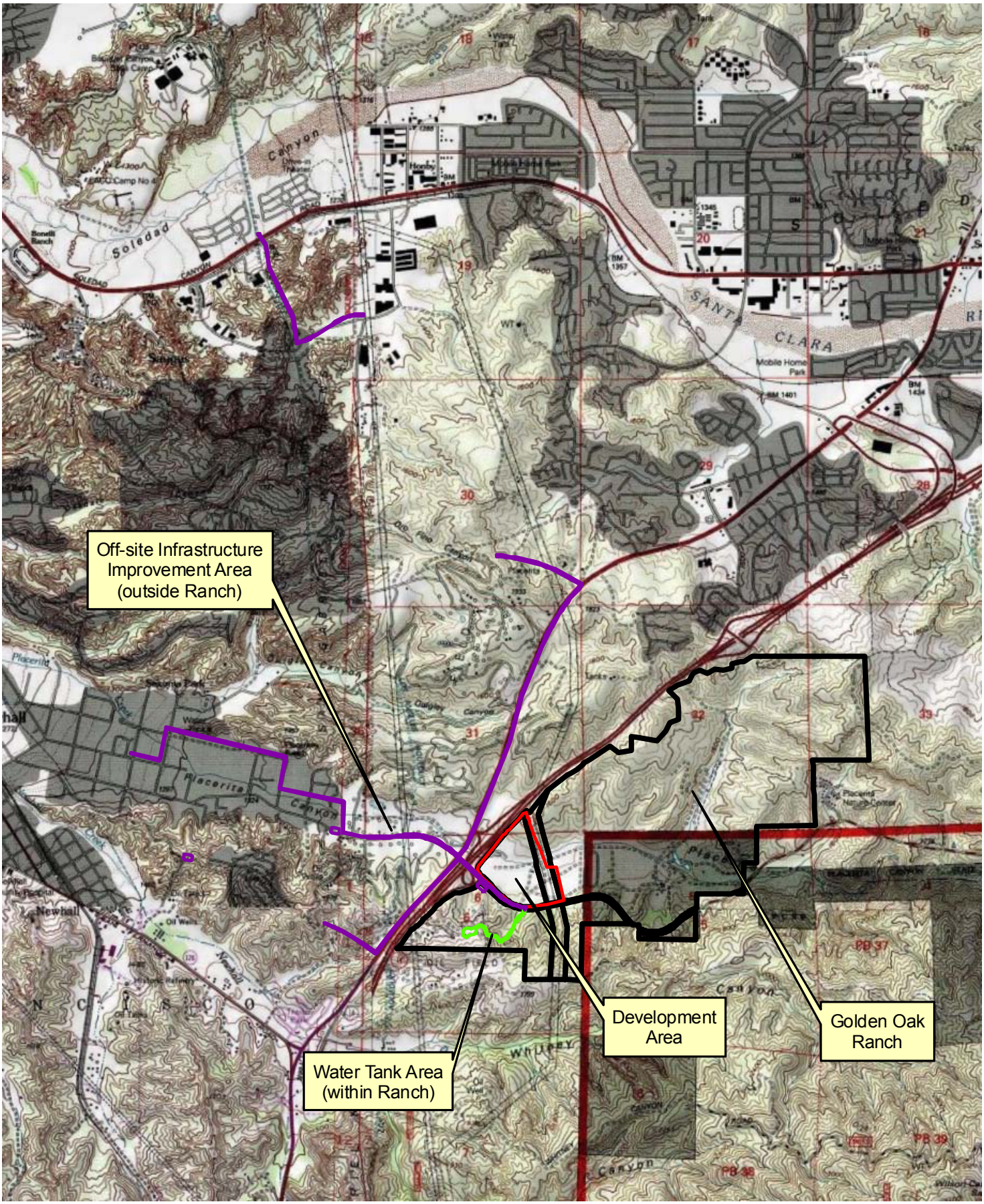
0 10 20 Miles

Regional Map
Disney | ABC Studios at The Ranch

Source: ESRI, 2010; PCR Services Corporation, 2010.

FIGURE

1



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0 3,000 6,000 Feet

Vicinity Map
Disney | ABC Studios at The Ranch

Source: USGS Topographic Series (Mint Canyon, San Fernando, CA); PCR Services Corporation, 2010.

FIGURE
2

(*Salix lasiolepus*), mule fat (*Baccharis salicifolia*), western sycamore (*Platanus racemosa*), coast live oak, and poison oak (*Toxicodendron diversilobum*).

The proposed water tank is located on the Ranch in hilly terrain south of the Development Area and Placerita Canyon Road. Elevations within the Water Tank Area range from approximately 1,470 feet above MSL at the bottom of the access road to the water tank and 1,682 feet above MSL at the highest point of the water tank pad. The footprint of the water tank and improvements to an existing access road mostly encompass areas previously disturbed by past and current oil operations. These disturbances include prior clearing and grading to create level pads which remain readily evident today and largely devoid of native vegetation. Surrounding undisturbed vegetation includes the following: a mixture of coastal sage scrub and chaparral dominated by laurel sumac (*Malosma laurina*), chamise, California buckwheat and California sagebrush; coast live oak woodland, dominated by coast live oak; and non-native grassland, dominated by brome grasses (*Bromus sp.*), Mediterranean mustard (*Hirschfeldia incana*), and wild oats (*Avena sp.*).

West of the Ranch and SR-14, a variety of utility lines are proposed as part of the Proposed Project. The majority of these proposed alignments are located within existing road rights-of-way where conditions are either developed or disturbed by paved streets and/or existing residential development. In localized areas of these alignments, non-native grassland is also found.

3.0 RESULTS

Placerita Creek, the primary drainage feature, and one small tributary have been delineated in the Development Area. Two small tributaries to the creek have been delineated within the portion of the study area that is on Ranch property south of Placerita Canyon Road. Only Placerita Creek has been delineated within that portion of the study area outside of the Ranch. These jurisdictional resources include a portion of the creek and two tributary systems (Tributaries A and B), and total approximately 5,898 linear feet of streambed. The delineated jurisdictional areas within the creek and its tributaries total 0.57 acre of ACOE/RWQCB jurisdictional "waters of the U.S./waters of the State" and 4.43 acres of CDFG jurisdictional streambed and associated riparian habitat. (See **Figure 3**, *Jurisdictional Features Disney | ABC Studios at The Ranch*, and **Table 1**, *Jurisdictional Features*).

Placerita Creek is confined within outer earthen banks, which define the creek's active floodplain and generally contain the wooded riparian corridor associated with the drainage throughout its extent within the study area. The stream channel is relatively straight, with vertical sandy inner banks, and a streambed composed of sands and cobble substrate. Within the Development Area, the creek flows between the two gravel fill pads created by Caltrans during construction of SR-14 in the early 1970s and which further confine the riparian corridor of the creek. The creek then flows west of the Development Area through a large, 20-foot diameter, culvert underneath SR-14. Two high-flow channels or braids within the creek also have been mapped. These braids are generally small, sandy stream channels, which receive sufficiently frequent flows to maintain well-defined channels. Tributaries A and B are small earthen channels or swales that collect surface flows from the surrounding uplands and discharge them into the creek.

Flows in tributary B4, which lies south of Placerita Canyon Road, traversing the Water Tank Area, travel from upstream along an incised drainage and intersect with the existing access road, which is a foot or two above the grade of the streambed. Discharge then flows onto, down and across the road for a fairly short distance,

Table 1

Jurisdictional Features

Name	Length (feet)	Average Width (feet)		Area (acres)		Nature
		ACOE/ RWQCB	CDFG	ACOE/ RWQCB	CDFG	
Placerita Creek	1,924	2-15	19-95	0.34	3.25	Ephemeral – Intermittent
			Tributaries			
A	1,082	2-5	4-10	0.09	0.17	Ephemeral
A1	112	3	9	0.01	0.02	Ephemeral
A1.1	45	5	10	0.01	0.01	Ephemeral
B	1,713	1-6	3-15	0.07	0.28	Ephemeral
B1	106	N/A	15	N/A	0.43	
B3	76	1-3	3-4	<0.01	<0.01	Ephemeral
B4	660	1-5	3-5	0.04	0.25	Ephemeral
B5	180	3	4	0.01	0.02	Ephemeral
TOTALS	**5,898**	-	-	0.57	4.43	

Source: PCR Services Corporation 2010.

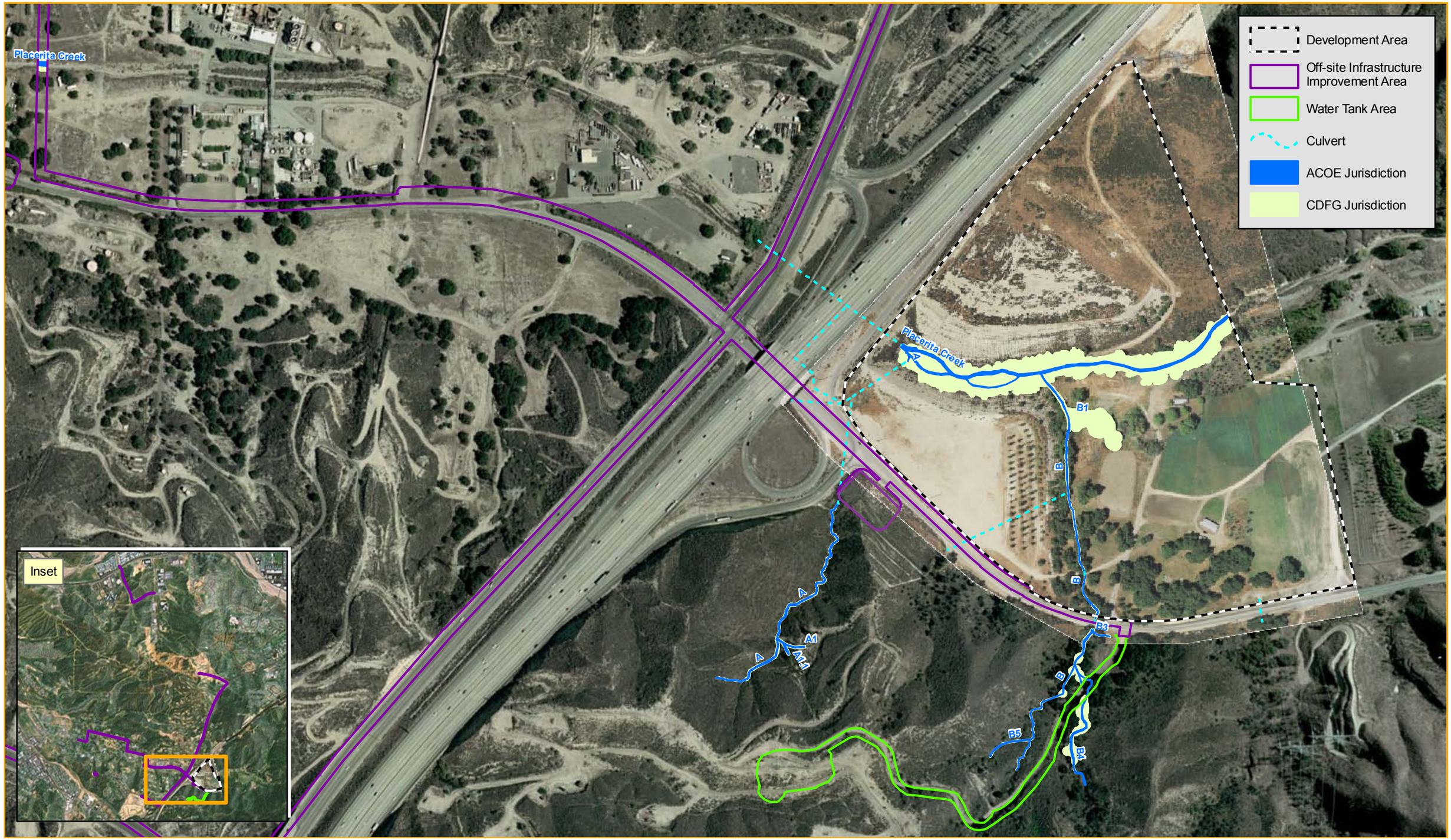
whereupon it flows off of the road and back into its historic channel. The road does not sever the connection between flows upstream and downstream. As part of the Proposed Project, an Arizona crossing will be constructed to handle flows from tributary B4.

Placerita Creek and its tributaries are characterized generally as having ephemeral flows, meaning they carry flows only during and immediately following storm events and are typically only supported by precipitation and stormwater runoff. Due to this ephemeral hydrology, most of the on-site tributaries support upland plant communities and well drained soils. None of the drainage features in the study area support wetlands.

There is a culverted road crossing within the creek in the Development Area as well as some concrete debris and a small amount of trash within the creek and some of its tributaries. As part of the Proposed Project, the culverted road crossing will be replaced by a bridge, which will span the CDFG-jurisdictional area of the creek.

4.0 SUMMARY AND CONCLUSIONS

The creek and its two tributary systems mapped in the study area, likely would be considered jurisdictional "waters of the U.S." under Sections 404 and 401 of the Clean Water Act (CWA), and are jurisdictional "waters of the State" under the Porter Cologne Water Quality Control Act and Section 1600 of the California Fish and Game Code (FGC). Therefore, all of these drainage features are regulated by all three agencies. A final Jurisdictional Determination must be completed by the ACOE. Any proposed impacts to these features likely would require permit approvals by the various resource agencies.



0 350 700 Feet

Jurisdictional Features
Disney | ABC Studios at The Ranch

Source: DEA, 2009; PCR Services Corporation, 2010.

FIGURE
3

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5.0 SUMMARY OF JURISDICTION

Three key agencies regulate activities within inland streams, wetlands, and riparian areas in California. The ACOE Regulatory Program regulates activities pursuant to Section 404 of the CWA and Section 10 of the Rivers and Harbors Act of 1899 (RHA), the CDFG regulates activities under FGC Sections 1600-1616, and the RWQCB regulates activities under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act.

5.1 Regulatory Agencies

5.1.1 U.S. Army Corps of Engineers

The ACOE regulates the "discharge of dredged or fill material" into "waters of the U.S.," which includes all waters currently used, used in the past, or susceptible to use in interstate or foreign commerce, waters subject to the ebb and flow of the tide, all interstate waters, all other waters, including intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce, or any other waters that are part of a tributary system to interstate waters or to navigable "waters of the U.S.," (33 C.F.R. 328.3(a)), pursuant to provisions of Section 404 of the CWA.

The ACOE generally takes jurisdiction within rivers and streams to the "ordinary high water mark" (OHWM) determined by erosion, the deposition of sediments or debris, and changes in vegetation. The ACOE defines wetlands as "those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." (33 C.F.R. 328.3(b)). In accordance with the ACOE's *Wetland Delineation Manual* (Environmental Laboratory 1987) and subsequent guidance provided in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (Environmental Laboratory 2008), a wetland ecosystem must possess wetland hydrology and support hydrophytic vegetation and hydric soils.

Over the years, the ACOE has modified its regulations, typically due to evolving policy or judicial decisions, through the issuance of Regulatory Guidance Letters (RGL), memoranda, or more expansive instructional guidebooks. These guidance documents help to update and define how jurisdiction is claimed, and how these "waters of the U.S." will be regulated. The most recent modification was issued on June 26, 2008 in the form of RGL No. 08-02, which defines the use, review criteria, and applicability of requesting an Approved or Preliminary Jurisdictional Determination. The most significant modification in recent years was issued on June 5, 2007, when the ACOE and the U.S. Environmental Protection Agency (EPA) jointly issued a series of guidance documents outlining the requirements and procedures, effective immediately, to establish jurisdiction under Section 404 of the CWA and the Section 10 of the RHA (ACOE and EPA 2006). These documents are intended to be used for all jurisdictional delineations, and also provide specific guidance for the jurisdictional determination of potentially jurisdictional features affected by the United States Supreme Court rulings in *Rapanos v. U.S.* and *Carabell v.U.S,* 547 U.S. 715 (2006) (jointly referred to as "Rapanos").

The *Rapanos* case outlines the conditions and criteria used by the ACOE to assess and claim jurisdiction over non-navigable, ephemeral tributaries. Under a plurality ruling, the Court noted that certain "not relatively permanent" (i.e. ephemeral), non-navigable tributaries must have a "significant nexus" to downstream traditional "navigable waters of the U.S." (TNW) to be jurisdictional. An ephemeral tributary has a significant

nexus to a downstream "navigable water of the U.S." when it has "more than a speculative or an insubstantial effect on the chemical, physical, and/or biological integrity of a TNW." A significant nexus is established through the consideration of a variety of hydrologic, geologic and ecological factors specific to the particular drainage feature in question.

In addition, on January 15, 2003, the ACOE and EPA issued a Joint Memorandum to provide clarifying guidance regarding the United States Supreme Court ruling in the *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers* (99-1178), 531 U.S. 159 (2001) ("the SWANCC case") (Federal Register: Vol. 68, No. 10.) This ruling held that the CWA does not give the federal government regulatory authority over non-navigable, isolated, intrastate waters. As a result of this decision, some previously regulated depressional areas, such as mudflats, sandflats, wetlands, prairie potholes, wet meadows, playa lakes, natural ponds, and vernal pools, which are not hydrologically connected to other intra- or inter-state "waters of the U.S.," are no longer regulated by the ACOE.

However, these not relatively permanent or isolated features may still be regulated by CDFG under FGC Section 1600 or the RWQCB under the Porter-Cologne Water Quality Act. A detailed discussion of the regulatory requirements of Section 404 of the CWA is included in Section 6.0.

5.1.2 California Department of Fish and Game

In accordance with Section 1600, *et seq*., of the FGC, CDFG regulates activities which "will substantially divert, obstruct, or substantially change the natural flow or bed, channel or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit." The CDFG takes jurisdiction to the top of bank of the stream or the limit of the adjacent riparian vegetation, when present.

5.1.3 Regional Water Quality Control Board

The RWQCB regulates "discharging waste, or proposing to discharge waste, within any region that could affect 'waters of the State'" (Water Code § 13260 (a)), pursuant to provisions of the Porter-Cologne Water Quality Control Act. "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the State" (Water Code § 13050 (e)). Before the ACOE will issue a CWA Section 404 permit, applicants must receive a CWA Section 401 Water Quality Certification from the RWQCB. If a CWA Section 404 permit is not required for the project, the RWQCB may still require a permit (i.e., Waste Discharge Requirement) under the Porter-Cologne Water Quality Control Act.

5.2 Activities Requiring Permitting

Any development which would impact jurisdictional drainages, streams, and/or wetlands through filling, stockpiling, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, or any other modifications, would require permits from the ACOE, RWQCB, and the CDFG before any development could commence within the Development Area. Both permanent and temporary impacts are regulated and would trigger the need for these permits. Processing of the CWA Section 401 and FGC Section 1602 permits could occur concurrently with the ACOE permit process and could use the same information and analysis. Applications to the CDFG and RWQCB must include a complete, certified California Environmental Quality Act (CEQA) document. A detailed discussion of the regulatory permitting process is included in Section 6.0 of this report.

6.0 SUMMARY OF REGULATORY PROCESS

Any impacts to jurisdictional waters in the Development Area and the study area would require permits from the ACOE, CDFG, and the RWQCB.

This discussion concentrates on the ACOE permit because the processing time of an Individual Permit (IP) or Nationwide Permit (NWP) generally drives the other permits. A brief summary of all the required permits and the regulatory process follows.

Section 404

Section 404 of the CWA regulates the discharge of dredged material, placement of fill material, or excavation within "waters of the U.S." and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. Permits can be issued for individual projects (individual permits) or for general categories of projects (general permits). "Waters of the U.S." are defined by the CWA as "rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands." Wetlands are defined by the CWA as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions."

Once the limits of ACOE jurisdiction are determined and an application is submitted to the ACOE, the ACOE determines whether or not the activity meets the terms and conditions of one of the NWPs. If a project qualifies for one of the NWPs, a letter may be issued verifying compliance with the NWP program. Verification of compliance may be conditioned with specific terms regarding construction protocol, use of best management practices, avoidance of endangered species habitat, and mitigation requirements to ensure that the project will have minimal incremental or cumulative impacts to aquatic resources. If a project meets the general terms and conditions of a NWP, but will result in greater than minimal impacts, the District Engineer may take discretionary authority and require the project to be processed as an IP. The review process for a NWP is generally less extensive than for an IP and can often be completed within 30 days. The Proposed Project may possibly be covered under the following NWPs: NWP 13, Bank Stabilization, NWP 26, Structural Discharges, NWP 39, Commercial and Institutional Developments, and NWP 43, Stormwater Management Facilities.

Projects that cannot be permitted under a NWP must undergo a more extensive review under the IP process, which typically takes a minimum of 120 days. The ACOE decides whether to issue an IP based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity. According to ACOE regulations, permits should not be issued for activities that will create "significant" degradation of the "waters of the U.S." or have "significantly adverse effects on wetlands values." However, the CWA provides no clear definition of "significant."

The evaluation process for an IP is based on guidelines established under Section 404(b)(1) of the CWA and on the "public interest review" procedures. The public interest review involves a broad, qualitative evaluation of a project's benefits and detriments. ACOE regulations have identified twenty-one factors that are relevant to permit review. These factors are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership, and the

general needs and welfare of the people. The public interest review is facilitated by the issuance of a fifteen to thirty-day Public Notice soliciting comments from the public and resource agencies, such as the U.S. Fish and Wildlife Service (USFWS), EPA and CDFG regarding the proposed project. A public hearing may be held for highly controversial projects.

The Section 404(b)(1) guidelines are often considered the driving force in the ACOE permit process. The 404(b)(1) guidelines prohibit discharges of dredged or fill material if there is a less environmentally damaging practicable alternative. Practicability is determined based on technological, economic, social, and logistical considerations. If a proposed project has greater-than-significant impacts, attempts must be made to avoid and minimize impacts. Impacts that cannot be avoided must be mitigated to a level where the net impacts to "waters of the U.S." are not significant. In some cases, projects that result in significant impacts may be permitted if they provide a substantial benefit to the public, such as projects affecting national security or considerable production of energy.

The ACOE must ensure that permitted projects comply with all other applicable federal resource protection laws such as the Endangered Species Act, the National Historic Preservation Act, and the Coastal Zone Management Act. In addition, certification that the proposed activity will comply with all applicable effluent limitations and water quality standards of Section 401 of the CWA is needed prior to issuance of a Section 404 permit. The need for a Section 404 permit constitutes a federal action under the National Environmental Policy Act (NEPA). Therefore, during the review of a proposed project, an Environmental Assessment is prepared according to NEPA guidelines. If the impacts of the proposed activity are determined to be significant according to NEPA, an Environmental Impact Statement must be prepared and reviewed according to all NEPA requirements.

If a proposed project complies with all the NEPA requirements and the 404(b)(1) guidelines, is determined not to be contrary to the public interest, and does not violate any federal resource protection laws, the ACOE will issue an IP authorizing the proposed discharge of dredged or fill material into "waters of the U.S." or wetlands. If a proposed project violates any of the above, then the ACOE must deny the Section 404 permit.

Section 401

Section 401 of the CWA requires that:

> Any applicant for a Federal permit for activities that involve a discharge to "waters of the State," shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act.

Therefore, before the ACOE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification from the RWQCB. Applications to the RWQCB must include a complete CEQA document (e.g., Negative Declaration or EIR). Processing of a water quality certification generally takes 60 days, but the ACOE may grant the RWQCB time extensions of up to one year. A 21-day public comment period is included in the processing of the Water Quality Certification. The RWQCB may add conditions to their certification to remove or mitigate potential impacts to water quality standards. Such conditions must ultimately be included in the Federal Section 404 permit. The State Water Quality regulations contain an

"aggrieved party provision" that allows any person or group who objects to the issuance of a water quality certification to petition the State Water Board to reconsider the RWQCB decision within 30 days of issuance.

Under separate authorities granted by State law (i.e., the Porter-Cologne Water Quality Control Act), a RWQCB may choose to regulate discharges of dredge or fill materials by issuing or waiving (with or without conditions) Waste Discharge Requirements, a type of State discharge permit, instead of taking a Water Quality Certification action. Processing of a WDR is similar to that of a Section 401 certification; however, the RWQCB has slightly more discretion to add conditions to a project under the Porter-Cologne Act than under the CWA.

1601/1603 Agreement

Section 1602 of the FGC requires that any person, State or local governmental agency, or public utility that proposes to "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake" to notify the CDFG before beginning the project.

Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. Based on the notification materials submitted to the CDFG and, if necessary, an investigation of the project area by the CDFG, the CDFG determines if the proposed project may impact fish or wildlife resources.

If the CDFG determines that a proposed project may substantially adversely affect existing fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. A completed CEQA document must be submitted to the CDFG before it will issue a Streambed Alteration Agreement. Within sixty days of receipt of a complete notification package, the CDFG will propose measures necessary to protect the fish or wildlife that the project could affect. The applicant has 30 days after receiving the CDFG's proposed measures to notify it in writing whether they accept them, unless this time period is extended by mutual agreement. If the measures are acceptable, the Streambed Alteration Agreement will be issued. If the measures are not acceptable, the applicant may request a meeting with the CDFG. The CDFG shall meet with the applicant within fourteen days from the date the CDFG receives the request or by some other mutually agreed upon date for the purpose of developing measures that are acceptable to both the applicant and the CDFG. If an agreement is not reached with the CDFG on acceptable protection measures, an arbitration panel will be established to resolve any disagreements. If a panel is requested, it must be established within fourteen days of receipt of a written request. The arbitration panel will be composed of a representative from the CDFG, the applicant, and a mutually agreed upon third person who will act as the panel chair. The panel must complete the arbitration within fourteen days from the date the panel is established unless a time extension is mutually agreed upon. The CDFG, the applicant, or any party affected by a panel decision may appeal the decision to the court to confirm, correct, or vacate the decision in accordance with Section 1285, et seq., of the Code of Civil Procedure.

Once the applicant and the CDFG accept or agree on measures necessary to protect fish or wildlife resources, the CDFG will incorporate these measures into a draft Lake or Streambed Alteration Agreement for review and signature.

Section 7 Endangered Species Consultation

This process is required only if the proposed project would affect a threatened or endangered species or designated critical habitat. The process begins when the federal agency (the ACOE) completes a Biological Assessment and formally requests to initiate consultation. The ACOE, in cooperation with the applicant, coordinates with the USFWS regarding avoidance and minimization of impacts to endangered or threatened species and their habitat. After these avenues have been exhausted, the USFWS will recommend mitigation that will allow a "take" of individual species along with occupied habitat. The USFWS will then issue a Biological Opinion (BO), which is required before the ACOE can make a permit decision. By the regulations, the USFWS has 90 days from the initiation of consultation in which to complete the biological assessment and 45 days to write the BO. However, the ACOE and the USFWS can agree to a 60-day extension without approval from the applicant. If there are substantial impacts to endangered species, the USFWS can issue an opinion that the proposed project would jeopardize the continued existence of the species, which would result in a permit denial from the ACOE. If there are no substantial impacts, the USFWS will issue a "no jeopardy" decision with specific terms and conditions to allow the project to move forward.

Although past biological surveys have not found any endangered or threatened species on the Development Area, the need for a Section 7 consultation for the Proposed Project will be determined upon the completion of the surveys to be conducted in spring 2010 within the Development Area and associated off-site areas for the least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), coastal California gnatcatcher (*Polioptila californica californica*), arroyo toad (*Bufo californicus*), and the western spadefoot toad (*Spea hammondi*). Due to the highly disturbed conditions that exist over the majority of the Development Area and off-site areas, the, at best, marginal habitat present would not likely support the aforementioned wildlife species.

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Appendix F.8

Preliminary Fuel Modification Plan

COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294

(323) 890-4330

DARYL L. OSBY
FIRE CHIEF
FORESTER & FIRE WARDEN

Deanna W. Detchemendy
RECEIVED

SEP 13 2011

(hand delivered by Richard Ballering)

August 30, 2011

Deanna Detchemendy
19802 Placerita Canyon Road
Newhall, CA 91321

Dear Ms. Detchemendy:

FUEL MODIFICATION PLAN – 19802 PLACERITA CANYON ROAD, NEWHALL
PARCEL #2848-019-009 - FM PROJECT #4478 – FFFP 201000002

The Preliminary Fuel Modification Plan has been reviewed and approved. The project is approved in concept, and needs to be resubmitted for final review and approval prior to granting building permits. The Land Development Unit of the County of Los Angeles Fire Department has been notified that this plan has been approved.

Questions regarding this response should be directed to Deputy Forester Keith Condon or Forestry Assistant Larinda Pontes at the Fuel Modification Unit. Office hours are Monday through Friday, from 8:00 a.m. to 5:00 p.m. The Fuel Modification Unit may be reached at (626) 969-5205.

Very truly yours,

KEVIN T. JOHNSON, ASSISTANT CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

KTJ:lp

Enclosures

DUDEK

MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 760.942.5147 T 800.450.1818 F 760.632.0164

April 26, 2012 6450-03

VIA U.S. MAIL

Ms. Ashley Rogers
Principal Planner
Matrix Environmental
6701 Center Drive West, Suite 900
Los Angeles, California 90045

Subject: ***Disney | ABC Studios at The Ranch Preliminary Fuel Modification Plan***

Dear Ms. Rogers,

After the completion of the Preliminary Fuel Modification Plan and approval of the Plan by the County of Los Angeles Fire Department on August 30, 2011, minor modifications to the Project were made. In particular, the Development Area was increased from 56 acres to approximately 58 acres and an associated change to the Development Area boundary was made. These changes will be reflected in the Final Fuel Modification Plan to be prepared based on the Project's final design plans, which will be submitted to the Los Angeles County Fire Department's Forestry Division for review and approval in accordance with Fire Code requirements. In addition, the elevation of the southern portion of the Development Area (i.e., south of Placerita Creek) was increased by approximately five feet to improve circulation through the Development Area. This vertical change was made uniformly across the southern portion of the Development Area. Other minor changes to the design of certain drainage improvements and vehicular access between the Development Area and the eastern portion of the Ranch were also made that are not relevant to the Fuel Modification Plan. These latter changes do not affect the Plan. Further, all suggested mitigation measures would continue to be implemented, in addition to compliance with all applicable regulatory requirements.

While the Preliminary Fuel Modification Plan may reflect slightly different Project conditions than addressed in the Draft EIR, any applicable changes will be reflected in the Final Fuel Modification Plan, and with the Project design features and mitigation measures set forth in the Draft EIR, the Project's impacts on the environment would remain less than significant.

Very truly yours,

Scott W. Eckardt

Scott Eckardt, RPF #2835
DUDEK

cc: *Ms. Christina Tran*
County of Los Angeles Department of Regional Planning

PROJECT LOCATION

1. ADDRESS: 19802 PLACERITA CANYON ROAD NEWHALL, CALIFORNIA 91321.
2. COUNTY OF LOS ANGELES ASSESORS PARCEL NUMBERS: 2848-009-037; PORTION OF 2848-009-038; 2848-009-008; 2848-019-009; 2848-019-010; 2848-019-011; 2848-019-012; 2848-019-013.
3. THE PROJECT IS LOCATED WITHIN SECTION 6, TOWNSHIP 3 NORTH, RANGE 15 WEST, SBB&M and SECTION 31, TOWNSHIP 4 NORTH, RANGE 15 WEST, SBB&M.
4. THE PROJECT IS LOCATED WITHIN A VERY HIGH FIRE HAZARD SEVERITY ZONE (VHFHSZ) BASED ON COUNTY OF LOS ANGELES GIS DATA.

LAND USE AND ZONING:

1. EXISTING LAND USE: VACANT, OUTDOOR PARKING, MOTION PICTURE/TELEVISION FILMING AND AGRICULTURAL USES
2. PROPOSED LAND USE: COMMERCIAL
3. EXISTING ZONING: A-2-1
4. PROPOSED ZONING: C-M-DP
5. TOTAL NUMBER OF LOTS: 20

LEGAL DESCRIPTION:

PARCEL E:
THAT PORTION OF LOT 1 AND THE SOUTH HALF OF THE NORTHEAST QUARTER OF SECTION 6 IN TOWNSHIP 3 NORTH, RANGE 15 WEST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT OF SAID LAND FILED IN THE DISTRICT LAND OFFICE JANUARY 25, 1875, WITHIN THE FOLLOWING DESCRIBED BOUNDARY:

BEGINNING AT THE NORTHEAST CORNER OF SAID SECTION 6; THENCE SOUTH ALONG THE EAST LINE OF SAID SECTION TO THE EAST QUARTER CORNER; THEN WEST 1115.60 FEET ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION; THENCE NORTH PARALLEL TO THE EAST LINE OF SAID SECTION TO THE NORTHERLY LINE OF SAID SECTION; THENCE EASTERLY ALONG THE NORTHERLY LINE OF SAID SECTION TO THE POINT OF BEGINNING.

EXCEPT THEREFROM THOSE PORTIONS TRANSFERRED TO THE CITY OF LOS ANGELES BY VIRTUE OF THAT CERTAIN DEED DATED FEBRUARY 23, 1981 AND RECORDED JUNE 2, 1981 IN THE OFFICIAL RECORDS OF LOS ANGELES COUNTY, CALIFORNIA, AS INSTRUMENT NO. 81-545064, SUBJECT TO ALL RESERVATIONS CONTAINED THEREIN.

PARCEL H:
THOSE PORTIONS OF LOTS 7, 8, AND 9 OF SECTION 31, T 4 N, R 15 W, SBM, ACCORDING TO THE OFFICIAL PLAT OF SAID LAND ON FILE IN THE OFFICE OF THE BUREAU OF LAND MANAGEMENT, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEASTERLY CORNER OF SAID LOT 7; THENCE ALONG THE EASTERLY LINE OF SAID LOT N 0 28' 13" W, 413.41 FEET TO THE SOUTHWESTERLY TERMINUS OF THAT COURSE HAVING A BEARING AND DISTANCE OF S 54 58' 30" W, 85.84 FEET AS DESCRIBED IN DEED (STATE PARCEL C994) RECORDED IN BOOK D4328, PAGE 885 OF OFFICIAL RECORDS, IN SAID OFFICE; THENCE ALONG SAID COURSE AND THAT COURSE HAVING A BEARING AND DISTANCE OF S 46 20' 05" E, 24.00 FEET AS DESCRIBED IN SAID DEED (STATE PARCEL C994), N 54 58' 30" E, 85.84 FEET AND N 46 20' 05" W, 24.00 FEET; THENCE ALONG THE NORTHWESTERLY PROLONGATION OF LAST SAID COURSE N 46 20' 05" W, 74.50 FEET TO A POINT IN THE EASTERLY LINE OF THE WEST HALF OF SAID LOT 9; DISTANCE THEREON N 0 28' 13" W, 530.69 FEET FROM SAID SOUTHEASTERLY CORNER OF LOT 7; THENCE S 43 02' 55" W, 325.02 FEET; THENCE S 36 15' 30" W, 100.84 FEET; THENCE S 44 14' 17" W, 200.01 FEET; THENCE S 48 14' 23" W, 50.16 FEET; THENCE S 42 26' 16" W, 79.33 FEET TO THE SOUTHERLY LINE OF SAID SECTION; THENCE ALONG SAID SOUTHERLY LINE N 87 24' 21" E, 516.87 FEET TO THE POINT OF BEGINNING.

EXCEPT THEREFROM THOSE PORTIONS TRANSFERRED TO THE CITY OF LOS ANGELES BY VIRTUE OF THAT CERTAIN DEED DATED FEBRUARY 23, 1981 AND RECORDED JUNE 2, 1981 IN THE OFFICIAL RECORDS OF LOS ANGELES COUNTY, CALIFORNIA, AS INSTRUMENT NO. 81-545064, SUBJECT TO ALL RESERVATIONS CONTAINED THEREIN.

PARCEL I:
THOSE PORTIONS OF LOT 8 AND OF THE EAST HALF OF LOT 9 IN SECTION 31, TOWNSHIP 4 NORTH, RANGE 15 WEST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT OF SAID LAND, DESCRIBED AS A WHOLE AS FOLLOWS:

BEGINNING AT THE SOUTHEASTERLY CORNER OF SAID SECTION; THENCE ALONG THE SOUTHERLY LINE OF SAID SECTION, SOUTH 87 24' 21" WEST 1077.04 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTH 2 35' 39" WEST 661.45 FEET TO THE SOUTHEASTERLY LINE OF THE LAND CONVEYED TO THE STATE OF CALIFORNIA FOR FREEWAY PURPOSES (ANTELOPE VALLEY FREEWAY) BY DEED RECORDED APRIL 4, 1969 AS DOCUMENT NO. 285 IN BOOK D-4328, PAGE 885, OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY; THENCE ALONG SAID SOUTHEASTERLY LINE, SOUTH 37 50' 29" WEST 138 FEET TO AN ANGLE POINT THEREIN; THENCE CONTINUING ALONG SAID SOUTHEASTERLY LINE THE FOLLOWING COURSES:

SOUTH 47 47' 00" WEST 125.32 FEET, SOUTH 46 20' 05" EAST, 24 FEET AND SOUTH 54 58' 30" WEST, 85.84 FEET TO THE MOST SOUTHERLY CORNER OF SAID LAND, BEING A POINT IN THE WEST LINE OF SAID LOT 8, DISTANT THEREON NORTH 0 28' 13" WEST 413.41 FEET FROM SAID SOUTHERLY LINE OF SAID SECTION; THENCE ALONG SAID WEST LINE SOUTH 0 28' 13" EAST 413.41 FEET TO SAID SOUTHERLY LINE; THENCE ALONG SAID SOUTHERLY LINE, NORTH 87 24' 21" EAST 257.21 FEET TO THE TRUE POINT OF BEGINNING.

EXCEPT THEREFROM THOSE PORTIONS TRANSFERRED TO THE CITY OF LOS ANGELES BY VIRTUE OF THAT CERTAIN DEED DATED FEBRUARY 23, 1981 AND RECORDED JUNE 2, 1981 IN THE OFFICIAL RECORDS OF LOS ANGELES COUNTY, CALIFORNIA, AS INSTRUMENT NO. 81-545064, SUBJECT TO ALL RESERVATIONS CONTAINED THEREIN.

PARCEL K:
LOTS 1, 2 AND 3 AND THE SOUTH HALF OF THE NORTHEAST QUARTER; AND ALSO THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, ALL IN SECTION 6, TOWNSHIP 3 NORTH, RANGE 15 WEST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT OF SAID LAND FILED IN THE DISTRICT LAND OFFICE, JANUARY 21, 1875.

EXCEPT THEREFROM THAT PORTION THEREOF DESCRIBED AS FOLLOWS:

THE SURFACE AND 500 FEET OF THE SUBSURFACE VERTICALLY IN DEPTH BELOW THE SURFACE OF THE FOLLOWING DESCRIBED PROPERTY SITUATE IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SAID SURFACE EXISTED ON AUGUST 19, 1963, TO-WIT:

THAT PORTION OF LOT 1 AND THE SOUTH HALF OF THE NORTHEAST QUARTER OF SECTION 6 IN TOWNSHIP 3 NORTH, RANGE 15 WEST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT OF SAID LAND FILED IN THE DISTRICT LAND OFFICE JANUARY 25, 1875, WITHIN THE FOLLOWING DESCRIBED BOUNDARY:

BEGINNING AT THE NORTHEAST CORNER OF SAID SECTION 6; THEN SOUTH ALONG THE EAST LINE OF SAID SECTION TO THE EAST QUARTER CORNER; THEN WEST 1115.60 FEET ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION; THEN NORTH PARALLEL TO THE EAST LINE OF SAID SECTION TO THE NORTHERLY LINE OF SAID SECTION; THENCE EASTERLY ALONG THE NORTHERLY LINE OF SAID SECTION TO THE POINT OF BEGINNING.

ALSO EXCEPT THEREFROM, THE SURFACE AND THAT PORTION OF THE SUBSURFACE LYING ABOVE A DEPTH OF 100 FEET MEASURED VERTICALLY DOWNWARD FROM SAID SURFACE, OF THAT PORTION OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 6, QUITCLAIMED AND SURRENDERED TO THE COUNTY OF LOS ANGELES BY PARCEL 33.6 OF THAT CERTAIN DOCUMENT DATED MAY 22, 1970 AND RECORDED ON NOVEMBER 24, 1970 AS INSTRUMENT NO. 3334 IN BOOK D4898, PAGE 203, OFFICIAL RECORDS IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

ALSO EXCEPT THEREFROM THOSE PORTIONS LYING WITHIN THE LINES OF THE 205 FOOT WIDE AND 120 FOOT WIDE STRIPS OF LAND AS DESCRIBED IN PARCEL NOS. 20-D, 20-E, 20-F, AND 20-G OF THE DEED TO THE CITY OF LOS ANGELES, RECORDED ON DECEMBER 30, 1970 AS INSTRUMENT NO. 46 IN BOOK D4929, PAGE 135, OFFICIAL RECORDS.

ALSO EXCEPT THEREFROM THOSE PORTIONS OF SAID LAND DESCRIBED IN THAT CERTAIN DEED TO THE STATE OF CALIFORNIA, RECORDED APRIL 5, 1976, AS INSTRUMENT NO. 41, OFFICIAL RECORDS.

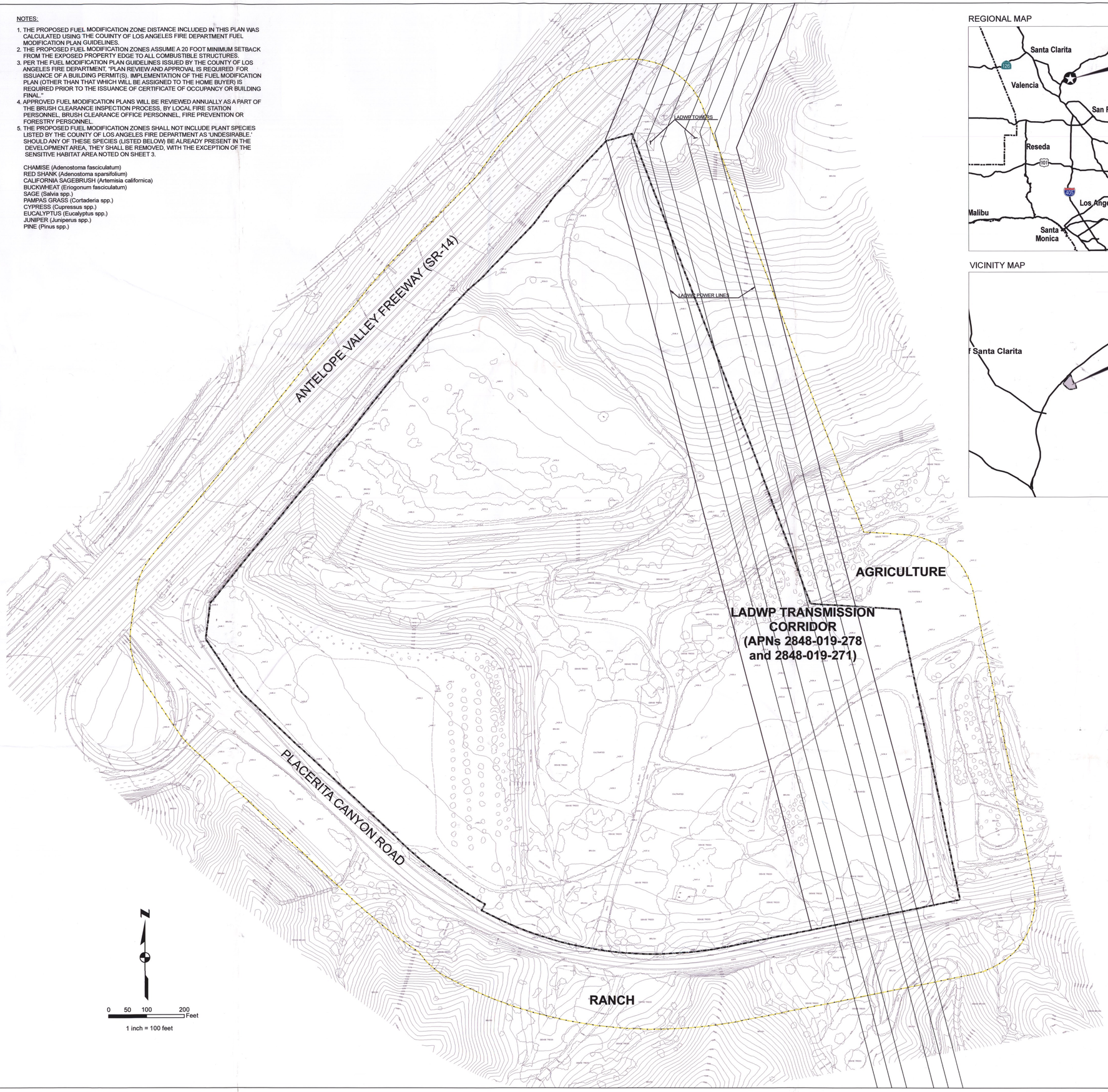
ALSO EXCEPT THEREFROM THOSE PORTIONS OF SAID LAND, DESCRIBED IN THAT CERTAIN DEED TO THE CITY OF LOS ANGELES, RECORDED MAY 18, 1981, AS INSTRUMENT NO. 81-490750, OFFICIAL RECORDS.

ALSO EXCEPT FROM THE REMAINDER THEREOF, THAT PORTION WHICH LIES NORTHWESTERLY OF THAT PORTION OF THE BOUNDARY OF THE ANTELOPE VALLEY FREEWAY DESCRIBED IN PARCEL 1 (C 990-32, -33, PORTIONS OF C 990, C 990-1, -2, -3, -21 AND -22) IN THE DEED TO THE STATE OF CALIFORNIA BY DOCUMENT RECORDED APRIL 5, 1976 AS INSTRUMENT NO. 41, AS HAVING LENGTHS OF 1919.41 FEET, 700.39 FEET, AND 34.26 FEET.

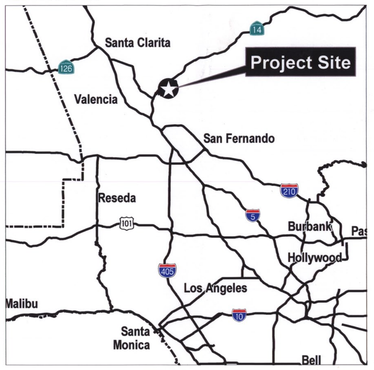
NOTES:

1. THE PROPOSED FUEL MODIFICATION ZONE DISTANCE INCLUDED IN THIS PLAN WAS CALCULATED USING THE COUNTY OF LOS ANGELES FIRE DEPARTMENT FUEL MODIFICATION PLAN GUIDELINES.
2. THE PROPOSED FUEL MODIFICATION ZONES ASSUME A 20 FOOT MINIMUM SETBACK FROM THE EXPOSED PROPERTY EDGE TO ALL COMBUSTIBLE STRUCTURES.
3. PER THE FUEL MODIFICATION PLAN GUIDELINES ISSUED BY THE COUNTY OF LOS ANGELES FIRE DEPARTMENT, "PLAN REVIEW AND APPROVAL IS REQUIRED FOR ISSUANCE OF A BUILDING PERMIT(S). IMPLEMENTATION OF THE FUEL MODIFICATION PLAN (OTHER THAN THAT WHICH WILL BE ASSIGNED TO THE HOME BUYER) IS REQUIRED PRIOR TO THE ISSUANCE OF CERTIFICATE OF OCCUPANCY OR BUILDING FINAL."
4. APPROVED FUEL MODIFICATION PLANS WILL BE REVIEWED ANNUALLY AS A PART OF THE BRUSH CLEARANCE INSPECTION PROCESS, BY LOCAL FIRE STATION PERSONNEL, BRUSH CLEARANCE OFFICE PERSONNEL, FIRE PREVENTION OR FORESTRY PERSONNEL.
5. THE PROPOSED FUEL MODIFICATION ZONES SHALL NOT INCLUDE PLANT SPECIES LISTED BY THE COUNTY OF LOS ANGELES FIRE DEPARTMENT AS 'UNDESIRABLE.' SHOULD ANY OF THESE SPECIES (LISTED BELOW) BE ALREADY PRESENT IN THE DEVELOPMENT AREA, THEY SHALL BE REMOVED, WITH THE EXCEPTION OF THE SENSITIVE HABITAT AREA NOTED ON SHEET 3.

CHAMISE (Adenostoma fasciculatum)
RED SHANK (Adenostoma sparsifolium)
CALIFORNIA SAGEBRUSH (Artemisia californica)
BUCKWHEAT (Eriogonum fasciculatum)
SAGE (Salvia spp.)
PAMPAS GRASS (Cortaderia spp.)
CYPRESS (Cupressus spp.)
EUCALYPTUS (Eucalyptus spp.)
JUNIPER (Juniperus spp.)
PINE (Pinus spp.)



REGIONAL MAP



VICINITY MAP

#4478
COUNTY OF LOS ANGELES
FIRE DEPARTMENT
FIRE PREVENTION BUREAU
PRELIMINARY
FUEL MODIFICATION PLAN
APPROVED
FMPP-201000004
By [illegible] Date 3/14/11
FUEL MODIFICATION UNIT
The stamping of this plan and specifications SHALL NOT be held to permit or to be approved the violation of any provisions of any County/City or State law.

PRELIMINARY FUEL MODIFICATION PLAN
VTTM 71216
County of Los Angeles, California

OWNER:
GOLDEN OAK RANCH PROPERTIES
19802 PLACERITA CANYON ROAD
NEWHALL, CALIFORNIA 91321

DUDEK
111 PACIFICA, SUITE 230
IRVINE, CA 92618
949.450.2525

Revisions:
No. Date

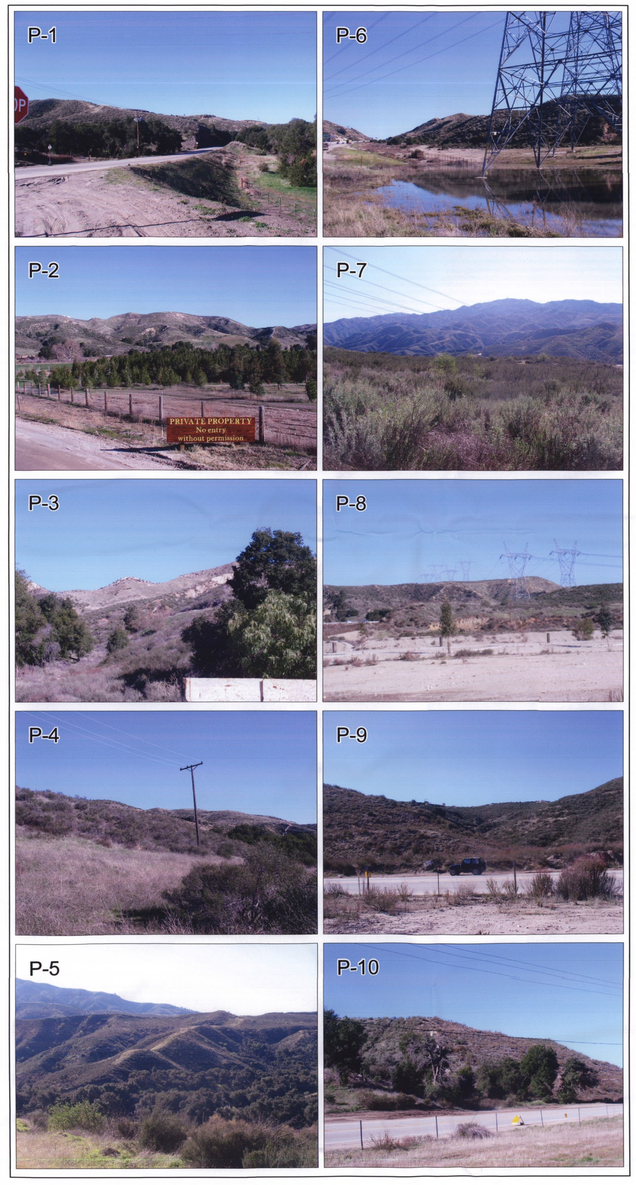
Date: 2/17/2011

Job No. 6450

Sheet No.:
1 OF 4

EXISTING SITE CONDITIONS

SITE PHOTOGRAPHS



Land Cover

AG - Agricultural

BW/CC - Buckwheat Scrub/Chamise Chaparral

CSS - Coastal Sage Scrub

CLO - Coast Live Oak Woodland

dBW/CC - Disturbed - Buckwheat Scrub/Chamise Chaparral

DST - Disturbed/Developed

MWRW - Mixed Willow Riparian Woodland

ORN - Ornamental Vegetation

SWS - Southern Willow Scrub

TRANS - Transportation

Oak Tree Locations (Quercus agrifolia)

Oak Tree Canopy Dripline

Development Area

200 foot Buffer of Development Area

P-1 ► Photo Location and Designation

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Development Area
Grading Limits
Permanent Drainage Structures
Permanent Non-Combustible Access Roads
Temporary Construction Access Roads
Sensitive Habitat Boundary
Retained Oak Trees (Quercus agrifolia)

General Notes:

1. All existing vegetation within the limits of grading, as shown on this Plan, will be removed, with noted exception within the creek area, as denoted by Specific Note #6. Fuel Modification Zone planting within the grading area shall adhere to the standards included in the County of Los Angeles Fire Department Fuel Modification Plan Guidelines.
2. Vegetative cover in proposed Fuel Modification Zones for areas outside the limits of grading is detailed in Specific Notes #4 through #6 below.
3. All vegetation within the creek area and adjacent embankments (depicted in this Plan as Zone C – Creek Zone) will be removed, except as noted in Specific Note #6. Replacement vegetation and management is detailed in the zone descriptions included in this Plan.

Specific Notes:

(1) The proposed substation will be enclosed by either a 10 foot tall perimeter fence or a concrete block wall. The tallest structure in the substation would be a 29 foot high by 22 foot wide steel structure installed at a setback of about 12 feet from the fence/wall. In addition to the electrical equipment in the substation yard, there would be a 16 foot by 20 foot control room to house the protective relays, controls, and communication equipment for the substation. A good portion of the ground surface would be left clear with a gravel base to create a safe clearance between the high voltage equipment and the perimeter fence/wall.

(2) Sensitive gnatcatcher habitat avoidance area. Adjacent fuel modification has been adjusted from the standard to accommodate this avoidance area. Adjacent fuel modification includes a 20 foot A Zone, a 50 foot B Zone and a small portion of reduced C Zone.

(3) Portions of the proposed Fuel Modification Zones occur within the transmission corridor on Los Angeles Department of Water and Power (LADWP) property. Any Fuel Modification Zone, or portion thereof, which occurs on LADWP property will be maintained in accordance with CLAFD standards and under agreement with the LADWP.

(4) Existing Vegetation Includes:
1. California buckwheat (Eriogonum fasciculatum)
2. Chamise (Adenostoma fasciculatum)
3. California sagebrush (Artemisia californica)
4. Toyon (Heteromeles arbutifolia)
5. Scrub oak (Quercus berberidifolia)
6. Wild oat (Avena fatua)
7. Ripgut grass (Bromus diandrus)
8. Foxtail chess (Bromus madritensis)
9. Wild mustard (Brassica nspp.)
10. Black mustard (Brassica nigra)

(5) Existing Vegetation includes:
1. Coast live oak (Quercus agrifolia)
2. Ripgut grass (Bromus diandrus)
3. Foxtail chess (Bromus madritensis)
4. Mexican elderberry (Sambucus mexicana)
5. Short-podded mustard (Hirschfeldia incana)
6. Wild oat (Avena fatua)

(6) Existing Vegetation includes:
1. Arroyo willow (Salix lasiolepis)
2. Red willow (Salix laevigata)
3. Mule fat (Baccharis salicifolia)
4. Mugwort (Artemesia douglasiana)
5. Foxtail chess (Bromus madritensis)
6. Ripgut brome (Bromus diandrus)
7. Mexican elderberry (Sambucus Mexicana)
8. Deerweed (Lotus scoparius)
9. Fremont cottonwood (Populus fremontii)

(7) Upon project completion, entire creek bottom be restored and revegetated. Maintenance to include dead and down material and exotic/invasive plant removal only.

Long-Term Maintenance Agreement

The property owner(s) agree to be responsible for the long-term maintenance of this Fuel Modification Plan, as described herein. A Covenant & Agreement identifying the applicable Fuel Modification Plan will be recorded on the parcel(s) or CC&R's approved, prior to occupancy being granted. Notification of Fuel Modification requirements is to be made upon sale to new owners. Proposed changes to the Final Fuel Modification Plan must be submitted to the Fuel Modification Unit for approval, prior to implementation. Plans will be reviewed based on the current plant list. Regular inspections will be performed by the Fire Department to ensure compliance with the approved plan. Failure to comply with the Fuel Modification Plan requirements may result in an Administrative Fine of at least $500 per violation, as well as possible liens, assessments, and legal action. Violations may also be corrected at the owners expense with the cost placed on the property tax bill with the addition of an Abatement Enforcement Cost of $648.

GOLDEN OAK RANCH PROPERTIES

MARSHA L. REED,	BY: [signature]	2/23/11
Name (Print) SECRETARY	Signature	Date
ANTHONY G. BASALARI,	BY: [signature]	2/23/11
Name (Print) VICE PRESIDENT	Signature	Date

Zone A - Setback Zone

- Extends 20 feet beyond the edge of any combustible structure, accessory structure, appendage or projection. Overhangs or other parts of the structure not accurately reflected on the plans may negate the approval of plant location on the approved plan.
- Irrigation by automatic or manual systems shall be provided to landscaping to maintain healthy vegetation and fire resistance.
- Landscaping and vegetation in this zone shall consist primarily of green lawns, ground covers not exceeding 6 inches in height, and adequately spaced shrubs. The overall characteristics of the landscape shall provide adequate defensible space in a fire environment.
- Plants in Zone A shall be inherently highly fire resistant and spaced appropriately. Species selection should be made referencing the *Fuel Modification Plant List*. Other species may be utilized subject to approval. Final or revised Plans submitted after 6 months from the initial submittal will have plants in all zones evaluated based on the most current *Fuel Modification Plant List* available from the Fuel Modification Unit.
- Except for dwarf varieties or mature trees small in stature, trees are generally **not recommended** within Zone A.
- Target species will typically not be allowed within 30 or more feet of combustible structures and may require removal if existing on site.
- Vines and climbing plants shall not be allowed on any combustible structure requiring review.

Zone B - Irrigated Zone

- Extends from the outermost edge of Zone A to 100 feet from structure.
- Irrigation by automatic or manual systems shall be provided to landscaping to maintain healthy vegetation and fire resistance.
- Landscaping and vegetation in this zone shall typically consist primarily of green lawns, ground covers, and adequately spaced shrubs and trees.
- Unless otherwise approved, Ground covers shall be maintained at a height not to exceed 6 inches in Zone B, 12 inches is acceptable within 50 feet of a structure and 18 inches beyond 50 feet in Zone B if it is on a slope. The overall characteristics of the landscape shall provide adequate defensible space in a fire environment. Specimen native plants may be approved to remain if properly maintained for adequate defensible space. Annual grasses and weeds shall be maintained at a height not to exceed 3 inches.
- Plants in Zone B shall typically be fire resistant and spaced appropriately. Species selection should be made referencing the *Fuel Modification Plant List*. Other species may be utilized subject to approval.
- Vegetation in this zone may consist of modified existing native plants, adequately spaced ornamental shrubs and trees, or both. There may also be replacement landscape planting with ornamental or native species to meet minimum slope coverage requirements of City or County agencies or other Landscape or Hillside ordinances. In all cases the overall characteristics of the landscape shall provide adequate defensible space in a fire environment.
- Target species will typically not be allowed within 30 or more feet of combustible structures and may require removal if existing on site. This distance may extend to 50 feet if the situation dictates.
- Irrigation systems are not required for this zone if it consists entirely of native plants. (Native plants are generally not compatible with regular, un-seasonal supplemental water.)
- All trees, unless otherwise approved, shall be planted far enough from structures and Fire Department accesses as to not overhang any structure or access at maturity.

Zone C - Native Brush Thinning Zone

- Extends from the outermost edge of Zone B up to 200 feet from structure.
- Required thinning and clearance will be determined upon inspection. Required clearance may increase to the maximum allowed by the Fire Code as needed because of vegetation growth.
- Irrigation systems are not required for this zone if it consists entirely of native plants. (Native plants are generally not compatible with regular, un-seasonal supplemental water.)
- Vegetation in this zone may consist of modified existing native plants, adequately spaced ornamental shrubs and trees, or both. There may also be replacement landscape planting with ornamental or native species to meet minimum slope coverage requirements of City or County agencies or other Landscape or Hillside ordinances. In all cases the overall characteristics of the landscape shall provide adequate defensible space in a fire environment.
- Plants in Zone C shall be spaced appropriately. Existing native vegetation shall be modified by thinning and removal of those species constituting a fire risk. These species include, but are not limited to, chamise, sage, sage brush, and buckwheat.
- Annual grasses and weeds shall be maintained at a height not to exceed 3 inches.
- General spacing for existing native shrubs or groups of shrubs is 15 feet between canopies. Native plants may be thinned by reduced amounts as the distance from development increases.
- General spacing for existing native trees or groups of trees is 30 feet between canopies. This distance may increase or decrease depending on the slope, arrangement of the trees in relation to slope, and the species of tree.

Zone C - Creek Zone

- Jurisdictional riparian zone, revegetation to include riparian tree and shrub species in creek bottom and well-spaced trees and shrubs with grass understory on embankments.
- Bottom portion of creek bed to be left intact in two areas (as denoted with Note # 6).
- Zone surrounded by non-combustible permanent creek access roads and drainage structures.
- Plant selection and spacing to be consistent with Appendix III of the County of Los Angeles Fire Department Fuel Modification Plan Guidelines.
- Irrigation supplied during plant establishment period only.
- All dead and down vegetation to be removed annually.
- Exotic/invasive plant species to be removed annually.
- Minimal ground disturbance, maintenance restricted to manual trimming/removal of dead plant material and exotic/invasive plant species.

Fire Access Road Zone

- Extends a minimum of 10 feet from the edge of any public or private roadway that may be used as access for fire-fighting apparatus or resources.
- Clear and remove flammable growth for a minimum of 10 feet on each side of Fire Access Roads. (Fire Code 325.10) Additional clearance beyond 10 feet may be required upon inspection.
- Fire access roads, driveways and turnarounds shall be maintained in accordance with fire code. Fire Access Roads shall have unobstructed vertical clearance for a width of 20 feet. (Fire Code 503.2.1)
- Landscaping and native plants within the Fire Access Road Zone shall be appropriately spaced and maintained to provide safe egress in wildland fire environments.
- All trees, unless otherwise approved, shall be planted far enough from structures and Fire Department accesses as to not overhang any structure or access at maturity.

Maintenance

Routine maintenance shall be regularly performed in all zones. Requirements include but are not limited to those items in the Fuel Modification Guidelines and those outlined below:

- Removal or thinning of undesirable combustible vegetation and removal of dead or dying landscaping to meet minimum brush clearance requirements.
- Pruning and thinning to reduce the overall fuel load and continuity of fuels.
- Fuel loads shall be reduced by pruning lower branches of trees and tree-form shrubs to 1/3 of their height, or 6 feet from lowest hanging branches to the ground, to help prevent fire from spreading and make maintenance easier. Trees with understory plants should be limbed up at least three times the height of the underlying vegetation or up to a height of 40 feet, whichever is less, to help prevent fire from spreading upward into the crown.
- Accumulated plant litter and dead wood shall be removed. Debris and trimmings produced by thinning and pruning should be removed from the site or chipped and evenly dispersed in the same area to a maximum depth of 6 inches.
- All invasive species and their parts should be removed from the site.
- Manual and automatic irrigation systems shall be maintained for operational integrity and programming. Effectiveness should be regularly evaluated to avoid over or under-watering.
- Compliance with the Fire Code is a year-round responsibility. Enforcement will occur following inspection by the Fire Department. Annual inspections for brush clearance code requirements are conducted following the natural drying of grasses and fine fuels, between the months of April and June depending on geographic region. Inspection for compliance with an approved Fuel Modification Plan may occur at any time of year.
- Brush Clearance enforcement issues on adjacent properties should be directed to the County of Los Angeles Fire Department's Brush Clearance Unit at (626) 969-2375.
- All future plantings shall be in accordance with the County of Los Angeles Fire Department Fuel Modification Guidelines and approved prior to installation. Changes to the approved plan which require an additional plan review will incur a plan review fee.
- Questions regarding landscape planting and maintenance with regard to fire safety should be directed to the Fire Department's Fuel Modification Unit at (626) 969-5205.

Undesirable Plant Species:

Chamise (Adenostoma fasciculatum) (30' from structures)
California sagebrush (Artemisia californica) (50' from structures)
Buckwheat (Eriogonum fasciculatum) (50' from structures)
Black sage (Salvia mellifera) (50' from structures)
Cypress (Cupressus spp.) (30' from structures)
Eucalyptus (Eucalyptus spp.) (30' from structures)
Juniper (Juniperus spp.) (30' from structures)
Pine (Pinus spp.) (30' from structures)

#4478
COUNTY OF LOS ANGELES
FIRE DEPARTMENT
FIRE PREVENTION BUREAU
PRELIMINARY
FUEL MODIFICATION PLAN
APPROVED
FFFP-201000007
By [signature] Date 3/4/11
FUEL MODIFICATION UNIT
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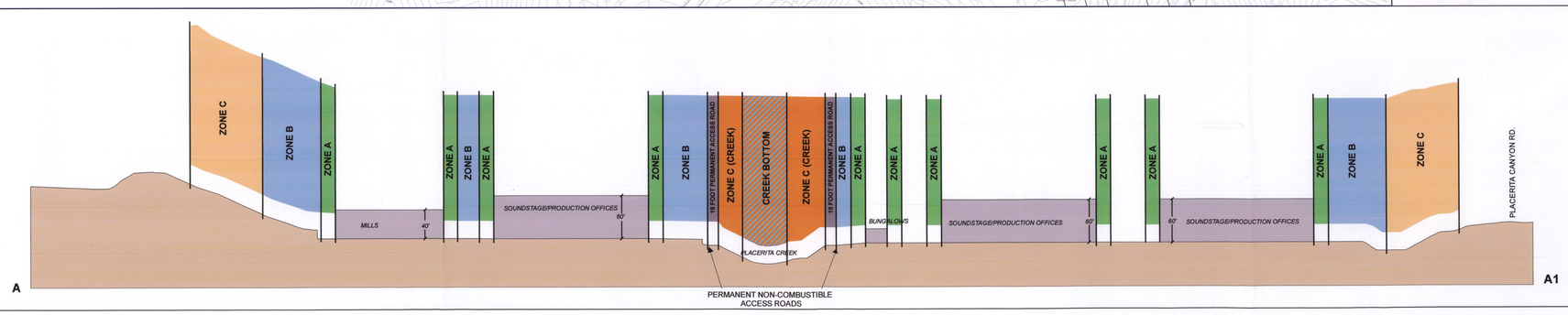

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4 OF 4

Appendix F.9

Wildlife Impacts Analysis

DUDEK

MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 760.942.5147 T 800.450.1818 F 760.632.0164

July 6, 2011 6450-06

Ms. Ashley Rogers
Matrix Environmental
6701 Center Drive, Suite 900
Los Angeles, California 90045

Subject: ***Analysis of Potential Impacts to Wildlife due to Noise and Lighting Associated with Disney | ABC Studios at The Ranch, Newhall, California***

Dear Ms. Rogers:

This report analyzes the potential impacts of light and noise on wildlife resources from Disney | ABC Studios at The Ranch (Project), located on 56 acres (Development Area) in the westernmost portion of the 890-acre Golden Oak Ranch in an unincorporated area of Los Angeles County, California. The analysis is based on information provided by various biological, noise, and lighting consultants working on the Project.

Impacts to wildlife are categorized as direct and indirect. Direct impacts would occur as a result of implementation of the Project and include temporary disturbance and/or permanent loss of vegetation communities, including sensitive vegetation communities, general wildlife, and possibly special-status plant and animal species. Those impacts are described and analyzed in detail in the Biological Resources Assessment by PCR (2010). Indirect impacts involve the effects of increases in ambient levels of sensory stimuli (e.g., noise, light), unnatural predators (e.g., domestic cats and other non-native animals), and competitors (e.g., exotic plants, non-native animals). These would occur as a result of build-out of the Project and are also described in the Biological Resources Assessment by PCR (2010).

Indirect impacts may be associated with the construction and/or eventual operation of a project; therefore, these impacts may be both short-term and long-term in their duration. These impacts are commonly referred to as "edge effects" and may result in changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to the development. These short- and long-term indirect impacts are those reasonably foreseeable effects caused by project implementation on remaining or adjacent biological resources outside the construction disturbance zone, including impacts on open space and areas outside the construction zone, such as downstream effects. The specific indirect impacts related to noise and lighting are analyzed in this report.

I. PROJECT LOCATION AND SETTING

A. Development Area

The Project would provide up to twelve soundstages, production offices, six mills, a warehouse, talent bungalows, a commissary, an administration building, a central utility plant, a bridge over Placerita Creek, and an electrical distribution substation in the Development Area. As an alternative option, studio offices rather than four soundstages, production offices and two mills could be constructed on the northern portion of the Development Area.

Construction of these facilities would mostly be conducted during the day, however, to expedite soil export activities, a second work shift from approximately 7:00 or 8:00 p.m. to approximately 2:00 or 3:00 a.m. may occur. Assuming no change in the number of daytime trips, implementation of a nighttime hauling shift would serve to reduce the overall hauling period.

The Development Area is located just east of the Antelope Valley Freeway, State Route 14 (SR-14), and north of Placerita Canyon Road (Figure 1) in unincorporated Newhall, Los Angeles County, California. A substantial portion of the Development Area is located on two large, mostly barren fill pads created by Caltrans during the construction of SR-14 in the early 1970s. The eastern edge of the Development Area is separated from the remainder of the Ranch by a 330-foot transmission corridor traversing the Ranch in a generally northwest to southeast direction that is owned and operated by the Los Angeles Department of Water and Power (LADWP). The Development Area is located within Section 6 T. 3 N., R. 15 W., of the U.S. Geological Survey (USGS) 7.5-minute Mint Canyon, California topographic quadrangle (Figure 2).

Elevations within the Development Area range from approximately 1,400 feet above mean sea level (MSL) at the westernmost portion of Placerita Creek within the Development Area to approximately 1,590 feet above MSL at the top of the northern fill pad in the western portion of the Development Area.

In general, portions of the Development Area are currently used for outdoor filming with some filming occurring during evenings and nights. There are no existing lighting structures within the Development Area, but temporary lighting is sometimes erected. Additionally, outside production sometimes includes staged gunfire and explosions. Filming takes places on the Ranch throughout the year. Filming in the proposed soundstages within the Development Area could occur 24 hours per day, however, business operating hours typically would be between 6:00 a.m. and 6:00 p.m.

B. Water Tank Area and Off-Site Infrastructure Improvement Areas

The Project also includes construction of the following water and sewer lines outside the Development Area (Figure 3):

- an approximately 2,300-foot water line within an existing maintenance road on Ranch property that would connect to a new water tank on the Ranch south of Placerita Canyon Road (Water Tank Area); and
- an approximately 6,300-foot water line (Option A) that would extend west on Placerita Canyon Road to the west side of SR-14, where it would extend south along Sierra Highway to Dockweiler Drive, then west along Dockweiler Drive to Oakhurst Drive; or
- an approximately 3,100-foot water line (Option B) that would extend west along Placerita Canyon Road from the Development Area; and
- an approximately 9,800-foot sanitary sewer line (Oak Orchard Alignment) from the western portion of the Development Area, west along Placerita Canyon Road to the west side of AES Pacific Inc.'s property, north to Placeritos Boulevard, west along Placeritos Boulevard, to Golden Oak Lane, north along Golden Oak Lane to Oak Orchard Road, west along Oak Orchard Road to Quigley Canyon Road, and south along Quigley Canyon Road to rejoin Placeritos Boulevard, and then west on Placeritos Boulevard to join the City of Santa Clarita's existing local sewer system at Meadview Avenue; or
- an approximately 9,750-foot sanitary sewer line (Force Main System) from the western portion of the Development Area, west along Placerita Canyon Road, then north along Sierra Highway to Golden Valley Road, and west along Golden Valley Road to join the existing City of Santa Clarita local sewer system. Construction of an additional 4,400-foot segment from the intersection of Golden Valley Road and Centre Point Parkway northwesterly to Soledad Canyon Road would also be needed.

Construction of these utility lines would also include associated improvements such as a water storage tank (within the Water Tank Area), a water booster pump, and a sewer lift station if needed. Other than the Water Tank Area located on Ranch property, the areas where the proposed water and sewer infrastructure would be installed are referred to as the Off-Site Infrastructure Improvement Areas, located within the City of Santa Clarita, west of the Ranch and SR-14. The utility alignments proposed within these areas are primarily located within existing road rights-of-way where conditions are either developed or disturbed by paved streets and/or existing residential and commercial development. Placerita Creek also flows through a portion of the Off-Site Infrastructure Improvement Areas. These areas are generally flat with elevations ranging from

approximately 1,290 feet above MSL at the lowest point along the preferred sewer line alignment (Oak Orchard Alignment) to approximately 1,550 feet above MSL at the highest point along the Dockweiler Drive water line alignment (Option A), and to over 1,650 feet above MSL along the alternate off-site sewer line alignment (Force Main System).[1]

C. Conditional Parking Areas

The Conditional Parking Areas east of the Development Area would be paved and striped if the Los Angeles Department of Water and Power (LADWP) were to revoke the parking license agreement that would allow parking for approximately 560 vehicles within the LADWP transmission corridor, which runs in a generally northwest to southeast direction just east of the Development Area. Conditional Parking Area 1 lies east of Pine Lake, a man-made set east of the current main entrance road, and Conditional Parking Area 2 lies north of Pine Lake and just east of the LADWP transmission corridor.

Conditional Parking Area 1 is a graded and compressed earth lot that is currently being used as a parking lot and staging area. A large tent structure on a temporary asphalt pad occupies the center of the lot. Conditional Parking Area 2 is currently used intermittently for agriculture. It is located just east of the main Development Area and south of Placerita Creek. An elevated earthen access road cuts through the proposed lot.

The Conditional Parking Areas are generally flat with an average elevation of approximately 1,440 feet above MSL within Conditional Parking Area 2 and ranging from 1,450 feet to about 1,470 feet above MSL within Conditional Parking Area 1.

D. Potential Mobile Home Relocation Areas

Two locations have been identified as Potential Mobile Home Relocation Areas. The first potential relocation area lies just south of the existing Ranch office and the second lies east of the Ranch office. Both areas have been used for ranching and farming. The Potential Mobile Home Relocation Areas are generally flat with elevations ranging from approximately 1,506 feet to 1,523 feet above MSL.

The Development Area, the Water Tank Area, the Conditional Parking Areas, the Potential Mobile Home Relocation Areas, and the Off-site Infrastructure Improvement Areas are collectively referred to in this report as the Project footprint.

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[1] The point of connection of these systems to the proposed on-site system is at an elevation of approximately 1,450 feet MSL.

II. BIOLOGICAL/WILDLIFE RESOURCES

Based on the biological studies conducted by PCR (2010), the Project footprint includes coast live oak woodland, disturbed coast live oak woodland, southern willow scrub, mixed riparian willow woodland, coastal sage scrub, disturbed coastal sage scrub, coastal sage scrub/chamise chaparral, buckwheat scrub/chamise chaparral, disturbed buckwheat scrub/chamise chaparral, disturbed buckwheat scrub, non-native grasses, agricultural land, ornamental, and disturbed/developed areas. In addition, two large, mostly barren fill pads created by Caltrans during the construction of SR-14 in the early 1970s cover over 23.6 acres of the western portion of the Development Area. Two sensitive plant communities, mixed riparian willow woodland and southern willow scrub, are present within the Development Area. There are no sensitive plant communities within the Project footprint outside the Development Area. To date, no sensitive wildlife or botanical species have been identified within the Project footprint, despite a variety of focused surveys for least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), coastal California gnatcatcher (*Polioptila californica californica*), arroyo toad (*Bufo californicus*), western spadefoot toad (*Spea hammondi*), slender-horned spineflower (*Dodecahema leptoceras*) and the San Fernando valley spineflower (*Chorizanthe parryi* spp. *Fernandina*).

Placerita Creek, a USGS "blue line" stream, and a small ephemeral tributary have been delineated in the Development Area. Two small tributaries have also been delineated within the portion of the biological study area that is on the Ranch but outside the Development Area south of Placerita Canyon Road. Only Placerita Creek has been delineated within that portion of the study area that is both outside the Development Area and outside the Ranch boundary. These jurisdictional resources include a portion of the creek and two tributary systems (Tributaries A and B), and total approximately 5,898 linear feet of streambed. The delineated jurisdictional areas within the creek and its tributaries total 0.57 acre of U.S. Army Corps of Engineers (ACOE)/Regional Water Quality Control Board (RWQCB) jurisdictional "waters of the U.S./waters of the State" and 4.43 acres of California Department of Fish and Game (CDFG) jurisdictional streambed and associated riparian habitat.

A wildlife corridor study conducted by PCR (2008) determined the main modeled and viable wildlife corridors occur to the north and south of the Development Area and do not run through the Development Area. Specifically, Placerita Creek did not function as a regional corridor (or likely a local corridor), because connectivity was hindered by SR-14 and development to the west. A 700-foot long culvert, which has limited suitability as a regional linkage due to its length and the extent of downstream development, runs under SR-14 at the western terminus of Placerita Creek within the Development Area.

The Water Tank Area would be located within U.S. Fish and Wildlife Service-designated critical habitat for the California gnatcatcher. To date, however, no gnatcatchers have been found in this area or other parts of the Project footprint despite a focused, U.S. Fish and Wildlife protocol survey conducted in 2010.

As part of the Project, a large portion of the Development Area would be graded to create stable building pads. The slopes from the fill pads to Placerita Creek would be stabilized and this area of the creek would be restored and vegetated with native riparian vegetation in the creek and other native vegetation on the restored slopes. Two small areas of existing mixed willow riparian woodland habitat would remain within Placerita Creek. An oak woodland area would remain in the southern portion of the Development Area north of Placerita Canyon Road. The habitat within the Project footprint on the south side of Placerita Canyon Road, which would be retained, contains a mix of coastal sage scrub, chaparral, and oak woodlands. The habitat within the Ranch northeast of the Development Area (outside of the Project footprint), which would be retained, consists of buckwheat scrub/chamise chaparral, developed lands, agriculture, and mixed willow riparian woodland. The Off-site Infrastructure Improvement Areas are comprised primarily of disturbed/developed land, with limited areas of coast live oak woodland, disturbed coast live oak woodland, coastal sage scrub, disturbed coastal sage scrub, disturbed buckwheat scrub, non-native grassland, and ornamentals. The Project would not impact any special-status wildlife or botanical species, but would impact approximately 0.7 acre of southern willow scrub and 0.1 acre mixed willow riparian woodland within the Development Area, with an additional 1.9 acres of mixed willow riparian woodland temporarily impacted during the slope stabilization (PCR 2010). Proposed mitigation would result in no-net loss in these vegetation types (PCR 2010).

III. EXISTING CONDITIONS

A. Noise

The Development Area and the Ranch are separated from existing residential areas by SR-14 on the west and northwest and hillsides surrounding the Ranch floor on the north, east and south.

Existing noise in the vicinity of the Development Area and the Ranch is primarily comprised of traffic on highways and local roadways, including SR-14, Placerita Canyon Road, and Sierra Highway. Noise at the Ranch also is generated by current agricultural and maintenance operations and outdoor filming activities, which include occasional staged automatic weapon fire and large controlled explosions. Baseline noise levels were measured in the range of 40 to 70 decibels at the A weighted (dBA), or human response range, (Equivalent Continuous Level, or average noise levels; leq), at various locations on and around the Ranch. (Acoustical Engineering Services, Inc., 2010).

B. Lighting

Very little existing lighting occurs within the Development Area and the adjacent Ranch areas. The only consistent light source within the Development Area is the Ranch foreman's mobile home. There is some lighting from light fixtures and vehicular traffic on SR-14, which lies just west of the Development Area, and Placerita Canyon Road, to the immediate south, as well as in residential areas further east, west, and northwest of the Development Area. Occasionally, during filming activities at night, "stadium type" lighting is set up within the area. Anecdotally, mule deer are frequently observed foraging near nighttime filming activities and do not appear to be bothered by the activities.

Ambient light levels were measured by LightVision, LLC and most areas around the perimeter of the Development Area measured less than 0.1 foot candle (approximate full-moon brightness). The southwestern corner of the Development Area experiences light trespass from five fixtures associated with the SR-14 interchange (ramps and overpass) at Placerita Canyon Road. At the western edge of the Development Area, light was measured at 1.5 foot candles, which faded to an un-measurable level 30 feet from the Development Area fenceline.

Other than at the SR-14 interchange, there are no existing persistent light sources along Placerita Canyon Road, and little light from SR-14 reaches the Development Area due to differences in elevation. Similarly, the other Ranch portions of the Project site experience little light due to their undeveloped nature and/or distance from area roadways. Various portions of the Off-Site Infrastructure Improvement Areas, however, are characterized by street light fixtures, headlights from passing vehicles, and light spillover from nearby residences and uses.

IV. ANALYSIS – LIGHTING AND NOISE INDIRECT IMPACTS

Indirect impacts are characterized as resulting from two main sources: (1) short-term construction-related impacts and (2) long-term impacts related to implementation of the Project. The long-term indirect impacts are further categorized as landscape-level impacts and open space-urban interface (or "edge") impacts.

Thresholds to determine whether potential impacts would be significant are listed in the Biological Resources Report (PCR 2010) and are summarized below.

- CEQA Guidelines Section 15065(a) states that a project may have a significant effect where:
    - The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, reduce the number or restrict the range of an endangered, rare, or threatened species.
- Appendix G of the CEQA Guidelines provides specific guidance when determining if impacts to biological resources are considered potentially significant prior to mitigation. Would the project:
    - 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 CDFG or USFWS?
    - 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 CDFG or USFWS?
    - Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
    - 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?
    - Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
    - Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?
- Finally, "Substantial adverse effect" means loss or harm of a magnitude which, based on current scientific data and knowledge would:
    - substantially reduce population numbers of a listed, candidate, sensitive, rare, or otherwise special status species;
    - substantially reduce the distribution of a sensitive natural community/habitat type; or

- eliminate or substantially impair the functions and values of a biological resource (e.g., streams, wetlands, or woodlands) in a geographical area defined by interrelated biological components and systems. In the case of this analysis, the prescribed geographical area is considered to be the region including the southern San Gabriel Mountains.

This report uses the above thresholds of significance to determine whether the Project would cause significant indirect impacts to wildlife due to noise or lighting during construction or operation of the Project.

A. Short-term Indirect Impacts During Construction of the Project

(1) Construction Noise

Construction noise may affect essential behavioral activities of wildlife in several ways. Excessive noise may affect birds, for example, in at least four ways: (1) noise may irritate and cause birds to abandon nests that are otherwise perfectly suitable; (2) noise can be stressful and may raise the level of stress hormones, interfering with sleep and other activities; (3) intense noise can cause permanent injury to the auditory system; and (4) noise can interfere with acoustic communication by masking important sounds or sound components. (Dooling 2006). Nevertheless, many studies find bird species nesting close to construction activity with relatively little disturbance. Avian species within the vicinity of the construction zone may be affected by construction noise, however intervening topography between the site and suitable habitat would likely reduce this effect. Construction noise could, however, disturb nesting migratory birds in the vicinity of the construction zone. During the night, work would primarily occur within the interior portions of the site, such that the area that might be affected would be reduced.

Noise also may interfere with communication in toads and frogs that use calls to indicate their location and attract mates (e.g., Barrass and Cohn 1984). Because activities may occur during the night time and during the breeding period (i.e., spring), amphibians could be disturbed.

According to the Noise Analysis (Acoustical Engineering Services, Inc., 2010), Project construction would occur in phases and could be completed as early as 2015 or as late as 2020. The analysis determined that noise levels related to construction within the Ranch could produce maximum noise levels of 76 dBA to 101 dBA at up to 50 feet from the noise source. The Acoustical Engineering Services, Inc. (2010) report utilized the following general construction maximum reference noise levels, which are used herein to help approximate impacts to wildlife:

- Air Compressor – 78 (dBA) maximum at 50 feet
- Backhoe – 78 (dBA) maximum at 50 feet
- Compactor – 83 (dBA) maximum at 50 feet
- Concrete Pump – 79 (dBA) maximum at 50 feet
- Concrete Truck – 81 (dBA) maximum at 50 feet
- Crane, Mobile – 81 (dBA) maximum at 50 feet
- Dozer – 82 (dBA) maximum at 50 feet
- Drill Rig – 79 (dBA) maximum at 50 feet
- Excavator – 84 (dBA) maximum at 50 feet
- Forklift – 75 (dBA) maximum at 50 feet
- Generator – 81(dBA) maximum at 50 feet
- Paver – 77 (dBA) maximum at 50 feet
- Pile Driver – 101 (dBA) maximum at 50 feet
- Roller – 80 (dBA) maximum at 50 feet
- Loader – 79 (dBA) maximum at 50 feet
- Vibrator – 80 (dBA) maximum at 50 feet
- Dump truck – 76 (dBA) maximum at 50 feet
- Water truck – 76 (dBA) maximum at 50 feet.

These rates decline the further you get from the noise source (e.g., noise levels drop by 6 dB per doubling of distance from the source), and none of these noise sources would be present or operating in any particular area for a very long period. Similarly, greater adjacent noise would be experienced when construction activity occurs near the edge of the Development Area as opposed to when activity occurs within the interior portions of the Development Area, and such maximum noise levels would only be experienced on a temporary and intermittent basis. Additionally, the hillsides surrounding the Ranch floor, existing landscaping and vegetation throughout the Ranch and surrounding area, and SR-14 would act as buffers for wildlife just as they do for the nearby residential areas. The Project features listed below also would decrease potential impacts of noise on the habitat surrounding the construction zone.

With respect to construction noise associated with installation of the off-site utility improvements, noise levels of up to 86 dBA are anticipated during peak construction periods, with reduced levels of 74 dBA at 100 feet from the source and 51 dBA at a distance of 1,500 feet. This construction noise would be temporary as construction of the water and sewer lines would move quickly along each alignment at approximately 75–100 linear feet per day, with construction in any given location along the pipeline route lasting only a few days.

The Project would include the following features to minimize noise impacts during construction:

- To minimize construction noise, Project contractor(s) would equip all construction equipment, fixed or mobile, with properly operating and maintained noise mufflers, consistent with the equipment manufacturers' standards.
- The majority of Project construction-related truck trips would be scheduled outside of the a.m. (7:00 a.m. to 9:00 a.m.) and p.m. (4:00 p.m. to 6:00 p.m.) peak traffic hours to reduce both traffic levels and associated traffic noise during peak commute periods.
- When night work occurs, haul material would be concentrated in the central portions of the site, away from the creek and adjacent habitat. Daytime work will focus on the northern pad and nighttime work would focus on the southern pad.
- Construction activities and related noise associated with the off-site infrastructure improvements would depend on the governing jurisdiction of the various segments of the water and sewer line alignments. Specifically, for segments within the jurisdiction of the County of Los Angeles or the City of Santa Clarita, construction would be permitted from 7:00 a.m. to 7:00 p.m. Monday through Friday and 8:00 a.m. to 6:00 p.m. on Saturday. For segments under Caltrans' jurisdiction, construction hours would be from 11:00 p.m. to 5:00 a.m. Monday through Friday.
- The Proposed Project would implement the following mitigation measures to avoid the take of migratory birds. Project related activities likely to have the potential of disturbing nesting birds either directly (e.g., removal of habitat supporting active nests) or indirectly (e.g., proximity of human activity, excessive noise, night lighting allowed to spill over into the adjacent habitat areas) will be prohibited from February 1 through August 31, unless a biological monitor acceptable to the Director of Regional Planning conducts a nesting bird survey prior to initiating activities constituting such disturbance. The pre-construction nesting bird survey will encompass the area of direct disturbance and all habitat areas within 300 feet of direct disturbance areas (500 feet for potential raptor nesting sites) and will be conducted no earlier than seven (7) days prior to the commencement of disturbance activities. If an active nest is discovered or can be reasonably deduced to exist within the

survey area, the monitoring biologist will demarcate a buffer area around the active nest to be avoided by construction activity until the nest is determined to be vacated (e.g., the young have fledged) and there is no evidence of further nesting attempts. In determining an appropriate buffer distance, the monitoring biologist will consider such factors as lines of sight and intervening topography and vegetation between the nest and the disturbance area, as well as the potential for anticipated construction noise and night-lighting spillover to reach the nest at levels that could disrupt nesting behavior. As needed, the limits of such buffer areas will be marked with staking, flagging and/or fencing. Following the completion of pre-construction surveys and nest monitoring efforts, a record of the results of surveys and any recommended protective measures will be submitted to the Department of Regional Planning to document compliance with applicable State and federal laws pertaining to the protection of native birds.

Portions of the Project occur within, or adjacent to, federally designated critical habitat for the California gnatcatcher; however, recent U.S. Fish and Wildlife Service protocol surveys found no California gnatcatchers within or adjacent to the Project footprint. Additionally, no other listed species have been detected within the Development Area or the Project footprint outside the Development Area. Furthermore, existing noise levels in some areas of the Development Area and surrounding area already experience high average daytime ambient noise levels of up to 70 dBA and nighttime ambient noise levels of 49 dBA. Accordingly, given the low sensitivity and limited presence of the special-status wildlife receptors discussed above, the temporary and intermittent nature of anticipated maximum noise levels associated with construction equipment, and the implementation of the Project features, the Project's potential indirect noise impacts on wildlife in the area surrounding the construction zone during construction would be less than significant.

(2) Construction Lighting

Lighting may affect essential behavioral activities, physiology, population ecology, and ecosystems of both diurnal and nocturnal wildlife. Longcore and Rich (2004) call these effects "ecological light pollution" and identify three types of effects: (1) chronic or periodically increased illumination; (2) unexpected changes in lighting; and (3) direct glare. Chronic increased illumination includes skyglow, lighted buildings and towers, streetlights, and security lights. Unexpected changes may occur from vehicle lights or other discrete events such as flares or spotlighting by law enforcement helicopters. Direct glare may be chronic or unexpected.

As indicated, night lighting would be required when night work would occur. The night work would shorten the overall construction period, and hence, indirect noise impacts would be reduced. It is anticipated that night work would concentrate on interior portions of the site, where

haul materials have been deposited. Lighting would be similar in nature to that used currently for filming activities. In addition to the measures discussed above under the noise section IV (A)(1), the project would implement the following measures:

- Lighting will be directed internally and away from adjacent native habitat. The goal will be to safely light the haul area and not adjacent habitat to the greatest extent feasible.
- Lighting will be situated at least 50 feet away from the creek and retained oak woodlands to the south.

Construction associated with the off-site utilities located within Caltrans' jurisdiction would require lighting due to nighttime construction hours, but those areas currently experience lighting from street lights and passing vehicles, and such activities would be temporary. Any required security lighting would focus on equipment and not on the surrounding habitat. Given these project features and lack of special-status wildlife species, the Project's potential short-term secondary lighting impacts on wildlife in areas surrounding the construction zone during construction would be less than significant.

B. Long-term Indirect Impacts During Project Operations

Long-term indirect impacts resulting from build-out of the Project generally can be categorized as (1) landscape level impacts or (2) "edge" effects that generally occur along the open space–urban interface.

(1) Noise

Chronic increases in development-related noise result primarily from increased traffic volumes and operations. Other sources of development-related increases in noise that may affect native wildlife include operation of landscape maintenance equipment and tools (e.g., mowers, blowers, trimmers, wood chippers), loud music from vehicles and studio-related activities, and use of heavy equipment and machinery on-site by the Project.

Some of these noise sources, such as traffic noise, are relatively constant (although with daily cycles related to peak traffic periods), and many wildlife species would habituate and adapt to the chronic ambient noise levels, while some might simply avoid noisy areas. Other noise sources are more occasional or discrete and are more likely to startle wildlife and at least temporarily disrupt their behavior at the time, but even these would be related to normal site operations and would likely lead to habituation.

The Project would include the following features to minimize noise impacts during Project operation:

- Building mechanical/electrical equipment would be designed to meet the noise limit requirements of Los Angeles County Code, Chapter 12.08 – Noise Control.
- Mechanical equipment buildings (e.g., the central plant) and the proposed booster pump station would be designed to meet the noise limit requirements of Los Angeles County Code, Chapter 12.08 – Noise Control.

Long-term operational noise would be generated by on-site building mechanical/electrical equipment, on-grade surface parking, loading dock/trash compactors and Project-related traffic. The proposed electrical substation would be a permanent facility that would operate 24 hours per day. According to the Noise Analysis (Acoustical Engineering Services, Inc., 2010), the projected noise related to this facility would be approximately 77 dBA at a distance of 50 feet. It is projected that outdoor mechanical equipment would generate 82 dBA noise levels at 50 feet. Noise generated by the soundstages and mills would be contained within the structures so no noise associated with them would emanate into the surrounding areas. Vehicle movements would generate noise levels of 65 dBA at 25 feet, and occasional horns or car alarms would generate maximum noise levels of 75 dBA at 25 feet. Further, the Development Area currently experiences levels of noise associated with filming, including staged gunfire and explosions. As with construction noise, given the ability of many wildlife species to habituate and adapt to chronic ambient noise levels, given the lack of special-status species that presently occur within the Project footprint, and the implementation of the Project features listed above, the Project's potential impact on wildlife in the habitat surrounding the Development Area during Project operations would not meet the thresholds of significance described above and would be less than significant.

(2) Lighting

A set of lighting guidelines has been developed to direct the design and implementation of lighting in the Development Area with construction of the Project. These are as follows:

- There would be minimal light trespass on adjacent native habitat areas, including groves of trees and Placerita Creek. Fixtures would be carefully placed and directed to reduce glare.
- The use of control devices on fixtures, such as lenses, louvers, barn doors, and snoots would provide optimum beam control and minimize glare. The locations of fixtures would be carefully selected based on desired angles of light and intended use.
- Along bridges, minor parking, and mill areas, the light would have a defined optical system to project lumens downward to minimize light trespass with no backlight on the creek below.

- Within the main parking area, post lights would have optimum beam control including sharp cut off with no uplight component. The fixtures would be located at the perimeters of parking areas. Beam patterns would be asymmetric with the majority of light aimed at parking, and reduced light falling behind post lights. A minimum amount of light would trespass on surrounding foliage.
- Only emergency lighting would be placed around the electrical substation and at the water tank. These would only be used in cases of emergency and not during normal operations.

Based on a lighting plan designed by LightVision, LLC (2010), very little light would trespass beyond the landscape components of the Project, which would include perimeter plantings. As shown in Figures 4–4c, almost no light (i.e., less than 0.1 acre) would fall within Placerita Creek. Only four locations adjacent to the Development Area would experience any light trespass (See Table 1). Very little light would trespass into the remaining oak trees in the southern portion of the Development Area, and no light would trespass into habitat on the south of Placerita Canyon Road or into habitat east of the electrical substation.

Table 1
Light Trespass Acreages[1]

Community	0.1FC[2]	0.2FC	0.3FC	0.6FC	0.8FC	1.0FC	1.2FC	Totals
Agricultural	0.092ac[3]	0.0808ac	—	0.075ac	0.020ac	0.0005ac	0.0001ac	**0.268ac**
Coast Live Oak Woodland	0.062ac	0.0092ac	—	0.017ac	0.007ac	—	—	**0.095ac**
Disturbed/Developed	0.021ac	0.0000ac	0.080ac			—	—	**0.100ac**
Mixed Willow Riparian Woodland	0.001ac	—	—	—	—	—	—	**0.001ac**
Total	**0.1761ac**	**0.0900ac**	**0.0796ac**	**0.0913ac**	**0.0272ac**	**0.0005ac**	**0.0001ac**	**0.4649ac**

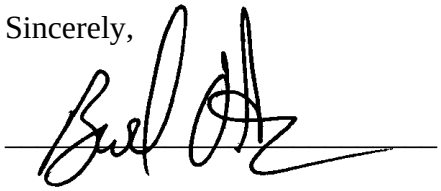
1 While other plant communities existing within and adjacent to the Development Area, only the communities listed above would be affected by Project lighting.
2 FC=Footcandle (a basic unit of illuminance)
3 ac=acres.

The proposed lighting for the Development Area would be consistent with guidelines (See Appendix A) established by the Dark Sky Society, whose international mission is to "preserve and protect the nighttime environment and our heritage of the dark skies through quality outdoor lighting." Proposed lighting would be kept to the minimum amount necessary to adhere to planning guidelines and would implement a series of measures to protect adjacent resources from light pollution. The Project would use downcast and shielded lights and as discussed above, which would result in minimal light escaping into the surrounding landscape. In no case would areas beyond the Development Area footprint be subject to light levels exceeding twilight (the period between full night and sunset, or sunrise, where the sun is below the horizon; 1 foot

candle), and in most cases, the levels would be far less, closely mirroring a night under full moon to quarter-moon phases (0.01 to 0.001 foot candle). These bands, as illustrated in Figures 4–4a, include a swath of approximately 20 feet beyond the Development Area. A total of 0.46 acre of area surrounding the entire Project footprint would be subject to twilight or less light levels, and only 0.03 acre at the highest twilight level (also known as civil twilight or the period after sunset where the sun is at the horizon to 6 degrees below the horizon; equates to 1FC) and most at the deepest twilight level (also known as astronomical twilight or the period after sunset where the sun is between 12 and 18 degrees below the horizon; equates to 0.1FC). Due to the minimal light encroachment area, minimal light encroachment levels, and measures employed to minimize light pollution, the long-term impacts related to Project lighting do not meet the thresholds of significance above and would be less than significant.

If you have any questions regarding the contents of this report, please contact me at 760.479.4254 or bortega@dudek.com.

Sincerely,



Brock A. Ortega
Senior Project Manager/Senior Wildlife Biologist

Att: Figure 1, Regional Map
Figure 2, Vicinity Map
Figure 3, Proposed Project Associated Features Map
Figure 4–4c, Light Impacts Maps
Appendix A, Dark Sky Society Guidelines
cc: Kathleen Truman, Truman & Elliott LLP

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NOVEMBER 2010

FIGURE 1

Regional Map

Disney ABC Studios at the Ranch

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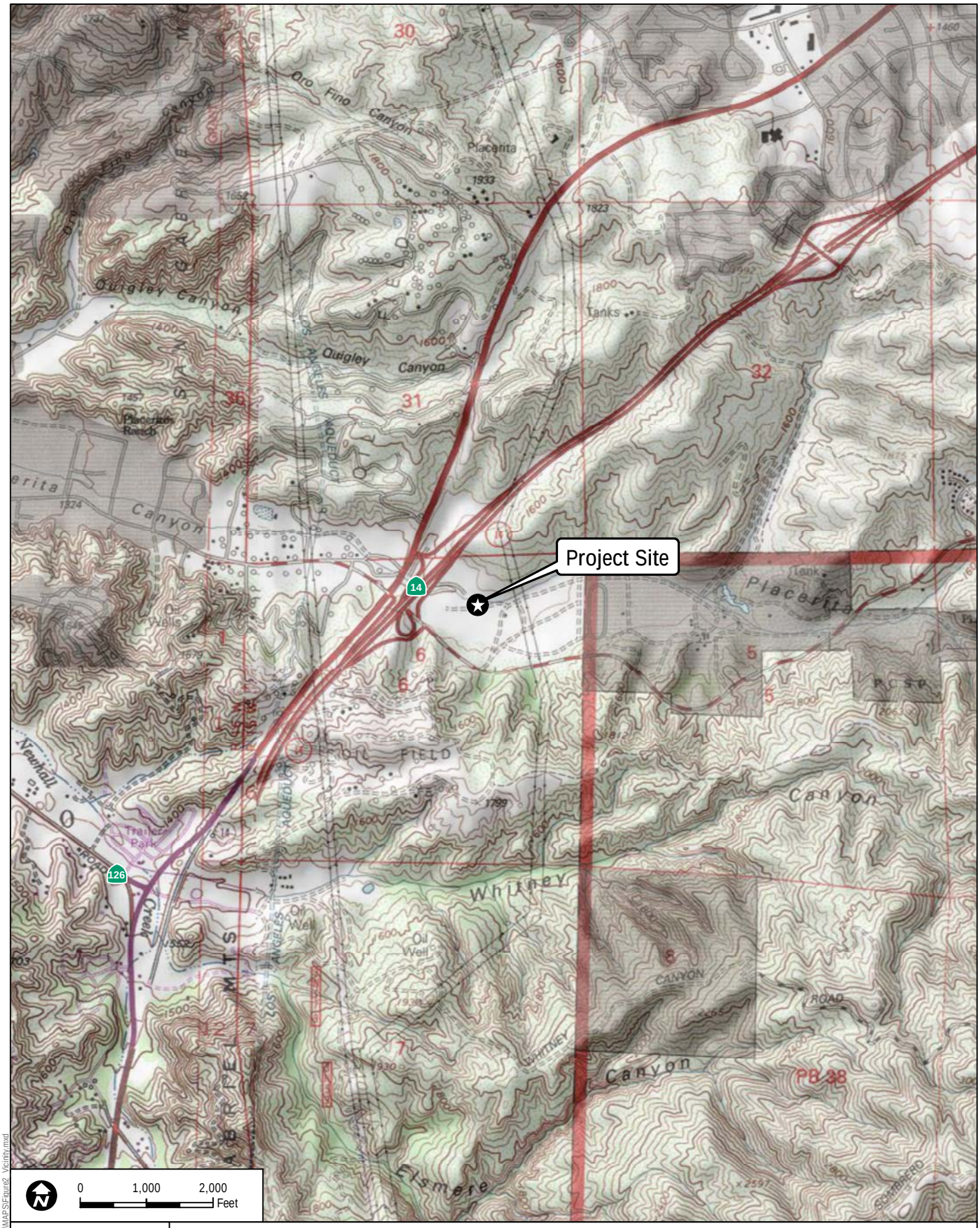

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SOURCE: USGS 7.5-Minute Series Mint Canyon and San Fernando Quadrangles.

FIGURE 2

Vicinity Map

Disney ABC Studios at the Ranch

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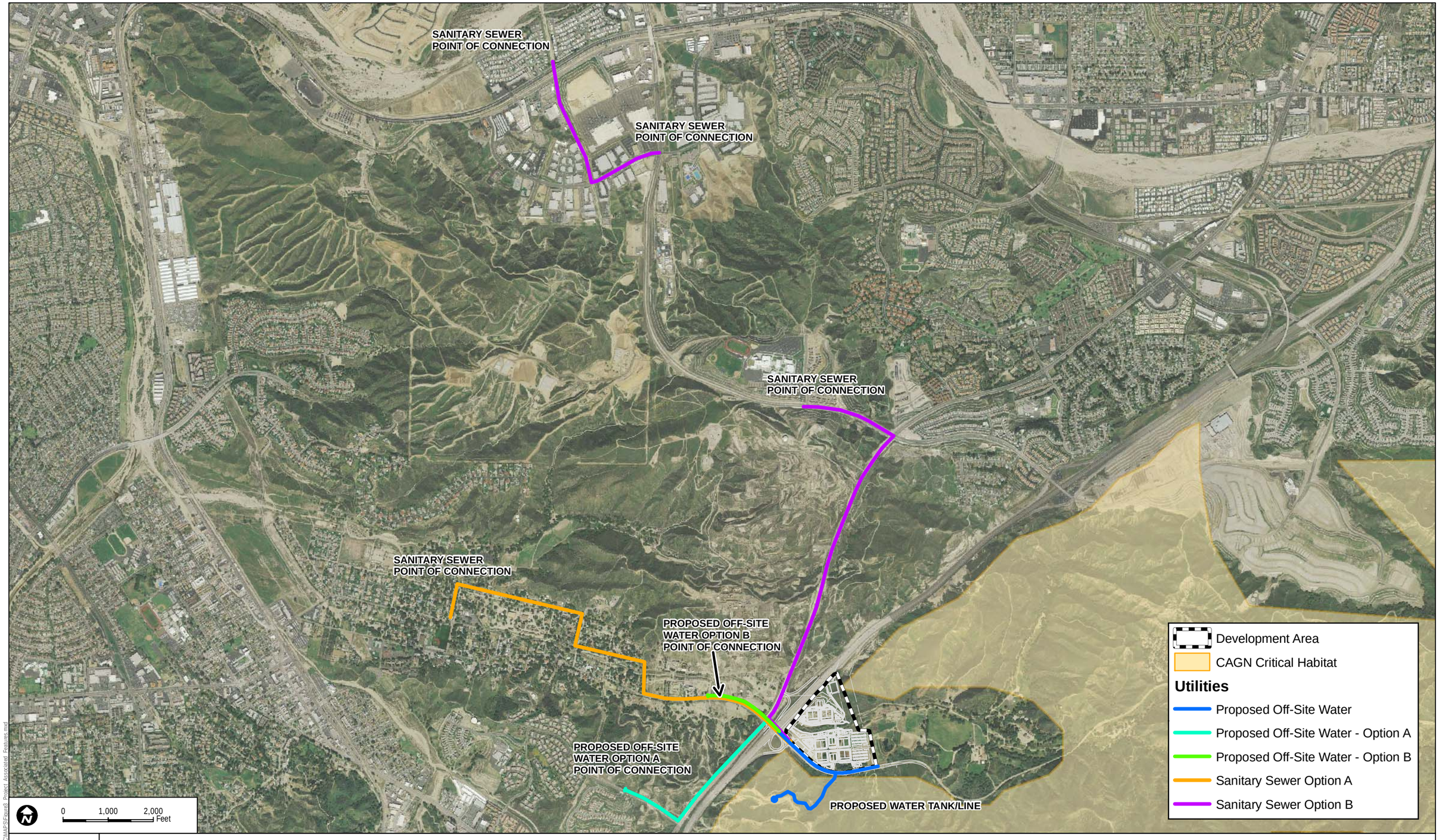

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SOURCE: Digitalglobe 2008, Lightvision LLC, DEA Inc., USFWS

FIGURE 3

Proposed Project Associated Features

Disney ABC Studios at the Ranch

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SOURCE: PCR 2010; DigitalGlobe 2008

FIGURE 4

Light Impacts Map

Disney ABC Studios at the Ranch

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SOURCE: PCR 2010; DigitalGlobe 2008

FIGURE 4a

Light Impacts Map

Disney ABC Studios at the Ranch

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SOURCE: PCR 2010; DigitalGlobe 2008

FIGURE 4b

Light Impacts Map

Disney ABC Studios at the Ranch

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SOURCE: PCR 2010; DigitalGlobe 2008

FIGURE 4c

Light Impacts Map

Disney ABC Studios at the Ranch

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APPENDIX A

Dark Sky Society Guidelines

GUIDELINES FOR GOOD EXTERIOR LIGHTING PLANS

Prepared by: The Dark Sky Society (http://www.darkskysociety.org/) 2009

These guidelines have been developed in consultation with lighting professionals (with experience in developing good lighting plans) to aid communities wishing to control light pollution and preserve the night sky.

Outdoor lighting should be carefully designed with regard to placement, intensity, timing, duration, and color. Good lighting will:

- **Promote Safety**
  "More light" is not necessarily" better". If not designed and installed correctly, unsafe glare can result, reducing the effect of lighting which can contribute to accidents and hinder visibility. Lighting that is too bright interferes with the eye's ability to adapt to darker areas.

- **Save Money**
  Adhering to professionally recommended light levels provides adequate illumination. Shielded fixtures with efficient light bulbs are more cost-effective because they use less energy by directing the light toward the ground. See this website for cost comparisons: http://www.netacc.net/~poulsen/lightcost.html

- **Conserve Natural Resources**
  Inappropriate or excessive lighting wastes our limited natural resources and pollutes the air and water by unnecessarily burning our limited supply of fossil fuels.

- **Be Better Neighbors**
  Excessive or misdirected lighting can intrude on the privacy of others when light or glare trespasses over property lines.

- **Retain Community's Character and Reduce Skyglow**
  Our clear view of the dark starry night sky is a resource to be preserved and protected. Stray and excessive lighting contributes to "light pollution", clutter, and unnatural "sky glow".

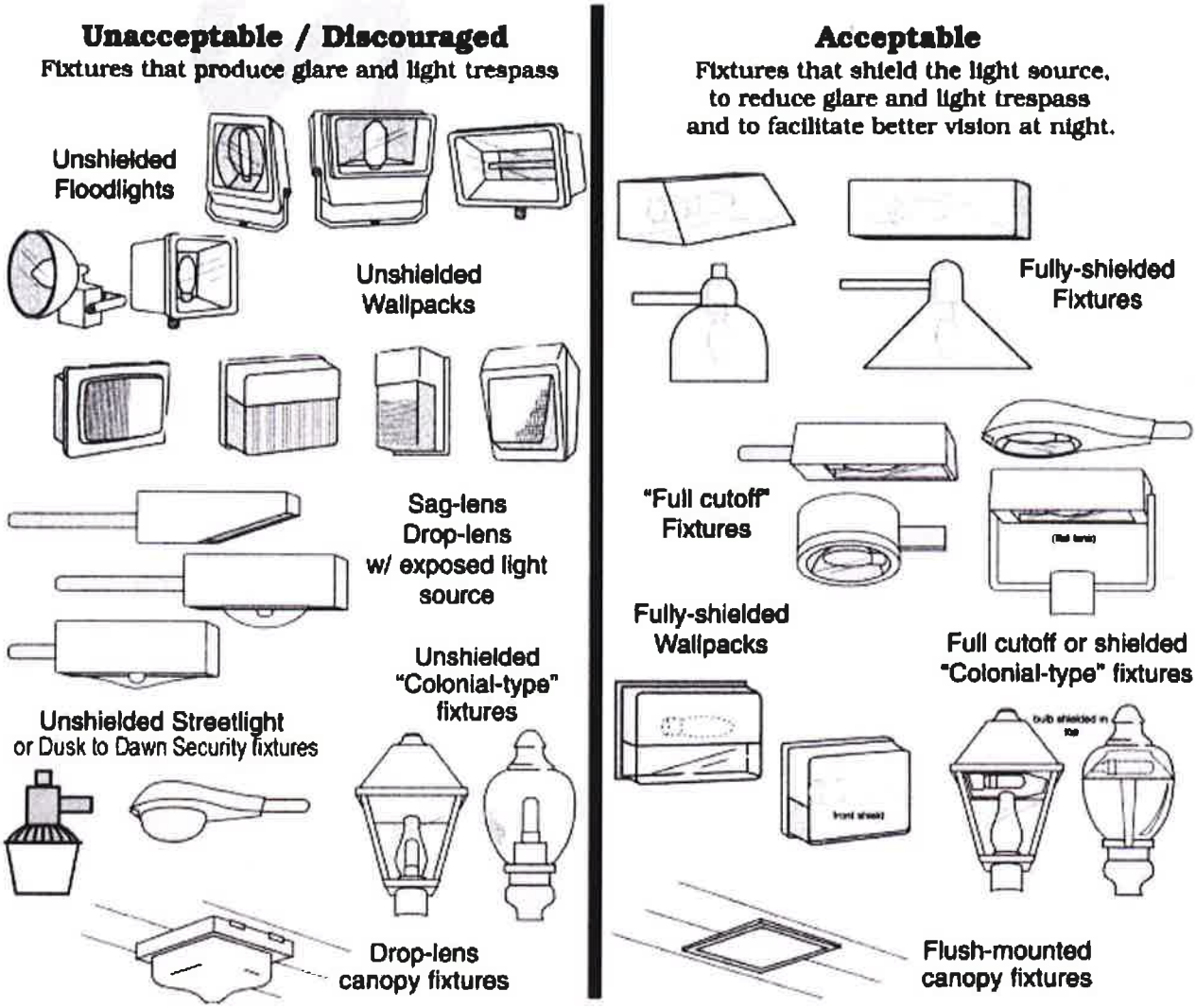
- **Protect Ecology of Flora and Fauna**
  Research studies indicate that artificial night lighting disrupts the migrating, feeding, and breeding habits of many wildlife species, as well as growth patterns of trees. See references in The Ecological Consequences of Artificial Night Lighting.

- **Reduce Health Risks**
  Light at night not only disrupts your sleep but also interferes with your circadian rhythms. Recent research indicates that intrusive lighting may reduce the production of melatonin, a beneficial hormone, and a resulting raise in the rates of breast and other cancers.

Included:
1. **Diagrams of Acceptable/Unacceptable Lighting Fixtures**
2. **How to Develop an Acceptable Lighting Plan**
3. **Definitions of Full Cut Off, Shielded, and RLM sign lighting Fixtures**
4. **Lighting Plan Submissions**
5. **Recommended Illumination Levels for various tasks**

UNSHIELDED FIXTURES

Full Cutoff and Fully Shielded Fixtures



Diagrams courtesy of Bob Crelin

*****Ask your local electrical suppliers for " full-cut off" or "fully shielded" light fixtures. Once you have selected fixtures which are compatible with your architecture and community, contact the manufacturer's representative to see a sample of the fixture(s) and to ask for a free lighting plan. If you have a CAD file, the plan can be easily provided in a short period of time. *****

Most lighting manufacturers have Application Departments which will execute free lighting plans to meet local lighting codes.

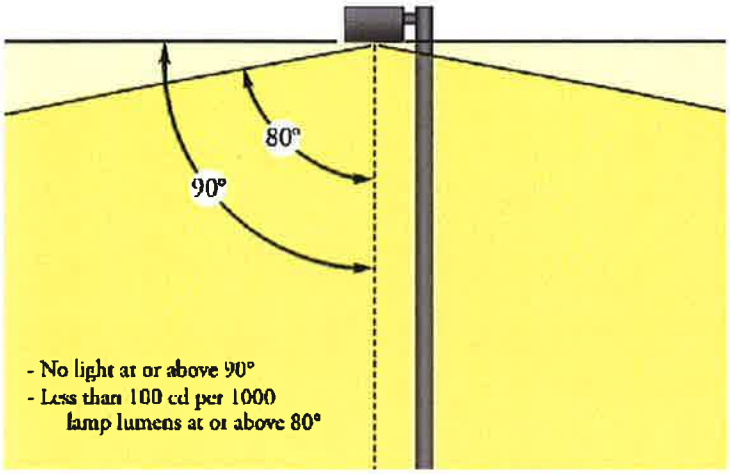
See this website for links to manufacturers:
http://www.darksky.org/mc/page.do?sitePageId=56422&orgId=idsa
Sample of Web retailers:
www.starrynightlights.com and www.greenearthlighting.com

How to Develop an Acceptable Lighting Plan

1. **Identify where as well as when lighting is needed. Confine and minimize lighting to the extent necessary to meet safety purposes.** Plans should define the areas for which illumination is planned. Itemizing each area (e.g. parking lot, doorways, walkways, signage, foliage) with the anticipated hours of use. Commercial outdoor lighting should be used for safe pedestrian passage and property identification, and lit during active business hours and shut off afterward.
2. **Direct light downward by choosing the correct type of light fixtures.** (See Appendix 3). Specify IES (Illuminating Engineering Society) "Full Cut Off" designated or "fully shielded" fixtures, so that no light is emitted above the lowest light emitting part of the fixture. Top mounted sign lighting is recommended with "RLM" (dish) type shields, and aimed so that the light falls entirely on the sign and is positioned so that the light source (bulb) is not visible from any point off the property or into the roadway to reduce glare. For each one square foot of sign, usually no more than 200 lumens is necessary for good visibility.
3. **Select the correct light source (bulb type).** Compact fluorescent (2300K) or High Pressure Sodium is recommended unless the light is motion sensor activated, in which case incandescent or the instant start compact fluorescent bulbs can be used. Metal Halide (due to its higher costs, energy use, impact on the environment, and greater contribution to "sky glow") is discouraged, as well as light sources rated over 3000 Kelvin; and outdated Mercury Vapor bulbs are prohibited.
4. **Utilize " shut off" controls such as sensors, timers, motion detectors, etc.** Automatic controls turn off lights when not needed. All lights should be extinguished no later than one half hour after the close of business. Additional motion sensor activated lighting can be used for emergency access. Avoid "dusk-to-dawn" sensors without a middle of the night shut off control. Lights alone will not serve to "protect" property and are a poor "security" device. Examine other means of protecting property and to discourage criminal activity. Let your local police know that you have a "lights out" policy so that they can investigate if they see lights or activity after hours.
5. **Limit the height of fixtures.** Locate fixtures no closer to the property line than four times the mounting height of the fixture, and not to exceed the height of adjacent structures. (Exceptions may be made for larger parking areas, commercial zones adjacent to highways, or for fixtures with greater cut off shielding behind the pole mount in commercial zones.)
6. **Limit light crossing property lines, i.e. "light trespass".** Limit light to spill across the property lines. Light levels at the property line should not exceed 0.1 footcandles (fc) adjacent to business properties, and 0.05 fc at residential property boundaries. Utility leased floodlight fixtures mounted on public utility poles in the public right-of-way should not be used.
7. **Use the correct amount of light.** Light levels and uniformity ratios should not exceed recommended values, per IESNA RP-33 or 20. (See Appendix 5, Recommended Illumination Levels for various tasks.) "Lumen cap" recommendations for areas to be illuminated are as follows: commercial properties in non-urban commercial zones = 25,000 lumens per acre; for projects in residential and LBO zones = 10,000 lumens per acre. For residential properties: for suburban: 50,000 lumens per acre cap, and in urban areas: 100,000.
8. **Ask for Assistance** Your Planning Department and local lighting sales representatives can assist you in obtaining the necessary information for good lighting. For large projects over 15,000 lumens: greater energy conservation and control of light pollution, light trespass and glare, may be achieved with the help of a professional lighting designer with "dark sky" lighting plan experience.
9. **A post installation inspection should be conducted to check for compliance.** Substitutions by electricians and contractors are common and should not be accepted. Final Approved Site Plans will not allow additional exterior fixtures or substitutes without reviews.
10. **Design interior lighting so that it does not illuminate the outdoors.** Provide interior lighting photometrics for the building's perimeter areas, demonstrating that the interior lighting falls substantially within the building and not through the windows. After closing, interior lighting that extends outdoors needs to be extinguished by the use of shut off timers.

Definition of Acceptable Fixtures:
" Full Cut Off" , " Fully Shielded" , and RLM shield.

Full cutoff fixture



- " Full Cut Off" fixtures are independently certified by the manufacturers, and do not allow light to be emitted above the fixture and the fixture reduces glare by limiting the light output to less than 10% at and below 10 degrees below the horizontal.
- If the manufacturer is unable to provide the " cut off" characteristics for a fixture (also called a " luminaire"), the following definition needs to be met, which can usually be determined by a visual inspection:

" Fully Shielded" : a fixture constructed and installed in such a manner that all light emitted by it, either directly from the lamp (bulb) or a diffusing element, or indirectly by reflection or refraction from any part of the fixture, is projected below the horizontal. This can be determined by a " field test" or a visual assessment of an operating sample.

- Manufacturers and their representatives can provide photographs of light fixtures as " cut sheets" as well as literature confirming the independently tested " cut off" characteristics of their products. These IES files may be assessed for compliance in a computer program: http://www.3dop.com/index1.html
- Photometric layouts for different heights, light sources, and wattages, are also available as " IES" files, upon request or through manufacturers' websites.
- Fixtures must be installed properly, so that the bottom of the fixture is level with the ground. Exceptions are often given for sign lighting which requires vertical lighting:

" RLM" sign lighting shield:

Lighting Plan Submissions

The following information needs to be provided to your municipality's review board which will enable them to evaluate the Site Plan for proper exterior lighting:

The Lighting Plan should be depicted on a site plan, indicating the location of each current and proposed outdoor lighting fixture with projected hours of use. This plan will need to be stamped and certified by a licensed professional, such as an architect or engineer. Many lighting manufacturers can provide free photometric layouts on prepared site plans, to conform to your local requirements.

(1) The lighting plan should include a KEY to the proposed lighting that provides the following information:

- Type and number of luminaire equipment (fixtures), including the "cut off characteristics", indicating manufacturer and model number(s).
- Lamp source type (bulb type, i.e. high pressure sodium), lumen output, and wattage.
- Mounting height with distance noted to the nearest property line for each luminaire.
- Types of timing devices used to control the hours set for illumination, as well as the proposed hours when each fixture will be operated.
- Total Lumens for each fixture, and total square footage of areas to be illuminated. For projects that are in commercial zones, the lumens per net acre to be lit, need not exceed 25,000 lumens. For projects in residential or LBO zones: 10,000 lumens.
- For all plans of more than three fixtures: A Calculation Summary indicating footcandle levels on the lighting plan, noting the maximum, average and minimum, as well as the uniformity ratio of maximum to minimum, and average to minimum levels*.

(2) Lighting manufacturer-supplied specifications ("cut sheets") that include photographs of the fixtures, indicating the certified "cut off characteristics" of the fixture.

(3) Footcandle Distribution, plotting the light levels in footcandles on the ground, at the designated mounting heights for the proposed fixtures. Maximum illuminance levels should be expressed in footcandle measurements on a grid of the site showing footcandle readings in every five or ten-foot square. The grid shall include light contributions from all sources (i.e. pole mounted, wall mounted, sign, and street lights.) Show footcandle renderings five feet beyond the property lines.*

(4) If requested by the reviewing agency, a statement from a lighting professional that a plan, other than that set forth, is needed to meet the intent of these standards.

(5) An environmental impact statement may be required as to the impact of the exterior lighting proposed on flora, fauna, and the night sky. Location of species sensitive to light at night or the proximity to nature preserves or astronomical observatories or "Dark Sky Parks", needs to be indicated.

(6) On the Approved Plan it should be noted that no substitutions, additions, or changes may be made without prior approval by the governing authority.

* This information can be obtained from the manufacturer, your lighting supplier, or the manufacturer's representative.

Recommended Illumination Levels for various tasks*

I. Table of Limits of Illumination, measured in footcandles (fc) at ground level unless noted:

Task Area	Avg.	Not to exceed:
1. Active Building Entrance	2.0 fc	5 fc
Approach	0.2 fc	
2. Gas Station Approach		2 fc
3. Gas Station Pump Area		avg: 5 fc
4. Gas Station Service Area		avg. 3 fc
5. Sidewalks	0.2 fc	5 fc
6. Surface of signs		2 fc

II. Average/Minimum/Uniformity Ratio Limits for Parking Lots:

I. Public Parking Lots -- not to exceed:

Average	Minimum	Uniformity Ratio (Max to Min/Avg to Min)
0.8	0.2	20:1 / 4:1

II. Private Parking Lots -- not to exceed:

Average	Minimum	Uniformity Ratio (Max to Min / Avg to Min)
0.5	0.13	20:1 / 4:1

OR:

III. If illuminance grid lighting plans cannot be reviewed or if fixtures do not provide photometrics and bulbs are under 2000 lumens, use these guidelines:

1. **Pole shall be no greater in height than four times the distance to the property line.**
2. **Maximum Lumen Levels for different fixture heights:**

Mounting Height (Feet)	Recommended Lumen Maximums
6	500 - 1000 lumens
8	600 - 1,600 lumens
10	1,000 - 2,000 lumens
12	1,600 - 2,400 lumens

FOOTCANDLE: ("FC") – Is the basic unit of illuminance (the amount of light falling on a surface). Footcandle measurement is taken with a hand held light meter. One footcandle is equivalent to the illuminance produced on one square foot of surface area by a source of one candle at a distance of one foot. Horizontal footcandles measure the illumination striking a horizontal plane. Footcandle values can be measured directly with certain handheld incident light meters.

LUMEN – A unit used to measure the actual amount of light that is produced by a bulb. The lumen quantifies the amount of light energy produced by a lamp at the lamp, not by the energy input, which is indicated by the "wattage". For example, a 75-watt incandescent lamp can produce 1000 lumens while a 70-watt high-pressure sodium lamp produces 6000 lumens. Lumen output is listed by the manufacturer on the packaging.

*** IES, Recommended Practices, (RP-33-99): Lighting for Exterior Environments; and (RP-20): Parking Lots.** The Illuminating Engineering Society of North America (IES or IESNA), is an organization that establishes updated standards and illumination guidelines for the lighting industry.
http://www.iesna.org/shop/item-detail.cfm?ID=RP-33-99&storeid=1
http://www.iesna.org/shop/item-detail.cfm?ID=RP-20-98&storeid=1

Appendix F.10

Sensitive Species Surveys

October 21, 2010

Mr. Chris Kofron
Senior Biologist and Recovery Permit Coordinator
U.S. FISH AND WILDLIFE SERVICE
2493 Portola Rd, Suite B
Ventura, CA 93003

Re: RESULTS OF ARROYO TOAD PROTOCOL SURVEYS CONDUCTED FOR THE DISNEY | ABC STUDIOS AT THE RANCH STUDY AREA, LOCATED IN PLACERITA CANYON, LOS ANGELES COUNTY, CALIFORNIA.

Dear Mr. Kofron:

This letter report summarizes the methodology and findings of the U.S. Fish and Wildlife Service (USFWS) protocol surveys for the arroyo toad (*Anaxyrus californicus*) conducted by **PCR Services Corporation (PCR)** affiliate biologist Jason Berkley on the 56.7-acre study area ("study area") for the Disney | ABC Studios at The Ranch located on the westernmost portion of Golden Oak Ranch in Placerita Canyon, Los Angeles County, California (Figure 1, *Regional Map Disney | ABC Studios at The Ranch*). The surveys were conducted to determine the presence or absence of arroyo toad within the study area. No arroyo toads were observed.

STUDY AREA

The study area totals approximately 56.7 acres and is located just east of the Antelope Valley Freeway, State Route 14 (SR-14), and north of Placerita Canyon Road. A substantial portion of the study area is comprised of two large, mostly barren fill pads created by Caltrans during the construction of SR-14 in the early 1970s. Placerita Creek runs through the study area from east to west. The study area is located within U.S. Geological Survey (USGS) 7.5-minute Mint Canyon, California topographic quadrangle, Section 6 T. 3 N., R. 15 W. and Section 31 T. 4 N., R. 15 W., as shown in Figure 2, *Vicinity Map Disney | ABC Studios at The Ranch*. The longitude and latitude of the approximate center of the study area is 34° 22' 41.879" North and 118° 29' 28.1399" West. UTM Zone 11 (X, Y) 362903, 3805110. Topography across the study area ranges from the flat areas found on the agricultural fields and pastures, as well as the tops of the fill pads, to steep, friable slopes on the sides of the pads. Elevations within the study area range from approximately 1,400 feet above mean sea level (MSL) at the westernmost portion of Placerita Creek within the study area to approximately 1,590 feet above MSL at the top of the northern fill pad in the northern portion of the study area.

Due to the heavy gravel content of the fill pads, minimal vegetation exists within the fill pad areas of the study area. The remainder of the study area is vegetated with non-native grassland communities, non-native and ruderal plant communities, and ornamental plantings on and around the two fill pads, including bush sunflower (*Encelia californica*), yellow star thistle (*Centuarea melitensis*), foxtail brome (*Bromus madritensis*), eucalyptus (*Eucalyptus* sp.), pine (*Pinus* sp.), and areas of buckwheat scrub that include California buckwheat (*Eriogonum fasciculatum*), deerweed (*Lotus scoparius*), chamise (*Adenostoma fasciculatum*), and California sagebrush (*Artemisia californica*). The study area also includes pockets of coast live oak (*Quercus agrifolia*), primarily around the southern fill pad, and a riparian woodland community associated with Placerita Creek, which is characterized as mixed riparian woodland/southern willow scrub that includes red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), mule fat (*Baccharis salicifolia*), western sycamore (*Platanus racemosa*), coast live oak, and poison oak (*Toxicodendron diversilobum*).

PLANT COMMUNITIES

Plant communities found within the study area include agricultural, buckwheat scrub/chamise chaparral, coast live oak woodland, disturbed-buckwheat scrub/chamise chaparral, disturbed/developed, mixed willow riparian woodland, and southern willow scrub.

Arroyo toads are typically found in foothill canyons and inter-mountain valleys where the stream is bordered by low hills and the stream gradient is low. The arroyo toad is restricted to riparian environments in the middle reaches of third order streams and are known to either breed, forage, and/or aestivate in aquatic habitats, riparian, coastal sage scrub, oak, and chaparral habitats.

Within the study area, approximately 13.6 acres of potentially suitable arroyo toad habitat occur along and around Placerita Creek in the form of buckwheat scrub/chamise chaparral, coast live oak woodland, and mixed willow riparian woodland. Descriptions of these communities are presented below. Figure 3, *Plant Communities Disney | ABC Studios at The Ranch* depicts the location and extent of all plant communities occurring within the study area. Table 1, *Plant Communities Disney | ABC Studios at The Ranch* lists the acreages of these communities within the study area.

Buckwheat Scrub/Chamise Chaparral

Buckwheat scrub/chamise chaparral contains components of both buckwheat scrub and chamise chaparral vegetation communities. This mixed community consists of low growing buckwheat and chamise and often occurs on xeric slopes and ridges and is adapted to frequent fires by crown sprouting. Associated species typically include California sagebrush, deerweed, Our Lord's candle (*Yucca whipplei*), toyon (*Heteromeles arbutifolia*), fasciculated tarweed (*Hemizonia fasciculata*), and white sage (*Salvia apiana*).

Table 1

Plant Communities
Disney | ABC Studios at The Ranch

Plant Community	Acreage
Agricultural	10.7
Buckwheat Scrub/Chamise Chaparral	5.7
Coast Live Oak Woodland	4.7
Disturbed-Buckwheat Scrub/Chamise Chaparral	4.6
Disturbed/Developed	27.1
Mixed Willow Riparian Woodland	3.2
Southern Willow Scrub	0.7
Total	**56.7**

Source: PCR Services Corporation, 2010.

Dominant plant species observed within the study area include California buckwheat and chamise. Associated plant species include California sagebrush, toyon, scrub oak (*Quercus berberidifolia*), wild oat (*Avena fatua*), ripgut grass (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), and black mustard (*Brassica nigra*). The study area supports approximately 5.7 acres of buckwheat scrub/chamise chaparral.

Coast Live Oak Woodland

Coast live oak woodland is dominated by large, mature coast live oak. Within the study area, coast live oak woodland is dominated by coast live oak with a poorly developed shrub layer. This plant community typically occurs on north-facing slopes and in shaded ravines. Characteristic species of coast live oak woodland include toyon, Mexican elderberry (*Sambucus mexicana*), poison oak, ripgut grass, goose grass (*Galium aparine*), foxtail chess, Mexican elderberry (*Sambucus mexicana*), short-podded mustard (*Hirschfeldia incana*), wild oat, California buckwheat, and manzanita (*Arctostaphylos* sp.). Coast live oak woodland covers approximately 4.7 acres within the central and southern portions of the study area.

Mixed Willow Riparian Woodland

Typically, this community is found dominated by mature willows (*Salix* spp.) forming a less than 100 percent canopy cover. Characteristically, this community occurs in habitats that are seasonally flooded such as floodplains and low gradient depositions along rivers and streams. Other species that may occur within this community include black cottonwood (*Populus balsamifera*), big

leaf maple (*Acer macrophyllum*), western sycamore, Fremont's cottonwood (*Populus fremontii*), Mexican elderberry, and mule fat.

Within the study area, mixed willow riparian woodland supports a dominance of mature arroyo willow and red willow. Other species observed include mule fat, mugwort (*Artemisia douglasiana*), foxtail chess, ripgut brome, Mexican elderberry, deerweed, Fremont's cottonwood, and coast live oak. Within the study area, mixed willow riparian woodland community occurs on 3.2 acres in the riparian corridor associated with Placerita Creek.

METHODOLOGY

Surveys for the arroyo toad were conducted by PCR affiliated biologist Jason Berkley in accordance with the USFWS's *Survey Protocol for the Arroyo Toad* issued May 19, 1999.[1] Accordingly, six surveys were performed at least seven days apart in April, May, and June, and daytime and nighttime surveys were performed within the same 24 hours within all portions of the study area containing suitable habitat. The daytime surveys included a habitat assessment and surveying for the presence or absence of arroyo toad larvae, eggs, and juveniles. The nighttime surveys included walking the same area looking and listening for adult breeding arroyo toads. Temperatures during surveys ranged between 50 and 74 degrees Fahrenheit. Weather conditions were suitable for surveys, with skies ranging from clear to 5 percent cloud cover, and winds ranging from 0 to 3 miles per hour.

The field investigator slowly walked through all potentially suitable habitat. Nighttime surveys were conducted between one hour after dusk and midnight when air temperatures were 55 degrees Fahrenheit or greater at the onset of the survey. Adverse weather conditions such as extreme winds and weather did not occur during the surveys. Surveys were conducted on March 15, April 13, and May 5, 2010. During the May 5th protocol survey it was noted the drainage had dried up and all potentially suitable breeding habitat had disappeared. The protocol surveys ceased and the lack of suitable breeding habitat continued until the survey window closed. Survey details are listed in Table 2, *Survey Data*.

RESULTS

No arroyo toads were observed within the study area during any of the protocol surveys.

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[1] *U.S. Fish and Wildlife Service. May 19, 1999. Survey Protocol for the Arroyo Toad. Unpublished paper. Sacramento, California.*

Table 2

Survey Data

Date	Time (start-end)	Wind (mph) (start/end)	Temperature (F) (start-end)	Weather (start-end)	Results	Surveyors
03/15/10	1810-1930	3/2	74°-67°	clear-clear	None observed or otherwise detected	Berkley
03/15/10	1930-2110	3/0	67°-50°	clear-clear	None observed or otherwise detected	Berkley
04/13/10	1820-1920	3/1	61°-57°	5% cloud cover-5% cloud cover	None observed or otherwise detected	Berkley
04/13/10	1940-2010	1/1	55°-50°	clear-clear	None observed or otherwise detected	Berkley
05/05/10	0720-0740	0/0	55°-60°	clear-clear	None observed or otherwise detected	Berkley
05/05/10	1940-2010	0/0	69°-62°	clear-clear	None observed or otherwise detected	Berkley

Source: PCR Services Corporation 2010.

Should you have any questions regarding the methodology or findings in this report, please do not hesitate to contact Stephanie Gasca (s.gasca@pcrnet.com) at (949) 753-7001 or Jason Berkley (jberkley@cereusenvironmental.com) at (714) 493-1120.

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

Sincerely,
PCR SERVICES CORPORATION

Jason Berkley
Biologist

Stephanie Gasca
Senior Regulatory Specialist II

N

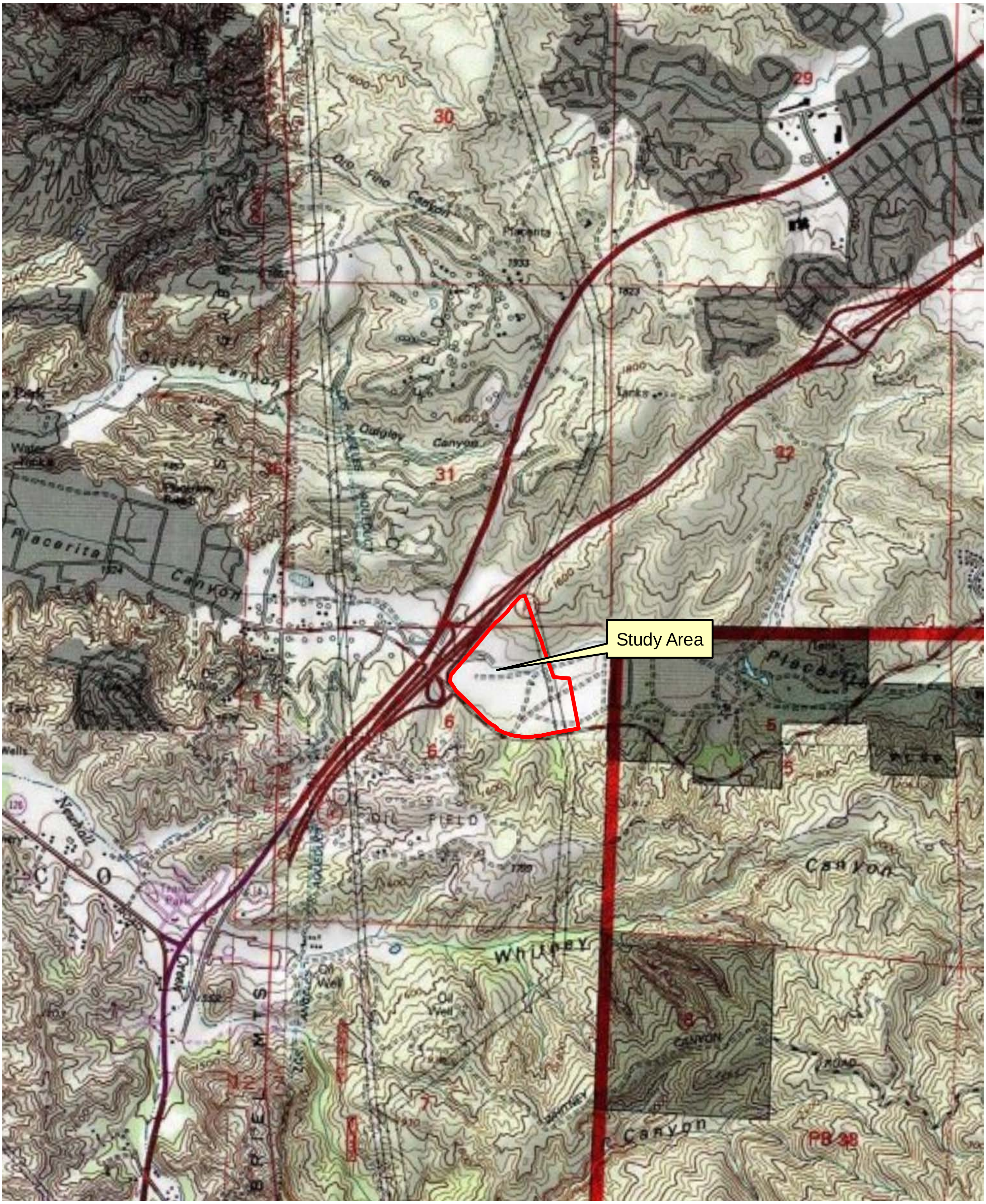
0 10 20 Miles

Regional Map
Disney | ABC Studios at The Ranch

Source: ESRI, 2010; PCR Services Corporation, 2010.

FIGURE
1

PCR



Vicinity Map

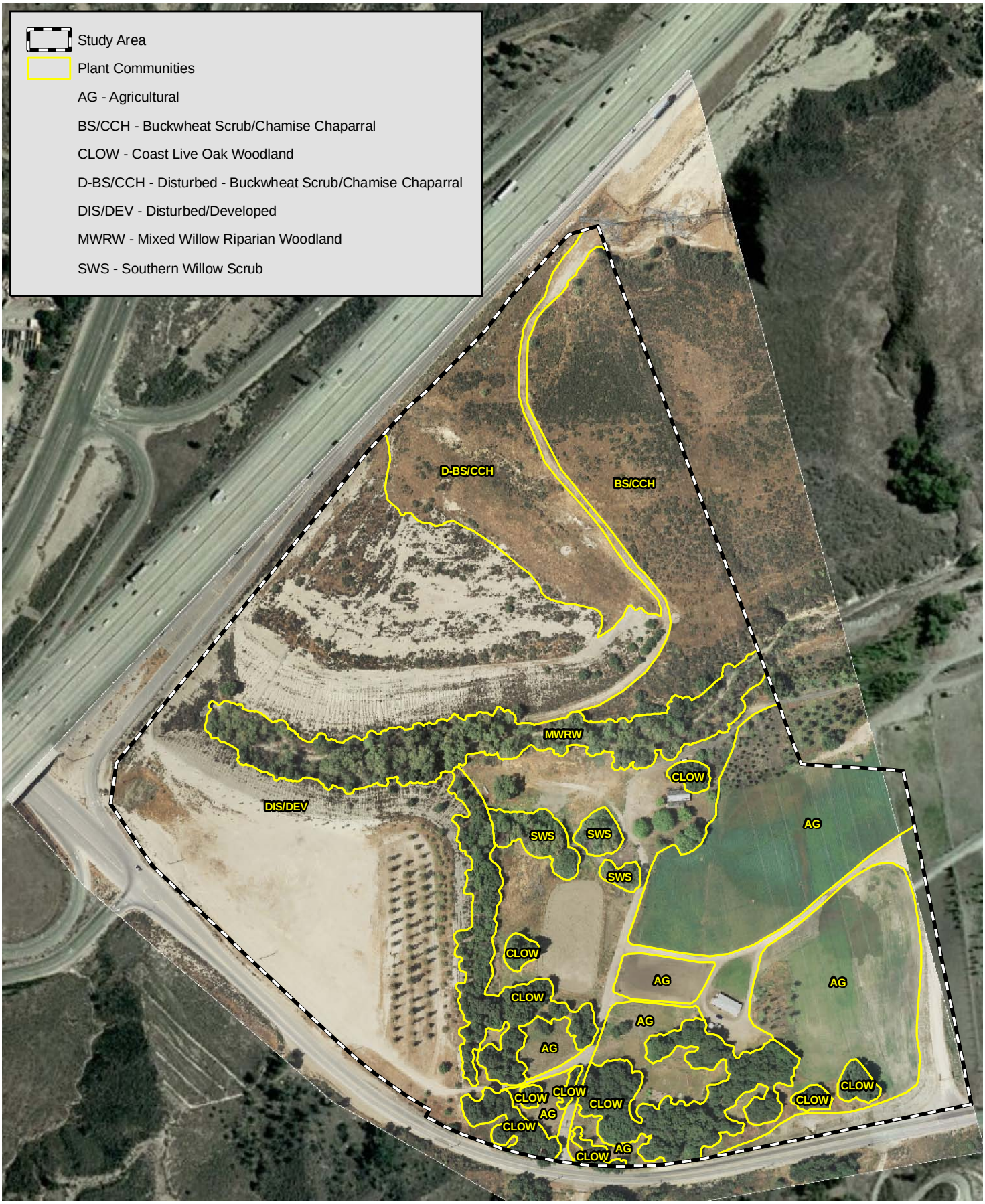
Disney | ABC Studios at The Ranch

Source: USGS Topographic Series (Mint Canyon, San Fernando, Newhall, Oat Mountain, CA); PCR Services Corporation, 2010.

PCR

FIGURE

2



PCR

N

0 300 600 Feet

Plant Communities
Disney | ABC Studios at The Ranch

Source: DEA, 2009; PCR Services Corporation, 2010.

FIGURE
3

October 21, 2010

Mr. Chris Kofron
Senior Biologist and Recovery Permit Coordinator
U.S. FISH AND WILDLIFE SERVICE
2493 Portola Rd, Suite B
Ventura, CA 93003

Re: RESULTS OF FOCUSED COASTAL CALIFORNIA GNATCATCHER SURVEYS FOR THE DISNEY | ABC STUDIOS AT THE RANCH STUDY AREA, PLACERITA CANYON, LOS ANGELES COUNTY, CALIFORNIA

Dear Mr. Kofron:

This report is submitted in compliance with the conditions of authorized permit numbers TE067347-3 and TE009015-3 issued to **PCR Services Corporation (PCR)** biologist Crysta Dickson and **PCR** affiliated biologist Jason Berkley, respectively, for the performance of U.S. Fish and Wildlife Service (USFWS) protocol surveys for the coastal California gnatcatcher (*Polioptila californica californica*) (CAGN). As such, this letter report summarizes the methodology and findings of presence/absence surveys for this species within on- and off-site areas associated with Disney | ABC Studios at The Ranch (Proposed Project) in Placerita Canyon, Los Angeles County, California (Figure 1, *Regional Map Disney | ABC Studios at The Ranch*). The surveys were conducted to determine the presence and location or absence of CAGN within the study area. CAGN were not observed within the study area during the focused surveys conducted during the 2010 breeding season.

STUDY AREA

The Proposed Project would construct a new studio project on 56.7 acres (Development Area) on the westernmost portion of the approximately 890-acre Golden Oak Ranch and construct a water tank on the Ranch south of Placerita Canyon Road and a water line from the water tank down an existing dirt road to Placerita Canyon Road (Water Tank Area). The Proposed Project also would install water and sewer lines from the Development Area west of State Route 14 (SR-14) into the City of Santa Clarita and a water pump station in the City of Santa Clarita (Off-site Infrastructure Improvement Area). The study area included the Development Area and the Water Tank Area, and the Off-site Infrastructure Improvement Area, which together cover approximately 89.4 acres, including a 20-foot wide construction area on both sides of the water and sewer lines and a 40-foot buffer area around the limits of grading for proposed water pump stations outside of the Ranch, and a 200-foot buffer around the above areas. In total, approximately 359 acres were mapped outside of the Development Area and included in this survey.

The study area is located within U.S. Geological Survey (USGS) 7.5-minute Mint Canyon, California topographic quadrangle, Section 6, T. 3 N., R. 15 W. and Sections 19, 29, 30 and 31, T. 4 N., 15 W.; USGS 7.5-minute San Fernando, California topographic quadrangle, Section 6, T. 3 N., R. 15 W.; USGS 7.5-minute Newhall, California topographic quadrangle, Section 36 and an un-sectioned portion, T. 4 N., R. 16 W.; and USGS 7.5-minute Oat Mountain, California topographic quadrangle, Section 1, T. 3 N., R. 16 W. and an un-sectioned portion, T. 4 N., R. 16 W., as shown in Figure 2, *Vicinity Map Disney | ABC Studios at The Ranch*. The longitude and latitude of the approximate center of the study area is 34° 22' 41.879" North and 118° 29' 28.1399" West. UTM Zone 11 (X, Y) 362903, 3805110. Topography across the study area ranges from the flat areas found on the agricultural fields and pastures and the tops of the gravel pads, to steep chaparral covered slopes. Elevations within the study area range from approximately 1,350 feet above mean sea level (MSL) at the westernmost portion of Placerita Creek within the study area to approximately 1,760 feet above MSL at Golden Valley Road in the northern portion of the study area.

PLANT COMMUNITIES

Plant communities found within the study area include agricultural, buckwheat scrub/chamise chaparral, coast live oak woodland, disturbed-buckwheat scrub/chamise chaparral, disturbed/developed, mixed willow riparian woodland, southern willow scrub, chamise chaparral, coastal sage scrub, coastal sage scrub/chamise chaparral, coastal sage scrub/non-native grassland, disturbed-buckwheat scrub, disturbed-coast live oak woodland, disturbed-coastal sage scrub, non-native grassland, and ornamental. Approximately 79.0 acres of potentially suitable CAGN habitat occurs within the study area in the form of buckwheat scrub/chamise chaparral, chamise chaparral, coastal sage scrub, coastal sage scrub/chamise chaparral, coastal sage scrub/non-native grassland, disturbed-buckwheat scrub, disturbed-buckwheat scrub/chamise chaparral, and disturbed-coastal sage scrub. Descriptions of these communities are presented below. Figure 3, *Plant Communities Disney | ABC Studios at The Ranch* depicts the location and extent of all plant communities mapped within the study area. Table 1, *Plant Communities Disney | ABC Studios at The Ranch* lists the acreages of these communities within the study area.

Buckwheat Scrub/Chamise Chaparral

Buckwheat scrub/chamise chaparral contains components of both buckwheat scrub and chamise chaparral vegetation communities. This mixed community consists of low growing buckwheat and chamise and often occurs on xeric slopes and ridges and is adapted to frequent fires by crown sprouting. Associated species typically include California sagebrush (*Artemisia californica*), deerweed (*Lotus scoparius*), Our Lord's candle (*Yucca whipplei*), toyon (*Heteromeles arbutifolia*), fasciculated tarweed (*Hemizonia fasciculata*), and white sage (*Salvia apiana*).

Table 1

Plant Communities
Disney | ABC Studios at The Ranch

Plant Community	Development Area, Water Tank Area and Off-site Infrastructure Area (acres)	200-foot Buffer (acres)	Total (acres)
Agricultural	10.7	0.0	10.7
Buckwheat Scrub/Chamise Chaparral	5.7	0.9	6.6
Chamise Chaparral	0.0	3.4	3.4
Coast Live Oak Woodland	4.9	4.8	9.8
Coastal Sage Scrub	1.1	25.0	26.1
Coastal Sage Scrub/Chamise Chaparral	1.0	25.7	26.7
Coastal Sage Scrub/Non-native Grassland	0.0	0.6	0.6
Disturbed-Buckwheat Scrub	0.7	1.4	2.2
Disturbed-Buckwheat Scrub/Chamise Chaparral	4.6	0.0	4.6
Disturbed Coast Live Oak Woodland	0.3	2.8	3.1
Disturbed-Coastal Sage Scrub	0.4	8.4	8.8
Disturbed/Developed	54.0	172.7	226.7
Mixed Willow Riparian Woodland	3.2	0.0	3.2
Non-native Grassland	1.2	16.2	17.4
Ornamental	0.9	7.5	8.4
Southern Willow Scrub	0.7	0.0	0.7
Total	**89.4**	**269.4**	**359.0**

Source: PCR Services Corporation, 2010.

Dominant plant species observed within the study area include California buckwheat (*Eriogonum fasciculatum*) and chamise (*Adenostoma fasciculatum*). Associated plant species include California sagebrush, toyon, scrub oak (*Quercus berberidifolia*), wild oat (*Avena fatua*), ripgut grass (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), and black mustard (*Brassica nigra*). The study area supports approximately 6.6 acres of buckwheat scrub/chamise chaparral.

Chamise Chaparral

Chamise chaparral typically supports chaparral species that are 1 to 3 meters tall and is overwhelmingly dominated by chamise. Within the study area, this community is dominated by chamise. Associated plant species include California sagebrush, black sage (*Salvia mellifera*),

Mexican elderberry (*Sambucus mexicana*), and toyon. The study area supports approximately 3.4 acres of chamise chaparral.

Coastal Sage Scrub

Coastal sage scrub contains low, soft-woody subshrubs. Many taxa are facultatively drought-deciduous. Within the study area this community is dominated by California sagebrush and California buckwheat. Associated plant species included ripgut grass, foxtail chess, big sagebrush (*Artemisia tridentata*), storksbill (*Erodium botrys*), short-podded mustard (*Hirschfeldia incana*), black sage, Russian thistle (*Salsola tragus*), chamise, western sycamore (*Platanus racemosa*), chaparral nightshade (*Solanum xanti),* deerweed, mule fat (*Baccharis salicifolia*), tree tobacco (*Nicotiana glauca*), purple sage (*Salvia leucophylla*), Our Lord's candle, toyon, and wild cucumber (*Marah macrocarpus*). The study area supports approximately 26.1 acres of coastal sage scrub.

Coastal Sage Scrub/Chamise Chaparral

Coastal sage scrub/chamise chaparral contains components of both coastal sage scrub and chamise chaparral vegetation communities. This mixed community is dominated by California sagebrush, black sage, California buckwheat, and chamise. The study area supports approximately 26.7 acres of coastal sage scrub/chamise chaparral.

Coastal Sage Scrub/Non-native Grassland

Coastal sage scrub/non-native grassland contains components of both coastal sage scrub and non-native grassland vegetation communities. This mixed community is dominated by California sagebrush, black sage, California buckwheat, wild oat, and ripgut grass. The study area supports approximately 0.6 acre of coastal sage scrub/non-native grassland.

Disturbed-Buckwheat Scrub

The study area supports approximately 2.2 acres of disturbed buckwheat scrub. These areas are primarily located along Placerita Canyon Road and are highly disturbed due to human activities. This community supports a sparse cover of California buckwheat, chamise, California sagebrush, toyon, scrub oak, wild oat, ripgut grass, foxtail chess, and black mustard.

Disturbed-Buckwheat Scrub/Chamise Chaparral

The study area supports 4.6 acres of disturbed buckwheat scrub/chamise chaparral. This disturbed community occurs on a portion of the northern fill pad and is the result of the on-going natural re-establishment of this community on the completely disturbed fill pad. This area contains

many of the buckwheat scrub/chamise chaparral species present on the surrounding hillsides with a large amount of unvegetated land and larger percentages of non-native species, including wild oat, ripgut grass, foxtail chess, wild mustard, and black mustard.

Disturbed-Coastal Sage Scrub

The study area supports 8.8 acres of disturbed coastal sage scrub. These areas are primarily located along Sierra Highway and are highly disturbed due to human activities. This community supports a sparse cover of those species mentioned above within the coastal sage scrub community.

METHODOLOGY

Surveys for the CAGN were conducted by permitted PCR biologist Crysta Dickson and permitted PCR affiliated biologist Jason Berkley in accordance with the USFWS *Coastal California Gnatcatcher Presence/Absence Survey Guidelines* issued July 28, 1997[1]. Accordingly, six surveys were performed at least one week apart, between 6:00 A.M. and 12:00 P.M., within all portions of the study area containing suitable habitat. Temperatures during surveys ranged between 43 and 89 degrees Fahrenheit. Weather conditions were suitable for surveys, with skies ranging from clear to 10 percent cloud cover, and winds ranging from 0 to 7 miles per hour.

The field investigator slowly walked through all potentially suitable habitat, uttering pishing sounds and playing recorded CAGN vocalizations. The recording was played for several seconds at each interval, followed by a pause to listen for a response. Surveys were conducted on April 15, April 25; May 5, May 15; and June 4 and June 13, 2010. Survey details are listed in Table 2, *Survey Data*.

RESULTS

No CAGN were observed within the study area during any of the focused surveys conducted. One male brown-headed cowbird (*Molothrus ater*) was observed on-site during the May 15, 2010 survey. No other brown-headed cowbirds were observed within the study area during any other surveys. A list of all avian species observed within the study area during surveys is included in Attachment A, *Avian Compendium*.

---

[1] *U.S. Fish and Wildlife Service. July 28, 1997. Coastal California Gnatcatcher (Polioptila californica californica): Presence/Absence Survey Guidelines. Unpublished paper. Sacramento, California.*

Table 2

Survey Data

Date	Time (start-end)	Wind (mph) (start/end)	Temperature (F) (start-end)	Weather (start-end)	Results	Surveyors
04/15/10	0630-1100	0/0	43°-69°	10% cloud cover-clear	None observed or otherwise detected	Berkley/ Dickson
04/25/10	0820-1130	1/0	54°-78°	clear-clear	None observed or otherwise detected	Berkley
05/05/10	0740-1200	1/7	73°-80°	5% cloud cover-1% cloud cover	None observed or otherwise detected	Berkley
05/15/10	0750-1200	1/3	73°-82°	clear-clear	None observed or otherwise detected	Berkley
06/04/10	0730-1100	0/1	77°-88°	clear-clear	None observed or otherwise detected	Berkley
06/13/10	0720-1100	0/2	64°-89°	clear-clear	None observed or otherwise detected	Berkley

Source: PCR Services Corporation 2010.

Should you have any questions regarding the methodology or findings in this report, please do not hesitate to contact Crysta Dickson (c.dickson@pcrnet.com) at (949) 753-7001 or Jason Berkley (jberkley@cereusenvironmental.com) at (714) 493-1120.

We certify that the information in this survey report and attached exhibits fully and accurately represent our work.

Sincerely,
PCR SERVICES CORPORATION

Jason Berkley
Biologist
TE009015-3

Crysta Dickson
Senior Biologist II
TE067347-3

Attachments

PCR

N

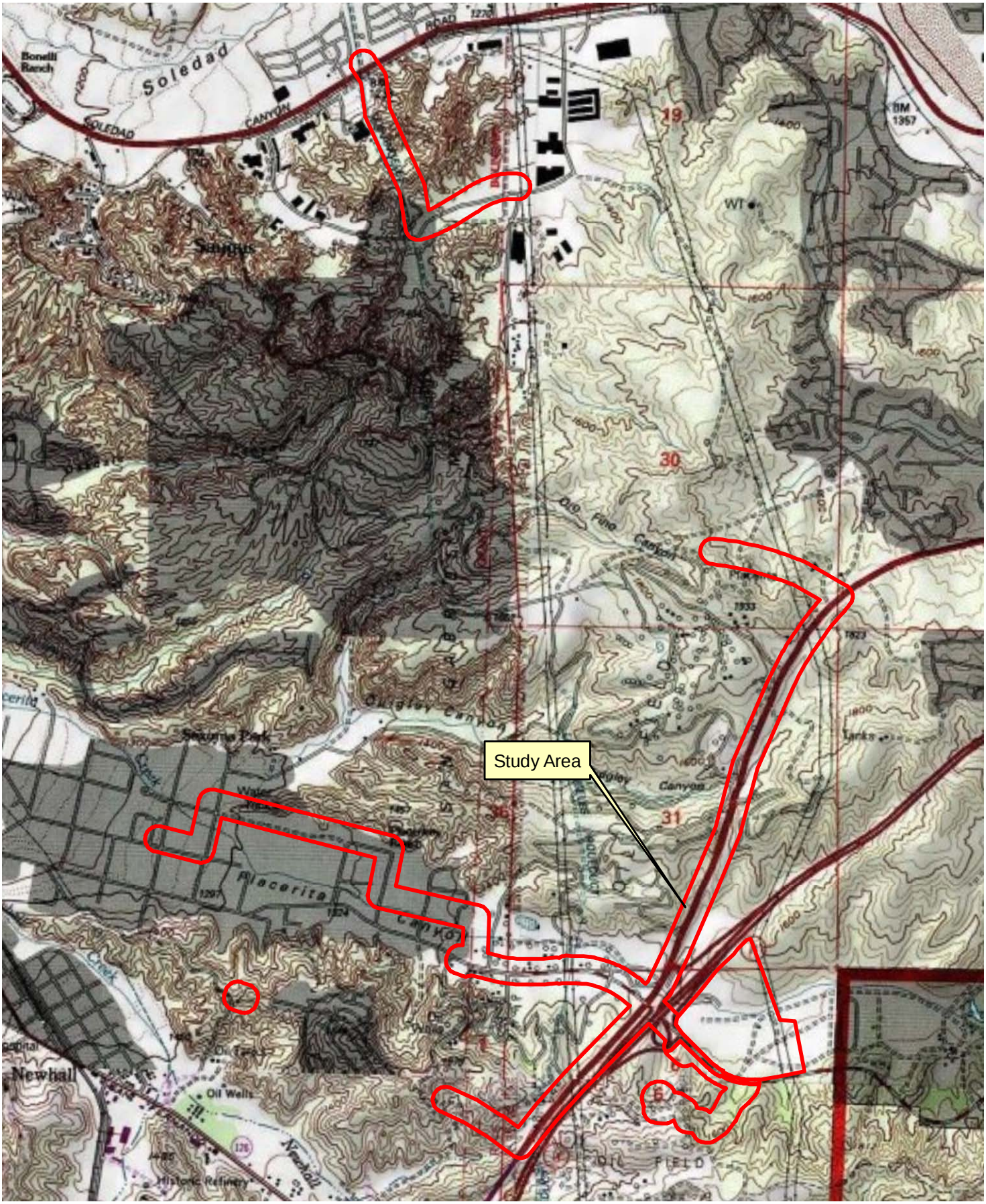
0 10 20 Miles

Regional Map
Disney | ABC Studios at The Ranch

Source: ESRI, 2010; PCR Services Corporation, 2010.

FIGURE

1



PCR

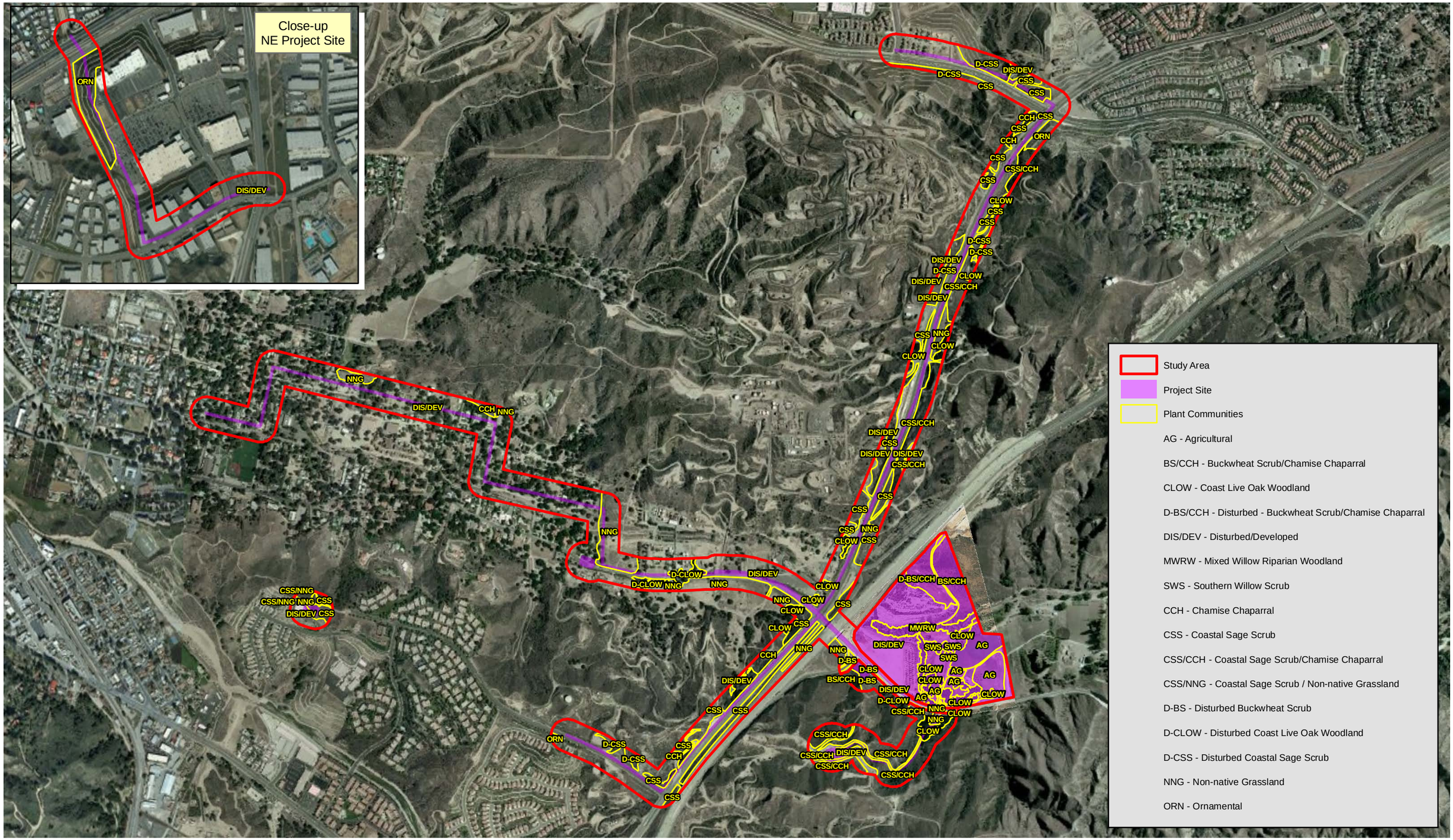
N

0 2,000 4,000 Feet

Vicinity Map
Disney | ABC Studios at The Ranch

Source: USGS Topographic Series (Mint Canyon, San Fernando, Newhall, Oat Mountain, CA); PCR Services Corporation, 2010.

FIGURE
2



PCR

N

0 1,100 2,200 Feet

Plant Communities
Disney | ABC Studios at The Ranch

Source: DEA, 2009; PCR Services Corporation, 2010.

FIGURE
3

ATTACHMENT A – AVIAN COMPENDIUM

BIRDS

SCIENTIFIC NAME	COMMON NAME
Cathartidae	**New World Vultures**
Cathartes aura	turkey vulture
Accipitridae	**Hawks**
Buteo jamaicensis	red-tailed hawk
Buteo lineatus	red-shouldered hawk
Odotophoridae	**Quails**
Callipepla californica	California quail
Columbidae	**Pigeons and Doves**
Columba fasciata	band-tailed pigeon
Columba livia	rock dove
Zenaida macroura	mourning dove
Apodidae	**Swallows**
Petrochelidon pyrrhonota	cliff swallow
Stelgidopteryx serripennis	northern rough-winged swallow
Hirundinidae	**Swifts**
Aeronautes saxatalis	white-throated swift
Trochilidae	**Hummingbirds**
Calypte anna	Anna's hummingbird
Selasphorus sasin	Allen's hummingbird
Picidae	**Woodpeckers**
Melanerpes formicivorus	acorn woodpecker
Tyrannidae	**Tyrant Flycatchers**
Contopus sordidulus	western wood-pewee
Empidonax traillii	willow flycatcher
Myiarchus cinerascens	ash-throated flycatcher
Sayornis nigricans	black phoebe
Tyrannus verticalis	western kingbird
Ptilogonatidae	**Silky Flycatchers**
Phainopepla nitens	phainopepla
Corvidae	**Jays and Crows**
Aphelocoma californica	western scrub-jay
Corvus brachyrhynchos	American crow

*=non-native species

BIRDS

Scientific Name	Common Name
Corvus corax	common raven
Muscicapidae	**Wrentits**
Chamaea fasciata	wrentit
Aegithalidae	**Bushtits**
Psaltriparus minimus	bushtit
Troglodytidae	**Wrens**
Thryomanes bewickii	Bewick's wren
Troglodytes aedon	house wren
Sittidae	**Nuthatches**
Sitta carolinensis	white-breasted nuthatch
Mimidae	**Thrashers**
Mimus polyglottos	northern mockingbird
Toxostoma redivivum	California thrasher
Sturnidae	**Starlings**
* *Sturnus vulgaris*	European starling
Paridae	**Titmice**
Baeolophus inornatus	oak titmouse
Parulidae	**Wood Warblers**
Dendroica coronata	yellow-rumped warbler
Vermivora celata	orange-crowned warbler
Vermivora ruficapilla	Nashville warbler
Wilsonia pusilla	Wilson's warbler
Turdidae	**Thrushes**
Sialia mexicana	western bluebird
Emberizidae	**Emberizids**
Aimophila ruficeps	rufous-crowned sparrow
Amphispiza belli	sage sparrow
Melospiza melodia	song sparrow
Pipilo crissalis	California towhee
Pipilo maculatus	spotted towhee
Zonotrichia atricoplilla	golden-crowned sparrow
Zonotrichia leucophrys	white-crowned sparrow
Icteridae	**Blackbirds**
Agelaius phoeniceus	red-winged blackbird
Molothrus ater	brown-headed cowbird
Vireonidae	**Vireos**
Vireo gilvus	warbling vireo

*=non-native species

BIRDS

Scientific Name	Common Name
Fringillidae	**Finches**
Carduelis lawrencei	Lawrence's goldfinch
Carduelis psaltria	lesser goldfinch
Carduelis tristis	American goldfinch
Carpodacus mexicanus	house finch
Thraupidae	**Tanagers**
Piranga ludoviciana	western tanager
Charadriidae	**Plovers**
Charadrius vociferus	killdeer
Passeridae	**Old World Sparrows**
* *Passer domesticus*	house sparrow

*=non-native species

November 2, 2010

Mr. Chris Kofron
Senior Biologist and Recovery Permit Coordinator
U.S. FISH AND WILDLIFE SERVICE
2493 Portola Rd, Suite B
Ventura, CA 93003

Re: RESULTS OF FOCUSED LEAST BELL'S VIREO SURVEYS CONDUCTED FOR THE DISNEY | ABC STUDIOS AT THE RANCH STUDY AREA, LOCATED IN PLACERITA CANYON, LOS ANGELES COUNTY, CALIFORNIA

Dear Mr. Kofron:

This letter report summarizes the methodology and findings of surveys for the least Bell's vireo (*Vireo bellii pusillus*) (LBV) conducted by **PCR Services Corporation (PCR)** affiliate biologist Jason Berkley on the 61.0-acre "study area" for the Disney | ABC Studios at The Ranch (the Proposed Project) located on the westernmost portion of Golden Oak Ranch in Placerita Canyon, Los Angeles County, California (Figure 1, *Regional Map Disney | ABC Studios at The Ranch*). The surveys were conducted to determine the presence or absence of LBV within the study area. LBV were not observed within the study area during the focused surveys conducted during the 2010 breeding season.

STUDY AREA

The Proposed Project would construct a new studio project on 56.7 acres (Development Area) on the westernmost portion of the approximately 890-acre Golden Oak Ranch and construct a water tank on the Ranch south of Placerita Canyon Road and a water line from the water tank down an existing dirt road to Placerita Canyon Road (Water Tank Area). The study area included the Development Area and the Water Tank Area and covered approximately 61.0 acres just east of the Antelope Valley Freeway, State Route 14 (SR-14), and north and south of Placerita Canyon Road. A substantial portion of the study area is located on two large, mostly barren fill pads created by Caltrans during the construction of SR-14 in the early 1970s. The study area is located within U.S. Geological Survey (USGS) 7.5-minute Mint Canyon, California topographic quadrangle, Section 6, T. 3 N., R. 15 W. and Section 31, T. 4 N., R. 15 W., and USGS 7.5-minute San Fernando, California topographic quadrangle, Section 6, T. 3 N., R. 15 W., as shown in Figure 2, *Vicinity Map Disney | ABC Studios at The Ranch*. The longitude and latitude of the approximate center of the study area is 34° 22' 41.879" North and 118° 29' 28.1399" West. UTM Zone 11 (X, Y) 362903, 3805110. Topography across the study area ranges from the flat areas found on the agricultural fields,

pastures, and tops of the fill pads to steep, friable slopes on the sides of the pads. Elevations within the study area range from approximately 1,400 feet above mean sea level (MSL) at the westernmost portion of Placerita Creek within the Development Area to approximately 1,682 feet above MSL at the top of the Water Tank Area.

Due to the heavy gravel content of the fill pads, minimal vegetation exists within the fill pad areas of the Development Area. The remainder of the study area (Development and Water Tank areas) is vegetated with non-native grassland communities, non-native and ruderal plant communities, and ornamental plantings on and around the two fill pads, including bush sunflower (*Encelia californica*), yellow star thistle (*Centuarea melitensis*), foxtail brome (*Bromus madritensis*), eucalyptus (*Eucalyptus* sp.), pine (*Pinus* sp.), and areas of buckwheat scrub that include California buckwheat (*Eriogonum fasciculatum*), deerweed (*Lotus scoparius*), chamise (*Adenostoma fasciculatum*), and California sagebrush (*Artemisia californica*). The study area also includes pockets of coast live oak (*Quercus agrifolia*), primarily around the southern fill pad, and a riparian woodland community associated with Placerita Creek, which is characterized as mixed willow riparian woodland and southern willow scrub communities that include red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), mule fat (*Baccharis salicifolia*), western sycamore (*Platanus racemosa*), coast live oak, and poison oak (*Toxicodendron diversilobum*).

PLANT COMMUNITIES

Plant communities found within the study area include agricultural, buckwheat scrub/chamise chaparral, coast live oak woodland, coastal sage scrub/chamise chaparral, disturbed buckwheat scrub, disturbed-buckwheat scrub/chamise chaparral, disturbed/developed, mixed willow riparian woodland, non-native grassland, ornamental, and southern willow scrub. Approximately 8.8 acres of potentially suitable LBV habitat occurs within the study area in the form of coast live oak woodland, mixed willow riparian woodland, and southern willow scrub. Descriptions of these communities are presented below. Figure 3, *Plant Communities and Willow Flycatcher Locations Disney | ABC Studios at The Ranch*, depicts the locations and extents of all plant communities occurring within the study area. Table 1, *Plant Communities Disney | ABC Studios at The Ranch*, lists the acreages of these communities within the study area.

Coast Live Oak Woodland

Coast live oak woodland is dominated by large, mature coast live oak trees. Within the study area, coast live oak woodland is dominated by coast live oak with a poorly developed shrub layer. This plant community typically occurs on north-facing slopes and in shaded ravines. Characteristic species of coast live oak woodland include toyon (*Heteromeles arbutifolia*), Mexican elderberry

Table 1

Plant Communities
Disney | ABC Studios at The Ranch

Plant Community	Acreage
Agricultural	10.7
Buckwheat Scrub/Chamise Chaparral	5.7
Coast Live Oak Woodland	4.9
Coastal Sage Scrub/Chamise Chaparral	1.0
Disturbed-Buckwheat Scrub	0.7
Disturbed-Buckwheat Scrub/Chamise Chaparral	4.6
Disturbed/Developed	29.4
Mixed Willow Riparian Woodland	3.2
Non-native Grassland	0.1
Southern Willow Scrub	0.7
Total	**61.0**

Source: PCR Services Corporation, 2010.

(*Sambucus mexicana*), poison oak, ripgut grass (*Bromus diandrus*), goose grass (*Galium aparine*), foxtail chess, Mexican elderberry (*Sambucus mexicana*), short-podded mustard (*Hirschfeldia incana*), wild oat (*Avena fatua*), California buckwheat, and manzanita (*Arctostaphylos* sp.). Coast live oak woodland comprises approximately 4.9 acres within the central and southern portions of the study area.

Mixed Willow Riparian Woodland

Typically, this community is found dominated by mature willows (*Salix* spp.) forming a less than 100 percent canopy cover. Characteristically, this community occurs in habitats that are seasonally flooded such as floodplains and low gradient depositions along rivers and streams. Other species that may occur within this community include black cottonwood (*Populus balsamifera*), bigleaf maple (*Acer macrophyllum*), western sycamore, Fremont's cottonwood (*Populus fremontii*), Mexican elderberry, and mule fat.

Within the study area, mixed willow riparian woodland supports a dominance of mature arroyo willow and red willow. Other species observed include mulefat, mugwort (*Artemisia douglasiana*), foxtail chess, ripgut brome, Mexican elderberry, deerweed, Fremont's cottonwood,

and coast live oak. Within the study area, mixed willow riparian woodland community occurs on 3.2 acres in the riparian corridor associated with Placerita Creek.

Southern Willow Scrub

This community is typically dominated by arroyo willow with lesser amounts of other willow species and mulefat. Characteristically, southern willow scrub occupies wet and moist soils and is restricted in its distribution to the edges of ponds and lakes and other areas where water impounds, such as drainages and seeps. Within the study area, scattered patches of this community support a dominance of arroyo willow and red willow. Other species observed include mulefat, mugwort, and foxtail chess that primarily occur around the outer margins of the willows. Southern willow scrub occurs on approximately 0.7 acre in the central portion of the study area.

METHODOLOGY

Surveys for the LBV were conducted by biologist Jason Berkley. Methods employed were in conformance with U.S. Fish and Wildlife Service *Least Bell's Vireo Survey Guidelines* issued January 19, 2001.[1] Accordingly, eight surveys were performed between April 15 and June 24, 2010. Surveys were conducted no less than ten days apart, between dawn and 11:00 A.M., within all portions of the study area containing suitable riparian habitat and adjacent habitat potentially used for foraging. Weather conditions were suitable for surveys, with clear skies and winds below 5 miles per hour (mph). Temperatures during surveys ranged between 43 and 74 degrees Fahrenheit.

The field investigator slowly walked along or within the riparian habitat, stopping intermittently to look and listen for LBV. Surveys were conducted on April 15, April 25; May 5, May 15, May 25; and June 4, June 14, and June 24, 2010. Survey details are listed in Table 2, *Survey Data*, below.

RESULTS

No LBV were observed within the study area during any of the surveys. However, during the May 15, 2010 survey, two male willow flycatchers (*Empidonax traillii*), which is a California Species of Special Concern (SSC), were observed immediately off-site in the vicinity of the coast live oak woodland immediately south of Placerita Canyon Road. One individual was observed singing in the oak woodland and the other individual was observed singing in the chamise chaparral

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[1] *U.S. Department of the Interior, Fish and Wildlife Service, January 19, 2001. Least Bell's Vireo Survey Guidelines. Ecological Services. Carlsbad Fish and Wildlife Office.*

Table 2

Survey Data

Date	Time	Wind (mph) (start/end)	Temperature (F) (start/end)	Weather (start-end)	Results	Surveyors
04/15/10	0615-0700	0/0	44°-45°	clear-clear	None observed or otherwise detected	Berkley
04/25/10	0700-0820	1/0	46°-53°	clear-clear	None observed or otherwise detected	Berkley
05/05/10	0600-0720	0/0	46°-54°	clear-clear	None observed or otherwise detected	Berkley
05/15/10	0620-0750	0/0	59°-65°	clear-clear	None observed or otherwise detected	Berkley
05/25/10	0600-0700	0/0	43°-46°	clear-clear	None observed or otherwise detected	Berkley
06/04/10	0630-0730	0/0	67°-74°	clear-clear	None observed or otherwise detected	Berkley
06/14/10	0620-0720	0/0	54°-64°	clear-clear	None observed or otherwise detected	Berkley
06/24/10	0630-0730	0/0	58°-61°	clear-clear	None observed or otherwise detected	Berkley

Source: PCR Services Corporation, 2010.

immediately upslope from the coast live oak woodland. These individuals were not observed during any of the other focused surveys. Thus, these birds were considered to be transient and not part of a locally breeding pair. Figure 3, *Plant Communities and Willow Flycatcher Locations Disney | ABC Studios at The Ranch*, depicts the locations of these individuals.

The only other sensitive avian species observed on-site was the SSC yellow warbler (*Dendroica petechia brewsteri*). The yellow warbler was observed on two occasions, May 5 and May 15, 2010. A pair of brown-headed cowbirds (*Molothrus ater*), which are brood parasites, were also observed within the study area during the survey conducted on June 24, 2010. No other brown-headed cowbirds were observed during any other focused survey. A list of all bird species observed is included in Appendix A, *Avian Compendium*.

Should you have any questions regarding the methodology or findings in this report, please do not hesitate to contact Stephanie Gasca (s.gasca@pcrnet.com) at (949) 753-7001 or Jason Berkley (jberkley@cereusenvironmental.com) at (714) 493-1120.

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

Sincerely,
PCR SERVICES CORPORATION

Jason Berkley
Biologist

Stephanie Gasca
Senior Regulatory Specialist II

Attachments

N

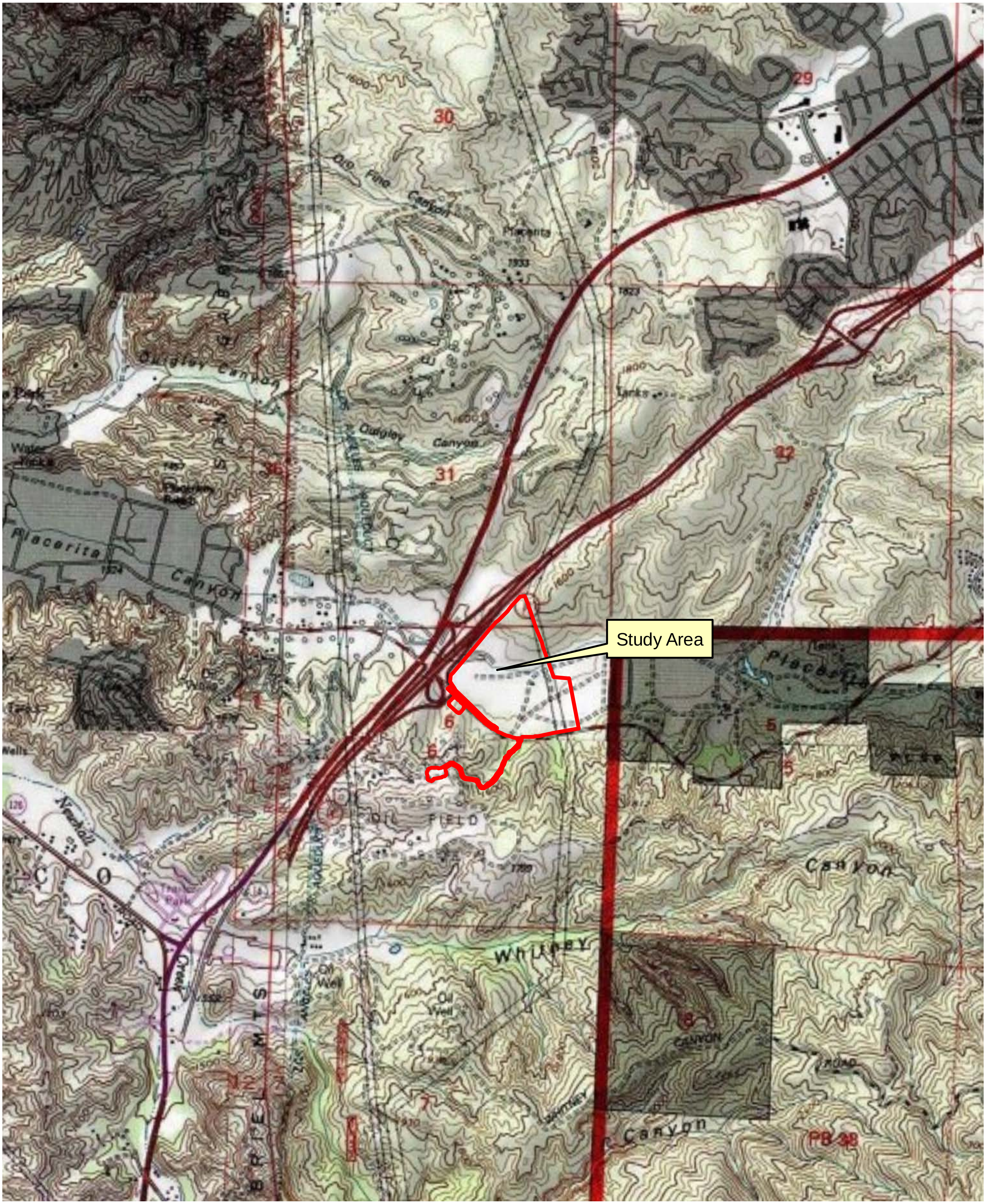
0 10 20 Miles

Regional Map
Disney | ABC Studios at The Ranch

Source: ESRI, 2010; PCR Services Corporation, 2010.

FIGURE
1

PCR



0 2,000 4,000 Feet

Vicinity Map

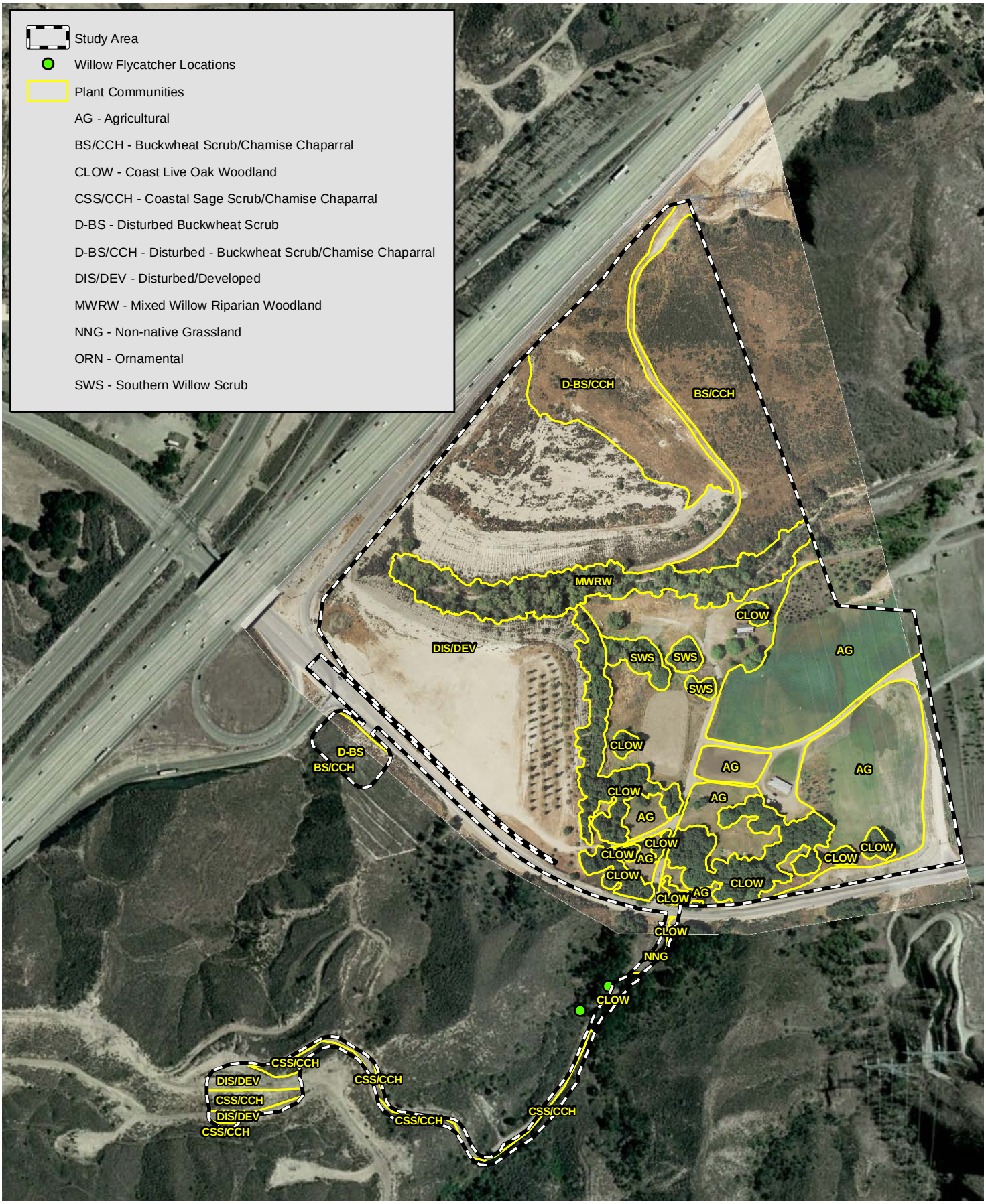
Disney | ABC Studios at The Ranch

Source: USGS Topographic Series (Mint Canyon, San Fernando, Newhall, Oat Mountain, CA); PCR Services Corporation, 2010.

FIGURE

2

PCR



P C R

Plant Communities and Willow Flycatcher Locations
Disney | ABC Studios at The Ranch

N

0 300 600 Feet

Source: DEA, 2009; PCR Services Corporation, 2010.

FIGURE

3

ATTACHMENT A – AVIAN COMPENDIUM

BIRDS

SCIENTIFIC NAME	COMMON NAME
Accipitridae	**Hawks**
Buteo jamaicensis	red-tailed hawk
Odotophoridae	**Quails**
Callipepla californica	California quail
Columbidae	**Pigeons and Doves**
Zenaida macroura	mourning dove
Hirundinidae	**Swallows**
Petrochelidon pyrrhonota	cliff swallow
Stelgidopteryx serripennis	northern rough-winged swallow
Trochilidae	**Hummingbirds**
Archilochus alexandri	black-chinned hummingbird
Calypte anna	Anna's hummingbird
Selasphorus sasin	Allen's hummingbird
Picidae	**Woodpeckers**
Melanerpes formicivorus	acorn woodpecker
Picoides nuttalli	Nuttall's woodpecker
Tyrannidae	**Tyrant Flycatchers**
Contopus sordidulus	western wood-pewee
Empidonax difficilis	Pacific-slope flycatcher
Empidonax traillii	willow flycatcher
Myiarchus cinerascens	ash-throated flycatcher
Sayornis nigricans	black phoebe
Tyrannus vociferans	Cassin's kingbird
Corvidae	**Jays and Crows**
Aphelocoma californica	western scrub-jay
Corvus corax	common raven
Muscicapidae	**Wrentits**
Chamaea fasciata	wrentit
Aegithalidae	**Bushtits**
Psaltriparus minimus	bushtit
Troglodytidae	**Wrens**
Thryomanes bewickii	Bewick's wren
Troglodytes aedon	house wren

*=non-native species

BIRDS

Scientific Name	Common Name
Sittidae	**Nuthatches**
Sitta carolinensis	white-breasted nuthatch
Mimidae	**Thrashers**
Toxostoma redivivum	California thrasher
Sturnidae	**Starlings**
* *Sturnus vulgaris*	European starling
Paridae	**Titmice**
Baeolophus inornatus	oak titmouse
Parulidae	**Wood Warblers**
Dendroica coronata	yellow-rumped warbler
Dendroica petechia brewsteri	yellow warbler
Dendroica townsendi	Townsend's warbler
Geothlypis trichas	common yellowthroat
Vermivora ruficapilla	Nashville warbler
Wilsonia pusilla	Wilson's warbler
Cardinalidae	**Cardinals**
Pheucticus melanocephalus	black-headed grosbeak
Emberizidae	**Emberizids**
Melospiza melodia	song sparrow
Pipilo crissalis	California towhee
Pipilo maculatus	spotted towhee
Icteridae	**Blackbirds**
Agelaius phoeniceus	red-winged blackbird
Icterus bullockii	Bullock's oriole
Molothrus ater	brown-headed cowbird
Sturnella neglecta	western meadowlark
Quiscalus mexicanus	great-tailed grackle
Vireonidae	**Vireos**
Vireo gilvus	warbling vireo
Vireo huttoni	Hutton's vireo
Fringillidae	**Finches**
Carpodacus mexicanus	house finch
Carduelis psaltria	lesser goldfinch
Carduelis tristis	American goldfinch
Thraupidae	**Tanagers**
Piranga ludoviciana	western tanager

*=non-native species

October 21, 2010

Mr. Chris Kofron
Senior Biologist and Recovery Permit Coordinator
U.S. FISH AND WILDLIFE SERVICE
2493 Portola Rd, Suite B
Ventura, CA 93003

RE: RESULTS OF FOCUSED WESTERN SPADEFOOT TOAD SURVEYS FOR THE DISNEY | ABC STUDIOS AT THE RANCH STUDY AREA, LOCATED IN PLACERITA CANYON, LOS ANGELES COUNTY, CALIFORNIA.

Dear Mr. Kofron:

This letter report summarizes the methodology and findings of the focused surveys for the western spadefoot toad (*Spea hammondii*) conducted by **PCR Services Corporation (PCR)** affiliate biologist Jason Berkley on the 56.7-acre study area ("study area") for the Disney | ABC Studios at The Ranch located on the westernmost portion of Golden Oak Ranch in Placerita Canyon, Los Angeles County, California (Figure 1, *Regional Map Disney | ABC Studios at The Ranch*). The surveys were conducted to determine the presence or absence of western spadefoot toad within the study area. No western spadefoot toads were observed during the focused surveys.

STUDY AREA

The study area totals approximately 56.7 acres and is located just east of the Antelope Valley Freeway, State Route 14 (SR-14), and north of Placerita Canyon Road. A substantial portion of the study area is comprised of two large, mostly barren fill pads created by Caltrans during the construction of SR-14 in the early 1970s. Placerita Creek runs through the study area from east to west. The study area is located within U.S. Geological Survey (USGS) 7.5-minute Mint Canyon, California topographic quadrangle, Section 6 T. 3 N., R. 15 W. and Section 31 T. 4 N., R. 15 W., as shown in Figure 2, *Vicinity Map Disney | ABC Studios at The Ranch*. The longitude and latitude of the approximate center of the study area is 34° 22' 41.879" North and 118° 29' 28.1399" West. UTM Zone 11 (X, Y) 362903, 3805110. Topography across the study area ranges from the flat areas found on the agricultural fields and pastures, as well as the tops of the fill pads, to steep, friable slopes on the sides of the pads. Elevations within the study area range from approximately 1,400 feet above mean sea level (MSL) at the westernmost portion of Placerita Creek within the study area to approximately 1,590 feet above MSL at the top of the northern fill pad in the northern portion of the study area.

Due to the heavy gravel content of the fill pads, minimal vegetation exists within the fill pad areas of the study area. The remainder of the study area is vegetated with non-native grassland communities, non-native and ruderal plant communities, and ornamental plantings on and around the two fill pads, including bush sunflower (*Encelia californica*), yellow star thistle (*Centuarea melitensis*), foxtail chess (*Bromus madritensis*), eucalyptus (*Eucalyptus* sp.), pine (*Pinus* sp.), and areas of buckwheat scrub that include California buckwheat (*Eriogonum fasciculatum*), deerweed (*Lotus scoparius*), chamise (*Adenostoma fasciculatum*), and California sagebrush (*Artemisia californica*). The study area also includes pockets of coast live oak (*Quercus agrifolia*), primarily around the southern fill pad, and a riparian woodland community associated with Placerita Creek, which is characterized as mixed riparian woodland/southern willow scrub that includes red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), mule fat (*Baccharis salicifolia*), western sycamore (*Platanus racemosa*), coast live oak, and poison oak (*Toxicodendron diversilobum*).

PLANT COMMUNITIES

Plant communities found within the study area include agricultural, buckwheat scrub/chamise chaparral, coast live oak woodland, disturbed-buckwheat scrub/chamise chaparral, disturbed/developed, mixed willow riparian woodland, and southern willow scrub.

Western spadefoot toad may be found in coastal sage scrub, chaparral, and grasslands habitats, but is most common in grasslands with vernal pools or mixed grassland/coastal sage scrub areas. Within these habitats, western spadefoot toad requires rain pools with water temperatures between 9 and 30 degrees Celsius in which to reproduce, and that persist with more than three weeks of standing water in which to metamorphose successfully. Additionally, riparian habitats with suitable water resources may also be used.

Within the study area, approximately 45.7 acres of potentially suitable western spadefoot toad habitat occurs along and around Placerita Creek in the form of agricultural, coast live oak woodland, disturbed/developed, and mixed willow riparian woodland communities. Descriptions of these communities are presented below. Figure 3, *Plant Communities Disney | ABC Studios at The Ranch* depicts the locations and extents of all plant communities occurring within the study area. Table 1, *Plant Communities Disney | ABC Studios at The Ranch*, lists the acreages of these communities within the study area.

Agricultural

Areas of the study area characterized as agricultural lands include several well-defined fields recently disced for the planting of horse and cattle feed grasses. There are approximately 10.7 acres of agricultural fields located primarily on the southeastern part of the study area.

Table 1

Plant Communities
Disney | ABC Studios at The Ranch

Plant Community	Acreage
Agricultural	10.7
Buckwheat Scrub/Chamise Chaparral	5.7
Coast Live Oak Woodland	4.7
Disturbed-Buckwheat Scrub/Chamise Chaparral	4.6
Disturbed/Developed	27.1
Mixed Willow Riparian Woodland	3.2
Southern Willow Scrub	0.7
Total	**56.7**

Source: PCR Services Corporation, 2010.

Coast Live Oak Woodland

Coast live oak woodland is dominated by large, mature coast live oak trees. Within the study area, coast live oak woodland is dominated by coast live oak with a poorly developed shrub layer. This plant community typically occurs on north-facing slopes and in shaded ravines. Characteristic species of coast live oak woodland include toyon (*Heteromeles arbutifolia*), Mexican elderberry (*Sambucus mexicana*), poison oak, ripgut grass (*Bromus diandrus*), goose grass (*Galium aparine*), foxtail chess, short-podded mustard (*Hirschfeldia incana*), wild oat (*Avena fatua*), California buckwheat, and manzanita (*Arctostaphylos* sp.). Coast live oak woodland covers approximately 4.7 acres within the central and southern portions of the study area.

Disturbed/Developed

Disturbed/developed areas consist of areas of bare ground (i.e., fill pads and dirt roads), which have little or no vegetation growing on them; areas of remnant (less than 20 percent) native vegetation that are now vegetated with predominantly non-native species; and several areas planted with non-native tree species, including eucalyptus (*Eucalyptus* sp.) and Peruvian pepper (*Schinus molle*) tree groves. Developed areas include constructed building sites and associated structures, parking areas, and grading. Disturbed/developed areas on-site were either barren or vegetated with a variety of non-native species, including wild oat (*Avena fatua*), ripgut grass (*Bromus diandrus*), foxtail chess, black mustard (*Brassica nigra*), fiddleneck (*Amsinckia* sp.), and red-stemmed filaree (*Erodium cicutarium*). Disturbed/developed areas comprise approximately 27.1 acres within the study area.

Mixed Willow Riparian Woodland

Typically, this community is found dominated by mature willows (*Salix* spp.) forming a less than 100 percent canopy cover. Characteristically, this community occurs in habitats that are seasonally flooded such as floodplains and low gradient depositions along rivers and streams. Other species that may occur within this community include black cottonwood (*Populus balsamifera*), bigleaf maple (*Acer macrophyllum*), western sycamore, Fremont's cottonwood (*Populus fremontii*), Mexican elderberry, and mule fat.

Within the study area, mixed willow riparian woodland supports a dominance of mature arroyo willow and red willow. Other species observed include mule fat, mugwort (*Artemisia douglasiana*), foxtail chess, ripgut brome, Mexican elderberry, deerweed, Fremont's cottonwood, and coast live oak. Within the study area, mixed willow riparian woodland community occurs on 3.2 acres in the riparian corridor associated with Placerita Creek.

METHODOLOGY

Surveys for the western spadefoot toad were conducted by PCR affiliated biologist Jason Berkley. Five focused surveys were performed in order to coincide with the western spadefoot toad breeding season. Surveys began in January and continued through May, daytime and nighttime surveys performed within the same 24 hours, and all surveys were performed within all portions of the study area containing suitable habitat. The daytime surveys included a habitat assessment and surveying for the presence or absence of western spadefoot toad larvae, eggs, and juveniles. The nighttime surveys included walking the same area looking and listening for adult breeding western spadefoot toads. Temperatures during surveys ranged between 38 and 74 degrees Fahrenheit. Weather conditions were suitable for surveys, with skies ranging from clear to 20 percent cloud cover, and winds ranging from 0 to 3 miles per hour.

The surveyor slowly walked through all potentially suitable habitat. Nighttime surveys were conducted between one hour after dusk and midnight. Adverse weather conditions such as extreme winds and weather did not occur during the surveys. Surveys were conducted on January 19, February 11, March 15, April 13, and May 5, 2010. During the May 5, 2010 survey, it was noted all potentially suitable breeding habitat had dried up and disappeared. The focused surveys ceased at that point due to a lack of suitable breeding habitat and the close of the breeding season. Survey details are listed in Table 2, *Survey Data*, below.

Table 2

Survey Data

Date	Time (start-end)	Wind (mph) (start/end)	Temperature (F) (start-end)	Weather (start-end)	Results	Surveyors
01/19/10	1430-1800	0/0	50°-38°	clear-rainy	None observed or otherwise detected	Berkley
02/11/10	1630-1900	0/0	57°-48°	20% cloud cover-20% cloud cover	None observed or otherwise detected	Berkley
03/15/10	1810-1930	3/2	74°-67°	clear-clear	None observed or otherwise detected	Berkley
03/15/10	1930-2110	3/0	67°-50°	clear-clear	None observed or otherwise detected	Berkley
04/13/10	1820-1920	3/1	61°-57°	5% cloud cover-5% cloud cover	None observed or otherwise detected	Berkley
04/13/10	1940-2010	1/1	54°-50°	clear-clear	None observed or otherwise detected	Berkley
05/05/10	0720-0740	0/0	54°-60°	clear-clear	None observed or otherwise detected	Berkley
05/05/10	1940-2010	0/0	69°-62°	clear-clear	None observed or otherwise detected	Berkley

Source: PCR Services Corporation 2010.

RESULTS

No western spadefoot toads were observed within the study area during any of the focused surveys.

Should you have any questions regarding the methodology or findings in this report, please do not hesitate to contact Stephanie Gasca (s.gasca@pcrnet.com) at (949) 753-7001 or Jason Berkley (jberkley@cereusenvironmental.com) at (714) 493-1120.

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

Sincerely,
PCR SERVICES CORPORATION

Jason Berkley
Biologist

Stephanie Gasca
Senior Regulatory Specialist II

Attachments

N

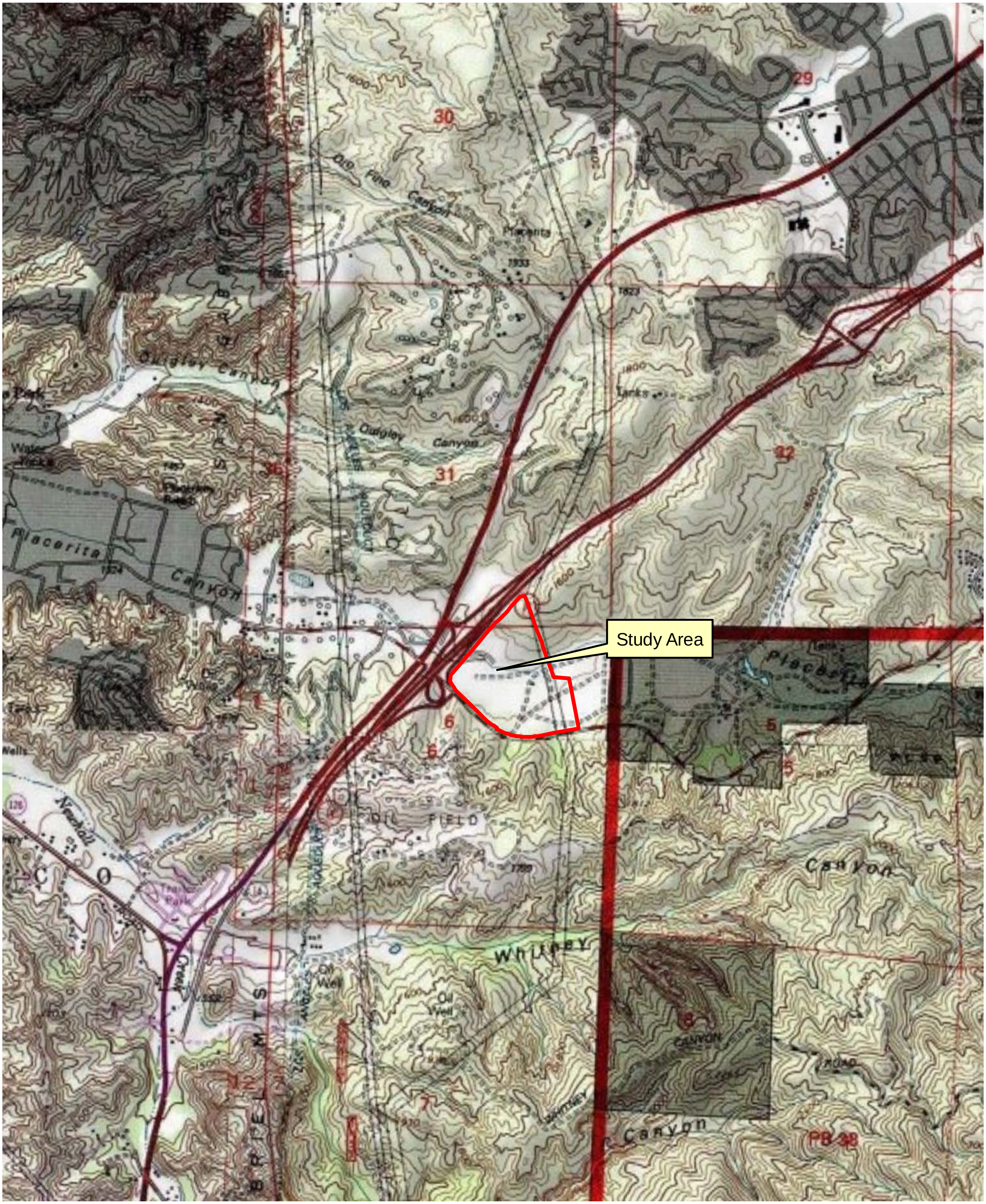
0 10 20 Miles

Regional Map
Disney | ABC Studios at The Ranch

Source: ESRI, 2010; PCR Services Corporation, 2010.

FIGURE
1

PCR



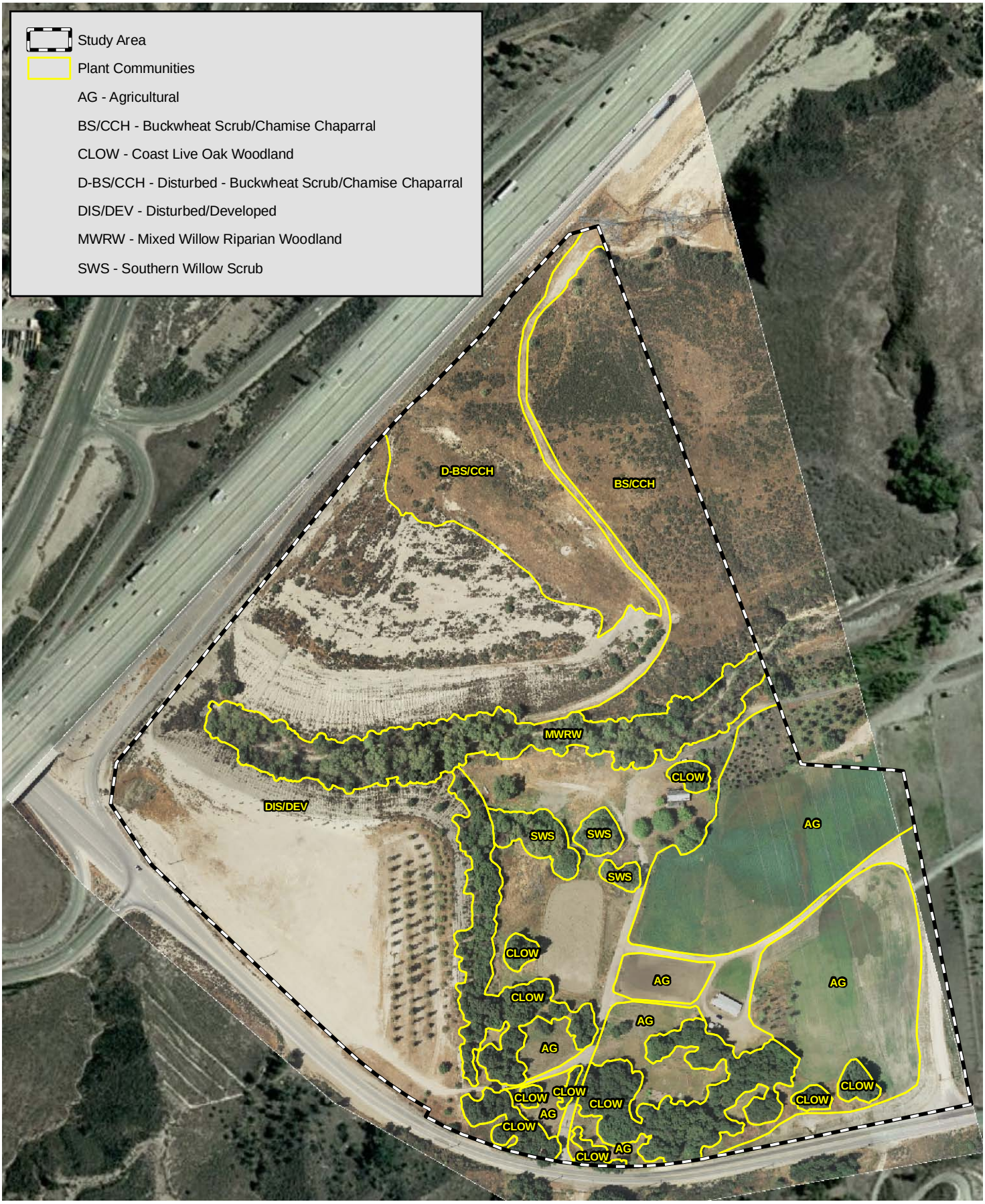
Vicinity Map

Disney | ABC Studios at The Ranch

Source: USGS Topographic Series (Mint Canyon, San Fernando, Newhall, Oat Mountain, CA); PCR Services Corporation, 2010.

FIGURE

2



PCR

N

0 300 600 Feet

Plant Communities
Disney | ABC Studios at The Ranch

Source: DEA, 2009; PCR Services Corporation, 2010.

FIGURE
3

October 21, 2010

Mr. Chris Kofron
Senior Biologist and Recovery Permit Coordinator
U.S. FISH AND WILDLIFE SERVICE
2493 Portola Rd, Suite B
Ventura, CA 93003

Re: RESULTS OF FOCUSED SOUTHWESTERN WILLOW FLYCATCHER SURVEYS FOR THE DISNEY | ABC STUDIOS AT THE RANCH STUDY AREA, LOCATED IN PLACERITA CANYON, LOS ANGELES COUNTY, CALIFORNIA.

Dear Mr. Kofron:

This report is submitted in compliance with the conditions of authorized permit number TE009015-3 issued to **PCR-**affiliated biologist Jason Berkley, for the performance of U.S. Fish and Wildlife Service (USFWS) protocol surveys for the southwestern willow flycatcher (*Empidonax traillii extimus*) (SWWF). As such, this letter report summarizes the methodology and findings of surveys for this species on the 61-acre "study area" for Disney | ABC Studios at The Ranch (Proposed Project) located on the westernmost portion of Golden Oak Ranch in Placerita Canyon, Los Angeles County, California (Figure 1, *Regional Map Disney | ABC Studios at The Ranch*). The surveys were conducted to determine the presence or absence of the SWWF within the suitable habitats within the study area. SWWF were not observed within the study area during the focused surveys conducted during the 2010 breeding season.

STUDY AREA

The Proposed Project would construct a new studio project on 56.7 acres (Development Area) on the westernmost portion of the approximately 890-acre Golden Oak Ranch and construct a water tank on the Ranch south of Placerita Canyon Road and a water line from the water tank down an existing dirt road to Placerita Canyon Road (Water Tank Area). The study area included the Development Area and the Water Tank Area and covered approximately 61.0 acres just east of the Antelope Valley Freeway, State Route 14 (SR-14), and north and south of Placerita Canyon Road. A substantial portion of the study area is comprised of two large, mostly barren fill pads created by Caltrans during the construction of SR-14 in the early 1970s. The study area is located within U.S. Geological Survey (USGS) 7.5-minute Mint Canyon, California topographic quadrangle, Section 6, T. 3 N., R. 15 W. and Section 31, T. 4 N., R. 15 W., and USGS 7.5-minute San Fernando, California topographic quadrangle, Section 6, T. 3 N., R. 15 W., as shown in Figure 2, *Vicinity Map Disney | ABC Studios at The Ranch*. The longitude and latitude of the approximate center of the

study area is 34° 22' 41.879" North and 118° 29' 28.1399" West. UTM Zone 11 (X, Y) 362903, 3805110. Topography across the study area ranges from the flat areas found on the agricultural fields, pastures and the tops of the fill pads to steep, friable slopes on the sides of the pads. Elevations within the study area range from approximately 1,400 feet above mean sea level (MSL) at the westernmost portion of Placerita Creek within the Development Area to approximately 1,682 feet above MSL at the top of the Water Tank Area.

Due to the heavy gravel content of the fill pads, minimal vegetation exists within the fill pad areas of the Development Area. The remainder of the study area (Development and Water Tank areas) is vegetated with non-native grassland communities, non-native and ruderal plant communities, and ornamental plantings on and around the two fill pads, including bush sunflower (*Encelia californica*), yellow star thistle (*Centuarea melitensis*), foxtail brome (*Bromus madritensis*), eucalyptus (*Eucalyptus* sp.), pine (*Pinus* sp.), and areas of buckwheat scrub that include California buckwheat (*Eriogonum fasciculatum*), deerweed (*Lotus scoparius*), chamise (*Adenostoma fasciculatum*), and California sagebrush (*Artemisia californica*). The study area also includes pockets of coast live oak (*Quercus agrifolia*), primarily around the southern fill pad, and a riparian woodland community associated with Placerita Creek, which is characterized as mixed riparian woodland/southern willow scrub that includes red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), mulefat (*Baccharis salicifolia*), western sycamore (*Platanus racemosa*), coast live oak, and poison oak (*Toxicodendron diversilobum*).

PLANT COMMUNITIES

Plant communities found within the study area include agricultural, buckwheat scrub/chamise chaparral, coast live oak woodland, coastal sage scrub/chamise chaparral, disturbed buckwheat scrub, disturbed-buckwheat scrub/chamise chaparral, disturbed/developed, mixed willow riparian woodland, non-native grassland, ornamental, and southern willow scrub. Approximately 8.8 acres of potentially suitable SWWF habitat occurs within the study area in the form of coast live oak woodland, mixed willow riparian woodland, and southern willow scrub. Descriptions of these communities are presented below. Figure 3, *Plant Communities and Willow Flycatcher Locations Disney | ABC Studios at The Ranch*, depicts the locations and extents of all plant communities occurring within the study area. Table 1, *Plant Communities Disney | ABC Studios at The Ranch*, lists the acreages of these communities within the study area.

Coast Live Oak Woodland

Coast live oak woodland is dominated by large, mature coast live oak trees. Within the study area, coast live oak woodland is dominated by coast live oak with a poorly developed shrub layer.

Table 1

Plant Communities
Disney | ABC Studios at the Ranch

Plant Community	Acreage
Agricultural	10.7
Buckwheat Scrub/Chamise Chaparral	5.7
Coast Live Oak Woodland	4.9
Coastal Sage Scrub/Chamise Chaparral	1.0
Disturbed Buckwheat Scrub	0.7
Disturbed - Buckwheat Scrub/Chamise Chaparral	4.6
Disturbed/Developed	29.4
Mixed Willow Riparian Woodland	3.2
Non-native Grassland	0.1
Southern Willow Scrub	0.7
Total	**61.0**

Source: PCR Services Corporation, 2010.

This plant community typically occurs on north-facing slopes and in shaded ravines. Characteristic species of coast live oak woodland include toyon (*Heteromeles arbutifolia*), Mexican elderberry (*Sambucus mexicana*), poison oak, ripgut grass (*Bromus diandrus*), goose grass (*Galium aparine*), foxtail chess, Mexican elderberry (*Sambucus mexicana*), short-podded mustard (*Hirschfeldia incana*), wild oat (*Avena fatua*), California buckwheat, and manzanita (*Arctostaphylos* sp.). Coast live oak woodland comprises approximately 4.9 acres within the central and southern portions of the study area.

Mixed Willow Riparian Woodland

Typically, this community is found dominated by mature willows (*Salix* spp.) forming a less than 100 percent canopy cover. Characteristically, this community occurs in habitats that are seasonally flooded such as floodplains and low gradient depositions along rivers and streams. Other species that may occur within this community include black cottonwood (*Populus balsamifera*), bigleaf maple (*Acer macrophyllum*), western sycamore, Fremont's cottonwood (*Populus fremontii*), Mexican elderberry, and mulefat.

Within the study area, mixed willow riparian woodland supports a dominance of mature arroyo willow and red willow. Other species observed include mulefat, mugwort (*Artemisia douglasiana*), foxtail chess, ripgut brome, Mexican elderberry, deerweed, Fremont's cottonwood, and coast live oak. Within the study area, mixed willow riparian woodland community occurs on 3.2 acres in the riparian corridor associated with Placerita Creek.

Southern Willow Scrub

This community is typically dominated by arroyo willow with lesser amounts of other willow species and mulefat. Characteristically, southern willow scrub occupies wet and moist soils and is restricted in its distribution to the edges of ponds and lakes and other areas where water impounds, such as drainages and seeps. Within the study area, scattered patches of this community support a dominance of arroyo willow and red willow. Other species observed include mulefat, mugwort, and foxtail chess that primarily occur around the outer margins of the willows. Southern willow scrub occurs on approximately 0.7 acre in the central portion of the study area.

METHODOLOGY

Surveys for the SWWF were conducted by biologist Jason Berkley (USFWS Permit No. TE009015-3). Methods employed were in conformance with USFWS *Southwestern Willow Flycatcher Presence/Absence Survey Guidelines* issued on June 1, 2010. Accordingly, five surveys of all suitable habitats on-site were conducted within three survey periods. The first survey period occurred between May 15 and May 31, 2010; with the second survey period between June 1 and June 24, 2010, and the third survey period between June 25 and July 17, 2010. All surveys were conducted at least five days apart and began at dawn and ended between 9:00 and 10:00 A.M. Temperatures during surveys ranged between 56 and 82 degrees Fahrenheit. Weather conditions were suitable for surveys, with skies ranging from clear to 50 percent cloud cover, and winds at or below Beaufort scale 1.

The permitted field investigator slowly walked the suitable habitats stopping at appropriate intervals, uttered pishing sounds, and played an iPod of digitally recorded SWWF vocalizations. The call was played for several seconds at each interval, followed by a brief pause to listen for a response. Surveys were conducted on May 15; June 4, June 24; July 2 and July 16, 2010. Survey details are listed in Table 2, *Survey Data*.

RESULTS

No federally-listed as endangered southwestern willow flycatchers were observed within the study area during any of the focused surveys. However, during the May 15, 2010 survey, two male

Table 2

Survey Data

Date	Time	Wind (B/mph) (start/end)	Temperature (F) (start/end)	Weather (start-end)	Results	Surveyors
05/15/10	0620-0750	0/0	59°-65°	clear-clear	None observed or otherwise detected	Berkley
06/04/10	0630-0730	0/0	68°-74°	clear-clear	None observed or otherwise detected	Berkley
06/24/10	0630-0730	0/0	58°-61°	clear-clear	None observed or otherwise detected	Berkley
07/02/10	0600-0710	0/0	56°-57°	clear-clear	None observed or otherwise detected	Berkley
07/16/10	0630-0800	0/0	73°-82°	50% cloud cover-50% cloud cover	None observed or otherwise detected	Berkley

Source: PCR Services Corporation, 2010.

willow flycatchers (*Empidonax traillii*), which is a California Species of Special Concern (SSC), were observed immediately off-site in the vicinity of the coast live oak woodland immediately south of Placerita Canyon Road. One individual was observed singing in the oak woodland and the other individual was observed singing in the chamise chaparral immediately upslope from the coast live oak woodland. These individuals were not observed during any of the other focused surveys. Thus, these birds were considered to be transient and not part of a locally breeding pair. Figure 3, *Plant Communities and Willow Flycatcher Locations Disney | ABC Studios at The Ranch*, depicts the locations of these individuals.

The only other sensitive avian species observed on-site was the SSC yellow warbler (*Dendroica petechia brewsteri*). The yellow warbler was observed on two occasions, May 5 and May 15, 2010. A pair of brown-headed cowbirds (*Molothrus ater*), which are brood parasites, were also observed within the study area during the survey conducted on June 24, 2010. No other brown-headed cowbirds were observed during any other focused survey. A list of all bird species observed is included in Appendix A, *Avian Compendium*.

Should you have any questions regarding the methodology or findings in this report, please do not hesitate to contact Stephanie Gasca (s.gasca@pcrnet.com) at (949) 753-7001 or Jason Berkley (jberkley@cereusenvironmental.com) at (714) 493-1120.

We certify that the information in this survey report and attached exhibits fully and accurately represent our work.

Sincerely,
PCR SERVICES CORPORATION

Jason Berkley
Biologist
TE009015-3

Stephanie Gasca
Senior Regulatory Specialist II

Attachments

N

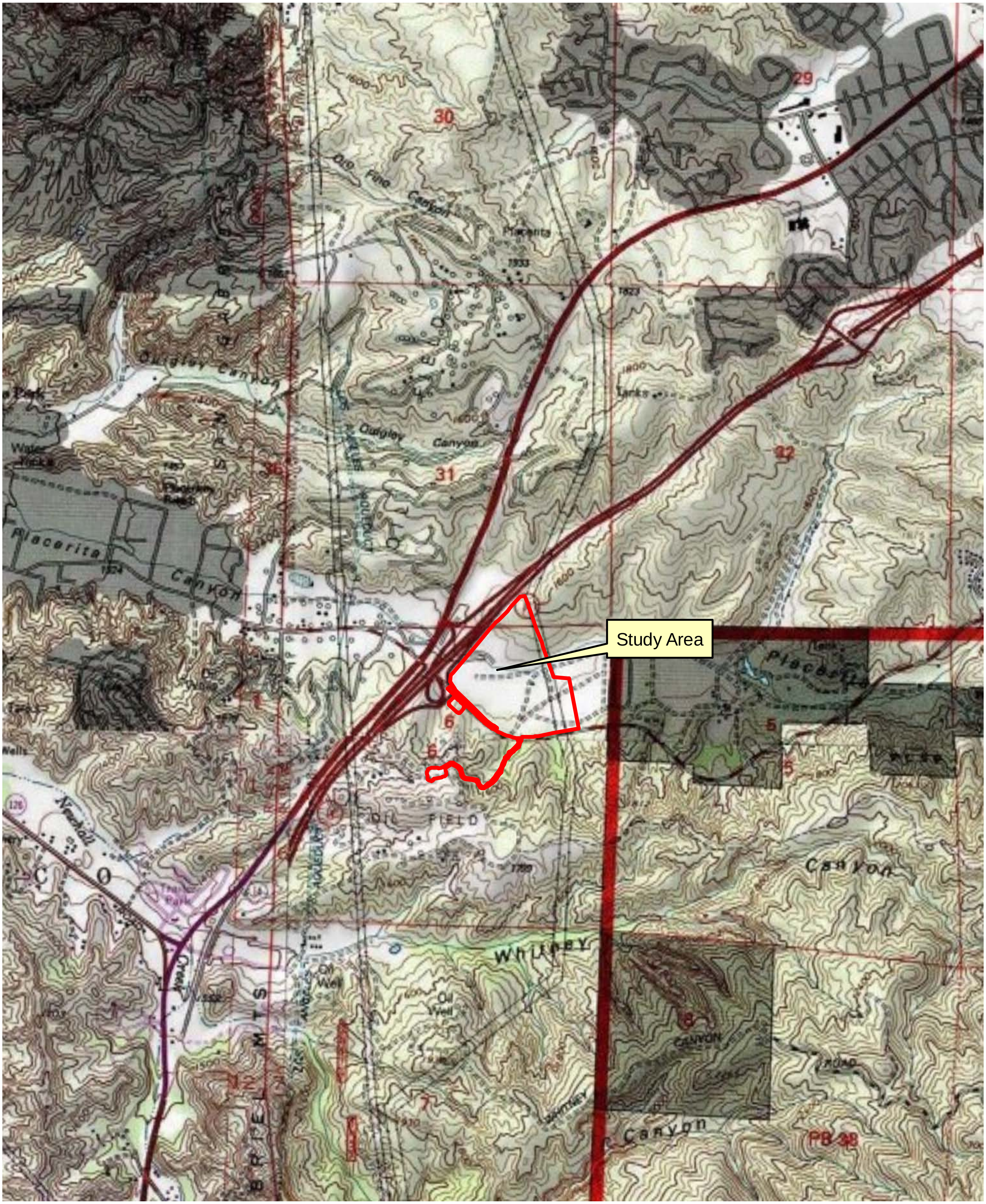
0 10 20 Miles

Regional Map
Disney | ABC Studios at The Ranch

Source: ESRI, 2010; PCR Services Corporation, 2010.

FIGURE
1

PCR



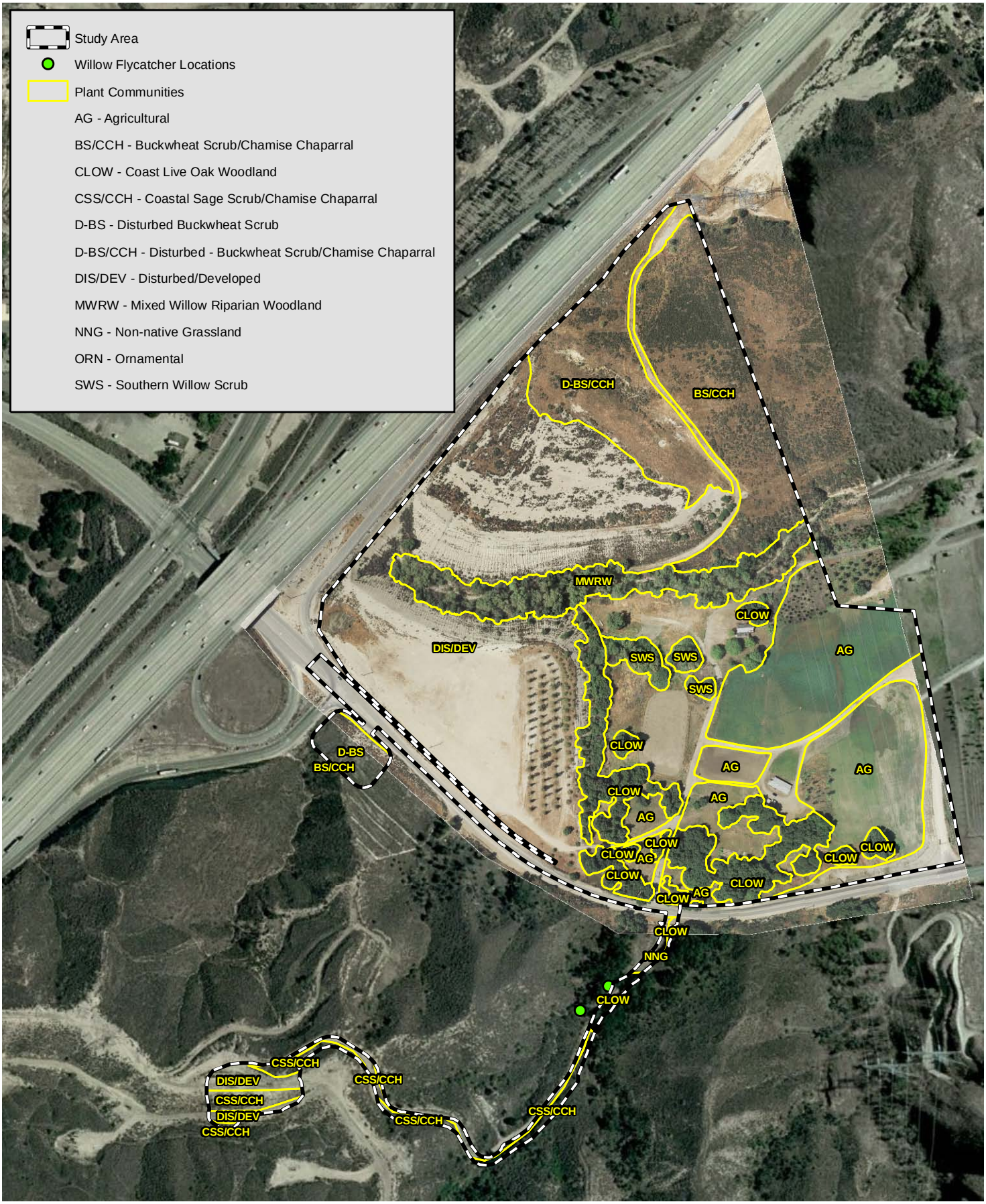
Vicinity Map

Disney | ABC Studios at The Ranch

Source: USGS Topographic Series (Mint Canyon, San Fernando, Newhall, Oat Mountain, CA); PCR Services Corporation, 2010.

FIGURE

2



P C R

Plant Communities and Willow Flycatcher Locations
Disney | ABC Studios at The Ranch

N

0 300 600 Feet

Source: DEA, 2009; PCR Services Corporation, 2010.

FIGURE

3

ATTACHMENT A – AVIAN COMPENDIUM

BIRDS

Scientific Name	Common Name
Accipitridae	**Hawks**
Buteo jamaicensis	red-tailed hawk
Buteo lineatus	red-shouldered hawk
Strigidae	**True Owls**
Bubo virginianus	great horned owl
Odotophoridae	**Quails**
Callipepla californica	California quail
Columbidae	**Pigeons and Doves**
Zenaida macroura	mourning dove
Hirundinidae	**Swallows**
Petrochelidon pyrrhonota	cliff swallow
Stelgidopteryx serripennis	northern rough-winged swallow
Trochilidae	**Hummingbirds**
Archilochus alexandri	black-chinned hummingbird
Calypte anna	Anna's hummingbird
Selasphorus sasin	Allen's hummingbird
Picidae	**Woodpeckers**
Colaptes auratus	northern flicker
Melanerpes formicivorus	acorn woodpecker
Picoides nuttalli	Nuttall's woodpecker
Tyrannidae	**Tyrant Flycatchers**
Contopus sordidulus	western wood-pewee
Empidonax difficilis	Pacific-slope flycatcher
Empidonax traillii	willow flycatcher
Myiarchus cinerascens	ash-throated flycatcher
Sayornis nigricans	black phoebe
Tyrannus vociferans	Cassin's kingbird
Corvidae	**Jays and Crows**
Aphelocoma californica	western scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	common raven
Muscicapidae	**Wrentits**
Chamaea fasciata	wrentit

*=non-native species

BIRDS

Scientific Name	Common Name
Aegithalidae	**Bushtits**
Psaltriparus minimus	bushtit
Troglodytidae	**Wrens**
Thryomanes bewickii	Bewick's wren
Troglodytes aedon	house wren
Sittidae	**Nuthatches**
Sitta carolinensis	white-breasted nuthatch
Mimidae	**Thrashers**
Toxostoma redivivum	California thrasher
Sturnidae	**Starlings**
* *Sturnus vulgaris*	European starling
Paridae	**Titmice**
Baeolophus inornatus	oak titmouse
Parulidae	**Wood Warblers**
Dendroica coronata	yellow-rumped warbler
Dendroica petechia brewsteri	yellow warbler
Dendroica townsendi	Townsend's warbler
Geothlypis trichas	common yellowthroat
Vermivora ruficapilla	Nashville warbler
Wilsonia pusilla	Wilson's warbler
Cardinalidae	**Cardinals**
Pheucticus melanocephalus	black-headed grosbeak
Emberizidae	**Emberizids**
Melospiza melodia	song sparrow
Pipilo crissalis	California towhee
Pipilo maculatus	spotted towhee
Icteridae	**Blackbirds**
Agelaius phoeniceus	red-winged blackbird
Icterus bullockii	Bullock's oriole
Molothrus ater	brown-headed cowbird
Sturnella neglecta	western meadowlark
Quiscalus mexicanus	great-tailed grackle
Vireonidae	**Vireos**
Vireo gilvus	warbling vireo
Vireo huttoni	Hutton's vireo

*=non-native species

BIRDS

Scientific Name	Common Name
Fringillidae	**Finches**
Carpodacus mexicanus	house finch
Carduelis psaltria	lesser goldfinch
Carduelis tristis	American goldfinch
Thraupidae	**Tanagers**
Piranga ludoviciana	western tanager

*=non-native species

Appendix F.11

Habitat Mitigation and Monitoring Plan

Habitat Mitigation and Monitoring Plan

Disney | ABC Studios at The Ranch

Los Angeles County, California

APRIL 2012

APPLICANT:
Golden Oak Ranch Properties
19802 Placerita Canyon
Newhall, CA 91321

PREPARED BY:
DUDEK
605 Third Street
Encinitas, CA 92024

HABITAT MITIGATION AND MONITORING PLAN DISNEY | ABC STUDIOS AT THE RANCH LOS ANGELES COUNTY, CALIFORNIA

Prepared for:

Golden Oak Ranch Properties
19802 Placerita Canyon
Newhall, California 91321

Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024
Contact: John Minchin
760.479.4279

APRIL 2012

Printed on 30% post-consumer recycled material.

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EXECUTIVE SUMMARY

This Habitat Mitigation and Monitoring Plan (HMMP) describes the proposed mitigation design strategies to be implemented for impacts to jurisdictional waters from the proposed Disney | ABC Studios at The Ranch (Project), located within the unincorporated portion of Los Angeles County, California. Jurisdictional waters consist of waters of the U.S. under the jurisdiction of the U.S. Army Corps of Engineers (ACOE), waters of the State under the jurisdiction of the Regional Water Quality Control Board (RWQCB), and streambeds under the jurisdiction of the California Department of Fish and Game (CDFG). The Project is primarily located within a 58.5-acre Development Area in the westernmost portion of the approximately 890-acre Golden Oak Ranch (Ranch) with some infrastructure improvements located in other areas of the Ranch and west of the Ranch. The proposed mitigation program for the Project would occur within the Placerita Creek corridor within the Development Area, and would involve a combination of establishment (i.e., creation of new waters and habitat where none had existed previously), restoration (i.e., revegetation and re-contouring of existing waters and habitat disturbed during construction of the Project), and enhancement (i.e., rehabilitation of existing waters and habitat not impacted by construction but previously degraded by existing disturbance), and preservation of existing waters and habitat within the existing creek channel/corridor area.

The portion of the Placerita Creek corridor in the Development Area owned by the Applicant, which is the subject of this HMMP, would ultimately be preserved as Project open space and would be protected by a use restriction to preserve the area, protect the existing habitat, and protect the mitigation areas in perpetuity. Los Angeles County Flood Control District would have access to the area for maintenance purposes, which would be limited to routine maintenance of the storm drain outlets and maintenance of the slope stabilization elements in the case of emergency events, such as bank failure, or excessive scour. The 1,200-lineal-foot portion of the creek proposed for mitigation includes portions of the channel corridor between the Los Angeles Department of Water and Power (LADWP) transmission corridor, which is owned by LADWP, and the west end of the creek corridor near the State Route 14 (SR-14) right-of-way (ROW). This section of the creek drains the easterly and southerly portions of the Ranch, includes the wetter portions of the creek, and supports the largest extent of riparian habitat on the Ranch. Sections of the creek upstream to the east of this location are more ephemeral in nature, drier with less surface water present, and have less defined riparian vegetation. As a result, the westerly section of the creek is more suitable for jurisdictional mitigation and more capable of supporting an expanded riparian corridor.

A total of 0.71 acre of jurisdictional waters and streambed, consisting of 0.08 acre of waters under the jurisdiction of the ACOE, RWQCB, and CDFG, and an additional 0.63 acre of CDFG jurisdictional streambed, would be permanently impacted with construction of the Project (i.e., grading, drainage structures, riprap, concrete swales, permanent access roads, and water tank improvements). A total of 2.09 acres of jurisdictional waters and streambed, consisting of 0.13 acre

of waters under the jurisdiction of the ACOE, RWQCB, and CDFG and an additional 1.96 acres of CDFG-jurisdictional streambed, would be temporarily impacted by Project construction-related disturbances. (Note: The Project's impacts to non-wetland waters (i.e., unvegetated stream, under permanent and temporary impact) totals 0.12 acre and is already reflected in the total permanent and temporary impacts outlined above). A total of 3.67 acres of mitigation area would be provided within the Placerita Creek corridor in the portion of the Development Area owned by the Applicant, composed of waters and habitat establishment, enhancement, restoration, and transitional buffer. In addition, the Project would preserve 0.47 acre of existing waters and habitat within the Placerita Creek corridor. The creek corridor waters mitigation and preservation area within the portion of the Development Area owned by the Applicant would total 4.14 acres.

An additional 0.10 acre of CDFG-jurisdictional area within the portion of the creek in the part of the Development Area located within the LADWP easement would be restored (revegetated) and established after construction disturbance; however, this area is not being credited toward the mitigation area requirement and would only serve to supplement the overall mitigation program. Additional graded slope areas outside of jurisdictional areas, but within the LADWP easement area, would also be revegetated with transitional buffer species but not considered part of the mitigation/revegetation program.

The mitigation areas within the Placerita Creek corridor are broken down as follows:

- A total of 1.66 acres of establishment (i.e., waters and habitat creation) is proposed on site as mitigation for permanent impacts to waters/streambed.
- A total of 0.11 acre of waters/streambed enhancement (i.e., rehabilitation) is proposed on site as mitigation for temporary waters/streambed impacts.
- A total of 1.90 acres of waters/streambed restoration is proposed on site as partial compensation for temporary waters/streambed impacts.
- A total of 0.47 acre of waters/streambed preservation would occur in the undisturbed portions of the existing creek corridor.

This HMMP provides further detail regarding the existing site conditions; Project impacts; proposed mitigation strategies and implementation guidelines; and long-term maintenance and monitoring requirements.

The County of Los Angeles is the lead agency for review of the Project under the California Environmental Quality Act. The Project will also require federal and state permitting from resource agencies, including a Streambed Alteration Agreement from the CDFG pursuant to Fish and Game Code Section 1600 et seq., a Clean Water Act Section 404 permit from the ACOE, and a Clean Water Act Section 401 Water Quality Certification from the RWQCB. This plan will be used to address the mitigation requirements of these local, state, and federal agencies.

1.0 DESCRIPTION OF PROJECT

This Habitat Mitigation and Monitoring Plan (HMMP) addresses the on-site restoration and enhancement of jurisdictional waters to mitigate for impacts to jurisdictional waters and riparian habitat from the proposed Disney | ABC Studios at The Ranch (Project), located in unincorporated Los Angeles County, California. The Project is located primarily within a 58.5-acre Development Area in the westernmost portion of Golden Oak Ranch (Ranch) with other infrastructure improvements located on approximately 11 acres in other portions of the Ranch and west of the Ranch. The proposed mitigation program for the Project would occur within the Placerita Creek corridor within the Development Area, and would involve a combination of the following:

- Establishment: The creation of new waters and habitat where none had existed previously.
- Restoration: The revegetation and re-contouring of existing waters and habitat disturbed during construction of the Project.
- Enhancement: The rehabilitation of existing waters and habitat not impacted by construction, but otherwise degraded by existing disturbance, including invasive plant infestations.
- Preservation: The preservation of existing waters and habitat within the existing creek channel/corridor area.

The County of Los Angeles is the lead agency for review of the Project under the California Environmental Quality Act and is developing a Mitigation Monitoring and Reporting Program for the long-term mitigation management and monitoring activities within the Project site. In addition, the Project will require federal and state permitting from resource agencies, including a Streambed Alteration Agreement from the California Department of Fish and Game (CDFG) pursuant to Fish and Game Code Section 1600 et seq., a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers (ACOE), and a Clean Water Act Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB). This plan will be used to address the mitigation requirements of these local, state, and federal agencies.

1.1 Applicant/Permittee

Golden Oak Ranch Properties
19802 Placerita Canyon
Newhall, California 91321

1.2 Responsible Parties

Dudek prepared this HMMP, which will be included as part of the applications for resource agency permitting for the Project. When the Project is approved, the Applicant/Permittee (Golden Oak Ranch Properties) will be financially responsible for the costs associated with the implementation, monitoring, maintenance, and protection of mitigation areas as defined in this plan. The Applicant also will be responsible for all costs associated with completion of the mitigation requirements, and will provide access to the mitigation area for habitat restoration specialists, Project contractors, and permitting agency officials.

If the Project is approved, the Applicant will select a qualified Habitat Restoration Specialist and Restoration Contractor to implement the mitigation installation, revegetation, construction monitoring, and long-term maintenance and biological monitoring of the mitigation area. The Habitat Restoration Specialist, in coordination with the County and the Applicant, will review all aspects of the pertinent contract documents, including, but not limited to, site protection, submittal, scheduling of formal site observations, lines of communication, and persons with stop-work authority prior to Project implementation. The Habitat Restoration Specialist will oversee and coordinate implementation of requirements of this HMMP and final construction drawings, interpreting the drawings and plans, conducting or overseeing fieldwork for Project revegetation installation and monitoring during the 120-day initial maintenance period, and biological monitoring throughout the 5-year maintenance and monitoring period. The Habitat Restoration Specialist will possess specific knowledge and project-level experience with wetlands/riparian habitat restoration and enhancement projects, and have at least three years of wetlands/riparian restoration experience in Southern California.

The Habitat Restoration Specialist will be required to advise all Project personnel of the on-site construction restrictions resulting from the proposed implementation of this plan, and the presence or potential presence of sensitive species and vegetation communities within or adjacent to the Project area, as well as known biological-related dangers on site (rattlesnakes, bee-hives, poison oak, etc.). Information about federal, state, and local laws relating to these biological resources will be discussed as part of the education of Project personnel. Access and staging areas outside of environmentally sensitive areas will be established. Project installation monitoring will occur throughout the mitigation site construction period. Monitoring time may increase or decrease as required by field conditions and construction activities.

In order to implement the mitigation program, the Applicant will need to hire a restoration contractor, who will be responsible for the restoration installation and maintenance work (Restoration Contractor). The Restoration Contractor will need to be a qualified, licensed landscape contractor, preferably with experience in wetlands/riparian habitat restoration creation

and maintenance. During the implementation phase, the Restoration Contractor will be responsible for performing Project installation, including irrigation, seeding, planting, mulch installation, erosion control, and other tasks as directed by the Habitat Restoration Specialist and as described in this plan. During the long-term monitoring phase, the Restoration Contractor will be responsible for maintenance of the irrigation system, weed control, erosion control, trash removal, replanting, and other tasks as directed by the Habitat Restoration Specialist and as described in this plan.

1.3 Project Information

The Project is proposed within a 58.5-acre Development Area in the westernmost portion of the 890-acre Ranch, with additional Project elements proposed within areas referred to herein as the Water Tank Area, Potential Mobile Home Relocation Areas, and Conditional Parking Areas, all located within the Ranch, and the Off-Site Infrastructure Improvement Areas located west of the Ranch. Collectively, these areas are referred to as the Project site.

The Project would provide up to twelve soundstages, production offices, six mills, a warehouse, talent bungalows, a commissary, and administration building, a central utility plant, and an electric distribution station in the Development Area. As an alternative option, studio offices rather than four soundstages and two mills could be constructed on the northern portion of the Development Area. The Project also would construct a water tank on the Ranch south of Placerita Canyon Road and a water line from the water tank down an existing dirt road to Placerita Canyon Road, ultimately connecting with Newhall County Water District's existing water storage system. Additionally, two Conditional Parking Areas and two Potential Mobile Home Relocation Areas are included as part of the Project. The Conditional Parking Areas would be developed only if the Los Angeles Department of Water and Power (LADWP) were to revoke the parking license for the proposed main parking lots under its transmission towers. The Potential Mobile Home Relocation Areas were also included, as the Ranch foreman's living quarters would be relocated as part of the Project. Finally, a small area on the Ranch south of Placerita Canyon Road and the Ranch's current main entrance road may be used for a retaining wall for a proposed stoplight.

Placerita Creek, an ephemeral stream, runs through the Development Area in an east–west direction. Flood protection for the Project would be provided through installation of additional drainage facilities and buried bank stabilization along the sides of the stabilized fill pads on both sides of Placerita Creek, referred to as buried soil cement. As discussed below, the buried bank stabilization would be revegetated with native species.

The Project area is surrounded by native habitat, disturbed areas, and agricultural areas to the north, east, and south and State Route (SR-14) to the west. Placerita Canyon Road, a secondary highway, runs through the southern portion of the Ranch in an east–west direction. The utility alignments proposed within the off-site areas are primarily located within existing road rights-of-way (ROWs) where conditions are either developed or disturbed by paved streets and/or existing residential and commercial development.

1.4 Project Location

The Development Area is located just east of SR-14 and the City of Santa Clarita and north of Placerita Canyon Road in unincorporated Los Angeles County (Figures 1 and 2); Section 6 T. 3 N., R. 15 W., of the U.S. Geological Survey (USGS) 7.5-minute Mint Canyon. The Conditional Use Parking Areas and Mobile Home Relocation Areas are located east of the Development Area in Section 5 T. 3 N., R. 15 W. of the Mint Canyon quadrangle. The Water Tank Area and Trail Area are located east of SR-14, south of Placerita Canyon Road, and in Section 6 T. 3 N., R. 15 W. of the San Fernando USGS quadrangle. The longitude and latitude of the approximate center of the Development Area is 34° 22' 41.879" N and 118° 29' 28.1399" W; UTM zone 11 (X, Y) 362903, 3805110. SR-14 forms the western boundary of the Ranch and provides the bulk of regional access to the area via the I-5/SR-14 interchange to the south.

1.5 Existing Conditions of Areas to be Impacted

The existing conditions of the jurisdictional areas to be impacted by the Project were evaluated based upon previous biological resources evaluation information compiled by PCR Services Corporation (PCR) in the Biological Resources Assessment (BRA) for the Disney | ABC Studios at The Ranch (PCR 2010) and by field reconnaissance performed by Dudek in 2011.

The Ranch is situated at the bottom of Placerita Canyon with relatively steep hillsides and ridgelines to the north, east, and south, measuring approximately 600 feet in height. The bottom of the canyon is relatively flat with topography descending gently toward the west. The eastern portion of the Ranch includes private in-holdings within Angeles National Forest.

The Ranch includes two streams mapped on the USGS quadrangles, Placerita Creek, which traverses the property in an east–west direction, and Heil Creek, which connects with Placerita Creek and extends to the north. Several small ephemeral drainage courses are located within the southern portion of the Development Area and on the Ranch south of Placerita Canyon Road. Specifically, the Development Area contains a portion of Placerita Creek and one small ephemeral tributary, and two small ephemeral tributaries are located within the Water Tank Area and Trail Area. Placerita Creek also flows just north of the northern Conditional Parking Area and through a portion of the Off-Site Infrastructure Improvement Areas.

Much of the Development Area consists of two large, mostly barren fill pads created when the California Department of Transportation (Caltrans) deposited dirt and gravel from grading during the construction of SR-14 in the early 1970s. These two fill pads comprise approximately 23.6 acres and are separated by Placerita Creek. Like the remainder of the Ranch, the topography of the Development Area varies, with the lowest elevation at approximately 1,400 feet above mean sea level (MSL) within Placerita Creek near SR-14 and the highest elevation at approximately 1,567 feet above MSL within the northernmost portion of the Development Area. There is a 60-foot drop in elevation on the eastern slope of the southern fill pad, extending into the remaining southern portion of the Development Area.

Due to the heavy gravel content of the fill, minimal vegetation exists within the fill pad areas of the Development Area. The Development Area includes limited areas of coast live oak woodland, mixed willow riparian woodland, southern willow scrub, and an area of buckwheat scrub/chamise chaparral (Figure 3A). The remainder of the Development Area supports agricultural fields and disturbed/developed areas.

The area surrounding the Ranch includes a variety of uses. Residential development in the area includes the 1,259-acre Golden Valley Ranch planned community to the north of the Development Area. Residential subdivisions are also located to the northwest of the Ranch on the other side of SR-14 within the City of Santa Clarita. To the south and southeast of the Ranch are U.S. Forest Service land (Angeles National Forest) and State Park land (Placerita Canyon State Park, known as Placerita Canyon Nature Center), with residential subdivisions farther to the southwest. To the east of the Ranch are undeveloped areas and a small residential subdivision. To the west of the Ranch and Development Area across SR-14 in the City of Santa Clarita are oil production wells and industrial uses, with The Master's College and residential subdivisions farther to the west.

The Water Tank Area is located on the Ranch in hilly terrain south of the Development Area and Placerita Canyon Road. Elevations within the Water Tank Area range from approximately 1,470 feet above MSL at the bottom of the existing unpaved access road to 1,668 feet above MSL at the water tank pad. The footprint of the water tank and access road improvements generally encompass areas previously disturbed by past and current oil drilling operations. These disturbances include prior clearing and grading to create level pads, which remain readily evident today and are largely devoid of native vegetation. South of the Water Tank Area, in the southernmost portion of the Ranch, oil production uses continue. In addition to the disturbed/developed areas, the Water Tank Area contains coastal sage scrub/chamise chaparral, non-native grassland, and coast live oak woodland (Figure 3B).

Near the Water Tank Area, the Trail Area is also located in hilly terrain south of the Development Area and Placerita Canyon Road. The Trail Area extends from the SR-14

northbound off-ramp adjacent to Placerita Canyon Road to southeast of the Water Tank Area at the Ranch's southern property line and includes a proposed trailhead/staging area of approximately 19,000 square feet at the base of the water tank access road. Elevations within the Trail Area range from approximately 1,455 feet above MSL at the SR-14 off-ramp to approximately 1,755 feet above MSL at the crest of the proposed trail alignment. The Trail Area comprises generally undisturbed land containing native vegetation, including chamise chaparral, coastal sage scrub, and oak woodlands; the trailhead/staging area, however, has been previously disturbed to create access to the past and current oil production uses in the southern areas of the Ranch and mostly contains non-native grasses (Figure 3B).

The Conditional Parking Areas are located east of the Development Area in undeveloped, previously disturbed areas of the Ranch. These areas are generally flat with an average elevation of approximately 1,440 feet above MSL within the northern lot and ranging from 1,450 feet to about 1,470 feet above MSL within the southern lot. Much of the southern Conditional Parking Area is used for surface parking and staging for existing Ranch and filming operations.

The Potential Mobile Home Relocation Areas, including the proposed locations for a septic tank for the mobile home, are situated in the southeast corner of the Ranch near an existing, developed area where the Ranch office, a barn, and a workshop are located. These areas are generally flat with elevations ranging from approximately 1,506 feet to 1,523 feet above MSL.

West of the Ranch and SR-14 and within the City of Santa Clarita, a variety of utility lines and associated infrastructure (i.e., the Off Site Infrastructure Improvement Areas) are proposed as part of the Project. The majority of these proposed improvements are located within existing road ROWs where conditions are either developed or disturbed by paved streets and/or existing residential development, in areas where limited natural communities are present (Figure 3C and 3D). These areas are generally flat with elevations ranging from approximately 1,290 feet above MSL at the lowest point along the proposed sewer line alignment to approximately 1,550 feet above MSL at the highest point along the Dockweiler Drive water line alignment.

1.5.1 Placerita Creek

The Development Area includes a reach of Placerita Creek, which is under the jurisdiction of the ACOE, RWQCB, and CDFG. The majority of the upstream reach of Placerita Creek is ephemeral in nature and is primarily dry except after periods of heavy rainfall, generally occurring during the winter months. The portion of the creek corridor within the proposed Development Area carries some perennial flow due to agricultural activities to the east and groundwater that appears to surface in this area.

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FIGURE 1

Regional Map

Disney | ABC Studios at The Ranch - Habitat Mitigation and Monitoring Plan

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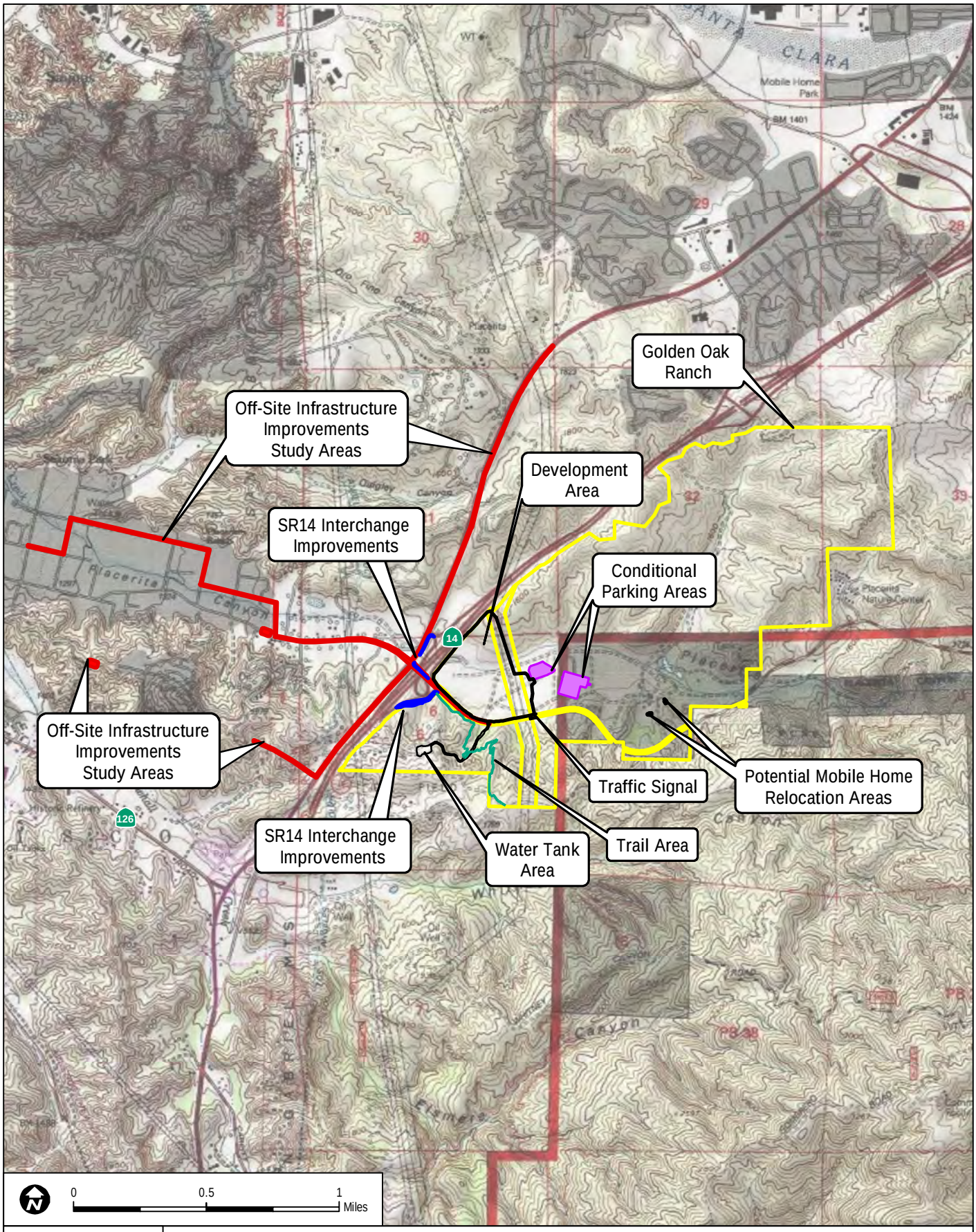

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SOURCE: USGS 7.5 Minute Series Quadrangle.

FIGURE 2

Vicinity Map

Disney | ABC Studios at The Ranch - Habitat Mitigation and Monitoring Plan

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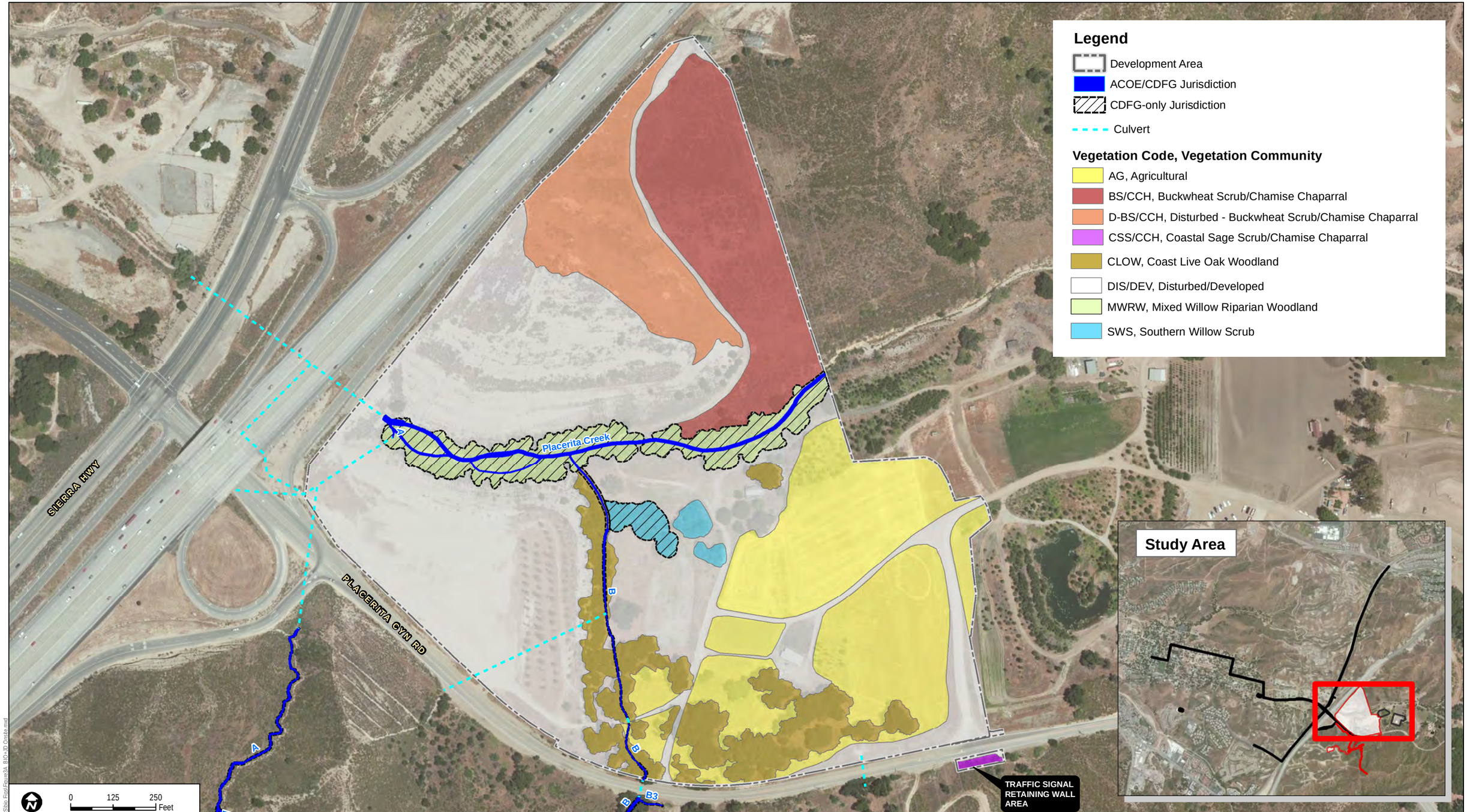

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AERIAL SOURCE: BING MAPPING SERVICE

FIGURE 3A

Biological Resources and Jurisdictional Delineation Map - Development Area

Disney | ABC Studios at The Ranch - Habitat Mitigation and Monitoring Plan

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AERIAL SOURCE: BING MAPPING SERVICE

FIGURE 3B

Biological Resources Map - Conditional Parking Areas and Potential Mobile Home Relocation Areas

Disney | ABC Studios at The Ranch - Habitat Mitigation and Monitoring Plan

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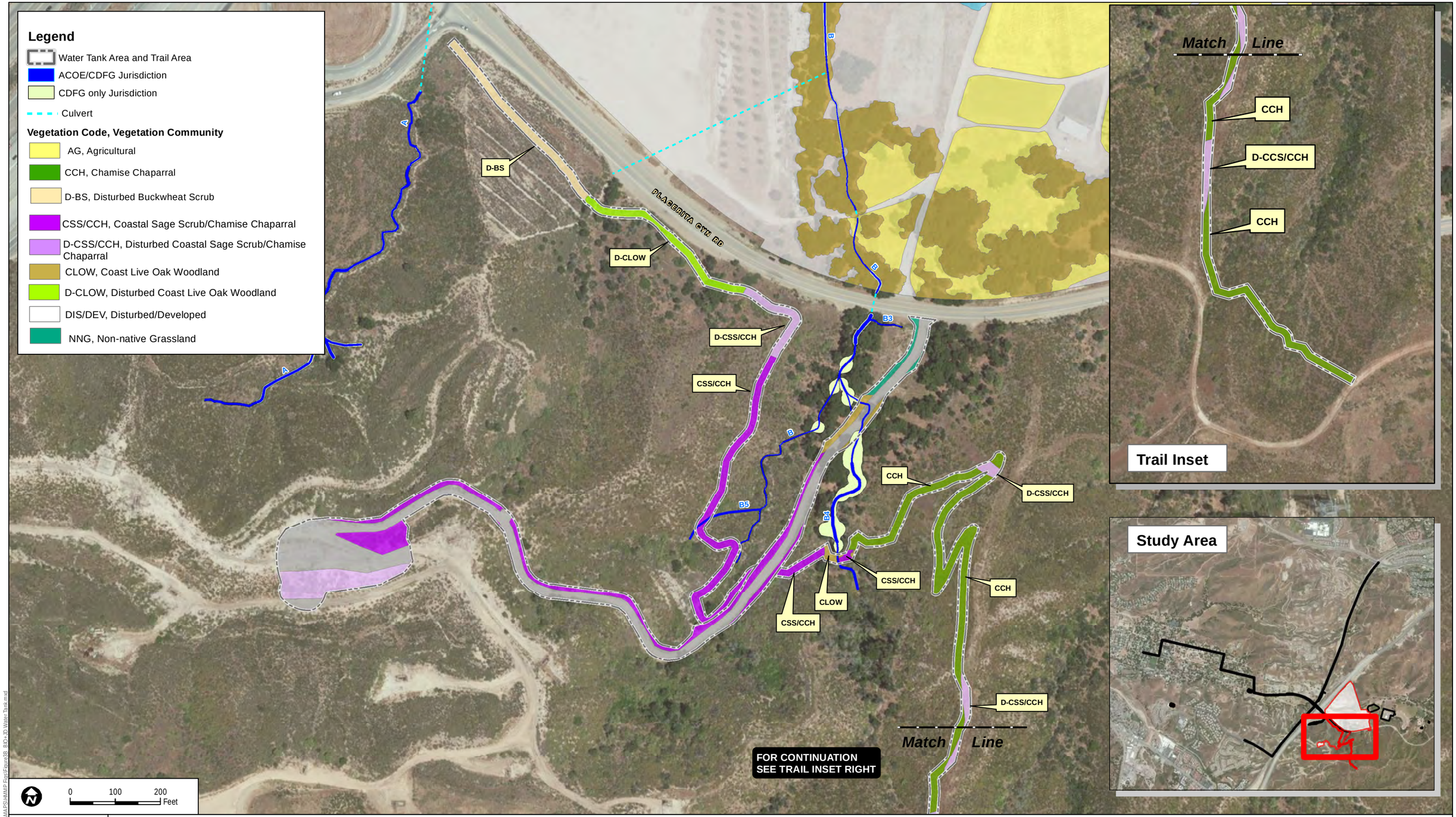

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SOURCES: AERIAL, BING MAPPING SERVICE; TRAIL, CRC ENTERPRISES 2011; WATER TANK, DEA, INC. 2010

FIGURE 3C

Biological Resources and Jurisdictional Delineation Map - Water Tank and Placerita Canyon Connector Trail

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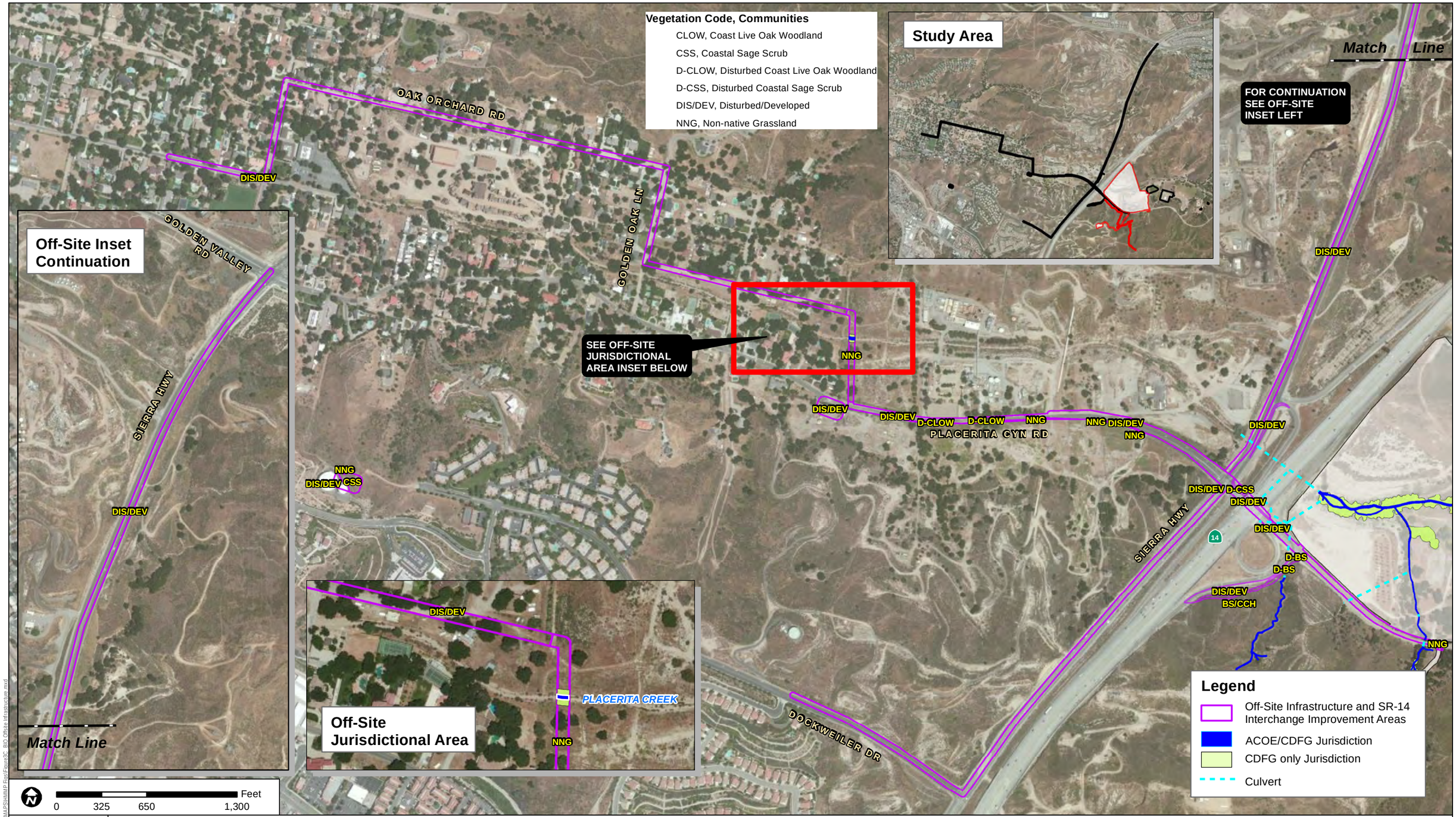

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SOURCE: AERIAL, BING MAPPING SERVICE; OFF-SITE INFRASTRUCTURE IMPROVMENTS VEGETATION MAPPING, PCR 2010

FIGURE 3D

Biological Resources Map - Off-Site Infrastructure Improvement Areas and SR-14 Interchange Improvement Areas

Disney | ABC Studios at The Ranch - Habitat Mitigation and Monitoring Plan

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The existing portion of the Placerita Creek channel that would be preserved and improved by the Project is currently an existing mixed willow riparian woodland area composed of a combination of riparian tree and shrub species. The area has a primary canopy cover of willow species, with an occasional oak, cottonwood, and sycamore interspersed along the corridor. There is a sparse understory of shrub and herbaceous species, due to the shading effect of the overhead tree canopy. A few emergent marsh species occur along the primary creek flow channels in addition to sections of open water. The main creek channel meanders through the center of this woodland area, carrying both low flow and higher flood flows. As Placerita Creek flows from east to west through this corridor, the flow channel bifurcates from the low flow conveyance channel to a higher secondary flood flow channel interspersed with small islands, as it nears the west end of the corridor. At the far west end, the creek is conveyed underground in a 20-foot storm drain culvert that conveys flows under SR-14, where it drains to the west and connects with additional natural sections of creek habitat downstream.

The channel side slopes surrounding the riparian woodland area support a sparse cover of native and non-native upland species, with a significant percentage of bare/eroded soil. A few emergent coastal sage scrub species appear to be re-establishing within these slope areas; however, the plant cover is very sparse at less than 30%. The channel side slopes were previously graded as part of a Caltrans grading operation that installed fill on either side of the creek and created the existing channel slopes and fill pads on either side of the creek. Much of the Development Area encompasses these previously graded pad and slope areas (Figures 4A–4D). The channel side slope areas were mapped by PCR Services Corporation (PCR) as disturbed/developed habitat due to prior disturbance and lack of sufficient native vegetation to qualify as an upland habitat type. The channel side slopes are highly eroded and unstable in numerous locations. The proposed channel side slope grading involves re-grading the slopes to a more uniform 2:1 slope gradient, with a subsurface stabilization of soil cement to reduce the possibility of slope undercutting and scour, and revegetation above the soil cement to control surface erosion and provide expanded habitat areas.

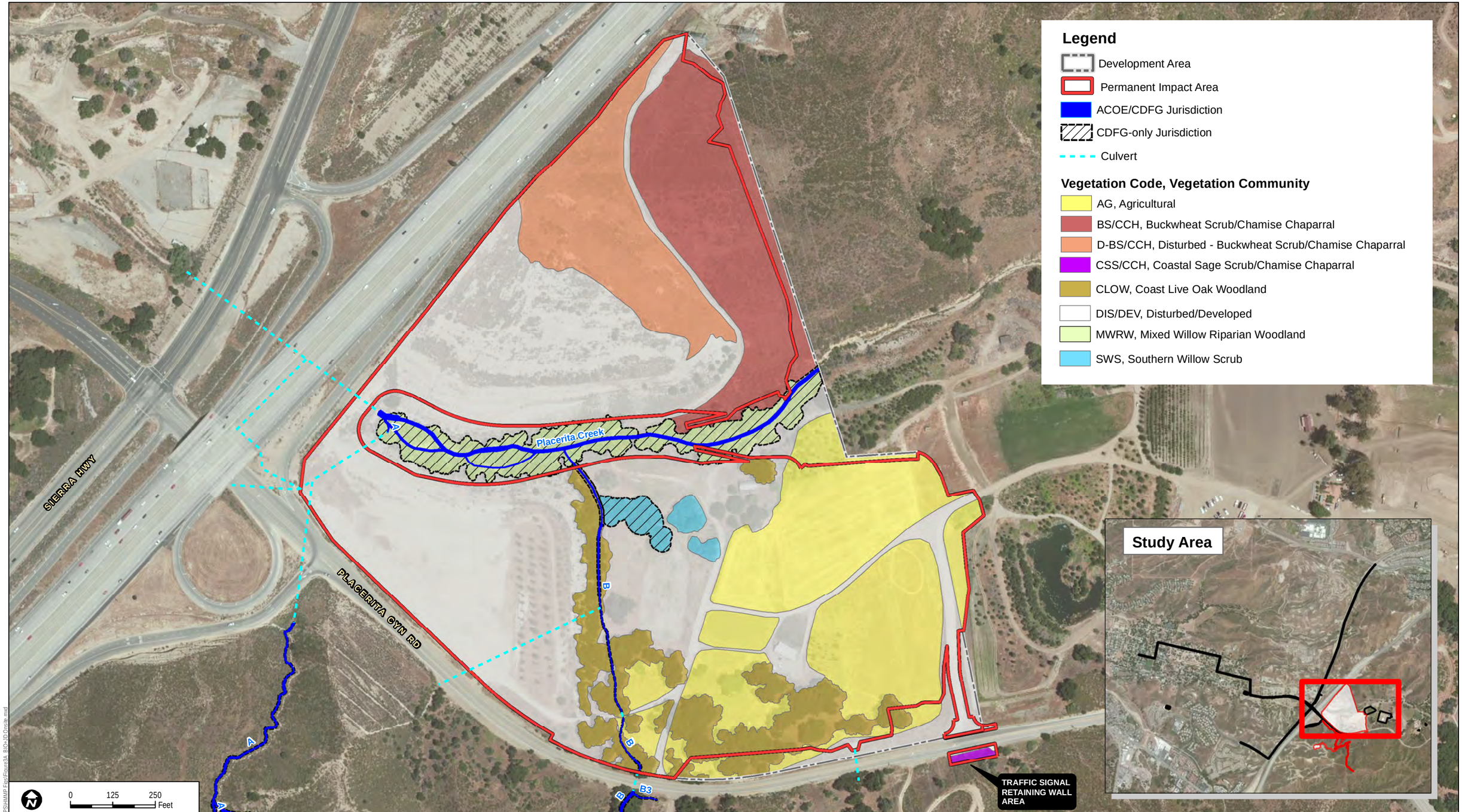
The Los Angeles County Flood Control District would have an easement over Lot 14 of Vesting Tentative Tract Map No. 71216 for access to the creek, the storm drain outlets in the creek, and the bank stabilization areas along the slopes to the creek for flood control maintenance purposes, which could include routine maintenance of the storm drain outlets and maintenance of the bank stabilization elements in the case of emergency events such as bank failure, or excessive scour. Vegetation removed or impacted during maintenance activities by the Los Angeles County Flood Control District would be the responsibility of the underlying property owner to replace.

1.5.2 Existing Jurisdictional Habitat

Based on the PCR BRA (PCR 2010), the Dudek Addendum to the BRA (Dudek 2012a), and Dudek field observations, the Project site supports a variety of riparian vegetation communities/habitats. Details about the characteristics of the existing vegetation communities are found in the BRA and the Addendum to the BRA. Specifically, the jurisdictional riparian vegetation communities that would be impacted by the Project include mixed riparian woodland, southern willow scrub, coast live oak woodland, and unvegetated streambed (i.e., non-vegetated waters of the U.S.) (Figures 3A–3C). Vegetation communities on the Project site have been subject to periodic disturbance from past SR-14 construction and grading activities, flood management activities, agricultural practices, and the natural fluvial processes characteristic of the Placerita Creek floodplain. Consequently, riparian vegetation communities throughout the majority of the site have been disturbed, primarily in the understory due to previous flood disturbance within the creek corridor; there is, however, a well-established overhead tree canopy throughout most of the creek's riparian corridor. The oak woodland habitat is fairly mature, with well-established overhead canopy and a fairly well-established understory, except where past agricultural activities have encroached on the habitat or access roads have been established through the habitat.

The active floodplain is composed of multiple braided channels and alluvial deposits consisting of a relatively low cover of herbaceous annual vegetation with occasional, sparsely spaced emergent shrubs and trees. Due to substantial site disturbance, the functions and values for wildlife are somewhat diminished. However, these vegetation communities still provide nesting, feeding, and breeding opportunities for various aquatic, terrestrial, and avian species.

The jurisdictional areas also provide functions and values typical of channel and floodplain environments, including energy dissipation during storm flow events, nutrient cycling, uptake of elements and compounds, entrapment of sediments, and hydrologic variation in flow patterns.



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AERIAL SOURCE: BING MAPPING SERVICE

FIGURE 4A

Biological Resources and Jurisdictional Delineation Map - Development Area Impacts

Disney | ABC Studios at The Ranch - Habitat Mitigation and Monitoring Plan

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AERIAL SOURCE: BING MAPPING SERVICE

FIGURE 4B

Biological Resources Map - Conditional Parking Areas and Potential Mobile Home Relocation Areas Impacts

Disney | ABC Studios at The Ranch - Habitat Mitigation and Monitoring Plan

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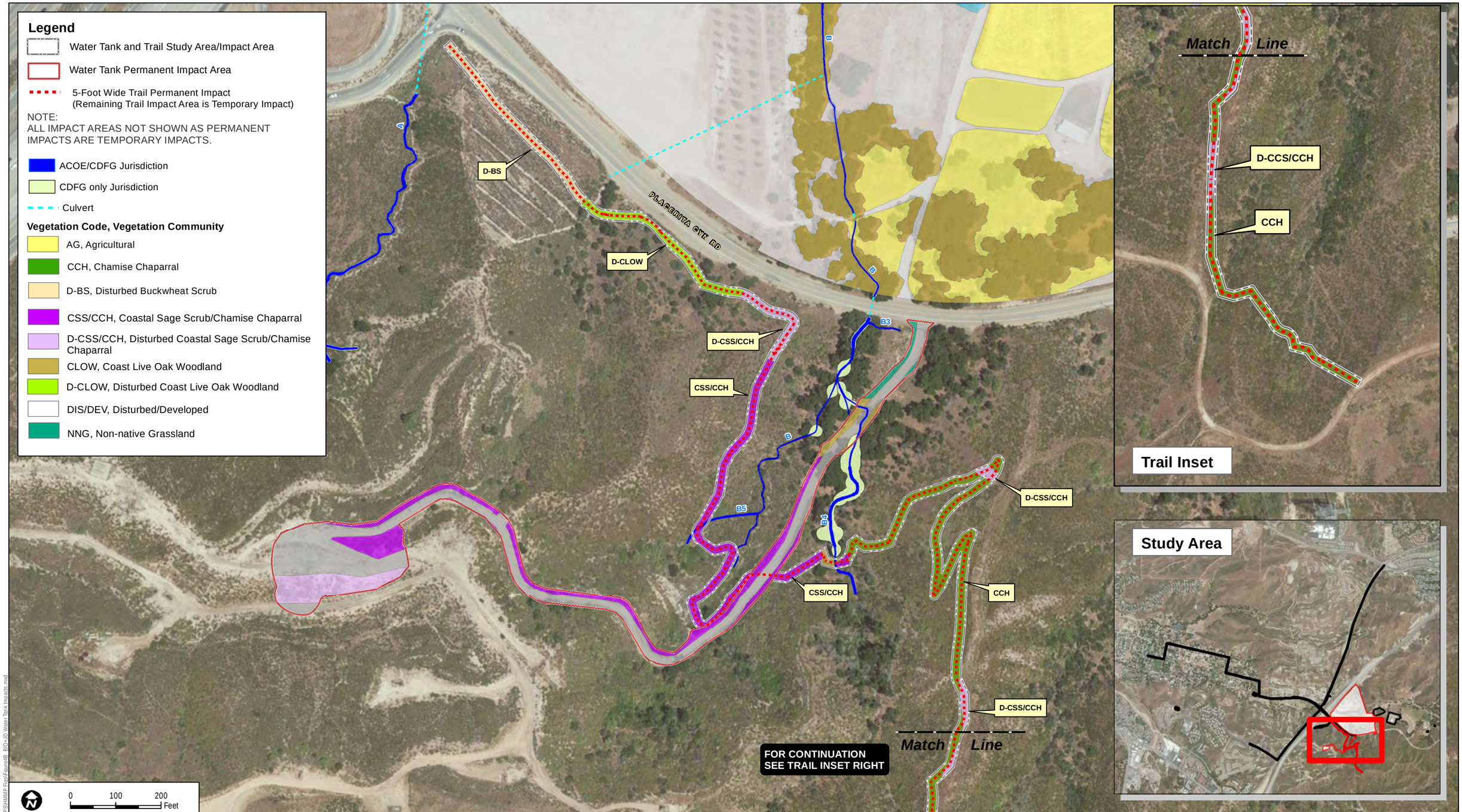

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SOURCES: AERIAL, BING MAPPING SERVICE; TRAIL, CRC ENTERPRISES 2011; WATER TANK, DEA, INC. 2010

FIGURE 4C

Biological Resources and Jurisdictional Delineation Map - Water Tank and Placerita Canyon Connector Trail Impacts

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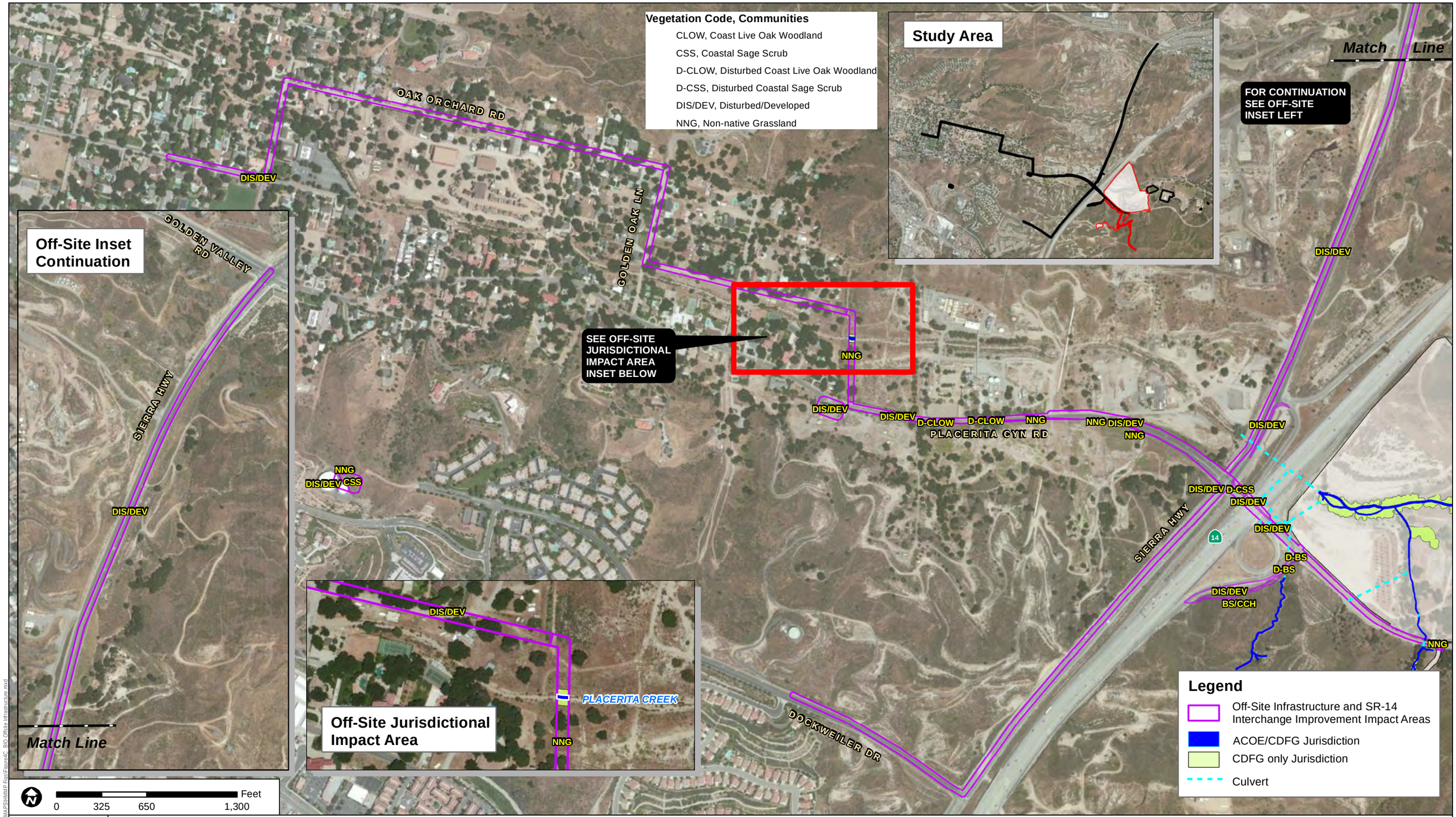

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SOURCE: AERIAL, BING MAPPING SERVICE; OFF-SITE INFRASTRUCTURE IMPROVMENTS VEGETATION MAPPING, PCR 2010

FIGURE 4D

Biological Resources Map - Off-Site Infrastructure Improvement Impact Areas and SR-14 Interchange Improvement Impact Areas

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1.5.3 Existing Upland Habitat

Based on the PCR BRA (2010), the Dudek Addendum to the BRA (2012a), and Dudek field observations, the Project site supports a variety of upland vegetation communities/habitats, including coastal sage scrub/chamise chaparral, buckwheat scrub/chamise chaparral, and non-native grassland (Figures 3A–3C). Details about the characteristics of these vegetation communities are found in the BRA and the Addendum to the BRA. Vegetation communities on the Project site have been subject to periodic disturbance from past SR-14 construction and grading activities, flood management activities, and past agricultural practices. The existing coastal sage scrub/chamise chaparral vegetation on the creek slopes is fairly sparse with less than 30% vegetative cover present and individual species still in a juvenile state throughout much of the area. This vegetation appears to be natural regrowth after the creek slopes were originally re-graded in association with the Caltrans work. The oak woodland habitat adjacent to the creek channel, along the south tributary drainage, is fairly mature, with a well-established overhead canopy and a fairly well-established understory, except where past agricultural activities have encroached on the habitat or access roads have been established through the habitat.

1.6 Impacts and Mitigation Requirements

The areas to be impacted by the Project were evaluated based upon previous biological resources evaluations documented by PCR in the BRA, the Dudek Addendum to the BRA, and by Dudek field verifications. The Project would impact jurisdictional waters/streambed and upland vegetation. Only impacts to jurisdictional waters of the U.S./State and CDFG-jurisdictional streambed and subsequent mitigation requirements are outlined in this report. Impacts to oak woodland vegetation and individual oak trees and mitigation for those impacts are addressed in separate reports prepared by Dudek titled, *Oak Tree Report, Disney │ ABC Studios at The Ranch, Los Angeles County, California* (Dudek 2012b); and *Oak Tree and Woodland Mitigation and Monitoring Plan, Disney │ ABC Studios at The Ranch, Los Angeles County, California* (Dudek 2012c).

Waters/streambed that would be permanently lost as a result of the Project include minor riparian vegetation impacts along the outer margins of the main channel corridor, and riparian vegetation associated with a secondary drainage that enters the main channel from the south, which is primarily composed of coast live oak woodland. A few scattered clusters of southern willow scrub habitat and unvegetated waters of the U.S. would also be impacted by the southeastern portion of the Development Area and from impacts associated with the water tank access road and trail improvements. The Placerita Creek riparian corridor within the main creek channel includes waters determined to be under the jurisdiction of the ACOE, RWQCB, and CDFG. The CDFG also maintains jurisdiction over riparian areas associated with these waters and, therefore, has a larger jurisdictional area. The existing vegetation communities and boundaries of the

assumed jurisdictional areas, under the jurisdiction of these agencies, were previously evaluated and mapped/delineated by PCR and were utilized by Dudek for the impacts evaluation.

Dudek has evaluated the anticipated impacts from the Project in order to establish the requirements for jurisdictional mitigation and the feasibility of conducting the proposed mitigation on site along the Placerita Creek corridor. Dudek has broken down the impacts between permanent impacts, where jurisdictional areas would be permanently impacted, and temporary impacts, where jurisdictional areas would be temporarily disturbed during construction but would be restored and revegetated following construction as part of the mitigation program. Impacts for the Project are shown in Table 1. The mitigation ratios used herein correspond with the standard requirements of the resource agencies and the County.

1.6.1 Detailed Impacts Assessment

Impacts to jurisdictional waters/streambed have changed slightly since completion of the original BRA (PCR 2010) due to modifications to the Project. The Project would result in impacts to jurisdictional waters/streambed, including creek bottom under the jurisdiction of the ACOE, RWQCB, and CDFG (referred to as ACOE/CDFG jurisdiction), and riparian habitat under the jurisdiction of CDFG (referred to as CDFG-only jurisdiction). Table 1 details the impacts to jurisdictional waters/streambed for vegetated and unvegetated areas. Table 2 provides these impacts broken down by Project component and drainage course type. Figure 5 depicts impacts to jurisdictional waters/streambed within the primary Development Area.

Table 1
Impacts to Vegetation Communities within Jurisdictional Waters[1]

Vegetation Community and Unvegetated Areas by Jurisdiction	Permanent Impacts	Temporary Impacts	No Impacts	TOTAL
ACOE/CDFG Jurisdictional Drainage				
Coast Live Oak Woodland	0.03	—	—	0.03
Mixed Willow Riparian Woodland	0.01	0.12	0.19	0.32
Unvegetated Stream	0.04	0.01	—	0.05
ACOE/CDFG Subtotal	**0.08**	**0.13**	**0.19**	**0.40**
CDFG-Only Jurisdictional Streambed				
Coast Live Oak Woodland	0.11	0.01	—	0.12
Mixed Willow Riparian Woodland	0.07	1.90	0.71	2.68
Southern Willow Scrub	0.43	—	—	0.43
Unvegetated Stream	0.02	0.05	—	0.07
Additional CDFG Only Subtotal	***0.63***	***1.96***	***0.71***	***3.30***
Total	**0.71**	**2.09**	**0.90**	**3.70**

[1] Total acreages for impacts to jurisdictional waters may not match exactly with Table 2 due to rounding.

Table 2
A Summary of Impacts to Jurisdictional Waters by Project Component[1]

Project Component	Permanent acres (linear feet)	Temporary acres (linear feet)	No Impact (linear feet)	Total (linear feet)
ACOE/CDFG–Jurisdictional Drainage				
Development Area: Intermittent Drainage (Placerita Creek)	0.02 (72)	0.12 (787)	0.19 (1,040)	0.33 (1,899)
Development Area: Ephemeral Tributary (Drainages A, B)	0.05 (1,011)	—	—	0.05 (1,011)
Water Tank Area (Ephemeral Tributary B4)	<0.01 (98)	—	—	<0.01 (98)
Trail Area (Ephemeral Tributary B4 and B5)[2]	—	—	<0.01 (79)	<0.01 (79)
Off-Site Infrastructure Improvements (Placerita Creek)	—	0.01 (40)	—	0.01 (40)
ACOE/CDFG Subtotal	**0.08 (1,181)**	**0.13 (827)**	**0.19 (1,119)**	**0.40 (3,127)**
CDFG-Only Jurisdictional Streambed				
Development Area: Intermittent Drainage (Placerita Creek)	0.07	1.91	0.71	**2.69**
Development Area: Ephemeral Tributary (Drainages A, B)	0.55	—	—	**0.55**
Water Tank Area (Ephemeral Tributary B4)	0.01	—	—	**0.01**
Trail Area (Ephemeral Tributary B4 and B5)	—	—	—	**—**
Off-Site Infrastructure Improvements (Placerita Creek)	—	0.05	—	**0.05**
Additional CDFG-Only Subtotal	**0.63**	**1.96**	**0.71**	**3.30**
Total	**0.71**	**2.09**	**0.90**	**3.70**

1 Total acreages for impacts to jurisdictional waters may not match exactly with Table 1 due to rounding.
2 Although the trail crosses over ephemeral tributaries, no construction activities would take place within the drainages.

Permanent Impacts Summary

Permanent impacts that were evaluated include those areas where permanent placement of grading fill and the placement of built improvements over existing jurisdictional area would occur, including the proposed drainage improvements within the main creek corridor, most notably the placement of riprap at the new drainage outfall locations and concrete headwalls at drain inlet and outlet locations to improve drainage runoff conveyance. Impacts associated with the water tank access road and trail area are also included in the impacts assessment.

The Project would result in permanent impacts to 0.08 acre of waters/streambed under the jurisdiction of the ACOE, RWQCB, and CDFG, the majority of which are associated with the Development Area:

- 0.01 acre of jurisdictional drainage within mixed willow riparian woodland (Placerita Creek)
- 0.04 acre of unvegetated stream (i.e., ephemeral tributaries to Placerita Creek, drainage B4)
- 0.03 acre of unvegetated stream within coast live oak woodland (ephemeral tributary to Placerita Creek, drainages A and B).

The Project would also result in permanent impacts to an additional 0.63 acre of jurisdictional streambed under CDFG-only jurisdiction (most of which is located in the Development Area), including the following:

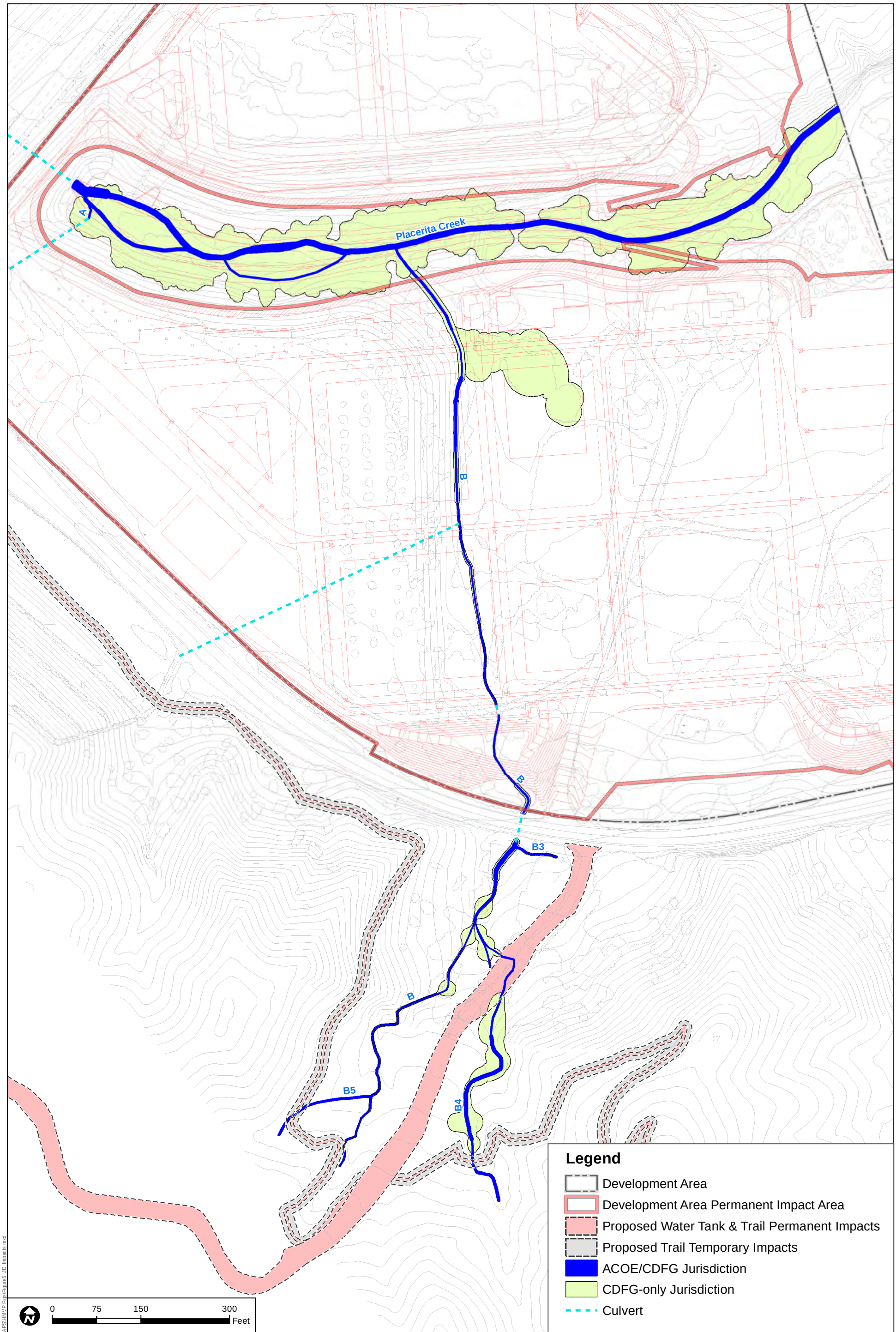
- 0.07 acre of mixed riparian woodland (Placerita Creek)
- 0.43 acre of southern willow scrub (tributary to Placerita Creek)
- 0.11 acre of coast live oak woodland (tributary to Placerita Creek)
- 0.02 acre of unvegetated stream (tributary to Placerita Creek; and other off-site improvements).

Temporary Impacts Summary

Temporary impacts that were evaluated include those areas that would be disturbed due to construction activities but would be restored to existing conditions after construction. Temporary impact areas include slope stabilization areas, grading associated with trail construction, and installation of off-site infrastructure improvements.

The Project would result in temporary impacts to 0.13 acre of waters/streambed (most of which is located in the Development Area) under the jurisdiction of the ACOE, RWQCB, and CDFG, consisting of the following:

- 0.12 acre of intermittent waters/streambed within mixed willow riparian woodland (Placerita Creek)
- 0.01 acre of unvegetated stream within areas mapped as disturbed/developed (Placerita Creek within the Off-Site Infrastructure Improvement Area)



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SITE PLAN SOURCE: DEA, INC. 2012

FIGURE 5

Jurisdictional Delineation Map with Site Development Plan, Water Tank and Trail Impact Area

Disney | ABC Studios at The Ranch - Habitat Mitigation and Monitoring Plan

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The Project would result in temporary impacts to 1.96 acres of CDFG-only riparian habitat (most of which is located in the Development Area), consisting of the following:

- 1.90 acres of mixed riparian woodland (Placerita Creek)
- 0.01 acre of coast live oak woodland (tributary to Placerita Creek)
- 0.05 acre of unvegetated stream (Placerita Creek within the Off-Site Infrastructure Improvement Areas).

Temporary impacts that were evaluated included temporary disturbances in order to facilitate construction of the Project improvements. These include the temporary construction access road at the bottom of the existing channel slopes to facilitate the installation of the drainage improvements and to allow for grading of the channel side slopes, over-excavation for the placement of soil cement protection underneath the channel slopes, and final grading and stabilization of the slope surfaces. The temporary disturbance areas within the creek channel bottom, outside of the proposed channel slope grading, would be restored to pre-existing grade elevations, would be de-compacted from construction access, and would be revegetated as part of the overall mitigation program. Any temporarily disturbed flow channels would be restored to their pre-existing grade elevations with their flow configuration re-established and revegetated with appropriate native riparian species to help restore their functions and services. Temporary impacts were also evaluated for construction of the trail and implementation of the off-site infrastructure improvements. These unvegetated temporary disturbance areas would be returned to existing conditions by restoring to pre-existing grade elevations and de-compacting the soils where necessary. These areas are not addressed further in this HMMP.

A few of the mitigation areas should qualify as ACOE-jurisdictional areas, due to their locations relative to the water flow regime and the need to realign the ACOE flow channels where the proposed channel bank grading would encroach slightly into existing ACOE channel areas. This would occur in numerous locations along both edges of the creek, where the final re-graded channel side slopes would encroach slightly into existing ACOE channels, requiring a realignment and opening up opportunities for expansion. In one of these locations there is currently significant erosion due to slope undercutting and channel slope failure due to the existing creek flood flow eroding the channel banks and creating a near-vertical slope face. This condition would be corrected by grading a new channel away from the new toe of slope to help avoid this problem in the future. The second encroachment area is necessary to accommodate the installation of a drainage outfall structure that would convey stormwater runoff from the Project to the main creek channel, as well as a permanent access road that would serve the future maintenance needs of this drain outfall location. These two areas will need to have a new channel graded to convey the channel flow away from the channel toe of slope. New riparian

vegetation would be planted in these two new reconfigured channel locations. An appropriate mitigation ratio would be applied to all restoration areas to reflect that these areas already contained native riparian vegetation prior to disturbance, but they would be restored and revegetated with native riparian species after construction in order to provide similar or better functions and services to what previously occurred in these areas. The restoration credit would be applied to the permanent and temporary impact areas.

Areas proposed for establishment (i.e., waters and habitat creation) include non-wetland/upland areas that were determined to be disturbed or were previously identified as developed areas.

These areas include upland habitat areas outside of the existing jurisdictional boundaries that currently have no riparian species present. These areas fall outside of the existing CDFG riparian vegetation canopy line, which defines the limits of the CDFG-jurisdictional boundaries. The CDFG-jurisdictional establishment (i.e., creation) acreage would occur in areas outside of the existing canopy, or in gaps in the canopy, that would allow for the expansion of CDFG-jurisdictional areas, and would occur along the outer boundaries of the existing riparian habitat. All CDFG-jurisdictional establishment areas would be excavated or graded-down to appropriate elevations to support the intended riparian vegetation and to provide drainage low flow, as well as flood flow conveyance, through the establishment areas. A higher mitigation credit would be applied to the establishment areas since these areas would be converted from upland vegetation to riparian vegetation and would fall under CDFG jurisdiction. The establishment credit would primarily be applied to the permanent impact areas.

Areas proposed for enhancement (i.e., rehabilitation) acreage include existing jurisdictional areas that have become invaded over time with non-native exotic species and/or weeds. In these areas, the non-native exotic and weed species would be removed through an exotic species removal/treatment and weed eradication procedure, and would be revegetated with corresponding native riparian species, planted from both container plants as well as from seed, in order to enhance these areas. A lower mitigation credit would be applied to these areas since a portion of the area already contains native riparian vegetation. The enhancement credit would primarily be applied to the temporary impact areas.

The creek channel slope surfaces would be revegetated following grading to reintroduce native vegetation and to provide surface erosion control protection and stabilization. Dudek has assumed approximately 6 feet in vertical height up these side slopes from the bottom (toe of slope) of the channel side slopes (i.e., an assumed 12 feet in horizontal measure, assuming a 2:1 slope factor) would be composed of transitional riparian species that would help create a buffer to the jurisdictional stream bottom. The remainder of the upper slope areas beyond the influence of the creek's groundwater resources would be composed of transitional riparian

scrub and upland transitional sage scrub species, which would tolerate the drier conditions, would also help to provide a buffer to the riparian areas and would be assumed to be a part of the overall mitigation program. All plantings have been designed for compliance with the Project's Fuel Modification Plan and per the County of Los Angeles Fire Department Fuel Modification Plan Guidelines.

As part of the proposed mitigation program, a restriction would be imposed to avoid impacts to riparian habitat during the nesting season for migratory nesting bird species, between February 1 and August 31 of any given year, in order to avoid direct and/or indirect impacts to nesting bird species from construction-related activities. The proposed mitigation measure for nesting birds (PCR 2010) requires surveys to be conducted for nesting birds if construction activities take place during the breeding season. This measure, discussed in the Project's Draft EIR, would require implementation of an appropriate buffer (typically 300 feet for birds and 500 feet for raptors) and monitoring of active nests by a biologist to ensure activities do not result in nest failure.

The Project would permanently impact a total of 0.71 acre of non-wetland waters/streambed (i.e., grading, soil cement installation, drainage structures, riprap, concrete headwalls at drain inlet and outlet locations, access roads, and trail/water tank improvements). Construction of the Project would also temporarily impact a total of 2.09 acres of non-wetland waters/streambed.

1.6.2 Detailed Mitigation Assessment

The Project would result in impacts to jurisdictional waters/streambed. Mitigation for impacts to jurisdictional waters/streambed would include a combination of establishment, restoration, enhancement, and preservation. Mitigation areas, designated per jurisdictional area, are shown on Figure 6. Revegetation areas per intended habitat revegetation type are shown on Figures 7A and 7B. An example channel cross-section of the proposed mitigation areas is shown in Figure 8. The following mitigation types will be provided.

- Establishment involves creating riparian habitat/jurisdictional waters where they do not occur under existing conditions.
- Restoration is defined as returning areas that have been temporarily impacted by construction activities to pre-construction conditions and providing appropriate revegetation.
- Enhancement involves rehabilitating areas that have become degraded from past disturbance and/or from invasive species infestation, by which improvements are made to the functions and values of existing habitat/jurisdictional waters.
- Preservation is defined as preserving existing waters and habitat in place.

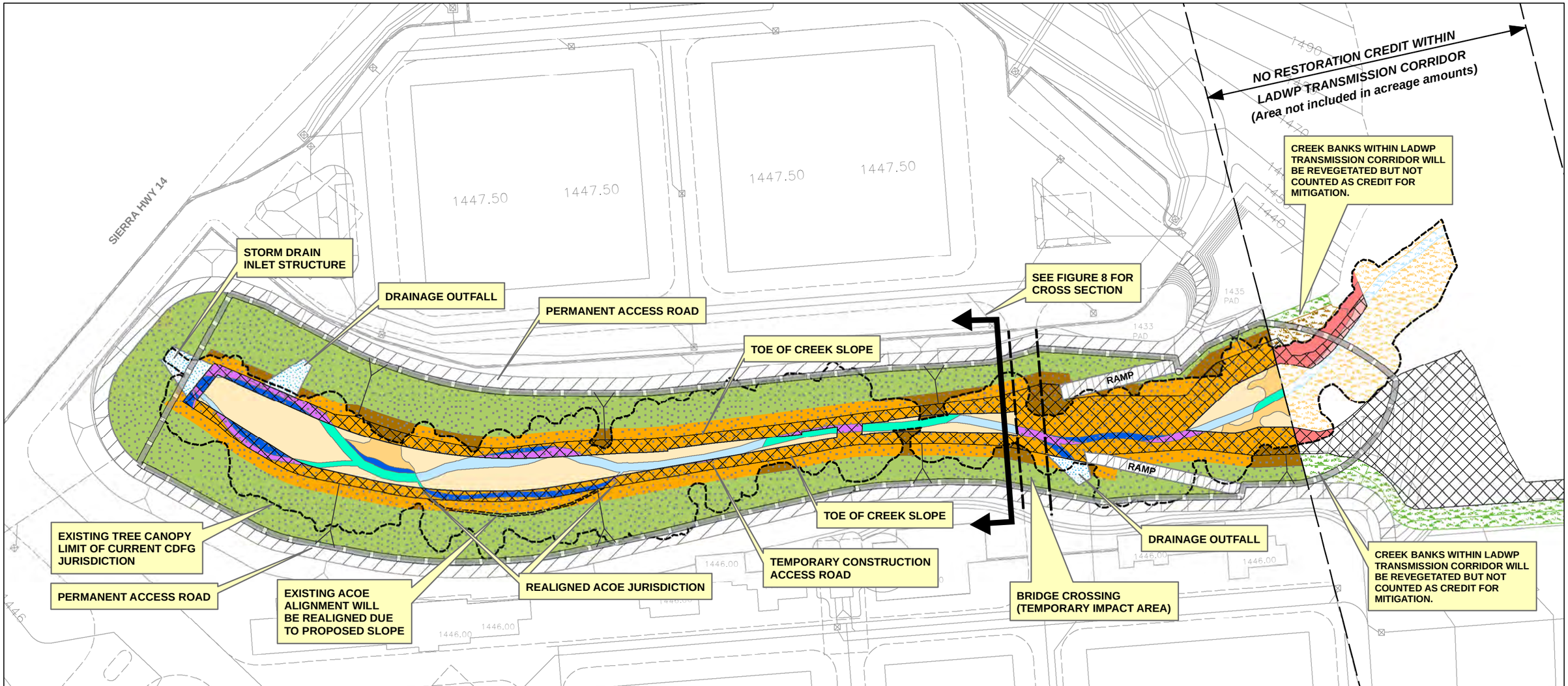
The establishment, restoration, and enhancement areas are collectively referred to as the mitigation areas. Together with the Project's bank stabilization improvements, this mitigation program provides a net gain in functions and services for the ACOE/CDFG–jurisdictional creek bottom and CDFG-only jurisdictional riparian and the upland buffer zone area, in terms of geomorphic stability, nutrient processing/recycling, and wildlife habitat.

Under current conditions, the portion of Placerita Creek within the Development Area is subject to erosion and sedimentation because the slopes adjacent to the creek channel are unstable. Furthermore, native riparian buffer habitat is very limited and invasive species are present in several locations. These adverse conditions would be improved through implementation of the Project, including installation of bank stabilization methods including the installation of sub-grade soil cement scour protection as well as the surface revegetation of the final slope surfaces. Together with the proposed mitigation/revegetation treatments, the overall functions and services of the jurisdictional areas would be improved to a degree, such that impacts to jurisdiction resources from the entire Project, including tributaries, would be adequately mitigated to below a level of significance.

All jurisdictional waters/streambed temporarily impacted (2.09 acres) would be revegetated as part of the mitigation program.

A total of 0.11 acre of enhancement of ACOE/CDFG–jurisdictional and CDFG-only jurisdictional areas would occur within Placerita Creek. Enhancement would include removal of exotic plant species and revegetating with appropriate native species.

The portion of the mitigation effort referred to as establishment would create combined ACOE/CDFG–jurisdictional areas and CDFG-only jurisdictional areas. ACOE/CDFG establishment would occur in several locations along the edges of the existing creek, where there has been significant erosion due to slope undercutting and where portions of the existing channel would be permanently removed due to the required creek slope re-contouring. To compensate for these impacts, new braided flow lines and expanded creek edges would be established (i.e., created) in several locations. In addition, a new channel would be graded to convey flows around the location where the proposed drainage outfall structure and access ramp are required. A total of 0.08 acre of ACOE/CDFG establishment credit would be provided through this effort.



MITIGATION CREDITS PER JURISDICTION*

- ACOE Waters Preservation (0.09 Ac.)
- ACOE Waters Enhancement (0.06 Ac.)
- ACOE Waters Restoration (0.08 Ac.)
- ACOE Waters Establishment (0.08 Ac.) (for Realigned ACOE)
- CDFG Habitat Preservation (0.38 Ac.)
- CDFG Habitat Enhancement (0.05 Ac.) (within Disturbed Habitat)
- CDFG Habitat Restoration (1.10 Ac.)
- CDFG Habitat Establishment (0.20 Ac.)
- CDFG Transitional Buffer (2.10 Ac.)

CDFG Establishment:1.38 Ac;
CDFG Restoration: 0.72 Ac.;

*** NOTE: THERE ARE NO MITIGATION CREDITS WITHIN LADWP TRANSMISSION CORRIDOR, ACREAGE ABOVE DOES NOT INCLUDE THE LADWP AREA.**

SEE FIGURE 7A AND 7B FOR ACTUAL REVEGETATION TREATMENTS WITHIN JURISDICTIONAL AREA.

LADWP CORRIDOR

- ACOE Off-Site Impacts (0.01 Ac.)
- CDFG Off-Site Impacts (0.06 Ac.)
- LADWP Transitional Buffer (0.22 Ac.)
- LADWP CDFG Establishment (0.03 Ac.)
- LADWP ACOE Preservation (0.04 Ac.)
- LADWP CDFG Preservation (0.28 Ac.)

- Temporary Impacts: Creek Slope, Access Road, and Bridge Construction Area
- Temporary Construction Access Road/Work Area
- Permanent Access Road outside of Mitigation Area
- Drainage Structure Permanent Impact
- Limits of CDFG Jurisdiction
- Fuel Modification Zone C- Creek Zone

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SOURCE: Development Plan-DEA Inc. 2012: Creek Design- JLC Engineering March 2012

FIGURE 6

Placerita Creek Corridor Restoration/Mitigation (Mitigation Credits Per Jurisdiction)

Disney | ABC Studios at The Ranch - Habitat Mitigation and Monitoring Plan

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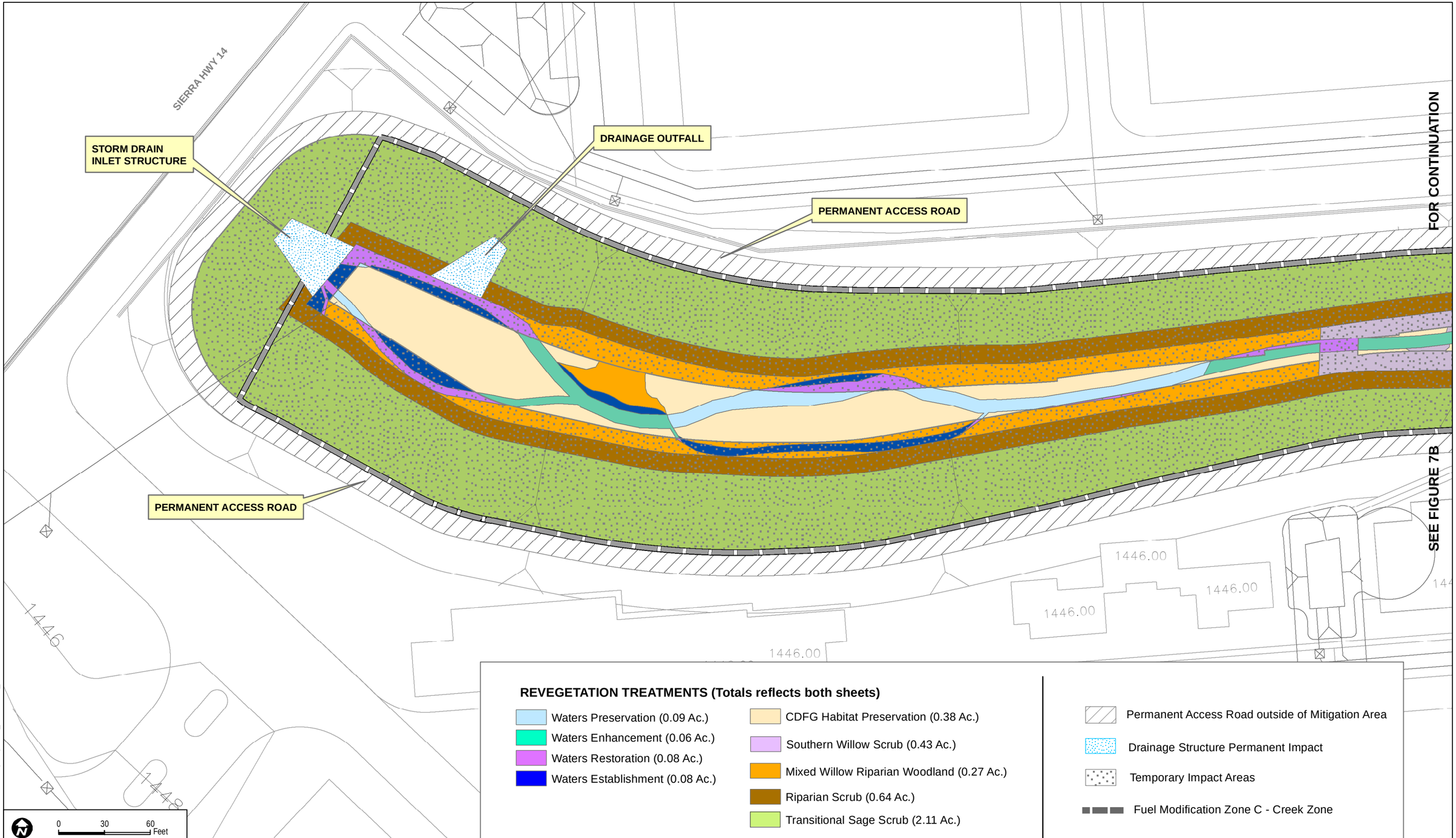

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APRIL 2012

SOURCE: Development Plan-DEA Inc. 2012: Creek Design- JLC Engineering March 2012

FIGURE 7A

Placerita Creek Corridor Restoration/Mitigation (Revegetation Area Treatments)

Disney | ABC Studios at The Ranch - Habitat Mitigation and Monitoring Plan

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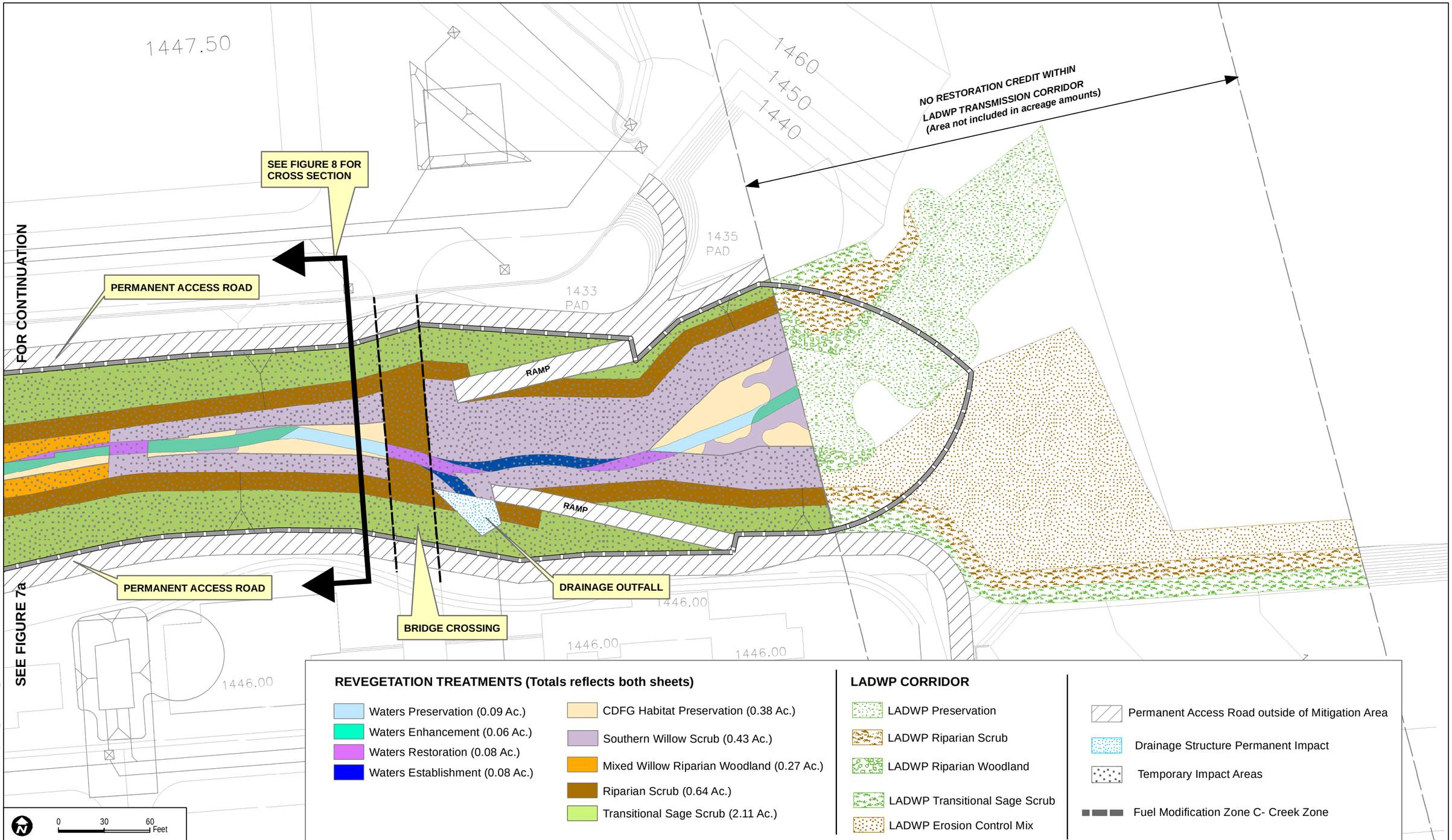

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SOURCE: Development Plan-DEA Inc. 2012: Creek Design- JLC Engineering March 2012

FIGURE 7B

Placerita Creek Corridor Restoration/Mitigation (Revegetation Area Treatments)

Disney | ABC Studios at The Ranch - Habitat Mitigation and Monitoring Plan

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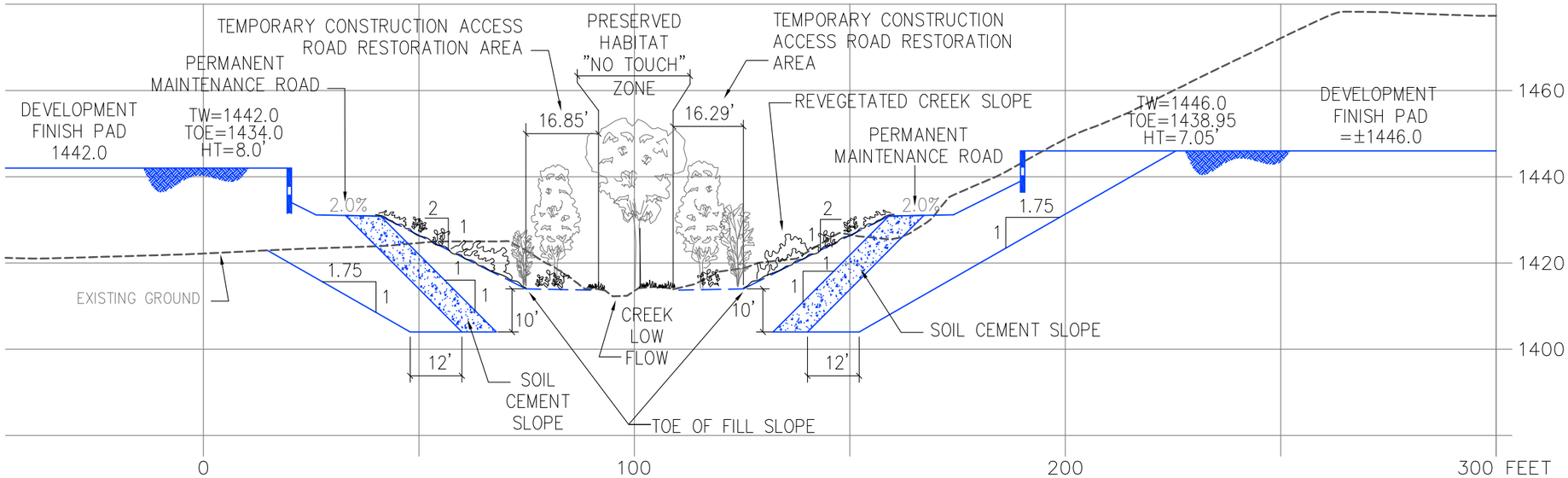

LEGEND

- ACOE PRESERVATION
- ACOE RESTORATION
- ACOE ESTABLISHMENT
- CDFG PRESERVATION
- CDFG RESTORATION
- CDFG ESTABLISHMENT
- CDFG TRANSITIONAL BUFFER

0 15 30 60

SECTION SCALE: H: 1"=30'
V: 1"=3'

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APRIL 2012

CREEK DESIGN: JCL ENGINEERING 2012; DEVELOPMENT DESIGN: DAVID EVANS AND ASSOCIATES, INC. 2012

FIGURE 8

Placerita Creek Restoration/Mitigation Areas – Example Site Section

Disney|ABC Studios at the Ranch - Habitat Mitigation and Monitoring Plan

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CDFG-only establishment would occur on the slopes of Placerita Creek following re-contouring and installation of bank stabilization (i.e., buried soil cement and final surface grading). The CDFG-only establishment areas would consist of revegetation of the re-contoured slope areas with transitional riparian species. A portion of the plantings (up to approximately 6 feet in vertical height above the final surface toe of slope) would consist of typical CDFG-jurisdictional riparian scrub habitat. The remainder of the slope above that elevation, within the drier portions of the slope would consist of native transitional sage scrub buffer plantings. During development of this HMMP, the Applicant consulted with CDFG staff, who concurred that the new native transitional buffer zone (sage scrub species) would be considered a CDFG-jurisdictional area. A total of 1.58 acres of CDFG-only establishment credit would be provided.

Existing jurisdictional habitat areas would also be preserved as part of the Project. Preservation is an important component of the mitigation program because these existing communities within Placerita Creek will be managed and protected in combination with the adjacent mitigation/revegetation areas, resulting in increased functions and values for both the preserved areas and mitigation areas. Table 3 summarizes the mitigation areas by treatment type and assumed jurisdictional area.

Table 3
A Summary of Mitigation within Placerita Creek within the Development Area

	ACOE and CDFG[1]	Additional CDFG-Only[1]	TOTAL
Establishment	0.08	1.58	**1.66**
Enhancement	0.06	0.05	**0.11**
Restoration[2]	0.08	1.82	**1.90**
Subtotal Mitigation	**0.22**	**3.45**	**3.67**
Preservation[3]	0.09	0.38	**0.47**
Total Jurisdictional Mitigation	**0.31**	**3.83**	**4.14**

[1] An additional 0.02 acre of ACOE/CDFG jurisdiction and 0.05 acre of CDFG-only jurisdiction would be returned to pre-existing conditions within the Trail Area and the Off-Site Infrastructure Improvements. Additionally, 0.10 acres of CDFG-only would be established and restored within the LADWP corridor. As these areas are outside the Placerita Creek mitigation program, they are not included in this mitigation totals above.
[2] Restoration includes temporary impact areas and a portion of the additional transitional buffer areas on creek banks.
[3] Preservation acreage indicated above does not include jurisdictional waters avoided/preserved within the LADWP easement, which total 0.32 acre, since this area would not be subject to the use restriction.

Implementation of this mitigation program within Placerita Creek would provide adequate mitigation to offset permanent impacts to jurisdictional waters/streambed, including permanent impacts to sensitive vegetation communities, which include mixed willow riparian woodland and southern willow scrub. Table 4 summarizes the permanent impacts and mitigation areas by vegetation community. Temporary impacts to jurisdictional waters/streambed, including the sensitive vegetation communities of mixed willow riparian woodland and southern willow scrub, would be mitigated through restoration and enhancement as summarized in Table 5.

Table 4
A Summary of Mitigation for Permanent Impacts to Jurisdictional Features and Sensitive Vegetation Communities

Vegetation Community and Unvegetated Areas by Jurisdiction	Permanent Impacts	Mitigation Ratio	Mitigation Requirement	Mitigation Provided
ACOE/CDFG				
Coast Live Oak Woodland[1]	0.03	1:1	0.03	0.08 acre – ACOE waters establishment
Mixed Willow Riparian Woodland	0.01	1:1	0.01	
Unvegetated Stream	0.04	1:1	0.04	
ACOE/CDFG Subtotal	***0.08***	**—**	***0.08***	**0.08 acre – total**
CDFG-Only				0.20 acre – CDFG establishment (riparian) 1.38 acres – CDFG establishment (transitional buffer zone);
Coast Live Oak Woodland[1]	0.11	1:1	0.11	
Mixed Willow Riparian Woodland	0.07	2:1	0.14	
Southern Willow Scrub	0.43	2:1	0.86	
Unvegetated Stream	0.02	1:1	0.02	
CDFG-Only Subtotal	***0.63***	**—**	***1.13***	**1.58 acres – total**
Total	**0.71**	—	**1.21**	**1.66[2] total**

[1] This Plan provides mitigation for the jurisdictional waters/streambed component of the Coast Live Oak Woodland. Additional mitigation for Coast Live Oak Woodland impacts is provided through the separate Oak Tree and Woodland Mitigation and Monitoring Plan (Dudek 2012c).
[2]A portion of the excess mitigation acreage provided helps mitigate for permanent impacts to non-jurisdictional Southern Willow Scrub habitat (i.e., 0.32 acre) as required by County of Los Angeles requirements.

Table 5
A Summary of Mitigation for Temporary Impacts to Jurisdictional Features and Sensitive Vegetation Communities

Vegetation Community and Unvegetated Areas by Jurisdiction	Temporary Impacts	Mitigation Ratio	Mitigation Requirement	Mitigation Provided[1]
ACOE/CDFG				
Mixed Willow Riparian Woodland	0.12	1:1	0.12	0.08 acre – waters restoration (Placerita Creek) 0.06 acre – waters enhancement (Placerita Creek)
Unvegetated Stream	0.01	1:1	0.01	0.01 acre – waters restoration (Ephemeral Tributaries)
ACOE/CDFG Subtotal	***0.13***	**—**	***0.13***	**0.15 acre – total**
CDFG-Only				1.10 acre – CDFG restoration (riparian) 0.72 acres – CDFG
Coast Live Oak Woodland[2]	0.01	1:1	0.01	
Mixed Willow Riparian Woodland	1.90	1:1	1.90	

Table 5
A Summary of Mitigation for Temporary Impacts to Jurisdictional Features and Sensitive Vegetation Communities

Vegetation Community and Unvegetated Areas by Jurisdiction	Temporary Impacts	Mitigation Ratio	Mitigation Requirement	Mitigation Provided[1]
Southern Willow Scrub	0.00	1:1	0.00	restoration (transitional buffer zone) 0.05 acre – CDFG enhancement 0.05 acre – CDFG Restoration (Ephemeral Tributaries) **1.92 acres – total**
Unvegetated Stream	0.05	1:1	0.05	
CDFG-Only Subtotal	***1.96***	**—**	***1.96***	
Total	**2.09**	**—**	**2.09**	**2.07**

[1]All temporary impact areas are incorporated into the mitigation program; however, mitigation treatment has been selected for each area to maximize success rate based on modified drainage patterns resulting from the bank grading and drainage inlets and outlets. As a result, some temporary impact areas are not being restored to their existing condition but receiving different mitigation treatments. Therefore, there is not a direct correlation between the temporary impact acreage and the restoration acreage.
[2]Additional mitigation for Coast Live Oak Woodland impacts is provided through the separate Oak Tree and Woodland Mitigation and Monitoring Plan (Dudek 2012c).

2.0 GOALS OF THE ON-SITE MITIGATION/REVEGETATION PROGRAM

The goals of the on-site mitigation/revegetation program are as follows:

- Satisfy the mitigation requirements of local, state, and federal agencies for impacts to jurisdictional waters and riparian habitat;
- Create or restore riparian and riverine vegetation communities suitable for nesting, foraging, and breeding by native animal species;
- Establish (i.e., create), restore, and enhance vegetation communities to be compatible with the fluvial morphology and hydrology of the stream channel corridor;
- Establish (i.e., create), restore, and enhance vegetation communities to be consistent with adjacent, existing riparian vegetation communities; and
- Establish (i.e., create), restore, and enhance vegetation communities to be self-sustaining and functional beyond the maintenance and monitoring period.

This HMMP addresses the establishment, restoration, enhancement, and preservation of riparian/riverine vegetation communities as mitigation for impacts to jurisdictional waters/streambed and riparian habitat. The location and type of mitigation includes establishment of new jurisdictional areas outside of currently mapped jurisdiction. Mitigation also includes

restoration of temporary impact areas following construction of buried bank stabilization on the north and south margins of Placerita Creek. Waters restoration areas include areas previously mapped as waters but temporarily disturbed due to construction of temporary access roads, and/or installation of the buried bank stabilization (i.e., soil cement). Enhancement areas include areas within existing mapped jurisdictional area that were previously disturbed or were invaded by non-native/exotic species. To ensure the mitigation areas within the Project site grow as intended and meet the intended success criteria required by the permitting agencies, a 5-year maintenance and monitoring period would be implemented. This plan defines Project goals and implementation, and provides monitoring and maintenance information designed to attain the intended mitigation results.

2.1 Riparian Vegetation Communities in Mitigation Areas

The riparian vegetation communities proposed to be revegetated are primarily riparian scrub and riparian woodland in the temporary impact areas within the Placerita Creek channel, and transitional sage scrub on the upper margins of the channel banks.

The character and species composition of the various mitigation areas, including areas to be established, restored, and enhanced, is intended to be consistent with the character and species composition of existing riparian scrub, riparian woodland, and sage scrub of the adjacent and preserved areas. The species compositions for the various mitigation areas are outlined in Section 4.11.

2.2 Functions and Values of Vegetation Communities in Mitigation Areas

Implementation of the mitigation program, with establishment, restoration, and enhancement of the intended vegetation communities, would result in an increase in the overall functions and values of the Placerita Creek corridor. Buffer area and landscape connectivity, along with hydrology and physical structure, would improve, while biotic structure would likely decrease during initial plant establishment until a more mature habitat area develops.

The functions and values of the vegetation communities to be established, restored, and enhanced are intended to be the same or better than those of the vegetation communities that would be impacted. Specifically, functions and values of the vegetation communities to be established include suitable breeding, foraging, and nesting habitat for avian, aquatic, and terrestrial animal species. Also, the mitigation areas would function to promote nutrient cycling, nutrient and compound uptake, organic carbon export, and would be hydraulically compatible with the surrounding stream system.

2.3 Long-Term Monitoring Period

To ensure the mitigation areas meet the intended success criteria established by the permitting agencies, a 5-year monitoring period will be implemented. During this time, the Project site will be monitored by the Habitat Restoration Specialist, who will then make recommendations to the Restoration Contractor to perform maintenance tasks necessary to keep the Project site in compliance with success criteria. Should the Project not meet the final success criteria by the end of the 5-year period, the monitoring period would be extended until agency sign-off were obtained, but which could not be unreasonably withheld.

3.0 MITIGATION AREA DESCRIPTION

On-site mitigation areas by jurisdictional area are shown in Figure 6. Actual revegetation treatment types that correspond with these jurisdictional areas are shown on Figures 7A and 7B. The southern willow scrub, riparian woodland, and riparian scrub mitigation areas will be graded to stream channel elevations following construction of the buried soil cement bank protection and will be suitable for establishment of jurisdictional vegetation communities.

The riparian woodland and southern willow scrub vegetation communities are subject to frequent, repeated disturbance from water flows during storm events, and they consist of sparse, emergent vegetation in the understory that rarely persists for more than one year. Riparian woodland and southern willow scrub are planned for the areas that are expected to receive the greatest flows based on anticipated flow patterns, and will help restore the riparian woodland areas temporarily disturbed by construction-related disturbances.

Riparian scrub is also subject to occasional water flow during large storm events, but on a less frequent basis such that woody vegetation has more time to become established. Riparian scrub is planned for the areas that are expected to receive occasional storm flows only and that lie in disturbed areas adjacent to the riparian woodland vegetation and southern willow scrub areas along the lower margins of the creek banks, up to an elevation approximately 6 feet in vertical height above the toe of slope areas.

Transitional sage scrub buffer zone vegetation is planned for the banks of the channel above the buried bank protection and above the 6-foot vertical height mark that is anticipated as the anticipated high flood level. The surface of the replacement fill soils will be composed of salvaged and/or imported topsoil placed over the bank protection, which will be ripped/tilled sufficiently, and amended as necessary based upon soils analysis evaluation, for planting with the intended native vegetation.

3.1 Establishment, Restoration, and Enhancement Acreage Totals

Impacts to jurisdictional waters/streambed from the Project are shown in Tables 1 and 2. The various mitigation areas, composed of establishment, restoration, and enhancement, segregated by vegetation community, are shown in Tables 4 and 5. Riparian woodland, southern willow scrub, and riparian scrub revegetation areas are proposed in the channel bottom and 6 feet up the lower channel slopes. The transitional sage scrub revegetation areas are proposed on the upper margins of the channel side slopes.

A total of 3.67 acres of mitigation area would be provided in the Placerita Creek corridor, within the Development Area boundaries, composed of waters establishment (creation), waters enhancement (i.e., rehabilitation), waters restoration, and transitional buffer zone establishment. In addition, a total of 0.47 acre of existing waters habitat would be preserved within the Placerita Creek corridor as part of the overall program. Thus, overall, the creek corridor mitigation and preservation area within the Development Area would total 4.14 acres.

An additional 0.10 acre within the LADWP transmission corridor in the Development Area would be temporarily impacted to facilitate the Project grading and slope bank protection and would be revegetated and restored after construction disturbance. These areas would not being credited towards the mitigation area requirements because they are not within the Project ownership.

The mitigation/revegetation areas within the creek corridor will include:

- A total of 1.66 acres of establishment (i.e., waters and habitat creation) is proposed on site as partial compensation for the permanent waters/streambed impacts.
- A total of 0.11 acre of waters/streambed enhancement (i.e., rehabilitation) is proposed on site as partial compensation for temporary waters/streambed impacts.
- A total of 1.90 acres of waters/streambed restoration is proposed on site as partial compensation for temporary waters/streambed impacts.
- A total of 0.47 acre of waters/streambed preservation is proposed in the undisturbed portions of the existing creek corridor.

3.2 Proposed Uses of Mitigation Areas

The proposed mitigation areas, composed of establishment, restoration, and enhancement areas, would include riparian woodland, southern willow scrub, riparian scrub, and transitional sage scrub revegetation areas under the presumed jurisdiction of CDFG and ACOE. A use restriction or some other form of acceptable protection deemed appropriate by the resource agencies will be

established over this section of Placerita Creek, within the limits of the Development Area. These mitigation areas will function as riparian vegetation communities and transitional habitat and would be part of the dynamic fluvial process of the stream system. There will be no public access to, or use of, the mitigation areas. The Los Angeles County Flood Control District has requested an easement for access to the creek for maintenance purposes. A permanent flood control maintenance access road, which has been designed into the Project and which is calculated in the Project's permanent impacts, has been provided. This road will lie above the mitigation areas, with the exception of two ramps that will provide access to the creek as well as the drainage outfall location. The purpose of the road will be to inspect and maintain the public storm drain system (i.e., storm drain outlets and bank protection integrity). Maintenance would be limited to cleaning of the storm drain outlets and maintenance of the bank protection as necessary (i.e., bank failure or excessive scour). If future repair work impacts any mitigation areas or other habitat areas, then the future work would be subject to additional resource agency permitting requirements, separate from this current project, and would be considered the responsibility of the underlying property owner (not the Los Angeles County Flood Control District).

4.0 MITIGATION IMPLEMENTATION PLAN

Grading of the mitigation areas will be accomplished during general site development grading operations and after the buried bank installation activities are completed. The final fill slopes over the bank protection will be revegetated as outlined herein. The mitigation will include the following:

- Conducting clearing and grubbing activities;
- Salvaging native vegetation mulch, where deemed appropriate by the Habitat Restoration Specialist;
- Salvaging top soil from existing native habitat areas, where deemed appropriate by the Habitat Restoration Specialist;
- Re-contouring revegetation areas to channel bottom grade and finish slope surface grades, as needed;
- Spreading salvaged top soils over the surface of revegetation areas;
- Conducting soil amending per final soils analysis;
- Applying native vegetation mulch;
- Installing container plants;
- Applying native seed mix;
- Conducting 120-day initial plant establishment maintenance period; and
- Conducting long-term 5-year maintenance and monitoring period work.

4.1 Rationale for Expecting Project Success

The Placerita Creek area is subject to high-velocity storm flows during the rainy season and subsurface low flows in the dry season. The plant species to be used in the mitigation areas are native species that already occur within the Development Area and assemble vegetation communities that occur on site and are adapted to these dynamic conditions.

To address the anticipated highly dynamic fluvial conditions associated with the Placerita Creek corridor, the vegetation communities to be established, restored, and enhanced will be located in hydrologically compatible locations, with sparse riparian woodland designed for areas expected to have high velocity flows, and alluvial scrub designed for areas expected to receive less frequent storm flows.

Control of invasive plant species in the mitigation areas is expected to require a long-term commitment because the invasive species present are tenacious and difficult to control. The mitigation areas will be maintained for the duration of the 5-year maintenance and monitoring period, so multiple follow-up visits will occur to address recurrence of invasive plant species. The suppression of invasive weeds/exotic species over the extended maintenance period will allow native vegetation to become better established throughout the area because there will be less competition for water and nutrients.

4.2 Implementation Schedule

Ideally, the mitigation implementation should be timed so that container plants and the seed mix could be installed in the spring, when the threat of major precipitation events decreases. This will allow for an establishment period to take place before the onset of the fall rainy season.

A preliminary implementation schedule is shown in Table 6.

Table 6
Preliminary Project Implementation Schedule

Activity	Date
Clearing and grubbing and mulch salvage	April 2013
Topsoil salvage and stockpiling	April 2013
Contouring channel and banks	April–October 2013
Topsoil application	April–October 2013
Mulch application	April–October 2013
Irrigation system installation	September–December 2013
Container plant installation	October–December 2013
Seed application	October 2013
Start of 5-year long-term monitoring period	November 2013
End of 120-day plant establishment period	March 2014

4.3 Construction Documents

Following approval of this HMMP, final revegetation construction documents (i.e., plans including drawings, details, and specifications) would be prepared. The construction drawings and specifications will conform to all aspects of this plan and permit conditions required by the permitting agencies. Construction documents would incorporate the most current site condition information available. Any significant changes to site conditions and final mitigation areas/acreages may be subject to review and comment by the permitting agencies. The construction document plan package will include a site plan showing proposed work areas and the final site facilities, any additional grading, construction details, irrigation, planting plans, and specifications.

4.4 As-Built Conditions

As-built plans for the on-site mitigation areas would only be required if the installation substantially deviates from this HMMP, the final construction documents and/or the permit conditions. A Global Position System (GPS) generated map/graphic should be prepared after the completion of installation to accurately portray the final limits of the installed mitigation areas.

4.5 Existing Resource Impact Avoidance

If initial site vegetation clearing is unavoidable during the nesting bird season (i.e., March 15–September 1) then pre-construction nesting bird surveys will be conducted. The proposed mitigation measure for nesting birds (PCR 2010) requires surveys to be conducted for nesting birds if construction activities take place during the breeding season. This mitigation measure, as stated in the Project's Draft EIR, would be implemented for mitigation activities. In general, if nesting birds occur within 300 feet of the disturbance area, a buffer will be implemented and the nest shall be monitored by a biologist to ensure activities do not result in nest failure. If the birds begin nesting in habitat adjacent to the Project site during construction, postponement of work will not be required. Depending on proposed activities, the monitoring biologist may establish additional setbacks and exclusionary fencing to ensure that nesting birds are not disturbed. The pre-construction nesting bird survey will be completed in conformance with any conditions adopted by the Project's EIR.

4.6 Site Access and Protection

No public access will be provided to the mitigation areas. The sites will be fenced and posted with signage at the top of bank indicating the presence and protection of sensitive resources occurring in the creek area. During construction, orange construction fencing and erosion control silt-fence and/or other best management practice (BMP) measures as stipulated in the Project Storm Water Pollution Protection Plan (SWPPP) will be utilized, where applicable, to identify the limits of mitigation areas along the limits of natural areas being preserved. This orange

fencing will remain in place and be maintained by the Restoration Contractor through the first growing season. If the construction fencing is damaged by storm flows, it may be recommended for replacement based on the Habitat Restoration Specialist's discretion.

4.7 Soil Salvaging and Grading

Topsoil areas beneficial for reuse in the mitigation effort would be determined by the Habitat Restoration Specialist, and would be salvaged and stockpiled by the Contractor for reuse in helping to establish the finish grades of the mitigation areas. Upon establishment of finish grades, soil samples shall be taken from representative locations and analyzed for agricultural suitability and soil fertility in order to determine if soil amending procedures will be necessary to support the intended revegetation effort. Soils amending shall be incorporated into the final revegetation implementation based upon recommendations provided by the soils laboratory and in coordination with the Habitat Restoration Specialist.

Most of the mitigation areas will require some form of grading. Re-contouring of the temporary impact areas following installation of buried bank protection and subsequent restoration will be required, as will excavation of soils in disturbed areas where waters and habitat establishment (i.e., creation) will occur. The final revegetation construction documents shall specify the extent of grading required in these areas. Native topsoil will be removed during development of the site and stockpiled in locations where it will be unlikely to be disturbed. After completion of the buried bank protection, the native topsoil will be spread on the surface of the temporary impacts areas and adjacent channel banks. An example channel cross-section of the proposed mitigation areas is shown in Figure 8.

4.8 Initial Non-Native Invasive Plant Removal

Enhancement of the Placerita Creek area will include an initial non-native invasive plant removal effort, followed by regular control of new seedlings and re-sprouts of non-native invasive plants over the long-term maintenance period. A combination of physical removal and herbicide treatment will be used to control non-native invasive plants.

All pest control and removal work shall be performed in compliance with all applicable federal and state laws and regulations, safety precautions, and pesticide label directions. The Restoration Contractor shall possess a valid California Qualified Applicator Certificate or Qualified Applicator License, as well as a Pest Control Business License or Maintenance Gardener Pest Control Business License, as appropriate for the Contractor's situation.

The Restoration Contractor shall refer to the specific pesticide label for information on proper timing, application rates, and any use restrictions. The Contractor must follow all applicable label directions, laws, regulations, and safety precautions when performing pest control. Should

the Contractor require a specific pest control recommendation for any control effort, the Contractor shall consult a licensed Pest Control Adviser for a written recommendation.

Physical removal of non-native plants, including the roots, may be the best method for those species for which the root ball can readily be pulled-out with the above-ground portions of the plant. These species will be physically removed before seed-set. If hand removal is possible only after seed-set, then seed heads will be cut-off, bagged, and removed from the site prior to the weed removal. Physical removal of the plants and their roots can only be done when the non-native plants are growing separate from desirable natives, not when the plants and their root systems are intertwined.

Herbicides will be used for the invasive exotic plant species that have root systems that are impractical to remove or that regenerate from small root fragments. Any herbicide use should be conducted using methods that minimize effects to adjacent/desirable native species, such as brush application or spot spraying. Only herbicides registered for aquatic use would be used per the applicable use restrictions.

Follow-up control measures will likely be necessary for invasive plant species with extensive root systems that cannot usually be killed with one herbicide application. Follow-up herbicide treatment should be done at the biologically appropriate time when the recovering plants are still relatively small and before they have time to regain strength and vigor.

4.9 Erosion Control and Best Management Practices

The jurisdictional waters/streambed mitigation areas, including establishment, restoration, and enhancement areas, are primarily located within a highly volatile flow channel. The Placerita Creek channel experiences no surface flow or very low surface flow during the dry season, and high-volume, high-velocity peak storm flows during large storm events in the rainy season. Natural streambed scour associated with periodic high-velocity storm flows is expected. Since this is considered a natural occurrence, no measures to modify or control fluvial processes in the mitigation areas are anticipated and natural fluctuations are expected and will be tolerated.

To minimize the potential for loss of soils and vegetation from the buried bank stabilization slopes, the installation and planting should be started in the spring when the likelihood of significant storm events decreases. This will allow for an establishment period before the first fall rainy season. Silt fences, fiber rolls, and construction fencing may be incorporated into the BMPs intended for the Project per the Project SWPPP, and based on the revegetation construction documents and the Habitat Restoration Specialist’s recommendation.

The Placerita Creek's dynamic and volatile seasonal flow pattern creates a factor of variability regarding the fluvial development that will take place within the restoration and enhancement areas. Project fencing and BMPs affected/lost due to large storm flow events will be replaced, modified, or not replaced at the discretion of the Habitat Restoration Specialist.

4.10 Vegetation Salvaging Mulching

Native vegetation removed during the clearing and grubbing phase of construction will be salvaged, stockpiled, and mulched, as deemed appropriate by the Habitat Restoration Specialist. The mulch will be spread in piles, in appropriate heights, for storage until future use. The mulch will primarily provide organic matter to the soil, and secondarily may provide a source of native seed. The native mulch will be applied to the restoration areas and incorporated into the top 12 inches of soil via ripping/tilling prior to planting container plants and applying seed. Additional soil amending may be necessary based upon final soils analysis recommendations.

4.11 Recommended Plant Palette for Mitigation Areas

The mitigation areas will be planted with container plants and seed. Establishment and restoration areas will be planted with the full spectrum of the intended plant palettes. Enhancement areas generally will be planted with less density and will also rely on natural recruitment from remnant native species. Enhancement will consist mostly of invasive exotic plant species control and some replacement planting and seeding to supplement the remaining native species. Planting and seeding in enhancement areas will occur in places where large areas are disturbed from the removal of non-native invasive species.

There are four primary vegetation communities designed for the on-site mitigation areas: riparian woodland, southern willow scrub, riparian scrub, and transitional sage scrub. The riparian woodland, southern willow scrub, and riparian scrub areas, which are planned for designated areas within the creek flow channel and lower channel banks, will consist of similar planting palettes, with minor adjustments based upon assumed water resources and ultimate canopy. The larger tree species will be eliminated from the riparian scrub areas and substituted with more shrub and ground cover species due to the anticipated drier conditions in these locations. The primary difference in the riparian scrub areas is that the plant cover is much lower in stature, due to decreased availability of water sources. Therefore, the composition of species and intended spacing of species in the three planting palettes varies slightly.

Transitional sage scrub will occur in areas that are transitional to the riparian woodland, southern willow scrub, and riparian scrub areas, tending toward more upland vegetation. Therefore, the transitional sage scrub plant palette is designed for designated areas on the channel banks above

the 6-foot vertical height location, which demarcates the assumed limits for the riparian scrub habitat and corresponding riparian resources. All creek bank slopes above this elevation are assumed to be drier and will be more xeric in nature, requiring more drought-tolerant species for long-term survival. The plant palette for this community includes some species that also are in the riparian scrub planting palettes; however, other species are included that are more characteristic of upland sage scrub vegetation communities.

Specific planting locations will be shown on the final revegetation construction documents. Planting palettes are shown in Tables 7 through 16.

Table 7
CDFG Habitat Restoration and ACOE Establishment, Restoration, and Enhancement
(Mixed Willow Riparian Woodland Container Plant Palette)
(0.27 acres)

Scientific Name	Common Name	Size (gallon)	Spacing (feet on center)	Plants per Acre	Quantity for 0.27 Acres
Acer macrophyllum	big-leaf maple	5	30	5	1
Baccharis salicifolia	mulefat	1	8	102	58
Leymus condensatus	giant wild rye	1	6	24	7
Leymus triticoides	creeping wild rye	1	4	54	15
Platanus racemosa	Calif. sycamore	5	30	5	1
Populus balsamifera	Black cottonwood	1	25	6	2
Populus fremontii	Fremont cottonwood	1	20	11	3
Quercus agrifolia	coast live oak	5	30	5	1
Rhamnus crocea	redberry	1	8	14	4
Ribes speciosum	fuchsia-flowered gooseberry	1	6	24	7
Ribes viburnifolium	Catalina perfume	1	6	24	7
Salix laevigata	red willow	1	15	19	5
Salix lasiolepis	arroyo willow	1	15	19	5
Sambucus mexicana	Mexican elderberry	1	25	4	1
Vitis girdiana	wild grape	1	6	24	7
			Total	**340**	**124**

Table 8
CDFG Habitat Restoration and ACOE Establishment and Restoration
(Mixed Willow Riparian Woodland Seed Mix)
(0.27 acres)

Scientific Name	Common Name	Percent PLS	Pounds per Acre	Pounds for 0.27 Acres
Ambrosia psilostachya	western ragweed	6	6	1.62
Artemisia douglasiana	Douglas mugwort	10	6	1.62
Baccharis salicifolia	mulefat	3	2	0.54
Distichlis spicata	salt grass	70	2	0.54
Leymus condensatus	giant wild rye	70	2	0.54
Leymus triticoides	creeping wild rye	80	4	1.08
Lotus scoparius	deer weed	85	4	1.08
Phacelia ramosissima	branching phacelia	80	4	1.08
		Total	**30**	**8.1**

Hydroseed Slurry Mix Shall Consist of the Following Per Acre:
2,500 pounds of Virgin Wood Fiber Mulch
1,000 pounds of Agricultural Gypsum
650 pounds 6-20-20-XB Fertilizer
100 pounds commercial guar gum-based binder
24 pounds of seed/acre as shown in Table 9

Table 9
CDFG Habitat Restoration and ACOE Waters Establishment, Restoration, and Enhancement
(Southern Willow Scrub Container Plant Palette)
(0.43 acres)

Scientific Name	Common Name	Size (gallon)	Spacing (feet on center)	Plants per Acre	Quantity for 0.43 Acres
Baccharis salicifolia	mulefat	1	6	182	78
Iva hayesiana	poverty weed	1	2	545	234
Leymus condensatus	giant wild rye	1	6	61	26
Leymus triticoides	creeping wild rye	1	4	82	35
Ribes speciosum	fuchsia-flowered gooseberry	1	6	61	26
Ribes viburnifolium	Catalina perfume	1	6	24	10
Salix laevigata	red willow	1	10	65	28
Salix lasiolepis	arroyo willow	1	12	76	33
Sambucus mexicana	Mexican elderberry	5	15	10	4
			Total	**1,106**	**474**

Table 10
CDFG Habitat Restoration and ACOE Waters Establishment, Restoration, and Enhancement
(Southern Willow Scrub Seed Mix)
(0.43 acres)

Scientific Name	Common Name	Percent PLS	Pounds per Acre	Pounds for 0.43 acres
Ambrosia psilostachya	western ragweed	6	6	2.58
Artemisia douglasiana	Douglas mugwort	10	6	2.58
Baccharis salicifolia	mulefat	3	4	1.72
Distichlis spicata	salt grass	70	1	.43
Leymus condensatus	giant wild rye	70	2	0.86
Leymus triticoides	creeping wild rye	80	4	1.72
Lotus scoparius	deer weed	54	4	1.72
Lupinus bicolor	miniature lupine	90	2	0.86
Orthocarpus purpureus	owl's clover	?	3	1.29
Phacelia ramosissima	branching phacelia	76	4	1.72
		Total	**36**	**15.48**

Hydroseed Slurry Mix Shall Consist of the Following Per Acre:
2,500 pounds of Virgin Wood Fiber Mulch
1,000 pounds of Agricultural Gypsum
650 pounds 6-20-20-XB Fertilizer
100 pounds commercial guar gum-based binder
24 pounds of seed/acre as shown in Table 9

Table 11
CDFG Habitat Establishment, Restoration, and Enhancement
(Riparian Scrub Container Plant Palette)
(0.64 acre)

Scientific Name	Common Name	Size (gallons)	Spacing (feet on center)	Plants per Acre	Quantity for 0.64 Acres
Baccharis salicifolia	mulefat	1	8	170	109
Chrysothamnus nauseous	rubber rabbit brush	1	5	87	56
Eriastrum densifolium	perennial eriastrum	1	3	242	155
Heteromeles arbutifolia	toyon	1	8	34	22
Iva hayesiana	poverty weed	1	4	408	261
Leymus condensatus	giant wild rye	1	6	61	39
Leymus triticoides	creeping wild rye	1	4	136	87
Rosa californica	Calif. wild rose	1	6	61	39
Sambucus mexicana	Mexican elderberry	1	15	19	12
			Total	**1,218**	**780**

Table 12
CDFG Habitat Establishment and Enhancement
(Riparian Scrub Seed Mix)
(0.64 acre)

Scientific Name	Common Name	Percent PLS	Pounds per Acre	Pounds for 0.64 Acre
Ambrosia psilostachya	western ragweed	6	6	3.84
Artemisia douglasiana	Douglas mugwort	10	2	1.28
Artemisia dracunculus	tarragon/Palmer's sagewort	10	3	1.92
Baccharis salicifolia	mulefat	3	3	1.92
Castilleja exserta (*Orthocarpus purpurea*)	purple owl's clover	25	3	1.92
Leymus condensatus	giant wild rye	70	2	1.28
Leymus triticoides	creeping wild rye	80	2	1.28
Lotus scoparius	deer weed	85	2	1.28
Lupinus bicolor	miniature lupine	90	2	1.28
Nassella pulchra	purple needle grass	75	3	1.92
Phacelia ramosissima	branching phacelia	80	2	1.92
		Total	**30**	**19.84**

Hydroseed Slurry Mix Shall Consist of the Following Per Acre:
2,500 pounds of Virgin Wood Fiber Mulch
1,000 pounds of Agricultural Gypsum
650 pounds 6-20-20-XB Fertilizer
100 pounds commercial guar gum-based binder
32 pounds of seed/acre as shown in Table 7

Table 13
ACOE/CDFG Habitat Establishment and Restoration
(Waters Container Plant Palette)
(0.16 acre)

Scientific Name	Common Name	Size (gallons)	Spacing (feet on center)	Plants per Acre	Quantity for 0.16 Acres
Artemisia douglasiana	Douglas mugwort	1	4	272	44
Baccharis salicifolia	mulefat	1	8	102	16
Iva hayesiana	poverty weed	1	4	408	65
Juncus dubius	Mariposa rush	1	3	1210	194
Leymus triticoides	creeping wild rye	1	6	121	19
			Total	**2,113**	**338**

Table 14
ACOE/CDFG Waters Establishment and Restoration
(Waters Seed Mix)
(0.16 acre)

Scientific Name	Common Name	Percent PLS	Pounds per Acre	Pounds for 0.16 Acre
Ambrosia psilostachya	western ragweed	6	2	0.32
Artemisia douglasiana	Douglas mugwort	10	4	0.64
Artemisia dracunculus	tarragon/Palmer's sagewort	6	3	0.48
Disticlis spicata	Salt grass	70	4	0.64
Juncus dubius	Mariposa rush	50	6	0.96
Phacelia ramosissima	branching phacelia	80	2	0.32
		Total	**21**	**3.36**

Hydroseed Slurry Mix Shall Consist of the Following Per Acre:
2,500 pounds of Virgin Wood Fiber Mulch
1,000 pounds of Agricultural Gypsum
650 pounds 6-20-20-XB Fertilizer
100 pounds commercial guar gum-based binder
32 pounds of seed/acre as shown in Table 7

Table 15
CDFG Transitional Buffer Zone (CDFG Establishment in buffer zone)
(Part of Fuel Modification Zone)
(Transitional Sage Scrub Container Plant Palette)
(2.11 acres)

Scientific Name	Common Name	Size (gallons)	Spacing (feet on center)	Plants per Acre	Quantity for 2.11 Acres
Atriplex canescens ssp. *canescens*	four-wing saltbush	1	6	121	255
*Baccharis salicifolia**	mulefat	1	8	68	143
Ceanothus crassifolius	hoary-leaved ceanothus	1	8	34	72
Cercocarpus betuloides	mountain mahogany	1	10	22	46
Heteromeles arbutifolia	toyon	1	8	34	72
Leymus condensatus	giant wild rye	1	6	36	76
*Quercus agrifolia**	coast live oak	15, natural form	25	11	23
Quercus berberidifolia	scrub oak	5, natural form	20	11	23
*Sambucus Mexicana**	Mexican elderberry	1	15	19	40
Yucca whipplei	our Lord's candle	1	5	122	257
			Total	**478**	**1,007**

*These species to be located on the lower margins of the creek slopes, adjacent to the riparian areas.

Table 16
CDFG Transitional Buffer Zone (Fuel Modification Zone)
(Transitional Sage Scrub Seed Mix)
(2.11 acres)

Scientific Name	Common Name	Percent PLS	Pounds per Acre	Pounds for 2.11 Acres
Achillea millefolium	common yarrow	85	4	8.44
Amsinckia menziesii var. *intermedia*	common fiddleneck	25	2	4.22
Baccharis pilularis	coyote bush	1	4	8.44
Brickellia californica	California brickel bush	3	4	8.44
Camissonia bistorta	California sun cup	60	1	2.11
Chrysothamnus nauseous	rubber rabbit brush	10	2	4.22
Encelia californica	Calif. bush sunflower	30	3	6.33
Eriastrum densifolium	perennial eriastrum	5	2	4.22
Eriodictyon crassifolium	thick-leaf Yerba Santa	20	6	12.66
Gnaphalium californica	Calif. everlasting	2	1	2.11
Helianthemum mutabile	Sun rose	80	2	4.22
Lepidospartum squamatum	scale broom	8	6	12.66
Lessingia filaginifolia var. *filaginifolia*	California aster	3	4	8.44
Lotus scoparius	deer weed	85	2	4.22
Lupinus succulentus	arroyo lupine	90	3	6.33
Mimulus aurantiacus	sticky monkeyflower	2	2	4.22
Phacelia ramosissima	branching phacelia	80	2	4.22
		Total	**50**	**105.50**

Hydroseed Slurry Mix Shall Consist of the Following Per Acre:
2,500 pounds of Virgin Wood Fiber Mulch
1,000 pounds of Agricultural Gypsum
650 pounds 6-20-20-XB Fertilizer
100 pounds commercial guar gum-based binder
51 pounds of seed/acre as shown in Table 11

4.12 Container Plant and Seed Installation

Implementation of this plan must be coordinated with the Restoration Contractor, County, Applicant, grading contractor, and the Habitat Restoration Specialist. Plant materials for the planting plan will include container stock, mulched material, and native seed mixes as indicated. All container plants will be checked for viability and general health upon arrival at the mitigation site by the Habitat Restoration Specialist. Plant materials not meeting acceptable standards will be rejected. Plant species and quantities will be confirmed after delivery by the Habitat Restoration Specialist and locations for installation will be marked on site temporarily with pin flags.

Standard planting procedures will be employed for installing container plants. Holes will be dug three times the diameter of the root ball of the plant and the same depth as the container. Holes will be filled with water and allowed to drain immediately prior to planting. Backfill soil

containing amendments (as directed by the Habitat Restoration Specialist) will be placed in every planting hole following soaking, and container plants installed so that the root ball is entirely below grade, except for the oaks, which will be planted with the root ball about an inch above grade. Woody container plant species specified by the Habitat Restoration Specialist will be planted into the soil slightly deeper than standard, approximately 2 to 4 inches above the root collar of the plant. This additional planted depth for the above species will help insure sufficient rooting strength and provide additional protection against seasonal scour and/or uprooting due to high-flow velocities after winter storm events.

Mulch will be applied around container plants to a diameter of 2 feet or 1.5 times the drip line, whichever is greater. Mulch will be 3 to 4 inches deep. This mulch is in addition to the mulch made from salvaging native material from on site.

4.13 Seed Application

After soil preparation and container plant installation, the mitigation/revegetation areas will be seeded with the specified seed mixes for each vegetation community. Labels for each mixture will be inspected and approved by the Habitat Restoration Specialist prior to application. Seed may be applied via a hydromulch and/or seed imprinter method where deemed appropriate. If applied via hydromulch, the hydromulch shall contain the specified seed mix at the prescribed rate per acre: virgin wood fiber cellulose mulch at 2,500 pounds per acre, 650 pounds of 6-20-20-XB commercial fertilizer, 1,000 pounds agricultural gypsum, and a commercial guar gum–based binder at 100 pounds per acre.

4.14 Irrigation System Installation

The primary goal of this mitigation program is to establish, restore, and enhance native vegetation communities capable of maintaining and supporting themselves in perpetuity. However, native container plants and seed may require irrigation for establishment on the mitigation areas, especially during the drier summer months. Due to the potential for high-velocity storm flows in the channel, an irrigation system is not recommended for the immediate channel bottom areas. Irrigation coverage would be afforded from the side slopes to the degree possible. Any crossing of the creek or piping in volatile flow areas would be sleeved, staked, and protected accordingly. A temporary, on-grade irrigation system is recommended for the channel slopes and the adjacent toe areas outside of the active flow areas.

The temporary irrigation system will be installed to support the container stock plantings and seed mixtures until they can survive on their own based on observed and predicted seasonal rainfall, overland flow, and effective plant rooting depth.

All irrigation will be installed by the Restoration Contractor in accordance with the construction documents and specifications. The irrigation system will be designed with above-ground (i.e., on-grade) components to facilitate removal once the system is decommissioned.

All irrigation will only be used during plant establishment since the goal of the restoration effort is to create native, self-sustaining plant communities. Irrigation use will be discontinued at least 2 years before the end of the 5-year maintenance period to demonstrate the vegetation community's ability to survive without supplemental water.

A temporary water meter will be installed, or if available, the temporary irrigation system may be connected to adjacent permanent landscape irrigation. Irrigation design and layout will be shown on the final revegetation construction documents.

The irrigation system may utilize a solar-operated controller that operate independent irrigation circuits, minimizing irrigation maintenance requirements for the Project site. Irrigation on site will likely consist of polyvinyl chloride (PVC) or high-density polyethylene (HDPE) pipe staked on-grade, with coverage provided by spray heads, and possibly drip emitters where applicable.

Should portions of the irrigation system become damaged or lost, they will be replaced during the required maintenance period, and the design modified based on the individual circumstances per the Habitat Restoration Specialist's recommendations.

5.0 MAINTENANCE REQUIREMENTS DURING THE MONITORING PERIOD

All mitigation areas will be subject to the requirements specified in this plan. The Applicant will be responsible for maintenance and monitoring of the mitigation site until release of mitigation obligations is granted by the permitting agencies.

Because the goal of this plan is to provide natural vegetation communities that can support themselves with little or no maintenance, the primary effort of the maintenance plan is concentrated in the first few seasons on plant growth following the mitigation efforts, when weeds can easily out-compete the native species. The intensity of the maintenance activity is expected to subside each year as the native plant materials become more established and local competition from non-native plants for resources in the mitigation areas is minimized through control of non-native plants.

5.1 Maintenance Activities

Maintenance activities will be conducted concurrently with installation of the mulch, container plant, and seed materials in the mitigation areas, and will continue throughout the initial 120-day establishment period, through the long-term maintenance and monitoring period, and concluding once success criteria have been met. Contractor maintenance activities on the site will be conducted monthly during the 120-day establishment period and years one and two of the Project, every other month through year three, and quarterly for years four and five.

5.2 Pest Management

In general, little or no pest control is anticipated for the mitigation, other than follow-up invasive exotic plant species control. The Habitat Restoration Specialist will advise the Restoration Contractor as to which pest species to control. The concepts of integrated pest management (Dreistadt 1994) will be used on this Project. Weed species generally do not need to be controlled unless they are invasive and threaten to displace native plants. Target weed species include those on the Cal-IPC California Invasive Plant Inventory (Cal-IPC 2006). Re-establishment of the innocuous, naturalized annual weeds that are common to the area do not normally require extensive control efforts and are expected to be a permanent, if minor, part of the landscape.

The Restoration Contractor shall control common invasive annual weeds and grasses if they are present or appear in the mitigation area. Annual weeds and grasses shall be controlled early in their lifecycles before they have the opportunity to bloom and set seed. Annual weed species that may require control in the mitigation area include, but are not limited to, the following: tumbling oracle (*Atriplex rosea*), mustard (*Brassica* sp., *Hirschfeldia incana*, and *Sisymbrium* sp.), Italian thistle (*Carduus pycnocephalus*), tocalote (*Centaurea melitensis*), garland chrysanthemum (*Chrysanthemum coronarium*), poison hemlock (*Conium maculatum*), horseweed (*Conyza canadensis*), cudweed (*Gnaphalium luteo-album*), prickly lettuce (*Lactuca serriola*), cheeseweed (*Malva parviflora*), sweetclover (*Melilotus* sp.), bristly ox-tongue (*Picris echioides*), wild radish (*Raphanus sativus*), Russian thistle (*Salsola tragus*), London rocket (*Sisymbrium irio*), sow-thistle (*Sonchus* sp.), cocklebur (*Xanthium strumarium*), and various non-native annual grasses, such as wild oats (*Avena* sp.), false brome (*Brachypodium distachyon*), brome grass (*Bromus* sp.), barley (*Hordeum* sp.), ryegrass (*Lolium* sp.), annual bluegrass (*Poa annua*), Mediterranean schismus (*Schismus barbatus*), and Johnson grass (*Sorghum halepense*). Other annual weed and grass species may invade the mitigation area and require control. The Habitat Restoration Specialist will advise the Contractor as to which species to control.

Some common perennial, invasive exotics that could require follow-up control efforts or newly invade the mitigation and enhancement areas and require control include the following: giant reed (*Arundo donax*), pampas grass (*Cortaderia* sp.), artichoke thistle (*Cynara cardunculus*), fennel (*Foeniculum vulgare*), perennial pepperweed (*Lepidium latifolium*), tree tobacco (*Nicotiana glauca*), castor bean (*Ricinus communis*), fountain grass (*Pennisetum setaceum*), and salt cedar (*Tamarix* sp.), among others. These species may be successfully controlled by pulling if discovered early enough at the seedling stage, but may prove impossible to control without herbicides once they become established. The above-listed invasive exotic species require 100% control during the maintenance and monitoring period. The Habitat Restoration Specialist may add additional invasive exotic species to this list as appropriate, should the species appear within the mitigation areas.

Invertebrate pests, such as snails, slugs, insects, mites, spiders, etc., are not expected to be a problem in the mitigation areas, but will be controlled by the Contractor, if necessary. Vertebrate pests such as gophers, ground squirrels, rabbits, rats, voles, etc. may become a problem and will be controlled by the Contractor, if necessary. Vertebrate pests classified as non-game mammals by the CDFG may be taken at any time and in any manner. Other game mammals have certain restrictions that must be met before they can be controlled, and a hunting license and/or scientific collecting permit may be required. Game mammals are not expected to be an issue for the mitigation site and will not be controlled. Potential issues related to game mammals (such as herbivory of plantings) would be managed through protection of the vegetation rather than control of the animals. Snail control may be required during the establishment period when the irrigation system is operated regularly. Plant diseases could become a problem during the plant establishment period but can generally be prevented or controlled by cultural measures.

Pest control will be conducted following all applicable laws, regulations, label directions, and safety precautions. Should the Restoration Contractor require specific pest control recommendations, the Contractor shall consult a licensed Pest Control Adviser. The Restoration Contractor shall provide reports of all pest control measures implemented at the site, including details of method used and any pesticide applications. Copies of any written recommendations shall also be provided. The Restoration Contractor shall provide copies of all pesticide use reports to the County to document pesticide use and reporting.

5.3 Trash Removal

Trash will be removed from the mitigation areas by hand during maintenance visits. Trash consists of all man-made materials, equipment, or debris dumped, thrown, washed, blown, and left within the mitigation areas. Trash and inorganic debris washed or blown onto the mitigation site will be removed regularly. Deadwood and leaf litter of native trees and shrubs within the

main creek bottom areas will not be removed. Downed logs and leaf litter provide valuable micro-habitats for invertebrates, reptiles, small mammals, and birds. In addition, the decomposition of deadwood and leaf litter is essential for the replenishment of soil nutrients and minerals. Vegetation thinning management, including removal of deadwood and leaf litter, within the upper portions of the channel side slopes (i.e., within the transitional buffer zone areas), which fall within the "Fuel Management Zone C" area, shall be treated per the requirements of the Projects Fuel Modification Plan (Dudek 2011), and per the requirements of the county of Los Angeles Fuel Modification Plan Guidelines (County of Los Angeles 1998).

5.4 Irrigation Maintenance

The mitigation areas will be irrigated as needed to supplement natural rainfall and to promote plant survival during the drier periods of the year, primarily the summer months. Irrigation may be used in winter months to simulate an average or above-average rain season if natural precipitation is lacking. Irrigation is expected to last for a maximum of 3 years. The irrigation system should be deactivated for the final 2 years to demonstrate plant survival and long-term sustainability. Once the plants have become established, irrigation will be gradually reduced over time to acclimate plants to a non-irrigated condition prior to complete cessation of irrigation. Irrigation from June to November may be minimized to allow plants to experience normal drought cycles and to promote appropriate root growth. The Restoration Contractor will maintain the irrigation system at the optimum level of operation.

Consultation with the Habitat Restoration Specialist will be necessary to determine the timing for the cessation of irrigation. Irrigation should stop at the earliest possible date without risking significant plant loss. It is expected that the irrigation system will be abandoned no earlier than the end of year one. Irrigation is expected to be phased out in year two and discontinued at the end of year three of the 5-year monitoring and maintenance period. Irrigation components, such as valves and sprinkler heads, may be salvaged for reuse elsewhere at the end of the establishment period.

6.0 MONITORING PLAN FOR THE MITIGATION AREAS

6.1 Construction/Installation Monitoring

The Habitat Restoration Specialist will make regular site visits during mitigation implementation. The Habitat Restoration Specialist will also review activities for conformance to this plan, environmental permit conditions, and the requirements of contract plans and specifications. Each site observation visit will be documented in an observation report. Photo-documentation of site conditions will be conducted, as needed.

6.2 120-Day Plant Establishment Period and Monitoring

Upon successful completion of mitigation installation as determined by the Habitat Restoration Specialist, the 5-year long-term monitoring phase will begin. During the first 120 days of the long-term monitoring period, container plants will be monitored for health and vigor. Should any of the container plants die during the 120-day plant establishment period, they should be replaced in-kind at the expense of the Contractor to 100% of the original quantities at the recommendation of the Habitat Restoration Specialist. Should seed/hydroseed fail to germinate within the 120-day plant establishment period, it should be reapplied at the expense of the Contractor at the recommendation of the Habitat Restoration Specialist. Monitoring will occur monthly (every 30 days) during the 120-day plant establishment period by the Habitat Restoration Specialist, who will make recommendations to the Contractor to ensure conformance with the 120-day plant establishment requirements. A letter report or memorandum shall be produced at the end of the initial 120-day plant establishment period to acknowledge completion of the initial maintenance work and to outline any contingencies or remedial work required at that time.

6.3 Monitoring Methods

After each site visit, a site observation report will be prepared and provided to the County, Applicant, and to the Restoration Contractor. The site observation report will include a description of the Project status, site conditions, and any maintenance recommendations or remedial actions.

Monitoring of the mitigation areas will be performed by the Habitat Restoration Specialist during the 120-day plant establishment period and regularly throughout the duration of the 5-year mitigation monitoring program. Both horticultural (qualitative) monitoring and biological (quantitative) monitoring will be conducted at the mitigation areas. On an annual basis, the Habitat Restoration Specialist will provide a complete summary of results of the monitoring activities completed in the prior year period.

6.4 Performance Standards and Success Criteria

Vegetative cover goals are based observations of the existing vegetation communities in the portion of the Placerita Creek within the mitigation areas. Riparian woodland generally has a fairly high cover due to the overstory of tree cover and ranges from 70% to 80% cover. It is believed that an 80% cover goal can be achieved in these areas.

For the proposed southern willow scrub areas, less ultimate canopy cover is envisioned for these areas within the active flow channel areas than occurs in the current stands of southern willow scrub in the less volatile side drainages to Placerita creek. As a result, a conservative goal of 70% cover is expected in the southern willow scrub revegetation areas.

For the current riparian scrub areas along this portion of channel, there is currently less than 10% native vegetation cover, likely due to the poor/infertile soils, lack of perennial surface flow, and scour of vegetation from high-velocity storm flows during winter months. After site construction and slope soil remediation, it is expected that the riparian scrub revegetation areas may have slightly higher native vegetative cover in areas less subject to disturbance, but generally it is still envisioned to be relatively low at 20%–50%. Through the revegetation effort, it is believed that an average 60% goal could be achieved in these areas.

The cover of the transitional sage scrub creek slope banks is currently very sparse due to excessive erosion, poor soil conditions, and lack of available water. Current conditions indicate that less than 30% cover of native species is present in these areas. With the rehabilitation of soils in these areas after construction, a higher goal of 50% cover should be able to be achieved.

Performance criteria will be utilized to help assess the annual progress of the mitigation areas, and they are regarded as interim Project objectives designed to achieve the final goals. Fulfillment of these criteria will indicate that the mitigation areas are progressing toward the vegetation communities that constitute the long-term goals of the plan. If mitigation efforts fail to meet the performance standards listed in any one year, the Habitat Restoration Specialist will recommend remedial actions to be implemented (e.g., supplemental planting, seeding, transplanting, changes to cultural practices) that will enhance the vegetation communities to a level in conformance with these standards. Specific performance criteria by vegetation community are shown in Table 17 and are discussed further Section 6.7.

At the end of the 120-day plant establishment period, all native container plantings shall achieve 100% survival and seeding will show signs of germination. Annual weeds will make up no more than 5% of the entire cover in the mitigation areas, and perennial invasive exotic plant species, such as giant reed, Pampas grass, and salt cedar, will not be present in the mitigation areas.

Table 17
Percent Native Vegetation Cover Success Criteria Goals

Vegetation Community	Percent Native Cover*
Riparian Woodland	80%
Southern Willow Scrub	70%
Riparian Scrub	60%
Waters	40%
Transitional Sage Scrub Buffer Zone	50%**

*All cover measurements are expressed in terms of absolute cover
**Note: This goal is reasonable given that much of this transitional area falls within the "Fuel Management Zone," where periodic thinning of vegetation may be required to achieve the Project's fuel management goals and guidelines (Dudek 2011).

6.5 Qualitative Monitoring

Qualitative observations regarding native vegetation coverage, weed presence, and site progress will be collected during monitoring visits to be used in the annual monitoring report. Qualitative monitoring will be conducted to visually assess native container plant vigor and development, seedling recruitment from native hydroseed and natural sources, soil moisture content, presence/absence of plant pests or diseases, erosion and/or drainage conditions on site, presence/absence of non-native or invasive plant species, trash or debris accumulation, wildlife presence/absence, and the status of Project fencing. All qualitative monitoring visits to the mitigation areas will be documented with a monitoring report, which will be forwarded to the Restoration Contractor, County, and Applicant. Any Project deficiencies will be noted in the monitoring report, with accompanying recommendations for maintenance or remedial actions.

6.6 Quantitative Monitoring

Quantitative monitoring through data collection and analysis will be conducted to determine container plant survivorship/mortality, total native species cover and composition, and total non-native species cover and composition.

Quantitative monitoring will be conducted by establishing permanent vegetation transects within the various mitigation areas at random locations established at the end of year one. Transect data shall be collected in years 2 through 5. These transects will be utilized to help determine achievement of the yearly performance standards and compliance with agency standards. Permanent photo-documentation stations will be established along each transect to record the progress of the mitigation site and graphically record plant establishment over the 5-year period.

Transects will be sampled using the point-intercept method. A transect tape will be run between two posts, and a vegetative intercept line will be visually projected above and below the tape at every half-meter mark. Transects may vary in length based on location, as well as size of the individual mitigation areas. Each herb, shrub, or tree that intercepts the projected line will be recorded by species. In addition, all plant species present within the 5-meter-wide “species richness” portion of each transect will be recorded by species. All data will be utilized to determine total percent plant cover, percent native cover, percent non-native cover, and overall species richness and diversity. Quantitative monitoring will be conducted once annually in the summer or fall beginning in year two and extending through year five of the mitigation monitoring period. Approximately five transects will be installed in each of the mitigation areas (i.e., establishment, restoration, and enhancement areas). Transects will be either 25 or 50 meters long, depending on the location. Transect locations will be established by the Habitat Restoration Specialist. Native vegetation cover must meet the success standards shown in Table 12, by the

end of the 5-year mitigation monitoring period. The goal noted below for the transitional buffer zone area is considered to be reasonable given the fact that much of this area falls within the Fuel Management Zone, where periodic thinning of vegetation may be required to be in compliance with the Project's Fuel Management Plan goals/guidelines.

6.7 Assessment of Functions and Values

A California Rapid Assessment Method (CRAM) analysis will be conducted in year one to establish the baseline and then in year five to assess the functions and values of the mitigation areas and the existing preserved native habitat areas. The data from the analysis will be compared to the baseline data to determine if applicable functions and values have been provided within the mitigation areas. One of the goals of this HMMP is to ensure the functions and values of the existing areas prior to Project implementation are not diminished after development activities are complete.

6.8 Monitoring Schedule

A preliminary monitoring schedule is shown in Table 18.

Table 18
Monitoring Schedule

Year	Frequency	Annual Report
1	Monthly	January
2	Every other month (bimonthly)	January
3	Every other month (bimonthly)	January
4	Quarterly	January
5	Quarterly	January

7.0 REPORTING

7.1 Annual Monitoring Reports

A letter report or memorandum shall be produced at the end of the initial 120-day plant establishment period to acknowledge completion of the initial maintenance work and to outline any contingencies or remedial work required at that time.

Annual monitoring reports will be submitted to the permitting agencies and County during the long-term 5-year maintenance and monitoring period. Annual reports outlining the results of the vegetation community monitoring will be submitted at the first of each calendar year. The monitoring reports will describe the existing conditions of the mitigation areas derived from

qualitative field observations and quantitative vegetation data collection. The reports will provide a comparison of annual success criteria with field conditions, identify all shortcomings of the mitigation program, and recommend remedial measures necessary for the successful completion of the mitigation program. Each yearly report will provide a summary of the accumulated data. Annual reports also will include the following:

- A list of names, titles, and companies of persons who prepared the annual report and participated in monitoring activities;
- A copy of the final resource agency permits and amendments/special conditions;
- Prints of biological monitoring photographs, as appropriate;
- Maps identifying monitoring areas, planting zones, and weed removal areas, as appropriate; and
- Quantitative data from transect measurements conducted in years two through five of the mitigation efforts.

7.2 Agency Notification at End of Monitoring Period

The Applicant will notify the permitting agencies upon submitting the annual report for the final year that the final success criteria have been met at the end of the 5-year monitoring period, and request acceptance of the site and release from the permit conditions. Early release may be possible if performance standards are met early and the permitting agencies agree with the level of establishment. Removal of the irrigation system, temporary fencing, and signage would occur prior to final sign-off.

7.3 Regulatory Agency Confirmation

Following receipt of the notification of completion, the permitting agencies may request a site visit to confirm completion of the mitigation effort.

8.0 CONTINGENCY MEASURES

If performance criteria are not met for all or any portion of the mitigation areas or if the final success criteria are not met, the Habitat Restoration Specialist and Applicant will prepare an analysis of the cause(s) of failure within the appropriate annual report and, if determined necessary by permitting agencies, propose remedial action for agency approval. If the mitigation areas have not met the performance criteria by the end of the 5-year, long-term maintenance and monitoring period, the Applicant's maintenance and monitoring obligations will continue until contingency measures are negotiated and implemented to bring the mitigation area into

compliance with the established standards or until the permitting agencies grant final mitigation program approval and permit compliance sign-off.

8.1 Adaptive Management Plan

Adaptive management will be implemented in the event of unforeseen or unpredictable circumstances. Adaptive management is defined, for purposes of this mitigation plan, as a flexible, iterative approach to the long-term management of biological resources that is directed over time by the results of ongoing monitoring activities and direct observation of environmental stressors that are producing adverse results within the mitigation areas. Adaptive management will include the utilization of regular qualitative assessments and rapid qualitative assessment data gathered in the field prior to and during the mitigation effort to assess the health and vigor of vegetation communities within the mitigation areas. Following an event that causes damage to all or part of a mitigation area, the data will be used in part to drive management considerations for repair of the damaged areas. Achieving the key goals of mitigation completion and establishment of self-sustaining native vegetation communities will be the focus of all adaptive management decisions. Individual environmental stressors are discussed below along with an anticipated range of management responses to correct damage that may occur to the mitigation areas.

8.1.1 Herbivory

Some grazing and browsing by native mammals is expected to occur within the mitigation area. The plant palettes for each vegetation community have been designed to accommodate a moderate level of plant browsing. If browsing levels should become elevated (i.e., if significant plant mortality and cover reduction occurs) as indicated by qualitative or quantitative monitoring of the mitigation site, remedial measures may be recommended. Browsing guards (plastic fencing) may be installed around the base of tree and young shrub container plants in affected areas to reduce plant mortality. In addition, remedial planting or seeding may be necessary depending upon the stage of the mitigation effort. If irrigation has not been ceased, then remedial planting with container plants may be possible to restore cover. If irrigation has ceased, then remedial seeding utilizing hand tools may be possible within affected areas to help restore cover. Each of these options would require the use of contingency funds to restore affected areas.

8.1.2 Flooding

Flooding is anticipated to occur annually within portions of the active stream channel. Flooding may periodically reduce overall plant cover within the active stream channel. If monitoring of the channel indicates that cover is being reduced below acceptable levels, then remedial planting

(if irrigation is still operational) or additional seeding may be required. Additional mulch, cuttings, or container plants may be placed in strategic areas, per the direction of the Restoration specialist, to address changed flow characteristics of the stream channel, which may affect the mitigation/revegetation areas.

8.1.3 Drought

Seasonal drought is a normal annual cycle in northern Los Angeles County, and all plant palettes have been designed with drought-tolerant plant species that are capable of withstanding seasonal fluctuations in available moisture. However, an extended drought could potentially occur, including low seasonal rainfall and prolonged high temperatures that may negatively affect the mitigation areas (e.g., lower native cover, higher plant mortality, increased potential for pest infestations on site). Irrigation will reduce or eliminate the effects of drought on container plants and seedlings during the first 3 years of the mitigation effort. Any remedial options that may be necessary after 2 years from the installation date will likely require an additional period of site irrigation to relieve plants from drought stress and/or provide for new seed growth. All irrigation components will be left in place after year three in case remedial seeding and/or container planting is required at a later date. If the irrigation system is required at a later date, it should be used only as necessary (i.e., periodic watering versus regular daily watering).

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APPENDIX A-1

Plant Species Observed On Site (Source: PCR Biological Resources Assessment, Appendix A, Dec. 2010.

APPENDIX A1
Floral and Faunal Compendium

(SOURCE: BIOLOGICAL RESOURCES ASSESSMENT, DISNEY/ABC STUDIOS AT THE RANCH, PCR, DECEMBER 2010.)

GYMNOSPERMS

***PINACEAE* – PINE FAMILY**
Pinus sp. – pine

ANGIOSPERMS (DICOTYLEDONS)

***AGAVACEAE* – AGAVE FAMILY**
Agave sp. – agave

***ACERACEAE* – MAPLE FAMILY**
Acer saccharinum – silver maple

***ANACARDIACEAE* – SUMAC OR CASHEW FAMILY**
**Schinus molle* – Peruvian pepper
Toxicodendron diversilobum – poison oak

***ASTERACEAE* – SUNFLOWER FAMILY**
Ambrosia psilostachya – western ragweed (sandbur)
Artemisia californica – California sagebrush
Artemisia douglasiana – mugwort
Baccharis salicifolia – mule fat
**Carduus pycnocephalus* – Italian thistle
**Centaurea melitensis* – tocalote
**Cirsium vulgare* – bull thistle
Conyza canadensis – horseweed
Corethrogyne filaginifolia – cudweed aster
Filago sp. – filago
Hemizonia fasciculate – fascicled tarweed
Heterotheca grandiflora – telegraph weed
Heterotheca sessiliflora – hairy golden-aster
**Hypochaeris glabra* – smooth cat's-ear
**Lactuca serriola* – prickly lettuce
Stephanomeria virgata – twiggy wreathplant
Verbascum thapsus – woolly mullein
Xanthium strumarium – cocklebur

***BORAGINACEAE* – BORAGE FAMILY**
Amsinckia sp. – fiddleneck
Cryptantha sp. – cryptantha

***BRASSICACEAE* – MUSTARD FAMILY**
**Brassica nigra* – black mustard
**Hirshfeldia incana* – short-podded mustard

***CAPRIFOLIACEAE* – HONEYSUCKLE FAMILY**
Sambucus mexicana – Mexican elderberry

***CHENOPODIACEAE* – GOOSEFOOT FAMILY**
**Chenopodium album* – lamb's quarters

***CONVOLVULACEAE* – MORNING-GLORY FAMILY**
Calystegia macrostegia – western bindweed

***CUCURBITACEAE* – GOURD FAMILY**
Marah macrocarpus – wild cucumber

***CUSCUTACEAE* – DOODER FAMILY**
Cuscuta californica – California dodder

***ERICACEAE* – HEATH FAMILY**
Arctostaphylos sp. – manzanita

***EUPHORBIACEAE* – SPURGE FAMILY**
Eremocarpus setigerus – dove weed

***FABACEAE* – LEGUME FAMILY**
Astragalus sp. – locoweed
Lotus scoparius – deerweed
Lupinus sp. – lupine
**Medicago polymorpha* – bur clover
**Melilotus* sp. – sweetclover

***FAGACEAE* – OAK FAMILY**
Quercus agrifolia – coast live oak
Quercus berberidifolia – scrub oak

***GERANIACEAE* – GERANIUM FAMILY**
**Erodium botrys* – broad-lobed filaree
**Erodium cicutarium* – red-stemmed filaree

***HYDROPHYLLACEAE* – WATERLEAF FAMILY**
Emmenanthe penduliflora – whispering bells
Eriodictyon trichocalyx – thick-leaved yerba santa
Phacelia cicutaria – caterpillar phacelia

***LAMIACEAE* – MINT FAMILY**
**Marrubium vulgare* – horehound
Trichostema lanceolatum – vinegar weed

***LILIACEAE* – LILY FAMILY**
Yucca whipplei – Our Lord's candle

***MALVACEAE* – MALLOW FAMILY**
**Malva parviflora* – cheeseweed

***MORACEAE* – MULBERRY FAMILY**
**Morus* sp. – mulberry

***MYRTACEAE* – MYRTLE FAMILY**
**Eucalyptus* sp. – eucalyptus

***ONAGRACEAE* – EVENING PRIMROSE FAMILY**
Clarkia unguiculata – elegant clarkia

***PLANTAGINACEAE* – PLANTAIN FAMILY**
Plantago sp. – plantain

***PLATANACEAE* – SYCAMORE FAMILY**
Platanus racemosa – western sycamore

***POACEAE* – GRASS FAMILY**
**Avena fatua* – wild oat
**Bromus diandrus* – ripgut grass
**Bromus hordeaceus* – soft chess
**Bromus madritensis* – foxtail chess
Distichlis spicata – saltgrass
Hordeum sp. – barley
Lolium sp. – ryegrass
**Lamarckia aurea* – goldentop
**Paspalum dilatatum* – dallis grass
Piptatherum miliaceum – smilo grass
**Polypogon monspeliensis* – annual beard grass

**Vulpia myuros* – fescue

***POLYGONACEAE* – BUCKWHEAT FAMILY**
Eriogonum fasciculatum – California buckwheat
Polygonum sp. – knotweed
**Rumex crispus* – curly dock

***PRIMULACEAE* – PRIMROSE FAMILY**
**Anagallis arvensis* – scarlet pimpernel

***ROSACEAE* – ROSE FAMILY**
Adenostoma fasciculatum – chamise
Heteromeles arbutifolia – toyon

***SALICACEAE* – WILLOW FAMILY**
Populus fremontii – Fremont cottonwood
Salix laevigata – red willow
Salix lasiolepis – arroyo willow

***SOLANACEAE* – NIGHTSHADE FAMILY**
Datura wrightii – jimson weed
**Nicotiana glauca* – tree tobacco

***TAMARICACEAE* – TAMARISK FAMILY**
**Tamarix ramosissima* – tamarisk

***ULMACEAE* – ELM FAMILY**
Ulmus sp. – elm

***VITACEAE* – GRAPE FAMILY**
Vitis sp. – grape

* Signifies introduced (non-native) species

APPENDIX A-2

Plant Species Observed On Site (Source: Dudek Biological Resources Amendment, Appendix C, Dec. 2011

APPENDIX A2
Plant Species Observed on the Project Site

(SOURCE: BIOLOGICAL RESOURCES AMENDMENT, APPENDIX C, DUDEK. DEC. 2011. SUPPLEMENTAL PLANT SPECIES OBSERVED BY DUDEK, SUPPLEMENT TO ORIGINAL PCR PLANT SPECIES LIST INCLUDED IN APPENDIX A1)

VASCULAR SPECIES

DICOTS

***ADOXACEAE* – MUSKROOT FAMILY**
Sambucus nigra – black elderberry

***ASTERACEAE* – ASTER FAMILY**
Artemisia californica – California sagebrush
Baccharis pilularis – coyote brush
Baccharis salicifolia – mulefat
**Carduus pycnocephalus* – Italian thistle
**Centaurea melitensis* – Tocalote
Corethrogyne filaginifolia – common sandaster
†*Hazardia squarrosa* – saw-toothed goldenbush

***BRASSICACEAE* – MUSTARD FAMILY**
**Brassica nigra* – black mustard

***CUCURBITACEAE* – GOURDE FAMILY**
Marah macrocarpa – Chilicothe

***FABACEAE* – LEGUME FAMILY**
Acmispon glaber – deerweed

***FAGACEAE* – OAK FAMILY**
Quercus agrifolia – coast live oak
Quercus berberdifolia – scrub oak

***LAMIACEAE* – MINT FAMILY**
**Marrubium vulgare* – Horehound
†*Salvia leucophylla* – purple sage
†*Salvia mellifera* – black sage

***POLYGONACEAE* – BUCKWHEAT FAMILY**
Eriogonum fasciculatum – California buckwheat

***ROSACEAE* – ROSE FAMILY**
Adenostoma fasciculatum – Chamise
†*Cercocarpus* sp. – mountain mahogany
Heteromeles arbutifolia – toyon

MONOCOTS

***AGAVACEAE* – AGAVE FAMILY**
Hesperoyucca whipplei – Quixote plant

***POACEAE* – GRASS FAMILY**
**Avena* sp. – wild oats
**Bromus diandrus* – ripgut brome
**Hordeum sp.* –barley sp.

* Signifies introduced (non-native) species
† Not included in BRA Appendix A